



WORLDWIDE MANUFACTURER & SUPPLIER OF
ANTI TERROR EQUIPMENT

For Government Use Only



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

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To our international specialist departments of the various ministries.

PKI is a manufacturer and supplier of security equipment for government agencies, military and other government units, intelligence services and security companies. Our specialists have extensive knowledge of security technologies to meet the highest demands of our highly valued customers.

We are proud to offer you a selection of our leading-edge **PKI** technology in this brochure. We have included both advanced developments as well as some of our bestsellers. Each product is designed to meet the highest standards based on the specifications of specialists working on site. We would also be pleased to hear your views on how our equipment works in the field and then to receive your comments on changes or improvements. This information will help us to constantly exceed your expectations and develop new, innovative products.

We would also like to thank our customers who have ordered customized or exclusive equipment - we are always proud to meet your needs. The design and development of such exclusive equipment requires considerable research and testing but allows us to improve our capabilities and increase our efficiency.

We sincerely hope that the **PKI** products in our brochures will enhance your ability to fight crime and terrorism wherever you are.

PKI has been serving a wide range of government departments worldwide for over 50 years, including training and ``after sales service``. Years of relationships with the specialist departments testify to their satisfaction with **PKI** products.

We would like to thank you for your trust in **PKI** and for the continuous consultation and cooperation.

Your PKI Team



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German turn-key solutions from one source

developed and produced by **PKI** engineers

PKI is a leading solution provider in the field of Anti Terror Equipment for among others:

- **GSM Cellular Monitoring Systems**
- **Surveillance Devices**
- **Video and Night Vision Systems using Image Intensifying and IR Cameras**
- **Thermal Cameras**
- **IP Monitoring Systems**
- **Intelligent Broadband Jamming Systems**
- **Miniature Audio Transmitter**
- **Mechanical and Electronic devices for Police, Customs and Military Departments**
- **EOD Equipment**
- **Explosive Detectors**
- **Custom-made and Portable Devices for Digital Audio/Video Transmission, Receivers and Recorders**
- **GPS, GSM Navigation and Tracking Systems**
- **Video Observation**
- **Systems for Interception and Monitoring of IT and Radio Transmission**
- **Protective Clothing**
- **Armored Vehicles**
- **Systems for Optical and Wireless Detection, Inspection and Analysis**
- **All Types of Devices for Counter Surveillance**
- **X-ray Inspection Systems**
- **Electronic Devices for Prisons**
- **Professional Equipment for Emergency Aid**
- **Professional Maintenance and Training Program**

Established more than 50 years ago, the independent company is well known for its services in more than 50 countries worldwide. The headquarter is in Germany near Hamburg.



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PKI Intelligence Without Limit

Our product range includes tactical monitoring of any form. Since 1968 **PKI** is a specialist provider of global interception and monitoring solutions in the communication sector. **PKI** provides R&D, manufacturing, delivery and special service for mobile and fixed systems for:

- **Thuraya Satellite Monitoring**
- **Isat Phone Satellite Monitoring**
- **Inmarsat Satellite Monitoring**
- **Microwave Monitoring**
- **Internet Monitoring**
- **PSTN Monitoring**
- **ISDN Monitoring Solution**
- **GSM, Wi-Fi, LAN Monitoring**
- **Keylogger, File Access, Web, Database Control**
- **Mobile Phone Spy Software**
- **CBRN Detection**
- **Night Vision**
- **Jammer**
- **Surveillance A/V**
- **Tracking**
- **Counter Surveillance**
- **Police, Military and Customs**
- **Intelligence Software**

Ask for special offer and obtain our latest developments according to your demand.

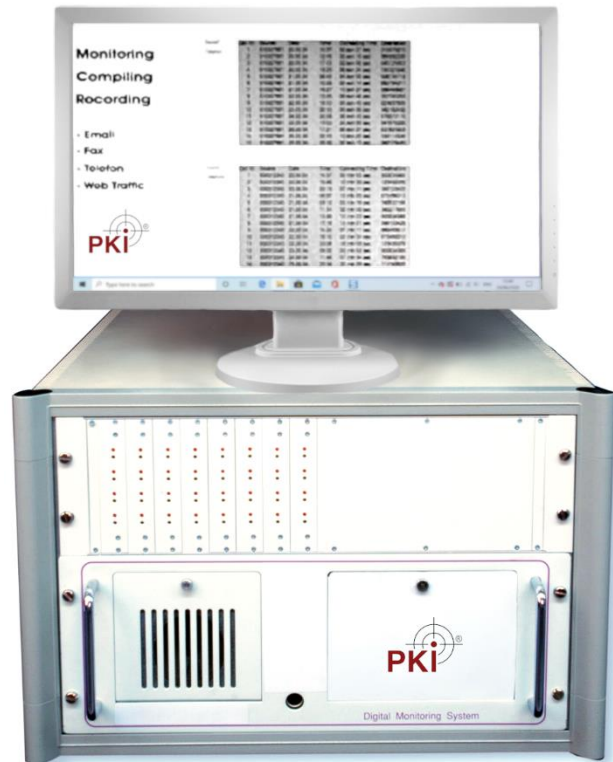
INTERCEPTION AND MONITORING SYSTEMS



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

PKI 1100 Interception Management System

PKI 1100 is a complex data monitoring system for the security and control of a country and its use is only allowed with the authorization by the security agencies. For intelligence services, **PKI 1100** is indispensable. Recorded data are analyzed, processed, and saved. For the monitoring of suspects, there is no better way to obtain information about their communication in compliance with the existing law. **PKI** quotations can only be made directly with the relevant government agencies. Here, too, the prerequisite is to carry out a comprehensive consultation including an analysis of the requirements in advance. **PKI 1100** can be smoothly integrated into the network infrastructure of the telecommunications provider and controls the monitoring of suspects or services in accordance with the legal requirements. The **PKI 1100** system offers connected MCs to establish a controlled connection to the transition nodes of the network operator. The functionality ensures that the monitoring requests sent by the MC are transmitted to the correct transition nodes and in turn the monitored communications are forwarded to the corresponding MCs. **PKI 1100** can be connected to a wide variety of telecommunications networks, each system being able to support multiple security agencies at the same time. In the process, a strict separation between the security agencies is ensured. The system is a combination of hardware and software to control all types of monitoring activities from different network types.



The most important functions:

- Interfaces to PSTN, ISDN, GSM, 3G, LTE, VoIP, NGN and IP networks
- Support of several manufacturers for proprietary network elements (X1, X2, X3)
- Support of various telecommunications providers (HI1, HI2, HI3)
- Support of different MCs
- Support of several security agencies
- Strict separation of security agencies
- Meets the ETSI telecommunications monitoring standards
- Control of system usage by central assignment of user rights and roles
- Report and logging function
- The automatic self-check keeps the status information of the connected interfaces up to date
- Voice and data router, which duplicates the monitored traffic from the network to the different MCs

The most important advantages of the PKI 1100 System:

- Real time overview of all markers, connections to the network providers and security agencies
- Each security agency has access to the list of monitored network nodes, the type of supported markers and manufacturer-specific options
- Each security agency can view a list of its monitoring activities, the monitoring period, and the list of network elements for which the activity is enabled.
- If more than one security agency simultaneously monitors a target, **PKI 1100** ensures that each security agency receives a separate copy of the monitored communication content and of the metadata.
- If monitored communication content or the metadata cannot be forwarded immediately (if for example the connection between the **PKI 1100** system and the security agency is temporarily not available), **PKI 1100** stores the data in a buffer memory until it can be delivered; however, this is limited to a defined data volume or a certain period.
- All commands of **PKI 1100** and their results are logged. The logs comprise and save both all actions listed automatically by the system and all user interactions. The logs are only accessible for the **PKI 1100** system administrators.
- Network environments whose day profiles show high traffic load peaks can be covered by using the load distribution functionality (option).
- The capacity of the **PKI 1100** system can be easily extended.
- As a result of the modular architecture, the **PKI 1100** software can be distributed flexibly to the available hardware to achieve an optimum processing speed.

Technical standards
ETSI TS-133108 / 3GPP 33.108
ETSI TS-102232-1
ETSI TS-102232-3
ETSI TS-102232-4
ETSI TS-102232-5
ETSI TS-102232-6

Supported HI1/2 and X1/2/3 interfaces	
Alcatel NTI	Ericsson IMS
Siemens/NSN	Samsung
SS8 XCPIO	Nokia
Huawei NGN	ZTE
Utimaco LIMS/RAI	

Supported HI3 interfaces
ISDN (DSS1)
ISDN (E-DSS1)
SS7 (ISUP)
IP (UDP, TCP, RTP)

PKI Monitoring Centre

Recording, processing, analysis of monitored telecommunications

The **PKI Monitoring Centre (MC)** is a comprehensive platform to display, filter, save and analyze communication content from various telecommunications networks.

The **PKI MC** is a comprehensive system including both all necessary hardware and software. The success of the tried and tested solution is based on more than 30 years of experience and the close cooperation with numerous satisfied customers worldwide.

Security agencies and intelligence services use this system to monitor suspects to obtain information about their communication in compliance with the existing law.

The most important advantages and features of the PKI Monitoring Centre:

- Flexible, modular, and scalable architecture for connection to different networks, such as PSTN / ISDN, GSM, 3G, LTE, Next-Generation, IP and VoIP networks
- A wide variety of powerful analysis tools enabling comprehensive searches, voice analyses, and site-based investigations
- Powerful decoders extracting content from the recorded Internet traffic, Web 2.0 applications and smartphone apps
- Ergonomically optimized user interface to facilitate evaluation
- Markers can be controlled centrally by a flexible system of rights and roles.
- The MC meets the legal and regulatory requirements through configurable workflows.

PKI Monitoring Centre

A turnkey solution preconfigured and tested for a smooth integration into existing network infrastructures.

Technical characteristics
Supports ETSI, 3GPP, CALEA, SORM and a wide variety of national standards for handover interfaces for circuit-switched telephony and IP data
Supports ETSI, 3GPP, CALEA, SORM and a wide variety of national standards for handover interfaces for circuit-switched telephony and IP data
Regularly tested compatibility with the most important network providers
Scalable interfaces, processing bandwidth, memory and number of users
Open platform supporting future decoders
Indexing and processing engines automatically analyze large amounts of unstructured data
Highest security standards offer protection against external intrusion and malicious content such as viruses

System architecture

The standard configuration of the MC comprises the following units:

Handover interfaces

- Connection to diverse standardized interfaces of network operators
- Accept communication from different networks
- Convert different input formats into a uniform format Processing and storage
- Processes, controls, and saves the monitored communication
- Exports and imports data from/to other systems

Display and evaluation Graphical user interface to analyze monitored communication and to control the MC.

Optional functions

Diverse analysis tools are available for the MC. Possible extensions are:

PKI 1100 Information System

The **PKI** Information System allows for the geographical monitoring of suspects in mobile phone networks and shows the location of the monitored persons and their movements on the map. This makes it easy to evaluate movement profiles and to recognize behavioral patterns of persons.

Search engine

The scalable search engine module offers a search function which has been developed especially for the current and future requirements of security agencies. It comprises all text information processed by the system.

PKI 1100 Interception Management System

The **PKI** Interception Management System enables security agencies to control complex network topologies from different manufacturers and network providers. It provides a central provisioning interface to enable or disable monitoring markers directly from the MC.

Voice recognition

The voice recognition module can recognize individual speakers as well as spoken language, gender, age group, key words. Moreover, it offers the option to convert language into text.

PKI 1150 Intelligence Software

The Demand

Publicly available sources can provide useful information and present an exceptional opportunity to obtain and analyse key data, statistics, and evidence about people. Until now, there has been no simple solution to identify, collect and transform the vast amounts of such material into usable intelligence, as Law Enforcement and Intelligence Agencies have to deal with vast amounts of structured and unstructured data from Web and Social Media sources.

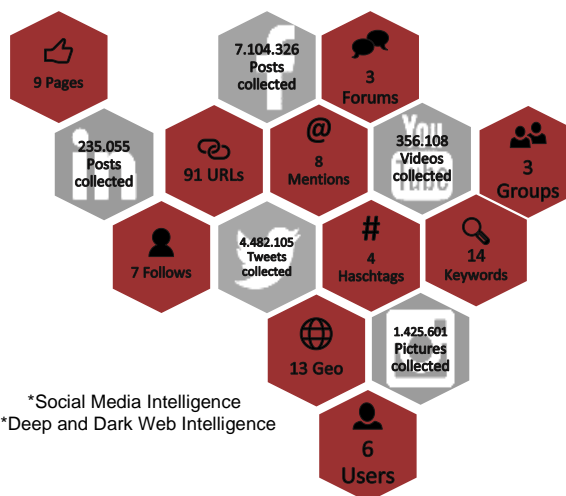


The Solution

Our end-to-end Deep & Dark Web OSINT and Virtual Humint solution provides a modular and future-proof solution for tracking Web, Deep and Dark Web, Social Media & Forums to identify, prevent and neutralize threats.

The system has a clear and intuitive user interface for case management and target monitoring through real-time and historical data and provides configurable alerts when certain activities are detected.

SOCMINT* and DDWINT**



*Social Media Intelligence
**Deep and Dark Web Intelligence

Key Features	Deep and Dark Web Mining
	Can store historical data on a private and secure database.
	Multisource
	Virtual HUMINT Management
	Completely customizable reports, alerts and notifications
	Advanced analytical functionalities, including link & statistical analysis and cross-source correlation of information

Key Benefits	Cross-source (Social Media, Web, Forums, Deep and Dark Web)
	Real-time and historical data view
	Semantic analysis
	Web and Social Media mapping
	Correlation of information from different Social Media
	Multilingual content translation
	Open platform (third parties tools and database integration)
	Customizable report generation (for technical analysts and decision-makers)
	Real-time alerts
	Technical and methodical trainings
	Management of the following social media: Facebook, Twitter, YouTube, Instagram, LinkedIn, Google+ and others.

Web and Social Media Analysis	Real-time trend detection	
	Full text search with different filters (top liked, top shared, top influencer, top tags, etc.)	
	Language detection	
	Geo Distribution and location monitoring	
	Link analysis	
	Device detection	
	Multimedia management	
	Emotion discovery	
	Relationship analysis	
	Tag cloud results view	
	Source language independent	
	Semantic & Sentiment analysis	
	Multiple taxonomy management	
	Automatic entity extraction:	- People - Organizations - Places

GSM Monitoring

ACTIVE General Function

Mobile phones need contact to a base station to communicate. The active system simulates such a base station and thus enables absolute control of the mobile phones logged in there. The simulated base station allows to control unlimited numbers of mobile phones at the same time. The maximum possible configuration is 64 simultaneous monitored duplex conversations. The targets managed by the system are assigned to the channels on the fly. There is no fixed assignment of targets to dedicated active channels.

The system's principle of operation is as follows:

When setting up the system the existing mobile networks are scanned and analyzed. Based on this data the monitoring system blends into the network infrastructure and represents the best possible cell for mobile phones close to the monitoring system. The mobile phones leave their cell and change to the monitoring system where the phones will be registered. In this moment, the identity of the phones is gathered and the key for the encryption will be calculated. With this information a clone of target will be re-registered with the real network. From now on all communication data will pass through the monitoring system. The active system can handle all kinds of used GSM encryption standards. A5.1, A5.2 by the integrated decipher unit and for networks using A5.3 by class mark manipulation. In our system, this is a fully automatic process which must not be configured arduously as in the past. The telephones now logged in via our base station are completely intercepted. TMSI (Temporary Mobile Subscriber Identity), IMSI and also the telephone type can be extracted by IMEI from the trapped phones using the integrated IMSI catcher. This can be realized for any existing network in the shortest possible time (in Germany e.g. T-Mobile, Vodafone, O2).

The telephones that are in 3G (UMTS) mode are downgraded to GSM mode using the 3G IMSI catcher and are thus intercepted too. The data captured this way then allow the take-over of selected target telephones. For this purpose, the system simulates the target mobile phone for the network by simply cloning (copying) it completely. The complete copy of the controlled mobile phone makes thorough monitoring possible. Whether conversation or SMS, any communication is effected via the system. This so-called „Man in the middle“ procedure allows manipulations in all directions. Answering calls, SMS or also holding conversations, listening to the voicemail, impediments are undetectable for the monitored mobile phone. You have the overall control of a target/mobile phone and can for example increase its transmission power in order to prevent a loss of the target. Tracking a suspect during mobile use of the system is thus facilitated. Furthermore, it is possible to covertly switch the target phone to transmission mode so that it can be located in the direct surroundings using a direction-finding system. The system can provide a GSM GPRS (EDGE) internet data connection to the target phones. As an option the system can be upgraded with an internet traffic analyzing option which extracts information and identities from the data stream and integrates this into the so-called monitoring database.

GSM Passive Monitoring

Monitoring systems that have no interaction with the telephones to be intercepted are called passive monitoring systems. The passive system is characterized by the fact that it only receives signals and does not transmit high-frequency signals itself. Therefore, a passive system cannot be recognized or located. Passive GSM monitoring systems receive the transmissions of the BTS and the telephone in two separate receivers. There is the so-called uplink from the mobile phone to the telephone network and the downlink from the BTS to the mobile phone.

The passive system can be adjusted to the surrounding BTS and automatically records the received conversations and short messages and stores them in the database. Ideally, the passive GSM monitoring system must be located in the vicinity of the mobile phone to be monitored in order to receive the transmissions of the telephone. The BTS at which the mobile phone is registered can usually be received. This may mean that only half of the conversation can be recorded.

Clever positioning of the system and the use of appropriate antennas help to operate the system in a very successful way. One of the challenges of operating a passive system is the recognition of mobile phones that were previously connected to the system. Mobile network operators use a temporary identifier (TMSI) instead of the unique IMSI which is transmitted in exceptional circumstances only. To meet this requirement, passive systems of **PKI** can be combined with active components in order to determine the telephone number of the mobile phone.

As with all **PKI** monitoring systems, the systems have a modular design and can be interlinked. The combination with active systems is also possible and there are components (e.g. decipher) that can be used for both types of systems. The user has flexible operating possibilities and can thus meet changing requirements.

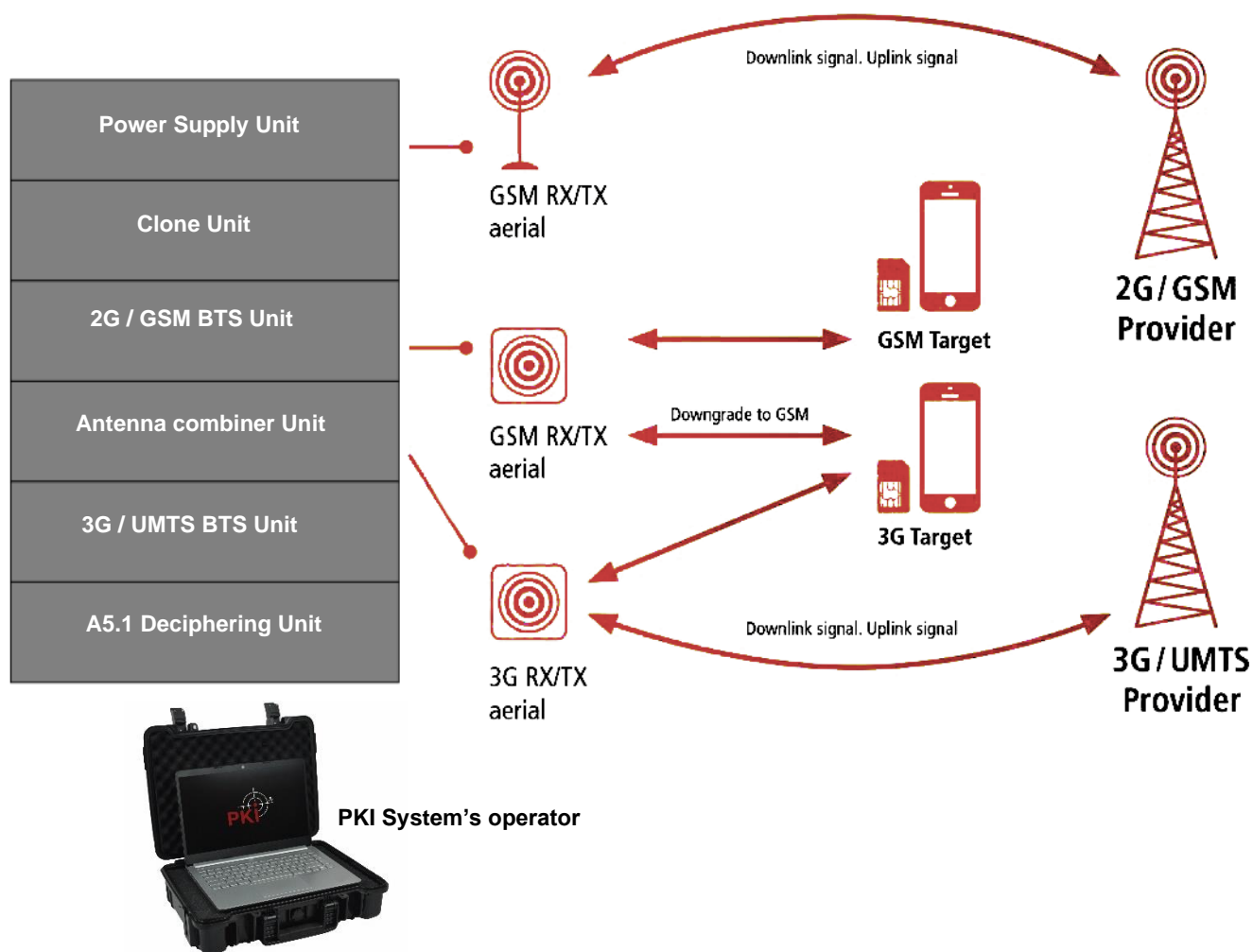
Comparison of Active and Passive GSM Monitoring System

While the passive GSM monitoring system does only receive signals, the active system directly interferes with the network infrastructure. The active system acts like a BTS of the local GSM network. Intelligent manipulation of the transmission parameters makes this „false“ BTS particularly attractive for mobile phones in the environment.

The result is that the telephones try to log in on the system. This opens up numerous possibilities for manipulation. The telephone connected to the monitoring system can for example be located, be cut off of communication (intelligent jamming) or the communication can be forwarded to the telephone network and is monitored in the process. The telephone to be monitored is under full control of the monitoring system. Also, in contrast to passive GSM monitoring systems, it is ensured in any case that the unique identity (IMSI/IMEI) of the mobile phone can be determined.

Positioning the system between a mobile network and the telephone to be monitored (this is called man-in-the-middle attack) ensures that both directions of the communication can be recorded. The control of the mobile phone also enables the device to be located by requesting the transmissions or by querying the GPS receiver present in many telephones. In passive systems, this can only be achieved to a limited extent by evaluating the so-called measurement reports.

In summary, it can be noted that passive systems have the advantage that operation cannot be detected. Active systems have extensive control of the mobile phones and enable the determination of unique parameters to identify and locate the telephone.



PKI 1540 Passive GSM Monitoring System

The **PKI 1540** is a passive GSM monitoring system. In their basic configuration passive systems do not have any active components, i.e. there is no RF radiation that might indicate the system. The **PKI 1540** is available as dual band version for GSM 900 and 1800MHz networks as well as a multi band version for 850/900/1800/1900MHz. The system is capable of cracking the GSM A5.1 encryption in real time. On request, it is possible to additionally deliver a software decipher for the weaker A5.2 encryption. For the A5.1 encryption, a hardware decipher is used.



A separate receiver pair is used for each duplex channel for the uplink and downlink frequency. The basic configuration of the base unit comprises 8 duplex channels. This means that 8 parallel conversations can be recorded simultaneously. The user software is installed on the operator laptop. If more than 8 duplex channels are required, further receivers with 8 additional duplex channels each can extend the system. The decipher is sufficiently dimensioned to easily operate even larger extension stages.

After switching on, the system automatically detects the surrounding GSM networks and offers the operator a useful selection of mobile radio cells in the area to simplify the configuration. Conversations and short messages are saved on the hard disk of the operator laptop and all information is automatically taken over into a database.



As passive systems generally only use the so-called TMSI (Temporary Mobile Subscriber Identification), it is usually difficult during later contacts to assign a target to previous events. For this purpose, the **PKI 1540** can be upgraded to a so-called hybrid system. In this configuration, a clone station is added to the setup. This way, the **PKI 1540** is able to use the PN (mobile phone number) as a unique identifier. For this, a clone of the target phone is created for a short period, and a ping call is sent to a phone connected to the operator laptop. This way, the phone number (PN) can be used as an unmistakable identifier. The system is supplied with 24 V DC so that it can even be used portable or in cars. The receivers can be networked via the Internet so that it is possible to operate the system remotely.

Specifications	
Wideband power supply	9 - 36V and/or 100 - 240V
Operating range	Up to 35km
Number of duplex channels in one receiver	8
Maximum number of monitoring channels	Up to 16 units - 128 duplex channels
RF sensitivity	-110dBm
Connection with laptop	LAN, Internet via VPN
Casing	Aluminium
Dimensions	Depending on configuration
Weight	Depending on configuration
Power	90 - 264V AC or 9 - 36V DC
Laptop	DC 20V
Optional	Clone station for hybrid configuration, voice recognition software
Scope of supply includes laptop, receiver (dual or quad band), deciphering unit, antennas.	

PKI 1545 Passive GSM Surveillance System

Our **PKI 1545** monitoring system enables the control of GSM channels. It intercepts calls in destination and random mode, without transmission and therefore cannot be detected. **PKI 1545** can be optionally equipped with some unique features, including a network maneuvering signal that cannot be detected. Such transfers can be used to create black and white lists, using active counterfeit cell systems of the MITM, deletion of Encryption, generation of fake text messages etc.



PKI 1545 can intercept randomly initiated calls to dozens of cells. Even 30 cells or more can be monitored simultaneously by a single **PKI 1545** unit for call/SMS initiation. Depending on the number of channels used and the number of local and remote Front Ends used, the machine can control the entire traffic intercept (do not miss a call) in one to 5 cells initiated cell, in the small systems, and up to a dozen or more cells in the larger systems. Equipped with hundreds of channels. All intercepted calls are recorded and can be played back by the **PKI 1545** system operator or by any analysis even while being recorded. When a call is intercepted in one of the pre-programmed cells (base stations), the system would follow all hand overs even if not in the pre-programmed list. A silent SMS can be sent to any cellphone number for the purpose of obtaining its TMSI identifier.

Specifications	
Dimensions	38 x 15 x 8cm
Weight	5,5kg
Power Consumption	Max. 50W at 12Vdc
Power	110/220W or optional rechargeable 5V/ 12V
Silent SMS	A silent SMS can be generated to any cellphone number
Spoofed SMS	An SMS can be generated on behalf of any Target MS-ISDN to any cellphone
MSISDN Extraction	The system can extract the public number of a cellphone given that current TMSI is known
OSINT Enrichment	Enrich regarding intercepted MSISDNs by scrapping social networks and other open-source intelligence sources
Can be mounted on walls and powered by regular power outlets of 110/ 220V.	
When carried in backpacks or side-bags, it can be equipped with rechargeable battery packs.	

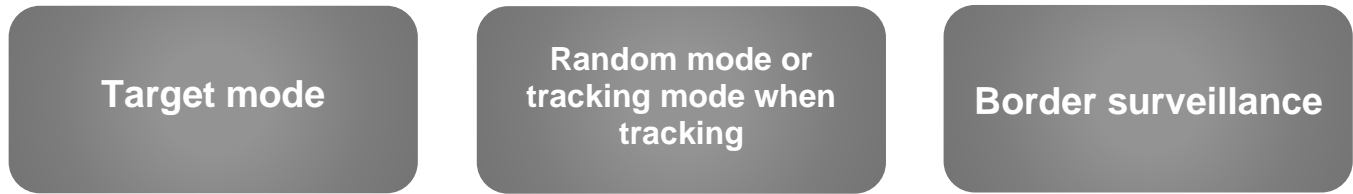
PKI 1545 can be customized to best fit the customer's needs:

- The smallest form factor in the industry is suitable for concealed applications
- 48 to 240 channels in each Front End, whether centrally located, on Safe-City masts or at border controls
- Narrowband receiver technology provides the most sensitive receiver modules in the industry
- The distributed architecture allows monitoring different parts of the city and ubiquitous reporting on connections and coverage of compounds

PKI 1545 offers a wide range of solutions for interception of mobile phone calls and SMS. One of the most popular configurations is a mobile 19-inch rack hosting:

- Passive front end with 96 or 128 channels
- A Central management station
- Central decoding device
- For shifting 3G traffic to GSM, which can also be used as an IMSI interceptor
- In addition, a 48CH backpack, which serves as a passive system and can be worn by a SWAT member.

Our systems offer different operating modes:



Solution for every need:

- **PKI 1545** in a Pelican Storm 2400 or similar with 144 to 240 channels RF front End and a decoding unit with 10Kc/sec. This unit can be connected to several other RF front ends, which are at remote locations. This means that all locations that require attention are monitored.
- **PKI 1545** equipped with a battery pack that is designed for carrying cases.

System Features	
Undetectable	System monitors the GSM channels for activity, intercepts calls in target and random modes without transmitting, (except for optional sync-transmit features which require transmission but are unlikely to be detected as well).
High Range	PKI 1545 sports ultra-high ranges because of a sensitive narrowband receiver technology. Calls and SMS can be intercepted from a distance of tens of kilometers.
Number of cells monitored in Target Mode	Depending on the system size (number of channels) PKI 1545 smaller configurations of 48 channels can monitor from 1 to a dozen cells in target mode not missing a target. Larger configurations can monitor 24 base station cells and more.
Number of Cells monitored in Random Mode	PKI 1545 intercept can randomly intercept calls/ SMS initiated in dozens of cells simultaneously. 30 cells or more can be monitored for call commencing by a single unit. As a function of the number of channels deployed and the number of local and remote Front Ends used the system can intercept the entire Traffic (not missing a call).
Number of channels per system	PKI 1545 minimum systems size is a 48 channels configuration where the front end can either be remotely located or bundled into the same enclosure.
A51 & A52 Deciphering	Either locally packaged within the same case or office based remotely connected to support several systems.
Real time Recording	All intercepted call/ SMS are recorded and saved in a database.
Dynamic Allocation	System resources are dynamically allocated so the busiest cells get the most resources.
Transfer	Once a call is intercepted in one of the pre-programmed cells being monitored, the system would follow all transfers if not included the pre-programmed list.
SMS interception	Texting is captured and displayed.
Interception while on move (Chase Mode)	In cases where a suspected target is being followed, either by foot or Car chase, the system would adapt itself dynamically to the new cells environment and intercept new calls.
TMSI Reallocation	The system monitors TMSIs that are being changed by the network and updates those in the Target List Table.

PKI 1580 Active Monitoring System

This system belonging to the **PKI** GSM Monitoring Program disposes of all the features that are possible in the area of active monitoring. Furthermore, it is the basis for any extensions offered by **PKI** for 3G and LTE. The **PKI 1580** has a completely modular design and can thus be used in all networks, no matter what frequency or network technology. The system can be networked and controlled via VPN.

In its basic configuration, the **PKI 1580** consists of one or several GSM base stations, depending on the frequency usage at the location. For the connection to mobile networks a clone unit is used that registers in the GSM network instead of the mobile phone to be monitored. For operation (normally) in encrypted networks, the **PKI 1580** is provided with an A5.1 decipher unit being able to cipher the required key in less than a second.



In order to keep the number of necessary antennas low, the **PKI 1580** can be equipped with antenna duplexers/combiners. The antennas required for operation of the GSM base stations can ideally be reduced to one antenna. The system offers a wide range of extension possibilities so that simultaneous operation in several networks is possible. The number of available conversations to be monitored in parallel is flexibly scalable. Additional base stations and clone channels also allow for later extensions. The **PKI 1580** has numerous intelligent features that facilitate the user's work.

Among them are:

- Identification of the MSISDN phone number (PN detection). Although the GSM system does not transmit the phone number of a telephone via the radio link, the **PKI 1580** can identify the number and record it in the database.
- Localization. With the additionally available **PKI 1680** Direction Finder mobile phones connected to the **PKI 1580** can be located and found.
- Not only all contents of conversations and short messages are recorded, but it is also possible to perform extensive manipulations. SMS can be modified or stopped based on key words. Stopped messages e.g. can be forwarded only after a check by an operator. Calls can be blocked both ingoing and outgoing or can be forwarded to an operator. All actions can be activated based on phone numbers.
- The **PKI 1580**, unlike other GSM monitoring systems, is not limited to a small number of targets due to the number of clone channels. The system can simultaneously monitor any number of targets and assigns the clone channels dynamically from the database in the very moment when a mobile phone is in direct connection with the network. The number of conversations recorded simultaneously is only defined by the number of clone channels and the capacity of the base stations.
- Detailed representation of the telephones and surrounding base stations on a map enables the operator to visualize his targets.
- For mobile phones connected to the system, an internet connection via GPRS/EDGE can be made available. This data traffic is evaluated and can also be further analyzed.
- The system can be operated stationary at 100V - 230V, but also as a mobile device at a 9V - 36V power supply.
- Optionally, a car installation kit is available.
- The **PKI 1580** is available for the GSM frequencies 850, 900, 1800MHz and 1900MHz. Additional frequencies and capacities can be achieved by combining the hardware.

Work with the PKI 1580 is divided into the following steps:

- Commissioning of the system. Analysis of the mobile phone network at the location. On this basis, the system configures itself to the greatest possible extent. Search for random or known mobile phones. As soon as the telephones have contact to the system, the communication can be monitored. All the communication is processed and stored in the database of the system.
- Tools to evaluate the collected data are available.
- The entire control and database software is included on the delivered operator laptop. The collected data can be easily exported.
- GSM base stations have a max. output transmission power of approx. 15W.
- Space-saving design of dual band BTS incl. clone channels (one housing) is possible.
- Portable operation in a carrying case is possible.



Specifications	
Output power	Approx. 15W per band
Frequency	GSM (incl. EGSM) 900MHz, DCS (1800MHz), PCS (1900MHz), GSM 850 (850MHz)
Clone channels can be integrated in dual band device 900/1800MHz. (One housing contains 2BTS and up to 8 clone channels)	
Up to 6 simultaneous conversations per BTS (GSM and DCS = 12 calls)	
Can be upgraded with any number of additional BTS	
Antenna socket	SMA
Connection to operator laptop	Ethernet/LAN
A5.1 decipher unit can operate directly on system or remotely via VPN	
Power supply	230V (90-230V) or (9-36V) for car usage
Antenna duplexer/ combiner available	Allows dual band transmission/reception only with one antenna. (Additional BTS 3G 2100 can be integrated)
Comes with modem for Public Number Detection on operator laptop	
Including USB GPS receiver for operation with online maps	
Power consumption	Up to 150W at full transmission power

PKI 1585 Active GSM Monitoring System

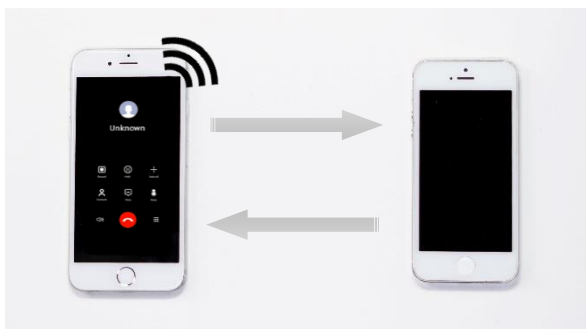
PKI 1585 acts as a standard GSM base station, attracting the GSM mobile network to control devices in its vicinity, including the identity of retrievals, calls and SMS.

The general use is data analysis, selective jamming of communications, phone tampering, IMSI/ IMEI catching, presence detection, direction finding assistance etc.



Main features

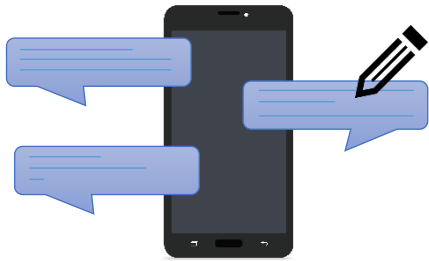
- Capture mobile phones within range and extract their cellular identifiers (IMSI, IMEI, TMSI, MSISDN)
- Simulation of GSM 850,1900,900,1800 base stations
- Automatic network search and system setup
- Number identification for outgoing and incoming calls
- Interception of DTMF tones
- Ability to interrupt calls in progress
- Ability to selectively prevent calls
- Manipulate communications (calls & SMS)
- Cloning of a real mobile network
- Presence detection of a specific mobile phone or devices/destinations
- Real-time call and SMS interception from A5/0/1/2 cellular networks
- Supports up to 5- 12 full-duplex simultaneous calls
- Supports A5/0 reduction
- Built-in A5/2 decryption
- Built-in or remote A5/1 decryption
- Voice and data recording to hard disk
- Cause any targeted GSM phone transmission of an RF beacon to be located



Generating spoofed calls to and from intercepted devices.



The listen-in function allows recording via the microphone of a handset after the call has ended.



Allows editing SMS sent and received from captured phones.



Allows listening to up to 8 simultaneous calls (larger configurations possible).



MSISDN extraction is performed automatically.

Specifications	
Synchronisation	Adaptive
Demodulator	GMSK
Power supply	110/240V AC or 12V DC
Power consumption	60W (additional 100W per PA per BTS)
Antenna input/output impedance	50 Ohm
RF output power	2W (optional 20W external power amplifier)
AGC - dynamic range	25dB
Error correction	Viterbi decoder
Frequency stability of each receiver	850/ 900/1800/1900MHz
Speech codec types	+0.04ppm
Frequency stability	LPT-RPE, FR, EFR, HR, AMR
Receiver unit sensitivity	±50PPB, better than -102dBm (signal/noise =19dB)
Operating temperature range	+5°C to +45°C
Rated temperature range	+5°C to +45°C
Storage temperature range	-15°C to +60°C
Humidity	+42°C at 92% humidity
Form factor	Enclosure, 19" rack, 2U, 413MM

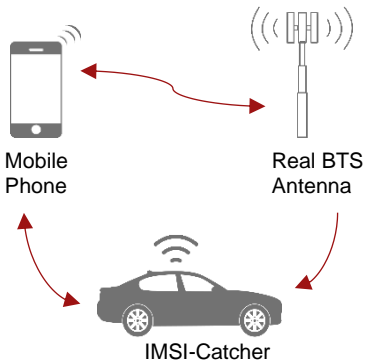
IMSI-CATCHER



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

IMSI-Catcher Explanation

It is an electronic device used to detect mobile phones active in specific geographic areas as well as to precisely detect their location based on their IMEI or IMSI unique identification. First, the IMSI Catcher performs cellular-network base station surveys, which is the process of using over-the-air signals to identify legitimate cell sites -BTS antennas- and precisely map their coverage areas while gathering all their technical information (CELL ID, MCC, MNC, etc.). Second, by emulating the desired BTS in the covered area, the device sends out signals much like cell towers do; cell phones connect, identify themselves and send information like texts and calls through the fake tower. This way, the IMSI catcher can precisely identify their location.



The program disguises itself as a real mobile phone base station (with real MMC/MNC) emulation from the list of adjacent BTS antennas. In this specific area, the IMSI catcher deceives any compatible cellular device in a given area in order to make the connection to the cell site of its service provider and establish a temporary new connection with the Model **PKI 1650**.


All mobile phones in range are intercepted and their IMSI and IMEI identifications uniquely captured, stored in the database, shared with their original networks and thus secured their intelligence data for further scouting missions. The system can freely scan for specific mobile phone numbers or destination lists to find all devices in of the environment. The **PKI** IMSI CATCHER models are 100% TRUE SDR software defined radio units. Controlled by a simple and easy to use yet powerful SOFTWARE-GUI.


*Except for 4G LTE network.

Unique Identification

There are 2 types of identification:

For all mobile networks: GSM 2G, 3G UMTS, 4G LTE

 **IMEI:** (International Mobile Equipment Identity). This type is the identification of the mobile device.

 **IMSI:** (International Mobile Equipment Identity). This variant is the identification of the Sim card.

Both identification numbers enable the mobile service provider to let the mobile service provider know who they are to charge for telephone calls and text messages, as well as for the Assign data.

General Specifications

Captures IMEI/IMSI

1- to 8-channel configurations

Output power up to 30 Watt per channel

True Native for GSM 2G, UMTS HSPA 3G and LTE 4G networks

Most modern technology made in Germany by PKI

Portable design

Adjustable to several operating conditions

Wi-Fi connectivity

Fast NETWORK SCAN

GSM 2G, UMTS 3G, 4G LTE True native

Multiple Target Capability In Several Networks And Technologies

512 Targets – 2G
32 Targets – 3G
1 Target- 4G Per Channel

VOICECALL Ability Between The Investigator And The Target Phone (2G)

SILENTCALL Capability In GSM 2G, UMTS 3G And 4G LTE

Selective Blocking

Captures All Selected Numbers From A Target Phone (2G)

Captures SMS Messages (2G) From Target Phones

Operational Configuration/ Investigation/ Target Phones Sending SMS Messages (2G)

Android App For 1-2 Channel Configuration (Mapping Support)

PKI 1625

Advanced IMSI Catcher

PKI 1625 pretends to be a legitimate mobile network base station that attracts and registers mobile devices. Once this registration takes place, **PKI 1625** will make extracts and records of the device identity, such as IMSI, IMEI, TMSI and MSISDN.

PKI 1625 is extremely flexible portable and can be positioned anywhere. The device offers law enforcement or intelligence agencies the ability to conduct covert surveillance anywhere. **PKI 1625** automatically enables users to set ideal parameters as listed below.



Features	
Base station	Simulates GSM/ UMTS/ LTE on SDR base stations (each base station supports simulation of any RAT GSM/UMTS/LTE).
Clone	Clones a real mobile network.
Scan and set-up	Automatically provides users with the ideal parameter for the most effective attraction of mobile phone subscribers.
Bands	Supports single band to quad band base stations.
Detection	Presence check of a specific mobile phone or device.
Beacon/ Silent Call	Can cause targeted calling or send an RF beacon in a clear channel. The frequency transmitted by a device can then be calibrated into a directional indicator to locate the device, either for arrest or search and rescue purposes. Multiple simultaneous silent calls can be made.
IDs	Capture and record cellular identifiers (IMSI, IMEI, TMSI).
Whitelist	Allows a predefined list of devices to work while denying service to all others.
Blacklist	Allows operation in a targeted mode where all phones are released but a predefined list of targets is held/denied.
Downgrade	Ability to downgrade targets from LTE or UMTS to GSM.
Scheduled transmission	According to a schedule transmission with predefined parameters to automatically skip coverage from one operator to another.

The areas of application are extremely versatile, and **PKI 1625** must not be missing from the responsible authorities under any circumstances. If there are any uncertainties in this regard, **PKI** will be happy to provide appropriate training.

For your convenience, we give you the following examples from daily reality.

Areas of application:

Arrest of a suspect:

PKI 1625 alerts the system or operator of the target's presence. The operator can then initiate a transmission to the phone, enabling a tactical team to start locating the source of the signal and make the arrest.

Prison:

Allow guards and other prison staff to communicate freely while any other unauthorized cellular device is blocked. Prison staff can then arrange for the location of the unauthorized devices to be confiscated.

Border Patrol:

Identity capture at border crossings, border, fences, airport and other transport hubs.

Search and Rescue:

Identification, quantification, and location of trapped persons who have fallen victim to a natural disaster, terrorist attack, etc.

PKI develops A51/ A52 decrypts that support for a range of 2 to 20 KC's or more.

The decrypts are available in a variety of form factors and can be combined locally with a PKI tactical intercept system or strategically placed in a command and control center to remotely support multiple PKI intercept systems. PKI 1625 manipulates the network into believing that the A53 encryption protocol is not supported by the handset and therefore manipulates the network into using A51/A50 encryption.

Specifications	
Frequency Bands	700, 800, 850/1900, 900/1800, 1700/2100, 2100, 2300, 2600, TDD and more
Power Output	Outdoor use: 25W per BTS Indoor use: 1 to 5W user programmable
BTSs	Supports configuration with any number of GSM, UMTS and LTE base stations
Power Source	220/ 110V, 1.5A
Range	Up to 1,5KM in urban areas (depending on cell site locations, buildings, etc.) even further in rural areas
Antenna	Directional or Omnidirectional, high gain
Connectors	LNA, SMA, N-type. Others available on request
Management	Control application, WINDOWS based
Battery	Different energy packs are available, depending on use case and enclosure, allowing anywhere between 2 to 10 hours of independent operation
Available enclosures	Pelican case, car mounted 19' rack, civil or military standard man-packs
Delivery set	Laptop, Antenna, S/W

PKI 1650

IMSI-Catcher

PKI has been developing configurable tracking and reconnaissance technologies for law enforcement and government users for many years. Our **PKI 1650** IMSI-Catcher enables tracking of criminal and terrorist users based on mobile phone identity. The information can be monitored by multiple officers on site or remotely. Both in the real-time environment and in the logging of files and evidence after deployment.

PKI has been designed for over 30 years to help solve surveillance problems associated with global cellular surveillance. **PKI 1650** is lightweight and portable for use in a car. With an integral antenna, it can even be used in prison.

The unique solution of **PKI 1650** to address the challenges of tracking phones used by criminal and terrorist organizations in the networks of service providers around the world. For surveillance operations, **PKI 1650** is capable of capturing the characteristics of mobile phones in a way that allows surveillance officers to track a targeted criminal's phone in a variety of ways, i.e., to obtain information about persons of interest to the prosecution.

Detailed Specifications



8 Channels	
8 independent channels multi-technology (2G, 3G, 4G)	
Adjustable HF output power from 0 to 40 Watt per channel	
Compact design (all-in-one housing)	
Controlled by a portable computer	
Connectivity	IP
Antenna	Tx (1 x 6CH) / Rx (1 x 8CH)
External antenna	Tx (1 x 2CH)
Weight	42 kilogram
Dimensions	63 x 50 x 36 centimetres



6 Channels	
6 independent channels multi-technology (2G, 3G, 4G)	
Adjustable HF output power from 0 to 40 Watt per channel	
Compact design (all-in-one housing)	
Controlled by a portable computer	
Connectivity	IP
Antenna	Tx (1 x 6CH) / Rx (1 x 6CH)
Weight	36 kilogram
Dimensions	63 x 50 x 36 centimetres

Detailed Specifications



4 Channels	
4 independent channels multi-technology (2G, 3G, 4G)	
Adjustable HF output power from 0 to 5 Watt per channel	
Compact design (all-in-one housing)	
The control takes place via a portable computer/ tablet or an Android smartphone	
Connectivity	IP
Antenna	Tx (1 x 2CH) / Rx (1 x 2CH)
Weight	10 kilogram
Dimensions	40 x 30 x 16 centimetres



2 Channels	
2 independent channels multi-technology (2G, 3G, 4G)	
Adjustable HF output power from 0 to 15 Watt per channel	
Compact design (all-in-one housing)	
The control takes place via a portable computer/ tablet or an Android smartphone	
Connectivity	IP
Antenna	TxX (1 x 2CH) / Rx (1 x 2CH)
Weight	11 kilogram
Dimensions	40 x 30 x 16 centimetres



1 Channel	
1 channel multi-channel technology (2G, 3G, 4G)	
Adjustable RF power output of 0.5 watts for 3G & 4G and 2 watts for 2G	
Compact design	
Control from a portable computer/ tablet or Android smartphone	
Connectivity	IP
Antenna	Tx (1) and Rx (1)
Weight	1,3 kilogram
Dimensions	220 x 90 x 50 millimetres

PKI 1660

Directional Finder

OPTIONS

Portable

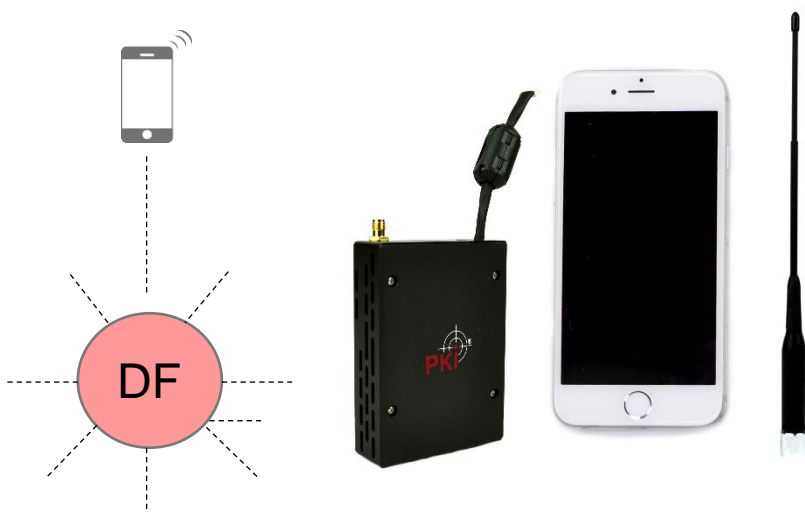
Car

Air

Prison

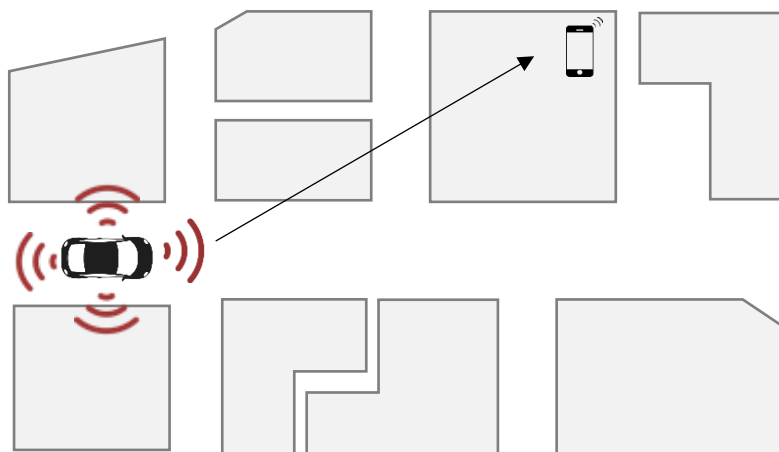
Portable Directional Finder

It is a portable device. It has a directional antenna, which can be rotated 360° and until it finds the direction of reception. The antenna must be turned at very low speed to reach the target power level to be able to collect. It identifies the area of greater intensity and shows the direction in which the target is located (power source).



Directional Finder for Car Use

This unit is supplied with four directional antennas. Each of these antennas can cover 90° and is facing the respective direction. Together, all the antennas used enable to cover 360°. All antennas receive signals from the target with differences in strength. The devices use these signals and convert them into the correct direction from which the signal is emitted. After monitoring various areas, the direction finder will find the correct location display where the target mobile is located.



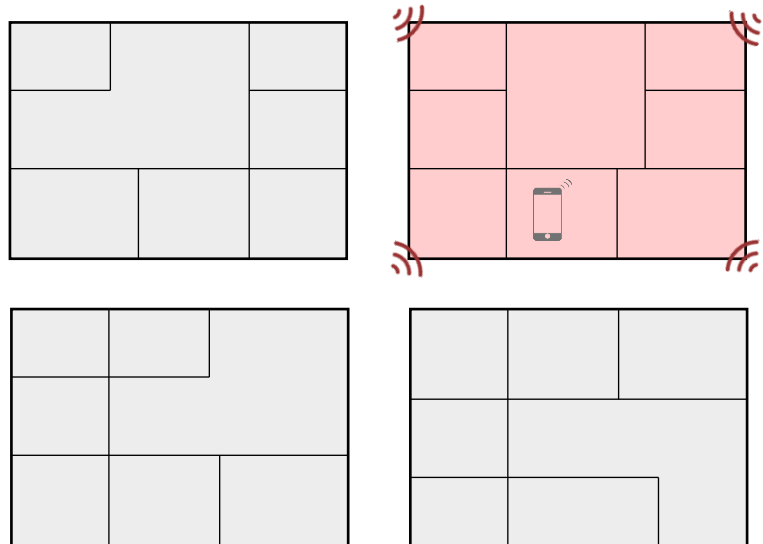
Directional Finder for Arial Use

The equipment is supplied with a directional antenna, which is always mounted downwards on the ground knows. There are constantly signals being detected and fed into the systems. The closer the target, the greater the signal strength. All signal samples are carefully analysed and the Location area found. The aircraft should circle over the suspected area at a constant speed. The collected data and information will be carefully analysed and then, by Triangulation and signal analysis, assigned to the correct location of the target on the map.



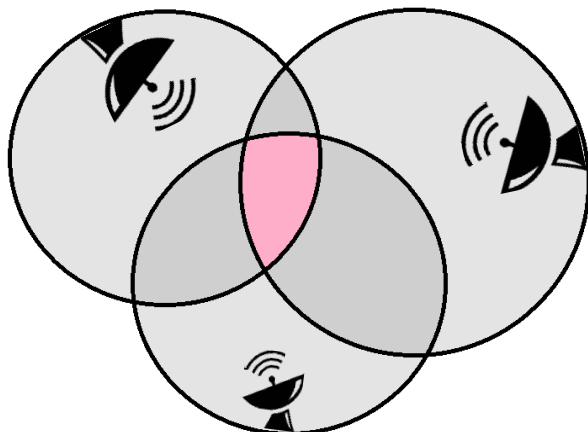
Directional Finder for Prison Use

With this technology you are able to analyse and analyse mobile phones in prisons and to locate. By means of antennas, which are located in the corners of the premises, it is possible Analysis and monitoring of the mobile devices in operation from the inside of a prison. Mobile radio signals are detected and transmitted within the received, so that they are located and assigned to the specific location in the prison can be. Certain mobile phones can also be detected. In addition, you can allow them, or not, to be identified with a white and blacklist of Phone numbers inside the prison work.



Triangulation Method

Using directional, omni-directional antennas and/or an antenna array, you can electronically determine the source of transmitting signals coming from a specific target. Locating a mobile phone based on a single antenna can place the mobile phone in a broad area, but it cannot pinpoint it. As the phone connects to more antennas, the accuracy improves. By using antenna triangulation (3 antennas), it is possible to determine a phone location to within a distance of about +/- 1 meter.



PKI 1665

Catcher Detector

The **PKI 1665** is an inconspicuous smartphone-based device that is able to test the surrounding mobile networks for the presence of IMSI catchers or monitoring systems. The **PKI 1665** can permanently scan all mobile networks and technologies regardless of having a SIM card or not. It warns the user of suspicious radio cells on the basis of several parameters. Designed as a smartphone, the **PKI 1665** can be used concealed and undetected during meetings and conferences. In a further step, the user interface clearly shows the responsible parameters that led to recognition. If the suspicion is confirmed that an illegal cell has been detected, the source of the transmission can be easily searched and located with our **PKI 1665**. The display will then show the signal strength and a beep depending on the signal strength helps to find the location of the broadcast. The **PKI 1665** supports all mobile technologies (GSM / 3G / 4G) and can be additionally equipped with a SIM card, which makes it possible to transmit the measurement results. This is especially helpful when using several **PKI 1665** in parallel.



PKI 1670

Catcher Detector

The GSM monitoring System (**PKI 1540**) is the base for our **PKI 1670**. The device monitors the surrounding GSM networks to find GSM IMSI Catcher or other monitoring systems. Additionally, 3G/UMTS and 4G/LTE networks can be included in the monitoring. As soon as such systems have been discovered, the operating software is indicating it. Depending on the operating mode, the system can either monitor the Catcher itself or jam it.

If the unit is in a monitoring mode, all communication processes and contents will be recorded. In case the monitoring system uses an encoding (A5.1), a respective decipher is required. In the other case the catcher is disturbed in such a way that it is no longer able to hold the connection in the system. This is not done by simple jamming but with selected interference in the communication with the telephones/targets. **PKI 1670** can be completely remote controlled via internet/VPN and can thus be applied by an operation centre not at site.



PKI 1670 catcher detector consists of:

- Operator Laptop
- Passive Monitoring Box (4 - 8 Channels)
- Hardware scanner for 3G/4G frequencies

Optional:

- Decipher to monitor the discovered system.
- Additional transmitting power amplifier to intensify the interfering signal
- Directional antenna
- Detector to find the catcher

PKI 1680 Handheld Direction Finder

The **PKI 1680** Handheld Direction Finder is a sensitive radio frequency monitoring device to determine the position of GSM/ UMTS/ LTE mobile phones when using the **PKI 1650** IMSI Catcher. Once a mobile phone is forced to transmit a signal, **PKI 1680** allows the operator to monitor the radio frequency emission level and thus determine the direction to the target. **PKI 1680** is quick to deploy and easy to use. The built-in Li-ion battery provides the necessary power supply. **PKI 1680** is controlled by an Android smartphone application via Bluetooth. Versatility is provided by three different antennas and the adjustable amplifier. **PKI 1680** is operated in a user-friendly graphical user interface (GUI) on a robust Android smartphone. This ensures unobtrusive operation in today's environment. The signal level is both displayed on the screen and provided as audio output for stealthy operation.

Specifications	
Frequencies	700, 800, 850, 900, 1800, 1900, 2100, 2600MHz
Sensitivity	-110dBm
Interface	Bluetooth, Mini-USB
Antenna connector	SMA (1x)
Power supply	Built-in Li-on battery
Operating time	3h on battery
Dimensions	125 x 80 x 20mm
Weight	325g + antenna

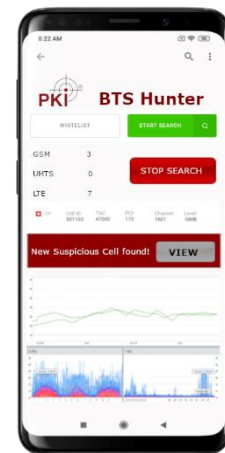


PKI 1690 BTS Hunter

PKI 1690 is a mobile radio receiver analyser that can monitor all GSM cellular networks (GSM, UMTS, LTE). The system is designed to detect and locate "fake" cellular networks such as IMSI catchers and cellular intercept monitoring systems. The system is an essential tool for countermeasures to detect and prevent the interception of mobile networks.

Functions:

- **PKI 1690** can predefine what information is obtained from the network environment during detection.
- The following information about the detected cell can be seen: LAC, cell ID, channel, BSIC, PCI, encryption key.
- The software informs the user about the progress of the scan by highlighting the currently scanned RAT (Radio Access Technology - Bluetooth, Wi-Fi, 2G, 3G, 4G), showing the detected cells and the animation of the radar icons.
- The **PKI 1690** software detects each suspicious cell, reports with a special suspicious sign and displays the location. Each detected cell can be identified as normal and as a spy.
- Depending on the factory setting, **PKI 1690** can also detect jammers.
- The user can see the provider's logo, the provider's name, the timestamp with the moment of the last detection and the RAT of the detected cell.



Characteristics
Automatic filtering of fake cells according to defined criteria.
List of cells to allow the system in real time
Completely passive scanning of the network environment
Search in the source of the selected cell

PKI 1695 Longe Range Wi-Fi Interception



Interception of information can be performed from great distances (hundreds of meters). This allows for wider intercept locations and reduces the risk of exposure, as well as increased operational reliability through shorter interception times and seamless delivery of data services to the **PKI 1695** target device. Visual target identification simplifies localisation capabilities. Integration of the data extraction or infection systems enables **PKI 1695** to provide further revolutionary interception capabilities where other Wi-Fi systems have previously been unsuccessful.

Specifications	
Interception & Infection (Active)	Multiple Wi-Fi MitM interception methods for different deployment scenarios
	Leading interception radius (up to hundreds of meters)
	High bandwidth data rate to/from the intercepted device
	Fully integrated with various infection and data extraction systems
	Robust API that allows integration with any infection system with little effort
Detection & Tracking	Detection of any Wi-Fi transmitter device
	Extraction of Wi-Fi metadata
	Wi-Fi data analysis to identify suspects
	Direction finding (3°- 8° accuracy, depending on the type of environment)
	Accurate location detection (with a two-radio configuration)

PKI 1705 Wi-Fi Clone System

The **PKI 1705** system consists of four components:

1. A software jam controller that hides the target Wi-Fi hotspot, only this and the nearest accessible repeater, and ensures that clients disconnect from this hotspot.
2. A hotspot controller that creates the new cloned Wi-Fi and silently connects the clients to it.
3. A password hacking server to which the hotspot controller sends the collected data to enable password hacking.
4. A management computer that operates at a remote location and allows the user to remotely control the entire system.



In this application, the devices are connected to a Wi-Fi hotspot. When the Wi-Fi clone system is switched on, they are disconnected and covertly reconnected to the cloned hotspot. The device now uses the internet as before, but the network traffic is controlled and modified by **PKI 1705**. Various possibilities can be used to obtain the user's access data: fake login pages, creation of already registered free Wi-Fi hotspots, advanced AI attacks, brute force attacks etc. **PKI 1705** analyses the hotspot to clone it, gets the necessary data, sends it to the remote hacking server. This is then able to discover and use the access data to clone the original hotspot.

Specifications	
Wi-Fi coverage area	Depends on the antennas, there are a lot of solutions (indoor and outdoor) omnidirectional and directional. The cover range can be up to hundreds of meters. The effective coverage area depends also on walls, ceilings and so on.
Wi-Fi	<ul style="list-style-type: none"> • Jammer: 2.4GHZ 7 5GHz RP-SMA connector • Hotspot: 2.4GHz / 5GHz RP-SMA connector • Standards: IEEE 802.11b/ g/ n • Channels: 1-13 (general Europe); 1-11 (North America) • Transmission Power: up to 1000mW
Security	WEP a 64/128, 802.1X, Wi-Fi Protected Access (WPA), WPA-PSK, WPA-PSK II, AES, TKIP
Power supply	Standard Power: AC 100V – 220V / 25W
Internet Battery	Standard Power: DC 5V/ 3 Ah – DC 12 – 19V / 4 Ah
Running Time	5 hours

PKI 1710 External Directional Finder module

The external direction finder (EDF) module is an optional device for determining the direction of suspicious networks. The only available version of the **PKI 1710** module supports the following frequencies:

- LTE: 2600/ 2100/ 1800/ 900/ DD 800MHz
- UMTS: 2100/ 1800/ 900MHz
- GSM: 1900/ 1800/ 900/ 850MHz



List of Content (Standard Set)	
PKI 7040x Antenna	
PKI 1690 holder	
Cable set	Hardcase
Multiband signal meter for digital radio	

The module is powered by the **PKI 1690** device via a USB Type-C cable. The multi-band signal meter is housed in an ergonomic handle and is available in polymer or wraparound rubber versions. The **PKI 7040x** is a wideband directional antenna for the frequency range 700 - 4000MHz with an average gain of 44dBi.

PKI 1715 Wi-Fi Monitoring

The **PKI 1715** system captures ambient monitoring of wireless networks in the 2.4GHz and 5GHz frequency bands. The **PKI 1715** system consists of a hardware unit equipped with special software and client software that works with Windows.



Capabilities:

The **PKI 1715** system intercepts data, analyses it and forwards the necessary data to the client software. With one transceiver, up to 8 access points can be used simultaneously. The maximum possible number of access points for a typical hardware unit is 32. Additional units can be connected to the system simultaneously. They are used by the system as a single hardware unit containing only additional transmitters. The following access points can be used: open, WPA, WPA2, WEP and others can be added if required. Acquisition and storage of the acquired data without external applications. The system allows the recorded data to be tested locally.

Hunting for targets:

With **PKI 1715** it is possible to catch an operator target with a forged access point using the Wi-Fi module. The operator can provide a list of SSIDs with which the target is familiar. With an active probe, **PKI 1715** is able to find those access points that the target will try to connect to. When a matching SSID is found, **PKI 1715** automatically sets up an access point for it.

Wireless scanning:

PKI 1715 displays the list of participants in the Wi-Fi wireless environment. The system collects the MAC addresses of the visible devices, the time of the first and last appearance of the device in the wireless environment, the power of the received signal, etc.

Fake access point:

It is possible with **PKI 1715** to create a fake Wi-Fi access point with a strong signal and with any credentials for this network via the GMW.Net application.

Disabling devices from the Wi-Fi network:

The **PKI 1715** system can send the deauthentication request to any destination to disable the device from a Wi-Fi network.

Examples of use:

The **PKI 1715** system has two usable views of client statistics:

- The raw list of the last states of the radio environment
- Client porting view

PKI 1725 Wi-Fi Hunter

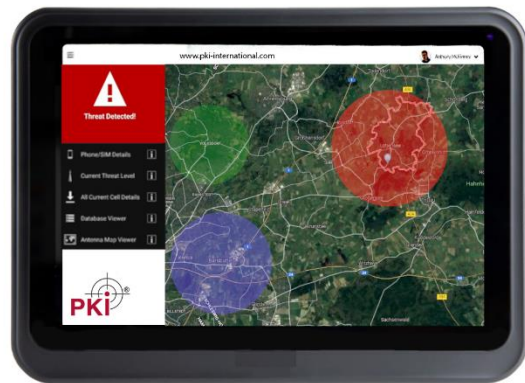
PKI 1725 completely passively scans the surrounding Wi-Fi networks with automatic detection of the most common attack types such as KRACK, WPS-BRUTE-FORCE and massive deauthorisation attacks. Any abnormal behaviour, such as attacks on Wi-Fi access points or cloning of existing access points, is detected by **PKI 1725**. **PKI 1725** also constantly analyses the surrounding network landscape and detects suspicious activity, such as the appearance of a cloned access point and frequent SSID changes.



Specifications	
Frequencies	2.4GHz: Channels 1 – 14 (2402MHz – 2494MHz)
	5GHz: Channels 34 – 165 (5150MHz – 5835MHz)

PKI 1730 Mobile Phone Threat Detection

PKI 1730 is designed to scan, monitor and automatically assess whether all available mobile networks are genuine or pose a threat to all mobile networks. With the growing risk of threats from IMSI catchers and MITM systems for mobile phones, it has become necessary to take precautions to minimise the risk. Ubiquitous and real threats such as identity capture, interception and manipulation of calls and SMS, and the ever-increasing network-infected malware are just a few examples.



With **PKI 1730**, it is now possible to achieve an extremely high detection rate by analysing both the characteristics and behaviour of the Base Transceiver Station (BTS). **PKI 1730** is a high-speed scanner based on Software Defined Radio (SDR) that constantly monitors the environment for threats to mobile phones. **PKI 1730** can be deployed in both a standalone and network configuration. Once **PKI 1730** is set up, the system requires no operator presence and automatically notifies of detected threats.

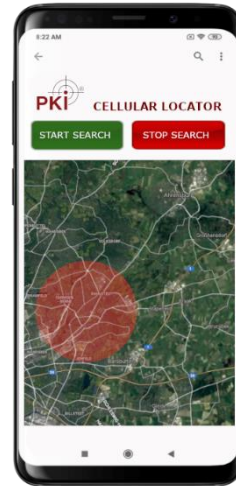
Threats to mobile phones such as identification detection, localisation, monitoring of voice and text messages, passive eavesdropping, encryption tampering, opening the microphone and listening to conversations in the room, as well as malware injection, clearly demonstrate the importance of deploying **PKI 1730** in the field. In addition to these threats, indirect threats are also significant. In sophisticated computer network operations, mobile phones are intercepted and manipulated to allow unauthorised access. Forged SMS security codes manipulated website links, and so on.

Specifications	
Applications	<ul style="list-style-type: none"> • Detect IMSI catchers • Detect jammers • Passive operation • Locate hostile base station • Threat analytics
Interface	2x USB, HDMI, 1x RJ-45, Wi-Fi
Antenna connectors	2x SMA(f), 1x SMA-RP(m)
Frequency range	800 – 2700MHz
Features	High-speed scanning, All bands, 2G, 3G, 4G, Networkable, GPS location
Power supply	110 – 230V / 12 – 32V DC input
Power consumption	50W average, 95W peak
Dimensions	250 x 200 x 90mm
Weight	3,2kg
Items	Sensor and analytics unit, Power Supply, Licence dongle, GSM, GPS, Wi-Fi antennas, Cable set

PKI 1750 Cellular Locator

PKI 1750 enables tactical detection and protocol-based positioning of mobile devices that are active in the detection area, as well as positioning for operational activities. **PKI 1750** has been developed in-house over many years and is characterised by the flexibility of its capabilities, functions, and configurations.

Used by law enforcement and intelligence agencies worldwide, **PKI 1750** is a reliable, state-of-the-art cell-site solution that meets all tactical cell-site requirements. Most tactical positioning operations aim to physically reach the target subscriber and capture the device owner.



Specifications	
Frequency bands	Two bands of the following for each cell: GSM -850, P/E. GSM-900; dcs-1800; pcs- 1900
	Two bands of the following for each cell: UMTS I 2100, UMTS II 1900, UMTS IV 1700, UMTS V 850, UMTS VII 900
	Two bands of the following for each cell: E-UTRA I 2100, E-UTRA II 1900, E-UTRA III1800, E-UTRA IV 1700, E-UTRA V 850, E-UTRA VII 2600, E-UTRA VIII 900, E-UTRA XX 800
Identifies Extracted	IMSI, IMEI, (optional) TMSI, (optional) IMEI-SV
Location Capabilities	A variety of protocol-based positioning methods, Last Mile Positioning Enablement
Lists Definition	Support for multiple groups of subscribers, import and export included
Targets DB	Included, import and export available
Operating range	Depending on configuration, physical layout, and electromagnetic environment. Maximal range can be controlled by user
Active Positioning	Cross technology, up to 4 targets in parallel
Storage size	Depending on configuration
Battery time	Depending on configuration
Transmission output power	Depending on configuration (10mW – 100W total)
Signal Source	PLL synthesized
Power supply	Battery / 90 – 220VAC / 12VDC
Antenna	Depending on configuration (directional / omni-directional)
Dimensions	49 x 31 x 19cm (standard backpack)
Weight	16,5kg (standard backpack)
Operating Temp.	0°C to +50°C
Humidity	5% - 95%

PKI 1780 Mobile Satellite Communication Terminal

PKI 1780 is a high reliability terminal that provides real-time broadband satellite communications for video, voice and data on the move. It can be used for secure civil or government communications or emergency communications, including data and voice over IP. **PKI 1780** enables any vehicle to communicate with a remote location without a GSM network or existing radio infrastructure, in the middle of the desert via satellite and while driving up to 100km/h.



PKI 1780 is delivered turnkey and requires no special knowledge of satellite communication. It requires no modification to the vehicle and is quickly replaceable e.g. in case of a breakdown of the carrier. **PKI 1780's** state-of-the-art technology makes it possible to hold video conferences or send large files or video surveillance while driving.

PKI 1780 is equipped with Wi-Fi, which makes it possible to distribute the internet connection to several vehicles when travelling in a convoy. Wi-Fi can of course also be switched off for discretion. The complete **PKI 1780** unit is mounted on the desired vehicle with quick-release fasteners. The low overall height and low weight simplify quick installation. **PKI 1780** supports the commercial and military Ka-band.

Specifications	
Frequency Band	TX: 29 – 31GHz; RX: 19,2 – 21,2GHz
Satellite acquisition	Automatic
G/T (standard radome)	9dB @ 30° EI
EIRP (with 40W BUC standard radome)	≥46dBW typ. Including tracking loss and for SR compliant to MIL-STD-188-164C
Antenna type	Slot antenna (4-port)
Panel size	40 x 15cm
Polarization	Dual Circular RHCP / LHCP (Automatically switchable)
Cross-Pol	20dB typ
Azimuth travel	0° to 360° continuous
Elevation travel	0° to 95°
Elevation Speed	30 deg/sec
Azimuth Speed	60 deg/sec
Acceleration	500 deg/sec ²
Tracking	Combined IMU/ RSSI/ GPS
Pointing Accuracy	≤0.20° typ; 99% of the time during off-road Class A
Antenna pointing	Acquisition time < 40 sec; Re-acquisition time < 2 sec
Weight	Outdoor module: 55kg; Indoor module: 7,5kg Options: UPS: 37,5kg; Power generator: 21kg
Power line supply voltage	24V (18 36VDC)
Power consumption	≤ 680W peak (harsh off road) ≤ 680W peak (harsh off road)
UPS autonomy	Up to 4 hours (UPS in option)
User Interfaces	3 Ethernet 10/ 100 base T (data, VOIP, Wi-Fi bridge)
Core station M&C	Yes
Operating temperature range	-25°C to +55°C
Storage temperature range	-40°C to +71°C
Maximum vehicle speed	Up to 120km/h
Environment standard	MIL-STD-810G
RED	Safety: EN60950-1 and EN60950-22, EMC: EN300 673; Spectrum: EN 301 978
RoHS	EN 50581
Specifics	MIL-STD-188-164C

PKI 1800 IP Monitoring System for Analogue and Digital Telephone, E-mail, Fax

The technologies applied for communication have increasingly shifted into the IP sector. Whether e-mail, telephone, fax etc. today, all these means of communication demand digital bandwidth and are transmitted via IP-based networks. In contrast to the technologies applied so far, with IP technology no direct connection is established between the communication partners but communication is digitized, packed in small packets, possibly encrypted and subsequently more or less quickly and frequently exchanged. In case of previous monitoring systems, a known sender automatically meant that the receiver was known, too. The conversation, fax, etc. was realized via a line to which both participants were connected. The data volume recorded this way is and remained manageable.

The problem with today's IP-based technology is that there is no direct connection any longer but only a communication distributed onto numerous packets. It is therefore necessary to separate the corresponding packets from the entire mass of data and to merge and decode them subsequently. Such a system shall in fact record the ongoing data traffic, but it cannot participate – actively. What is difficult are e.g. lost packets which cannot be requested again or also packets transmitted several times in order to put together the original message. The solution to this is our **PKI 1800** IP Monitoring System. Integrated into the network to be monitored, any communication is stored and decoded to the greatest possible extent. And it is irrelevant whether a WLAN or a wired network is eavesdropped on here. The actual access to the network is realized with a repeater establishing the connection to the **PKI 1800**. The System logs all captured data into a database and thus enables a subsequent evaluation. Via the IP address, an assignment is then possible, via the data of the providers, to the user identity. Additionally, our products include a huge range of accessories.



Despite their complex functionality, all devices come with an easily understandable instruction manual, which also describes their advantages and disadvantages and their possible field of application. Therefore, the ENDUSER have the possibility to combine all desired devices according to needs and wishes. Of course, we can be of assistance, if you specify your personal requirements and we would be pleased to establish a personally designed and tailor-made configuration of devices. Our **PKI 1800** devices allow surveillance of telephone, e-mail and Fax without any restriction. All you need is a computer and some knowledge of the system. In order to cover this, **PKI** also offer 4-weeks training courses. **PKI 1800** records voice conversations from analogue and digital telephone lines, IP-telephony and other sources and gives instant and comfortable access to record data. **PKI 1800** can be used for various application, e.g. by Police and other Law Enforcement Agencies, banking, insurance, emergency services etc.

Specifications	
Input impedance	3 Motion
Rated voltage of input signal	1,3V
Signal-to-noise ratio	80dB
ADC resolution	16 bit
Active caller	ID
Phantom power	5V/12V
Supports proprietary protocols	Alcatel-Lucent, Avaya, (Lucent, AT&T), Bosch, Ericsson, Harris LG, NEC, Nortel, Panasonic, Samsung, Siemens, Tudiran, Telecom, Telrad, Connegy, etc.
LAN connection	IP V.4, IEEE 802.3, Mirroring / Span port, Ethernet 100 Mb / 1 GB
Supported protocols and speech codecs	IP-Telephony proprietary protocols. Alcatel, Avaya, Cisco, Ericsson, Nortel, Siemens

The PKI 1800 Highlights are:

- High-quality recording
- Simultaneous recording and playback
- Real-time audio channel monitoring
- Fax Reader module decodes audio recordings of facsimile transmissions
- Sound module allows playback of speech with variable speed
- Embedded transcription module can be used to transcribe recorded conversations into text.
- Noise filtering module reduces the noise in recorded conversations making the speech clearer and more intelligible multi-channel recordings. Connection up to 8 channels into one file.

The technical characteristics are:

- 300 channels in one recording station
- Audio format wav uncompressed or 16x compression
- MS SQL Express database size up to 5 million recordings
- MS SQL standard database size up to 100 million recordings

PKI 1815 Tactical Mobile Thuraya Monitoring System



The system can monitor the following Thuraya services:

- Voice, SMS, fax and data
- Interception of up to 4 spot-beams simultaneously monitored
- Interception of up to 16 duplex calls simultaneously
- Decryption unit built in

PKI 1815 is designed to be easily transported to the places of operations. Quickly deployable and operational in a couple of minutes. The system is suitable for use in land, sea and air applications. **PKI 1815** is a rapidly deployable system for monitoring communications on the Thuraya satellite mobile communications systems. Call interception is passive, and thus not detectable by either the mobile user or the satellite network.

Control of the system is via an intuitive windows-based GUI. Incoming calls are displayed in real-time, and voice is played via laptop unit. Software to decode and display a number of fax and data protocols is included. Information relating to the identification of called and calling parties is recorded.

The system consists of the receiver, the control unit (laptop) and an antenna set.

Key features:

- Mobile satellite monitoring in radio line of sight
- Map functionality (own position, target position and beam position)
- Small, portable form factor
- Light weight
- L-band „target“ and „satellite“ inputs
- DC powered via AC adapter or vehicle adapter

Antennas:

PKI 1815 is supplied with antennas and cables for quick and easy deployment. One antenna is required to capture the satellite downlink, while the second (target) antenna captures the signal by the mobile terminal. Optional a range of antennas for a variety of deployment scenarios can be supplied by our company, including vehicle mounted and omni-directional antennas. The system also features variable attenuation to allow effective operation under a wide range of signal conditions typically experienced in the tactical environment.

Specifications	
Satellite Channel	
Connectors	TNC (SMA)
Frequency range	1525 to 1559MHz
Input signal level	The receiver subsystem will demodulate wanted signals from the satellite downlink subject to adequate signal level and carrier to noise ratios being available at the demodulator. Satellite channel signal levels may be displayed continuously on the control computer.
Target Channel	
Connector	TNC
Frequency range	1626.5 to 1660MHz
Input signal level	wanted signals from the MES uplink subject to adequate signal level and carrier to noise ratios being available at the demodulator.
Target channel setting	Dynamic range 65dB
Target channel signal levels may be displayed continuously on the laptop unit	

Laptop unit
Intel Core i5 Processor up to 2.53GHz
Windows 7
4 GB RAM
320GB hard disk drive
LCD 14" WXGA (1366 x 768) display
4 USB 2.0 compliant 4 pin connectors
RJ45 Ethernet port, WLAN, Bluetooth
Audio jack for headphones
CD/DVD read/write drive
MySQL server

Power requirements	
Receiver unit	DC powered 9 - 36V at 75W

Environmental	
Operating equipment	5°C to +35°C, 10% to 90%
Storage, all equipment	-20°C to +50°C, 5% to 95%

Dimensions and weight	
Receiver unit	331 x 82 x 268 mm, 5,4kg

Delivery scope	
Receiver unit	TMS-4SRX
Control unit	Laptop with software package
Antenna set	2 x omni-directional, 2 x directional patch antennas
Power supply	Car adapter 12V DC, PSU 230V AC/12V DC, PSU for laptop 230V AC / 12V DC

Omni Directional Antenna

The omni-directional antenna is a quadrifilar Helix antenna designed for use on the Thuraya satellite network, covering much of Europe, Africa, the Middle East and part of Asia (Thuraya Coverage Map).

Technical data	
Frequency range	1525-1560, 1625 - 1680MHz
Coverage	Hemispherical
Polarization	Left-handed, circular (AR 3dB)
Gain	+2dBic – Elevation pattern
Nominal impedance	50 ohm (RF)
Input power	1 Watt CW
VSWR	2.0 GRAPH
Connector	SMA
Dimensions	4cm x 11cm
Operating temperatures	-40°C to +85°C
Weight	250g

Planar Antenna

The planar antenna is a flat panel antenna with low noise amplifier for receiving downlink signals from the Thuraya satellite network, covering much of Europe, Africa, the Middle East and part of Asia (Thuraya Coverage Map).

Technical data	
Frequency	1.525 - 1.590GHz
Pattern	Directional
Polarization	LHCP
Antenna gain	15dBic
Output impedance	50 ohms
Power supply LNA	12V, 65mA (supplied from TMS-4S)
Gain LNA	min 20dB
Connector	SMA
Operating temperature	-55°C to +85°C
Dimensions	50 x 25 x 3cm
Weight	950g

If you are interested in a strategic Thuraya monitoring solution, please inform us briefly so that **PKI** can submit an adequate quotation.

PKI 1820 Iridium Interception System

PKI 1820 is a real time interception system providing a comprehensive monitoring solution for Iridium satellite communication. The Iridium communication system is a large group of satellites providing voice and data coverage for satellite phones, pagers, and integrated transceivers. With more than 500.000 total subscribers, Iridium is the only mobile-voice and data satellite communications network that spans the entire surface of the earth, serving both commercial and government subscribers. Monitoring and intercepting Iridium networks is an essential task for government agencies in the continuous effort to ensure effective intelligence gathering from this steadily growing network. **PKI 1820** captures the link between satellites and mobile units, providing impressive L-band results. Voice calls produced by the system contain synchronous and uninterrupted voice playback using state-of-the-art signal processing methods and algorithms. **PKI 1820** produces and displays voice calls and data shared on target networks in real time, as they are intercepted. Voice and text communication intercepts are stored in a managed database for on-demand audio replay and social network analysis. All data can be conveniently exported to any standard format for post-mission data research and analysis. The system is operated by a powerful, flexible and user-friendly management console. **PKI 1820** is specially designed for government organizations, law enforcement units, and intelligence agencies demanding high standards real-time information gathering, storage and data extraction. **PKI 1820** enables predefined lists of intercept targets, specifying names, phone numbers, and network-specific parameters. **PKI 1820** supports both remote and local operations, as well as multiple operators. By efficiently dividing the work between several operators in real-time, intelligence gathering capacity can be significantly increased. **PKI 1820** is modular and can be installed in various form factors, from a standard 19" rack-mount version to a rugged transportable edition. **PKI 1820** is used by Intelligence and Homeland Security agencies like Law enforcement and investigations units or Armed forces.



Specification	
Receivers technology	Wide band receivers
Interception method	100% passive, off-the-air
Frequency coverage	L-band
Data monitored in real time	Voice calls, SMS („Paging“), data
Capacity	Up to 50 concurrent calls
Number of operators	1-3 simultaneous operators
Modes of operation	Search mode: interception and production of random traffic
	Target mode: interception and production of traffic originated from predefined targets
	Semi-target mode: interception of all traffic regardless of origin (metadata only). content production (voice and text) of calls only from known predefined targets.

- Features:**
- Real time interception of Iridium voice calls, SMS and data
 - Location finding of Iridium handsets and terminals
 - Comprehensive interception
 - Extended geographic coverage
 - Automatic link analysis, social networking and intelligence-driven alters

PKI 1830 Door Intercom Recorder

The door intercom recorder is a compact recording device that can be connected to state-of-the-art bus based door intercom systems. All events such as doorbell ringing or door opening are logged and calls via the intercom system are recorded. Depending on the investigation and data privacy protection requirements, this can be carried out globally or individually for certain door intercom locations. Later, the events can be queried or directly forwarded to a monitoring centre via a network/mobile phone connection depending on the design/configuration of the recorder. The **PKI 1830** power supply is directly provided by the intercom system. It is compatible with most system protocols available on the market. The recorder can usually be connected to any point of the wiring of the intercom system.



PKI 1850 PC-supported Telephone Monitoring System

The surveillance of any kind of telecommunication, of course, is our main field of business. Whether analogue, digital or cellular, you will find the corresponding monitoring device in our scope of supply and in this catalogue. The **PKI 1850** has been developed for the monitoring of digital and ISDN telephone lines. But the main advantage is that it can be used for stationary and mobile use. Without any problem each necessary data, like telephone number, date, time and other criteria can be stored on a laptop. Each call will be stored as a WAV-file. By means of the supplied software, the WAV-file can easily be administrated and can be opened to hear the content of each call plus indicating the relevant data. Each WAV-file can be stored in compressed or uncompressed version for further action.



Specifications:

- Dimensions of unit without laptop approx. 76 x 55 x 19mm
- SO-interface ITU-Standard I.430
- Tests Polarity, Framing, Power, Protocol
- USB 1.1 and 2.0 (full speed)
- Power < 90mA
- Storage: 16KB per second/call, uncompressed WAV file.
- WAV format A-Law Stereo, Mono, MP3, GSM
- Device package includes **PKI 1850** device, Software-CD, USB and ISDN
- Weight of unit without laptop approx. 50g
- Connection 2 x RJ45 Western Modular
- Channels 2 x (D, B1, B2), E, M, A, Q, S
- USB socket USB Type B
- LEDs 4 x red/green
- Sampling frequency 8000Hz
- Processor 500 MHz (min for single device operation)

PKI 1855 Hard Disc Converter

With **PKI 1855** it is easy to copy datas from built-in hard discs. Just connect the hard disc to the USB port of your PC by means of the **PKI 1855**. Compatible with all standard 1,8", 2,5" and 3,5" IDE hard discs. By means of this copying converter you can easily obtain all important information. Furthermore, this converter is also suitable for testing and connection of all types of hard discs and burner via USB 2.0 port.

Specifications	
Hard discs	SATA (L-type) and IDE, copying possible
Sizes	1,8", 2,5" or 3,5"
Comes with	Converter, adapter, power plug, SATA-cable
Various	No installation inside PC necessary



PKI 1860 Telephone Tapping Device

The **PKI 1860** can easily and quickly be installed on telephone lines, subject to entering the room at least once or for a short time. It allows continuous tapping of a telephone line without leaving outer traces. Just clip the contact clamp onto the telephone cable and listen to the conversation of both sides via the included headphones, or alternatively save it with a recording device.



Specifications	
The only way to tap telephone lines without having to cut them.	
Impossible to be detected or located via TDR reflectometer.	
Easy and quick installation – just fix the clamp onto the cable and turn it on.	
Equipped with connection sockets for headphones and recording device (D 1300)	
Dimensions	Approx. 34 x 20 x 114mm

PKI 1965 Conference Presentation System

PKI 1965 provides full-screen playback for all devices, wired or wireless. Including MAC and Windows computers and laptops, Android and Apple tablets and smartphones. **PKI 1965** thus enables a much easier collaboration session. **PKI 1965** enables easy full-screen mirroring for all devices, including Mac and Windows computers and laptops, Android and Apple tablets and smartphones, displaying the entire screen for smoother and easier collaboration sessions. Install the easy-to-use software for screen mirroring, application window sharing and access to advanced features such as moderated collaboration. **PKI 1965** is a wired and wireless 4K presentation system. It supports simultaneous display of up to four devices including one connected via HDMI. The HDMI input supports wired devices, including TeamWork Show Me cables for easy source selection. It has both collaboration and moderator modes for open and controlled collaboration and two Ethernet ports for more secure environments. When used with Extron GVE - GlobalViewer Enterprise software, multiple devices can be managed across an enterprise or campus. **PKI 1965's** professional features allow easy integration of AV and mobile devices in huddle, meeting and collaboration rooms. With **PKI 1965**, any user can view content and control the presentation. Each user can mirror their desktop or share images, documents or applications, with each shared item dynamically added to the display, up to a maximum of four shared items visible on the display at any one time. This enhances interaction during brainstorming sessions, team meetings, group studies and with other collaboration spaces.



FEATURES

- Wirelessly share content from mobile devices: Connects a variety of devices to the system wirelessly or via a wired LAN connection.
- Provides full screen mirroring for all devices: Display your device's full screen through the wireless collaboration gateway for smoother and easier meeting collaboration.
- Wireless and wired sources can work together simultaneously: HDMI input allows wired users or sources to collaborate simultaneously with wireless users in the same session.
- Supports Mac and Windows computers as well as Apple and Android tablets and smartphones.
- Dedicated application provides a consistent user experience across platforms: Similar user interface across all platforms makes it easy for users to support each other or switch between devices, regardless of how they connect and share content.
- View up to four pieces of content simultaneously from each connected user: Effective collaboration and discussion by comparing multiple sources simultaneously and reducing or eliminating the need to switch between sources.
- Centralized management: Save valuable time by updating firmware on multiple **PKI** devices simultaneously from a central location. Monitor usage on multiple units via the GVE management platform.
- Display codes ensure content is only displayed on the selected display devices: Randomly generated or custom display authentication codes prevent unintended sharing of content or display in an adjacent room.
- State-of-the-art technology displays slide images on participants' personal devices via a web browser: The device allows viewing of meeting content on a participant's mobile device.
- Fully customizable welcome screen: Multiple configuration options to show, hide or customize information on the welcome screen so users can quickly connect and start sharing their content.
- PoE+ compatible: The product is powered directly from a PoE+ switch or injector, eliminating the need for bulky local power supplies.
- Dual Gigabit Ethernet. Provides two high-speed data connections that allow segmentation of guest and private networks for quick and easy access to the web or other network resources.
- Connects to an existing wireless network. **PKI 1965** leverages existing wireless network infrastructure and provides easy wireless connectivity for a variety of mobile devices.
- 128-bit data encryption: A variety of security protocols ensure that all content transmitted between the devices and the model is fully encrypted and secure.

- HDMI output supports computer and video resolutions up to 4K: supports resolutions up to 4096 x 2160 with 4:4:4 chroma sampling at 8 colour bits.
- Compatible with TeamWork Show-Me cables: Show-Me cables provide convenient connectivity and user input selection and control for teamwork collaboration systems.
- Collaboration mode allows each participant to view content and control the presentation: Allows content to be viewed from any connected device to enhance interactivity in brainstorming sessions, team meetings and other collaboration environments.
- Moderation mode ensures that only approved user content is displayed.
- 128-bit data encryption: A variety of security protocols ensure that all content transmitted between the devices and the model is fully encrypted and secure.
- Easy set-up and commissioning with Extron PCS - Product Configuration Software: Convenient configuration of multiple products with a single software application.
- Display control options including RS 232 and CEC via HDMI connection
- 1" (2.5cm) high, half rack-width metal enclosure. Compact, low-profile housing allows discreet installation in a lectern or behind a flat-panel display.

Customized welcome screen:

PKI 1965 features a fully customizable welcome screen with numerous configuration options to help users quickly connect their devices and share content. Customized welcome screens, such as organization-specific connection instructions, can be uploaded and shown as the default welcome screen on the display. IP or host name information can be shown or hidden as desired. Multiple screens can also be displayed to provide more detailed connection instructions, support information or other local information. A signage player can be connected to the HDMI input so that **PKI 1965** can function as a signage display when not in use for collaboration sessions. It displays updated organizational information from the signage player until the first wireless user connects and returns to a signage display when all wireless users have disconnected.

Secure collaboration:

PKI 1965 has a range of security protocols to ensure a safe and secure environment for collaboration. All content transferred between devices running the software and is protected with 128-bit encryption. Communication between user devices and **PKI 1965** is protected with the HTTPS secure connection protocol. Control, monitoring or management applications using an Extron control system communicate with **PKI 1965** via SSH for secure communication. In multi-unit environments, a four-digit code may need to be entered on the welcome screen before users can share content on the display. This feature is particularly useful to ensure that users only see their content in environments where multiple units may be in proximity, such as huddle spaces, active learning environments, office buildings or classroom buildings. **PKI 1965** also has two Gigabit Ethernet connections that allow internal private networks on one Ethernet to be segmented from external guest networks on another Ethernet, ensuring that only authorized users can access the private network. In addition to an administrator password, additional optional passwords can be set for a moderator or for all users, providing another layer of protection for secure collaboration

Centralized management:

With **PKI 1965**, setting up or managing multiple systems is virtually as easy as setting up or managing a single system. Extron's PCS - Product Configuration Software allows convenient setup and configuration of one or more units at a time. PCS can store configurations for future use when expanding **PKI** systems or restoring a replaced unit. It also allows multiple units to receive firmware updates simultaneously, saving time and greatly improving efficiency. In addition, Extron's powerful and flexible GlobalViewer Enterprise software enables management, monitoring and control of **PKI 1965** over any standard Ethernet network.

Specifications	
Power supply	Input:100 – 240VAC, 50 – 60Hz; Output: 12VDC, 2A, 24W
Power input	12VDC from external power supply
Power consumption	Device: 16.7W, Device and power supply: 20.1W
Dimensions	2,60 x 23 x 21cm
Weight	1kg
Network interface controllers	2
Connector	2 female RJ-45 connectors
Data rate	10/ 100/ 1000 Base-T, Half/ full duplex with Auto-detect

PKI 1970 Manpack Ka band satcom terminal

PKI 1970 is a lightweight and robust manpack terminal designed for civil or government communications for data or voice over IP. **PKI 1970** is particularly interesting for emergency communications. It can be transported and operated by one person. **The PKI 1970** housing consists of a robust and reliable aluminum structure with carbon fiber antenna. The fast and easy deployment (< 15mm) and the upload data rate of ≥ 1 Mbits/s including the manual displays are special features of the **PKI 1970**.



Specifications	
Frequency Band	TX: 29 – 30GHz; RX: 19.2 – 20.2GHz (other on demand)
EIRP	50dbW at 30GHz
G/T	16.5dB/k at 19.7GHz (EI = 30°)
Antenna	Ø 65cm dual-offset
Polarization	Circular RHCP or LHCP (on field swappable)
Pointing / Packaging	Manual / Backpack
Weight / Dimensions	30kg with backpack / 420 x 340 x 710mm
Input voltage	18V to 36VDC or 90 to 260VAC – 47 to 63Hz or battery
Power consumption / battery	< 110W / up to 4 hours
User Access	L-band Tx and Rx accesses
M&C	Modern web GUI on ruggedized tablet
Temperature	Operating: - 20°C to +55°C / Storage: -40°C to +60°C
Wind speed	Operational: 50km/h (gusting to 70km/h) / Survival: 100km/h
IP protection / RoHS	IP65 / EN 50581
RED	EMC: EN 301489-1, EN 301489-12; Safety: EN 60950-1 / A11/ En 60950-22, Spectrum: EN 301459
Specifics	Satellite: ITU-R S.580-6, ITU-R S.731-2

PKI 1975 200 Gbit/s Internet Probe

PKI 1975 is the most powerful IP probe for complete reconstruction currently available on the market. It is designed to handle IP network and protocol interception at any scale, from tactical applications to large-scale nationwide solutions. With more than 100 protocol decoders and metadata extractors,

Specifications
Passive probe
Intelligent event correlation
Real-time extraction of metadata and content
Linear scalability
Embedded targeting engine
Open interface



PKI 1975 is the perfect tool for understanding IP networks. The **PKI 1975** system is capable of decoding all interpersonal communication in real time, including forums, webmail, instagram, VoIP calls, and extracting metadata from all applications, whether encrypted or not.

PKI 1980 Tactical Internet Interception



PKI 1980 is a powerful solution for tactical interception of the Internet. It can intercept both content and metadata, either targeted for specific applications or for mass collection of all communication content. **PKI 1980** is not only capable of intercepting any type of IP network, but can also reach third-party sensors (e.g. DSL, Wi-Fi, satellite) and newly transmitted network traffic (e.g. PCAP files). **PKI 1980** supports many Internet protocols and applications with

Specifications
Totally passive
From 200Mbps to 10Gbps
Extraction of metadata and content
Real-time results
Bi & unidirectional traffic
Extended target criteria
Support of current protocols User-friendly and secure GUI

the latest versions developed on a regular basis and regular software updates as these change over time. **PKI** provides advanced analysis features that allow the operator to quickly understand and search the intercepted data.

PKI 1985 Long Range Wi-Fi Interception

PKI 1985 is a powerful system that provides capabilities to detect, locate, track and identify devices communicating over Wi-Fi, even over long distances. The **PKI 1985** Wi-Fi radio transmitter is a sensitive Wi-Fi radio receiver unit with digital adaptive beamforming antennas. **PKI 1985** receives narrow beams, finds the direction of arrival of the target device and enables identification of Wi-Fi signals over long distances. **PKI 1985** operates in 3 different ways: Passive, i.e. **PKI 1985** collects only MAC addresses and other Wi-Fi metadata, which allows very accurate localisation. Active, **PKI 1985** also intercepts Wi-Fi communication. Offensively, **PKI 1985** analyses the target device and provides an injection to access all data on the device.



Specifications
Long range Wi-Fi interception Coverage up to 10 times
Unique beamforming Wi-Fi sensor
Device detection, localisation, interception and injection
Integration of offensive third party module providers
Precise directional determination Resistant to interference
Masses passive detection capacity

PKI 1990 Open Source Intelligence and Avatar

PKI 1990 is a complete modular and scalable system for voice analysis and target profiling in social media. The goal is to identify, prevent and neutralize threats and potentially criminal behavior. **PKI 1990** provides enhanced intelligence capabilities for conducting investigative and statistical analysis of media and web channels such as twitter, Facebook, YouTube, Telegram, as well as web newspapers and forums and of course the dark web. **PKI 1990** is the tool for implementing virtual Humint (avatar) techniques.



Specifications
Multisource collection capabilities from social media and the web
Open platform to include additional sources (regional social media)
The system can create metadata that identify relationships between seemingly unrelated identities.
Interface to perform statistics based on intuitive graphical charts, reports, connection analysis (graphical) and trend analysis
Real-time alarm module for high priority events
Implementation of virtual Humint tools to collect information not normally available on the PKI 1990 (crawling of data via embedded avatars)

PKI 1995 Interception for Encrypted Application

PKI 1995 provides a unique system for intercepting popular encrypted communication applications. **PKI 1995** extracts extensive signaling metadata from IP Net-works. Thus **PKI 1995** provides the analyst with the ability to access metadata and content for these applications over any IP connection. Encrypted chat applications are of great interest to intelligence services as they are used worldwide for secure communication. With **PKI 1995** it is possible to link a network address to a destination number, thus connecting the internet world with the GSM world and allowing eavesdropping.



Specifications
Reveal the public IP behind a Bitcoin transaction
Reveal the public IP of a TOR user and the TOR websites visited
Access to content and metadata from encrypted applications
Access to content metadata through encrypted browsing

DIGITAL AUDIO RECORDER EQUIPMENT



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

PKI 2100 Digital Audio Recorder Equipment

For the first time, **PKI** herewith presents various new developments in digital recorder surveillance. Here, too, **PKI** sets international standards and offers an undreamt of variety of applications:

10 special features to be highlighted are:

- 1) Miniature design
- 2) Microphone sensitivity up to 10m
- 3) Excellent audio quality with great dynamics 20 Hz - 20kHz
- 4) Combined recorder and online transmitter
- 5) Memory capacity 16GB and higher
- 6) Use of rechargeable Li-ion batteries
- 7) Support systems via Windows 2000/XP/Vista/Win7/Win8
- 8) Bit rate of 32kbps - 256kbps
- 9) Wireless data playback possibility
- 10) Continuous recording for up to 50 days, incl. VOX remote or telephone up to 250 days



- | | |
|---|--|
| PKI 2105 Digital Miniature Recorder | PKI 2150 Digital VOX Recorder |
| PKI 2110 Digital PCB Microrecorder | PKI 2155 Digital Body-Worn Recorder |
| PKI 2115 Digital Stethoscope Recorder | PKI 2160 Digital Transmitter Recorder |
| PKI 2120 Digital Remote Control Recorder | PKI 2165 Digital Data Transmission Recorder |
| PKI 2125 Digital Long-Term Recorder | PKI 2170 Digital Stereo Recorder |
| PKI 2130 Digital Mains Recorder | PKI 2175 Digital Amplifier Audio Box |
| PKI 2135 Digital Telephone Recorder | PKI 2180 Professional Modul Stethoscope Recorder |
| PKI 2140 Digital Directional Microphone Recorder | PKI 2185 Professional Quadro Stethoscope Recorder |
| PKI 2145 Digital Needle Microphone Recorder | |

Please find descriptions of the different versions under the respective **PKI** number. Special combinations not mentioned here are possible on request or on order, e.g. long-term recorder + Vox control or mains recorder + remote control, etc. As a special accessory, we offer a playback box with amplifier and tone control for direct recorder playback without PC.

PKI 2105 Digital Miniature Recorder

With its integrated microphone, the digital recorder records conversations up to a distance of 10 m. As a result of its compact dimensions, monitoring operations can be easily handled. The playback quality of the **PKI 2105** always amazes, especially as the transmission rate is 256 kbps. Contrary to wireless monitoring operations, the **PKI 2105** is not traceable. A double-faced adhesive film allows for a simple and fast installation. With the delivered earphones, a direct playback without PC is possible. For larger rooms, it is recommended to use several recorders so that no information gets lost.

Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16 Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	9 x 23 x 70mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition



PKI 2115 Digital Stethoscope Recorder

If other monitoring options have been exhausted or the risk of discovery is too big to perform direct active monitoring in the building, this digital stethoscope recorder **PKI 2115** is used. Here, too, **PKI** sets international standards. This lightweight 20g digital stethoscope recorder including piezo transducer is fastened at walls/windows, door frames as quick as lightning using the new „adhesive paste“. As a result of its small dimensions of only 9 x 23 x 63mm this is possible inconspicuously. Playback is realized via a laptop or directly with the delivered earphones. Conversations can thus be recorded through walls and windows at any time without effort and difficulty using the **PKI 2115**.

Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	9 x 23 x 63mm, sensor 30 x 5mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition



PKI 2120 Digital Remote Control Recorder

This device enables controlled, time-dependent audio surveillance and this for an extremely long period. In order to use the power supply and recording capacity only if the circumstances really require it. This way month-long surveillance or recording is possible. The remote control has an operating range of 100m and can be easily operated by simply switching it on or off. Apart from that all technical data are maintained in excellent voice quality, only the standard height of 9 mm is increased to 18 mm. The standby time is several months.



Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	20 x 23 x 70mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition

Remote Control Transmitter
Frequency: 300 - 450MHz coded
Transmitting range: up to 100m (depending on surrounding conditions)
Power supply: 9V DC standard block battery
Dimensions: 90 x 60 x 23mm
Weight: 350g

PKI 2125 Digital Long-Term Recorder

This version surpasses all previous recorders with regard to its recording time of 50 days. This is only possible thanks to the used rechargeable Li-ion battery with 3.7 V and 18 Ah. It enables the **PKI 2125** to operate completely independently of any connected power supply so that it can be placed and used universally and immediately. The playback quality leaves nothing to be desired, despite the transmission speed reduction to 32kbps. Moreover, battery packs with smaller dimensions can be delivered for 10 or 20 days.



Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	17 x 70 x 130mm
Weight	240g
Special	Playback via earphone possible, electronic time recognition

PKI 2130 Digital Mains Recorder

The mains power supply enables the **PKI 2130** to achieve uninterrupted recording times of up to 50 days with smallest dimensions and this with an excellent audio quality during playback. In order to enable long-term recording, we reduced the transmission speed to 32kbps, just as with the **PKI 2130**. This digital main recorder is of course suitable for installation in socket outlets, junction boxes, lamps and other electrical devices. The **PKI 2130** is used wherever you want to be independent of battery life and attach importance to long runtimes, but nevertheless prefer smallest possible dimensions for camouflaged installation. In case of a power failure, further recording is guaranteed by the built-in rechargeable battery.



Specifications	
Power supply of 100 - 240V AC, automatically controlled	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery time	Recording: 14 hours / Playback: 20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack / Communication	3.5mm, stereo / USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Dimensions of mains adapter	9 x 12 x 30mm
Dimension of recorder	9 x 23 x 70mm
Weight	10g
Special	Playback via earphone possible

PKI 2135 Digital Telephone Recorder

This miniature digital telephone recorder is connected to the telephone network with 2 wires; phone surveillance can't be easier and safer. No transmitter, no locating. The **PKI 2135** records both conversation partners and this for months. The **PKI 2135** will only be activated if there is a phone call, otherwise it remains on standby. The power supply is uncomplicated as the phone current is sufficient and rechargeable batteries are not required. The normal runtime of the **PKI 2135** given a bit rate of 32kbps is 50 days uninterrupted. For an average phone conversation utilization of 20%, this means 250 days. A special version with room and phone surveillance is possible. The recording time reduces to 50 days.



Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	9 x 23 x 63mm, adapter 23 x 10 x 30mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition

PKI 2140 Digital Directional Microphone Recorder

The **PKI 2140** still records conversations from a distance of 20m with the special integrated directional microphone. The opportunities offered by this device are simply amazing. With its dimensions of only 9 x 23 x 63mm plus directional microphone tube of Ø 5 x 30mm and a weight of only 20g, important conversations can be recorded almost unnoticed, and that automatically, without a person having to be present and this in an excellent audio quality in the standard version for up to 14 hours. Longer runtimes on request, via the delivered earphones, a direct playback without PC is also possible.



Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7 V rechargeable lithium ion battery, 120mAh
Dimensions	9 x 23 x 63mm, microphone Ø 15 x 40mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition

PKI 2145 Digital Needle Microphone Recorder

The **PKI 2145** records conversations through keyholes, wall bores and other openings of at least 3.0mm in Ø. This is possible because of the 2.5mm strong metal tube with attached special electret microphone. Direct listening-in via the delivered earphones is possible or the recorder automatically records for up to 14 hours. The microphone needle can be variably extended by 2 further attachable metal tubes. So, lengths of 5/ 15/ 20cm can be achieved. For the wall bores, we can recommend our **PKI 8040** Silent Drill.



Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista / Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120 mAh
Dimensions	9 x 23 x 63mm, socket 15 x Ø mm, needle 5 + 15 + 20mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition

PKI 2150 Digital VOX Recorder

In order to have the possibility of longer recording, the **PKI 2150** is provided with a VOX control, i.e. recording is only activated if there are really conversations. After the conversation, the **PKI 2150** automatically switches to „standby“. This way, the pure recording time is multiplied.



Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery time	Recording: 14 hours / Playback: 20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack / Communication	3.5mm, stereo / USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable Lithium-Ion battery, 120mAh
Dimensions / Weight	7 x 25 x 70mm / 15g
Special	Playback via earphone possible, electronic time recognition

PKI 2155 Digital Body-Worn Recorder

This miniature recorder **PKI 2155** can of course also be worn on the body. To suppress the rubbing noise caused by the clothes while walking, the **PKI 2155** is equipped with a lapel microphone. It ensures optimum recordings. This special version is particularly protected against moisture and dust and ensures even rugged operations made possible by a rubber sleeve.



Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery time	Recording: 14 hours / Playback: 20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack / Communication	3.5mm, stereo / USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	7 x 25 x 70mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition

PKI 2160 Digital Transmitter Recorder

This design is very interesting. The **PKI 2160** is coupled to a transmitter. With a receiver, it will wirelessly receive data up to 300m, i.e. during monitoring, direct listening-in over a larger distance is feasible and recording is simultaneously realized by the **PKI 2160** recorder. This is particularly important if the sources of interference impede the wireless transmission, or the monitoring operation must be realized for a longer period. When connecting the transmitter, the monitoring time changes to 7 hours. Larger runtimes can be delivered on request.

Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	20 x 23 x 70mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition



PKI 2165 Digital Data Transmission Recorder

The highlight of the **PKI** digital recorder development is our **PKI 2165**. Once installed, the records can be wirelessly called on the delivered laptop using our transmitter/receiver system operating in the GHz range and can be evaluated or processed there. In case of mains supply, audio surveillance lasting for months is thus possible. Depending on the requirements, you get the information you need without ever having to enter the room again where the **PKI 2165** is installed.

Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz – 20kHz
SNR	> 90dB
Flash memory	1G – 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	20 x 23 x 70mm
Weight	15g
Special	Playback via earphone possible, electronic time recognition



PKI 2170 Digital Stereo Transmitter Recorder

For monitoring operations with extreme parasitic noise, we recommend the **PKI 2170**. Via the built-in directional microphones, the stereo unit once records the left side and once the right side. During playback, switching over or fading out is possible depending on the level of parasitic noise so that an acceptable audio signal can be understood. In case of particularly difficult circumstances, we recommend our **PKI 2175** for playback.



Specifications	
Recording file	Output format WAV
Microphone	Electret, built-in
Battery recording time	14 hours
Battery playback time	20 hours
Earphone	Output power > 5mW x 2 x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 120mAh
Dimensions	7 x 25 x 70mm
Weight	15g

PKI 2175 Audio Playback System

For direct audio playback, our product range includes the **PKI 2175** as special accessory. Via the analog and digital input, this digital amplifier audio box with built-in loudspeakers allows the direct playback of our different digital recorders. This small, portable, battery-operated loud- speaker box with adjustable volume spares you the PC, which of course is also very well suited for playback.



Specifications	
Playback connections	USB, TF/Micro SD card up to 32GB
Line in analog	3.5mm jack
Line in digital	USB connector
Power supply	Integrated rechargeable lithium battery 600mAh
Dimensions	160 x 50 x 50mm
Weight	190g

PKI 2180 Professional Quadro Stethoscope Recorder

This new development has been designed for professional long-term stethoscope monitoring. The 4 sensors with highly sensitive piezo elements record the lowest noise, especially voice, and save it on the integrated digital recorder and this for months thanks to the additional Vox control. The **PKI** device is positioned at walls/windows or door frames as fast as lightning using the delivered „adhesive paste“. A wide variety of applications is possible and these in optimum audio quality. **PKI 2180** offers highest possible audio transparency and nothing escapes its notice.



Specifications	
Dimensions	75 x 85 x 13mm
Weight	110g
Power supply	Internal 3.7V rechargeable lithium ion battery, 1080mAh
Recorder file	Output format WV
Recorder	Piezo elements 4x, built-in
Recording time	180 hours or longer with VOX
Earphone output power	> 5mW, 2x16Ohm
Jack	3.5 mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Memory capacity	16GB
Battery charging	Directly at the PC or via the delivered external battery charger plug

PKI 2185 Remote Control Set with Recorder Receiver and Microtransmitter

This **PKI** development outperforms all previous experiences you have made with respect to recorder surveillance so far. A wide variety of applications is possible and it is indispensable for professional surveillance. **PKI 2185** creates an audio transparency that has not at all been possible before. The double piezoelectric transducer records conversations and noise through walls, windows, door frames and this in optimum audio quality.



Up to 60 hours of conversation are recorded. In order to fully exploit the capacity, **PKI 2185** is equipped with a remote control for ON/OFF, i.e. **PKI 2185** can thus be switched to sleep mode. This way, monitoring operations lasting for months are possible. **PKI 2185** is positioned at walls/windows or door frames as fast as lightning using the delivered „adhesive paste“. As a result of its small dimensions of only 70 x 24 x 27mm camouflaged operation is possible. An integrated HF micro transmitter enables direct interception with the help of the delivered pocket receiver over a distance of 50m. The HF micro transmitter can optionally be activated via the delivered remote control.

Recorder Specifications	
Recorder file	Output format WAV
Microphone	Piezoelectric, double, built-in
Battery recording	60 hours
Earphone output power	> 5mW 2x 16Ohm
Jack	3.5mm, stereo
Communication	USB 2.0
Recording frequency	20Hz - 20kHz
SNR	> 90dB
Flash memory	1G - 8G FAT 32 system
Support system	Windows 2000 / XP/ Vista/ Win7/ Win8
Power supply	Internal 3.7V rechargeable lithium ion battery, 360mAh
Weight	35g
Special	Playback via earphone possible, PC or PKI 2175 Digital Amplifier Audio Box

Pocket receiver Specifications	
Dimension	99 x 56 x 21mm
Weight	110g
Frequency	UHF 400MHz
Receiver sensitivity	Better than 0.4µV at 12dB sinad
Modulation	NFM at 5kHz
Spurious suppression	Better than 40dB
Frequency stability	Better than +/- 2ppm (0°C - +50°C)
Operating time	30h
Power supply	9V block battery
Features included	Channel selector, squelch, volume control, headphone output and recorder, antenna connector
Comes with	Antenna

HF Micro transmitter Specifications	
Frequency	UHF 400MHz
RF output power	8mW
Modulation	NFM@5kHz
Spurious suppression	Better than 50dB
Microphone sensitivity	-62dB
Microphone	Internal electret

Remote control Specifications	
Frequency	300 - 450MHz coded
Transmitting range	Up to 100m (depending on surrounding conditions)
Power supply	9V DC standard block battery
Dimensions	90 x 60 x 23mm
Weight	350g
Channels	2

PKI 2200 The Ultimate Surveillance Set

For 2018, **PKI Electronic Intelligence GmbH** continues to offer interesting INNOVATIONS IN THE “NEW DIGITAL SURVEILLANCE TECHNOLOGY” SECTOR: These new **PKI** digital miniature monitoring devices considerably facilitate the acquisition of sensitive information. They help to easily realize transmissions never before thought possible both in the audio and the video sector. To be prepared for every operation, this **PKI 2200** equipment is designed as a set. The individual devices are designed for a wide range of operations. A detailed technical description follows below. Devices can be reordered at any time.



The PKI 2200 comprises:

- 1) **PKI 2385** Digital Room Microphone
- 2) **PKI 2390** Digital Network Microphone
- 3) **PKI 2395** Digital Telephone Coupling
- 4) **PKI 2400** Digital Stethoscope
- 5) **PKI 2405** Digital Directional Microphone
- 6) **PKI 2410** Digital Throwable Microphone
- 7) **PKI 2415** Laptop

The recorded monitoring signals are digitally recorded on the built-in memory with a maximum recording time of 132/264 hours, depending on the battery power used. This technological **PKI** miracle in miniature design amazes each and every secret service agent. These digital **PKI** devices do not send any HF radiation, i.e. they cannot be located by conventional tracking devices, which is a very important aspect for professional surveillance. In dependence on location and duration of the operation, these digital **PKI** all-rounders can be collected, replaced and the respective digital data can be transformed into audible signals using the delivered laptop. Storage of the relevant data is of course possible, too. Several digital **PKI** listening devices can be activated simultaneously without mutual interference because there is no frequency overlap as in conventional HF equipment. This is particularly useful in case of larger rooms or large window surfaces. As a result of the miniature design, camouflaged missions are possible. This is part of standard professional surveillance. Especially our **PKI 2400** stethoscope “The Controller” deserves closer attention.

Technical Details:

PKI 2385 Digital Room Microphone	
Dimension	40 x 20 x 10mm
Weight	3gr
Memory capacity	132/264 hours
Audio bandwidth	500 – 20.000Hz
Power supply	Polymer battery 3,7V 130mAh, rechargeable

PKI 2390 Digital Network Microphone	
Dimension	30 x 20 x 10mm / power adapter 30 x 20 x 10mm
Weight	18g
Memory capacity	264 hours
Audio bandwidth	500 – 20.000Hz
Power supply	110/220V AC

PKI 2395 Digital Telephone Coupling	
Dimension	85 x 60 x 22mm
Weight	115gr
Memory capacity	132/264 hours
Audio bandwidth	500 – 10.000Hz
Power supply	9V battery

PKI 2400 Digital Stethoscope	
Dimension	Ø 30 x 14mm
Weight	14gr
Memory capacity	132/264 hours
Audio bandwidth	500 - 20.000Hz
Power supply	Polymer battery 3,7V 130mAh
Amplification	50.000x

PKI 2405 Digital Directional Microphone	
Dimension	140 x 80 x 26mm
Weight	150gr
Memory capacity	132/264 hours
Audio bandwidth	500 – 20.000Hz
Power supply	9V battery
Amplification	50.000x

PKI 2410 Digital Throwable Microphone	
Dimension	Ø 30mm
Weight	25gr
Memory capacity	132/264 hours
Audio bandwidth	500 – 20.000Hz
Power supply	Polymer battery 3,7V 130 mAh, rechargeable
Amplification	50.000x

PKI 2415 Laptop	
Customary version	

AUDIO SURVEILLANCE EQUIPMENT



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

PKI 2205 Room Transmitter

Room monitoring requires a small but powerful audio transmitter. Latest technology and consequently low current consumption allow up to 15hrs continuous surveillance operation. Only by implementation of SMT (surface mount technology) its extremely small dimensions could be achieved. Metal housing manufactured by rotary-grinding from one metal block provides excellent emission characteristics. The placing of a bug must happen very quickly. The **PKI 2205** room transmitter with its external power supply solves the problem, because only the external battery must be connected and the unit is ready to operate. The **PKI 2205** Room Transmitter is available in standard frequencies within UHF band. VHF, SHF or special frequencies are available on request.

Specifications	
Standard frequency	UHF A 427.125MHz B 427.475MHz C 427.825MHz others on request
RF output power	100mW
Modulation / deviation	NFM at 5kHz
Spurious suppression	Better than 50dB
Operation time	15hrs / 9V standard battery
Microphone internal electret	
Microphone sensitivity	-62dB
Dimensions	(L x W x H) 30 x 16 x 8mm
This device matches PKI 2225 receiver.	


PKI 2210 Telephone Transmitter

If a telephone monitoring operation is on long term basis or access to the target area is restricted, then the **PKI 2210** Telephone Transmitter is the perfect solution. It is not necessary to have direct access to the telephone set. Any location along the telephone line can be used for monitoring. This transmitter operates automatically, i.e. the internal off-hook detection circuit automatically switches from standby to activation and transmission. Only transmitting when a telephone conversation takes place, this wireless bug is undetectable. The sensitivity on the telephone line can be adjusted manually. Another advantage is its independence from short-lived power supplies like batteries, so that a continuous monitoring of the target area is guaranteed. The installation on the telephone line should be made in serial mode. Both polarities are allowed. **PKI 2210** is available in standard UHF. Special frequencies on request.

Specifications
Quick and easy installation
Designed for professional use
Automatic off hook-on telephone lines
Ideal for long term, unattended operation
Smallest dimensions
Unlimited operation time
5mW output power
UHF frequency
External antenna
Dimensions: 24 x 14 x 8mm
This device matches PKI 2225 receiver.



PKI 2215 Stethoscope Transmitter

Listening through solid structures as well as through windows is an important task for special operational teams. The **PKI 2215** Professional Stethoscope Transmitter is the perfect solution for this purpose. The **PKI 2215** has excellent clear audio pick-up and can be adapted to the customer's requirements. On request **PKI 2215** can be delivered with amplification which is adapted to the local environment, such as wall thickness and window characteristics. The sensitivity can be adjusted by a miniature trim potentiometer. This adjustment also influences the frequency characteristic, which means that for walls the higher frequency part will be amplified, on windows vice versa. Additional adjustment is possible by using different thickness of the adhesive paste between sensor and pick-up surface. The unit is absolutely suitable for professional use. The highly sensitive sensor and the electronic parts are integrated in a solid metal case.

Specifications	
Monitoring of inaccessible rooms	
Listening through solid structures like walls and windows	
Optimal audio performance	
Metal housing	
Installation with adhesive paste	
UHF frequency around 427MHz	
1mW output power	
Standard Lithium battery	
24 hours operation time	
Dimensions 64 x 21 x 6mm	
This device matches PKI 2225 receiver.	


PKI 2220 Universal analogue and digital receiver

Special surveillance operations ask for modern and first-class devices that are able to fulfil all requirements. In order to guarantee highest possible transmission and reception range, this receiver offers outstanding input sensitivities. **PKI 2220** is not only an analogue receiver but also a digital receiver. **PKI 2220** can be used universally for all **PKI** transmitter, whether analogue or digital. **PKI 2220** fits in every pocket and comes with soft wear programming for PC. The delivery is including charger, antenna, earplug and instruction manual in English. A recorder connected to **PKI 2220** provides entire recording.

Specifications	
Frequency range	440MHz - 470MHz / 590MHz - 650MHz
Frequency step	5kHz, 10kHz, 25kHz, 100kHz, 500kHz
Modulation	WFM / NFM
Channel capacity	100
Sensitivity	WFM -109dB NFM -118dB
Audio output power	300mW
Power supply	7,2VDC Li-pol. Battery 1100mA/h
Audio outlet	Lineout, earphones
Operation time	Up to 10hrs
Antenna	SMA-helical antenna
Dimensions	120 x 54 x 34mm
Weight	300g
Charger	12V, 1A
Specials	Built-in remote control transmitter
Frequency	400MHz - 446MHz
Output power	Low power +10dBm high power + 18dBm
Modulation	FSK@100kHz
Audio coding	Nonlinear PCM
Audio dynamic range	15dB
compression ratio	



PKI 2225 Professional Pocket Receiver

This professional pocket receiver has been developed for the reception of our various **PKI** transmitters. With its pocket-size dimension and high input sensitivity **PKI 2225** leaves nothing to be desired. It is powered by a common 9V block battery which allows 8 hours operating time. The extraordinary high input sensitivity of 0,25 μ V at 12dB provides longest possible operating range between transmitter and receiver. **PKI 2225** is available with digital recorder (**PKI 2105**), with and without loudspeaker in UHF range and 3 channels each.

Specifications	
Frequencies	UHF 370 - 430MHz
Channels	3
Power supply	9V block battery
Demodulation	FM narrow band@6kHz
Spurious suppression	Better than 40dB
Sensitivity	Better than 0,25 μ V at 12dB
Frequency stability	Better than +/- 2 ppm (0°C - 50°C)
Operating time	8 hrs
Squelch range	0,2 μ V - 1,5 μ V
Antenna	50 ohm
Weight	180g
Dimensions	140 x 77 x 24mm
Audio output-socket	Headphone and recorder
Features included	Channel selector, squelch control, volume control, antenna connector


PKI 2230 Digital Telephone Transmitter

In many cases of observation, the telephone conversations must be monitored. With our **PKI 2230** such tasks can easily be done. Due to its very small size and unobtrusive appearance, this set is absolutely suitable for professional use. No risk of detection during critical observations.

The digital transmission signal is created and coded in a digital pseudorandom, so that a highly secured transmission is guaranteed. This digital telephone transmitter is installed into the telephone line once and wireless digital transmission of the telephone conversations of both partners is possible for years. If necessary, this digital telephone transmitter can be activated via radio. This also applies to the transmission power and frequency adjustment. The required power is supplied by the telephone network. Telephone observation is absolutely unnoticed by the calling parties.

Specifications	
Frequency range	UHF band (8 channels)
Modulation	GMSK
Transmission speed	125kbit/s
Output power	15mW - 50mW
Supply voltage	Telephone mains supply
Current consumption	Not more than 50mA
Dimension	30 x 25 x 20mm
Weight	100g
This device matches PKI 2220 receiver.	



PKI 2235 Digital Stethoscope Transmitter

PKI 2235 finds its application where the human ear reaches its limits. The digital stethoscope transmitter is very quickly fixed by provided mastic material. It can be attached to the wall (up to 50cm thick), window, door frame etc. The digital miniature receiver captures the signal from a distance of up to 300m. The integrated Piezo element is very highly sensitive and captures acoustic oscillation on hard materials. So even spoken word is clearly audible. **PKI 2235** set is designed especially for absolutely professional use only. Small sized, light weight and no risk of detection during critical observation. The transmission signal is created and coded in a digital pseudorandom, so that a highly secured transmission is guaranteed. A recorder connected to the receiver provides entire recording.



Specifications	
Frequency range	UHF-band (8 channels)
Modulation	GMSK
Transmission speed	125kBit/s
Output power	15mW - 30mW
Supply voltage	3V battery cell
Current consumption	Not more than 15mA
Dimensions	Ø 28 x 20mm
Weight	80g

This device matches **PKI 2220** receiver

PKI 2240 Digital Mains transmitter

This device is designed especially for absolutely professional use only. Small-sized, light-weight and no risk of detection during critical observation. The transmission signal is created and coded in a digital pseudorandom, so that a highly secured transmission is guaranteed. This digital mains transmitter is installed into a socket outlet or lamp once and can then record and wirelessly transmit secret conversations for years. If necessary, this „Trojan Horse“ can be activated via radio. This also applies to transmission power and frequency adjustment. The integrated microphone still records conversations from a distance of 15m.



Specifications	
Frequency range	HF-Band (8 channels)
Modulation	GMSK
Transmission speed	125kBit/s
Audio signal frequency range	0,3 - 6kHz
Dynamic range of the signals	Not less than 83dB via microphone input
Supply voltage	220V 50Hz
Current consumption (at 220V +/- 10%)	Not more than 50mA
Dimensions	46 x 25 x 20mm
Weight	120g

This device matches **PKI 2220** receiver

PKI 2245**Professional Monitoring Receiver in the Range from 9 kHz up to 7.5 GHz**

This special portable receiver **PKI 2245** enables the radio detection of any **PKI** transmitter and is indispensable for every monitoring operation. Moreover, it is perfectly suitable for the detection of all types of radio interferences. The frequency scan function is specifically meant to monitor radio services working with a fixed channel spacing. Emergency signals can also be located using the audio function. And the specific possibility to locate remote detonation devices via the oscillator radiation of a remote detonation device set to receive mode renders this **PKI** device interesting, too. Digital signal processing using the latest technology allows for highly sensitive reception and detection of extremely weak signal levels. The **PKI 2245** is delivered with four plug-in modules to adapt the antenna to the respective frequency range.

Main features of PKI 2245:

- Highly sensitive signal reception and high signal resolution
- Information retrieval through demodulation
- Detection of pulsed signals and radar emissions
- Monitoring receiver and mobile data memory in a single unit
- Efficient operation via remote control
- Mains-independent mobile application
- Intuitive operation and convenient use
- Future-proof investment
- Monitoring of
 - a) Short-wave communication
 - b) Tactical communication
 - c) Air Traffic Control (ATC)
 - d) Tetra
 - e) Broadband TETRA
 - f) ISM band 433MHz / 868MHz / 2.4GHz
 - g) GSM 900/1800/1900
 - h) AMPS/DECT/UMTS
 - i) Bluetooth/WLAN
 - j) WiMAX/Wi-Fi
 - k) RFID/Zig Bee

**Application of PKI 2245:**

- Interference detection and location in professional radio networks
- Monitoring of user-specific radio services
- Spotting of emergency signals
- Location of remote detonation devices
- Mobile tracking of micro transmitters

Specifications	
Frequency range	9kHz up to 7.5GHz
Antennas	Module 1 20MHz up to 200MHz Module 2 200MHz up to 500MHz Module 3 500MHz up to 7.5GHz Module 4 9kHz up to 20MHz (optional)
Input level	9kHz up to 30MHz, typ. -13dBm/94dB μ V 20MHz up to 3.5GHz, typ. 0dBm/107dB μ V 3.5GHz up to 7.5GHz, typ. -24dBm/83dB μ V
Impedance	50 Ω
Demodulation modes	All demodulation bandwidths, AM, FM, pulse, I/Q LSB demodulation bandwidth \leq 9kHz ISB demodulation bandwidth \leq 15kHz CW demodulation bandwidth \leq 9kHz
Frequency scan	Start, stop frequency, user selectable in steps
Scan speed	Up to 300 channel/s
Memory locations	1024, freely programmable
Colour display	6.5", for graphical representation of results
Measuring data storage	In the device on SD card
Remote control	LAN interface
Weight	3.5 kg incl. rechargeable battery
Battery life	Approx. 4 hours on a single charge
Dimensions	320 x 192 x 62mm
Miscellaneous	For frequencies above 7.5GHz, the operating range can be expanded up to 18GHz with the frequency-converting, portable directional antenna.

PKI 2255 Digital Encrypted System

This digital interception device guarantees professional monitoring and meets the highest standards in terms of transmission quality and security in relation to positioning. After more than a year of development **PKI** has succeeded in bringing this outstanding product to the market. The fantastic orders and repeat orders are proof of the **PKI** quality and the satisfaction of our government customers.

PKI 2255 works not only digitally but also with frequency hopping, so that unwanted listeners are excluded. The built-in microphone, which is located in the transmitter, can still record conversations from a distance of 10m.



The corresponding pocket receiver is tuned to the transmitter and transmits the recorded signal via speakers, earphones or to a connected digital recorder. The rich power supply is guaranteed by the internal rechargeable batteries and can be charged via standard 5V USB connections. Power supply unit and charger are also included. This unique surveillance unit is beyond anything you have seen before and should not be missing from any surveillance operation at the responsible authorities.

Specifications	
Room transmitter	
Frequency	700-800MHz
Frequency bandwidth	50MHz (< 30ppm)
Transmit power	100mW
Modulation	Broadband Digital
Audio Frequency	50 – 15.000Hz
Dynamic range	100dB
Power supply	Internal Battery 3,7V / 600mAh
Charging	USB 5V
Dimension transmitter	46 x 38 x 16mm
Microphone	Electric Low Noise
Audio AGC	40dB
Receiver	
Sensor sensitivity	5dBuV
Interference suppression	> 80dB
Audio output	3,5mm Socket; Output 400mV / 3 K; Headphones 8 – 32
Speaker	4, 3W
Speaker	4, 3W
Power supply	Internal Battery 3,7V / 1400mAh
Dimension receiver	140 x 77 x 23mm
Frequency	700 – 800MHz
Audio Frequency	50 – 15.000Hz
Dynamic Range Audio	> 100dB

PKI 2260 Wireless Listening Suitcase Kit

PKI 2260 includes the most important and most used wireless listening devices for the most different monitoring requirements. A professional pocket receiver is the heart of this kit and receives all transmitters listed with its channels. Room, telephone, stethoscope, mains transmitters are as natural as long term, high power, voice activated and throwing transmitters. **PKI 2260** is ideally designed for mobile use to get the necessary information from safety-related situations. Hereinafter the descriptions of the listed devices:

- **PKI 2205** Room Transmitter
- **PKI 2210** Telephone Transmitter
- **PKI 2215** Stethoscope Transmitter
- **PKI 2225** Professional Pocket Receiver

- **PKI 2275** Mains Transmitter (PCB)
- **PKI 2280** Long Term Transmitter
- **PKI 2285** High Power Transmitter
- **PKI 2290** Voice Activated Transmitter
- **PKI 2325** Throwing Audio Transmitter with Receiver



PKI 2265 HF-Repeater

The **PKI 2265** portable crossband repeater is primarily designed for extending the range of low power monitoring devices. Due to its capacity to work from three different types of power supply this system is suitable for work inside buildings, in cars and in the field - independent of supply conditions. The electrical input characteristics of the 3-channel receiver section of **PKI 2265** are adapted to **PKI's** crystal stabilized low power transmitters. With the high output power of the **PKI 2265** a distance of up to 15km may be bridged under ideal conditions. The totally selectable transmitter/receiver frequency pairs, various power supply adaptations and direct listen-into possibility make this system easy to operate and versatile for any kind of surveillance task. A hand-held 3-channel receiver for the outgoing frequencies of the **PKI 2265** is included in the set as well as every necessary high gain directional antenna plus tripods (transmitting and receiving).

Specifications	
Frequency range	Inputs and/or outputs: VHF 130 - 174MHz UHF 370 - 430MHz SHF 1.3 - 1.35GHz Channel frequencies to be specified by the customer
RF output power	Selectable 1, 4, 5 or 10W depending on frequency range
Receiver sensitivity	Better than 0.4µV at 12dB sinad
Modulation / Deviation	NFM at 5KHz
Spurious suppression	Better than 40dB
Frequency stability	Better than +/- 2ppm (0°C to +50°C)
Number of channels	6
Power supply	Internal rechargeable battery external DC input 12V (car) mains 115V or 230V AC
Operation time	At battery charge/depending on frequency: min 12-15 hours at 1W continuous operation, or min 10 hours at 4W continuous operation, or min 6 hours at 5 -10W continuous operation
Charging method	115V or 230V or 12V DC (car)
Transmission format	Clear analogue
Audio monitor	2W at 8 Ohm
Features included	Channel selector squelch control volume control headphone output
Dimensions	Approx. 450 x 420 x 250mm
Weight	Approx. 25kg incl. batteries



Scope of supply:

- Repeater in pilot's suitcase
- Directional transmitter antenna
- Directional receiver antenna
- Tripods for antennas
- Mains powered battery charger
- Car power adapter (Cigarette lighter)

PKI 2270 Telephone Transmitter (PCB)

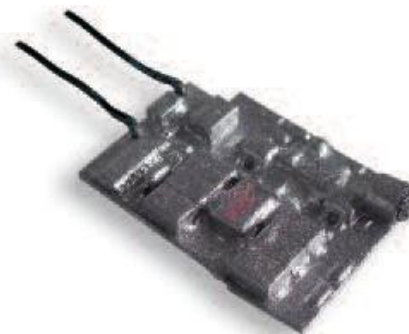
In many cases of observation, the telephone conversations must be monitored. With the **PKI 2270** such tasks can easily be done. Due to its small size and unobtrusive appearance, this transmitter really is the champion in its class. The transmitter is supplied as a printed circuit board (PCB) only and is coated with a special protective lacquer which protects it against environmental conditions. This allows a fast and easy installation into every kind of analogue telephone set in which it looks like a standard component being completely inconspicuous to the user. The installation inside the telephone set should be made in serial mode; both polarities are allowed. **PKI 2270** is only transmitting when a telephone conversation starts and therefore is non-detectable when the telephone is not in use. Another advantage is the independence from short-lived power supplies like batteries as the unit is continuously powered from the telephone line.



Specifications
Easy to disguise
Looks like installed standard components
Automatic off-hook detection
Long term unattended operation
Quick installation
UHF frequency around 427MHz
Crystal controlled
5mW output power
Antenna via telephone cable
Serial mode connection
Both polarities allowed
Dimensions 30 x 14 x 7mm
This device matches PKI 2225 receiver

PKI 2275 Mains Transmitter (PCB)

Monitoring of rooms essentially needs to have camouflaged transmitters, but in most cases no new items can be placed into the room in question. Therefore, already existing devices must be used and equipped with an unobtrusive transmitter. For this purpose, the **PKI 2275** is the right solution. Due to the very small size of this printed circuit board (PCB) mains powered transmitter, it does not need much space and very easily can be concealed in sockets, lamps, junction-boxes etc. Additionally, the protective cover with a special lacquer shield from occasionally unwanted contacts and short-cuts. Depending on existing power supply, the **PKI 2275** can be supplied either in 110 to 115 VAC/60Hz or 220 to 240VAC/50Hz versions. The integrated microphone of highest sensitivity allows to capture sounds from a distance of up to 10 meters. With its output power of 4mW a transmitting range of up to 800-1000 meters may be achieved (depending on surrounding conditions).



Specifications
Small size
Easy to hide within existing objects like mains sockets, power distribution or lamps, radios etc.
Looks like standard parts when installed into such products of daily use
Infinite operation time
UHF frequency at around 427MHz
mW output power
External antenna
Mains operation by 115 / 230V AC
Highly sensitive electret microphone
Dimensions 28 x 28 x 6mm
This device matches PKI 2225 receiver.

PKI 2280 Long Term Transmitter

In every specific case it is difficult to select the most suitable transmitter for monitoring a room. Whether extended operation time, high output power or small dimensions are the main factors - at every time the operator must make his own decision. But we have the right solution for all of these purposes. Every possible device for large transmitting ranges, high output powers and/or other features may be found in this catalogue. With the **PKI 2280** we offer a battery operated transmitter with the main advantage of extended operation time with one single set of batteries only. The supplied set of different battery adapters enable a variety of operation times from 24 hours to a maximum of approx. 2100 hours. The output power of 1mW allows transmission in ranges of several hundred meters within the UHF-radio band.

Specifications	
Continuous operation time of 24 to 2100 hours with one battery set depending on type of battery	
Highly sensitive microphone	
Various types of batteries supplied	
Set of battery adapters included	
Small size by SMD technology	
Crystal controlled	
UHF frequency at around 427MHz	
1mW output power	
5KHz modulation/deviation	
Dimensions 14 x 22 x 8mm	
This device matches PKI 2225 receiver.	


PKI 2285 High Power Transmitter

PKI 2285 is the most powerful audio transmitter from **PKI** production. 100mW output power for a range up to 1000 - 1500m (maximum range, of course, always depends on the surrounding conditions). Whenever large transmitting distances for monitoring devices have to be achieved, the **PKI 2285** really is the ideal instrument. This is possible due to a very powerful 12V / 3000 mA Li-ion accumulator.

Specifications	
Frequency	UHF
Output power	100mW
High sensitive microphone	- 62dB
Mic. effective range	15m
Transmitting range	1000 - 1500m
Power supply	Li-ion accumulator, 12V, 3000mA
Housing	Aluminium
Weight	297g (in leather case with batteries)
Dimension	29 x 51(59) x 23mm, leather case 85 x 80 x 35mm
This device matches PKI 2225 receiver	



PKI 2290 Voice Activated Transmitter

In many cases the monitoring of a suspicious room has to be affected over a long time period, but the room only can be entered once and the monitoring device has to be installed quickly and easily. Furthermore, this monitoring device can only be operated by batteries and should be activated only when persons are in the room. Therefore, and to save battery capacity, the **PKI 2290** has been developed according to the latest technology standards as it is automatically activated by reception of noises/sounds. Whenever there is no sound, the built-in automatic voice control (Acoustomatic) will switch the transmitter into a stand-by position. This will save the battery capacity and will make the transmitter being undetectable when not in use.

Specifications
Only activated during conversations
Adjustable Vox-level control
Adjustable delay period (5-20 sec)
Economic power consumption
Long operation time (approx 12 hours with 9V battery)
Highly sensitive microphone
External microphone as option
UHF frequency around 427MHz
20mW output power
SMD technology for smallest dimensions (34x16x8mm)
This device matches PKI 2225 receiver


PKI 2295 Advanced Remote-Controlled Transmitter

Special areas continuously must be observed but monitoring conditions may vary. For this task we, the **PKI Electronic Intelligence GmbH**, have developed the state-of-the-art **PKI 2295**. For any government agency this device is indispensable. The remotely controlled transmitter offers various functions. Its output power can be adjusted from 10 to 40 mW according to requirement either for shorter or larger transmitting distances. The lower output power will allow an extended battery lifetime at a reduced transmitting distance, while the higher output power provides a maximum of transmitting distance with a limited operation time. Furthermore, a remotely controlled on/off switch is provided to save battery capacity and/or reduce the risk of being detected.

Specifications
Remote control on multiple functions
Protection against counter measure
Highly sensitive microphone
Mains and battery supply
15 hrs operation by battery (9V)
Infinite operation from mains
UHF frequency around 427MHz
Selectable 10 / 40mW output power
Crystal controlled
Dimensions: 48 x 28 x 8mm transmitter 140 x 77 x 24mm remote control unit

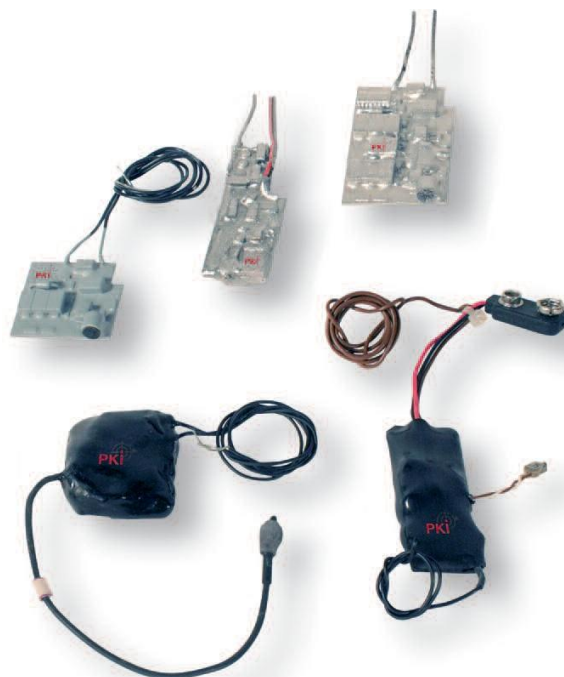


PKI 2300

Module Transmitter for Do-it-Yourself Installation

Several surveillance operations are only possible by using camouflaged transmitters hidden in objects of daily use or in body-worn items. For this, we, **PKI Electronic Intelligence GmbH**, offer a wide range of micro transmitter modules. For each required operation, we deliver the module for do-it-yourself installation into the respective objects typical for the country.

Specifications	
Frequency	UHF
Power supply	Battery, rechargeable battery, mains
Dimension	From 20 x 10 x 5 to 40 x 20 x 10mm depending on performance and desired power supply
Miscellaneous	Every module is insulated or protected with a heat shrink tube. The connecting wires for power supply are embodied, as well as the connected microphone with 10cm of cable and the antenna. Common camouflage objects are socket outlets, waistbelts, lamps, vases, lighters, mains adapters, etc.
Classification	<ol style="list-style-type: none"> 1. Standard module: UHF, 9V battery, operating range 200m 2. Remote control module + remote control transmitter: UHF, 9V battery or mains adapter, 300m operating range 3. Power transmitter module: UHF, 110/220V AC, operating range 300m 4. Telephone transmitter module: UHF, telephone current, operating range 200m 5. Long range transmitter module: UHF, 12V battery or rechargeable Li-ion battery, operating range 800m
These devices match PKI 2220 receiver	



PKI 2325

Coded Monitoring System

This system consists of a concerted transmitter and receiver. Each sound from up to 10 meters will be captured up by the sensitive microphone of the transmitter and will be transferred wirelessly to the receiver in a coded form and then will be decoded at that place. Therefore, this system is the ideal tool whenever monitoring tasks must be carried out without the risk of unwanted listeners. Although this device is comparatively low priced, its capacity is amazing regarding secured monitoring transmissions. Additionally, the small size and the low weight of the transmitter allows a fast and easy installation wherever it is required. The built-in battery (9V standard) provides a continuous operation of approx. 15 hours.

Specifications
Set of transmitter and receiver for a secure, coded audio transmission where no third parties are allowed to listen.
Built-in dynamic compressor
Small sized transmitter 48 x 30 x 12mm
Light weight handheld receiver with dimensions 140 x 77 x 24mm
Narrow band FM modulation 5KHz
Analogue dual band split scrambling
UHF frequency around 427MHz
15 hrs battery (9V) operation



PKI 2330 Throwing Audio Transmitter with Receiver

In many situations secret discussions are held in open areas and it always requires a large range of know-how, special technical devices and fantasy to pick up such conversations. This throwing transmitter covers all these criteria and has especially been constructed by **PKI ELECTRONIC INTELLIGENCE GmbH** for government agencies being involved in such special tasks. Thanks to its extremely strong construction, its very short antenna and long operation time the **PKI 2330** is the best choice for such applications. Just put the lithium battery cell into the unit and it is ready for operation. Now throw the **PKI 2330** into the direction of the persons to be observed. The highly sensitive microphone will pick up every sound from a distance of approx. 10 meters, so that even if the transmitter will not match the direct and correct place, the spoken words clearly transmitted from the receiver can be stored on any recorder.

Specifications PKI 2225	
Frequencies	UHF 370 - 430MHz
Channels	3
Power supply	9V block battery
Demodulation	FM narrow band@ 6kHz
Spurious suppression	Better than 40dB
Sensitivity	Better than 0,25 μ V at 12dB
Frequency stability	Better than +/- 2 ppm (0-50°C)
Operating time	8 hrs
Squelch range	0,2 μ V - 1,5 μ V
Antenna	50 Ohm
Weight	180g
Dimensions	140 x 77 x 24mm
Audio output-socket	Headphone and recorder
Features included	Channel selector, squelch control, volume control, antenna connector



Specifications	
The housing consists of a grey rubber ball with 28mm diameter.	
Output power	10mW
High sensitive microphone	-62dB
Frequency	UHF
Antenna	Short wire
Battery	Lithium 3V for 30 hrs
Weight	15g

PKI 2335 Digital Spread Monitoring System

This Digital Spread Monitoring System is an advancement of our Digital Spread Spectrum Audio Kit (same **PKI** number). With this new device we have managed to reduce the power consumption to 15mA, i.e. now it is possible to listen continuously up to 2,5hrs without the device getting hot. **PKI 2335** is the only answer to tasks where highest security levels are required for monitoring purposes. The digitally scrambled signal is nearly impossible to decode and furthermore it will be transmitted on special frequencies spread over a wide frequency band. An unwanted listening to this transmission is therefore totally impossible. A micro controller inside **PKI 2335** allows to manage all the programming parameters of the controlled electronics by providing several additional features through the multifunction connector.

Specifications	
Rx dimensions	48 x 90 x 16mm
Rx power supply	9V CC power for charging
Frequency	300 - 400Mhz
RF bandwidth	> 40MHz
Audio bandwidth	6kHz
Receiver sensitivity	- 90dBm +/- 1dBm
Audio	External headphone
Transmitter	Active range 250 - 400m in the city
Microphone	Built-in
Dimensions	15 x 30 x 12mm
Operating time	2,5 hrs
Audio bandwidth	6kHz
RF bandwidth	> 40MHz
Frequency	300 - 400MHz
Power consumption	15mA



The dimensions of the **PKI 2335** are really small compared to other reception systems on the market. The receiver allows you to handle and control it with just one hand and to carry it in your pocket.

PKI 2340 Frequency Hopping Transmitter System

Whenever unwanted listeners must be locked out, the **PKI 2340** is the only solution. The method of frequency hopping transmissions worldwide is known as the most undetectable version of communication and as the one and only procedure to give total security to all kinds of radio communications. This state-of-the-art, digitally encrypted monitoring system is achieved using latest electronic technologies and micro processors with the guarantee of highest reliability. Although the monitoring transmitter is equipped with many electronic components, it still is compact enough to be hidden inside rooms fast and easily.

Specifications	
Extensive protection against detection by digital encryption	
2-channel transmission	
500 hops per second with a hopping frequency range of up to 100MHz	
10MHz of random hopping spread	
Burst length < 100ms	
Transmitting frequency: 850 – 950 or 750 – 850MHz in buyer's option	
Burst radio remote control	
Dimensions: receiver 61 x 145 x 221mm	



PKI 2345 Remote Control System

PKI fights against crime and terrorism by supplying tactical solutions for law enforcement, intelligence agencies and military who daily risk their lives in making the world a safer place for everybody. **PKI 2345** is an advanced and feature-rich wireless remote command and control system for switching on/off various types of equipment such as audio/video transmitters, high current light consumption devices or any other special items. **PKI 2345** is available in different power versions and as special version with response. The corresponding micro receiver with potential-free outlet activates devices as per customers' request. The professional wireless remote control activates respectively deactivates electronic devices from a distance of up to 1000m or in special version up to 10.000m with a coded signal. **PKI 2345** operates absolutely safely and interference-free to and from other electronic devices. As standard, the **PKI 2345** is supplied as a single-channel version. Multichannel versions are available upon request.

Specifications	
Switching 1 channel	Potential free connection with 100VA breaking capacity
Transmitting frequency	UHF-range, coded
Transmitting range	Up to 1000m, special version up to 10.000m
Power supply	Transmitter Li-ion accu 800mA receiver Li-Ion accu 500mA
Dimensions	Transmitter 140 x 75 x 22m Receiver 40 x 20 x 10mm
Weight	Transmitter 350g, Receiver 125g
Special	Transmitter including receiver for response and receiver including transmitter for response



PKI 2345 A special version 10 channels on request

PKI 2350 ISDN Connection with Miniature Digital Recorder

The complete **PKI 2350** system consists of a tiny little transmitter and a miniature digital recorder. The transmitter can easily be installed into a telephone set or directly into the ISDN-line for a continuous monitoring and recording of both sides of telephone conversations via ISDN-lines. The full conversation will be recorded by the supplied digital recorder, which will only start when a telephone conversation begins. This saves storage capacity and provides a long-term recording. Each message automatically is date/time stamped by the built-in real-time clock and stored messages can be played back using an earphone or downloaded to a PC as standard sound files. Furthermore, the recorder incorporates a high sensitively microphone, which covers a typical range of up to 8 - 10 meters.

Specifications	
Professional connection to any ISDN- telephone system with automatic recording of conversations on digital recorder	
Up to 140 hours recording time	
Automatic channel selection via jumper at S-bus of ISDN central	
Easy connection by supplied cables between S-Bus and recorder	
Digital recorder included	
VOX (voice control) of recorder is supported	


PKI 2360 Electronic Stethoscope

This unit is ideal for long-time observation without entering the room but to listen into it from the outside through solid structures. Where the human ear is inadequate **PKI 2360** makes audible what has previously seemed impossible. By means of the highly sensitive contact microphone conversations and/or noises can be heard through walls, windows or any other solid material. Simply fix the contact microphone by the supplied mastic material to the best possible surface and listen directly with the headphone. The amplifier, equipped with Li-Ion batteries, volume control and socket for a recorder is built-in the special **PKI** headphones. The stethoscope sensor is directly connected to the headphones and allows the operator to use both hands for other activities.



Specifications	
Power supply	LIPO 3,7V
Operating time	5 hours
Amplification	15.000 fold
Volume	Infinitely variable
Stethoscope sensor	Ø30 x 3mm, Piezo element with 1m flexible cable
Frequency range	250 to 3500Hz
Weight	300gr
Various	Comes with charger, headphones, closed system

On request we can deliver additionally **PKI 2105** recorder.

PKI 2365 Wireless Super Stethoscope, mono

This stethoscope tested for SWAT operations is fixed at walls, windows, door frames within seconds using our special adhesive. The sound waves are received by our special piezo element and multiplied up to 30,000-fold by the built-in low-noise amplifier. A potentiometer enables the optional sensitivity adjustment from high to low and on/off. These signals are applied to our integrated broadband HF transmitter and are in turn received with our special headset with built-in receiver within 100m, on request with additional recorder **PKI 2105**. Exterior noise, caused by vehicles, etc., is eliminated by the closed headset system. As a result of its construction, **PKI 2365** makes the operation very simple and effective, more as both hands are free for other activities. The rugged design and simple operation combined with the most advanced surveillance technology has perfectly proven itself in many SWAT operations. Should the monitoring operations bear comparison with even higher standards, we offer this mono system as a stereo system under **PKI 2370**. This is the ultimate, technically feasible alternative meeting highest demands.

Specifications	
Headset	Noise protector 31dB SNR, H 32dB, M 28dB, L 23dB
Frequency response	20-20000Hz audio
Rx frequency	2.3GHz - 2.5GHz
Connection/Charging	3.5mm phone jack /USB
Power supply	Li-Ion battery 3.7V, 220mAh
Power consumption	Approx. 90mA = approx. 2.5 hours
Weight	Approx. 350 - 400g

Transmitter	
TX frequency	2.3 - 2.5GHz
Modulation	FM +/- 3MHz
Power consumption	80mA
Power supply	LIPO battery 3.7V
Operating time	2.5 - 3 hours
HF power	Approx. 100mW
Amplification	30,000-fold
Volume	Infinitely variable
Stethoscope sensor	2x super piezo sensor, each Ø30 x 3mm with built-in VHF transmitter, sensitivity infinitely variable with on/off
Dimension	75 x 40 x 14mm
PKI special headphones with built-in VHF receiver	Wireless with infinitely adjustable power and charging / recording socket for PKI 2105
Various	Charger, mastic material for piezo element


PKI 2370 Wireless Super Stethoscope, stereo

For SWAT operations, **PKI 2370** offers the best technical monitoring option meeting the highest demands regarding eavesdropping through walls, doors, ceilings. No conversation remains undetected. Within seconds both sound sensors are attached to the object to be monitored using our special adhesive. In most cases, these are walls, windows or door frames. The distance to the sound sensor can be optionally chosen from 20cm to 2m. The sound waves are recorded independently by both special piezo elements and are multiplied up to 30,000-fold by the built-in low-noise amplifier. A potentiometer of the respective sound sensor enables the optional sensitivity adjustment from high to low and on/off. The sound sensor with the integrated broadband HF transmitter transmits the recorded signals to our special stereo headset with built-in receiver within 100m. An additional **PKI 2105** recorder can record these on request. Exterior noise, caused by vehicles, etc., is eliminated by the closed headset system. As a result of its construction, **PKI 2370** makes the operation very simple and effective, more as both hands are free for other activities. The rugged design and simple operation combined with the most advanced surveillance technology in stereo quality has perfectly proven itself in many SWAT operations.

Specifications	
Headset	Noise protector 31dB SNR, H 32dB, M 28dB, L 23dB
Frequency response	20-20000Hz audio
Rx frequency	2.3GHz - 2.5GHz
Connection/Charging	3.5 mm phone jack /USB
Power supply	Li-Ion battery 3.7V, 220mAh
Power consumption	180mA = approx. 6.5h
Weight	Approx. 350 - 400g



Transmitter	
Tx frequency	2.3 - 2.5GHz
Modulation	FM +/- 3MHz !!!
Power consumption	80mA
Power supply	LIPO battery 3.7V
Operating time	2.5 - 3 hours
HF power	Approx. 100mW
Amplification	30,000-fold
Volume	Infinitely variable
Stethoscope sensor	2 x super piezo sensor, each Ø30 x 3mm with built-in VHF transmitter, sensitivity infinitely variable with on/off
Dimension	75 x 40 x 14mm
PKI special headphones with built-in VHF receiver	Wireless with infinitely adjustable power and charging/recording socket for PKI 2105
Various	Charger, mastic material for piezo element



PKI 2375 Wireless Secret Super Stethoscope

PKI 2375 is attached to walls, windows or door frames within seconds using our special adhesive. The special piezo element records the lowest sound waves which are amplified up to 30,000-fold by the built-in low-noise amplifier. A potentiometer enables the infinitely variable sensitivity adjustment from high to low and on/off. These signals in turn are transmitted via the integrated broadband HF transmitter. The miniature receiver receives them within 100m. To record the received conversations, an additional **PKI 2105** recorder can be delivered on request. Earphones, connected to the miniature receiver enable to listen in on the desired conversations (wireless earphones on request). With **PKI 2375** monitoring is possible for hours without being noticed at all. The rugged design and simple operation combined with a high sensitivity of the sound sensor offer numerous applications and have already proven itself in practical operation, all the more as both hands are free for other activities and you can freely move within 100m without attracting the attention of foreign persons.

Specifications	
Stethoscope sensor	Piezo transducer Ø30mm x 19mm with integrated broadband transmitter in the UHF range
Power supply	Lithium battery
Recording time	24 hours
Weight	30g



Receiver/amplifier	
Dimension	85 x 60 x 22mm
Frequency	UHF range
Volume	Infinitely variable
Amplification	30,000-fold
Recording time	30 hours
Sockets	For head or earphones, recorder, antenna
Transmitter	Built-in in GHz range
Weight	100g

Wireless earphones	
Power supply	Li-Ion battery
Dimension	Ø20 x 15mm
Frequency	GHz range
Operating range	Up to 10m from receiver
Transmitting time	3 hours
Weight	20g
Various	Comes with charger and suitcase

PKI 2400 Wireless Secret Stethoscope

For more than 45 years now, **PKI** has been developing audio surveillance equipment. In particular, the latest achievements in the digital sector during the last 12 months must be highlighted. This applies especially to stethoscopes and directional microphones. One reason for this is the growing demand as the excellent **PKI** quality in this respect has become wider known at the international ministries. Another reason is the easy handling that is necessary to get important information and the fact that the stethoscope can be pressed on a wall, door or window using the **PKI** mastic material and is self-adhesive. **PKI 2400** penetrates all these materials and records even the smallest acoustic signals, amplifies them up to 60,000 times and forwards these digital signals wirelessly up to 200 m to a miniature receiver where they are replayed on the earphones. The surveillant can move freely and does not need to be in the immediate vicinity of the stethoscope, as was previously the case. This new **PKI** technology virtually eliminates the risk of discovery. There is nothing better and easier. The intercepted conversations can on request be recorded with our **PKI 2105** Recorder for hours. On request, the receiver unit can also record completely automatically without any person being present. This again reduces the risk of discovery during an audio surveillance operation. **PKI** would like to submit a corresponding quotation on request.

Specifications	
Power supply	Li-ion battery
Amplification	30,000 fold
Volume	Infinitely variable
Weight	125g
Frequency range	200 to 3700Hz
Operating time	8 hours
Dimension	38 x 48 x 18mm
Transmission	UHF transmitter/receiver
Miscellaneous	Comes with charger, earphones, mastic material
On request	Delivery additionally with PKI 2105 Digital Recorder and Fully Automatic Receiver System



PKI 2425 PKI 2430 Digital Wireless Earphone / Digital Wireless Transmitter

PKI 2425 receives the digital data of the digital transmitter **PKI 2430** in the GHz range up to 10m. This combination is applied wherever bug-proof, wireless digital data transmission is desired in the short range. The transmitter has already been integrated into many **PKI** devices; then only the earphones must be inserted for transmission. This is particularly important for camouflaged monitoring operations. Without integrated transmitter, **PKI 2435** can be externally connected and activated via a 3.5mm phone jack.

Specifications	
PKI 2425 Digital Wireless Earphone	
Frequency	2.4GHz - 2,4835GHz
Sensitivity	-80dBm@0.1%BER
Power supply	Built-in rechargeable Li-ion battery, charging via PC
Operating time	3 hours, standby time 100 hours
Dimension	Ø20 x L = 20mm
Weight	4,8g



PKI 2430 Digital Wireless Transmitter	
Frequency	2.4GHz - 2,4835GHz
Sensitivity	-80dBm@0.1%BER
Operating range	Up to 10m
Operating time	Up to 10h
Power supply	Integrated rechargeable lithium polymer battery 5V, 160mA, charging 2 h at the PC
Dimension	60 x 25 x 9mm
Weight	15g

PKI 2435 Bone-Microphone Communication System

This highly sensitive "Bone Vibration Microphone" is the perfect solution for any disguised communication. It is the only system available with a wireless push-to-talk button (PTT). This unique system consists of a bone- microphone, an inductive loop, a wireless push-to-talk button and a wireless earpiece. The complete set can be connected to any mobile phone, monitoring receiver or commercial transceiver (walkie-talkie). For assembling the system with the correct connector, we only need to know the type of communication system to which the **PKI 2435** should be adapted. For any special application the different connecting plugs are available. For any further technical details please contact us with your special request and we shall immediately give you our personally tailored proposal according to your specific requirement.



Specifications	
Microphone type	Omni-directional electret microphone
Output impedance	At 1KHz 4,4KOhm
Frequency range	101Hz - 10KHz
Sensitivity	At 1KHz (dB re 1V/1PA) -33 +/-3dB
Power supply	1,5 to 10VDC
Operating temperature	-17°C to +63°C
Length of induction loop 80cm	
Power supply	For induction loop directly from receiver
Input signal	Max. 2V effective
Impedance	40 Ohms
Battery	Operation time min. 1 year
Operating distance	Of loop approx. 45-9

PKI 2440 Wireless Miniature Earphone

This new **PKI 2440** set especially has been developed for the professional use in disguised operations. Due to its high quality of voice transmission, and in combination with the inductive receiver it offers the ideal solution for all these purposes. A coil, connected to a suitable receiver, inductively transfers the signals in a range of up to 20cm to the earphone. The coil must be fixed on the shoulder, underneath the shirt. Then it is perfectly disguised and no cable connection to the earphone is required. The earphone is powered by an integrated coin cell battery. The set includes the inductive loop, push-to-talk button (PTT) with integrated microphone, distribution box, inductive receiver and suitable plug to customer's communication system.

Specifications
Unobtrusive, nearly invisible system
Wireless information to disguised earphone with smallest size
Inductive coil hidden inside clothing transfers signal from any receiver to earphone
Especially useful with PKI's receivers and radio systems
Battery operated earphone
Inductive coil powered by receiver
Variable loudness on earphone



PKI 2445 Miniature Receiver

This small device is really a phenomenal achievement in the field of electronic microchip technique. **PKI 2445** is the worldwide smallest in-the-ear receiver. This earphone-receiver should not be missed in any observation where tasks must be carried out in public areas. A complete VHF Receiver, with integrated power supply, by means of a small-sized coin cell, is placed in an ordinary earphone. It picks up the required signal and performs a perfect sound reception. The specially developed circuit board offers audio functions which normally only can be expected by large and professional radio receivers. **PKI 2445** is equipped with a carrier-frequency-controlled squelch, noise filter, automatic frequency control (AFC) and two adjustable volume levels.

Specifications	
Max. distance	Approx. 1.000 meters
Frequency range	138 - 240MHz special frequencies upon request
Operation time	Up to 15 - 30 hours
Automatic frequency	Control included
Squelch and noise filter	Included
Accessories	Cleaning set, batteries, etc. are included



PKI 2450

Professional Directional Microphone with Wireless Digital Transmission

PKI 2450 is designed for professional use by authorities for the detection of criminal acts or in case of imminent danger to reduce them. Developed by **PKI** in years of development work. An ingenious sound receiving device, paired with low-noise amplifiers, amazes the user what is technically possible in our time. **PKI 2450** blows up everything in directional microphones that have been available until now. It can be used for outdoor audio monitoring at a range of up to 200m. You can literally hear the grass grow. The recorded audio signal is transmitted wireless digitally, i.e. the user can move freely within a radius of 100m during acoustic monitoring and perceive the desired monitoring signal via headphones or earphones without being detected.



Due to the exact alignment of **PKI 2450**, it is possible to concentrate on specific noise sources. For use on a tripod, a corresponding mounting option is available. This allows disturbing background noise to be filtered out and the desired speech intelligibility to be improved accordingly. **PKI 2450** is a mobile handset with internal power supply and works completely self-sufficient.

The natural sound is received directly with **PKI 2450** and hits the integrated sound receiver with downstream filter system. Here mainly the speech frequencies are optimized, disturbing background noise is eliminated. This marvel of technology enables unbelievable applications and should not be missing at any responsible authority. For the vehicle inspection **PKI 2450** produces in combination with **PKI 2555** an additional optical observation system for day and night observation with integrated pan/tilt head for ranges of max. 500m. A respective, required positioning is thus always given.

A detailed description can be found under **PKI 2555**.



Specifications	
In general	
PKI 2450 is a directional microphone with integrated digital transmitter and digital receiver.	
Housing dimensions	30 x 15 x 15cm
Weight	1,2kg
Power supply	Integrated, rechargeable Li-Ion battery
Battery life	10 hours
Charging time	Approx. 1 hour
Output sockets	Headphones, recording device
Other	Screw thread for tripod use
Integrated digital transmitter	
Modulation mode	Digital frequency modulation
Oscillation	PLL-synthesized
Carrier frequency range	UHF 500 ~ 980MHz
Preset frequencies	25 (automatic pairing)
Output power	100mW
Frequency response	75Hz ~ 18kHz +/- 3dB
Max. fluctuation range	+/- 50kHz (with level limitation)
T.H.D.	<1.0 % @ 1kHz S/N > 96dB
Range	Up to 100m
RF Stability	+/- 0.005% (-10°C to +50°C)

Digital receiver	
Pocket device	135 x 75 x 22mm
Frequency	UHF
Power supply	9V battery
Output sockets	Headphones, Recorder
Loudspeaker	Integrated
Weight	120g
Miscellaneous	Headphones and earphones are included

PKI 2470 Needle Microphone with Amplifier

Sometimes a room is only accessible via tiny holes or cracks, where only a needle microphone is small enough to be introduced and to capture conversations from inside the room. The signals are amplified by the integrated amplifier, so that direct listening via headphones is possible. The **PKI 2470** is equipped with an input socket for our digital recorder **PKI 2105**. Sounds are electronically adjusted, which means that low sounds are more amplified than louder sounds, so that the volume is maintained at a constant level.

Specifications	
Microphone	
Highly sensitive electret microphone	
Needle \varnothing	1.5mm x 200mm
Range	Approx. 10m
Connection	2.5mm RCA
Power supply	Supplied by amplifier
Amplifier	
Dimensions	34 x 20 x 114mm
Power supply	9V battery
Operating time	Approx. 60 hours
Accessory	Headphones
We recommend combination with our recorder PKI 2105	


PKI 2475 Larynx Headset

The **PKI 2475** is especially designed for use at places with high ambient noise to assure a clear acoustic transmission. The larynx microphone records only vibrations of the larynx and no sidetones. Loud noises especially during open field operations won't disturb clean transmission anymore.

Specifications	
Larynx microphone	Dual
Plug-in connector	Modular
Plug	Double 2,5/ 3,5mm
PTT-button	With clip


PKI 2480 Security Headset

This **PKI 2480** Security Headset has been designed for discrete radio communication of security staff. The small, separate transmitter button can be fixed with a clip, a flesh-coloured earplug with a transparent and flexible tube and a miniature microphone offer clear transmission of the communication.

Specifications	
Double plug	2,5 / 3,5mm
Microphone	Electret
Version	IP 55



PKI 2500 Confidential Audio Listening System

Confidential audio information is indispensable for recording evidence. The higher the quality filtered out, the more successful. **PKI 2500** is suitable for use on the road and in the field. This easy-to-use audio EQ and filtering system is designed for forensically confidential audio information. **PKI 2500** uses advanced audio/DSP filtering algorithms with a very intelligent user interface. In fact, it allows even untrained and non-technical people to improve the intelligibility of conversations and voice recordings. **PKI 2500** also has fully automatic, interactive logging capabilities that allow the user to reproduce the exact filter settings from any point in the past. Finally, it is possible to create a report file with scientific notation of the filter parameters and a screenshot that can be added to a case file or given to a lawyer, for example. The models can be easily shared between departments or even agencies. **PKI 2500** is also very well suited for audio playback in court. The quality of the audio facilities found in these locations can vary from place to place. With **PKI**



2500, this problem is a thing of the past. It is easy, very fast and safe to set up. This results in a very compliant and consistent presentation of evidential audio.

Specifications
High-performance filtering in real time
Complete ready to use solutions
Professional connection panel with suspension including common adapter cables
Extremely simple user interface via touch screen
Integrated headphone amplifier
Two dedicated Beyerdynamic headphones with integrated limiter
Two high-quality active loudspeakers, selected for very precise and analytical listening
Volume control of the on-screen speakers
Integrated DSP-driven speaker limiter
Input selector switch for digital USB input and analogue inputs
Boost & Autolevel functions
Left only, right only and stereo listening modes
Separate recording and speaker outputs
On-screen input and output metering
Factory settings and user presets
Rugged lightweight solution for mobile use
Durable carrying case for speaker and monitor

PKI 2515 Tactical Audio Microphone Set

The proper equipment is decisive for eavesdropping. Whether structure-borne sound microphone, directional microphone, parabolic microphone, needle microphone, stethoscope, under-the-door microphone, room monitoring microphones, etc.: Almost every operation requires specific equipment. With our suitcase solution **PKI 2515** we have assorted a practical range of special microphones and corresponding accessories. Besides tools to mount the equipment, a selectively adjustable audio amplifier, head- and earphones and a digital recorder are included in this complete set of matching components. The equipment is rounded off by different assembly materials from adhesives via different construction chemical products, such as plaster and rapid hardening cement, to install microphones quickly and above all well camouflaged. Delivery in an inconspicuous business case or, on request, in a rugged, watertight outdoor case.



Specifications	
Directional microphone / parabolic microphone	
Frequency range	50 - 16000Hz
Sensitivity	6mV/Pa/1kHz
Signal/noise ratio	> 40dB
Structure-borne sound microphone / stethoscope microphone	
Frequency range	300 - 3000Hz
Sensitivity	3mV/Pa/1kHz
Signal/noise ratio	> 50dB
Under-the-door and needle microphones	
Frequency range	30 - 18000Hz
Sensitivity	6mV/Pa/1kHz
Signal/noise ratio	> 40dB
Audio amplifier / recorder	
5 band equalizer with 300, 600, 1200, 2400, 4800Hz filters	
Output of headphones	4 - 16Ω; 100mW
Maximum amplification	100dB
Recording capacity	SD card with max. 8GB

Scope of supply:

- Closed headphones with foam cushions for comfortable fit even during longer operations.
- Earphones with extra long cable.
- Toolset with drills, screws, various adhesives and adhesive tapes.
- Shapeable synthetic materials, special adhesive elements, construction chemical foams, plaster, fine cement, acrylic colour chart, primer, etc.

PKI 2520 Special Vehicle Microphone

This **PKI 2520** microphone mounted on top of a vehicle is e.g. used on police cars. Its flat design uses the reflections from the underground like a sound pick-up, on request reduces street/traffic noise and offers clear recording within a circumference of 15m. Watertight thanks to a special technology, however, very sensitive.

Specifications	
Acoustic range	15m (omnidirectional 360°)
Frequency range	20Hz - 20kHz
Sensitivity	- 42dB
Signal/noise ratio SNR	> 67dB outdoor / > 70dB indoor
Directional pattern	Omnidirectional 360° ball
Impedance	600Ω
Signal output	2.5 Vpp / -25dB
Built-in preamplifier	
Power supply	DC 12V (8 - 20 V) / 52mA
Connection cable	3-wire = Power/Audio/GND (maximum length: 3km)
Dimensions	127 x 96 x 25mm, 160g


PKI 2525 Special Room Monitoring Microphone

Different designs, explosion-proof and watertight versions are available. Easy assembly. Applicable for rooms up to 80m². Parasitic noise and resonance are perfectly eliminated by the digital filters of these microphones. Whether conference rooms, corridors, prison cells, bus or train: wherever there are verbal communication our special **PKI 2525** microphones listen in. On request, we can also deliver camouflaged versions (smoke detector, pinhole, etc.).

Specifications	
Acoustic range	Up to 80m ² (omnidirectional 360°)
Frequency range	20Hz - 20kHz
Sensitivity	-45dB
Signal/noise ratio SNR	70dB - 80dB
Directional pattern	Omnidirectional 360° ball
Impedance	600Ω
Signal output	2.5Vpp / -25dB
Built-in preamplifier	
Power supply	DC 12V (8 - 20V) / ~30mA
Connection cable	3-wire = Power/Audio/GND (maximum length: 3km)
Dimensions	Different versions available.


PKI 2530 Special Directional Microphone

The quality of visual monitoring of squares, halls or e.g. railway stations is, if provided with audio equipment at all, not acceptable. This is where our **PKI 2530** directional microphones come into play. Watertight for heavy duty, you can directly provide the correct sound for the pictures of the existing camera. With an opening angle of 45 degrees and an operating range of up to 30m, the correct sound to the picture is no problem any longer. And digital filter systems also ensure concentration on the essential contents of the detected signals.

Specifications	
Acoustic range	Up to 30m (wide directional 45°)
Frequency range	20Hz - 20kHz
Sensitivity	- 45dB
Signal/noise ratio SNR	70dB - 90dB
Directional pattern	Omnidirectional 360° ball
Impedance	600Ω
Signal output	2.5Vpp / -25dB
Built-in preamplifier	
Power supply	DC 12V (8 - 20V) / ~30mA
Connection cable	3-wire = Power/Audio/GND (maximum length: 3km)
Dimensions	Different versions available



PKI 2535 Special Underwater Microphone

No matter if salt or fresh water, depths of up to 100m are no problem for this **PKI 2535** microphone. It can even be used under ice, in sand or mud and in some aggressive chemicals. Whether noise originating from vessels, dolphins, swimmers or also vibrations such as steps on sand. With this special microphone, there are no obstacles any longer for an audio surveillance at places so far unattainable.

Specifications	
Acoustic range	1 - 1000m depending on medium
Frequency range	15Hz - 20kHz
Sensitivity	- 44dB
Signal/noise ratio SNR	70dB
Directional pattern	Omnidirectional
Impedance	600Ω
Signal output	2.5Vpp / -25dB
Built-in preamplifier	
Power supply	DC 12V (8 - 20V) / 30mA
Connection cable	3-wire = Power/Audio/GND (10 - 100m of special cable)


PKI 2540 Special Audio Amplifier

You can connect any of our microphones to a standard audio amplifier. However, our special amplifiers are the better alternative for a quick and smooth installation. They come with appropriate power supply, mixing function in case of multi-channel types, additional noise reduction and output for audio recorder.

Specifications	
Signal/noise ratio SNR	70dB - 90dB
Impedance	600Ω
Signal output	2.5 Vpp / -25dB
Connecting terminals	2-pin audio out / 3-pin microphone (up to 2 channels)
Power supply output	DC 12V / max. 500mA
Power supply input	220/110V AC
Headphone jack	3.5mm


Accessories:

Special shielded cable; we can of course deliver the desired length and number of connectors. Please contact us on demand.

PKI 2545 Special USB Sound Module

Connected to this sound module with USB connection, you make each laptop an audio recorder. It is thus possible to connect any of our microphones. Besides archiving, control via the PC also enables further processing of the audio signals. Only the remote power supply of 12V DC must be realized separately.


PKI 2550 SIM Card Manager

The SIM card manager provides you with a quick overview of the information on a SIM card. (GSM, 3G and Nextel cards as well as older cards). Whether you want to make copies, perform a data backup or synchronize cards: All this can be realized most easily with the program under Windows. Changing or switching-off PIN1, disabling or enabling the card is also possible. All information on the SIM, such as IMSI, ICCID, ATR, network operator, SMS memory, addresses, etc., is readable, if available. UNICODE version. Thus, also SIM cards containing information in an alphabet other than Latin are readable.



Scope of supply: Software (CD for WIN XP, WIN 7) USB SIM card reader

PKI 2560 Modified Mobile Phone

Mobile phones are the means of communication used most frequently all over the world. **PKI** has been accounting for this in our development and in the following we offer **PKI 2560** an interesting modified mobile phone for professional use. In undercover operations without externally recognizable surveillance features, covert video and audio recording is possible immediately if required. It can be sent via GSM, UMTS, WLAN or Bluetooth. It offers hardware based shut down while the camera is still recording. A miniature HD camera is camouflaged in the headphone jack. Video and photo transfer (repeater function) is realised via Wi-Fi, Bluetooth or e-mail. Original telephone functions will remain.



Specifications	
Mobile phone	Basic features of Samsung GalaxyS4
Display illumination	Shuts down while HD camera is recording
Pre-installed	Surveillance app
Video and photo	Transfer via Wi-Fi, Bluetooth, e-mail or live 3G/4G
Covert video and photo	Recording onto internal micro-SD card with up to 64GB (up to 100 hours of video and audio recording)
HD Camera	Resolution HD 2 mega pixels
Operating time	Audio and video recording time for at least 4 hours with one battery charge
TFT display	High-resolution
Functions	Original telephone functions will remain
Camera position	In front of the phone hidden
Specials	GPS tagging of pictures
Operation	Similar to the existing device functions

PKI 2585 A/V Monitoring via Mobile Phone

PKI modifies the most different mobile phone brands for audio and video monitoring purposes. The high-resolution 8 megapixels HD camera is camouflaged in the headphone jack. This position is ideal for video recording, as the mobile phone mostly rests flat. Up to 60 hours of audio and video recording can be made and retrieved. This type of A/V monitoring can be performed all over the world and knows no boundaries. Preferred mobile phones for the modification are SAMSUNG and BlackBerry, as these are used worldwide and do not attract attention as special designs. The respective user does not realize the modification when using his/her mobile phone. He/she does not know anything about being monitored, all mobile phone functions are ensured. **PKI 2585** offers the alternative solution for international control incl. positioning.



Specifications	
Display illumination	Shuts down while HD camera is recording
Easy to operate	Similarly to the existing device functions
Video and phone transfer	Via Wi-Fi, Bluetooth, Email or live 3G/4G
Recording time	Internal microSD card with up to 64GB up to 60 hours of audio and video recording
Original telephone functions	Will remain
A/V recording time	At least 4 hours with one battery charge
Specials	GEO coating function GPS tagging of picture

PKI 2590 Ear Receiver for Covert Operations

The **PKI 2590** miniaturized high-tech communication system enables crystal-clear voice transmission. The built-in microphone also serves to enhance auditory perception by amplifying ambient noise during covert observation. If individual, personal settings are required, this is possible via the in-ear receiver's program interface and the corresponding software application. The software can be used to adjust the overall volume and the volume of the ambient sound reception. The new, automatic design or smaller housing with optimized curvature sits lower in the ear, which improves wearing comfort and stealth.

Configuration options or technical specifications	
Amplified radio volume	Adjustable
Ambient noise receiver gain	Adjustable
Noise suppression	Adjustable
Low battery signal	Yes/no integrated
Mode switching signal	Yes/ no
System ready signal	Yes/ no
Number of presets	Max 3



PKI 2600 Voice data system

This forensic examination of biometric voice data provides admissible evidence in court proceedings. **PKI 2600** ensures the highest level of accuracy and provides an additional and valuable tool in supporting investigations where voice evidence may be present such as extortion, drug trafficking, kidnapping, corruption, domestic violence, gang and organised crime, terrorist threats to misuse of emergency communication channels.

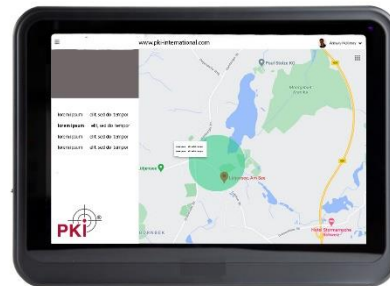
The **PKI 2600** voice data system uses 6 exclusive methods to automatically compare "voice models" with voice recordings obtained from various sources such as mobile phones, landlines and covert recordings with recorded investigative interviews.



Specifications	
Speaker recognition	Easily detects who spoke and when in a single-channel voice recording.
Speech error detection	Use speech recognition to identify speech and silence components in an audio file. You can easily check and manually correct these identifiers within the system.
Voice Recognition	Proves or disproves the identity of a speaker in audio recordings used in investigations.
Gender identifier	Automatically detects the gender of a speaker.
Probability ratio calculation	Compares two audio recordings to generate statistical values and probability distribution graphs to be used as evidence.
Formant validation	Provides one-to-one matchings of formant distributions of audio recordings.

PKI 2610 Intelligent Geolocation Software

With **PKI 2610** software, we have achieved the power of high-precision cellular geolocation. The **PKI 2610** software is designed to instantly order, track and monitor any GSM, UMTS and LTE target anywhere in the world and is intended exclusively for national intelligence, investigative units or operational agencies. **PKI 2610** offers specialized technology to secure the future. Where possible, the agency must always stay one step ahead. **PKI 2610** makes it possible to detect the movement patterns of your targets and provides alerts when unusual activities are underway.


Specifications

PKI 2610 allows you to display specific geolocation data such as:

- Real-time subscriber location in map view
- IMSI and in some cases IMEI
- Home country, home operator, host country, host operator (when roaming)
- LAC and Cell ID, GPS coordinates of Cell ID
- Phone status, such as busy, away, unavailable, idle, etc
- Continuously updated cell site databases, which also support client uploads of cell sites in any country
- Age of retrieved information, i.e. how many minutes have passed since the client last communicated, with the operator's MSC detect and track

Various automated functionalities

The **PKI 2610** offers various automated functionalities to perform a variety of of key tasks such as:

- Interrogation of a group of targets believed to have connections to another target and may be involved in illegal activity
- Automated target tracking at each set and time of the operational interval e.g. every five minutes, three hours or twelve hours, depending on the target priority and the severity of your mission
- Generation of alerts when two or more of your targets are met;
- When a target leaves or enters a predefined polygon - including both precise and irregularly shaped regions; and when your target is travelling to another country (roaming)
- Pattern matching and analysis of static positions of suspects, periodic movements and unexpected journeys to give you valuable insights

PKI 2610 is built with the latest cloud technologies and capabilities to ensure a scalable, secure and value-driven service.

PKI 2610 is:

- Web-based and connected to the internet at any time from any location
- Cloud-based with all geolocation results including those stored in the cloud
- Stand-alone or can be used alongside tactical interception solutions

PKI 2640 Mobile noise filter with recording

PKI 2640 improves the quality and intelligibility of speech signals recorded by the unit or uploaded to its removable memory card. **PKI 2640** is controllable, and all settings can be remotely controlled via a web interface. **PKI 2640** guarantees professional results while being intuitive and easy to use. Previous experience in digital sound processing is not required. Adaptive noise filters provide instant results and adjustments are immediately audible. Settings and controls can be made from the front panel of the unit, remotely via a web interface or from a computer via a USB cable.


Specifications

Broadband noise filter	Smoothes/suppresses noise of all bandwidths
Harmonic rejection filter	Suppresses power line frequency, telephone tones, and other drone noises
Adaptive equaliser	Improves the spectrum and amplifies speech
Parametric equaliser	Boosts/weakens low and high frequencies
Speech level enhancer	Smooths amplitude differences and amplifies speech from distant speakers
De-clicker	Removes cracks/ clicks in radio channels and old records
Reference Noise Filter	Suppresses noise in the main channel using information about the noise in the reference channel.
V-changer	Changes the voice of the speaker in real time and processes files

Sound processing settings and configurations can be saved as presets for use in similar situations. The number of presets is unlimited.

Signal sources (stereo)	External microphones, Built-in microphones, Line inputs
Interfaces	Analog line balanced/ unbalanced inputs: XLR/TRS connector
Analog line based/ unbalanced outputs	1/4" TRS connector
Digital input/ output	Coaxial S/PDIF format RCA Connector
Telephone input/ output	RJ-11 connector
Headphones output	1/4" stereo TRS connector
Network	Ethernet 10/100 Base-TX
PC interface	USB 5-pin Mini
Audio format	Audio compression: PCM, muLaw sample rate: 8, 16, 44.1kHz Audio bit depth: 16, 24bits THD for line inputs: 0,1% max
Digital filters	Broadband noise filter, Harmonic reject filter, Adaptive EQ, Parametric EQ, De-clicker, Speech level enhancer, Stereo filter, Voice changing filter
Input level indicator	Two indicators (7 LED each) Built-in loudspeaker:1 mono
Power	4 x R6 (1,5V AA) 12 – 24V from external adaptor
Flash card	SDHC up to 32GB
Dimension	212 x 143 x 76mm
Weight	1350g

PKI 2650 Professional Unlimited Monitoring System

The **PKI 2650** is an absolute world innovation regarding interception technology. It allows to intercept calls made in any premises without being bound to a location, i.e. the **PKI 2650** is camouflaged in masonry, sockets, a lamp etc. with 110/220 V power supply. The **PKI 2650** can be activated from any place in the world. Incoming transmissions are automatically answered and recorded as an audio file. The files can be stored on a memory stick or be sent as an email. The **PKI 2650** is available as single-channel and multi-channel recorder. In the multi-channel version, incoming calls can be recorded and managed by several GSM bugs in parallel. The server can be used on all current telephone lines (analog, SIP, ISDN) or directly in the GSM network with SIM card.



Specifications	
Size	100 x 70 x 25mm
External Power Supply	90 - 230V to 5V/2,5A
Network	100 Mbit LAN
Optional	POTS, ISDN, GSM Interface

PKI 2655 Professional Unlimited Monitoring System

This miniature monitoring device can be called from all over the world. Not only eavesdropping (inside, in a car or outside) is possible but also the location of the user. The device works with a standard SIM-card, protected by a password. Equipped with external antennas and a 10-36V DC power supply it allows professional installation and optimal transmitting and receiving signals even under difficult conditions. **PKI 2655** can be connected to every car or truck power circuit. With the built-in Li-ion batteries of 3,7V and 1500mAh a standby-time of 48 hours is possible in case of power failure.



Specifications	
Network	GSM / GPRS / GPS
Band	850 / 1800 / 1900 MHz or 900/1800/1900 MHz or 850/900/1800/1900MHz
GPS chip	SIRF 3
GSM/GPRS module	Siemens MC 56
GPS sensitivity	-159dBm
GPS accuracy	+/-5 m
Start-up time	Cold status 45 s, warm status 35 s, hot status 1s
Working voltage	10V - 36V DC
Power supply	3,7V 500 mAh Li-ion rechargeable battery
Standby	48 hours
Storage temperature	-40°C to +85°C
Operating temperature	-20°C to +55°C
Humidity	5% - 95% non-condensing
Dimensions	85 x 63 x 25mm
Weight	160g

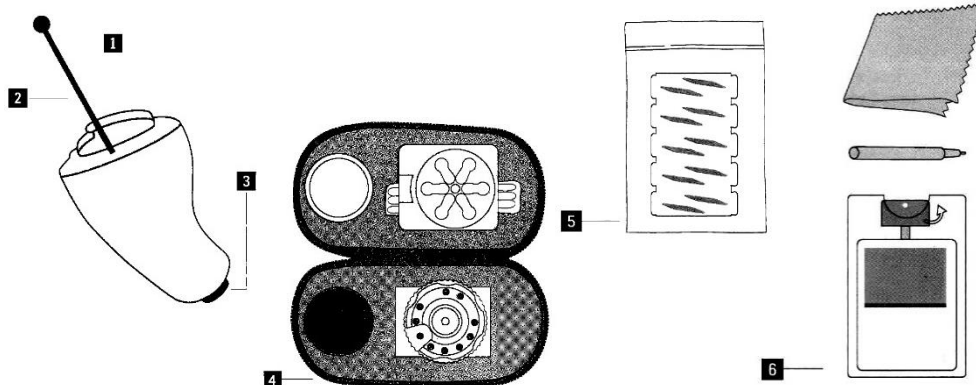
PKI 2660 Digital Wireless Covert System

In physical surveillance, speech intelligibility is crucial. Every message must be clearly understood by all team members in every situation during a surveillance, regardless of the volume of the environment. **PKI 2660** is designed to be particularly user-friendly and does not require any technical knowledge. **PKI 2660** is completely immune to electromagnetic interference and does not interfere with other systems. The AES-128-bit encryption of the transmission guarantees a secure connection. The **PKI 2660** "in-ear receiver" is almost invisible, it fits very discretely in your ear canal thanks to its ingenious miniature design. Long wearing times are possible without any problems due to the ergonomic design, a pleasant wearing comfort is guaranteed. The connection in addition to a radio or mobile phone increases absolute flexibility.



Specifications	
Antenna	Built-in antenna
Back-link power	< mW (0dBm)
Encryption	AES 128-bits
Electrical safety	IEC/ EN 60950-1
Radiocom 2.4 GHz	EN 300 440
EMC	EN 301.489-1,-17
FCC	Part 15C
IC	RSS-210
Output max SPL	100dB(A) SPL according to EU standard EN 50332 Part 1 & 2
Audio bandwidth	100Hz – 7200Hz
Max. sound pressure level	100dB(A) SPL
SNR	55dB (@ 1kHz)
THD	- 42dB (< 0.8 % @ 1kHz)
Power supply	Mercury free 10 Zinc Air
Current drain	2.75mA (Streaming); 0.7mA (Sleep mode)
Operating time	> 15h in full streaming
Length	18mm
Weight	1.3g incl. battery
Operating conditions	0°C to +45°C and relative humidity of < 95% (non condensing)

- 1 Battery compartment
- 2 Removal handle
- 3 Wax guard
- 4 Transport pouch
- 5 Soft wraps
- 6 Cleaning tools



PKI 2665

Keyword Spotting

PKI 2665 automatically identifies the occurrence of certain keywords and key phrases in audio recordings. **PKI 2665's** technology applies state-of-the-art channel compensation techniques that are compatible with the widest possible range of audio sources: GSM/ CDMA, 3G, VoIP, landline, satellite phones, etc. **PKI 2665** automatically converts keywords into phonemes. Users can add an unlimited number of keywords and pronunciation variants for each **PKI 2665** keyword.



PKI 2665 requires the following input requirements:

Wav or RAW (PCM, 8 or 16bit, IEEE float 32bit, A-law or Mu-law, ADPCM) FLAC, OPUS; 8kHz+ sampling (other audio formats are automatically converted), and the list of keywords.

PKI 2665 uses the following output formats:

XML/ JSON format with all results. In addition, **PKI 2665** can provide result files with details of the recognized keywords (keyword, start/end time, path, probability, etc.).

Speech recognition

5th generation

4th and older generation

Russian

Polish

German

English (US)

Dutch

English (US)

Farsi

Italian

Spanish

Spanish

Croatian

French

Arabic

Pashto

French

Arabic

Hungarian

Czech

Croatian

Czech

Slovak

Russian

Polish

Slovak

Chinese

Turkish

The latest generation of **PKI 2665** is about 30x faster than real-time processing on a 1-CPU core. The 4th and older generations of the model are about 10x faster than real-time processing.

PKI 2670

Speech Transcription

PKI 2670 automatically converts speech into plain text, which means that the entire content hidden in voice recordings can be easily searched. The technology details are based on state-of-the-art acoustic modelling techniques, including neural network-based functions. Among other things, the focus is also on spontaneous telephone conversations. **PKI 2670** applies channel compensation techniques that are compatible with the widest possible range of audio sources: GSM/CDMA, 3G, VoIP, landline, satellite phone, etc. **PKI 2670** supports adding other words to the model in the latest generation of the model. New languages can be trained on request.



PKI 2670 has the following input requirements:

WAV or RAW (unsigned PCM 8 or 16 bit, IEEE float 32 bit, A-law or Mu-law, ADPCM), FLAC, OPUS; 8 kHz+ sampling (other audio formats are automatically converted).

PKI 2670 uses the following output formats: XML/ JSON format with all results or result files.

- One-best transcription
- N-best transcription

The following languages are supported by PKI 2670

5th generation

Russian

Polish

Dutch

English (US)

Spanish

Croatian

French

Arabic

Czech

Slovak

4th and older generation

German

English (US)

Farsi

Italian

Czech

Arabic

Russian

Polish

Chinese

Dutch

Processing speed

The 5th generation **PKI 2670** is approximately 7x faster than real-time processing on a CPU core. The 4th and older generations of the model are about 1.2x faster.

PKI 2695 **Intelligente Open-Source Software**

PKI 2695 is the right tool to track modern security strategy and monitor revolutionary uprisings, violent protests, widespread unrest, international criminal activity, uncontrolled money movements, social networks as well as dark web. **PKI 2695** is exclusively for intelligence surveillance, law enforcement and intelligence gathering. The **PKI 2695** software enables easy searching of the dark web for data based on keywords, complete phrases, usernames etc. **PKI's** own IMSI catchers and passive listening systems can all be integrated to provide real-time information on the whereabouts of a specific mobile phone MSIDN or IMSI number. The use of facial recognition capabilities for profiling and full identities is also possible with **PKI 2695**.



Specifications
Capabilities:
Search by word, hashtag, phrase or geographic location on the map.
Search by username or mentioned username
Search by attitude: happy, sad correspondent, by language, question mark and many more
Search by location, either by name or by point and radius
Filter and analyse the results in different ways
Search for images, video or text
Big data analysis is used to reveal information patterns and irregularities
Reversal capabilities:
Relationship map and lists of all mutual connections from different networks
Tag cloud for dominant keywords and hashtag
Map display of results
Export to report or importable data formats
Tracking of important results
Create automatic, continuous monitors based on users, shortcuts and locations
Customised search model (email, UID, user ID)
Search for people by email, phone or username on various social networks, including Telegram, Whatsapp, Facebook, Truecaller, LinkIn, Twitter and others.
Analysis of the data provided and delivery of reports on the person, places, occupations, date of birth, education, interests, etc.

PKI 2700**Digital Audio Transmitter**

PKI 2700 is a digital UHF miniature transmittersystem in SMD technology. The system consists of a remote controllable audio transmitter and an audio receiver with integrated remote control transmitter. Transmission of the digital data is realized according to the transceiver principle. The range of the audio data transmission is equal to the range of the remote control. The audio signals are digitized in the transmitter by a 10-bit A/D converter and subsequently encrypted with a 56-bit key using the data encryption standard DES. Transmission of the digital audio data and reception of the remote control commands are performed via the same antenna. The packet-switched uninterrupted audio transmission makes it possible that remote control commands can be received between the audio data.



All settings, such as On/Off, power output, energy saving mode, internal, external microphone, VOX, channel, address, are remote controllable. The transmitter is provided with an internal microphone to record conversations up to a distance of 15m. An external microphone can also be connected. An emergency call button is integrated. The energy saving mode allows to reduce the current consumption in transmission mode by half while maintaining the output power. In disconnected mode (standby) the transmitter consumes max. 250 μ A and remains remote controllable. One receiver can address and control up to 16 transmitters. The receiver comes with an adjustable headset amplifier as well as a line output for recorder connection. Power supply is possible with an internal battery or an external power supply unit.

Specifications	
Power supply	3.6 - 9V DC
Power consumption	PWR = high, PS = off 140mA PWR = low, PS = off 65mA PWR = high, PW = on 75mA PWR = low, PF = on 45mA Tx off, Vox off 235 μ A Tx off, Vox on 1mA
Output power	PWR = high 150mW PWR = low 50mW
Transmitting channels	CH0 440.0604MHz CH1 441.0434MHz CH2 441.9914MHz CH3 443.0446MHz CH4 443.9927MHz CH5 445.9208MHz CH6 447.0551MHz CH7 448.0476MHz CH8 449.0710MHz CH9 449.8900MHz
Sensitivity	-100dBm (BER = 103)
Remote frequency	444.9756MHz
Transmitter cycle: tx time / interval	PS = off 84ms / 93ms PS = on 84ms / 186ms
Receiver cycle: rx time / interval	PS = off 4ms / 93ms PS = on 4ms / 186ms Tx off 7ms / 2s
Audio input	Internal or external microphone, switchable
Emergency call	External button, 10s alarm sound
Vox	Attack time 1s
follow-up time	10s
Antenna	Wire antenna
Dimensions	27 x 8 x 35mm
This device matches PKI 2225 receiver.	

PKI 2705 Burst Transmitter

In telecommunication, a burst transmission or data burst is the broadcast of a relatively high-bandwidth transmission over a short period. Burst transmission can be intentional, broadcasting a compressed message at a very high data signaling rate within a very short transmission time. **PKI 2705** is a robust and compact audio transmission system with highly interesting features. Not only the output power of 150mW, but also the 80 frequency channels and the additional digital encryption are prerequisites for many security authorities. The use of different microphones for different surveillance applications, such as a hole microphone to listen through the wall, contact microphone to listen through doors, windows etc. or the use of a waterproof microphone for outdoor surveillance. With **PKI 2705** this is possible.



Specifications	
Frequency range	800 and 1200MHz
Programmable audio frequency reading	8 - 48KHz
Selectable audio codes with/without compression	PCM, IMA-ADPCM, G726, G722
Memory readout	RF Data Pump analogue to readout of video content
Real-time transmission in COFDM mode	
Random time interval	Average 40 sec.
Random frequency channel	Coupled with "snake" slow hopping mode
Memory	64GB
Interference countermeasure	Automatic
Low RF visibility	Anti-intercept
Remote control	Complete

PKI 2710

PKI 2715

PKI 2720

Computer Monitoring Systems

PKI has developed different computer monitoring systems, each for different operations or possibilities. In the development phase, **PKI** paid paramount attention to internal encryption to ensure absolute security with respect to discovery. Passwords and access data of foreign PCs are often indispensable for various surveillance operations. With our computer monitoring systems, eavesdropping is made easy and is not detectable via system programs or virus scanners. **PKI 2710** is simply plugged between keyboard and computer. No additional software or driver is required. **PKI 2710** is compatible with Windows and Linux systems. The two gigabyte memory records millions of data which can be read out at any time via the own PC. **PKI 2710** can be delivered as PS2, USB and Apple Mac USB coupling plug. **PKI 2715** makes computer monitoring even more interesting and this via Wi-Fi connection. Here, the content of **PKI 2715** can be directly read out via WLAN. With a smartphone, set up as hot spot, the **PKI 2715** data can always be read out. In addition, it is thus possible to transmit all data to an email address of the surveillance operator for evaluation. **PKI 2715** can be delivered as PS2, USB or Mac coupling plug with WLAN. **PKI 2720** is a special version for direct installation into the PC keyboard. The flat design and the universal connections ensure entire compatibility with all common USB and PS2 keyboards. **PKI 2720** is compatible with all Windows and Linux systems. This keyboard recorder **PKI 2720** cannot be detected by the specific software used and can be taken out at any time for readout on the own PC. The memory capacity of two gigabytes allows for an enormous data volume or interesting information about a surveillance lasting for weeks.



Specifications	
Current consumption	130mA (+20dBm) - 250mA (+26dBm)
Transmission	FSK at 10kbit/s
Live signal transmission	Every minute
Dimensions	PKI 2710: 55 x Ø 16mm
	PKI 2715: 50 x 20 x 12mm
	PKI 2720: 45 x 20 x 8mm
Power	0 - 100mW (in 10 steps)



PKI 2735 Digital Spectrum System (DDS)

The **PKI 2735** digital spread spectrum system provides police and security agencies with highly covert audio transmission for all critical operations requiring low probability of interception and apprehension and strong resistance to jamming. Many features require the use of appropriate countermeasures. Security agencies should certainly not lack **PKI 2735** in their inventory.



Specifications	
Power consumption	< 8MA, i.e. several weeks of continuous listening on battery power
Resistance to thermal detectors	No emission of heat
Selection of transmitters	With optional remote control with 200mW or 800mW output power.
Detection range	200m - 300m for 200mW TX; 500m for 800mW TX
Frequencies	Up to 4 TX in the range of 300MHz - 400MHz
Management	RC can set VOX, gain/power, on/off
Encryption	1024 different audio codes
Additional option	With PKI's own Store & Forward Device, the system can be connected to the PKI digital encrypted recorder

PKI 2750 Coded Radio Communication System

These handy radio communication systems are equipped with highly sensitive receiver for a superb receiving sensitivity which allows very good receiving distances even with the 1 or 5 Watt output power of the relative transmitters. The more important is the possibility to easily switch over from clear speech to the scrambling mode for secure communications. **PKI 2750**, with its user-friendly operation, is developed according to MIL standards i.e. a maximum of durability and effectiveness. This system can also be combined with our **PKI 2440** Wireless Miniature Earphone for perfect use in disguised operations.



Specifications
System according to MIL Standard 810 C, D, E
User-friendly operation
Automatic channel selection and individually programmable channels
VOX function
CTCSS / DCS subcoder for undisturbed communication with other persons using the same channel and subcode.
Selectable calls for different users
Pre-programmable emergency call frequencies
Scrambling mode for secure communication
16 channels at 148-174 or 440-470MHz with 12.5, 20, 25KHz steps at 1/5W output power (high/low-selectable)
7,5V DC rechargeable battery, 1300mA/h for 9 hours operation time
0,35µV receiver sensitivity
Dimensions 130 x 42 x 60mm

PKI 2755 Duplex Communication incl. Wireless earphone

The use of duplex communication devices is especially valuable when top secret observation is required. The pocket device works on full-duplex-procedure, i.e. transmitter and receiver use different frequencies at the same time which allows a communication like on the phone. Listening and speaking can be done simultaneously without any switching. In combination with our wireless earphone **PKI 2440** a totally concealed communication is possible. A coil connected to **PKI 2755** transfers inductively the signals in a range of up to 20cm to the earphone. The coil must be fixed on the shoulder, underneath the shirt. Then it is perfectly disguised and no cable connection to the earphone is required. The earphone is powered by an integrated coin cell battery. **PKI 2440** is so small and fits in every acoustic meatus, a perfect equipment and undetectable.



Specifications	
PKI 2755	
Dimension	140 x 54 x 28mm
Weight	120g
Frequency	UHF
Power	0,5W
Channels	3
Operating range	Approx. 1km
Power supply	Li-ion battery 7,2V
Complete delivery	Charger, manual
Specials	Micro processor controlled PLL-system
PKI 2440	
Max. distance	Approx. 1.000 meters
Frequency range	138 - 240MHz special frequencies upon request
Operation time	Up to 15-30 hours
Automatic frequency	Control included
Squelch and noise filter	Included
Accessories	Cleaning set, batteries, etc. are included


PKI 2760 VHF or UHF Radio Set with Integrated Scrambler

This sound and handy radio set with power out- put of 4W can be fixed by clip to any belt and is therefore always available when needed. **PKI 2760** offers various features which allow professional operation. Up to 128 memory channels are selectable. By means of the Vox-function it provides hands-free action which is very important for surveillance. The built-in scrambler makes transmission safe and avoids undesired eavesdropping. To offer long operating time, the device can be switched manually from Hi to Low.

Specifications	
Dimensions / Weight	115 x 63 x 31mm / 195g
Frequency	VHF 136 - 174MHz, UHF 400 - 470MHz
Transmission power	4W
Channel distance	25kHz / 12,5kHz
Call tone	1750Hz
Repeater tray	Available
Scan and priority channel function	Available
Scrambler	Built-in
Display	LCD with backlight
Squelch	Adjustable in 9 steps
Keylock	Available
Channels and frequencies	Selectable via keypad
Power supply	Battery pack 1200mAh
Various	Comes with charger for Li-Ion battery, further radio sets available on request



PKI 2765 TETRA Communication System

Without communication, a coordination of operations of no matter what kind is impossible. With TETRA communication systems, we can offer you different communications solutions on a digital radio basis. Whether voice, telephony or also data exchange: with TETRA you can realise a lot. If GSM networks are no longer available due to disasters or for other reasons, a TETRA network can provide the required connections.



Stationary or mobile, like the GSM network, TETRA uses a cellular concept. The spatial expansion can be limited to a building or site but may sometimes also cover whole urban centres including their surroundings. A cell can have a size of up to 28km. But even in areas without any network, communication is possible by means of a direct connection. However, like in traditional radio operation, only a two-way communication is possible. Short distances can thus be bridged without any problems.

Furthermore, it is possible to use a terminal as gateway so that e.g. a stronger vehicle radio set at a location miles away from anywhere with bad radio communication establishes a connection for local handheld transceivers in direct mode (DMO) to the remote radio tower in network mode (TMO). So, the local director of operations can still reach the control station. This is also possible via several stations. We would like to provide you with further information on this system.

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PKI 2770 Satellite Mobile Phone

In contrast to GSM phones, the **PKI 2770** mobile phone can really be used anywhere in the world. Independently of existing mobile networks, the **PKI 2770** establishes its connections directly via satellite on the geostationary orbit. In case of disasters or communications embargos enforced by local authorities, you will remain available and can resort to a reliable communication. The satellite coverage includes all continents and oceans. Besides voice telephony, the device also handles short message services and e-mail communication. PC USB connection and Bluetooth allow for an extensive range of accessories.



Specifications	
Dimensions	170 x 54 x 39mm
Weight	280g
Display	Colour display
Connectivity	MicroUSB, antenna, Bluetooth, headset
	Integrated GPS receiver
Protection class	IP 54
Menu navigation	8 languages
	Handsfree set
Battery	Rechargeable Li-ion battery, up to 100h stand-by, 8h talk time

PKI 2775 Scrambled GSM Phone

In all areas of business, people use mobile phones to communicate confidential and sensitive data. They use local networks and believe that their information is protected against interception. Unfortunately, this is not the case. It is true that in most countries the signals between mobile phone and the base station are encrypted but there are a lot of attack methods to easily decrypt them. The damage caused by industrial spying in Germany is about 30 billion euros per year. Our **PKI 2775** is the right choice to prevent secret information from being intercepted. It provides an encryption solution for all your sensitive communications. Each **PKI 2775** works with an individually generated and certified key pair. It is stored on the net key card which is inserted into the phone. If another **PKI 2775** with its own individual key pair is called, using the crypto function, the two phones are authenticated by means of the certificates of the two chip cards. A „one-time pass session key“ (one out of 1077 possible keys) is generated and is used only for this one single conversation. The session key encrypts all communication data transmitted between the two phones. Any person who tries to intercept this encrypted data stream will only hear a noise that cannot be decrypted even with the highest performance mainframe computers. Apart from the encryption function, our **PKI 2775** works like a normal modern mobile phone and can be used for unprotected calls to any other person. You can use your standard SIM card for all encrypted or unprotected communication which means that you do not have to change your phone number to take advantage of all **PKI 2775** features.



Specifications	
2.4" Display	3.0 MP CMOS Camera
Micro SD Card up to 2GB	
USB 1.1	
WAP 2.0	
Enhanced SMS/MMS	
Multimedia and Organizer	
Unified Message Box	
Weight 92.5 grams	
GPRS Class 12	
Tri Band GSM900, GSM 1800, PCS 1900	
Li-Ion battery 950mAh	
Bluetooth (only for clear calls)	
Talk Time: Up to 7 hours	
Standby: 450 - 600 hours	
Standard package: Mobile phone, Main Charger, Personal hands-free, USB-cable, 2GB Micro SD Card, Manual	

Overview Security Module Features:

- Encryption algorithm: AES-256bit
- Authentication algorithm & key exchange: RSA 1024bit/ RSA 2048bit
- Authorization algorithms: BlackList/WhiteList/CUGList
- Hash algorithms: RIPEMD-160/SHA256
- Digital Certificates: X509v3
- Transportation data formats: CSD, V110
- Encryption services: Speech & MMS
- Option: Customer Key Management

PKI 2780 Caller ID Spoofing Phone

PKI 2780 allows the user to make calls with variable caller ID numbers. The unobtrusive GSM phone provides a menu mode where the caller ID which will appear in the display of the receiving phone can be inserted individually. By these calls can be made showing the phone number of any other phone. Investigators may like to use this function not showing their own phone number or e.g. an employee making calls using the office number while on business trip. Furthermore, the own identity can be concealed, and illegitimate location of the own position is impossible. **PKI 2780** is a quad band GSM phone (850/900/1800/1900MHz) and comes with net adapter.

Specifications	
Standby time	Approx. 110hrs
Talk time	Approx. 3,5hrs
Display	Colour, 5 x 3,6cm
Size	12 x 5 x 1cm



PKI 2785

Encrypted Communication Devices



The **PKI 2785** communication devices enable bug-proof encrypted communication. In the process, the focus was not only on a secure encryption of call contents but also on the software of the devices. The entire software used is documented and does not contain any binary code from untrusted sources. The encryption algorithms used are state-of-the-art and on request can also be tailored to the requirements of the customer. The devices interconnect via a network connection and support LAN and WLAN connections. Connections can also be established via the Internet. In this case, a so-called redirector on the Internet is required which enables the connection between the devices connected to NAT routers. It is possible

to make calls and to exchange short messages via a Messenger. The short messages can subsequently be deleted on the receiving unit if it is suspected that the device might have fallen into the wrong hands. The devices do not store any meta data about the communication and after switching off, they do not offer information that could be exploited in a forensic investigation. The encryption is realized end-to-end between the devices; the reflector is not involved in the encryption process. The devices can be operated in groups of any size. The devices are delivered with the necessary certificates; however, these can also be created by the customer.

Specifications
Supported IP networks: 3G, 4G LTE, satellite, WI-FI
4.7" touchscreen
MicroUSB for charging
Tamper proof and tempest secured hardware
Battery life up to 6 hrs standby
Audio with headset connector or built-in speaker & microphone
Dimensions: 80 x 150 x 20mm
Operating system is provided in
100 % verifiable source code.

PKI 2790

Self-organizing Mesh Network System

PKI 2790 is a latest MIMO enabled radio specifically designed for mesh networking in harsh environments. It measures a mere 4.00" x 2.63" x 1.51" in size and delivers connectivity where traditional single antenna radios fail. This radio utilizes the advanced MN-MIMO waveform to enable true self-adaptive ad-hoc mesh networking without any user involvement. **PKI 2790** automatically self-adapts to deliver data rates as high as +100Mbps UDP across a single link and is fully interoperable with other radios in the **PKI** radio family. **PKI 2790** boasts a unique band flexible RF section providing capability across a wide range of frequencies, in a highly compact design with optional dual band support. The radio supports frequencies from 400MHz to 6GHz. Refer to the specifications section for a complete list of supported bands.

Specifications
True 2x2 MIMO diversity
NEW! Transmit Beamforming for up to 40% additional range
Spatial Multiplexing for enhanced throughput
Space Time Coding for enhanced robustness
Receive Beamforming for enhanced reception
Up to 4W Transmit Power
Data Rates up to 100+Mbps
Up to 128GB onboard storage
Optional twist-lock battery for portable use
Improved power efficiency for cooler operation and longer battery life
"HD quality" bidirectional push-to-talk voice with G.722 codec
Automatic link adaptation to continually optimize throughput in dynamic environments
Single frequency transmits and receive (TDD)
Self-healing, self-forming flexible MANET/mesh network
Enhanced support for high-speed platforms
Dual band support (optional)
5MHz, 10MHz and 20MHz Bandwidth Modes
Ultra-low Latency (less than 10ms per hop)
Ethernet, USB, (x2), voice (PTT), and RS232 data interfaces
Ruggedized IP67-rated construction
Battery life of 8 - 10hrs



The **PKI 2790** transceiver, a stand-alone IP based packet MIMO radio, will surpass the Capabilities of traditional SISO (single antenna) solutions and will deliver:

- Connectivity in extreme NLOS (non-line-of-sight) multipath rich environments connectivity under highly mobile conditions on the ground, water and in the air
- High data throughput rates
- Mesh network (self-forming, or managed)
- GPS and multicast support

Missions benefiting from **PKI 2790**

The **PKI 2790** is ideal for cost-sensitive applications that require an aggressive form Factor with superior communications of voice/video/data in NLOS multipath rich Environments such as:

- Broadcast /ENG
- Covert surveillance
- ISR-operations and military communication
- Industrial communications
- Air-to-air & air-to-ground (manned, or unmanned)
- Urban ops, requiring video links within a building and with units outside the building
- Ship-to-shore high data rate transfer /comms
- First responder urban network /relay
- Connectivity within mines/tunnels/caves

Ease of Use

Each transceiver enables bidirectional networking to simplify logistics. As an Ethernet Bridge, the **PKI 2790** can be interfaced with countless third-party applications and a Multitude of configurations are accessible via web pages within the radio. The radio comes equipped with the powerful StreamScape network management tool. That allows for real-time management and control of all radio parameters in the network. Such as TX power, frequency, channel bandwidth, link adaptation and other parameters. Automatic link adaptation changes the radio operating parameters in real-time to provide Performance as close to capacity as possible while not losing the link when abrupt Changes in channel conditions occur such as moving around a corner or entering a Building.

PKI 2790 Tactical Terminal

PKI 2790 Tactical terminal is IP-networked tactical handheld terminal solution for homeland security and defense customers using MESH, Tactical LTD, Satellite or public cell networks. It contains situation scope mapping, tactical communication and sensor feed displays, like video sources. Solution can be tailored to suit range of missions and user role can be changed to limit access and visibility to these elements. Situation Scope is delivered to user with clear mapping interface where NATO APP6b, US MIL-STD-2525C or MIL-STD-2525D symbols are used for asset classification. Map data can be served from **PKI** tactical server element or stored on locally to **PKI 2790** terminal.

Video feeds can be subscribed into **PKI 2790** terminal from variety of sources like other **PKI** units or helmet mounted camera systems. Sensory feeds from UAV's or other platforms can be delivered to **PKI 2790** with data rain compatible MESH networking elements, like MESH radio systems. Controlling video sources is defined in user profile and can include sensory from visible, thermal, IR and swir segments. Optionally **PKI 2795** can have video proxa and payload convert functions inbuilt. So locally viewed full resolution imaginary can be shared with reduced bandwidth requirements.

PKI 2795

Tactical Terminal to PKI 2790

PKI 2795 tactical terminal for forward deployed missions with total Off-The-Grid capabilities. No need to create connections to your home server or ICT-infra. Fully independent fast and easy deployable performance capability!

Fast deployable tactical terminal

PKI 2795 Tactical Terminal is your companion when you need to conduct missions where META DATA safety and OPSEC of the mission is essential. It delivers 24/7 server functionality in any location with any mission. Collect your all sensor data with Tactical Sever and have real time operation awareness. It's designed to be discrete, carry along solution with full server capabilities inbuilt. It can receive tracking information from tenths of targets and serve hundreds of users. It communicates through a cell network, satellite or MESH radios. Design allows usage in over the horizon missions where network exposure should be minimized. Tactical Terminal can host your mission critical mapping data on board as well. This makes it easy to use in hostile environments where network access is monitored or possibly targeted. **PKI 2795** Tactical Terminal is a system, which is usable just with your web browser and with any device. It acts as 24/7 receiving entity for tracking data and you are allowed to access system with browser and observe target's locations and history routes.



Sensor and Information Data Gathering

PKI 2795 Tactical Terminal sensor integration offers complete situation awareness. Gather sensor data with TAC XS from various of cyber and intel sensors, like tracking, Wi-Fi-sniffer, movement, pressure, temperature, IR, camera, etc.

Specifications	
Hardware	Embedded Linux server in Peli 1470 case
Size	16.88" x 13.23" x 4.47" (42.9 x 33.6 x 11.4cm)
Software	Tracking Server V6 Browser based user interface Multi device support Sensor data gathering and analysis Local map data (OSGeo compatible) GSM, TETRA, MESH, IRIDIUM etc networks supported Geofencing, Radio Silence, Ghosting
User profiles	Up to 20 simultaneous user logged in. User profiles: Admin, Supervisor, Operator, Tech support
Operating voltage	Mains adapter 12 to 19VDC
Usage scenarios	High end Intelligence operations (intel, military)
Foreign soil operations under deep cover X-MESH network based blueforce tracking	
Full Situational Awareness System platform with off-the-grid capability	
Map data	Locally stored World, OSM data (700+ GB) Total Off the Grid solution

PKI 2805

Cryptographic Protection of Data Transmission in IP Networks

Nowadays you must protect your sensitive data transmission against unauthorized intruders. Our **PKI 2805** provides safe transmission between local segments of your local segments of your corporate IP network. The two-unit **PKI 2805** model combines a gigabit firewall, site-to-site VPN and various remote VPN access technologies in a single device. With a **PKI** Gigabit VPN router, all employees benefit from a secure and reliable network connection.



The Linksys Gigabit VPN Router allows employees to connect to the office network through a running OpenVPN client using two-factor authentication. The **PKI 2805** model supports URL filtering and access rules, allowing administrators to further control traffic within the corporate network based on services (e.g., TCP/UDP ports) and source/destination IP address. **PKI's** VPN routers keep resources in different SSIDs/VLANs separate but allow certain types of data to pass between VLANs via inter-VLAN routing. The **PKI 2805** Dual WAN model can bundle the bandwidth of the two WAN connections to increase Internet bandwidth compared to a single WAN connection, while WAN failover maintains network operation in the event of a WAN Internet connection failure.

Specifications	
Gigabit Ethernet connections	
Up to 50 IPsec tunnels (side-to-site / client-to-site VPN)	
5 Open VPN tunnels (for IOS and Android users)	
Transmission rate	900Mbps/s (Firewall) / 110Mbps/s (IPsec)
Power supply	12V, 1 A
Power	Max. NAT throughput (Mbps/s) 900
	Max. Number of simultaneous connections 30,000
Operating temperature	0°C to +40°C
Rest temperature	0°C to +70°C
Relative humidity during operation	10% to 85%, non-condensing
Ports	1 RJ45 WAN port with 10/100/1000Mbps 1 RJ45 WAN/DMZ port with 10/100/1000Mbps 1 RJ45 DMZ port with 10/100/1000Mbps 4 RJ45 Lan ports with 10/100/100Mbps
Dimensions	191 x 130 x 40mm
Weight	722,20g

PKI 2810 Automated Voice Biometric System

The human voice is a unique feature that is useful in biometric identification in a wide range of both government and commercial applications. It has proven itself in law enforcement as an investigative tool and in the telecommunications industry for both identification and verification. Voice recording is recognized as a non-invasive technology and can therefore be easily deployed in both passive and active modes across multiple markets and applications.

The **PKI 2810** automated system is a networked search and voice data management solution with unlimited database size. **PKI 2810** implements, maintains and automates a universal voice database system at local, regional and/ or national level. Integrated voice biometrics functions automatically perform voice recognition.

Forensic analysis of biometric voice data provides reliable evidence in court proceedings. As with the entire **PKI** product line, voice matching is performed through voice sample processing, feature extraction, segmentation and identification methods. This ensures the highest level of accuracy.



Specifications
3 sec. min. language patterns required for analysis
5 sec. search/matching in 10,000 language samples
10 sec. average time for feature extraction
Up to 100 simultaneous searches
Up to 1,000 active users
Stores up to 2,000,000
User-friendly software interface
Usable on any web browser
Platform independent, compatible with any operating system
Easy integration into existing IT infrastructure

Areas of application:

- Terrorist threats
- Corruption
- Drug trafficking
- Gang and organised crime
- Kidnapping
- Extortion
- Domestic Violence
- Fake Report and Prank Calls
- Abuse of Emergency Numbers

SPECIAL SURVEILLANCE



PKI 2825

PKI 2835

PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

Introduction

The increasing complexity of today's telecommunications requires strict guidelines and new instruments to prevent fraud, espionage, taking advantage, suppression etc. The once secure and trustworthy telecommunications are in danger of being exposed to an onslaught of fraud and hacking. **PKI**, with more than 10 years of proven, extensive experience in the security of mobile telecommunications, has developed a range of products and services that provide comprehensive detection of anomalies in communication networks and reliable protection. For any network operator, operational risk management is essential to avoid serious legal and financial consequences. Insufficient protection of the telecommunication stations is the number one risk. Even with firewall installations this can often not be excluded. **PKI** provides a comprehensive test report with detailed recommendations for improving nationwide communication security.

The Test Report Includes

- Identification of the telephone model used by the participants (via IMEI)
- Reading the call status
- Phone monitoring, if subscriber uses the phone (SMS, call)
- Retrieve authentication vectors for the subscriber (enables decryption of over-the-air traffic)
- Find out the telephone numbers of subscribers
- Display all caller IDs for incoming calls, even if they are suppressed for callers
- Compile detailed logs of all calls made and SMS sent or received by the subscriber
- Illegal interception of calls, food and data theft/Intercept Internet and other data connections.
- Bill fraud, e.g. transferring prepaid credit to other subscribers. Making calls to premium rate numbers at the expense of subscribers or operators.
- Remove subscriber's prepaid credit with simulated calls.
- Send SMS messages in the name and at the expense of the subscriber.

Further tests by PKI are

- Manipulate network settings
- Simulate subscriber roaming in a foreign network
- Disabling calls, SMS and data for the subscriber
- Override network settings made by the subscriber (e.g. calls or call forwarding, call barring, CLIP/CLIR...)
- Activate functions normally blocked by the operator (e.g. calls or call forwarding to foreign/value-added numbers)
- Execute USSD codes on behalf of the subscriber (e.g. SIM Toolkit functions, subscriber menus, transfer prepaid credit, execute bank commands, change subscriber contract, execute M2M functions)
- Change the ID of the outgoing caller to any number
- Send official-looking spam or phishing messages to the subscriber

Further tests are e.g.

- Manipulating network settings
- Simulate subscriber roaming in a foreign network
- Disabling calls, SMS and data for the subscriber
- Override network settings made by the subscriber (e.g. calls or call forwarding, call barring, CLIP/CLIR,...)
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- Change the ID of the outgoing caller to any number
- Send official looking spam or phishing messages to the subscriber
- Bypassing existing security measures/firewall
- Check if the network accepts messages from fake / spoofed SS7 addresses (global titles)
- Check whether network elements accept messages with illegal formatting
- Check whether network elements accept unusual message combinations
- Check whether the network accepts unusual addressing
- Testing for in-network services that are inadvertently exposed to interconnection

Optional

- All tests can be performed as black box tests. (only phone number known)
- Melting of network elements in the laboratory of the operator or seller or outside the GSMK site
- Offline analysis of interconnect traffic

PKI 2815

Overwatch – Controller

Monitoring Hardware - Components and options

Operating modes:

Normally a cluster of several sensors is used to monitor several MNOs in parallel. Each sensor housing in a cluster can either perform a scan (required at least in time in each cluster - no SIM card is needed) and monitor one MNO (one SIM card required) in parallel.

Or the sensor housings can be used with 2 SIMs and monitor two additional MNOs in parallel.

GPS:

Optional GPS/GLONASS function to detect interference and spoofing.

Wi-Fi:

Optional Wi-Fi module for protected data upload into an existing wireless infrastructure

Environmental Sensors:

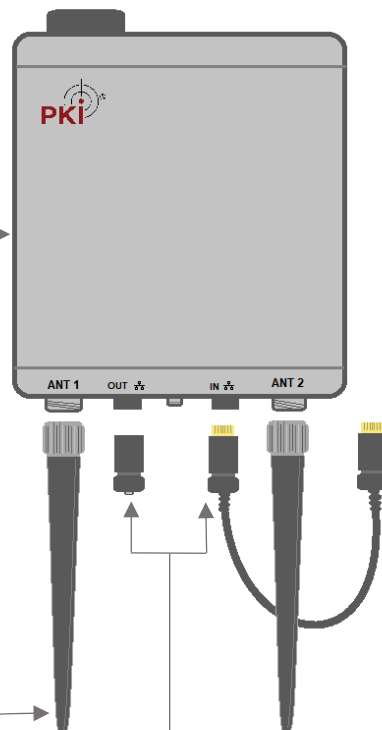
Optional humidity, temperature, air pressure, gas and radioactivity sensors

Housing:

Military grade die-cast and current-coated Aluminum housing, IP65 with extended operating temperature range of -40°C to +75°C. Built-in stainless-steel mast and adapter for wall mounting.

Antennas:

Two high-quality broadband outdoor antennas for international frequency coverage and a standard N type antenna connector for antenna removal.



LAN connections and PoE:

IP65 Ethernet connections (Harting type), PoE power supply and integrated PoE+ (IEEE 802.at) for easy daisy-chaining of up to 4 devices.

Monitoring Hardware - Inner Front Panel & Clustering

Protected front panel:

To prevent environmental influences and manipulation, the front panel is located inside the waterproof housing (under the top cover).

SIM:

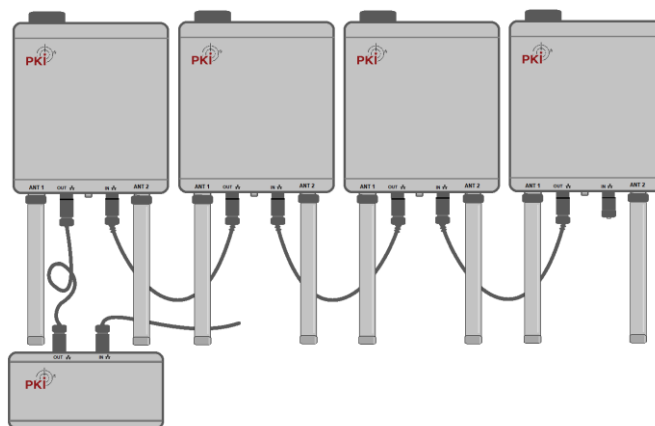
2 integrated SIM card readers or optional remote SIM solution

Protection against unauthorised interference:

Secured housing and capacitive tamper protection against device tampering.

Accelerometer:

Built-in temperature and acceleration sensors to measure system integrity.



Typical Cluster Installation:

For regular indoor or outdoor installations, multiple sensors (covering several MNOs in parallel) can be connected and powered by daisy-chaining up to 4 sensors with a PoE power supply.

Accessories - Customer-specific accessories and spare parts

Power Supplies	PoE power supplies in industrial quality
	15W PoE power supply to supply 1 sensor
	30W LT PoE+ power supply for supply of up to 3 sensors on request
	60W LT power supply to supply up to 6 sensors on request
Mounting accessories	Various antenna and mast mounting accessories on request, please consult our partners.
PoE lightning surge protection device for outdoor use	High-quality surge protection device to protect the Ethernet indoors from lightning strikes that can come from the outdoor devices.
Coaxial cabling	Low-loss M&P cable, UV-resistant, wide temperature range -40°C to +70°C with 2x N-connectors for split applications in customized length.
Coaxial high-performance lightning and surge protection	Gas Discharge Tube Suppressor Type operating p to 3GHz including Ziglar rod contact.
LAN Cabling	Cat-5-Cstom cable (outdoor, UV protection), with proprietary Harting type connector and open ends.
DSL modems	DSL in industrial quality (ADSL, VDSL, ANNEX A, ANNEX B) Modems for DIN rail mounting and 4G gateways on request.
Power supply in the car	With this PoE power supply, the device can be fed from direct current sources with a voltage between 11V - 28V for mobile applications (cars, taxis, buses). It includes automatic shutdown and advanced transient protection.

Accessories – Antennas

Standard antenna (supplied with the sensor)

Broadband antenna (pentaband) for indoor and outdoor use, where the antenna is directly connected to the sensor.

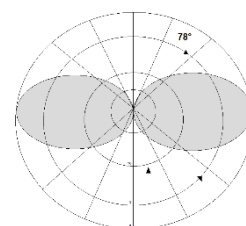
Material ABS, waterproof to IP65. / Connector type N (male)

7500.040

High quality Omni-antenna Vertical polarization

Indoor and outdoor use for outdoor applications where the antenna is separated from the sensor.

Frequency range	MHz 650 - 960 / 1695 – 2700
Input	1 x N socket (requires a gender-changing cable 2x N plug)
VSWR	< 2.0
Gain	dBi 2
Impedance	50
Weight	200g, 0.44lb
Wind load (at 150 km/h)	6N, 1.3lbf
Height	194mm, 7.6 inch
Material radiator	Brass
Radome	Fibreglass, colour: white
Mounting	One-hole mounting (16mm / 0.6 inch diameter) on surfaces of max. 10mm/ 0.4 inch thickness.



Special antenna solutions

For directional antennas (Yagi-Uda or patch type) please contact our technical service.

Available versions and product codes Sensors

- 7500.xx.xx_GNSS
- Sensor Global Version with activated GPS
- (1 scanner (no SIM), 1 MNO monitor (1 SIM)) 7500.xx.xx
- Sensor activated without GPS
- (In most applications two GPS-enabled sensors per sensor cluster are sufficient to transmit the position of the respective measurement cluster)
- (2 SIM cards for monitoring 2 MNOs)
- 7500.xx.xx_GNSS_W
- With activated GPS and Wi-Fi

Technical Data 7500.02 (4G version)**Hardware interfaces**

- 2 x LAN connection (RJ45), Faster Ethernet (100MBit/s) (IEEE802.3u)
- 4 x status LED
- 2 x SIM card reader
- 2 x N Antenna connection (socket, jack), 50
- 2 x MCX connectors for external Wi-Fi and GNSS antenna (not accessible from outside)

Frequency bands (4G sensor)

- EMRA version, Korea, Thailand (7500.02.E)
- LTE FDD: B1/B3/B5/B5/B7/B8/B20
- LTE TDD: B38/B40/B41
- GSM: B3/B8
 - Version North America (7500.02.A)
 - LTE FDD: B2/B4/B 12
 - Version North America (7500.02.V)
- LTE FDD: B4/B 13

Wi-Fi (optional)

- 2.4, 5GHz compliant with IEEE 802.11b/g/n (2x2)
- Channel bandwidth: 20 MHz, 22 MHz, 40 MHz
- Encryption: WEP64/128, WPA, EPA2, TKIP, WAPI, AES

Antenna GNSS/Wi-Fi (optional)

- Combined multiband antenna (Wi-Fi + GPS + GLONASS), IP67

Mobile phone antennas

- Two external pentaband antennas for omnidirectional QWL antennas with 190 mm length

Environmental characteristics

- Immunity to electromagnetic fields: 3V/m (EN-61000-4-3) Immunity to ESD: 4 kV contact discharge and 8 kV air discharge (RN61000-4-2)

Mechanics

- Dimensions (without antennas): 300 x 195 x 80mm
- Weight: 2100g
- Material: Die-cast aluminium housing with TPE seals and UV-protected powder coating.
- Colour: metallic silver (comparable with RAL 9006)

Sensitivity

- LTE: -100dBm, GSM - 109dBm

GNSS (optional)

- GPS: 16 channels, GLONASS: 14 channels

Encryption

- OpenVPN, AES256

Regulations and standards of compliance

- CE, FCC

Supplied accessories

- LAN cable 2xRJ45, black, UTP, length 0.4m, IP65, 2 Harting connectors for daisy chaining
- Dummy plug (IP65)
- Harting PushPull connector, Cat. 6, Class E for customized crimping
- User manual
- Safety Instructions
- 2 antennas (indoor and outdoor)
- Wall and mast mounting adapter
- PoE power supply for indoor use IEEE 802.3af, 10/100MB PSA16U-480, input: 90 - 264VAC (IEC320-C14 socket), output 15.4W (please order the regional power cable separately)

Available language version: English

Environmental protection

- Operating temperature -40°C to +75°C (-40°F to 165°F)
- Storage temperature -40°C to +75°C (-40°F to + 165 °F)
- Protection of the encapsulation: IP65 (IEC EN60529), IPX8

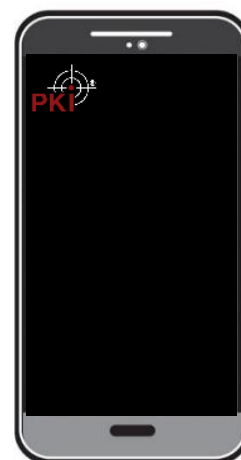
Performance

- Power supply: PoE, IEEE 802.11. at (max. 30W)
- Power consumption: 7W

PKI 2820**CryptoPhone**

The interception of telecommunications traffic has become an important economic sector. Secret services and private organizations routinely intercept calls that may provide sensitive political, military or business information. The use of interception devices has become so widespread, simple and uncontrolled that you must assume that the records of your private calls will fall into the wrong hands. Wireless mobile phone tapping equipment is now available in stores at such a low cost that it is often used even in relatively minor business conflicts.

Using encryption to protect your privacy is the right choice. But it has become difficult to obtain strong and trusted encryption. "Proprietary" or "secret" algorithms of dubious quality, backdoors and encryption that is too weak to protect against the power of modern computers are common in the telecommunications market. Marketing phrases are used to cover up these traps. Some suggest that one must rely on "the secrecy of the protected algorithms", a concept that has often failed in history. Or they offer a "certificate" to ensure that their encryption is good. The "certificate" is often issued by the same secret service that is responsible for monitoring telecommunications traffic.



Now there is a solution that you can trust because it can be verified by you or your own experts. The **PKI** CryptoPhone products are the first phones with end-to-end encryption available with full source code for independent verification. Finally, you can perform an independent assessment to ensure that there is no weak encryption and no backdoors in the encryption system to which you can entrust your telecom security. You don't have to believe us when we say it's secure - you can verify this claim to yourself.

PKI CryptoPhones are not black box devices with scarce technical information like other products on the market. We give you all the details about their inner workings. It allows you to put trust where it belongs - in a trustworthy, open and scientific verification process. **PKI 2820** technology is based on well-researched, strong encryption algorithms - AES, Twofish and Diffie-Hellman. Very long encryption keys provide security today and, in the future, (see Encryption Overview for details).

Ease of use

PKI CryptoPhone products are easy to use. **PKI** develops products specifically for users without technical background or knowledge. A simple and clear user interface and modern, fully featured devices are the basis of our products. Our secure phones are based on the latest mobile phone and PDA hardware, so you can buy accessories through your regular retail channels. You won't get suspicious looks at the airport or at border control, because to the casual observer **PKI** CryptoPhone devices are indistinguishable from a normal mobile phone.

Secure calls

Secure end-to-end encrypted Voice over IP calls on any network - 2G, 3G, 4G, WLAN. Strongest and most secret algorithms available today. AES256 and Twofish. 4096bit Diffie-Hellman key exchange with SHA-256 hash function. Read-out hash based key authentication. Autonomous key generation, no pre-installed key material. Encryption keys are securely and immediately deleted from the device after each call.

Compatibility

Fully compatible with all secure **PKI** CryptoPhone IP mobile, desktop and satellite phones, including all secure phones of the **PKI** CryptoPhone 400, 450, 500/500i and IP19 series and the **PKI** CryptoPhone IP PBX Gateways.

PKI 2820 offers with this model an extremely secure desktop phone for professional users with all-round protection. It offers a hardened operating system and end-to-end encryption of voice and messages. With **PKI** you can make secure, end-to-end encrypted Voice-over-IP calls.

With the **PKI 2820** model, users get the strongest and most secure algorithms available today - AES256 and Twofish. 4096bit Diffie-Hellmann key exchange with SHA-256 hash function. Read-out hash based key authentication. This model involves continuous autonomous key generation. No pre-installed key material is used. Encryption keys are securely and immediately deleted from the device after each call. Based on the same strong encryption algorithms used for **PKI** CryptoPhone voice encryption - 4096bit Diffie-Hellmann initial key exchange, AES256 and Twofish message encryption with 256bit keys.

Trusted Platform Module (TPM) for platform measurement and certification

Trusted Computing Group (TCG) TPM Specifications Level 2 Version 1.2, Revision 116. Active shield and environment sensors Memory Protection Unit (MPU). Hardware and software protection against error injection.

Encrypted storage

Encrypted storage system for contacts, messages and notes with smart folders protects dormant data from unauthorized access.

Verifiable source code

PKI CryptoPhones are the only secure mobile phones on the market whose source code is available for independent security assessments. This enables individual source code audits according to national and international verification and certification standards, which are designed to verify the integrity mechanisms of the devices, the correct implementation of all encryption algorithms and the absence of backdoors.

360° security: end-to-end encrypted voice and message transmission on a fully armored platform
High-level CryptoPhone security
IP67 Water and dust protection
MIL-STD-810G shockproof
Touch screen operable with gloves
Extremely resistant mechanical construction
Complete source code available for review
Hardened Android OS
Emergency delete function
Made in Germany

A hardened operating system with security-optimized components and communication stacks protects the device against external attacks.

An encrypted storage system for contacts and messages protects the data from unauthorized access.

PKI CryptoPhones are among the only secure mobile phones on the market whose source code is available for independent security assessments. This enables individual source code audits according to national and international verification and certification standards to verify the integrity mechanisms of the devices, the correct implementation of all encryption algorithms and the absence of backdoors. State-of-the-art graphical user interface, for comfortable operation in combination with future-proof and reliable hardware.

PKI offers with the model **PKI 2820** a secure mobile phone for professional users with all-round protection. It offers a hardened operating system, a baseband firewall, tamper-proof hardware and end-to-end encryption of voice and messages.

Secure calls

The **PKI 2820** provides secure end-to-end encrypted Voice over IP calls on any network - 2G, 3G, 4G and WLAN. It features the strongest and most secret algorithms available today. AES256 and Twofish. 4096bit Diffie-Hellman key exchange with SHA-256 hash function and read hash-based key authentication. It provides autonomous key generation; no pre-installed key material is used. All used encryption keys are securely and immediately deleted from the device after each call.

Secure messaging

Based on the same strong encryption algorithms used for **PKI** CryptoPhone voice encryption 4096bit Diffie-Hellmann initial key exchange, AES256 and Twofish message encryption with 256bit key.

Device Protection

The **PKI 2820** uses a hardened operating system with secure boot and device runtime integrity checks Secure Android operating system from source code with granular security management and optimized, security enhanced components and communication stacks. Seamless, secure boot chain with secure boot, kernel, recovery, kernel object and APK signature keys. Runtime checks of **PKI 2820** core applications and services ensure that only signed and trusted code is loaded onto the device.

All-round security: end-to-end encrypted voice and message transmission on a fully protected platform
High-level CryptoPhone security
IP67 Water and dust protection
MIL-STD-810G shockproof
Touch screen operable with gloves
Extremely resistant mechanical construction
Complete source code available for review
Hardened Android OS
Emergency delete function

Configurable OS Security Profiles

Hardware module controller and permission enforcement module control access to the network, data and sensors (camera, microphone, etc.), keeping control of your individual security policies.

Baseband firewall 2.0

PKI 2820's unique protection against over-the-air attacks with continuous monitoring of baseband processor activity. Detects baseband attacks and initiates countermeasures. Automatic detection of IMSI catchers and rogue base stations. Detection of attempts to track the user's location via SS7 or silent SMS.

Tamper-proof hardware design

Dedicated hardware security modules with CPU-supervisor, watchdog timer, on-chip temperature sensor and removal-resistant coating Shield removal detection circuit and Environmental Failure Protection (EFP) for temperature, voltage, internal clock frequency and duty cycle by instantaneous circuit reset **PKI 2820** supports the highest security level requirements of FIPS 140-2 and Common Criteria.



Trusted Platform Module (TPM) for platform measurement and certification

Trusted Computing Group (TCG) TPM Specifications Level 2 Version 1.2, Revision 116. Active shield and environment sensors Memory Protection Unit (MPU). Hardware and software protection against error injection.

Encrypted storage

Encrypted storage system for contacts, messages and notes with smart folders protects dormant data from unauthorized access

Verifiable source code

PKI CryptoPhones are the only secure mobile phones on the market whose source code is available for independent security assessments. This enables individual source code audits in accordance with national and international verification and certification standards, which are designed to verify the integrity mechanisms of the devices, the correct implementation of all encryption algorithms and the absence of backdoors.

PKI 2825 Network analysis system

Powerful system for detecting and analyzing intruders in signaling networks, protect the Achilles heel of your signaling network!

Although the technical basis of the SS7 protocol dates to the 1970s, the increasing complexity of networks and the transition to new signaling technologies such as diameter still require strict guidelines and new tools to prevent fraud, hijacking or denial of service and espionage. Monitoring is an essential part of your state-of-the-art signaling network management, providing powerful live analysis and threat management of interconnect traffic across signaling points, diameter agents, carriers and signaling technologies. The inherent vulnerabilities of the systems, both SS/ and Diameter, have recently been made public, opening the door for systematic violations on a global scale. Basic filtering or firewalling of SS7 and Diameter connection messages to counter intruders is not sufficient to protect operators from the financial implications, nor can the integrity of the network be guaranteed in terms of data security or GDPR compliance.



Without dedicated detection and protection beyond basic filtering, the existing SS7 and Diameter core infrastructure cannot be trusted:

Subscriber privacy violations and data theft

Subscribers can be located down to street level and the location can be tracked continuously. IMEI and IMSI can be read, including call status and hardware information.

Illegal interception of calls and messages

Messages can be read and calls forwarded to unauthorized third parties using a number of alternative methods, including the manipulation of subscriber data and the exfiltration of crypto keys.

Billing fraud

The financial impact on invoice fraud is very important. Potential manipulations of subscriber data include the unauthorized conversion of prepaid to postpaid cards and USSD-based attacks on bank transfers.

Denial of service (DoS)

Targeted attacks via ISD/DSD or a general congestion of signal links have recently gained popularity and have affected critical data links (critical infrastructure) as well as voice services.

The Solution

As a renowned industry leader in strong encryption and network security, **PKI** has developed a system to provide comprehensive detection of signal network anomalies and continuous monitoring and alerting. The architecture of the system offers seamless integration into existing structures and meets the requirements for redundancy within load-balanced setups.

System key features
Carrier class SS7 and diameter intrusion detection
Scalable system architecture
Compatible with redundancy requirements
Centralized remote management
Graphical user interface - intuitive system operation
Not based on Erlang/OTP
Profiling of elements
Load capacity 99.999% Operating time
SLA, CARE, carrier-class incidents
Full SCTP/M3UA/M2PA support
M2PA support
Anonymised reports on GDPR compliance
High flexibility in rules and actions
Full OSS and cloud orchestration support

The system design

The security system of the surveillance network, based on a modular and scalable approach, consists of the surveillance manager, which forms the central back end, and several surveillance detector nodes corresponding to the number of STP or DEA nodes to be secured, which are connected to each other.

Software

The Erlang/OTP-based software and runtime environment enable a highly parallel, fault-tolerant real-time non-stop system with maximum availability and scalability for reliable attack detection and parameterization.

Analysis and Visualization

An important step on the way to a modern analysis is the correct graphical representation of the raw data. Only then can data become information and complex systems can be handled without time-consuming training. The backend system offers a state-of-the-art HTML5-based user interface that allows intuitive and centralized system management. Visualizations enable different levels of operation, e.g. filter configuration, filter grouping, graphics, logs, reports, alerting and system administration.

Lab version

Laboratory versions are available for test and maintenance purposes.

All-round protection for mobile networks.

With this novel system, **PKI** enables network operators and authorities to non-stop prevent the illegal use of IMSI catchers, network disruption activities and GNSS interference and spoofing attacks. The network security system developed by **PKI** over many years is the first system capable of detecting, locating, reporting and neutralizing active attacks on communication over the air interface. By using a baseband firewall technology, powerful stationary sensors can be combined with mobile sensors. Comprehensive and powerful base station detection of intruders, including fake mobile masts and individual attacks over the air interface are thwarted. The system integrates and synthesizes data from both types of sensors into a local situation report for cellular communication. For the first time, it allows network operators, government agencies and information-critical industries to detect and combat rogue base stations used by infiltrators for eavesdropping and fraudulent activities in real time.

Deployment
 PKI supports its customers before, during and after implementation with advanced requirements analysis, full implementation support, training, system swingin calibration and customized SLAs.

Without accurate detection and protection, existing high-tech infrastructure can no longer be trusted:

IMSI interceptors are used extensively by governmental and non-governmental organizations, as the limits of size, cost and deployment are constantly decreasing. The air interface(s) of today's smartphones, tablet computers and M2M devices can be used for serious attacks. Baseband processors are very vulnerable and often not under the control of the manufacturers. Depending on the device architecture, the baseband controller can act as a memory master and springboard attacks on the application processor are possible and actively used. In addition, baseband processors often directly control the audio path (room error) or would allow DoS attacks (phone unreachable).

Cellular Jamming

Mobile frequency interference (DoS) is used either to disable mobile connectivity or to selectively enforce airband communications down to the secure 2G network in the slipstream.

GNSS Interference and Spoofing

Jamming and spoofing is used to manipulate or disable global satellite-based navigation systems. It is also used to interfere with location-based services (aviation, tracking, precision timing).

System key features
Comprehensive data analysis of the air interface and georeferencing (2G, 3G, 4G)
Scalable system architecture
Modular system architecture (fixed and mobile)
Unobtrusive and robust hardware
SLA, CARE, carrier-class incidents
Compatible with operator requirements

Hostile network scenarios have rarely been considered in risk modelling, although they are an essential backbone for mission-critical ad-hoc communication, messaging and a growing number of M2M applications in critical infrastructures. **PKI** has developed a system that enables the generation of a continuously updated situation report through distributed detection and localization of rouge base stations, mobile phone jamming activities and GPS jamming and spoofing attacks. Based on a modular and scalable approach, the mobile network security system consists of the base station, which forms the central backend and provides data processing, data visualization, data storage and the map server for georeferencing as well as sensors for encrypted data collection.

Monitoring sensors

Two types of sensors are available for modular state and nationwide deployment:

The latest generation of sensors (2G, 3G, 4G) is based on special high performance wireless hardware, waterproof (IP67) and a robust housing for outdoor and indoor installations and continuous monitoring tasks. Its design perfectly meets the requirements for fixed installations (on the roof, in the attic) even under harsh environmental conditions.

Mobile sensor arrays for mobile on-demand monitoring of temporary indoor or outdoor hotspots. The mobile sensor arrays allow the monitoring of 3 carriers in parallel and send measurements via 3G, LTE or LAN to the backend. All **PKI** sensors work together with the Remote SIM Appliance, which allows up to 1152 SIM cards per system to be dynamically assigned to individual measurement tasks remotely. Both types of sensors are protected against over-the-air attacks with the advanced technology of **PKI**. Real-time reports are protected by strong encryption on the way from the sensors to the central analysis unit.

Analysis and visualization

Since the sensors continuously provide raw data from the network down to a very low layer (up to 150 criteria), the system heuristic allows a comprehensive view of the consistency of the air interface over time and with full georeferencing. The browser-based visualization interface translates the results into different levels of detail: general network status and alerts, suspicious trends/events/correlations, up to real-time cell data and historical data for further deviation analysis and threat level alerts (email, SNMP or custom interfaces).

Report generation and localization

To create official documents, the system enables adaptable reporting, including the localization of threatening devices for further action and the initiation of appropriate countermeasures. **PKI** supports its customers before, during and after implementation with advanced requirements analysis, comprehensive implementation support, training, system swing calibration and customized SLAs.

PKI 2835

Desktop CryptoPhone

Secure desktop phone for professional users with 360° protection, hardened operating system and end-to-end encryption of voice and messages

Secure calls

Secure, end-to-end encrypted Voice over IP calls. Strongest and most secure algorithms available today - AES256 and Twofish. 4096bit Diffie-Hellmann key exchange with SHA-256 hash function. Read-out hash based key authentication. Autonomous key generation, no pre-installed key material. Encryption keys are securely and immediately deleted from the device after each call.



Draft

State-of-the-art graphical user interface for comfortable operation in combination with future-proof and reliable hardware.

Device protection

A hardened operating system with security-optimized components and communication stacks protects the device from external attacks.

Encrypted storage

An encrypted storage system for contacts and messages protects dormant data from unauthorized access.

Verifiable source code

PKI CryptoPhones are the only secure mobile phones on the market whose source code is available for independent security assessments. This allows individual source code audits according to national and international verification and certification standards to verify the integrity mechanisms of the devices, the correct implementation of all encryption algorithms and the absence of backdoors.

Secure messaging

Based on the same strong encryption algorithms used for **PKI** CryptoPhone voice encryption - 4096bit Diffie-Hellmann initial key exchange, AES256 and Twofish message encryption with 256bit keys.

Compatibility

Fully compatible with all secure **PKI** CryptoPhone IP mobile, desktop and satellite phones, including all secure phones of the **PKI** CryptoPhone 400, 450, 500, 500i, 600 and IP19 series and the **PKI** CryptoPhone IP PBX Gateways.

PKI 2840**Room Monitoring System Via Mains**

The **PKI 2840** is a low frequency transmitter/ receiver set using AC power cables for transmission and power supply. Although intended for audio surveillance of rooms, the system can be used as a general purpose security device to prevent from unauthorized entry of rooms in question. The built-in audio compressor reliably captures of all sounds inside a room. The transmitter is supplied for installation by the customer into suitable electrical fittings (adherence to instructions given in manual accompanying the equipment is mandatory). Transmitting time is unlimited since power is derived from power cables to which the unit is attached. Additional extras like recording devices of any kind are available upon request.



Specifications	
Receiver	
Power supply	110 - 240V AC
Control functions	Squelch, AFC and audio output
Frequency range	1,6 - 2,5MHz
Dimensions	180 x 90 x 50mm
Weight	1,2kg
Transmitter	
Frequency range	1,6 - 2,5MHz
Modulation	NB FM
Deviation	+/- 6kHz
Operating voltage	110 – 260V AC
Dimensions	35 x 45 x 15mm
Weight	140g
Room monitoring via mains line	
Unlimited operation time	
Highly sensitive microphone	
Compact size	

PKI 2860**Wired Monitoring System**

Most observation tasks today are done by wireless microphones, the so-called “bugs”. Beside these, more sophisticated systems like optical lasers, IR Monitoring Systems, GPS, GSM and computer monitoring systems are used. All of these you may find in this catalogue and are supplied by us. But still there is a demand for a conventional monitoring system using wired microphones. **PKI 2860** is the best choice for such purposes. With its thin cable and sub-miniature microphone it does not emit any high frequency radiation and perfectly matches the tasks of long-term observations in stationary use and it is hardly detectable. **PKI 2860** provides a perfect audio quality with which even whispered words can be heard and recorded. The standard version of the **PKI 2860** comes with a 50m cable and can be cascaded by optionally available cables (each 50 m length) up to a total distance of 500m without any loss of audio quality. The supplied high-capacity and low-noise audio-amplifier is equipped with an audio input socket, a socket for earphone plus an output for any kind of recorder.

Specifications	
Dimensions of amplifier	22 x 64 x 98mm
Weight of amplifier	Approx. 150g
Power supply	9V block battery or 110/220VAC via mains adapter (not included)
Frequency range	250 to 3500Hz
Amplification adjustable up to 30.000 times	
Operating time up to 50 hours with battery, unlimited with mains adapter	



PKI 2870 Global Listening Device

The possibility to monitor specific areas from anywhere in the world is always requested by our governmental customers. This is given by this unit that works via the mobile telephone network. Small-sized, tiny and absolutely noiseless - that is what our high-tech listening device **PKI 2870** characterizes. With its small dimensions of approx. 65 x 65 x 28mm only it can be placed anywhere in a room, a car or any other place which must be observed. Just put in a standard SIM-card (like used in mobile phones), place the unit in an unobtrusive location and leave the space. That is all what you must do. From now on you can listen into this area by just dialing the known number of the **PKI 2870** and you can listen into this space. With your mobile phone, and from any place in the world, you will hear the crystal-clear transmission of each sound and/ or conversation inside this area.



Specifications	
Transmitting frequency	GSM 900MHz / 1800MHz
Operating time	Standby 14 days listening 12 hours
Power supply	Li-Ion accumulator and external power supply via supplied mains adapter/charger
Microphone	Highly sensitive Electret microphone, with amplifier and automatic uniform control for dynamic range
Dimensions	Approx. 65 x 65 x 28mm
Weight	Less than 200g

PKI 2890 Array Directional Microphone with Recorder

A large number of microphones mounted on a surface form a microphone array. All microphone outputs are processed simultaneously, increasing sensitivity and impressively reducing unwanted signals from outside. **PKI 2890** is disguised in a laptop computer case. The transmission is sent via a Wi-Fi connection to a recorder contained in a netbook, smartphone or tablet, which also allows live monitoring and remote control of the processing via a wireless connector. The operator does not need to be nearby but can stand at a distance. **PKI 2890** combines light weight and minimal size with low power consumption. **PKI 2890** provides on-line electronic control of the angular alignment of the beams, enabling accurate aiming and adjustment of the input/output amplifiers and unit frequency response to the aiming function.



Specification	
Dimension	420mm x 270mm
Weight	3,7kg with battery
Battery run time	10 hours
Control unit	Windows 7 and higher (laptop, netbook)
	Windows Mobile or Android (Smartphones, tablets)

Features	
180° field of view of the array	
Adaptive processing mode	
Up to 30m. distance from AMAR to control unit	
On the fly adjustment	
Record and play acquired sound; Recording is saved to uncompressed WAV file on control unit	
Live monitoring of acquired sound:	Up to 200 m in open field; Up to 50 m in urban conditions; Up to 30 m in indoor conditions

PKI 2895

Array Directional Microphone with Recorder

Directional microphones are in demand everywhere. **PKI** Development has developed over 20 different types with different characteristics for the most diverse applications. Our 30 years of development makes us a leader in this field. **PKI 2895** is a tablet with 20 different high-tech microphones that make remote recording of acoustic objects possible. A downstream, integrated and low-noise amplifier with infinitely variable control makes observation a real highlight. The small dimensions combined with the ergonomic handle make mobile use easy and well camouflaged. The simple operation and playback via earphones or headphones make **PKI 2895** almost perfect.



Specifications	
Dimensions	52 x 70 x 9mm
Weight	250g
Power supply	Li-Ion battery, rechargeable Charger 110/ 220V AC
Microphone type	20 pieces microphone array
Distance Range of Audio Pick up	30 - 50 Meters (Depending on Configuration)
Volume	Infinitely variable
Microphone array	10/ 20/ piece

PKI 2900

Professional Day and Night Audio/Video Directional System

With **PKI 2900** it is finally possible, after years of **PKI** development, to record voice and video recordings at a distance. Which possibilities are now feasible with **PKI 2900** becomes clear to every user during operation. What previously remained hidden is now revealed with **PKI 2900**.

The outside box contains 7 microphones, as well as two cameras for each microphone. The microphones have an acoustic gain due to the horn effect and are brought to the audio standard level with the integrated special amplifiers. The amplifiers have special bandpasses, so that **PKI 2900** can be used especially well outdoors. All 7 sectors can be grouped together individually or several sectors, up to a 360 degree surveillance. There are 2 cameras per microphone, i.e. 14 cameras and 7 microphones. **PKI 2900** is therefore ready for day or night use.



Mobile audio and video surveillance with extreme directivity characteristics. Mountable on the car roof with suction cups.

By switching on the respective IR-Laser per sector, the monitoring direction is particularly easy to control. The electronic multiplex control unit in the vehicle processes the 14 incoming video or 7 audio signals and transmits the desired data to the laptop supplied. Thus, the received acoustic audio signal and the video signal recorded by the cameras can be made audible or visible. Simultaneous documentation recording is also possible.

7x horn directional microphones
Omnidirectional characteristic of the microphone
Sensitivity: 31mV/Pa
Frequency response: 20Hz - 20Khz
7 x 55 degree opening angle with high acoustic gain facilitates discreet monitoring from a distance
Audio recording in MP3 or WAV format with double CD quality (96kHz sampling rate, 24bit)



14 cameras: IP mini cameras, high definition, day and night network video camera
Power supply via Ethernet (PoE) or direct 12V DC power supply unit
High brightness IR-LEDs / lasers for operation in complete darkness
Defog digital processing improves the captured image in bad weather conditions (e.g. smog, fog or smoke)
Intelligent IR technology for clear video images at night under all conditions

Specifications	
CPU	32-Bit-ARM9-RISC-CPU with up to 432MHz
Flash / SDRAM	128MB / 128MB
Image Sensor	2.0 megapixel-1 / 2.8 inch progressive scan CMOS from Sony (Exmor)
Total number of pixels	1952 (H) x 1116 (V) 2.18 megapixel
Effective pixels	1944 (H) x 1104 (V) 2.15 megapixel
S / N Ratio	More than 50dB
Minimum illumination	0 Lux (IR on)
IR distance	20m LED / Laser
DAY & NIGHT	ICR
Lens	8.0 mm and 50 mm megapixel board lens
Field of View	Diagonal = 63.6 ° +/- 3 °
	hHorizontal = 33.1 ° +/- 3 °
	Vertical = 53.3 ° +/- 3 °
Video Compression	H.264 High Profile @ 4.0, MJPEG - image quality: 3 steps
Resolution	Up to 1920 x 1080 (Full HD)
Frame rate	H.264 up to 30fps at 1920x1080 / MJPEG up to 30fps at VGA resolution
Video-Streaming	Support for Multi Stream with H.264, MJPEG
	- Adjustable frame rate
	- CVBR/CBR in H.264
Image Setting	DAY & NIGHT
	- Automatic white balance
	- Automatic Exposure
	- Privacy mask
	- Effects - Color, Sharpness, Mirror / V-Flip
Safety and Security	Password protection, user access protocol, HTTPS encryption
Supports protocol	HTTP, HTTPS, FTP, SMTP, UPnP, DNS, DDNS, NTP, RTSP, TCP, UDP, ICMP, DHCP
Intelligent Video	Motion detection up to 1920 x 1080 with 4x 3 blocks
Power supply	DC 12V / 1.5A x 14 Cameras + Laser
Light-emitting diodes	870nm or optional 960nm
General operating temperature	0° ~ to +60°C

PKI 2905 Directional Microphone Set

Monitoring using directional microphones is the easiest and most widely applied possibility to get call information. Working with directional microphones is absolutely flexible and mobile. Even conversations through open windows are possible with the **PKI** directional microphones. Conversations in a restaurant e.g. at the neighbouring table can be easily perceived. The **PKI 2905** set includes the most important directional microphones for a wide variety of applications. An additional recorder connection is offered by all directional microphones. Operation with recorder is indispensable in cases when a headset e.g. in a restaurant seems to be too conspicuous. Storage and playback of the conversation is nevertheless ensured. The **PKI 2905** delivery contains 1 recorder **PKI 2105**, 1 digital amplifier audio box **PKI 2175** and 1 high-quality closed headset so that even at a 10,000-fold amplification no feedback is heard. This selection of the most different directional microphones makes absolutely sense to be prepared for every imaginable monitoring operation.


Specifications

Set includes (for specifications please look at the **PKI** numbers)

PKI 2105 Digital Miniatur Recorder

PKI 2175 Digital Amplifier Audio Box

PKI 2910 Pocket-Size Directional Microphone

PKI 2915 Directional Microphone of the Latest Generation

PKI 2920 Min. Directional Microphone

PKI 2925 Prof. Super Directional Microphone

PKI 2930 Directional Microphone with Data Transmission

PKI 2910 Pocket-Size Directional Microphone

Extremely small and handy, this directional microphone offers flexible, unrecognized voice recordings up to 50m. A tuned line microphone with a downstream, low-noise amplifier makes this possible. **PKI 2910** has an ideal design to surveil persons in the voice range. The amplifier is continuously adjustable. **PKI 2910** is equipped with a headphone jack and a recorder jack of 3.5mm diameter each.

Specifications

Frequency response	20 - 18000Hz
Sensitivity	1 μ V/Pa/1kHz, +/- 3dB
Headphone connection	8 - 32 Ω
Tape/Aux	1Vss
System	Electret ultra supercardioid
Max. sound pressure	120dB
Signal/noise ratio	7dB
Power supply	9V battery
Operating time	12h
Amplification	10,000-fold
Dimensions	60 x 22 x 85mm/with microphone 130mm
Weight	120g
For camouflage, it can be installed in an ordinary cigarette box.	



PKI 2915**Directional Microphone of the latest generation**

This **PKI 2915** Directional Microphone is many times more sensitive than our ears. It can be used to overhear conversations even from distances of more than 100 meters. Due to the directional effect, **PKI 2915** is also able to simply mask parasitic noise from other directions. The use of a digital signal processor (DSP) also eliminates disturbing noise. This **PKI 2915** Directional Microphone is great. State-of-the-art low-noise amplifiers connected with a micro-recording system comparable with a horn transducer (known from HiFi speaker systems) guarantee appropriate results, namely a hardly credible sound. **PKI 2915** is not only outstanding for its technology (2 years of development account for that) but has also been developed in miniature design for camouflaged operations.

What is the use of parabolic or shotgun microphones that cannot be used without being recognized? The more so as these versions have been rejected completely by our various department customers for this reason. The **PKI 2915** Directional Microphone must really be tried and tested to be convinced of the ingenious **PKI** technology. There is no easier way of audio surveillance, incomparable with any other surveillance methods which, depending on the application, are of course just as important. The special feature of **PKI 2915** is the use of professional earphones.

Smallest oscillations can be transmitted so that the low-noise amplifier always operates in the low-noise segment. In addition, the advantage of earphones over a headset is that these remain unnoticed today because many mobile phone users run around in public with earphones plugged in. Should the earphones nevertheless be disturbing, **PKI 2915** is also available with a wireless acoustic transmission on request.

Specifications	
Dimension	80 x 140 x 25mm
Weight	200g
Power supply	Li-ion battery, 3,7V 1600mAh
Operating time	10h
Frequency response	25 - 16.000Hz
Amplification	60.000-fold
Noise amplifier	Infinitely variable also for transmitter
Sensitivity	1µV/Pa/1kHz +/- 3dB
Microphone	Electret, ultra supercardioid with horn technique
Max. sound pressure	120dB
Signal/noise ratio	70dB
Earphones	3.5mm phone jack
Adjusting knob	ON/OFF, volume
Charger	110 - 220V AC

**PKI 2920****Miniature Directional Microphone**

With a size of only 38 x 48 x 18mm, **PKI 2920** can be attached everywhere quickly and inconspicuously using our „adhesive paste“ and records conversations up to a distance of 50m. This is enabled by the built-in line microphone recording the sound waves coming from the front and converting them into electrical signals. This development has been made by **PKI** on request of a ministry and in the meantime, it has proven very successful, i.e. small, inconspicuous, powerful.

Specifications	
Amplification	10,000-fold
Frequency response	20 - 15000Hz
System	Electret Ultra Supercardioid
Max. sound pressure	120dB
Signal/noise ratio	70dB
Dimensions	38 x 48 x 18mm
Power supply	Li-Ion battery 5V
Operating time	5h



PKI 2925**Professional Super Directional Microphone**

PKI 2925 hears the „grass“ grow, i.e. noise or conversations are still perceptible from a distance of 200m. This professional device exceeds all expectations so far. **PKI 2925** has been designed among others for stationary assembly. It is aligned to the object to be monitored and fixed. For mobile use, an additional car roof construction with pan/tilt function can be delivered. It allows for more flexible applications, i.e. you drive as close as possible up to the object to be monitored and align the **PKI 2925** to the desired object. This way, camouflaged monitoring operations can be easily realized even over larger distances. Conversations in buildings through open windows are easily discernable. Playback is possible via the built-in 3W digital transmitter up to 1km and can be evaluated on a laptop computer via the receiver. A direct setting control is possible using headphones.



Specifications	
Dimensions	Ø150 mm, L = 250mm
Weight	2.5kg
Power supply	90 - 240V AC, 12V DC
Transmitter	3W, 1.3GHz digital, 1 km operating range
Microphone amplification	16,000 - fold, AGC
Frequency response	20 - 20000Hz
Sensitivity	1µV/Pa/1kHz, +/- 3dB
System	Electret
Max. sound pressure	120dB
Signal/noise ratio	70dB
Recorder	32GB memory card
Sound filler	3 filler curves
Headset	8-32Ω
Receiver	1.2GHz, digital
Power supply	12V DC
Output	USB to laptop computer
Dimensions	25 x 80 x 140mm
Miscellaneous	PKI special software is included in the scope of supply headphone

PKI 2930**Super Directional Microphone**

Would you like to „hear the grass grow“? With this super directional microphone, you will almost be able to do so! The built-in electret directional microphone captures acoustic signals from up to 100m distance, which are amplified up to max. 10.000 times by its powerful low-noise amplifier and can be heard via head- or earphones. Due to the integrated high- and lowpass filters you can even listen to conversations at a distance of 50m, as they allow especially voice frequencies to pass through and eliminate undesirable noises. It is incredible, that this is possible, particularly in this inconspicuous and small design. Conversations can be listened to directly or recorded on our digital miniature recorder, i.e. both units work fully automatically without your presence. If required, you can listen to all conversations at any time later!

Specifications	
Frequency range	20Hz - 16KHz (-3dB)
High-/Low-pass filter	fg = 150Hz / 5kHz
Power supply	9V standard battery
Power consumption	Max. 20mA
Operating time	Approx. 40hrs
Dimensions of alu housing	34 x 20 x 114mm
Weight	140g
Amplifier	Max 10.000 times
Replay	Headphones alternatively earphones included



PKI 2935**Super Digital Directional Microphone**

Outdoor audio monitoring has always been a predominant topic for **PKI** (refer to the **PKI 2975** investigation kit for outdoor use) With this new **PKI** design, we outperform conventional directional microphones. The **PKI 2935** is the most sophisticated directional microphone of its type anywhere in the world. We camouflaged the entire technology in a laptop bag because it is permeable to acoustic noise. More than 100 microphones record the received acoustic signal and digitally process it to the directional characteristics. Low-noise amplifiers and filters do their best to obtain an interference-free, low-noise signal. The effect is stunning. In case of interest, we are readily prepared to send you a demo recording. The received signals are simultaneously recorded for further processing. In addition, direct wireless listening is possible with the delivered laptop. **PKI** develops practice-oriented devices for professional applications. The result is all that counts and this is absolutely true here. The **PKI 2935** opens a new field of remote acoustic monitoring. It helps to make conversations audible over long distances even under the most difficult conditions. The alignment of the **PKI 2935** takes only a few seconds. This way, the user immediately obtains exploitable information even in critical situations.

**Specifications**

Dimensions	400 x 300mm
Weight	2.8kg
Power supply	Rechargeable Li-ion batteries
Recording	Windows 7 Netbook or Windows CE
Processing	400MHz 32/40bit floating point DSP, up to 2.4 GFLOPS
Control	Windows 7 Netbook or Windows CE compatible pocket organizer, Wi-Fi
Operating distance	Up to 150m
Miscellaneous	Very recommendable as this PKI device is fully digitized and state of the art. Unique in the world!!
For privacy reasons we illustrated the laptop bag only.	

PKI 2940**Non-Contact Electronic – Stethoscope**

PKI 2940 emits a high frequency beam to locate mechanical noise, i.e. it can be used to locate ignition devices. The non-contact seeker head offers significant advantages as no contact with the spray or incendiary device is required.

PKI 2940 even penetrates materials such as paper, plastic or wood effortlessly. A changing high frequency audio signal in the headphones reflects the respective reaction. **PKI 2940** is suitable for security checks in the areas of counterterrorism, explosion protection, military, airports, railway stations, etc.

**Specifications**

Dimensions	Search head 240 x 95mm amplifier 205 x 115mm
Weight	1.1kg (search head) 0.6kg (amplifier)
Gain	Approx 115dB (700.000) at 4kHz
frequency bandpass)	Approx. 1 - 5.5kHz
Temperature range	-15°C to +55°C
Power supply amplifier	9V block battery for approx. 20 hours
Power supply search head	Li-ion battery 12V, 1.2A for approx. 6 hours
Accessories	Headphones, charger, operating and service manual

PKI 2945**Audio/Video Laser IR Directional Microphone, Day/Night with Recording**

With this directional microphone you can not only hear the "grass" grow, but you can also precisely control the direction of the noise source via the 2.7 inch TFT LCD and this by day and night. A built-in 2 watt IR laser renders this possible. It completely illuminates the object to be monitored in the IR range by night. The human eye cannot recognize this, only on the 2.7 inch TFT LCD monitor. This has never been possible so far. The audio and video signals are recorded simultaneously or stored on a TF memory card for later evaluation. The handy miniature design of **PKI 2945** allows for monitoring operations from up to 100m. The audio technology consists of a tuned line microphone with a downstream continuously adjustable low-noise amplifier. The video technology consists of a miniature camera with HD resolution, a 16mm telephoto lens and a 2.7" TFT LCD display. Audio playback is realized via headphones or on request against extra charge via wireless earphones.



Specifications	
Display screen	2.7 inch TFT LCD
Lens	16 mm
Viewing angle	45°
Minimum illumination	1 Lux
Recording way	Cycle recording/motion detection
Video format	MOV
Video compression	H.264
View resolution	1920*1080P (30fps) / 1280*720 / 848*480 / 640*480 (60 fps)
Photo resolution	4032*3024, 3648*2736, 3264*2448, 2592*1944, 2048*1536, 1920*1080, 1280*960, 640*480
Video output	HDMI video output
Video output format	PAL/NTSC
Size	80 x 23 x 90mm
Weight	320g
Storage temperature	-10°C to +70°C
Seamless recording	Yes
Auto recording support	
Loop recording time	1/2/3/5/10 minutes (optional)
Audio recording	Built-in microphone audio recording
Version number	Show the software version number and the publishing time of software
Memory card	TF card
Memory storage	Support 4GB – 32GB
USB interface	Mini5Pin USB2.0
Operating system	Windows 2000, Windows XP, Windows7, etc.
Battery	3.7V Lithium polymer batteries
Power consumption	Standby 300 - 350mAh, recording 450mAh
Recording time	4 hours
Poser	Car power 5V/2A or 12V
Size	80 x 23 x 90mm
Weight	320g
Storage temperature	-10°C to +70°C

Audio specification

- Microphone amplifier: 14.000 fold AGC
- Frequency: 20-20.000Hz
- Sensitivity: 1µV/Pa/1kHz, +/- 3dB
- System: Electret
- Max. sound pressure: 120dB
- Signal/signal-to-noise-ratio: 70dB

Laser

- Frequency: 850nm
- Power: 2 Watt
- Activation: Separately switchable
- Range: 100m

PKI 2950**Audio Horn Type Directional Microphone with Remote Transmission**

The development of directional microphones has been part of the **PKI** business for more than 40 years. The challenge is enormous, the demand immense. As a result of the progressive electronics development, engineers think to have reached the limit, but they are taught a lesson by new components. **PKI 2950** is the result of our latest development.

A commercially available laptop bag is used as camouflage for the elaborate and complex technology. **PKI 2950** consists of a horn type directional microphone with downstream amplifier with an 80,000-fold amplification factor and a 7-band equalizer. Listening-in is directly possible via a headset or wirelessly via the built-in 1W HF transmitter up to a distance of 200m. A recording possibility is given in the device itself or integrated into the HF receiver. The application of **PKI 2950** is straightforward. Switch on the different devices, align the bag and execute the control function via the delivered headset, then position yourself with the camouflaged HF pocket receiver in a radius of 200 m and record or monitor the desired conversation.

**Specifications**

Specifications	
Laptop bag	40 x 16 x 18cm
Weight	3.5kg
Power supply	3.7V /40,000mAh LIPO + battery charger 90-240V/AC
Horn type directional microphone	300 - 20,000Hz
Focussing	30°
Amplification	80,000-fold with noise suppression
Max. sound pressure	115dB
Signal/noise ratio	60dB
Sensitivity	1µV/Pa/1kHz
System	Supercardioid
7-band active equalizer	+/- 12dB 150Hz, 300Hz, 600Hz, 1200Hz, 2400Hz, 4800Hz, 7200Hz
1 Watt HF transmitter	Frequency 1300 - 1350MHz
Sound transmission	6MHz
Audio bandwidth	15Hz – -15kHz
Antenna	SMA connection
Recorder monitoring	16 bit/8kHz
Memory	Mini SD, 323GB
Recording	MP3, 8-320 Kbps, 8h
Recorder/Filter/Monitor	Ta/PC WIN8, 7" display
Software filter	17 filter types per equalizer available 6-48dB/Oct diplexers with equalizer even higher edge steepness 5 parametric equalizers RMS compressor level adjustment

PKI 2955**Microphone Cable Reel**

The **PKI 2955** especially was developed for wired room monitoring applications. Due to its cable-based operation this unit is not detectable by any counter measure equipment. The subminiature electret microphone with its small dimensions and the small diameter of the shielded cable is ideally suitable to be hidden behind wallpapers, curtains or in window frames. The small dimensions of the microphone prevent from detection by measuring equipment based on analysing the non-linear junction effect generated in semiconductors. The complete system consists of the highly sensitive electret microphone with shielded connection cable, a cable reel with output socket, headphones and the separate audio amplifier.

The supplied audio amplifier provides a low-noise amplification adjusted to the subminiature electret microphone of this system together with a 5 band graphic equaliser and every necessary output for direct listening or recording of conversations. Features like direct listening with headphones, a socket for recording devices and the possibility to extend the total cable length by driving different reels in cascade, fulfill all requirements for effective surveillance.

**Specifications****Microphone on reel**

Microphone type	Of electret
Microphone sensitivity	- 60dB / 1KHz
Bandwidth	100Hz / - 7KHz
Cable length	100m; others on request
Weight	600g
Dimensions	∅ 180mm x 60mm
Amplifier	
Max gain	100dB
Type of equaliser	5 band graphics
Filter frequencies	300, 600, 1200, 2400, 4800Hz
Adjustment range	+/- 10dB
Output phone	4 – 16Ohm, 100mW
Output recording	200mV at 50KOhm
Power supply	9V block battery
Battery lifetime	Approx. 20 hours
Weight	750g
Dimensions	130 x 50 x 150mm

PKI 2960

A/V Fibre Optic System

PKI 2960 system consists of a transmitter and a receiver. The transmitter transforms the standard HD-SDI video signal to a HDFDI protocol signal and can transmit it then via fibre glass cable more than 20km. The HDFDI receiver retransforms the received signal to normal HD-SDI standard video signal. There are several advantages for A/V transmission via fibre optic cable compared to normal copper cable for long distances.

- 1) Low transmission loss, long transmission distance
- 2) Considerably less cost for cable compared to coaxial cable
- 3) Anti-interference performance, i.e. outside environmental influences show no impact
- 4) Centralized wiring and managing i.e. nominal possibility of eavesdropping

Specifications

HDFDI transceiver

- Video input signal standard: SMPTE 274 M (1.485Gbps)
- HD-SDI standard: 720P 30/50/60, 1080i 50/60, 1080P 24/25/30
- Inputs: 1 channel
- Electrical level: > 380mVp-p

Optical link parameters

- Fiber mode: single mode
- Optical fibers: 1
- Wavelength: 1310nm
- Optical interface: FC
- Transmission distance: 20km

Physical parameters

- LED indicators: power, optional signal status
- Power: < 2A@12V DC
- Relative humidity: ≤ 90%
- Operating temperature: -10°C to +50°C
- Dimensions: 95 x 68 x 24mm

Product features

- Support HD-SDI high-definition digital video signals for long distance optical fiber transmission
- Automatically recognize various resolutions of HD-SDI video input without any manual settings
- Support standards SMPTE274M
- Electrical signal input supports automatic cable equalization function and output signal has drive capability
- Transmitter and receiver both use the clock signal regeneration, reshaping, debounce technology to ensure error-free
- Transmission distances up to 20km without repeater, which can be cascaded to achieve further distance
- Using extension cables, more suitable for engineering installation
- LED indicators for power, optical signal status



PKI 2965**Optical Microphone**

The **PKI 2965** ultra-sensitive optical microphone captures a wide range of sounds from normal conversation to soft whispering or even the shuffling of papers with excellent sound accuracy. Being designed for governmental use in SWAT, Special Task Forces and tactical operations it offers surveillance operations and applications requiring RFI/EMI immunity. A beam of light is sent through an optical fiber to a sound sensitive membrane. Sound signals cause the membrane to vibrate and modulate the intensity of the light reflected by the membrane, which is then translated into an electrical signal. **PKI 2965** delivers a high signal to noise ratio, so even very low-level sound inputs can be heard clearly and accurately from many meters away. With an omni-directional polar pattern, the **PKI 2965** can capture sounds from all directions, thus maximising voice representation. The excellent frequency response provides true-to-sound reproduction. The **PKI 2965** cannot be detected by electromagnetic methods since the microphone head neither contains metal parts nor generates electromagnetic fields and is separated from its electronic components by several meters of optical fiber. With its miniature dimensions and versatile configurations, it can be installed in a variety of ways to elude discovery both by the naked eye and sophisticated detection equipment such as non-linear junction detectors. Because of its RFI and EMI immunity the **PKI 2965** can continue to operate even in the harshest environments without any effect to its performance.

Specifications	
Polar pattern	Omni-directional
Frequency range	250 - 4500Hz
S/N ratio	65dB at 1KHz 94dB SPL
Sensitivity	0.3 - 1.8V/Pa
THD	< 1% at 84dB SPL
Max. static pressure on membrane	130dB SPL
Output impedance	680Ohms (standard line input)
Supply voltage	9 - 12V DC
Current drain	80mA
Operating temperature	10°C to +50°C
Ambient humidity	93% R.H. at 40°C, non-condensing
MTBF	> 100.000 hours
Std. optical fiber length	10/20 meters
Dimensions and weight	Of microphone length 21,5mm, diameter 4,5mm, weight 1gr



- Ultra-sensitive microphone
- Excellent sound accuracy
- EMI/RFI immunity
- Undetectable by conventional methods
- Miniature size, lightweight
- Easy to conceal

PKI 2970**Electronic Observation Equipment Carrying Case**

For their work, the special forces of the police need special devices of state-of-the art observation technique for professional use. **PKI** pass their many years of experience on and have thus collected a series of devices in **PKI 2970**. Please find a detailed list of the individual devices below.

- 1) **PKI 5010** A/V Body Worn HD Camera
- 2) **PKI 4970** A/V Directional and Tele HD Camera
- 3) **PKI 2205** Room Transmitter
- 4) **PKI 2275** Mains Transmitter
- 5) **PKI 2325** Throwing Audio Transmitter
- 6) **PKI 2225** Professional Pocket-Receiver
- 7) **PKI 2135** Digital Telephone Recorder
- 8) **PKI 2115** Digital Stethoscope Recorder
- 9) **PKI 4215** Bug Detector
- 10) **PKI 4960** A/V Mains HD Camera

The specifications can be found under the respective **PKI** number. Modifications of the device collection are possible on demand.

The carrying case itself is made of hard shell plastic and can be sealed against moisture and air. Its dimensions are 34 x 26 x 15cm and its weight is 3kg.



PKI 2975 Investigation Kit for Outdoor Use

In most cases entrance to a room to be monitored is not possible and observations have to be done from the outside. Although this is the most difficult way of observation, we have the right solution. We only offer devices of latest technology developed on basis of many years of experience in this field. Our product range, as shown in this catalogue, indicates single units for specific purpose, because one universal unit covering all kind of tasks does not exist. As our customers ask for a complete set of equipment, we have assembled the **PKI 2975** Investigation Kit for Outdoor Use. This set has been assembled in close co-operation with our customers for a best possible selection of necessary items out of our wide range of products. It consists of each item being necessary for room monitoring from the outside but, of course, can be adapted at any time in order to meet customer's requirement. Each set is packed in aluminum or sturdy hardcover cases for easy outdoor handling.

Contents:

- PKI 2115** Digital Stethoscope Recorder
- PKI 2145** Digital Needle Micophone Recorder
- PKI 2215** Stethoscope Recorder and **PKI 2225** UHF Pocket Receiver
- PKI 2325** Throwing Audio Transmitter
- PKI 2800** Room Monitoring System via Mains
- PKI 2850** Telephone Tapping Device
- PKI 2150** Digital Vox Recorder
- PKI 2935** Super Digital Directional Microphone
- PKI 2940** A/V Laser IR Directional Microphone
- PKI 3100** Laser Monitoring System



For each single item the complete technical description is listed separately in this catalogue. Depending on customer's requirement, this kit can be adapted to your specific needs. Just contact us to find the best possible solution for all what you need.

PKI 2990 Mobile and Independent Power Supply

The **PKI 2990** module provides all battery-operated devices with current either during operation or to recharge the device's battery. With the **PKI 2990**, you are independent of mains powered battery chargers and socket outlets. Besides a mains adapter, the module includes a high capacity rechargeable battery. It provides all standard voltages, also for several consumers at the same time. Furthermore, it automatically switches from mains adapter operation to the built-in battery and can thus also work as an uninterrupted power supply for small devices. The input voltage to be connected can either be 100-240V AC or 12V DC. The mains adapter has a high efficiency and operates noiseless. A wide range of connecting material is delivered so that all standard power sockets at the devices can be supplied. Long-term recording devices or the **PKI** surveillance server can be operated independently with this module over a long period.



Specifications	
Dimensions	220 x 130 x 75mm
Weight	3.9kg
Input voltage	100-240V AC / 12V DC
Capacity of the built-in accumulator	8A/h
Operating temperature	-5°C to +55°C
Output voltages	3.6V/ 5V/ 9V/ 12V DC

PKI 3000

Laser Microphone

PKI 3000 opens an entirely new dimension of audio surveillance. Our Laser Monitoring System **PKI 3100** offers the same opportunity; however, you are always dependent on the laser reflection from the windows to be intercepted as regards the respective angle, i.e. the angle of incidence equals the angle of reflection. Our new **PKI 3000** ensures a considerable independence from angles. The invisible laser beam detects minimum vibrations of objects being induced by people's conversations. The voice information is transmitted as a frequency modulation of the invisible laser. The surface vibrations are detected in the direction of the laser beam even through a closed window. Noise outside the laser beam does not interfere with the desired monitoring signal so that excellent results are achieved. The audio quality mainly depends on the vibration characteristics of the selected object and on the distance. The detection point is induced to vibrate by the sound waves of the person to be intercepted.

PKI 3000 works regardless of the angle of incidence and even works through glass windows.

The vibrations generate a Doppler frequency shift in the backscattered laser. This signal is converted into an audio signal by an interferometer with integrated photo detectors and demodulation technology. **PKI 3000** is a so-called optical microphone and in contrast to a directional microphone it penetrates almost all glass panes and thus records the conversations of persons to be intercepted in the immediate vicinity. As the laser beam only measures a few millimeters in

diameter, target-oriented operation is ensured. **PKI 3000** consists of the laser source of protection class 1 and the necessary IR lens with manual fine adjustment. This way, the measuring distance can be chosen between 5m and max. 150m. In case of incorrect use, the protection class 1 laser does not provoke eye injuries. The monitor unit converts the optical signal into an audio signal, i.e. the built-in inverter processes the digital data stream into an analog signal for the headset. This is combined with the professional application of a high-quality amplifier with equalizer, dynamic compressor and recording option. Additional dynamic fillers provide for a good intelligibility.

The internal video camera is indispensable for laser beam targeting. As an accessory, video glasses can also be connected. Moreover, the scope of supply includes a stable tripod with fine pan/tilt adjustment. The combination of the visual and acoustic signal allows to quickly select and evaluate suitable objects such as bottles, furniture, vases, TV sets. If the target with optimum acoustic properties is found within a few minutes, nothing then should stand in the way of the desired audio surveillance operation. The used highly sensitive interferometric technology with the invisible laser in the 1550nm range of course also has its disadvantages and this is the price for the high-tech device **PKI 3000**. The authority that wants to buy our **PKI 3000** should be aware that **PKI 3100** and **PKI 3200** provide better quality audio signals and **PKI 3000** should only be used where no other audio surveillance possibilities exist.

The latest and most advanced digital PKI signal processing electronics combined with advanced interferometric laser technology enables voice information to be obtained that would otherwise be completely impossible.



- The **PKI 3000** device incorporates the transmitter and receiver as an optical unit, making it easy to set up and target with the integrated, parallax-free camera.
- The speech information is extracted from the frequency shift in the backscattered laser light and is therefore not dependent on the surface properties or the intensity of the laser.
- **PKI 3000** is indispensable for a variety of agencies that rely on high performance surveillance, especially since often extremely delicate conditions make this necessary.
- **PKI 3000** opens a completely new field of day and night remote audio surveillance using invisible, eye-safe lasers up to 300m.

Specifications

Laser Unit	
Laser power	<10mW, laser safety IEC/EN60825-1 class 1, eye-safe
Wavelength	1550nm, invisible for the human eye
Characteristics of the detection surface	All technical surfaces incl. glass and other solid bodies; the results depend on the backscatter properties.
Current consumption	Approx. 75W
Supply voltage	100V - 240VAC +/- 10%, 50/60Hz, or external 12V inverter
Measuring distance	From 5m up to 150m adjustable by manual focusing
Targeting	With built-in low-light 0.1 Lux PAL CCD colour camera with target marking with 460 TV lines and 765 x 582 pixels and acoustic information via headset
Temperature range	+5°C up to +40°C operation -10°C up to +65°C storage
Protection class	IP-40
Weight	6kg
Dimensions	400 x 165 x 100mm incl. objective
Bandwidth settings	WIDE 150Hz - 7kHz BP wide 150Hz - 3.5kHz BP narrow 350Hz - 3.5kHz Off 0 - 7kHz

Monitor unit	
Dimensions	225 x 360 x 135mm
Weight	6kg
Sensitivity	High, medium, low
Display	4 lines with backlight
Volume control	via +/- keys
Outputs	Line out: RCA/Cinch filtered audio signal with dynamic compression
Phone	3.5mm TRS filtered audio signal with dynamic compression

Headset	
Output	3.5mm TRS connection (4-pin, audio/video for video glasses (special accessory))
	Rear side outputs
	S/P-DIF electrical
	RCA/Cinch, 48kSa/s, filtered signal without compression on left and right channel
	S/P DIF optical
	TOSLINK, 48kSa/s, filtered signal without compression on left and right channel Velocity
	BNC, +/- 5V, raw signal, unfiltered Video BNC, composite video CVBS, 1Vp-p/75Ω

Scope of supply:

- Laser unit
- Monitor unit with connecting cable Tripod with gear head
- 12V / 230V inverter
- IR inverter board to visualize the laser beam Carrying case
- Operating instructions

PKI 3100 Laser Monitoring System

The **PKI 3100** laser monitoring system was developed for covert observations to extend the surveillance to rooms which can not be entered. As soon as there is a line of sight to the room to be monitored (max. 300m), the **PKI 3100** monitoring system can be used. Acoustic sound waves, as for example human speech, cause minute vibrations of the windowpanes of a room. The invisible laser beam is sent onto the window of the room to be monitored and is modulated by the vibrations there. This modulated laser light is picked up by a special receiver and demodulated (speech is recovered) again. This signal can now be listened to or also recorded. The set-up of such an optical system can be quickly realised thanks to a pilot tone function and graphic evaluation via the delivered notebook. The high-quality tripods with gear heads provide for a solid stand of the equipment. The system consists of 2 units.

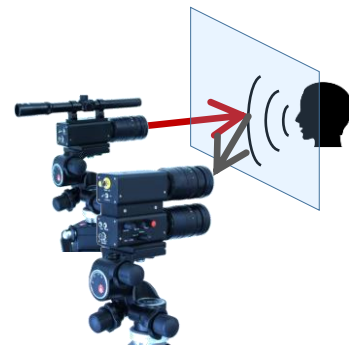


Laser transmitter with mounted telescopic sight Specifications	
Laser type	Semiconductor / 790nm / 30 - 50mW power
Power supply	12VDC / approx. 100mA
Dimensions	280 x 100 x 54mm / 800g

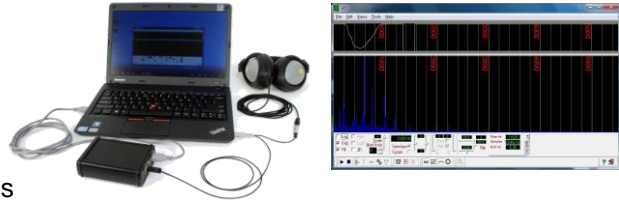
Laser receiver with camera Specifications	
Headphone jacks	Line output
Power supply	12VDC approx. max. 170mW
Dimensions	170 x 100 x 45mm
Black and white camera with zoom lens 5 - 50mm	
2 tripods with gear heads, 2 mains adapters	
1 notebook with USB audio connection	
Operating instructions and transport box	

General Facts

- Transmits an invisible laser beam to the window of the target room
- Windowpane is slightly vibrating in accordance with the sound waves emanating from speech
- Receiver picks up the reflected beam that is modulated by the windowpane vibrations
- Consist of a laser emitter and a laser receiver
- Adjustment of the laser by using an optical sight on the transmitter
- For searching and adjusting of the reflected beam an infrared sensitive camera is used on the receiver
- Converted audio signal will be amplified with a special low noise amplifier
- Audio signal is given to an adjustable headphone plug and a line out plug
- Adjustable high and low pass filter increases the received audio signal

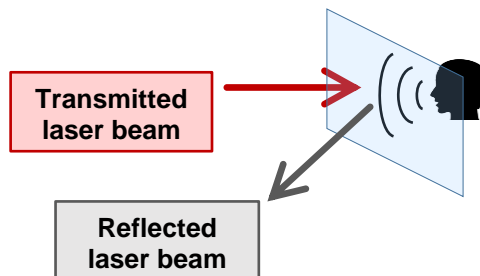
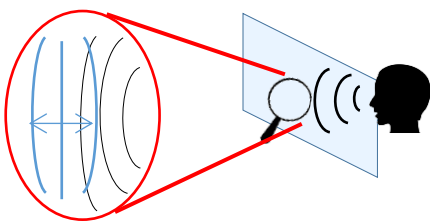


- Laptop is used as a monitor and audio recorder
- Connection box includes a video grabber, which is connected over USB to Laptop
- Software to play, optimize, and store the audio signals



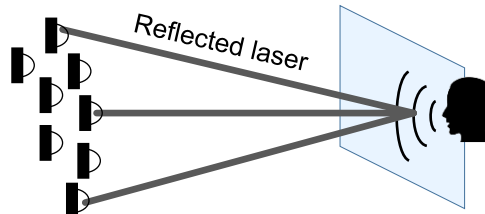
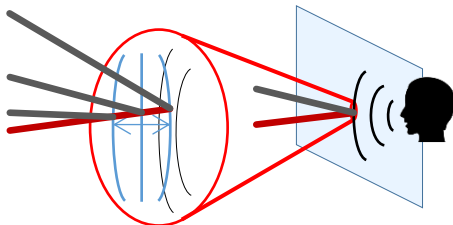
Working Principle

- Free line of sight between transmitter / receiver and window
- The incidence angle of the laser beam is equal to the angle of the reflected beam
 - Applies to both horizontal and vertical plain



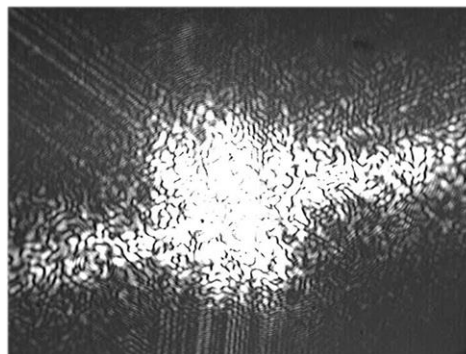
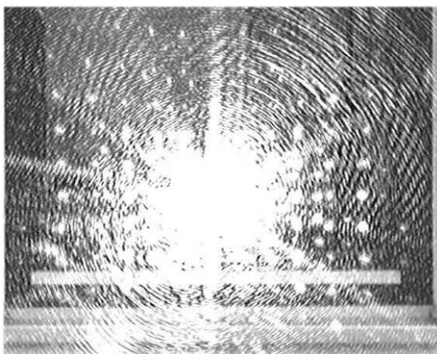
- Sound waves from acoustic signals cause lowest vibrations on a windowpane

- Invisible laser beam is transmitted to the windowpane of the observed room and will be reflected



- Reflected beam is slightly changed in its angle, caused by the vibration of the windowpane

- Reflected laser beam will be detected by the receiver and it detects the position changing of it



Connection and Controls - Laser Transmitter

1 LED Power Supply
Continuous → Operating voltage on
Flashing → Operating voltage < 9V

2 Connection - Power supply

3 Switch - Search tone generator

4 Video output (Monitor)

5 Switch - CCD Camera

6 Line output (Recorder)

7 Connection - Power supply
(or Switch-on box)

8 Connection - Headphones

9 Low-pass control

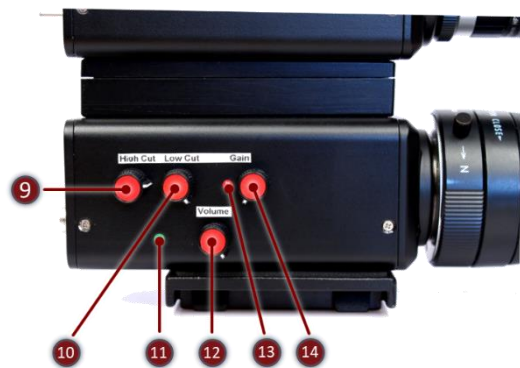
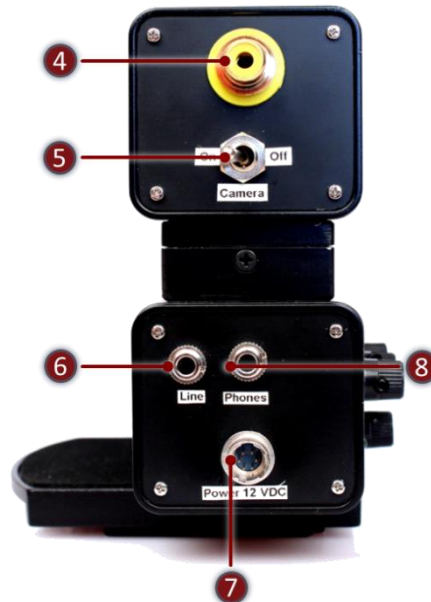
10 High-pass control

11 LED Power Supply
Continuous → Operating voltage on
Flashing → Operating voltage < 9V

12 Volume control

13 Overmodulation display (CLIP)

14 Amplifier control (GAIN)



PKI 3200 Infrared Observation System

Often rooms have to be monitored from the outside due to no direct access and the observation has to be affected by systems hardly to detect. For this purpose, the **PKI 3200** Infrared Observation System offers the right choice. Due to its infrared light - which is completely invisible to human eyes and beyond the range of any RF scanner or radio receiver - this device perfectly meets all requirements.

The system consists of an optical receiver with pinpointed telescope, a tripod for mounting the receiver and a transmitter for room observation. The transmitter is featuring a contact microphone which operates like a stethoscope to listen through walls, windows etc. The receiver is equipped with a tele-lens which allows looking into rooms from approx. 300 meters.



Specifications

Transmitter Frequency 870nm IR

Carrier frequency	Standard 125KHz
Modulation	NFM F 3
Deviation	5KHz
Output power	Approx. 40m
Stethoscope-transmitter dimensions	45 x 35 x 1mm, battery 6V
Room-transmitter dimensions	85 x 35 x 20mm, block battery 9V

Receiver Lens connector M 42

Receiving principle superhet	
Dimension	500 x 120mm incl. lens and telescope sight
Power	9V block battery
Modulation	
Low rate of detection	
Monitoring of inaccessible rooms through walls and windows	
Portable system	
Easy installation	

Operating Manual

PKI 3200 consists of a Piezo sensor, an optical receiver mounted on supplied tripod and a high-power transmitter with 50mW output power operating in 870 nm IR range which is invisible for human eyes. At any time of use of **PKI 3200** there must be a “line-in-sight” connection between transmitter and receiver.

By means of the stethoscope the soundwaves are taken from solid materials. Therefore, the stethoscope transmitter must be placed to windows, doors or walls with mastic material. Using the Piezo sensor at windowpanes is quite uncomplicated. Just double-sheet glasses may induce to place the transmitter at the window-frame instead of the window-glass itself.

Installation and operation of transmitter

- 1) Insert battery in transmitter by opening battery compartment and place 9V block battery
- 2) Place the piezo sensor Ø30 x 18mm which is built in a small round housing with mastic material to a windowpane, wall etc. The quantity of the mastic material depends on surface structure. Glass - with its very plain surface - only needs a small quantity, while walls have a rough surface and need more of this material. Sound-capacities will be influenced by the quantity of mastic material being used:
 - Less mastic material will make the sound high and pitch
 - More mastic material will make the sound dump and low
- 3) Place transmitter at best possible position. Installation can be done within 50 cm from Piezo sensor.
- 4) Switch on transmitter

Installation and operation of receiver

- 1) Insert battery by opening battery compartment and place 9V block battery to right polarity.
- 2) Switch on the receiver and align receiver to transmitter. The green LED indicates that a transmitting signal is low and red LED shows the highest possible signal-strength of this. When the red LED shines fine tuning can be done by “tune” switch. The “volume” switch is for audio signal to headphone. The receiver is fitted with a thread suitable for mounting to the supplied tripod. On top of the receiver an aiming device is mounted for the visual alignment between receiver and transmitter in case of longer distances. After the receiver is fixed on the tripod, a headset is connected to the relevant “phone” socket and the receiving unit is switched on - the alignment to the transmitter can take place. By use of the aiming-device rough, optical alignment is possible.

If there is no signal being clearly received after the first alignment, slowly turn the receiver, or move the tripod slowly and carefully till the signal is bright and clear. Hold the tripod in this position and fix it. Using the turning-button “tune” at the backside of the receiver, a sharp tuning to the transmitting frequency can be achieved. The focussing-ring at the objective (sharpness-control) is used for adjustment of the best possible signal-to-noise- ratio. The diaphragm of the objective normally should be opened to maximum. Only under bright sunlight conditions a partly closing of the diaphragm might be recommended for the improvement of signal-reception. The socket “tape” at the back-side of receiver is provided for the connection of a recording unit.

PKI 3300**Observation Vehicle Basic Car Series**

As the most different requirements ask for a wide variety of equipment, these vehicles are tailored to the customer's specifications. Observation vehicles must generally be selected so that they are inconspicuous. For this purpose, a thorough investigation in the surroundings of the observation area is indispensable. In a business quarter, a black sedan e.g. is not particularly striking, however, in a suburb it will attract the attention much more quickly. Popular models, sober colours; precisely, a neutral appearance is the prerequisite for an unobtrusive observation. Based on a popular compact car (Opel Zafira, VW Tiguan, Toyota VERSO, depending on the country of use), this vehicle can e.g. be used mobile as a manned version or also parked as a remote version. The requested technical equipment ranges from stationary cameras and microphones to monitor the direct surroundings to HF equipment for eavesdropping and GSM monitoring. Such a parked vehicle can e.g. be used as a repeater (amplifier) for surveillance equipment used in the near vicinity. Whether manned field reconnaissance with night vision technology, audio/video surveillance or also radio-based monitoring, our modular system leaves nothing to be desired. An equipment variant with lockpicking tools etc. for non-destructive opening of various closures as well as the required tools to gain access to the areas under surveillance is also available.

Equipment variants / Examples BASIC CAR

- Mobile audio/video/RF monitoring. Integrated into the vehicle and/or externally wireless. Extension up to GSM monitoring (restricted) possible.
- Video surveillance with night vision technology, etc.
- Repeater version with proper monitoring sAenusdoriso. (Sauudrive/viidlleaon/ RcFe)
- Manned or as remote version.
- Service car with lockpicking tools to gain non-destructive access to areas under surveillance. Will be assorted on customer's request and according to the application.

**PKI 3310****Observation Vehicle Basic Van Series**

In case of mobile operations, possible observation routes must be considered requiring a thoroughly researched moving profile or operational area of the persons or of the area under surveillance. Sufficient technical reserves must be dimensioned so that it is ensured that the person under surveillance can not escape because of the surroundings or during mobile operations. The different kinds of observation require the most different kinds of observation vehicles. Here, larger carrier vehicles are used. These van-size vehicles (Mercedes Sprinter, Ducato, Izuzu, Toyota, etc.), as well as our Basic Series, can be offered with a wide variety of equipment. Thanks to their generous spacing, these vehicles are ideally suited for long-time observations. Versions with on-board sanitary facilities allow nonstop observation periods of up to 72h. Air-conditioned with up to 3 workplaces, even complete mobile command centres can be created according to the desired equipment. The electromagnetically shielded cabins are of course provided with the respective ventilation systems. As a result of the generous spacing, direction finder systems, panorama surveillance, passive/active GSM monitoring, surveillance server applications, both manned and as remote versions, are available. The stand-alone, extremely inconspicuous power generation enables extremely long observation times, too. It is even possible to integrate inconspicuous satellite communication into such vehicles.

**Equipment variants / Examples BASIC VAN**

- Long-time audio/video/RF monitoring. Directly around the vehicle and externally.
- Complete active/passive GSM monitoring.
- Evaluation and analysis workplaces with corresponding equipment for up to 72h long-time operations.
- Central command centre for BASIC/CAR remote vehicles.
- Stand-alone remote system with extremely long operating time.

COUNTER SURVEILLANCE



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

PKI 4000 Counter Surveillance Sweeping System

The spectrum analyzing technology used in **PKI 4000** provides the professional level of sweeping, giving full information about the radio frequencies being used in the area to the operator practically without necessity to move the equipment within the territory. The detection is comparative to the conventional RF detectors, so the sweeping procedure can be performed quickly and covertly, room by room. The system can be placed both inside the room being checked and in an adjacent premise to provide secrecy of operation. The 2-antenna analysis used in **PKI 4000** allows you to detect RF bugging devices not depending on the type of modulation and encryption. Its working principle is based on the nature of radio waves to decrease power proportionally to the distance to the source. Signal on the close antenna will be stronger than the one received in the remote antenna. Such **PKI** system quickly selects the transmissions which originate from the inside of the premise.



The system has a built-in high-quality antenna switcher. After the sweeping the operator can perform the location procedure and find the exact location of the bug. In addition to the RF analysis **PKI 4000** has the possibility to check the wire communications, infrared range and electromagnetic range for presence of illegal signals. For this aim the system includes a low-frequency converter. **PKI 4000** system and its software have a simple intuitive interface and do not demand special knowledge from the operator. Typically, the operation is performed in 3 stages:

- 1) Placement of the antenna or probes
- 2) Pressing the corresponding operation button
- 3) Watching the results.

At the same time professionals will find many high-grade possibilities and settings which can be useful for deeper learning of RF environment at a further usage.

Features
• Quickly and reliably detects eavesdropping devices which use the RF waves, wires and infrared beams for transmission of information from the premises
• Types of detected bugs: VHF / UHF radio microphones, GSM/3G bugs (GSM baby), digitally encrypted radio microphones, telephone transmitters, AC/telephone line/Ethernet carrier transmitters, hidden video cameras with transmitters, microphones with transmission via the infrared beams, hidden electronic devices in objects
• 2-antenna analysis provides quick selection of the RF signals originating from the checked rooms not depending on the modulation type
• Measurements are accomplished with the help of the modern digital receiver, providing spectrum analysing possibilities with the scan rate of 50MHz per second at 12.5kHz resolution
• Detects intermittent (non-constant) signals with the help of the Sonogram function
• Wide frequency range covered: 5kHz - 4400MHz (ver. 4G) and 5kHz – 12400MHz (ver. 12G)
• Built-in low-frequency convertor provides features for inspection of the wires, electro-magnetic range and the infra-red range
• Working modes: RF sweep, Microwave check, AC check, TLF check (telephone/low-voltage wire), IR check (infrared optical range), MLP check (electromagnetic probe), Detector-Locate
• Detector-Locate mode allows the operator to find the physical location of the transmitter
• Digital communication sources (GSM, Wi-Fi, Bluetooth, 3G, LTD, Wi-Max, etc.) can be inspected and located
• Automatic data logging provides possibility to accumulate signal's history during the searches
• Wide set of graphical elements: Spectrum (current, max, min, remote antenna, threshold, etc); Sonogram; IQ constellation; Oscilloscope; FFT-spectrum
• FM/AM demodulation with selectable bandwidth
• Analysis of the modulation in the IQ constellation window
• Database stored in Microsoft Access format
• Recording of demodulated audio
• High quality RF antennas and VLF-probes included in the supplied set: 2 omnidirectional ODA-4 antennas, 1 microwave MWA-6 antenna, 1 microwave MWA-12 antenna (for version 12G only), 1 infrared IR-LINE probe, 1 electromagnetic MLP-LINE probe, 1 110/220V probe AC-LINE, 1 telephone line/low voltage probe

Specifications	
RF frequency range	4G: 50kHz - 4400MHz / 12G: 50kHz - 12400MHz
Scan rate	4G: 75MHz per second / 12G: 50MHz per second
Resolution	12,5kHz
Displayed dynamic range	-90dBm 50 -10dBm
Demodulation	FM/AM
Demodulation bandwidth	240/120/60/30/15kHz
Audio bandwidth (VBW)	Adjustable 22kHz - 1kHz
Attenuator	PRE-AMP, 0dB, 5dB, 10dB and 15dB
Inputs	3 antenna inputs, 4 probe inputs
Selectable scan (manual mode)	50MHz, 25MHz, 10MHz, 5MHz and 2MHz
Detection of pulse transmissions	Yes, pulse mode on
Observe mode	Frequency domain (spectrum); time domain (demodulation)
Graphic windows	Spectrum of wide range (selectable span between 1,5 to 3000 MHz), signal's spectrum, IQ constellation, oscilloscope, FFT-spectrum
Real-time I/Q data streaming	At 240kHz bandwidth
Compatibility	Windows XP, Windows Vista, Windows7, Windows8
Power source	220V (110V)

PKI 4005 Anti Spy Suitcase

The **PKI** device combination is unprecedented and should not be missing in any institution of the various ministries worldwide. Even international companies are no longer safe from monitoring operations. Industrial espionage or product piracy is known to be on the rise. On this account, **PKI** has assorted a selection of the most effective **PKI** products in a suitcase set. With this **PKI 4005** mobile operations of the most different kind are possible. What is hardly or not at all possible with individual devices becomes the desired success when combined. To ensure a rapid delivery of these proven products, **PKI** always keeps this anti spy suitcase on stock. Moreover, **PKI 4005** is not subject to an export licensing procedure.

The following products are included:

- PKI 4125** Mobile Phone Detector
- PKI 4215** Bug Detector 1MHz - 7GHz
- PKI 4225** Wired Microphone Detector
- PKI 4720** Camera Detector
- PKI 8100** Flexible HD Endoscope Camera
- PKI 4240** Computer Protector Software
- PKI 4420** Mobile Phone Protection Software
- PKI 4655** Window Noise Generator
- PKI 4135** Wi-Fi Network Analyser
- PKI 6725** Listening Eliminator



PKI 4015 Broadband Surveillance Scanner

PKI 4015 protects against eavesdropping with RF transmitters and laser monitoring. **PKI 4015** is a broadband monitoring device for scanning RF -bugs to detect illegal RF eavesdropping activity. **PKI 4015** can be operated directly on site or remotely controlled and monitored in a central monitoring centre via LAN/WLAN. **PKI 4015** detects RF listening devices, mobile phones and modems, wireless data transmitters and cordless telephone systems. **PKI 4015** is indispensable for checking illegal eavesdropping in boardrooms, offices, prisons, exam rooms, correctional facilities, conference rooms, etc.

Specifications	
Dimensions	245 x 190 x 55mm
Weight	1.2kg
Frequency Range	25 - 6000MHz
Sensitivity	-90 - 75dBm
Interfaces	USB, ETHERNET, WLAN
Coverage	10m ² - 50m ²
Power supply	110/ 220V AC



PKI 4020 Sweeping Counter Surveillance System

PKI 4020 is designed for electronic monitoring in real-time sweeping in the frequency range of 40KHz - 6GHz. **PKI 4020** detects eavesdropping threats in seconds, this is possible due to the integrated software. The high update rate requires 2000 - 3000MHz per second and can detect and locate analogue, digital and wireless signals simultaneously. Also detects illegal transmissions in AC, telephone, Ethernet, alarm and other cables. **PKI 4020** uses a combination of referenced traces and individual thresholds for mobile/wireless bands, factoring in both signal and strength. Once these assessments are completed, each frequency is assigned a threat level. The table can then be sorted by most dangerous or least dangerous signals.

The complete PKI 4020 equipment arrangement includes:

- Main unit with built-in spectrum analyser, antenna switch and LF converter.
- Software on the USB flash memory
- ODA-4 circular antenna
- Coaxial extension cable 5m
- MWA-6- microwave antenna
- High voltage probe
- Low voltage probe with alligator terminals
- Modular inline adapter
- Infrared/ very low frequency probe
- Tripod



Specifications	
Frequency range	40KHz - 6000MHz
Detection time	2 - 3 sec
Spectrum resolution	9KHz
Update rate	2000 - 3000MHz/ sec
Memory used per 24 hours	12GB
Computer requirements	3rd generation or newer Intel Dual/ Quad Core i-Series; 1 x USB 3.0; 2 x USB 2.0; Windows 7,8,10
Displayed dynamic range	-90... -10dBm
Displayed spectrum range	0,5,1,2,5,10,25,50,100,200,500,1000,2000,3000,6000MHz
Spectral diagrams	Spectrogram, Waterfall
Spectrogram data displayed	Persistence, Live, Max, Threshold
Detector modes	Wide range, Signal, Selection
Fields of the table "Signals"	Frequency, Bandwidth, Name, DBM Level, DBM Peak Level, Danger Level, Peak Danger Level
Fields of the table "Tapes"	Start, End, Name, Type, Threshold, Priority, Tracker identifier
Temperature range	0°C to +65°C

PKI 4095 Bug and Camera Detection Set

This **PKI 4095** detection set consists of 5 different individual devices for detecting wiretaps and video cameras. The frequency range from 50MHz to 12GHz allows monitoring of the entire RF range plus detection of non-transmitting cameras. Each unit has special features-adjustable settings and threat level indicators to detect and find unwanted surveillance devices. Each unit is designed for covert search. LED, sound and graphic indicators help narrow down the search and type of devices. These detectors measure and monitor those within range that emit an RF signal from 50MHz to 12GHz. The stronger the signal, the closer the device. The detectors detect the RF frequencies of spy devices for mobile phones, Bluetooth and WLAN, which could be hidden in everyday objects.

Specifications	
Dimensions	43 x 32 x 13cm
Weight	4.9kg



PKI 4095 Bug and Camera Detection Set consists of:

- 3-band RF detector 50MHz - 12GHz
- Wireless detector 824MHz - 7000MHz
- Digital RF detector 50MHz - 12GHz
- Camera finder of non-transmitting cameras
- RF wireless signal wall in the frequency range 50MHz - 8GHz

PKI 4100 Digital Wideband RF & GSM/3G Detector (1MHz - 10GHz)

PKI 4100 is an intelligent compact handheld counter surveillance device designed to detect and locate the presence of covert surveillance devices. **PKI 4100** has got two independent RF detectors, one that detects a Wideband range of 0 to 10.000MHz (10GHz) and another which detects only the Cellular GSM900, GSM1800 and 3G (UMTS) bands with much increased sensitivity. These two independent detectors can operate simultaneously for maximum detection capability or separately to allow specific types of devices to be detected or filtered.

The latest digital RF and microprocessor technology is utilized to provide very high sensitivity across a wide frequency range to ensure detection and location of even the weakest radio transmissions. The Wideband 1MHz - 10GHz mode is used to detect VHF, UHF and Microwave transmitters. Such devices include miniature room transmitters or bugs, main powered transmitters, telephone transmitters, video transmitters, mobile telephones, fixed frequency tracking devices, walkie talkies etc.

The Cellular GSM & 3G mode is used to detect transmissions from cellular mobile phone-based devices. Such devices include mobile phones, GPD vehicle trackers, GSM listening devices (bugs) and covert wireless 3G cameras. The Digital Peak Pulse mode is used to detect signals from devices that only transmit momentarily and to indicate that a signal has been detected. Such devices include vehicle trackers, GSM devices with SMS text messages or burst transmitters that accumulate information and transmit it in short bursts.



Features:

- Two built-in RF Detectors: 0-10GHz and GSM/3G
- RF Detectors can operate independently or simultaneously for maximum flexibility
- Cellular Mode to detect GSM900, GSM1800 and 3G(UMTS2100) devices
- Ultra sensitive - detects signals from up to 10m
- Detected Band/Frequency Indicator to help identify device/network type
- Digital Burst Signal Detector for GSM/3G Tracker/SMS (text) detection
- Wideband Mode - ultra wide frequency response 10GHz
- Built-in Frequency Counter
- Intelligent Digital or Analogue Indicator to determine signal type
- 10 Segment Signal Strength Meter
- Ultra high sensitivity to locate even the weakest signals
- Backlit LCD Display for use in all conditions
- Audio Demodulation
- Silent Vibrate & Beep Modes for signal strength
- Internal Li-Ion battery pack and mains charger
- Machined aluminum enclosure for ultimate durability
- Supplied in Heavy Duty Carry Case

GSM/3G Antenna Input 2G 1800MHz	
Center Frequency	1747.50MHz
Band Width	1710 - 1785MHz
Out-of-Band Attn	>40dB typ
Min. Detection Level	-30dBm typ
Peak Detect Threshold	-27dBm typ
Response Time	100ms

Supplement Accessories:

- Semi-Rigid Wideband Whip Antenna
- Semi-Rigid GSM/3G Whip Antenna
- Earphones
- 9V DC Charger - 110V to 240V AC input (Audio Switching) with International Adaptors
- Protective Heavy Duty Carry Case

Specifications	
Input Frequency range	1MHz - 10.000MHz (10GHz)
Sensitivity	100MHz - 49dBm 200MHz - 47dBm 500MHz - 46dBm 1GHz - 41dBm 2GHz - 36dBm 5GHz - 18dBm 10GHz - 3dBm
Antenna Connector for Wideband Antenna Input	MCX Socket - 50Ohm
Demodulation Sensitivity for 50mW Audio	-30dBm
Frequency Response	400Hz - 5kHz +/-2dB

GSM/3G Antenna Input 2G 900 MHz	
Center Frequency	897,50MHz
Band Width	880-915MHz
Out-of-Band Attn	>40dB typ
Min. Detection Level	-35dBm typ
Peak Detect Threshold	31dBm typ
Response Time	100ms

GSM/3G Antenna Input 3G(UMTS) 1950MHz (WCDMA)	
Center Frequency	1950.00MHz
Band Width	1925 - 1975MHz
Out-of-Band Attn	>70dB
Min. Detection Level	-75dBm
Peak Detect Threshold	70dBm
Response Time	100ms

Instrument Display	
Type	LCD STN Backlit
RF Signal Strength	10 element bargraph
RF Carrier Frequency	2800.0MHz (2.80GHz) maximum

Internal Audio Amplifier	
Output Power	0.25W
Frequency response	300Hz - 15kHz +/-1dB
Headphone Connector	3.5mm Jack

Miscellaneous	
Internal Battery	7.2V 1100mAH Li-Ion rechargeable
Operating Duration (fully charged battery)	5 to 6 hours
Charge Time	4 hours maximum
Operating Temperature Range	-10°C to +50° C
Relative Humidity	< 90%
Dimensions	135 x 84 x 30mm
Weight	300g
Signal Processing and Control	RISC Based Microcontroller

PKI 4105 Counter Surveillance Sweep Kit

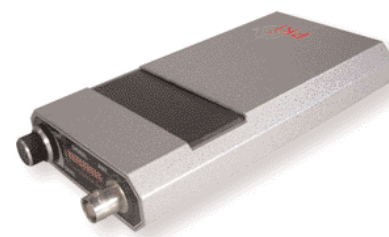
PKI 4105 is designed for professional law enforcement equipment. It includes wiretap, camera and GPS detectors to help locate modern digital and classic analogue surveillance devices. This **PKI 4105** Sweep Kit has special functions to find unwanted surveillance devices. **PKI 4105** measures and monitors devices in the frequency range from 30MHz to 6GHz, whether mobile phones, Bluetooth, any RF listening devices, WLAN, etc.



Specifications	
HF detector	30MHz - 6GHz, sensitivity -75dBm for 3GHz frequency, -85dBm for transmitters with a frequency of 500MHz gradual attenuation range 30dB, 20dB, 10dB
Audio	Built-in loudspeakers and external headphones with adjustable volume control
Audio	Capacitive touch screen (4cm)
Input/output	USB data port for software upgrades and file transfer
Power input	Internal USB charger Batteries: 3400mAh lithium-ion battery (2 included)
Charging time	5 hours
Whip antenna	30MHz - 6GHz
VLF loop	10kHz - MHz
Locating probe	20MHz - 6GHz
Covert antenna	750 MHz - 6 GHz
Acoustic leak detector	300Hz - 20kHz
Audio transformer	300Hz - 20kHz
Carrier current probe	100kHz - 60MHz
Log Periodic Antenna	500MHz - 6GHz
Infrared/visible light probe	1kHz - 70MHz

PKI 4110 Frequency Detector

With the **PKI 4110**, you have a highly sensitive broadband frequency detector at hand providing a very wide frequency range for professional detection and location of radio monitoring systems. Its functionality allows even an amateur to use the basic functions of the device and to achieve protection against eavesdropping. The built-in audio demodulator allows to eavesdrop on analog radio systems. With the Geiger click indicator, the detection and localization of most of the dangerous eavesdropping systems is simple and efficient. Fitted in a lightweight, compact and rugged metal housing with 4-way signal strength indication (graphical, numerical, delayed and peak), radio transmitters, whether digitally encoded, spread spectrum, hopping or pulse transmissions, no longer escape it. Even mobile phones and computers (including manipulated systems) are perfectly detected. Recording possibilities including time and signal strength complete the equipment.



Specifications	
Frequency range	0.5MHz up to 22.5GHz
Sensitivity	0.06µW ERP (400MHz / 5cm / level=5)
Dynamic range	43dB basic, +40 dB attenuation LOCAL
Detectable pulse width	>80µS
HF filter (HF OFF)	-26dB at 10MHz
Audio volume	4 steps
Geiger click generator	Internal buzzer
LED display	2 characters
Signal strength indication	Numerical 251 levels / graphical 39 levels
Peak level indication	Delayed numeric 251 steps / 24 steps
Alarm memory	16 events incl. time and signal level
Alarm counter	99 events
Power supply	Internal 9V block battery (or rechargeable battery) external 12V-20V DC unstabilized
Current consumption	3.5-6mA
Dimensions	150 x 60 x 3mm
Weight	295g

PKI 4115 Mobile Phone Detector

PKI 4115 is designed for detection of mobile phones operating in 2G and 3G range and wireless cameras working on 50MHz - 6GHz frequency. It can operate universally e.g. in aircrafts, hospitals, petrol stations, prisons and many other security zones. When detecting radio wave, the network indicator (LED) will blink in red. **PKI 4115** has a sensitivity tuner for 2G and 3G. Alarm can be activated optional audible, optical or still. The built-in rechargeable battery is for 4 hours continuous use. When battery power runs low, the battery low warning indication will light up in red to warn the user. This handy detector satisfies highest demands.

Specifications	
Detecting frequency band	1) 2G: GSM 2) CDMA 3) 3G. WCDMA 2100 (UMTS)
Detecting distance	1) GSM: up to 20m 2) CDMA: up to 15m 3) 3G: WCDMA up to 15m
Power	Built-in rechargeable battery Switching power adaptor
Battery life	About 4 hours after full charge
Warning mode	1) Visible and audible alarm 2) Visible alarm, silent via earphone
Humidity	5% - 80%
Operation temperature	0°C to +40°C
Dimension	150 x 80 x 30mm (L x W x T)
Weight	310g



PKI 4125 Mobile Phone Detector

This manageable multiband cellular signal detector for 4G, 3G and GSM shouldn't be missed during any surveillance operation. Signals of mobile phones, smartphones, vehicle trackers, GSM bugs and covert 3G/4G cameras are indicated on the **PKI 4125** display. The distance between **PKI 4125** and the detectable object can be up to 50m depending on the output power of the suspect object. Operation of **PKI 4125** is extraordinary versatile and allows detection of prohibited devices in prisons, conference rooms, hospitals etc. **PKI 4125** provides adjustable detected sensitivity, audio alarm (beeper or earphone), signal strength indicator, sensitivity tunes for each individual frequency band.

Specifications	
Dimensions	190 x 90 x 32mm
Weight	220g
Detection frequency	4G 703 - 748MHz GSM 880 - 915MHz CDMA 824 - 849MHz UMTS (WCDMA) 1920 - 1980MHz DCS 1710 - 1785MHz DECT 1895 - 1919MHz 4G 2500 - 2570MHz
Sensitivity	>-40dBm
Dynamic range	35dB
Built-in antenna	Micro-strip multiband, inverted-F omnidirectional
LCD display	4x 16 alphanumerical with backlight
Power supply	Built-in Li-Ion 3,8V, 2200mAh cell
Operating time	16 hours



PKI 4130 Digital Transmission Detector

Currently used observation techniques often work with digital protocols in different frequency ranges. The **PKI 4130** provides a quick overview of existing RF sources. Simultaneously, transmissions in the frequency ranges CDMA, GSM, GSM (DCS), WCDMA, 3G, GSM (PCS), DECT, Bluetooth, Wi-Fi or WiMax are accurately displayed in the 6 bar graphs with 10 segments each. The microprocessor-controlled receiver, in a handy metal housing, equipped with 6 specifically adapted frequency bands (channels) thus enables the detection of even the weakest signal sources.



Different operating modes:

- Silent - The bar graphs are used for covert investigations
- Vibration - When reaching an adjustable value for each channel
- Visual - The receiver tries to detect the type of protocol transmitted
- Listen - The receiver produces a signal depending on the type of reception

Specifications	
Frequency range	CDMA 824 - 849MHz GSM 880 - 920MHz GSM (DCS) 1710 - 1790MHz WCDMA, 3G, GSM (PCS), DECT 1920 - 2000MHz Bluetooth, Wi-Fi 2400 - 2480MHz WiMax 3000 - 6000MHz
Out of band attenuation	20 - 45dB
Antenna	2 omni-directional antennas
Detection range	1 - 10m
Operating time	10 - 15 hours
Power	2 AAAA (LRO3) batteries
Dimensions	(W/o antenna) 120 x 70 x 1mm
Weight	21g

PKI 4135 Wi-Fi Network Analyser

PKI 4135 Wi-Fi Network Analyser is designed for detection and monitoring of all active Wi-Fi devices in the reception area as well as for identification of illegal Wi-Fi devices among all operating ones. The device for the frequency range of 15 - 2700MHz with 2 antennas for the different frequency ranges in a compact aluminum case is perfectly suitable for real time monitoring of the frequency ranges with representation of frequency and level (dBm and dBµV).

Specifications	
Frequency range	15 - 2700MHz
Graphic display	128 x 64 pixels with backlight
Auto marker function	Automatic and manual marker positioning for individual carrier identification
Wi-Fi analyser	With representation of 13 WLAN channels
Max. hold function	To detect extremely short HF carriers
Interface	Mini USB 2.0 for connection to a PC or laptop as well as for charging of the internal rechargeable 860mAh lithium polymer battery
Software	With real time analysis for WindowsXP, VISTA, WIN7/WIN8
Dimensions	71 x 122 x 25mm
Weight	200g



PKI 4145 Multichannel RF Signal Detector

The only way to reliably detect wireless transmitter is to use preselected saw filter which attenuate all other signals except the desired one. This is the method implemented in **PKI 4145** which has 6 channels for different frequency ranges and can simultaneously detect 6 different kinds of transmissions at a distance much greater than any camera RF detectors. Such qualities make the **PKI 4145** item a very desirable and reliable device during counter surveillance sweeps. **PKI 4145** is an important tool for engineers or counter surveillance specialists.

Features

- Portable device for the inspection and location of wireless sources
- 6 channels of detection for different kinds of protocols
- Detection of GSM/CDMA/3G/DECT/LTE Detection of Bluetooth /Wi-Fi/ Wi-Max
- Can be used for tracing both regular sources and illegal eavesdropping devices
- 6 bar graphs with 10-segments each, for accurate location of RF sources
- 4 modes: silent, vibration, visual and listen 2 levels of sensitivity (attenuator)
- Extra display shows probable protocol Microprocessor controlled
- Setup mode with selection of the threshold level for vibration



Specifications	
Frequency range	CDMA, LTE 800 (4G) 824-849MHz
	GSM 880-920MHz
	GSM (DCS) 1710-1790MHz WCDMA, 3G, GSM(PCS) Dect 1920-2000MHz
	Bluetooth, Wi-Fi 2400-2480MHz Wi-Max/Wi-Fi high/LTE (4G) 2500-7000MHz
Bugging devices detection	GSM/3G/LTE standards
	Spy phones GPS trackers Baby monitoring
	Bluetooth bugging devices Wi-Fi/Wi-Max bugging devices
	Wireless video cameras 2,4 / 5.8GHz
Antenna	2 omni-directional antennas
Detection range	1-10m
Out of band attenuation	20-45dB
Operation time	15 hours
Power	2 AAA batteries
Dimensions	120 x 70 x 16mm
Weight	220gr

PKI 4150 3 Band RF-Detektor

PKI 4150 is designed to locate **PKI** analogue and digital RF listening devices. **PKI 4150** offers special high sensitivity in 3G, Wi-Fi and Bluetooth networks. The entire frequency range from 50MHz to 12GHz is divided into 3 bands. The user interface is easy and understandable to use. The respective signal type such as DECT device idle, active DECT device, GSM, 3G, Wi-Fi and Bluetooth are displayed. Different working modes such as silent, audio or alarm can be set individually. The alarm speed is also adjustable, so the **PKI 4150** will alarm when a signal exceeds the alarm threshold. The built-in directional microwave antenna ensures high sensitivity to 3G and wireless protocols.

Specifications	
Frequency range	Band 1 50 - 700MHz;
	Band 2 700 - 3GHz;
	Band 3 3 - 12GHz
Display Modes	All Bands and One Band
Alarm indication	BARAGRAPH shows the momentary RF level
	HISTOGRAM displays the RF signal over 5 seconds
	SIGNATURE displays the possible signal type
Antenna	Built-in directed microwave antenna
Housing	Shock-resistant CNC milled duraluminium
Battery	Rechargeable Li-Ion battery
Battery runtime	6h
Controlled	By microcontrollers
Display	2x built-in OLED displays



PKI 4155 Handheld Non-Linear Junction Detector

PKI 4155 can detect all electronic devices that are either switched on or disconnected from the power source. The built-in spectrum analyzer allows visual identification of electronic components. The detection of small electronic objects such as SIM cards, RFID tags, GPS trackers and listening devices is simply much faster with **PKI 4155**. Identifying small electronic devices on people's bodies is also easy to locate with **PKI 4155**. **PKI 4155** has proven itself under the most difficult localization conditions. This is only possible due to the low weight and the extendable telescopic device. **PKI 4155** detects any electronic device whether it is shielded, well wired, or switched off. The presence of a 2nd and 3rd harmonic spectrum analyzer provides a visual mode of detection of electronic components us natural semiconductors. The CW mode can be used to detect working analogue radio microphones based on the occurrence of acoustic feedback. Additional evaluation of 2nd and 3rd harmonic levels by listening to the frequency of clicks played through the built-in speaker or wireless headphones. The receiver sensitivity is manually adjustable, as is the output power. Autonomous search for the frequency channel with the lowest strength level for operation in a difficult electromagnetic situation is also possible with **PKI 4155**. **PKI 4155** is mainly used for counterintelligence, whereby a search of the premises for electronic devices is carried out in the switched-on or switched-off state. It also includes the inspection of vehicles. Also, surveillance of persons and objects such as parcels, suspicious bags, etc.



Specification	
Transmitter	
Bandwidth	2395 - 2405MHz
Two types of radiated signals	Pulse - pulse modulation of the carrier frequency with a duty cycle 44
	CW - Continuous emission of the carrier frequency
Maximum peak power in pulse mode (pulses)	10W
Maximum average radiated power in pulse mode (pulses)	230mW
Maximum continuous radiated power (CW)	300mW
Manual power adjustment range	20dB
Directional pattern width	90 degrees
Receiver	
Frequency rate	Second harmonic 4790 - 4810MHz
	Third harmonic 7185 - 7215MHz
The receiver sensitivity is not worse than	-110dBm
Dynamic range of the receiving section (including attenuator)	24 (10) dB
Number of frequency channels with automatic selection of the receive channel	11
Size	
In working condition, without telescopic rod	50 x 17 x 5.5cm
In folded state, without telescopic rod	29 x 17 x 6.5cm
Size of the telescopic rod when folded	43 x 4 x 4cm
Size of telescopic pole when extended	99 x 4 x 4cm
Weight	
Weight in working condition without telescopic pole	800g
Weight of the telescopic rod	0.4kg
Power supply	
Li-ion battery	12V
Capacity	7.8Ah
Continuous operating time at maximum power not less than	In pulse mode 3h
	In CW mode 1.5h

Accessories

- Spare antenna module
- Handle control panel with built-in battery container
- Removable telescopic rod
- 2 exchangeable (Li-Ion) batteries (12V)
- Charger for rechargeable batteries
- 220V charger for rechargeable batteries
- Headphones
- Carrying bag
- User manual

Capabilities

Maximum detection efficiency for any device in the most difficult conditions when used with other PKI interchangeable antenna modules. The presence of an additional battery with a charging time much shorter than the discharging time allows the unit to operate around the clock if necessary. The thinness (18mm) of the antenna module, the compact design and the light weight of the unit make it possible to carry out searches in a limited space and in hard-to-reach places. Two types of radiated signals: pulse modulation of the carrier frequency with a duty cycle of 44 (pulses) and continuous signal (CW).

PKI 4160 Non-Linear Junction Detector

Constant improvements in technology lead to ever smaller electronic bugs with higher transmission power and improved sound quality. Completely remote-controlled, they can even be switched off by the user. This makes the detection of these bugs particularly difficult, as frequency monitoring systems can often only detect the transmission signal of the „active“ bug. **PKI** has been promoting the development of NLJDs (Non-Linear Junction Detectors) for years and consistently presents top products in this sector. This special technology is able to track electronic semi-conductors in electronic bugging devices without these having to be active (switched on). The combination of easy handling, latest digital signal processing and optimum antenna design allow best results when detecting camouflaged and concealed electronic devices, even when switched off. With it, you will even find „dead“ bugs which have already fulfilled their task.



The **PKI 4160** device operates in the resonator frequency range from 880 - 906MHz. Its design makes it the ideal device for typical cleanups. Equipped with a rechargeable battery, operation is possible for more than 3.5h. With a weight of only 1kg, it is a lightweight in its class. As a result of its extremely thin antenna (max. 18mm) even little available space can be managed without problems. Automatic frequency hopping technology to avoid interferences from existing frequency bands used as well as automatic and manual adjustments to the transmission power allow optimal handling.

Specifications	
Frequency band	890 - 891MHz
Dynamic range	80dB
Signal power, max. pulse (duty ratio 50) / CW	15 / 1W
Sensitivity	Not worse than -120dBm
Operating time	More than 3.5h in pulse mode, 1.5h in CW mode (continuous wave)
Dimensions	100 x 15 x 4cm
Weight	1kg
Scope of supply	Battery charger 220V, headphones (wireless), rechargeable battery and bag

PKI 4170 Non-Linear Junction Detector

With this device, we break another record. Size and weight allow to take it in the pocket. Despite these minimum dimensions, the **PKI 4170** also offers the full comfort of the NLJD series. Automatic frequency hopping and adjustment to the transmission power. Its handy design is ideal to check persons for hidden electronics. The transmission power emitted in the process (electro-magnetic effect) is lower than that of a mobile phone. The high detection potential resulting from the high resonator frequency of 2400 - 2483MHz as well as the compact antenna with a thickness of 18mm are cutting edge in the field of NLJDs.



Specifications	
Frequency band	2400 - 2483MHz
Dynamic range	80dB
Signal power, max. pulse (duty ratio 50) / CW	10 / 1W
Sensitivity	Not worse than -108dBm
Operating time	More than 3.5h in pulse mode, 1.5h in CW mode (continuous wave)
Dimensions	23 x 10 x 5.5cm (transport dimensions), 39 x 10 x 4cm (ready to operate)
Weight	700g
Scope of supply	Battery charger 220V, headphones (wireless), rechargeable battery and bag

PKI 4180 Non-Linear Junction Detector

When localizing electronic devices using NLJDs, the distance realized with the **PKI 4180** reaches entirely new dimensions. The high frequency of 3580 - 3620MHz and the extremely narrow reception angle of the antenna enable an unprecedented detection. It is thus e.g. possible to locate a SIM card (1 x 2cm) from a distance of 1m. A built-in laser pointer can visualize the center of the detection field.

Due to its super high frequency, the **PKI 4180** also offers unique possibilities of detection in the most varied materials. Slots, holes, hidden screenings and reflecting materials do not present any obstacle when detecting concealed electronics. The verification of unknown objects from a distance of 5 - 10m with an NLJD is unparalleled. As a result of the extreme directional effect of the antenna, the electromagnetic radiation is reduced to a minimum level for the user.



Specifications	
Transmission frequency	3580 - 3620MHz
Pulse signal ratio	160 pulses per second
2d harmonic receiver frequency range	7160 - 7240MHz
3d harmonic receiver frequency range	10740 - 10860MHz
Antenna gain at fundamental frequency	20dB
Antenna gain at 2d harmonic	24dB
Antenna gain at 3d harmonic	27dB
Pulse power and duty cycle	20W (0.6 %)
EIRP (radiated power plus antenna gain)	2000W
2d & 3d harmonics sensitivity	-110dBm
Dynamic range	40dB
Antenna opening angle (1st / 2d / 3d harmonic)	6/8/4 degrees
Operating time	3h
Dimensions	30.3 x 30.3 x 23cm (transport dimensions), 47.7 x 30.3 x 23cm (ready to operate)
Weight	1.4kg
Scope of supply	Battery charger 110 - 240V, headphones (wireless), rechargeable battery and bag

PKI 4190 Non-Linear Junction Evaluator

PKI 4190 is a state-of-the-art Non-Linear Junction Detector for the detection of hidden electronic devices. For locating mainly listening devices, wired, wireless and on/off devices. This is particularly the case in walls, floors, ceilings, fixtures, etc. The digital signal processing increases the sensitivity and amplification and conducts up to 18dB higher detection sensitivity. The integrated frequency hopping method provides the best result when using several transmission frequencies over a wide operating band. The power control of **PKI 4190** can be manual or automatic, from 30mW to 3 W. Frequency stability is ensured by the integrated synthesizer receiver. For the detection of various electronic components, **PKI 4190** offers 3 different operating modes, such as continuous wave operation, pulsating operation and frequency hopping. **PKI 4190** may only be used by authorities, persons and organizations that are not restricted by the US FCC regulations.



Specifications	
Frequency bands	840 - 915MHz in 200KHz steps
Search power	From 30mW to 3W
Power control	Manual or automatic control with 30dB range
Setup time	25sec
Control functions	Volume, transmit power, frequency selection, signal processing gain, trigger point warning setting.
Receiver	Second harmonic frequency band 1680 - 1830MHz; third harmonic frequency band 2520 - 2745MHz
Sensitivity	-133dBm for both harmonics
Receive bandwidth	3kHz
Sensitivity power	Programmable between 6 and 18dB CDSP/ SW - Integration)

PKI 4200 Non-Linear Junction Detector

Remote controlled transmitters and devices which are switched off, cannot be found by any counter surveillance equipment based on radio scanners. The solution is a debugging device independent from any emission of radio frequencies. Even before using a new room for conferences or after installations, respectively maintenance operations in the room, a basic sweep is absolutely necessary to avoid monitoring by planted devices. **PKI 4200** does not only detect active bug devices but also those which have been switched off. The extremely lightweight unit (only 1.8kg) is a Third Harmonic Junction Detector and important facility for discriminating between false and real targets. The colored LED display simply shows left GREEN for false and right RED for target. In addition to the customary Geiger audio indicator, the unit also features AM and FM demodulation modes. Direct listening via headphones is possible.

Specifications	
Fundamental Frequency	888MHz
Maximum RF Power	300mW
Analysed Harmonics	2-nd and 3-rd
Controls	ON/OFF, Volume, Range, Harmonic Selector, Tone-AM FM Selector, Squelch
Dimensions	210 x 145 x 45mm
Dimensions Antenna	160 x 40 x 720mm
Weight	1,8kg
Detects all types of bugs	
2-nd and 3-rd harmonic analysis	
Switchable RF power	
Direct listening facility	



PKI 4205 HF-Measuring Device

This HF- device measures reliably HF-radiation of mobile phones, DECT- wireless phones, flight security radars, WLAN/Bluetooth and microwaves. It is perfectly designed for measurement of pulsed HF-radiation. The results are measured in $\mu\text{W}/\text{m}^2$. **PKI 4205** offers easiest handling. The logarithmic-periodic antenna has a very good bearing and can perfectly be used for BFM. Measurements are shown on the large 3.5 digit LCD display. An acoustic signal proportional to field strength can be turned on. (Sound effect as per our Geiger counter).

Specifications	
Frequency range	800MHz – 2.5GHz
Field strength	1-1999 $\mu\text{W}/\text{m}^2$
Minimal resolution	-50dBm
Precision	+/- 6dB (+/- 9 digit)
Power supply	9V battery
Operating time	10-12h
Dimension measuring device	74 x 225 x 32mm
Dimensions antenna	120 x 250 x 30mm



PKI 4225 Wired Microphone Detector

PKI 4225 has been especially designed by **PKI** Electronic Intelligence GmbH for locating hidden wired microphones. In contrast to our various offered **PKI** wireless microphone detectors, the detection of such microphones is time-consuming and requires precision and endurance. Without being damaged, each line must be measured with our **PKI** detector, i.e. the clamp is attached to the suspicious cable and connected to **PKI 4225** and our laptop. With the delivered software, the pulses are represented on the screen and saved. An acoustic signal is briefly activated and recorded by the hidden microphone. This acoustic pulse is picked up by the microphone searched and converted into an electrical signal on the line. This again can be measured by means of our inductive coupling with **PKI 4225**. Should such a pulse be measured, utmost caution is advised and the search for the hidden microphone can begin.



Specifications	
Acoustic handheld sensor	
Dimensions	140 x 76 x 24mm
Weight	80g
Audio frequency	100Hz - 18000Hz
Power supply	ommercially available 9V battery
Electronic unit	
Dimensions	140 x 76 x 24mm
Clamp	30 x 15mm
Weight	100g
Capacitive clamp	1nF
Power supply	ommercially available 9V battery
Laptop with PKI software	
Option	We recommend our handheld devices PKI 4715 , PKI 4700 for locating wireless microphones.

PKI 4230

Spectrum Analyzer

The world economies that are competing for business must provide high level security arrangements for the protection of corporate secrets, marketing strategies, financial information and business strategies. Thus, they are facing new challenges every day. Eavesdropping detection is an important aspect in all fields of our world economy. **PKI 4230** offers the tools for the detection of high frequency signals that are difficult to detect under toughest conditions.

PKI 4230 is a portable fast spectrum analyzer with the necessary functionalities to detect unknown, illegal, disturbing and abnormal radio transmissions across a wide frequency range. With these features **PKI 4230** is the perfect tool for radio links, mobile phone stations, HF emission analysis, mobile phone provider, for the evaluation of communication channels, the investigation of misuse in crowded HF spectra and – most of all – for Eavesdropping Detection.



Specifications

RF system	
Frequency	8GHz model = 50kHz to 8GHz 24GHz model = 50 kHz to 24GHz
Displayed Average Noise Level (DANL) (25 kHz resolution bandwidth)	Without preamp = -100dBm with preamp = -110dBm
Sweep speed	24GHz/second
Attenuation	DC-24GHz = 0dB, -10dB, -20dB, -30dB
Dynamic range	Min/max range; 90dB SFDR; 80dB

Video System	
Formats	NTSC, PAL, SECAM
Demodulation	AM, FM
Filter sizes	12.75MHz, 6.375MHz
Subcarrier filters	6.25kHz, 12.5kHz, 200kHz

Audio System	
Demodulation types	AM, FM
Filters sizes	800kHz, 200kHz, 12.5kHz, 6.25kHz, 2kHz
Subcarrier filters	6.25kHz, 12.5kHz, 200kHz
Headphone output	Low leakage headphones included
Speakers	Built-in

Inputs/Outputs	
Aux RF in	10kHz to 8GHz
IF out	25MHz wide centered at 75MHz
Baseband out	DC - 6MHz
Expansion	Additional in- and outputs are provided

Antenna System	
Built-in audio antenna system	Frequency: 8GHz model = 100kHz to 8GHz 24GHz model = 100kHz to 24GHz

User Interface

Integrated touchscreen with 8,4" display soft keys and rotary optical encoder USB port (A-type)	For peripherals (keyboard, mouse) Line in
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Power Supply	
Universal power supply included	100-240VAC, 50 - 60Hz
Removable battery	Rechargeable Lithium Ion, 2-3 hours operating time
External Storage Medium	Compact Flash slot (CF) USB-port (A-type)

Others	
Dimensions	292 x 335 x 76mm
Weight (incl. battery)	4,4kg
Carrying case	495 x 378 x 140mm
Device, case & Equipment	9,5kg
Operating temperature	0°C to +50°C

PKI 4235 Scan Detecting Analyzer

The **PKI 4235** provides you with an overview of the available frequency spectrum in your environment in the shortest possible time. The **PKI 4235** system was developed to detect and analyze dangerous radio transmitters using a PC with maximum efficiency. Besides classical radio signals, this also includes signals being specifically modulated onto wiring connections (telephone, alarm, electricity network) as well as signals occurring in the invisible infrared and inaudible ultrasound spectrum. These can be recorded by means of corresponding optional converters and sensors. The detection of signals is based on a scan of the desired frequency range searching for active signals. Known signal sources (radio, TV, communication) can be excluded from the evaluation and analysis as a whole to increase the scan speed. The suspicious transmission activities are stored in a database and a series of active and passive tests is applied to them, such as Passive Amplitude Correlation (PAC), Semi-Passive Amplitude Correlation (SPAC), Active Amplitude Correlation (AAC), Active Spectrum Correlation (ASC), Active Parametrical Correlation (APC) and Harmonic Presence Test (HPT). Subsequently, the software assesses the risk and alerts accordingly. The background noise required e.g. for voice- activated bugs can be produced by the system itself or also by an audio CD in the CD drive of the PC. A „silent mode“ is also available. During monitoring, there is a wide range of possibilities to evaluate the captured signals. Timer functions, audio recordings (e.g. mp3), frequency ranges, modulations, voice scrambling, DTMF decoding, etc. are freely scaleable and leave nothing to be desired. Obtained data are stored in a Microsoft database (mdb) and can be further processed with the standard programs in Excel, Word, etc.



Specifications					
Receiver					
Frequency range	100kHz up to 3299.999MHz				
Power supply	12Volt +/- 15 % DC, approx. 0.8A				
Antenna socket	2 x BNC, 50Ohm impedance				
Receiver principle	Triple superhet with 1st IF; 266.70MHz, 2nd IF; 10.70MHz and 3rd IF; 450kHz (excl. W-FM)				
Receiver sensitivities	Frequency ranges	SSB, CW	AM	FM	WFM
	495 - 1799kHz	5.0µV	25µV	-	-
	1.8 - 49.999MHz	0.5µV	2.5µV	0.63µV	-
	50 - 699.999MHz	0.4µV	2µV	0.5µV	1.4µV
	700 - 1300MHz	0.5µV	2.µV	0.63µV	1.8 µV
	1300 - 2299.999MHz	-	-	5.6µV	18µV
	2300 - 3000MHz	-	-	18µV	56µV
Receiver dimensions	Approx. 146 x 41 x 206mm (WHD)				
System requirements	Windows PC (not included in the scope of supply); Win 2000, Win XP, Win 2003				
	Pentium 2 400MHz min. 400MB				
	Full-duplex sound card with Line In.				
	Active loudspeaker				
	Free RS 232 and 1 x USB / or 2 USB ports				

Scope of supply:

- PC-based receiver 100kHz - 3.3GHz
- Software CD, reference microphone, power supply
- DS converter for wiring connections
- IR converter for IR reception
- Ultrasound sensor
- Antenna for receiver

PKI 4245 Detection Receiver 10 kHz to 6 GHz

PKI 4245 detects known, unknown, illegal, disruptive, or interfering RF transmission in a frequency range between 10kHz and 6GHz. A variety of user selected operating modes are presented on a 3.5" graphical touch screen display. Portability, versatility, and responsiveness make the **PKI 4245** advantageous for many technical applications. To ensure the necessary input sensitivity of **PKI 4245**, we use 4 different antennas in the range from 10kHz to 60MHz for signal detection on power lines. 740MHz - 2.75GHz for the detection of cell phones, Wi-Fi, 20MHz – 6GHz low gain antenna for short-range locating, 30MHz - 6GHz whip/dipole passive RF antenna was developed. The antennas can individually be connected to the **PKI 4245** using a cable connector.



Specifications	
Dimensions	80 x 160 x 30mm
Power supply	3400mAh Li-Ion batteries 2 x, USB recharger
RF detector sensitivity	-75dBm for 3GHz frequency - 85dBm for probes providing frequency at 500MHz
Display	3.5" (4cm) capacitive touch screen
Built-in speaker and headphone jack	With adjustable volume control
Frequency counter	Provides frequency of strongest signal
Stepped attenuation control	30dB, 20dB, 10dB, auto, off
Trigger alter	The function provides warnings when RF levels exceed defined thresholds

PKI 4255 Conference Phone and Bug Detector

Time and again, information of conference talk leaks to the outside which, in some cases, has devastating consequences. To prevent this, **PKI** has especially developed a note pad for the conference table for each participant with integrated electronics to detect cell phones and listening devices. At the beginning of the conference, this can be mentioned or a remark on the note pad indicates it. This should normally suffice to switch off cell phones or not to activate listening devices. Should this not be accepted despite the initial remark and should anyone act wrongfully, a red LED lamp on the note pad of each participant lights up. The participant in the conversation can be expelled from the conference and can be held responsible for it. The company director can switch on/off **PKI 4255** via remote control. So, the participants cannot manipulate **PKI 4255**.



Specifications	
Dimensions	600 x 450mm
Weight	2,4kg
Power supply	Li-ion battery
Sensitivity	3-stage slide switch with ON/OFF
Operating time	16 hours
Frequency range	CDMA 824 - 849MHz GSM 880 - 920MHz GSM (DCS) 1710 - 1790MHz WCDMA 3G, GSM (PCS) Dect 1920 - 2000MHz Bluetooth, Wi-Fi, 2400 - 2480MHz WIMAX 3000 - 6000MHz
Antenna	2 omni-directional, integrated
Detection range	1 - 10m
Bug detector	
Frequency	1MHz - 7GHz
Antenna	Directional, integrated
Display	Optical, clearly visible red LED
Miscellaneous	Complete delivery: Charger, note pad with fully integrated electronics, fully camouflaged, only red LED is visible

PKI 4260

Surveillance countermeasure Receiver 9kHz to 20GHz

PKI 4260 is a rugged outdoor spectrum analyser designed to capture even the shortest signal transmissions in the frequency range from 10MHz up to 6GHz. Both the scanning speed and the acquisition time are unrivalled. **PKI 4260** scans 6GHz in less than 5ms, making it the world's fastest monitoring receiver in this wide frequency range. The user-friendly software detects unknown or illegal transmissions. Several hours of real-time footage can be stored. After recording, the entire measurement data can be converted into the software. Not only the military quality (MIL-STD-810G, MIL-Std-461 F and IP 65) but also the perfect signal analysis e.g. a 3D spectrogram view, which displays the signal in a unique way, allows an in-depth analysis of the real-time measurement or the recorded data.



Specifications	
Frequency range	10MHz to 6GHz (1Hz to 26GHz in development)
Real-time bandwidth Rx	Up to 245MHz I/Q – via 2x USB
Real-time bandwidth Tx	120MHz I/Q
POI	Up to 97ns (FFT-based), 10ns (direct I/Q-based)
Max. power Rx	+23dBm
Max. power Tx	+20dBm
DANL (internal pre-amp on)	Typ. -170dBm/Hz
Amplitude accuracy (typ.)	Typ. +/- 0,5dB (compensated by FIR filter)
USB streaming connection	One or two USB 3.0 (USB 3.1 Gen1; USB 3.2 Gen1)
USB bandwidth (2 x USB 3.0)	Up to 784MBytes/s sustained throughput to PC
Frequency reference accuracy	0,5ppm (5 ppb via OCXO option)
RBW (resolution bandwidth)	62mHz to 200MHz
Measurement units	Over 20 (e.g. dBm, dBµV, V/m, A/m, W/m ² , dBµV/m, W/cm ²)
Detector	Min, Max, AVG, Peak, QPeak
Attenuator range	50dB / 70dB (0,5 dB steps)
Traces	Over 20 (e.g. ACT, AVG, MAX, MIN, QPEAK)
Measurement modes	True IQ or Power/Frequency data
Trigger	Cursor, Measurement, Density
ADC	Dual 2GSPS 16 Bit
DAC	2GSPS 14-Bit
GPS	GPS/QZSS, GLONASS, BeiDou and Galileo (concurrent reception)
GPS synchronisation	+/- 10ns timestamping in each data packet
External Frequency Reference Input	typ. 10MHz, 3,5VRMS into 50 Ohm (SMB-connector)
FPGA	XC7A200T-2
DSP processing	930 GMACs
SDRAM	2 GB
RF connectors	SMA (Rx,Tx), SMB (Trigger, Refclock, GPS, PPM). All 50 Ohms.
Temperature range	(operation) 0 °C to +50 °C (extended -40 to +75 °C)
Dimensions	210 x 115 x 30mm
Weight	850g
Power	USB 3.2 Gen 1 Type-C PD 3.0
Power consumption	Typical 15W
Recommended calibration interval	2 years

PKI 4280 24GHz Professional Mobile Spectrum Analyzer

This **PKI 4280** portable spectrum analyser with a sweep speed of 10kHz aug 24GHz in less than one second is designed to detect unknown, illegal, interfering and anomalous transmissions in a frequency range of 10kHz - 24GHz. This makes eavesdropping detection possible, just like microwave links or any communication system. A wide variety of modulation types such as FM wideband, FM narrowband, AM wideband, AM narrowband, subcarrier, single sideband, NTSC, PAL, SECAM video formats, wideband AM or wideband FM demodulation bandwidth are detected.



- Sound in 800kHz, 200kHz, 12.5kHz, 6.25kHz, 2kHz.
- Video in 12.75MHz, 6.375MHz.

The built-in antennas and analysis software facilitate deployment and allow for rapid acquisition and comparison of spectral data from multiple locations.

The multi-purpose probe is inserted into the auxiliary port for acquisition and gives the following options:

- Carrier current signals between 10kHz - 150MHz
- Coax (F connector) for single-ended and general-purpose measurements (75-ohm cable connector included) with frequency range from 5MHz to 2GHz, CATV for in-line measurements of cable TV systems
- VLF magnetic loop for analysing activity in the low-frequency range from 20kHz - 20MHz
- IR (700 - 1100nm) for detection of infrared line-of-sight signals from 50kHz to 1.2GHz 5VL (450 - 1100nm) for detection of visible light transmissions from 50kHz to 1.2GHz

The directional antenna makes it easier to find transmitters. The directional antenna is held in the hand or can be clamped to the antennas. The range is 1.5GHz to 8GHz with a gain of 5dB.

Specifications	
External storage capability	
Compact Flash (CF) slot	
Dimensions	29 x 33.5 x 7.6cm
Weight	4.4kg
Housing dimensions	38 x 50 x 14cm
Weight of loaded case	9.5kg
Operating temperature	0°C to +50°C

RF system	
Frequency	8GHz model - 24GHz
Average noise level	-100dBm (without preamplifier) -110dBm (with preamplifier)
Sweep speed	24GHz/ second
Preamplifier	DC-8GHz = 10dB
Attenuation	DC-24GHz = 0dB, -10dB, -20dB, -30dB
Dynamic range	Min/ Max range: 90dB
SFDR	80dB

Inputs/outputs	
Aux RF IN	10kHz to 8GHz
IF out	25MHz wide, centred on 75MHz
Baseband	DC -6MHz
Extension	AUX control port for MPP

Remote capability	
Ethernet port for VNC remote access	

Video system	
Formats	NTSC, PAL, SECAM
Demodulation	AM, FM
Filter sizes	12.75MHz, 6.375MHz
Subcarrier filters	6.25kHz, 12.5kHz, 200kHz

Audio systems	
Demodulation types	AM, FM
Filtering by size	800 kHz, 200 kHz, 12.5 kHz, 6.25 kHz, 2 kHz
Subcarrier filters	6.25 kHz, 12.5 kHz, 200 kHz
Headphone output	
Built-in loudspeakers	

Antenna system	
Built-in automatic switching antenna system	
Frequency	8GHz model = 10kHz (usable) to 8GHz 24GHz model = 10kHz (usable) to 24GHz

Power supply	
Universal power supply	100 - 240VAC, 50 - 60Hz
Battery	Rechargeable lithium-ion battery
Running time	4 hours

User interface	
Integrated touch screen with 8.4 inch display	
Soft keys and optical rotary encoder	
USB ports	

PKI 4290 Mobile Broadband Receiver

PKI 4290 is a portable broadband receiver that detects known, unknown, illegal, interfering, or intercepting transmissions. **PKI 4290** is particularly suitable for locating hidden listening devices. This is particularly due to the wide variety of antennas in widespread use, e.g. WHIP antennas for 30MHz - 6GHz as a general-purpose near-field antenna with frequency bandwidth and physical size suitable for many scenarios. Alternatively, VFL LOOP for 10kHz - 30MHz to find transmitters emitting RF at very low frequencies. Or attached light sensor in the 10GHz - 50MHz range, to detect infrared transmitters. Or locator samples in the 20MHz - 6GHz range, which is used when the RF noise level is very high. It is designed to detect RF signals in the immediate vicinity of the probe. Or for covert detection, which finds application with a disguised antenna in the 750MHz - 6GHz range.



In addition, it can be used for audio transmission in the 300Hz - 20kHz range, with the ability to add a positive and negative bias voltage to activate existing microphones and test low-voltage wiring for unmodulated signals. The Acoustic Leakage Detector in the 300Hz to 20kHz range, allows the user to place the probe against structural objects such as walls or windows to listen for acoustic leakage weaknesses. The directional antenna in the 70MHz - 500MHz range as a flag-shaped antenna provides directional coverage for detecting signals in the lower frequency range. The down-converting antenna in the 500MHz - 12GHz range down-converts signals occurring above the standard threshold of 6GHz so that they are detected.

Specifications	
RF detector	
Sensitivity	-75dBm for 3GHz frequency
Stepped attenuation/ gain control	-20dB, -10dB, Off, +15dB
Audio	
Built-in speakers with adjustable volume control	Tone style option
	Rising pitch, continuous tone, off
Display	
4cm capacitive touch screen	
Screen brightness	High, medium, low
Input/output USB data port for software upgrades and data transfer	
Input	Internal USB charger
Runtime	5 hours per battery
Charging time	1.5 hours per battery (80% charge), < 3.5 hours (95% charge)
Batteries	Rechargeable lithium-ion battery
Mechanical	
Housing dimensions	16 x 38 x 47cm
Unit dimensions	8.7 x 1.4 x 2.5cm
Weight	0.3kg
Operating temperature	-10°C to +50°C
Battery charging temperature	0°C to +35°C
Storage temperature	-20°C to +50°C

Note: Prolonged storage at temperatures above 40°C may affect the performance and life of the batteries.

PKI 4300 Universal Line Analyzer

The **PKI 4300** is used to check telephone lines, AC networks, alarm circuits and LAN cabling. In the process, the telephone and line detector checks used and unused cables for capacitive and inductive tapping as well as metrological abnormalities. Analog or digital modulation can be detected to ensure that no audio signal is transmitted via the checked telephone and/or network lines. With the pulse localisation method, the distance from the measuring point to the tapping point can be determined.

PKI 4300 is portable and therefore ideally suited to be used quickly, effectively, accurately and safely. The instrument is operated via a single rotary encoder (jog dial) and an intuitive user interface. The large and bright color touchscreen greatly improves ease of use and helps you work quickly and accurately. The built-in lithium-ion battery provides six hours of operation. **PKI 4300** can also be used in mains operation via the supplied smart charger. The rugged and stable housing allows it to be used in challenging environments and adverse conditions. Using so-called delta U-trigger technology, the best trigger timing is always automatically hit. The Linux-based operating system provides the highest level of reliability and cyber security.



Specifications	
Display	Industrial grade color TFT panel
LCD size	10.1" diagonal
Aspect ratio	16:10
Resolution	1,280 x 800 (WXGA)
Backlight	LED
Luminance	1000cd/m ² direct bonded Anti-reflective capacitive touch screen
Measuring range	20m ... 160km at V/2 = 80m/μs
Transmit pulse width	20ns ... 10μs
Transmit pulse amplitude	10 ... 50V
Resolution	0.1m at V/2 = 80m/μs
Accuracy	0.1%
Time base accuracy	100ppm
Sampling rate	Real 400MHz
Dynamic range	96dB, with adjustable ProRange (distance-dependent attenuation)
Time-of-flight setting	V/2 10 ... 149.9m/μs (or nvp)
Output impedance	50 Ω
	10 Ω ... 500 Ω, adjustable
Triggering	Automatically adjusting ΔU trigger technology.
Dielectric strength	< 400V, operation with isolation filter only
Memory	4GB for program and data
Connections	USB, BNC, CAN
Protection class	IP 65 closed, IP 54 open
Power supply	12 V lithium-ion accumulator with overcharge protection and deep discharge protection Charger 110 ... 240V, 50/60Hz
	10 ... 17 V DC, 3.8A
	6 hours operating time
	4 hours charging time
Dimensions	362 x 195 x 305mm
Weight	7.8kg
Operating temperature	- 10°C to + 50°C
Storage temperature	- 20°C to 60°C
Options	Isolating filter TF-VX for operation on mains voltages up to 600V, CAT IV
	TE post-location

PKI 4305 Wiretap tracker in power lines

PKI 4305 can be used to locate eavesdropping devices which are galvanically connected to the object under investigation with current and low current wire lines. This is not possible with conventional HF detection devices. The various operating modes, such as LF amplifier, reflector network, receiver and detector for non-linear transitions, enable detection and analysis. Adapters, couplers and cables are supplied to perform the various types of measurements and all possible combinations of pairs of multicore cables. This allows fast detection with **PKI 4305**.



Specifications	
Low frequency amplifier (LFA)	
Frequency range	20 - 25000Hz
Input resistance	200kOhm
Gain adjustment range	0 - 60dB
The maximum signal amplitude at one input	10V
Spectral density of the noise voltage	6nV/Hz
Preload values	0, +/-5, +/-10, +/-15, +/-20, +/- 26
Form of the representation of a signal	Oscillogram, spectrogram
Measuring range with direct current	+/- 80V
Wire receiver (WR)	
Frequency range	0.1 - 180MHz
Time of scanning of the entire range	0.3 – 1s
Minimum level of the detected signal in automated mode	- 60dBm
Dynamic range	50dB
Input resistance	50 Ohm
Demodulation	Am, FM
Filter bandwidth	180kHz
Maximum permissible voltage in cable	250 (AC), 80 (DC) V
Data representation in the form of	Spectrogram, oscillogram, table

PKI 4310 Multifunctional bug tracker

This combined tracking device enables the detection of listening devices, whether hidden or wired. Two operating modes make these user-friendly applications possible. **PKI 4310** has two operating modes: "Detector of a magnetic area" mode. This mode is intended for searching for functioning listening devices. The mode is implemented by receiving, converting and displaying electromagnetic signals resulting from the operation of electronic equipment. The built-in magnetic antenna is used as a receiver. The frequency range of the antenna (0.04 - 30kHz) enables the detection of devices with shielded housings. Operating mode "Cable Line Detector". It is intended for locating cables when searching for wired listening devices. This mode is implemented by sending a test signal (frequency 455kHz, modulated by a two-colour low-frequency signal) to a wired line and receiving it with a contactless sensor. The test signal is generated by a generator and fed to the cable. To compensate for the attenuation of the signal, an adjustment of the generator power is provided.



Specification			
Main module		Generator	
Magnetic field sensor		Signal frequency	455kHz
Sensor type	Differential	Signal amplitude	0.1 - 3V
Frequency range	0.4 - 30kHz	Type of signal modulation	Pulse amplitude modulation (PAM)
Threshold sensitivity	10 A/m ² Hz	Power supply	3.7V
Sensor of the electric field (receiver of the cable trace detector)		Weight and dimensions	
Sensor type	Differential	Weight of the main unit	0,34 kg
Operating frequency	455kHz	Main unit dimensions	212 x 64 x 60mm
Bandwidth	30kHz	Weight of the generator	0,2kg
Slide special threshold adjustment	30dB	Dimensions of the generator	110 x 64 x 60mm
Threshold sensitivity v/m ²	10HZ		
Power supply	3.7V		

PKI 4340 UAV Detecting and Jamming Device

Drones are becoming easier to acquire and operate. This makes them an active threat, as new and creative ways to prevent them from entering high-security environments must be found. High mobility, speed and low visibility make the drones useful tools for threats and attacks. They can be used for material, physical, harassment or even espionage damage, thus posing a threat to intelligence, research, security and defense, physical facilities, the public, privacy and security. **PKI** technology can be used by civil, military, police, private security companies, etc. to enhance and strengthen their defenses against the hostile intentions of this new threat called the drone. Commercial facilities, office buildings, critical infrastructure, private homes, bridges, dams, communication networks, airports, prisons, etc. ... they are most likely to be threatened by drones and easily attacked. Let's not forget the celebrities, executives, dignitaries and other personalities who are personally responsible for security concerns. **PKI** has the technology to monitor and protect these environments and people, to provide early warning, localization and presence of drones. **PKI** technology can be easily integrated into existing security systems to provide highly accurate, real-time detection and alerting. Emits instant alerts via email, SMS or set up your alarm system, which always enables a fast and proactive response.



Specifications	
Operating Frequencies	400 - 2483MHz, 5725 - 5850MHz, 1559 - 1616MHz
Interference distance	Up to 2.1KM, higher under optimal otographic conditions
Effective interference range	> 3 - 7 times the distance between TX and RX of the UAV
Dimensions	410 x 90 x 55mm
Weight	2kg
Power supply	Lithium batteries
Operating time	60 minutes in continuous use, 250 minutes in intermittent use

PKI 4345 PTZ Jammer

PKI 4345 is versatile and effective in use. It can be installed using a tripod or with a fixed mast mounting. **PKI 4345** blocks the communication link between the drone and the remote control by sending electromagnetic signals, thus interrupting the reception of satellite navigation signals. This forces the drone to return or land immediately. **PKI 4345** transmits on the frequencies 800MHz, 900MHz, 1.5GHz, 5.8GHz, covering most of the UAV communication and navigation frequencies. Special frequencies can also be supplied by **PKI** on request. In conjunction with a pan/tilt head, **PKI 4345** can quickly and accurately aim at and control the drone. With a jamming range of 3000m **PKI 4345** is one of the strongest of its type, equipped and integrated with the special multi-band antenna, control board and power jamming unit.



Specifications	
Jamming Range	≥ 3000m
Transmitting Power	Per frequency band ≤30W
Operation Frequency	Navigation band; 1.5GHz (GPS, BEIDOU B1, GLONASS) Remote control frequency band; 800MHz/ 900MHz/ 2.4GHz/ 5.8GHz
PTZ Coverage	Azimuth 0° ~ 360°, elevation -15°~ 65°
PTZ Speed	≥ 30°/s
Power Supply	AC 100
Working Temperature	-20°C to +60°C
Working Consumption	≤ 220W

PKI 4350 6GHz Real-time spectrum analyzer

PKI 4350 is the world's first and only dual USB True I/Q Streaming Spectrum Analyzer with up to 784M Bytes/s and scans 6GHz in less than 5mS (1THz/s). The dual receiver bandwidth is 2x 200MHz and the I/Q vector signal generator bandwidth is up to 120 MHz for seamless streaming. The world's leading spectrum analysis software "RTSA-Suite PRO" makes this exceptional data available. Whether a radio frequency range from 10MHz to 6GHz or the extraordinary dynamic range of a 16Bit - ADC at 2 GSPS or FFT- based POI with a length of only 97ns or I/Q - based POI up to 10ns unlimited and continuous I/Q - streaming with up to 2x USB 3.0 The sampling rate of 500 MSPS divided into 16Bit Dual 256 MSPS I/Q data or FPGA of 930 GMAC/s as well as the FFT rate of 960 million FFT points/s (120 million FFTs/s) make this German **PKI 4350** product distinctive and leading on the world market. **PKI 4350** is fast, compact and powerful and solves any RF problem regarding fat run monitoring, RF and microwave quantity, interference search, EMC testing or Wi-Fi and wireless network measurements. **PKI 4350** is mainly used by governments, military, aeronautics, research and development, science and universities and by the entire industry.



Specification	
Weight	850g
Dimensions	210 x 115 x 30mm
Software	Completely belongs to the equipment
Housing	Aluminium
Input/ Output	50 Ohm HF (SMA)
Accessories	Various antennas: - IsoLOG 3D Mobile radio 9KHz - 6GHz - BicoLOG Antennas 20MHz - 3GHz - HyperLOG Antennas 380MHz - 6GHz
Frequency range	10MHz to 6GHz (1Hz to 26GHz in development)
Real-time bandwidth Rx	200MHz (245 I/Q rate)
Real-time bandwidth Tx	120MHz I/Q gapless streaming
POI	97nS (FFT-based), 10nS (direct I/Q-based)
Max. power Rx	+ 23dBm
Max. power Tx	3dBm
DANL (internal pre-amp on)	Typ. -170dBm/Hz
Amplitude accuracy (typ.)	Typ. +/- 0,5dB (compensated by FIR filter)
USB streaming connection	One or two USB 3.0
USB bandwidth	Up to 784 Mbytes/s sustained Throughput to PC
Frequency reference accuracy	0,5ppm (5 ppb via OCXO option)
RBW (resolution bandwidth)	62mHz to 200MHz
Measurement units	Over 20 (e.g. dBm, V/m, A/m)
Detector	Min, Max, AVG, Peak, QPeak (in development)
Attenuator range	36dB (0,5dB steps)
Tracs	Over 20 (e.g. ACT, AVG, MAX, MIN, QPEAK)
Measurement modes	True IQ or Power/ Frequency data
Trigger	Cursor, Measurement, Density
ADC	Dual 2GSPS 16 Bit
DAC	2GSPS 14-Bit
GPS	GPS/QZSS, GLOSNASS, BeiDou and Galileo
GPS synchronization	+/- 10ns timestamping in each data packet
External Frequency Reference Input	Typ. 10MHz, 3,5VRMS into 50 Ohm (SMB-connector)
FPGA	XC7A200T-2
DSP	930 GMACs
SDRAM	2GB
RF connectors	SMA (Rx, Tx), SMB (Trigger, Refclock, GPS, PPM)
Temperature range	-40°C to +60°C
Power	USB 3.2 Gen 1 Type-C PD 3.0
Power consumption	Typical 15 W

PKI 4355 UAV Passiv Radar Detection Device

PKI 4355 is designed to seek and acquire the moving target at altitudes between 100 - 1000m and at super-deep altitudes below 100m in all directions and in all weather conditions. **PKI 4355** can detect the UAV target and provide early warning by analyzing and detecting the UAV control signal and data link return signal. Passive detection does not transmit electromagnetic signals, making it not only environmentally friendly, but also ideal for use at airports because **PKI 4355** does not emit any interfering signals. It can be installed on a tripod for temporary use or permanently mounted on a mast for longer-term protection in areas with high security requirements, both are possible.



Specifications	
Detection range	5000m
Detecting frequency range	300 ~ 6000MHz
Detection antenna frequency	840 – 930MHz 2400 – 2520MHz 5725 – 5850MHz
Detection direction	All direction 360°
Detection accuracy	≤ 3° (RMS)
Dimensions	D 470 x H 250mm
Communication port	LAN
Installation method	Fixed installation/ portable tripod installation
Deployment/ retreat time	≤ 2min
Power supply	DC 24V
Power consumption	≤ 40W
Weight	≤ 10kg
Working temperature	- 40°C - +65°C
Protection class	IP65

PKI 4360 Ultra-wideband monitoring antenna 100kHz - 12GHz

PKI 4360 is an exquisitely designed TSCM-specified radome near-field monitoring antenna with a small footprint that meets the demanding technical specifications for a wide range of near-field spectrum monitoring tasks and continuous spectrum monitoring tasks from low frequency (LF) to super high frequency (SHF).



Specifications	
Spectrum Range	100kHz - 12GHz LF/ MF/ HF/ VHF/ UHF/ SHF
Spectrum Bands	ISM/ DECT 6.0/ DCS/ DAB/ LTE/ AWS/ GSM/ PCS/ CDMA/ 2G/ 3G/ 4G/ 5G/ LTE/ WLAN
Gain	5dBi
Omnidirectional pattern	360 degrees
Polarisation	Vertical
Front/back ratio	Nominal (15dB)
Impedance	50Ω
Connector	Bulkhead N (F)
Dimensions	165 x 90mm
Weight	300gr

PKI 4365 Spectrum – Analyzer

PKI 4365 is designed to measure power and frequencies of known and unknown frequencies in the range 10kHz - 12GHz with a sweep speed of 200GHz per second. **PKI 4365** displays a full range of frequency data. **PKI 4365** allows the user to monitor RF power levels quickly and easily for several specific RF bands on one screen. To achieve the highest possible input sensitivity, a variety of antennas are used for each frequency as listed below. **PKI 4365** automatically detects the connected antennas or transmitters. These are displayed on the screen in the corresponding frequency range.



Hybrid Whip antenna: 300MHz - 6GHz
 Fixed Hybrid antenna: 85MHz - 6GHz
 Down-converter Antenna: 500MHz - 12GHz
 Directional Antenna: 70MHz - 500MHz
 VFL Loop: 10kHz - 30MHz
 Locator Probe: 20MHz - 6GHz

Multi Carrier Probe (MCP): 100kHz – 60MHz
 Visible Light/ Infrared: 10kHz – 50MHz
 Ultrasonic Probe: 15kHz – 80kHz
 Audio Transformer: 300Hz – 20kHz
 Acoustic Leakage Detector: 300Hz – 20kHz
 GPS USB Dongle: Acquires live GPS location data

Specifications	
Sweep speed	200GHz/ second
Operating frequency range	10kHz - 6GHz
Resolution bandwidth	Variable depending on span: 0.0380kHz to 312.5kHz
Unchanged bandwidth	25MHz
DANL - Noise Floor	500kHz RBW with preamplifier: -102dBm
Attenuation	0dB, 10dB, 20dB, Auto
Preamp	+15dB
Detection types	RF, carrier current, acoustic leakage, IR/visible light, ultrasonic.
Noise-free dynamic range	81.6dB
Receiver type	Sweep-tuned superheterodyne
Audio demodulation	Am/ FM demodulation with filter options: Auto, 200kHz, 20kHz, 5kHz
Input port	QMA connector (RF input) for supplied and additional RF antennas
Operation Modes	Spectrum Analyzer, SmartBars™, Mobile Bands, Wi-Fi, Bluetooth
Warning types	Haptic, audible and visible warnings
Display/control	18cm capacitive touch screen, brightness control
Display functions	Zoom, screen lock, frequency span, start/stop frequencies, resolution bandwidth, centre frequency, automatic probe detection. Display types include RF Spectral Display, SmartBars Bar Display, Cached Peak Display, Wi-Fi/Bluetooth Scanner, Waterfall Display, Persistence Display, RSSI, Average Trace
Remote access	Ethernet port for VNC remote access
Signal list creation	Manual or automatic depending on mode
GPS	Removable USB port, captures and stores GPS data
Audio	Built-in loudspeaker and external headphones with adjustable volume Microphone port for acoustic leakage sensor and audio transformer
Data ports	2 USB 2.0 Type A ports for software upgrades, file storage, data transfer and GPS dongle, Gigabit Ethernet port
Power supply	AC: 100 - 240V/ 50 - 60Hz; rechargeable lithium-ion battery.
Runtime	3 hours (per battery)
Charging time	3 hours (per battery)
Dimensions	13 x 20 x 5cm
Weight	1.1kg
Housing dimensions	16 x 38 x 47cm
Weight with housing	6.8kg
Operating temperature	-10°C to +53°C
Battery charging temperature	-5°C to +37°C
Storage temperature	-20°C to +60°C

Note: Prolonged storage at temperatures above 40°C may affect battery performance and life.

PKI 4370 Handheld Spectrum Analyzer 9kHz to 20GHz

Fast, compact and powerful, **PKI 4370** leaves nothing to be desired and has many highlights to offer:

- Multi window support
- Powerful undo function
- Channel and provider display
- Custom skins and color settings
- Spectral analysis software included



Perfect for any RF problem, fastest real-time analyser software in the world, Made in Germany. 3D view and histogram view, extremely low-noise signal processing. Multi-device capable, remote-control function of several measuring devices. Can be operated simultaneously on the same PC. Works on all major operating systems such as MAC OS, Linux and Windows, Real-time remote-control function via the integrated USB port. Unlimited number of limit value displays including EN55011, EN55022, ICNIRP etc. including display of limit value lines and limit value bar graphs.

Specifications	
Frequency range	1MHz (9kHz with option 900) to 9.4GHz
AVG Noise Level (DANL)	-155dBm(1Hz)*
AVG Noise Level (DANL) PreAmps	-170dBm(1Hz)*
AbsMax Level	+20dBm
AbsMax Level	+40dBm (Option)
Smallest possible SampleTime	1mS
Up to 100x faster SampleTime, up to 80dB higher sensitivity	
14Bit Dual ADC, DDC hardware filter, 150 MIPS DSP (CPU)	
Type. Accuracy	+/- 1dB
Dimensions	260 x 86 x 23mm
Weight	420gr
Recommended accessories	
Pistol grip/mini stand	Can be screwed to the rear of the instrument and enables optimum handling (bearing function) of the instrument as well as setting it up as a stable "tabletop" instrument as well as the setting up of the device as a stable "table device". Strongly recommended for use with the PC.
Aluminum stand	Height adjustable as desired, high stability. Maximum height: 105cm.
1m / 5m / 10m SMA cable	High quality SMA special cable to connect antennas. Available as 1m, 5m and 10m cable. All versions: SMA plug (male) / SMA plug (male).
Cigarette lighter adapter	With operation LED. For charging batteries or operation in the car incl. special plug.
DC blocker (SMA)	Prevents, e.g. during measurements of actively fed antennas, the destruction of the RF input of PKI 4370 by harmful DC voltage.
Calibration resistor (DC-18GHz)	Recommended for optimal measurement of the noise floor.
20dB precision attenuator	Extends the measurement range from +20dBm to +40dBm. DC-18GHz.

Scope of delivery

- | | |
|--|---|
| <ul style="list-style-type: none"> • PKI 4370 Handheld Spectrum Analyzer • Directional antenna • 3000mAh power battery with charger • Detachable pistol grip with mini tripod function • SMA screw tool and SMA adapter coupling | <ul style="list-style-type: none"> • 1m SMA cable • USB cable • Rubber protective cover • Sturdy carrying case • Detailed manual |
|--|---|

PKI 4375

Ultra wideband DF antenna 20MHz - 8GHz, optional 20MHz - 20GHz

PKI 4375 is an ultra-wideband DF antenna for real-time spectrum monitoring. **PKI 4375** offers the latest technology on the DF antenna array, high tracking accuracy, 360° coverage without mechanical rotation, super-fast-tracking speed and easy-to-use PC control software. The housing is waterproof, shock and heat resistant. **PKI 4375** is particularly suitable for the detection of drones or unmanned aerial vehicles. The wide frequency range eliminates the need for multiple antenna setups. **PKI 4375** resembles a camper van satellite dish and is therefore not recognizable as a tracking device.



Specifications	
Frequency Range	
Standard	20MHz to 8GHz
VLF Extender to 20MHz	Included
SHF Extender to 20GHz	Optional

Additional Options	
Internal GPS Receiver	Yes
Internal Low-Noise Pre-Amplifiers	Yes (includes)
Customized Color (RAL Table)	Yes (standard – white)

Measurements & Operating Specifications	
Dimensions	960 x 960 x 380mm
Weight	25kg
Operating Temperature	-30°C to +60°C
Storage Temperature	-40°C to +70°C
RF Output	N (50Ohm)

PKI 4380

RF Sweeping System 6GHz – 18GHz

PKI 4380 is the latest tracker from **PKI's** production. Whether 4G, 5G, WLAN, Bluetooth, DECT, these wireless data transmitters are located with this. Mobile phones and modems in CDMA 450, GSM 900, GSM 1800 and 3G are also included. By using a periodic broadband log antenna, the Wi-Fi and Bluetooth signals are analysed for MAC addresses or SSIDs to find and remove illegal installations. **PKI 4380** is indispensable when important conferences are scheduled and content is not allowed to leak outside.



Specifications	
Dimensions	420 x 340 x 140mm
Weight	4.2kg
Frequency	6GHz - 18GHz
Packaging	Plastic carrying case
Power supply	Li-Ion battery

PKI 4385 Interception Analyzer

This monitoring receiver is designed for capturing of signals, for spectro analysis as well as for recording of received signals. It covers a range from 9kHz - 24GHz or optional 9kHz - 40GHz. This newest generation microwave spectrum analyzer rivals the highest level of performance offered by the microwave industry today. Options include preamplifier for the complete frequency range pushing the displayed average noise level (DANL) to values as low as -165dBm/Hz at 40GHz, hardware phase noise reduction down to < -140dB c/Hz @ 10kHz for input frequencies 9kHz – 1GHz, software packages for phase noise and noise figure testing. This **PKI 4385** Interception Analyzer should become the instrument of choice for a discerning engineer. **PKI 4385** is designed and manufactured for aerospace and defense areas, special communication-control with highly sensitive spectrum.



Specifications	
Resolution bandwidth (-3dB level)	From 1Hz to 300kHz in 1-3-10 sequence
Resolution bandwidths (-6dB level)	200Hz, 9kHz, 120kHz, 1MHz, 3MHz
Optional analysis bandwidth	10MHz / 30MHz / 160MHz
Scan setting range	Zero span; from 1Hz to full span
Span setting accuracy	+/- 10%
Frequency range	9kHz (option 10Hz) - 24GHz 9kHz (option 10Hz) - 40GHz
RBW nominal value accuracy	+/- 10%
RBW selectivity -60 dB/-3dB	< 5:1
Reference OCXO frequency	100MHz
Reference OCXO aging	+/- 1x10-6 / year
Short-term reference OXCO frequency drift	+/- 3x10-7
Initial setting accuracy	+/- 1x10-7
Video Bandwidths	10Hz; 100Hz; 1kHz; 10kHz, 100kHz
Noise sidebands, dBc/Hz	10kHz - 125dBc/Hz
1 GHz frequency carrier at a given offset	1MHz - 145dBc/Hz
Level measurement range	From DANL to +30dBm
Reference level setting range	From -100dBm to +30dBm
Absolute level measurement accuracy at 50 MHz	+/- 0,50dB
Input attenuator range	70dB in 10dB steps
Input attenuator uncertainty	9kHz - 3GHz +/- 0,50dB 3GHz - 28GHz +/- 1,5dB 28GHz - 40GHz +/- 2,0dB

Frequency response in the frequency band

- 9kHz - 3000MHz: +/- 0,5dB
- 3GHz - 11GHz: +/- 1,5dB
- 11GHz - 28GHz: +/- 2,0dB
- 28GHz - 40GHz: +/- 3,0dB

Dimensions:

- With standard ribbon ears: 464 x 260 x 537mm
- With rack mount option: 444 x 240 x 428mm
- (With front rack handles): 503mm

Level measurement scale; logarithmic or linear

- Display scale range: Up to 200dB
- Arbitrary scaling: From 0,01dB/div up to 20dB/div
- Logarithmic scale uncertainty: +/- 0,05dB
- Harmonic distortion level: - 70dBc from 10MHz to 3GHz
- (For levels at input mixer <-30dBm): - 90dBc from 3GHz to 40GHz
- Intermodulation distortion for a two-tone signal: <-80 Bc at 1GHz
- (2 signals with -20dBm level offset by 30kHz): (TOI >20dBm, +25dBm typical)
- Displayed average noise level: 9kHz - 100kHz -135dBm
- (1Hz RBW, 0dB input attenuation): 100kHz - 3GHz - 150dBm
- Residual signals (input is terminated in 50Ohm): 3GHz - 18GHz - 150dBm
- Spurious signals: 18GHz - 40GHz - 145dBm
- Residual signals (input is terminated in 50Ohm): <-100dBm
- Spurious signals: <-70dBc

PKI 4390 Wideband Direction Finding System

PKI 4390 is designed for mobile use and operation in open space as well as for localization of transmitters inside. It is the unique solution when high mobility and quick response is essential. The exceptional directional antenna set with integrated electronic compass and data transfer from antenna to analyzer provides a classification and localization of HF signals. This is most important when localizing eavesdropping systems. As soon as a signal is identified the transmitting source can be located by means of bar diagrams and numerical display of the signal level. Besides the displayed information an acoustic signal is audible. The actual antenna alignment is displayed on the monitor and continuously updated by the integrated electronic compass. Additionally, the integrated GPS receiver provides necessary position data and hereby ideally supports direction finding.

PKI 4390 works in the frequency range from 9kHz up to 6GHz.

4 active directional antennas are necessary to cover this wide range.

- Directional antenna 1: for 9kHz up to 30MHz
- Directional antenna 2: for 20MHz up to 250MHz
- Directional antenna 3: for 200MHz up to 500MHz
- Directional antenna 4: for 400MHz up to 6GHz

These must be connected to analyser. A complete scan needs less than 500ms at high resolution. Even sources with very low transmitting power can be identified using the directional antennas due to their extreme low noise level of -30dBμV/m.



Specifications	
RF Data	
Frequency	
Range	9kHz to 6GHz
Phase noise (SSB)	< - 100dBc/Hz (@ 300kHz carrier offset verified at (57,5 / 2140.5 / 4500.5) MHz)
Reference frequency	
Initial deviation	< 1ppm
Aging	< 1ppm/year, < 5ppm over 15 years
Thermal drift	< 1,5ppm (-10°C to +50°C)
Amplitude	
Display range	From displayed average noise level (DANL) to + 20dBm
Reference level (RL)	-30dBm to +20dBm in steps of 1dB
RF input attenuation	0 to 50dB in steps of 1dB (coupled with reference level)
Reference level setting	Set individually from a list or using the "RL Search" function for determining the optimum reference level at a given time
Level uncertainty	≤ 1.2dB (15°C to +30°C)
Displayed Average	f ≤ 30MHz: <- 160dBm/Hz (noise figure < 14dB)
Noise Level (DANL)	f ≤ 2GHz: <- 156dBm/Hz (noise figure < 18dB)
Basic unit only	f ≤ 4GHz: <- 155dBm/Hz (noise figure < 19dB) f ≤ 6GHz: <- 150dBm/Hz (noise figure < 24dB)
Displayed Average	f ≤ 3GHz
Noise Level (DANL)	f ≤ 4GHz: <- 166dBm/Hz (noise figure < 8dB)
With active antenna	f ≤ 6GHz: <- 164dBm/Hz (noise figure < 10dB)
Handle, preamp. on (typ).	
RL = - 30dBm (input attenuation = 0dB)	
3rd order intermodulation	<-60dBc for two single tones, With a level of 6dB below RG, spaced by 1MHz or more
Spurious responses (Input related)	< -60dBm or RL-60dBm (whichever is worse) and a carrier offset of 1MHz or more
Spurious responses (residual)	<-90dBm (RL=-30dBm, input attenuation = 0dB) for 294 to 306MHz and 4534 to 3486MHz limited to <-85dBm

RF input	
Type	N-connector, 50Ohm, female
Maximum RF power level	+ 27dBm (destruction limit)
Maximum DC voltage	+/- 50V
Return loss	> 12dB (typ.) f ≤ 4.5GHz
	> 10dB (typ.) f > 4,5GHz
	RL ≥ 28dBm (input attenuation ≥ 2dB)
Operating Modes	
Measurements vs. frequency	Spectrum (including Spectrogram) multi-channel power
Measurements vs. time	Level meter scope (option)
Measurements vs. direction finding	Incl. horizontal scan and localisation orientation/position
Spectrum	
Measurement principle	High resolution spectrum analysis with up to 27000 frequency points per spectrum
Resolution bandwidth	10Hz to 20MHz (1-2-3-5 steps)
RBW (-3dB nominal)	
Video bandwidth VBW and RMS detection	0,2 to 2MHZ (1-2-3-5 steps) or off coupled with selected RBW (VBW = RBW/10...RBW/1000)
RMS detection	The effective integration time for forming the RMS value can be defined as T = 0,32 /VBW
Filter type	Gaussian shape factor (-60dB/-3 dB) 3,8 typical
Measurement	
Spectrum	Graphical analysis, peak table, channel power
Delta spectrum	Display of selected traces relative to the reference trace (ref)
Spectrogram	Visual representation of recorded spectra
Spectrogram & Spectrum	Visual representation of recorded spectra with simultaneous view of the actual trace
Trace (spectrum)	
Act	Clears the previous spectrum and displays the actual measured spectrum
Max	Maximum hold function
Avg	RMS averaging over a selectable number of spectra (4 to 256) or a selectable time of 1 to 30min.
Max Avg	Maximum hold function after averaging
Min	Minimum hold function
Min. Avg	Minimum hold function after averaging
Detector (Spectrogram)	
+Peak	Maximum value of all values within an interval
RMS	Root mean squared average power of all the measurements within an interval
-Peak	Minimum value of all values within an interval
All three detectors are used simultaneously for spectrogram recording	
Spectrogram recording	
Frequency resolution	≥ Fspan/860
	Up to 400 traces (spectrogram lines)
Observation period	Approx. 4 s up to 40 Hours
Time resolution	As fast as possible, 10 ms to 5min (1-2-5 steps) or 6min
Magnifier	Simultaneous display of the selected spectrum and a magnified section of interest (magnification level of 10x or 50x)
Level Meter	
Measurement principle	Selective level measurement (zero span mode at a tunable fixed frequency)
Detector	Peak (hold time = 480ms)
	RMS (average time selectable from 480ms up to 30min.)
	Peak & RMS simultaneously
Resolution bandwidth	100Hz to 32MHz
RBW (-6 dB)	(In steps of 100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1000, 10MHz, 13.333MHz, 16MHz, 20MHz, 26.66 MHz, 3 MHz)
Filter type	Steep cut-off channel filter (app. raised cosine)
Roll-of factor	0.16
Video bandwidth (VBW)	0,01H to 32MHz or off coupled with selected RBW (VBW = RBW/1... RBW/10000)
Max hold	Available for peak and RMS detectors
Noise threshold	Selectable at 0, 3, 6, 10, 15, or 20dB relative to device noise floor. Measurement values below threshold are shown as "absolute threshold value"

Direction Finding	
Measurement principle	Selective level measurement (zero span mode at a tunable fixed frequency) Possible parameters and settings as specified under LEVEL METER
Antenna direction indication	Numerical display of azimuth, elevation and polarization determined by the embedded electronic compass of the antenna handle
Position indication	
Outdoor	Instrument position displayed as latitude and longitude determined by the embedded GPS receiver of the basic unit. Optional: graphical indication of the current position drawn on a map
Indoor	Instrument position set manually on an editable rectangular room layout
Detector	Peak or RMS detection, RMS averaging time: selectable, 0,48s to 30min
Display modes	
Manual bearing	Bar graph and numerical display of the signal level and indication of the direction
Horizontal scan	Polar diagram of the signal level vs. antenna orientation, normalized to the maximum signal, automatic direction finding and indication
Smart DF localization	Graphical indication of the triangulation results for all measurement positions, accepts measurements being performed by manual bearing or horizontal scan. Display of the estimated emitter coordinates, optional drawn on a map (option mapping)
Horizontal scan	
Continuous	Every 120ms the polar diagram is updated with the current signal level and compass data. Start and stop is initiated by key press on the antenna handle. The duration of a scan is limited to a maximum of 4min. The target azimuth is calculated automatically.
Discrete	For every key press on the antenna handle the polar diagram is updated with the current signal level and compass data. At least 3 samples are required for calculating the target azimuth (up to 2000 samples are possible). Useful for longer averaging times.
Discrete with max hold	The polar diagram is updated with the max hold signal level and compass data by pressing a key on the antenna handle. Allows determination of the direction even of intermittent signals.
SmartDF localization	Shows the vector of target azimuth related to the measurement position. Triangulation results based on several vectors will be calculated and the geo coordinates of the potential transmitter position will be displayed. Coordinates are referenced to the geodetic datum. Signal fading vs. distance can be considered for target position calculation. Remotely determined vector data can be added by manual entry.
Transmitter table	Used to simplify frequency settings and speed up finding multiple sources transmitting at different frequencies. Tables can be created on-site and include Fcent and RBW.
Maps (option)	Display of high-resolution street maps in various zoom levels. OpenStreetMap bitmap tiles can be downloaded from internet free of charge using the PKI map download tool. Map data are stored on micro SD card and then plugged into the card slot for portable use.
Scope (Option)	
Measurement principle	Selective level measurement (zero span mode at a turnable fixed frequency)
Resolution bandwidth	100Hz to 32MHz
RBW, (-6dB nominal)	(In steps of 100, 125, 160, 200, 250, 320, 400, 500, 640, 800, 1000, 10MHz, 13.333MHz, 16MHz, 20MHz, 26.666MHz, 32MHz)
Filter	Type: steep cut-off channel filter (app. raised cosine) Roll-off factor 0.16
Video bandwidth (VBW)	0,01Hz to 32MHz or off coupled with selected RBW (VBW = RBW/1. RBW/10000)
Measurement	
High resolution scope	Measures the actual magnitude Time resolution coupled to 1/RBW (31.25ns to 10ms)
Long-time scope	Uses selectable detectors to measure the magnitude Sweep time 4μs to 24h (resolution ≥ 250μs)
I/Q data	Measures the real and imaginary part of the signal I, Q or both (max. 250000 samples each) Time resolution coupled to 1/RBW (31.25ns to 1ms)
Detector	+Peak, RMS, -Peak can be selected individually for long-time scope
Magnifier	Simultaneous display of the selected spectrum and a magnified section of interest (magnification level of 25x or 500x)

Duty cycle	Measurement function for the ratio of average power to maximum power (not for I/Q data)
Triggering	Free run, single, multiple, manual start, time controlled Programmable trigger level, trigger slope and trigger delay
Multi Channel Power	
Measurement principle	Spectrum analysis, followed by channel power evaluation
Number of channels	1 to 500, to be defined on instrument or by PKI tools PC software
Channel band width CBW (-3DB nominal)	Individually selectable for each channel, from 40Hz to 6GHz
Roll-off factor	< 4 *RBW/CBW
Applied RBW	Automatic: CBW / 4 (RBW ≤ 20MHz) Manually: 10Hz to 20MHz (1-2-3-5 steps), (RBW ≤ CBW /4) Individual: separately defined for each channel using PKI -tools
Channel lists	Automatic creation on the unit or by PC configuration software. Channel name is assigned automatically. User definable channel names (15 characters max.) can be assigned by PC. "Others" summarizes results of all frequency gaps within the list of channels.
Detection	Root mean square value (RMS), integration time T = 1 /RBW
Trace, RBW	See spectrum analysis mode
Display/Views	
Table	Channel name, corresponding frequency band, measurement result, RBW if set individually for each channel. Sort function according to columns. Selectable evaluation function: distribution of each channel in relation to total amount
Bar graph	Bar graph for measurement result of each channel Noise threshold selectable at 0, 3, 6, 10, 15, or 20dB relative to device noise floor, measurement values below threshold are shown as "< absolute threshold value".
General Specification-Basic	
Instrument display	
Type	TFT color display with backlight
Size, resolution	7 inch (152mm x 91mm), 800 x 480 pixels
Interface	USB mini B (USB 2.0) Optical RS 232 (baud rate 115 200) Headphone 3.5mm TRS, switches off the integrated speaker when connected MicroSD-card interface for maps and export of measurement data, screenshots and WAV
Cables, external devices	RF cables are automatically detected (type, frequency response and more), other cables and external devices (e.g. filters) can be defined and selected manually
Antenna detection	Directional antennas are automatically detected (type, polarization, consideration of typical antenna factors, preamp gain and frequency response), other antenna parameters can be defined and selected manually
Result units	
With antenna	V/m, A/m, W/m2, mW/cm2, dBV/m, dBmV/m, dBA/m, dBμV/m, dBm, dBV, dBmV, dBμV
Without antenna	dBm, dBV, dBmV, dBμV
Display functions	Y-scale reference: -130dBm, to 40dBm Y-scale range: 20dB, 40dB, 60dB, 80dB, 100dB, 120dB Y-scale auto: automatic scaling
Marker functions	For graphical analysis of spectrum, spectrogram, scope, MCP bar graph - single marker or delta marker - peak marker: highest, lower, higher, left, right adjustable peak threshold and excursion
Demodulation	
Modulation types	AM, FM, LSB, USB (level meter and DF mode)
Representation	Instrument speaker or external earphone
Squelch	-120dB to -40dB nominal, off
Audio recording	Format 16Hz/ 16bit wave file recording (WAV)
Fast frequency setting	Frequency setting by selection lists (multi-channel table or transmitter table) or by Fstep
Fast mode switch	"Go to mode" transfers centre frequency or marker frequency and other relevant parameters to the selected operating mode
Setups	PKI 4390 can store up to 200 device configurations. Up-/download by configuration software

Results storage	
Measurement results	ASCII format for further evaluation and import into spreadsheets (e.g. MS-Excel)
Comments	Voice comments (wave file format) or text comments (ASCII) can be added to saved results
Screenshots	File format PNG
Demodulation records	File format WAV
Conditional storing (not for DF and scope)	Conditional storing of results exceeding a user definable threshold value with individual storage rates and reset function
Time controlled storing (not for DF and scope)	Long-term monitoring up to 99 hours. inside the basic unit is a GPS receiver for position detection and an electronic compass as an aid to orient the map northwards
Compass /GPS	Inside the basic unit is a GPS receiver for position detection and an electronic compass as an aid to orient the map northwards

General Specifications - Basic Unit

Environmental	
Operating temperature	-10°C to +50°C with battery 0°C to +40°C with external power supply
Humidity	< 29g/m3 (< 93% RH at +30°C) noncondensing
Compliance	
Climatic	Storage 1K3 (IEC 60721-3) extended to -10° to + 50°C Transport 2K4 (IEC 60721-3) restricted -30°C to +70°C due to display Operating 7K2 (IEC 60721-3) extended to -10°C to +50°C
Mechanical	Storage 1M3 (IEC 60721-3) Transport 2M3 (IEC 60721-3) Operating 7M3 (IEC 60721-3)
Ingress protection	IP 52 (with antenna attached and interface protector closed) IP 67 (stored in the hardcase)
EMC EU	Complies with EMC directive 2004/108/EC and IEC/EN 61326-1: 2006
EMC immunity	IEC/EN: 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-11
EMC emissions	IEC/EN: 61000-3-2, 61000-3-3, IEC/EN 55011 (CISPR 11) class B
Safety	Complies with European Low Voltage Directive 2006/95/EC and IEC/EN 61010-1: 2004
Weight	2,8kg (basic unit including battery)
Dimensions	213mm x 297mm x 77mm (HxWxD)
Power supply, Battery	Lithium-Ion rechargeable battery pack, hot-swappable during operation Operating time: 2,5 hours (nominal) Charging time: 4,5 hours (nominal)
External power supply	Input: 9 to 15VDC Adapter 100-240 VAC / 12VDC 2,5 A
Calibration interval	24 months (recommended)
Country of origin	Germany

General Specification - Antenna Handle and Antennas

Environmental	
Operating temperature	-10°C to +50°C
Humidity	< 29 g/m3 (< 93% RH at +30°C) noncondensing
Compliance	
Climatic	Storage 1K3 (IEC 60721-3) extended to -10°C to +50°C Transport 2K4 (IEC 60721-3) Operating 7K2 (IEC 60721-3) extended to -10°C to +50°C
Mechanical	Storage 1M3 (IEC 60721-3) Transport 2M3 (IEC 60721-3) Operating 7M3 (IEC 60721-3)
EMS EU	Complies with European Low Voltage Directive 2006/95/EC and IEC/EN 61326-1: 2006
EMS immunity	IEC/EN: 61000-4-2, 61000-4-3, 61000-4-4, 61000-4-5, 61000-4-6, 61000-4-11
EMS emissions	IEC/EN: 61000-3-2, 61000-3-3, IEC/EN 55011 (CISPR 11) class B

Safety	Complies with European Low Voltage Directive 2006/95/EC and IEC/EN 61010-1: 2004
Dimensions (L.W.H)	Handle: 165 x 165 x 43mm, 470g
Weight without cable	dir. antenna 1: 326 x 255 x 80mm, 450g dir. antenna 2: 285 x 410 x 43mm, 350g dir. antenna 3: 460 x 320 x 48mm, 400g 3100/14: 430 x 370 x 42mm, 380g
Country of origin	Germany
Active Antenna Handle (3100/10) with Electronic Compass and Preamplifier	
Frequency range	9kHz to 6GHz Frequency response correction is applied automatically when used in conjunction with the PKI basic unit
Preamplifier	Built-in, can be switched off amplification 20dB, noise figure < 6dB
Compass	Embedded electronic compass
Compass uncertainty	Azimuth uncertainty < 1,5° RMS for tilt < 15° pitch and roll uncertainty < 3° RMS in the range of +/- 30° (RMS means the standard deviation of the specified error)
Connection cable to basic unit	RF cable and control cable combined in a flexible tube, length 1 meter
RF connector to basic unit	N-connector, male, 50Ω
RF connector to directional antenna	BMA 50Ω (female on handle side)
Antenna connectivity	Antennas can be plugged in with horizontal and vertical polarization. Type of antenna and polarization detected automatically and transferred to basic unit
Power supply	From basic unit
Mounting	Cthread on the underside of the handle for tripod mounting
Directional Antenna 1	
Frequency range	20MHz to 250MHz (Typical antenna factor correction is applied automatically when used in conjunction with the basic unit and active antenna handle)
Antenna type	Loop antenna
Antenna factor	21dB (1/m) typical @ 200MHz (passive mode)
Directional Antenna 2	
Frequency range	200MHz to 500MHz (Typical antenna factor correction is applied automatically when used in conjunction with the basic unit and active antenna handle.)
Antenna type	Dipole antenna
Antenna factor	21dB (1/m) typical @ 350MHz (passive mode)
Directional Antenna 3	
Frequency range	400MHz to 6GHz (Typical antenna factor correction is applied automatically when used in conjunction with the basic unit and active antenna handle)
Antenna type	Log-periodic antenna
Antenna factor	18,5dB (1/m) typical @ 500MHz (passive mode)
Loop Antenna, H-Field	
Frequency range	9kHz to 30MHz (Typical antenna factor correction is applied automatically when used in conjunction with the basic unit and active antenna handle)
Antenna type	Shielded loop antenna
Antenna factor	Passive mode (preamp, off): 66dB (1/m) typical @ 100kHz 47,5dB (1/m) typical @ 1MHz 42dB (1/m) typical @ f > 10MHz

PKI 4395 Handheld Spectrum Analyzer 9kHz – 9.4GHz

Based on an entirely new method of spectrum analysis, **PKI 4395** allows for an incredibly high input sensitivity. The detection of interference sources and their causes, the identification of frequency and signal amplifiers, measurement, and evaluation even of the most complex limit values – all this is possible with **PKI 4395**. Examples of **PKI 4395** application are the analysis and measurement of e.g. WLAN, UMTS, Wi-Fi, active radar, mobile radio, mobile phone, Bluetooth, microwave, Dect telephone, Tetra, radio transmitter, TV transmitter etc.

Specifications	
Frequency range	9kHz - 9.4GHz
AVG noise level (DANL)	-155dBm (1Hz)
AVG noise level (DANL) PreAmp	-170dBm (1Hz)
AbsMax level	+20dBm
AbsMax level	+40dBm (option)
Smallest possible sample time	1ms
Up to 100 times faster sample time than Rev. 3	
Up to 80 dB higher sensitivity than Rev. 3	
14bit dual ADC	
DDC hardware filter	
150 MIPS DSP (CPU)	
Typ. accuracy	+/- 1dB
Dimensions	(L/W/H) 260 x 86 x 23mm
Weight	420g



PKI 4400 Portable Noise Generator

The **PKI 4400** is designed as an easily portable acoustic noise-generating unit, which can be carried in coat-pockets or briefcases, to protect sensitive conversations inside rooms. The **PKI 4400** Portable Noise Generator is very versatile, as it can be fixed on many different surfaces inside the room to protect sensitive conversations from being monitored. The typical application is found in conference rooms with critical areas like windows and non controllable adjacent rooms. It is suitable for walls, floors, ceilings, water-and/or heating pipes and windows. By means of the supplied 4 resonators, the unit creates a noise which, by its vibrations, disturbs every common microphone by overlapping the soundwaves of spoken words. The optimised voiceband noise masking reduces the effectiveness of eavesdropping devices such as contact microphones, wired microphones inside walls, battery operated audio transmitters or devices using mains power supplies for operation as well as laser- / microwave- and/or infrared reflections from windows. Any environmental masking easily is possible by using several units of the **PKI 4400** at the same location. The **PKI 4400** can be mounted to any smooth surface using the provided suction cups or just placed in any critical area.



Specifications	
Audio frequency range	300Hz - 3KHz
Output sound level	Max. 92dB at 1m
Power supply	2 x 9V alkaline batteries or AC transformer
Battery life	Typicly 7 hours at 50% level, 2 hours at full level
Size	Approx. 18 x 13 x 5cm
Weight	Approx. 350g
Includes carrying case, AC transformer	
Protection of sensitive conversations	
Suitable for walls, floors, ceilings and windows	
Easily portable in coat-pockets or briefcases	

PKI 4410 Surveillance Mains Protection Unit

PKI 4410 prevents from information leakage through the power supply (220V) and ground lines providing a masking noise there. **PKI 4410** also suppresses wiretaps which are using these lines as a data-transmitting channel.

This item detects also our room monitoring system via mains **PKI 2800**. **PKI 4410** is indispensable for any conference to protect its members. This reliable and durable device against eavesdropping attacks is nowadays necessary for every conference room.



Specifications	
Protected lines	Power supply, ground
Noise frequency range	0,01 - 300MHz
Noise level adjustment range in the frequency bands, not less than	0,01 - 0,5MHz 20dB 5 - 300MHz 12dB
Spectral-noise density: (at 50 Ohm load relatively 1 μ V/ v kHz) in the frequency bands, not less than	0,01 - 1MHz 90dB 1 - 10MHz 70dB 10 - 100MHz 50dB 100 - 300MHz 35dB
Quantity of independent noise signal channels	(For phase-to-ground and zero-to-ground circuits) 2
Noise quality factor	Not less than 0,9
Leakage current through ground line	Not more than 1mA
Noise actuation control	Manual, remote, RS-45
Power supply AC mains	220V +/- 10% 50Hz
Power consumption	Not more than 12W
Operating temperature	0°C - +50°C
Relative humidity	At +25°C up to 85%
Atmospheric pressure	750 +/- 40mm Hg
Dimensions	172 x 172 x 42mm
Weight	Not more than 1,5kg

PKI 4415 Computer RF Detector

By this **PKI 4415**, a direct localization of hidden monitoring transmitters and other unknown transmitting objects, whether room-, telephone-, GSM or video related devices, is guaranteed. For many years our team of experts has been concentrating on latest developments of detection devices to provide our customers with best possible products for each task. This highly sensitive but small and handy near-field detector allows transfer via cable of all received information onto a laptop and by another connection directly to a suitable scanner to get the sound. On both, the laptop and/or the optional scanner, the required adjustments and storage can be affected.



The more you approach the suspicious object the more the beam-indicator on the **PKI 4415** will increase from left to right plus an audible alarm, additionally presenting the absolute correct frequency on its 10 figures LCD display. By all these three indicators the localization of such suspicious transmitting sources is most easy. We strongly recommend this device for any sweeping operation, as for example for the police for the fight against terrorism and criminal acts, or for special forces acting against each kind of espionage as well as for military and industrial security forces.

Specifications	
Frequency range	1MHz to 3GHz
Resolution	100Hz steps
Input sensibility	<25mV at 12dB SINAD
Power supply	Rechargeable battery with mains adapter
Dimensions	95 x 68 x 30mm
Weight	220g

PKI 4420 Spektrumanalysator 1MHz – 13GHz

PKI 4420 is a spectrum analyzer that scans from 1MHz to 13.4GHz in 0.5 seconds. The detected signals are displayed on the screen in cascade mode. The very high sensitivity, adjustable in 5 steps down to -80dBm, allows to pick up the signals in the adjacent environment or to limit the sensitivity as close as possible to the source. The tune list function makes it possible to focus the analysis on a detected signal and display it "live".

The results are recorded and time stamped. A background signal memory function allows comparisons with previous analyses. The new signals are displayed separately. The display in "Persistence" mode shows the new signals in blue and then in red depending on their persistence.



PKI 4440 Mobile Phone Protection Software

PKI 4440 can be used for the operating systems Apple iPhone, Android, and BlackBerry. It helps to log all activities associated with mobile phone monitoring in an unnoticed way. To learn what is going on on your mobile phone is as simple as using your browser.

The **PKI 4440** mobile phone monitoring runs in an invisible mode and provides various recording functions so that you can keep track of all the activities on your mobile phone, e.g., you can retrieve records conveniently from your browser, no matter where you are.

SMS and MMS monitoring:

- With **PKI 4440**, you can read all text messages (SMS) and multimedia messages (MMS) sent or received by the user of the target device. The messages are also available after deletion from the mobile phone.
- The email monitoring function informs you whether the mobile phone has been used to write personal emails or not. Tracking of the mobile phone using GPS data helps to determine the location.
- When monitoring the Internet use, you can find out which Internet site URLs have been addressed with the mobile phone. Among others, you can subsequently reconstruct the complete browsing history as well as any Internet activities.
- In case of lost or stolen mobile phones, you can trigger remote-controlled deletion of the data or blocking of the mobile phone. **PKI 4440** software can be set up for mobile phone monitoring so that detailed reports about mobile phone usage can be supervised or tracked.



PKI 4445 Noise Generator

PKI 4445 is a white noise generator of latest generation. Easy to handle, rugged design with integrated Li-ion batteries and very efficient. The technology of monitoring devices is rapidly increasing, and detection and location of such devices is very hard to realize. Transmission frequencies of such items may vary nowadays from VHF to upper GHz-range. Additionally, optical monitoring systems like lasers, infrared systems or audio-stethoscopes are in use. Therefore, it is essential that government departments as well as industrial companies protect themselves against such famous monitoring devices. For this purpose, **PKI** has developed this new noise generator which creates a white noise which is emitted via the resonators to the windows, doors, or walls. **PKI 4445** can be placed and fixed by the supplied special **PKI** mastics material. By means of these vibrations, such monitoring devices are interfered, and an understandable transmission is impossible. This **PKI 4445** Noise Generator is especially in use where members of conferences should not be aware of such protection actions.



Specifications	
Power supply	Rechargeable Li-ion battery
Operating temperature	-10°C to +50°C
Weight	20g
Dimensions	45 x 27 x 11mm

PKI 4650

PKI 4655

Wired Noise Generator, Wireless Noise Generator

The technology of monitoring devices is rapidly increasing, and detection and location of such devices is very hard to realize. Transmission frequencies of such items may vary nowadays from VHF- to upper GHz ranges. Additionally optical monitoring systems, like Lasers, Infrared Systems and Audio-Stethoscopes are in use. Therefore, it is essential that government departments, as well as industrial companies protect themselves against such monitoring devices.



For this purpose, we have developed our **PKI 4650** and **PKI 4655**. With both systems an electronic generator creates a white and/or pink noise which is emitted via the resonators to the windows, doors or walls. The resonators can be placed and fixed by the supplied special mastics material. By means of these vibrations, such monitoring devices are interfered, and an understandable transmission is impossible. **PKI 4650**, as the standard set, comes with the generator and four cable-connected resonators. **PKI 4655** uses the same principle but is independent from cable connections, as the resonators are battery-operated, and each unit consists of an integrated generator and resonator. Each unit can be placed within seconds. Depending on room size, the number of devices can vary from one unit only to infinity. This white-noise generator especially is in use where members of conferences should not be aware of such protective actions.

Specifications	
Power supply	PKI 4650 110/220VAC PKI 4655 9VDC Block battery
Power consumption	Max. 400mA
Dimensions	95 x 29 x 37mm
Weight	Approx. 130g with battery
Scope of supply	
PKI 4650	1 x 2-channel noise generator 4 x Contact-resonators 1 x Main's power adapter 12VDC Set of adhesive mastics material
PKI 4655	Generator combined with resonator, adhesive mastic material Cable length: 5m

PKI 4700

Handheld Detector

This handy and versatile detector can be used not only for the detection of listening devices but also wireless cameras and illicit mobile phones, that are for example used by unauthorized persons like in prisons etc. The transmitted field strength is indicated on a display as well as by a pitching tone. The nearer you approach to the object you wish to locate, not only the indicated field strength but also the tone pitch increases. Sound alarm of course can be switched off in cases where sounds must be avoided, as for example during sweeping of a room where active transmitters might be in operation. The sensitivity of reception is especially high within the frequency range of mobile phones and wireless video transmitters, i.e. between 0,9 and 5,8GHz.

Specifications	
Frequency range	10MHz – 5,8GHz
Alarm	LED bar graph internal beeper External vibrator (optional)
Localisation	By tone pitch
Display	LED
Detection range	Up to 3m depending on the signal
Power	9V standard battery
Operating time	5h continuously
Weight	Approx. 350g
Dimensions	7,5 x 14 x 2,2cm
Use for detection of spy cameras, mobile phones or bugs	
Frequency range up to 5.8GHz	
Bar graph indicator for field strength	
Localisation also by tone pitch	



PKI 4705 Bug Finder 10MHz – 12GHz

Our **PKI** Bug Finder is developed according to the latest innovations in eavesdropping technology. In the face of increasing digitalization and miniaturization, eavesdropping devices will become more and more difficult to detect. The most diverse modulation methods such as WLAN, SSB, AM, PCM, NFM, GSM, SS, FM, DECT and PAM are covered by **PKI 4705**. Due to the powerful, yet small 3.7V LI-ion battery, **PKI 4705** can be made very small and fits in the palm of a hand. The **PKI** Bug finder has a dynamic acoustic blip. As the frequency of the blip intensifies. Once the blip hits a constant tone, the blip interval can be reset, allowing the user to refine the tracking of the source being tracked. For further refinement, 2 Log Per antennas in the frequency range of 900 - 2500MHz and 2000 - 11 000MHz are also supplied. Apart from the 2 omnidirectional antennas from 20 - 1500MHz and 9000 - 12000MHz.



Specifications	
Modulation methods	FM, NFM, WFM, AM, PCM, PAM, DECT, WLAN, GSM, SS, SSB
Frequency Range	10MHz – 12,000MHz
LogPer-Antenna	900 – 2,500MHz
LogPer-Antenna	2000 – 11,000MHz
Omni-Antenna	20 – 1,500MHz
Omni-Antenna	900 – 12,000MHz
Input impedance	50Ohm
Sound	Internal speaker or headset (2.5mm headset jack/ mono)
Display	12-point LED display
Connector	SMA microwave socket
Settings	Via Auto-Sense button
Power-supply	Lithium-Polymer battery 3.7V
Operational time	3h
Charging time	1.5h

PKI 4725 Detector for Cameras and Bugging Devices

This device should always be included in your luggage. Either surveillance cameras, bugs or infrared diodes, the **PKI 4725** detects all wired and wireless units and thus protects you from being monitored anywhere. You can choose between optical alarm via LED-diodes, acoustic alarm via loudspeaker or silent alarm via vibration. This camera and bug detector is the indispensable partner for protection of your privacy.



Specifications	
Range for laser detection	10cm - 10m
Range for high frequency detection	5cm - 10m (depending on signal intensity)
Sensitivity	Adjustable, „high“ increases detection range, „low“ decreases detection range“
Power supply	2x 1.5V batteries type AAA
IR-detection range	920nm
HF-detection range	1MHz – 6.5GHz
Optical lens	IR
Dimensions	108 x 48 x 18mm
Weight	50g

PKI 4730 Transition Control Device

Nowadays you can never be sure anywhere, as there are unlimited varieties of eavesdropping devices on the market. There has been an enormous development in interception technology (please see our catalogue). The new devices do not only use higher frequencies, but also totally different technologies, like GSM and GPS. Furthermore, digital tapping devices are rating high meanwhile, and everybody knows that it is difficult to locate them. Our **PKI 4730** allows reliable localisation of these devices. Integrated in a frame with interior dimensions of 1x2m the device can be arranged before or under every front door. Now you can be sure that your interlocutor will not activate HF-eavesdropping devices without causing an alarm.



Specifications	
Dimensions	100x 200 x 25cm
Weight	12kg
Locating frequency	10MHz – 6GHz
Power spply	100 – 240V AC, 50Hz
Alarm	Optical or acoustical
Detection range	Up to 6m, according to power of eavesdropping device
Sensitivity	< 25mV at 12dB SINAD

PKI 4735 Active Eavesdropping Resistance

Often actions of foreign intelligence services have been planned long beforehand and are executed very professionally. Modern communication technology like GSM (see **PKI** catalogue), laptops and blackberrys facilitate spying attacks. To meet such attack, a reliable security structure for protection against eavesdropping is of highest importance. This means active and passive eavesdropping resistance. **PKI 4735** works with experienced eavesdropping specialists using modern devices (see **PKI** catalogue) to detect different types of tapping devices.



Specifications	
PKI 4735 comprises	Inspection of telephone devices, inspection of local net work (current, computer)
	Examination of rooms by measuring devices and visual devices, qualified training courses, information about risks of radio communication

PKI 4740 Passive Eavesdropping Resistance

PKI develops, supplies, and installs bugproof rooms worldwide. This reliable and durable protection against eavesdropping attacks is nowadays necessary for every conference room. Interference attacks are no longer limited to 100m. Eavesdropping technology has been revolutionized by GSM technology (see **PKI** catalogue). The **PKI 4740** room screening system comprises HF-screening and acoustic insulation including air conditioning, electrical installation and furniture. Screening is totally invisible for the user. Furthermore, we are prepared to supply bug-proof booths ready to use.



Specifications	
PKI 4740 comprises	Electro magnetic screening acoustic insulation
	Power supply bug-proof air condition bug-proof furniture
	Fire-alarm and fire extinguishing systems

PKI 4745 Digital Radio Receiver 9kHz to 7.5GHz

Whether for monitoring transmissions, detecting interference, tracking down pick-up transmitters, or operating as a drop receiver. In combination with analysis software, **PKI 4745** creates a compact reception and analysis system over a wide frequency range from 9kHz to 7.5GHz. **PKI 4745** can be operated with various antennas, for example broadband omnidirectional or directional antennas.



Specifications	
Search/scan modes	
Frequency scan (FScan)	Start/stop frequency, step width freely selectable
Scanning speed	Up to 150 channels/s
Memory scan (MScan)	Memory locations 1024, freely programmable
Scanning speed	Up to 150 channels/s
Panorama scan (PScan)	Start/stop frequency freely selectable
Resolution PScan (bin width)	125/ 250/ 500/ 625Hz, 1.25/ 2.5/ 3.125/ 6.25/ 12.5/ 25/ 50/ 100kHz
Scanning speed (RBW = 100 kHz, measuring time = 500µS)	Up to 1.8GHz/s
RF data	
Frequency range	9kHz to 3.5GHz (optional 9kHz to 7.5GHz)
RF input	
Impedance	50Ω
Preselection	9kHz to 30MHz (30MHz low-pass filter),
	20MHz to 1.5GHz (tuned band-pass filter),
	1.5GHz to 7.5GHz high/low pass combination
IF data	
IF spectrum display	1kHz to 10MHz, 1/ 2/ 5/ 10/ 20/ 50/ 100/ 200/ 500kHz, 1/ 2/ 5/ 10MHz,
Display type	Normal (Clear/Write), Average, Max. Hold, Min. Hold
IF demodulation bandwidths	15 filters (indication of 3dB bandwidth) 150/ 300/ 600Hz, 1/ 2/ 5/ 10/ 20/ 50/ 100/ 200/ 500kHz
Demodulation modes	All demodulation bandwidths AM, FM, PULSE, I/Q; demodulation bandwidth < 9kHz USB, CW, LSB, CW, demodulation bandwidth < 15kHz ISB,
Bearing mode	
Frequency range	20MHz to 6GHz
DF method	20MHz to 173MHz Watson-Watt,
	173MHz to 6GHz correlative interferometer

PKI 4750 Architectural Room Screening

With the **PKI 4750** series of room screening devices, we offer a large range of products, architectural engineering, planning and know-how for worldwide government agencies and special task forces to prevent their own facilities from being monitored and to make sure that internal electronic works will be kept inside their rooms. The **PKI 4750** Architectural Room Screening integrates the RF-screening into the architecture of a new or already existing room being invisible to the users and others. Each single component, by its own, cannot guarantee a complete protection. Only the integration of compatible devices can realize this. Planning, construction, production, and aftersales service are combined in one hand by **PKI ELECTRONIC INTELLIGENCE**. Only with this complete service package attenuations of 40 or 60dB at 10MHz to 3GHz can be achieved and guaranteed. For even higher requirements we use copper- or steel-sheets providing a damping of 80dB up to 10GHz. But as each single project needs to be evaluated case by case it is essential to stay in close discussion with our customers and to find out which kind of electromagnetic screening is most suitable.



Ask us for:

- 1 Architectural Room Screening
- 2 Modular Room Screening Panels
- 3 Electromagnetic Screened Cages
- 4 Screened Tents for RF and EMV Measurements
- Communication and Security
- RF-screening up to 3GHz
- Integrated screening in existing or new buildings
- Invisible to users and others

PKI 4755 Optical Binocular Camera Detector

The **PKI 4755** detection method is based on the optical recognition of video cameras due to the effect of reverse reflection. When **PKI 4755** detects a hidden camera, a red dot becomes visible in the optics. **PKI 4755** enables high quality inspection of the objects, especially since, unlike monocular models, no closing of an eye is required.

Specifications	
Weight	400g
Operating time	4 h
Power supply	Li-Pol battery built-in
Light type	2 pcs. LED
Detection range (depending on lighting conditions)	0.5 ... 50m
Viewing angle	6 / 7.5
Magnification	6,5x / 8,5x
Focusing range	0.5m to ∞
Red/green backlight mode	variable, continuous, pulsed



PKI 4855 Counter Surveillance Set

It is **PKI's** ambition to enable performance on the verge of technical feasibility. This motivates the **PKI** employees for innovation, research and development. To make sure that conferences, secret conversations or telephone calls cannot be listened in or transmitted by unknown persons, **PKI** has assorted this counter surveillance equipment. A wide variety of eavesdropping possibilities have been taken into consideration. These special devices are designed for the professional use and should be part of any basic equipment of the police special forces. Please find a detailed list of the individual devices below.

Specifications
PKI 4215 Bug Detector 1MHz -7GHz
PKI 4720 Camera Detector
PKI 6870 Mains Jammer
PKI 4170 Non-Linear Junction Detector
PKI 4220 Detector for Wireless Systems and WL AN Transmitter
PKI 4400 Portable Noise Generator
PKI 4145 Multichannel RF Signal Detector
PKI 6890 GPS Jammer
PKI 4235 Scan Detecting Analyzer
PKI 6750 Mobile Phone and Wi-Fi Jammer



As an extra recommendation to be 100% sure that interception is impossible, we offer our **PKI 6700 - PKI 6715**. Please find a detailed description under **PKI 6700 - PKI 6715**.

PKI Special Equipment for Standard Observation

- **PKI 1860** Telephone Tapping Device
- **PKI 2105** Digital Miniatur Recorder
- **PKI 2205** Room Transmitter
- **PKI 2215** Stethoscope Transmitter
- **PKI 2225** Professional Pocket Receiver
- **PKI 2400** Wireless Bluetooth Secret Stethoscope
- **PKI 2470** Needle Microphone with Amplifier
- **PKI 2650** GSM Monitoring Transmitter Module
- **PKI 2900** Directional Microphone of the latest generation
- **PKI 4115** Mobile Phone Detector
- **PKI 4215** Bug Detector 1MHz - 7GHz
- **PKI 5060** Micro IP Camera with Audio
- **PKI 5070** Telephoto Recorder
- **PKI 5550** A/V Transmitter and Receiver
- **PKI 6755** Portable Bluetooth, Wi-Fi, Video Jammer
- **PKI 8100** Flexible HD Endoscope Camera
- **PKI 9400** X-Ray Spray

DIGITAL AUDIO/VIDEO RECORDER EQUIPMENT



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

Introduction

PKI herewith for the first time presents various new developments in the field of digital audio/video surveillance systems.

Here, too, **PKI** sets international standards and with this professional technology offers almost unlimited application possibilities. We present the individual devices with description and specifications with their own **PKI** number.

The complete **PKI 4900** set includes all audio/video surveillance systems for the most different applications. We would like to emphasize the following aspects regarding special features:

- 1) Miniature design
- 2) 5 Megapixel sensor
- 3) Long recording time up to 10h with a 32GB memory card
- 4) Highly sensitive microphone
- 5) Micro SD memory up to 32GB
- 6) Use of rechargeable Li-ion battery
- 7) Support systems: Windows XP, Windows VISTA, Windows7/Windows8
- 8) Plug & Play & Load via USB
- 9) 78° angle of view
- 10) 30 frames per second

Should special combinations be desired going beyond the offered programs, these are obtainable on order.

PKI 4900

Complete A/V Carrying Case Version

This carrying case version includes a complete set of our listed audio/video surveillance devices incl. laptop and software. All cameras are equipped with a highly sensitive microphone. The user is thus prepared for all monitoring eventualities with professional technology. **PKI 4900** also comprises all required operating instructions of the individual devices with applications.

Specifications	
The specifications of the individual devices can be found under the associated PKI number	PKI 4910 A/V HD Pinhole Camera
	PKI 4920 A/V PCB HD Camera
	PKI 4930 A/V Stethoscope HD Camera
	PKI 4940 A/V Remote Control HD Camera
	PKI 4950 A/V Long Term HD Camera
	PKI 4960 A/V Mains HD Camera
	PKI 4970 A/V Directional and Tele HD Camera
	PKI 4980 A/V Flexible Endoscope HD Camera
	PKI 4990 A/V Motion HD Camera
	PKI 5000 A/V Data Transmission HD Camera
	PKI 5010 A/V Body Worn HD Camera
	PKI 5020 A/V Wireless Camera System with HD Recording
	PKI 5030 A/V Global Surveillance Camera
	PKI 5040 A/V Day/Night Vision Camera
PKI 5050 A/V Laptop with Special Software	
Weight	12.5kg
Dimensions	50 x 40 x 20cm



All devices are embedded in foam plastic and absolutely protected in the hard-top case with the possibility to create a vacuum against dust and moisture.

PKI 4910**A/V HD Pinhole Camera**

To enable camouflaged surveillance, a professional technical equipment is necessary. The **PKI 4910** is such equipment. This HD pinhole camera makes extremely sharp photos or videos with audio recording from a distance of 10m. The pinhole lens of only 1mm in diameter enables camouflaged indoor and outdoor operations. No matter if in a vehicle, camouflaged in different objects in premises or in open areas. **PKI 4910** provides a lighting enhance functionality to provide clear images with excessive back light.

**Specifications**

Resolution	Photo 5 megapixel
Frames per second	30fps
Memory	2GB - 32GB Micro SD
Resolution	Camera 1280 x 720 pixel
Sensitivity	0.08 Lux, F2.0
Power supply	Rechargeable Li-ion battery
Charging	Using the USB connection of a computer and output via cable
Audio	Highly sensitive microphone for voice recording from 10m
Recording time	Min.1 h battery life, with external power supply up to 10h when using a 32GB Micro SD card
Operating temperature	- 10°C to + 50°C, less than 90% RH
Weight	19g
Dimensions	51 x 31 x 11mm
Support systems	Windows XP, Windows VISTA, Windows7 / Windows8

PKI 4920**A/V PCB HD Camera**

With its dimensions of only 45 x 27 x 9mm, this **PKI** development is excellently suitable for installation in different objects of everyday life. This camouflaged monitoring option enables top-secret observations. Noiseless, high recording quality in HD combined with excellent audio quality. All information is stored on the micro SD card. For A/V playback, it can be taken out and the audio and video recordings can be analyzed with a computer, i.e. video and audio recordings can be watched or listened to. It is of course also possible to connect the **PKI 4920** camera to the computer using a cable.

**Specifications**

Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB - 32GB Micro SD
Sensitivity	0.008 Lux/F 1.2
Power supply	Rechargeable Li-ion battery, charging via the USB terminal of the computer
Recording time	Min.1 h battery life, with external power supply up to 10h when using a 32GB Micro SD card
Audio	Built-in highly sensitive microphone for voice recording from a distance of 10m
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	15g
Dimensions	45 x 27 x 9mm

PKI 4930 A/V Stethoscope HD Camera

This special stethoscope design developed by **PKI** is unique and offers surveillance possibilities from the outside to the inside and this through commercially available glass. A large piezo disk serves as sound pickup and relates to the housing of the A/V camera. Assembly at the window is realized with our proven mastic by simply pressing the **PKI 4930** housing onto the window of the room to be monitored. The existing lens thus also looks through the glass pane and records the visible activities together with the audio signals of the piezo element and stores them on the micro-SD card. Removal of the **PKI 4930** from the glass pane is also possible by simply pulling off the housing. The micro-SD card can thus be taken out for playback at the computer in order to analyze the A/V recordings, i.e. to watch video recordings and to listen to audio recordings. It is of course also possible to connect the camera to the computer using a cable.


Specifications

Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB - 32GB Micro SD
Sensitivity	0.008 Lux/F 1.2
Power supply	Rechargeable Li-ion battery, charging via the USB terminal of the computer
Recording time	Min.1h battery life, with external power supply up to 10h when using a 32GB Micro SD card
Audio	Highly sensitive piezo microphone for sound transmission from solid objects, e.g. glass
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	15g
Dimensions	45 x 27 x 9mm

PKI 4940 A/V Remote Control HD Camera

Controlled, time-independent A/V monitoring is possible with this device. And this over a long period insofar as the power supply and recording capacity are only used if the circumstances require it. This is easily accomplished with the remote control having an operating range of 100 - 300m for switching on or off. **PKI 4940** enables month- long control or A/V recording. The hand-held remote-control transmitter with the dimensions 100 x 60 x 20mm and the weight of only 210g can be easily hidden in any pocket. Audio recordings are still possible from a distance of 10m. The camera achieves a super HD quality even against bright light sources. Recording of A/V signals is carried out via the micro-SD card which can be taken out at any time for A/V playback on a computer or the camera can be directly connected to a computer using a cable.


Specifications

Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB - 32GB Micro SD
Sensitivity	0.008 Lux/F 1.2
Power supply	9V DC standard block battery
Remote control transmitter	Frequency 315MHz coded
Transmitting range	Up to 100m (depending on surrounding conditions)
Recording time	Min.1h battery life, with external power supply up to 10h when using a 32GB Micro SD card
Audio	Built-in highly sensitive microphone for voice recording from a distance of 10m
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	210g
Dimensions	100 x 60 x 20mm

PKI 4950 A/V Long Term HD Camera

This version outperforms all previous A/V recording systems. This is only possible thanks to the additional rechargeable Li-ion battery of 3.7V and 18Ah power. The use of the 32GB micro-SD card enables 90h of A/V surveillance and this with the smallest possible dimensions of 51 x 31 x 11mm, without external battery as it can be separately installed via the 1m cable. All A/V information is stored on the micro-SD card. For A/V playback, it can be taken out and be analyzed using a computer, i.e. A/V recordings can be watched and listened to. It is also possible to connect the **PKI 4950** camera to the computer using a cable.



Specifications	
Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	32GB micro-SD chip
Sensitivity	0.008 Lux / F1.2
Power supply	Rechargeable Li-ion battery external 3.7V / 18Ah, charging with external battery charger
Recording time	90h when using a 32GB micro-SD card
Audio	Built-in highly sensitive microphone for voice recording from a distance of 10m
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	19g
Dimensions	51 x 31 x 11mm

PKI 4960 A/V Long Term HD Camera

For entire independence from any internal battery power supply, the power supply by means of a mini mains adapter via the 110-240V AC line would be appropriate. **PKI 4960** can thus be firmly installed in an object of your choice and must only be touched for some seconds for removal or replacement of the micro-SD card. Recharging the battery is not necessary. **PKI 4960** makes excellent A/V recordings in HD quality and includes a wide dynamic range, i.e. recording against bright light sources is possible without losses. The stored A/V data on the micro-SD card can be watched or listened to at any time using a computer. This A/V mains HD camera is of course excellently suitable for the installation in a junction box, lamp or socket outlet.



Specifications	
Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB – 32GB Micro SD
Sensitivity	0.008 Lux/F 1.2
Power supply	110 - 240V AC
Recording time	Min.1h battery life, with external power supply up to 10h when using a 32GB Micro SD card
Audio	Built-in highly sensitive microphone for voice recording from a distance of 10 m
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	15g
Dimensions	45 x 27 x 9mm
Dimensions of mains adapter	30 x 12 x 9mm
Weight of mains adapter	10g

PKI 4970**A/V Directional and Tele HD Camera**

PKI 4970 still records A/V signals from 20m. This is possible because of the tele lens and the special integrated directional microphone. So, this **PKI 4970** camera has its special application, i.e. it is ideal for complete camouflage, and as a result of its reduced dimensions of only 79 x 31 x 11mm it can realize A/V recordings of activities up to a distance of 20 m. The camera achieves a super HD quality even against bright light sources. **PKI 4970** should not be missing in the professional equipment of the observer. Recording of A/V signals is carried out with the micro-SD card which can be taken out at any time and the A/V playback can be analyzed with a computer. It is of course also possible to directly connect the camera to the computer using a cable. The support systems for our **PKI** software are WindowsXP, Windows VISTA, Windows7 / Windows8.



Specifications	
Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB - 32GB Micro SD
Power supply	Rechargeable Li-ion battery, charging via the USB terminal of the computer
Recording time	Min.1h battery life, with external power supply up to 10h when using a 32GB Micro SD card
Audio	20Hz - 20kHz, SNR: more than 90dB
Dimensions	79 x 31 x 11mm
Weight	32g
Sensitivity	0.08 Lux, F2.0
Lens diameter	8mm
Angle of view	36°
Operating temperature	-10°C to +50°C, less than 90% RH

PKI 4980**A/V Flexible Endoscope HD Camera**

Special operations require special solutions. **PKI 4980** is one of these special solutions. The video camera head relates to the **PKI 4980** housing and this with a 20 cm long flexible optical cable; this also applies to the highly sensitive electret microphone. A/V recordings are thus possible through smallest openings, e.g. keyholes, doors, walls, etc. (with the help of our Silent Drill Device **PKI 8040**). The recordings have a very good quality despite the limited lighting conditions. An additional flexible optical cable can be delivered on request. The excellent audio quality allows to record conversations from 10m; this is possible with the highly sensitive remote electret microphone in a frequency range of 20Hz - 20kHz given an SNR: > 90dB. The A/V playback is realized in the same way as with our other HD cameras using the micro-SD card or via direct connection to a computer.



Specifications	
Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 fps
Memory	2GB - 32GB Micro SD
Lens	4.3mm F2.0
Angle of view	78°
Illumination sensitivity	0.8 Lux
Power supply	Rechargeable Li-ion battery
Charging	Using the USB connection of the computer
Audio	Highly sensitive electret microphone
Recording time	Min.1h battery life, with external power supply up to 10h when using a 32GB Micro SD card
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	20g
Dimensions	51 x 31 x 11mm

PKI 4990**A/V Motion HD Camera**

To ensure the longest possible surveillance activities, this A/V motion HD camera is used. Only if someone moves in the surroundings to be monitored, will **PKI 4990** automatically activate itself and record the A/V signal. Thus, when necessary, monitoring operations for days on end are possible without the battery or the micro-SD card running low. Shutdown is realized automatically if there is no movement anymore. Playback of the A/V signal is carried out via the micro-SD card which can be easily taken out of the **PKI 4990** camera and be analyzed using a computer, i.e. A/V recordings can be watched or listened to. It is of course also possible to connect the camera to the computer using a USB cable. Our software program enables this via Windows XP, Windows VISTA, Windows7 / Windows8.



Specifications	
Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB - 32GB Micro SD
Sensitivity	0.008 Lux/F 1.2
Power supply	Rechargeable Li-ion battery, charging via the USB terminal of the computer
Recording time	Depending on the activation, some days
Audio	Built-in highly sensitive microphone for voice recording from a distance of 10m
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	20g
Dimensions	80 x 31 x 11mm

PKI 5000**A/V Data Transmission HD Camera**

PKI 5000 is unique in A/V monitoring. **PKI** has worked on its development for 2 years, especially on the software hereof. Once installed into the A/V high-tech device, this can be interrogated wirelessly depending on your preferences to watch or to listen to the latest A/V recordings. As **PKI 5000** is supplied by a miniature mains adapter from the 110-240V AC line, permanent A/V surveillance is possible. The scope of supply of the **PKI 5000** includes a transmitter/receiver for data transmission. The special directional antenna system enables a perfect transmission up to an operating range of 50m. The evaluation is realized with the delivered laptop and the associated special software.



Specifications	
Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB - 32GB Micro SD
Sensitivity	0.008 Lux/F 1.2
Power supply	Rechargeable Li-ion battery, charging via the USB terminal of the computer
Recording time	Min.1 h battery life, with external power supply up to 10h when using a 32GB micro-SD card
Audio	Built-in highly sensitive microphone for voice recording from 10m
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	18g
Dimensions	51 x 31 x 11mm
Miscellaneous	2 different short antennas
Antennas	Patch antenna 20 x 20,5cm, miniature omni-directional antenna diam. 30 x 20mm
Housing	Transmitter/receiver unit
Dimensions	100 x 60 x 20mm
Weight	180g

PKI 5010 A/V Body Worn HD Camera

This A/V surveillance camera is used to keep persons in the direct surroundings of the observer under surveillance and is worn at the body. Camouflaging is realized with a commercially available button, with integrated optics and microphone. This button is buttoned or fastened at jackets, coats or shirts and connected to the **PKI 5010** housing. On request, the optics plus microphone can be separated from the housing and be camouflaged with the button or fastened at a piece of clothing. The advantage of this **PKI 5010** design is that possibly developed rubbing noises are eliminated. Support systems for the A/V playback with our special software are Windows XP, Windows VISTA, Windows7/Windows8.



Specifications	
Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB - 32GB Micro SD
Sensitivity	0.008 Lux/F 1.2
Power supply	Rechargeable Li-ion battery, charging via the USB terminal of the computer
Recording time	Min.1h battery life, with external power supply up to 10h when using a 32GB micro-SD card
Audio	Built-in highly sensitive microphone for voice recording from 10m
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	20g
Dimensions	51 x 31 x 11mm
Miscellaneous	Commercially available button Ø 10mm, dark

PKI 5020 A/V Wireless Camera System with HD Recording

PKI 5020 consists of the A/V camera with transmitter unit and the separate receiver unit incl. antenna for direct computer connection. All A/V data are wirelessly transmitted from the A/V camera to the receiver up to 100m. Via the computer with our software, it is possible to follow the direct audio and video surveillance online. Should information of the wireless transmission get lost, all A/V data are additionally available on micro-SD card and can be watched or listened to when needed. This design is particularly important if the command centre is informed online and the observer can give information via radio.

Specifications	
Resolution	Photo 5 megapixel
Frames per second	30 fps
Memory	2GB - 32GB Micro SD
Resolution	Camera 1280 x 720 pixel
Sensitivity	0.008 Lux, F2.0
Power supply	Rechargeable Li-ion battery
Charging	Using the USB connection of the computer
Audio	Highly sensitive microphone for voice recording from 10m
Recording time	Min.1h battery life, with external power supply up to 10h when using a 32GB micro-SD card
Operating temperature	-10°C to +50°C, less than 90% RH
Weight	25g
Dimensions	60 x 31 x 11mm
Support systems	Windows XP, Windows VISTA, Windows7 / Windows8
Digital receiver for connection to the computer	
Frequency	315MHz coded
Power supply	9V DC standard block battery
Dimension	100 x 30 x 20mm
Weight	210g



PKI 5030**A/V Global Surveillance Camera**

A few years ago, global A/V surveillance possibilities were wishful thinking. With **PKI 5030** this is feasible now. Smallest design with 110 - 240V AC power supply, especially for camouflaged operations render a long-term surveillance possible. Transmission is globally realized via a modern GSM mobile phone system. The SIM card included in the A/V global surveillance camera is activated by a mobile phone and transmits the A/V data online onto the mobile phone all over the world; the data can be externally stored.

**Specifications**

Transmission	GSM
Video resolution	1280 x 720 given 30 fps Video per browser connection, PC or mobile phone
Resolution	Camera 5 MPixel
Sensitivity	0.008Lux
Power supply	110-240VAC mains adapter 5VDC or external rechargeable Li-ion battery 5V DC
Dimensions	51 x 31 x 11mm
Weight	25g

PKI 5040**A/V Day/Night Vision Camera**

We developed and presented various digital audio/video surveillance systems for the most different fields of application. **PKI 5040** is also required for important surveillance operations at night and is an indispensable part of professional equipment. This A/V Day/night vision camera offers all specifications already described for our other **PKI** A/V systems. Additionally, however, the integrated IR LEDs of the **PKI 5040** switch on in the dark or in case of bad lighting conditions and illuminate the surveillance area. A/V storage is realized with the inserted micro-SD card and is analyzed with a computer using the special **PKI** software.

**Specifications**

Resolution	Photo 5 megapixel, camera 1280 x 720 pixel
Frames per second	30 frames/s
Memory	2GB - 32GB Micro SD
Sensitivity	0.008 Lux/F 1.2
Power supply	Rechargeable Li-ion battery, charging via the USB terminal of the computer
Recording time	Min.1h battery life, with external power supply up to 10h when using a 32GB micro-SD card
Audio	Built-in highly sensitive microphone for voice recording from 10m
Operating temperature	-10°C to +50°C, less than 90% RH
IR LEDs	For night surveillance 850nm
Operating range at night	5 - 7m
Weight	22g
Dimensions	51 x 31 x 11mm

PKI 5050 A/V Laptop with Special Software

For A/V playback of our comprehensive A/V systems, our **PKI 5050** laptop with **PKI** special software would be appropriate. A slot for our micro-SD card is available and ready for simple A/V playback. The built-in loudspeaker reproduces the audio recording in an excellent quality. The video recordings can also be retrieved and watched at any time.

Specifications	
Processor	Intel Core I5-3230M processor, two-core, 2.6GHz, maximum turbofrequency 3.2GHz, Intel Smart Cache 3MP
Main memory	2x 4GB, PC3-12800 1800 MHz, DDR3L, SODIMM, Low-power DIMM,
Main memory sum	8GB, main memory limit: max. 16GB
Internal hard disk	Hybrid 500GB SSHD (8GB), Serial ATA 2(3Gb/s), 5400rpm
TFT display	15.8", 39.6 cm, WXGA (1280x720) Glare
Connection	2 x USB 3.0, 1 x USB 2.0
Dimensions	377 x 250 x 34mm
Weight	2.6kg



PKI 5055 Covert A/V Monitoring in streaming mode

PKI 5055 is a modern A/V monitoring device. Not only does it record A/V signals, but thanks to the Integrated 4G mode, A/V live streaming can be operated via mobile networks, i.e. recorded files can be stored locally and listened to in streaming mode and forwarded to your PC or via FTP. The data is stored locally and can then be retrieved later. You only need Internet access for this. The download is very fast, depending on the selected mode and the network speed. **PKI 5055** has an internal battery that ensures continuous use for several hours or days. To extend the battery life, it is possible to set the internal clock to a schedule for recording. The unit has systems that cannot be detected by scanners. The stereo recordings impress with their high quality, thanks to ADC 24bit with a sampling rate of up to 48kHz and this even with a low noise and high dynamic. The GPS function enables the position of the **PKI 5005** unit to be verified. High resolution is realised due to the interchangeable 5 Mpixel, which allows optimising the video surveillance.



The microcameras have a standard 5 Mpix 70/ 160 degrees and a night vision with 5 Mpix at 70/ 160 degrees with 2 infrared LED or white light LED, this can be activated separately. The day and night vision can be supported with an additional external guided IR. The environmental video and audio monitoring as well as the system management are possible via remote access. Accessible from anywhere thanks to the interactive application via web server, which is ensured via a secure IP connection. This connection is encrypted and takes place directly by connecting the system to your server, with fixed IP installed at your headquarters. Through the web server application, you control all settings of **PKI 5005**, e.g. straming, GPS, sound, recording, track downloading and a schedule for programming the system according to your individual needs.

Specifications	
Encryption	AES - 128
Audio and video recording in internal memory	<128GB - up to 48kHz Audio and video recording 5Mpix, 2560 x 1960in rec mode and snapshot
Sample	60h at Full HD 1920x1080 @20fps
Live Stream Video	High quality Mpeg4 H264 1280x960, 30fps
Live Stream Audio	Stereo AAC 48kHz, Codec formats Supported Wav/ oggVorbis/ OPUS/ Mp3
Web Server Interface	To set
Data connection	Trough 4G/LTE network, transfer speed up to 50Mbps
Power Consumption	Battery
Dimension	53 x 59 x 8mm (57 x 63 x 22mm with aluminium case, magnetic plates and internal battery 2A)
Wi-Fi	To manage live audio & video, file transfer
GNSS/ GPS	Tracking position through satellites GPS, Galileo and Glonass
Download	Through server FPT
Storing capability	Internal memory 128GB, Expandable with external USB MASS Storage up TERA

VIDEO AND NIGHT VISION SYSTEMS



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

PKI 5060**Micro IP Camera with Audio**

With dimensions of only 25 x 55 x 20mm and a weight of 20g, this is an absolute micro camera with quite a few features. What **PKI 5060** sees, is streamed directly onto PC, notebook, iPhone or Android smartphone, without any cable. The integrated rechargeable Li-ion battery renders **PKI 5060** independent from an external power supply for up to 40 minutes. **PKI 5060** is ideal for camouflaged and flexible operations with A/V recording and this with individual remote access.

**Specifications**

Dimensions	25 x 55 x 20mm
Weight	20g
HD resolution	1280 x 720 pixels at 12fps, with sound, photos up to 1.3 megapixels
Formats	AVI (H.264), JPEG
Access	Internet explorer
Storage	Micro SD card up to 32GB
Recording function	Via notebook or PC with installed Java environment, via iPhone, iPad or Android smartphone with the „IP CAM mini“ APP
WLAN	Connection to the camera via WLAN or internet
Power supply	Integrated Li-Ion battery (USB charging cable included), alternatively via 230V - USB mains adapter or USB power bank

PKI 5070**Telephoto Recorder**

With this device you can not only see objects at up to 3km, but you can also record without any losses. Wi-Fi is installed and thus enables wireless transmission to a smartphone up to 30m. In many cases, **PKI 5070** is an indispensable technical accessory to carry out the required observation. The 300mm lens renders very sharp and crystal-clear pictures, at operating ranges of 500 - 3000m. For night observation in these ranges, our telephoto night vision devices with laser support are used (refer to our catalogue). **PKI 5070** is packaged in a hard-top case with handle and foam rubber padding.

**Specifications**

Photograph format	JPEG
Photograph resolution	5M, 8M, 12M JPEG
Recording file format	MQV (H.264 compressed) file
Recording	720P (1280*720) 60fps 1080P (1920*1080) 30fps
Recording duration	2 hours
Storage	Micro SD/MMC (max. 32GB SDHC)
Lens	Focal length f=300 mm F3.5
Viewing distance	500m - 3000m
Wi-Fi distance	30m
USB port	USB 2.0 (able to read the data in TF card)
Smartphone platform	iPhone and Android system
OLED	OLED monitor
Working temperature	-10°C to +50°C
Storage temperature	-20°C to +60°C
Lithium battery	1100mAh (replaceable)
Consumption	350mA@3.7V
Working humidity	15-85%RH
Size	250 x 65mm
Weight	1.5kg

PKI 5100**Multi-Purpose Thermal Imager**

The **PKI 5100** is an innovative thermal imager, which offers outstanding imaging and temperature measurement performance together with extreme flexibility, ease of use and minimal operating cost. With the **PKI 5100** we can offer an imager that is ideal for thermography and maintenance engineer alike; high quality images may be captured and manipulated offline, or problems can be resolved on the spot. The camera comes with an industry leading 3.5" colour LCD display with LED backlight. The ergonomically designed imager houses the complete uncooled microbolometer- based camera core together with a long-life Li-Ion battery pack. Images can be stored on MMC or SD cards for recall and further analysis if required and can be downloaded to a PC for further report generation and printing.

**Operation**

Designed for self-contained use, the **PKI 5100** contains everything required by the operator. The high power, field replaceable, rechargeable Li-Ion battery allows continuous operation over a full working shift. The **PKI 5100** is fully radiometric. Temperature measurements can be made over the entire image, and hot spots can be identified using a trigger activated laser pointer.

Specifications	
Field of view	20° x 15°
Focus	Manual
Minimum focus	Approx. 30cm
Spectral response	8µm to 14µm
Thermal sensitivity	150mK (0.15°C) at 25°C scene temperature
Detector	160 x120 pixels uncooled microbolometer
Image storage	Up to 1000 images on supplied SD card
Display	3.5" colour LCD with LED backlight 4 colour palettes
Laser pointer	A built-in class 2 laser is supplied to highlight the central measurement area
Measurement temperature	Range - 10°C to +250°C
Radiometry	Two movable temperature measurement cursors Temperature difference measurement
Emissivity correction	User selectable 0.2 to 1.0 in steps of 0.01 with reflected ambient temperature compensation
Accuracy the greater of plus/minus	2°C or 2%
Power supply	Li-Ion rechargeable battery, AC adaptor supplied
Operation time	4 hours continuous operation
Operating temperature	-15°C to +45°C
Storage temperature	-20°C to +70°C
Dimensions	230 x 120 x 110mm
Weight	0.75kg incl. battery
Predictive and preventative maintenance	
Process monitoring	
HVAC & R troubleshooting	
General industrial/domestic inspection	
Security	

PKI 5105**Micro Thermal Image Camera**

PKI 5105 is a high-technology thermal image camera with a compact size, only 70 x 48 x 48mm and light weight 230g. It can produce a very sharp clear image with extremely wide view in complete darkness, light fog and smoky conditions. With IP66 enclosure it is an ideal choice for outdoor covert surveillance and security requirements. **PKI 5105** can be delivered also as a mobile version including transmitter and receiver. Ask for an offer.



Specifications	
Resolution	384 x 288 pixels
Pixel size	25µm
Sensitivity	Less 80 Mk@25°C
Full frame rate	50Hz PAL
Lens	15mm Germanium lens
Field of view	37° (V) x 28° (H) (15mm)
IR sensor type	Uncooled focal plane array microbolometer, amorphous silicon
Video output	RS170 CCIR/PAL, composite video (50Hz)
Video interface	Aviation port
Image polarity	White hot (default)
Calibration	Auto
Power supply	12V DC
Power consumption	Less 4W (@25°C)
Operating temp. range	-40°C to +45°C
Storage temp. range	-50°C to +65°C
Non-condensing humidity	5% to 95%
Encapsulation	IP66
Shock resistance	Shockproof to 1m drop
Housing	Black, Al-alloy
Weight	230g
Dimensions	70 x 48 x 48mm
Comes with	Aluminium box, brackets, 12VDC adapter, user manual, video output cables

PKI 5110**Laser Range Finder**

Measuring the distance to a possible target always is essential in cases where an unobtrusive alignment to this is necessary to choose one of the specific listening devices like our Laser Monitoring Device **PKI 3100** or our Infrared Observation System **PKI 3200**. Any special task forces, may it be from police or military departments, should have the **PKI 5110** as an essential tool for their purposes. This handheld and low-weight unit perfectly matches to these requirements and is as easy to handle like an ordinary binocular. By looking through the device you can obtain the right direction (in case of the use of one of a.m. devices or directional antennas for wireless monitoring and/or any other listening devices) and by pushing a button, automatically and within a second the right distance to the object will be digitally displayed. The binocular is equipped with transmitter- receiver and allows measurements up to 10km distance. The unit exactly measures the distance and angle and the results are shown on the integrated LCD indicator. The reported measurements will help to choose the right objective for optical observation systems and the right angle for directional microphones or antennas.

Specifications	
Field of view	8° = 140m width at 1.000m distance
Eye relief	13.5mm
Exit pupil	3.6mm
Weight	Approx. 425g
Dimensions	6 x 14,5 x 14,2cm



PKI 5115 Laser Range Finder

In combination with our telephoto cameras, additional precise operating ranges with reference to the object are desired and often necessary. This is where **PKI 5115** is used and this up to an operating range of 4000m (larger operating ranges on request). This small-size range finder designed for quick distance measurement can be widely used for intelligence service. The laser impulse can be reflected from any large object including trees, clouds and any moving land or sky object. The special integrated electronics provide a precise result after 10 seconds. **PKI 5115** can be used at a temperature range from -40°C to +50°C, a relative humidity up to 98% and an atmospheric pressure of 60 kilopascal minimum.



PKI 5115 can be used at a temperature range from -40°C to +50°C, a relative humidity up to 98% and an atmospheric pressure of 60 kilopascal minimum.

Specifications	
Distance range	50 - 4000m
Laser wavelength	1.06mkm
Magnification	6x
Diopter setting of eyepieces	+/- 3
Eye relief	20mm
Field of view	6.5°
Distance measurement inaccuracy	2.5m
Power supply	4 AA battery
Power supply voltage	5x 1V
Number of range measurements without changing power supply	40-200
Exit pupil	4mm
Dimension	170 x 130 x 60mm
Weight	0.9kg

PKI 5135

PKI 5140

Miniature Thermal Imaging Camera, Mini Thermal Imaging Camera with Radio Transmitter

In dark and complex places, the human eye quickly comes to its performance limit. Here, technical auxiliaries, such as thermal cameras, can visualize those things that are usually invisible to the human eye. Everybody above the absolute zero radiates heat. This heat radiation is only visible for the human being from some hundred degrees on, e.g. red-hot metal. By using highest-quality sensors, it is possible to detect this heat radiation in ordinary surroundings. Whether searching for missing persons in obscure areas, finding persons e.g. in water or observing targets in absolute darkness. The heat radiated by the target person cannot be hidden on the thermal image. As only temperature differences are decisive to capture images, a thermal camera can be used for visual 24-hour monitoring independently of light, weather, etc. The target persons will always have other temperatures than the surrounding areas and can thus be detected. An early detection of excessive heat developments is no problem. Areas and machines at risk of fires are thus optimally monitored. Delivery with radio transmission in the desired frequency range is optionally possible. This option makes the device ideal for the monitoring of large areas or rapid deployments without further cabling. For specifications refer to **PKI 5135**, but with radio transmitter and receiver. Intelligent frequency hopping technology stands for bugproof digital connections. Due to digital technologies all transmissions will be absolutely interference-free.

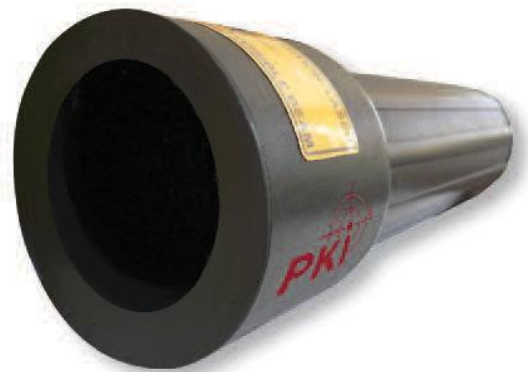
Specifications	
Focus	Manual
Minimum focus approx. 30cm	
Spectral response	8µm to 14µm
Thermal sensitivity	80mK (0.15°C) at 25°C
Detector	384 x 288 pixels
7ms thermal response time	
Operating temperature	-15°C to + 45°C -20°C to + 70°C
Dimensions	45 x 45 x 70mm
Weight	0.15kg
Power	12VDC / 3,5W
Housing IP66	



Specifications	
Transmission	1,2 or 2,4GHz
Range	500m

PKI 5145 Laser Zoom Illuminator

Using this laser zoom illuminator, optional in 5, 10 or 15W version a total night vision observation up to 4km is possible. Whenever video observations must be made in completely dark rooms, under bridges, in tunnels or other conditions without light, this **PKI 5145** Laser Illuminator is the only one which can cover even large areas and distances. In combination with high-tech cameras, you can use this system for night-time surveillance up to a distance of 4km. The **PKI 5145** laser zoom illuminator is provided with a temperature-stabilized laser diode with a frequency range of 808nm. By means of the built-in lens system and the external control system you can adjust the zoom according to the desired illumination and distance.



Overview

Specially designed for middle range surveillance cameras, the zoom laser illuminator adopts near infrared laser which not only ensures its safety but also its invisibility. With the employment of TTL communication the illuminator can be easily connected with any visible camera. While it can zoom synchronously with the visible camera, it can also be controlled separately. A precise laser adjustment device is installed for subsequent laser beam adjustment.

Specifications	
Focus	Manual
Minimum focus approx. 30cm	
Spectral response	8µm to 14µm
Thermal sensitivity	80mK (0.15°C) at 25°C
Detector	384 x 288 pixels

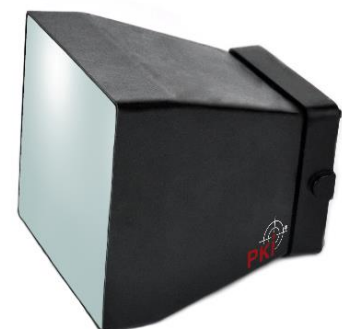
Intelligent frequency hopping technology stands for bugproof digital connections. Due to digital technologies all transmissions will be absolutely interference-free.

Specifications	
Power	5W, 10W, 15W
Wavelength	808nm
Lens	30mm F1.0 fast, GHT-II super homogenizing laser
Laser angle	2° - 45°
7ms thermal response time	
Operating temperature	-15°C to +45°C -20°C to +70°C
Dimensions	45 x 45 x 70mm
Weight	0.15kg
Power	12VDC / 3,5W
Housing IP66	

Specifications	
Transmission	1,2 or 2,4GHz
Range	500m
Range	300m by 5W/ 2km by 10W / 4km by 15W
Laser alignment	0.01° SLM
Communication	TTL serial port
Band rate	9600 bps
Power supply	DC 12V
Operational temperature	-30°C to +55°C
Dimension	Ø90mm x 340mm
Weight	2,8kg

PKI 5155 Professional IR laser illumination

This IR laser illumination object **PKI 5155** should be available mainly at special units of the authorities. Observations at night over several hundred meters without being detected are possible. The IR light is not visible to the human eye. **PKI 5155** is supplied with lithium-ion batteries and a charging unit.



Specifications	
Optical power	100W
Wavelength	808nm / 940nm
Outdoor area	IP - 65
Laser class	1 (eye safe)
Emission angle	5°
Illumination	Very uniform
Ambient light	Unaffected

PKI 5160 Optical UV Scope

This Optical UV Scope is designed for scanning the blemishes of electrical equipment, high-voltage wires, insulators by way of visualization of the corona discharges' image together with the image of the controlled object. **PKI 5160** is a compact, optical, single-channel device with quartz objective and band-pass filter. **PKI 5160** can operate at night and twilight time. Sometimes it is important to control high-voltage wires against terror attacks.


Specifications

Spectral range	300 - 450nm
Dimensional resolution	57l/mm
Gain	25.000
Focus distance	50mm / 78mm / 108mm
Input voltage	3V
Input current	1.5W
Dimensions	187 x 62 x 75mm
Weight	600g
Temperature range	-20°C to +45°C
Continuous operation time	12h

PKI 5165 Thermal Imaging Monocular / Binocular

These rugged **PKI 5165** devices are used for the observation and terrain orientation under poor weather conditions like smog, mist. For longer observation periods, two individual devices can be assembled to a binocular system in order not to overstrain the eyes. The max. visual range to recognize a person is approx. 500m.

Specifications

Image format	384 x 288 pixels
Field of view	22.6 x 17 deg.
Thermal sensitivity	0.20°
Detection range human figure	500m
Spectral response	8-14µm
Objective focal length	24mm
Minimum focusing distance	0.25m
Display	800 x 600 pixels
Eye relief	18mm
Dioptre adjustment	+/- 5d
Exit pupil	8mm
Power supply	2 x CR 123A
Operating time	4 hours
Weight	360g
Overall dimensions	57 x 75 x 120mm
Special	USB port



PKI 5170 Long Range Thermal Imaging Camera + CCD

PKI 5170 is a high-end intelligent surveillance camera and a combination of thermal camera and visible CCD camera. Operating ranges of up to 12km are possible and this by day and by night. Special optics with a focal length of 180mm and continuous optical zooming render this feasible. People can be detected up to 4300m, vehicles up to 12km. If this should not be sufficient, we can offer a special version with a vehicle detection up to 22km and 7700m for the detection of persons. These special cameras have been developed by **PKI** for border control on land and at sea. Moreover, **PKI 5170** can be delivered for operating ranges of 2km, 5km, 7km, 10km.

Main Features

- Adopt the fourth generation of uncooled focal plane infrared detector, NETD at 50mk, easy to find objects
- First developed continuous zooming infrared lens: 36 - 180mm continuous optical zooming, 5X zoom
- Special compensation circuits: no need of TEC, low power consumption
- DDC technology; easy to find hidden objects
- Special image processing technology: flat image with no noise, 10 pseudo color and 2 formats: hot black/hot white
- Start quickly: 2s driving time
- Power supply: AC220V /AC24V / DC 12V (optional)
- High aluminium alloy shell: with nitrogen inside, can work under harsh environment



Specifications	
Effecting distance	11500m for vehicles, 4300m for people in total darkness
Detector	4th generation of uncooled focal plane infrared detector
	Resolution at 324 x 256 pixels Spectrum range 8-14 μm NETD 50mk
Lens	Focal length: 36-180mm continuous optical zooming
	F=1.2
	FOV 2.5*2.0° - 12.7*10.2°
	GE or Zn-Se material
Image processing	Built-in correcting circuits, no need of TEC, working temperature -40 to +75°C, good picture uniformity
	Dynamic detail enhancer (DDE)
	10 pseudo color and hot black/hot white formats
	Automatic gain control (AGC) technology 2x digital magnification
Interface	RS485 (PELCO D protocol, baud rate 2400 bps/s), RS-232 (optional) OSD menu
	PAL compound video output AC220V/AC24V/DC12V (optional)
	Waterproof navigation outlet
Size and weight	380 x 190 x 205mm, 7kg

Pan/Tilt	
Rotating angle	Pan 0° - 360° continuous: tilt +30° to -45°
Rotating speed	Pan 0.1 - 9°/s, tilt: 0.1 - 4°/s
Presettings	255
Agreement	Pelco-D, Pelco-P optional
Baud rate	2400/4800/9600/19200 bps optional
Interface	RS 485
Power supply	AC24V +/- 10%, 50Hz
Power consumption	≤ 30W
Working temperature	-25°C to +55°C
Storage temperature	-40°C to +65°C
Load capacity	20kg
Weight	10kg
Size	265 x 180 x 315mm
Others	Aluminium shell, 99.999% nitrogen inside
	Under PH6.5 – 7.2, continuous spraying fog for 48 hours
Power consumption	8W (normal)

PKI 5180

Ultra Long Range Multi-Sensor Camera

Complete vision in complete darkness, this is what **PKI 5180** promises. And this at extreme ranges of 30km. By using latest thermal imaging sensors and lenses, our professional camera platforms can provide man detection up to 30km. This is absolutely required for the surveillance of borders. Additional audio acoustic hailing device for voice messages, loudspeakers for 100m range can also be delivered, refer to **PKI 9340**.

Key features:

- HD cooled thermal
- 80 - 960mm thermal zoom lens
- 1000mm zoom lens (optical)
- 50.000 hours cooling engine life
- Turbulence mitigation
- Image stabilisation
- Virtually zero backlash harmonic drive
- 80° per second pan and tilt speed
- Better than 1mrad accuracy/repeatability
- Proportionate speed control
- Optical encoders
- Fully cable managed solution with quick release mechanism
- IP67 environmental protection
- IP (ONVIF) or analogue



Specification

Video data	
Video type	HD
Optical zoom	60x
Digital enlargement	N/A
Image sensor	1/1,8" CMOS 5MP
Signal system	HD 1080p, SD: NTSC/PAL
Lens (Wide to tele)	F=16,7 to 1000mm (33,4 to 2000mm) F3.5 to F1.6
	Angle of view - horizontal 23,1° to 0,41°
	Angle of view - vertical 17,6° to 0,3°
Minimum illumination	0,008lux colour, 0,002lux mono
Video output	PAL/NTSC/IP (ONVIF)
Weight	18kg
Auto focus	Yes (optional)
Optical stabilization	Yes (optional)
Thermal data	
Pixel size	12µm (HD)
Spectral ban	3,7 - 4,95µm
Array format	1280 x 720 (HD)
Frame rates	9Hz, 25Hz
FOV	11,0 x 6,2° to 0,9 x 0,5° f/4
Video output	PAL/NTSC/IP (ONVIF)
Detector pitch	2µm
Weight	22kg
Image stabilisation	Yes
Turbulence mitigation	Yes
Auto focus	Yes
E-zoom	Interpolated (up to 8x)
Focal length of continuous optical zoom	80 - 960mm

Mechanical features	
IP rating	IP67
Actuation	Pan and tilt stepper motors
Position encoders	Optical encoders on pan and tilt motors
Repeatability	0,05°
Pan rotation 360° continuous	
Pan speed	0,02° - 45°/sec* or 80°/sec high power option
Tilt speed	0,02° - 45°/sec* or 80°/sec high power option
Tilt range	+90° to -90°
Weight	PT unit - 18kg (combined 60kg)
Temperature range	-30°C up to +55°C (-40°C with optional heater)
Power	28 - 32VDC 5,0 Amps
Housing material	Cast aluminium
Housing finish	Xylan marine undercoat with epoxy powder finish
Fixing material	Stainless steel
Additional feature	Focal length dependent speed control

*Subject to payload

PKI 5190 Dual Channel Thermal Camera

PKI 5190 is a combination of thermal camera, visible CCD camera, precise actuating and gearing unit, digital decoder, high-performance image processing and control unit. This series of camera features compact design and accurate positioning. With such functions as pre-setting and patrolling the camera leaves no blind spot undetected. **PKI 5190** is universally usable in, e.g. safe city, civilian rescue, vehicle-mounted monitoring, oilfield, river and lake, express way, railway, harbor, airport etc.

Specifications
PKI 5190 version A

Detection vehicle	1700m
Detection human	720m
Identification vehicle	420m
Identification human	180m
Thermal lens	20mm F1.0
FOV	15,5° x 11,6°

PKI 5190 version B

Detection vehicle	4200m
Detection human	1640m
Identification vehicle	1200m
Identification human	470m
Thermal lens	50mm F1.0
FOV	6,5°x4,8°


Refers to both versions

Thermal sensor	336*256, UFPA, 7-14um spectral response, 50mk NETD
Visible	440.000 pixels, auto color to B/W at 0.01 Lux
Lens	3.5mm - 129,5mm, 37X, motorized zoom, auto focus
Pan	0° to 360° continuous
Tilt	-90° to +90°
Pan speed	0° to 100°/s
Tilt speed	0° to 60°/s
Preset	128
Scan	3 (user can set the starting and end point, adjustable scanning speed)
Path	6 (16 points for each path, adjustable duration on each point)
Pattern	3 (approx. 2 minutes for each pattern)
Menu	English
Auto homing	Homing time (1 - 99mins), homing action (preset/scanning/path/pattern)
protocol	Pelco-D/P and other mainstream protocols
Baud rate	2400/4800/9600/19200 bps
Heating/defrosting/wiper	Available
Ingress protection	IP 66
Working temperature	-35°C to +55°C
Power supply	AC24V/2,5A
Weight	7kg
Operating time	4 hrs real time surveillance
Operating conditions	50mk thermal sensitivity and SDE digital image enhancement for clearer image under foggy and rainy conditions
Housing	Aluminium alloy
Protection class	IP66 ingress protection
Heat dissipation	Excellent
Including	Anti-lighting, anti-wave, capability to withstand 3000V instantaneous current

PKI 5195 Thermal Camera

The **PKI 5195** is a thermal camera combined with a customary surveillance camera. The combination of both techniques offers considerable advantages when operating the surveillance camera. It can be used in total darkness and even when there is smoke, fog, and heavy snowfall. The camera is also not blinded by bright light sources and thus enables continuous surveillance at day and night. The **PKI 5195** is provided with a PT head and can be moved in any direction. The video lens has a 36x zoom and an automatic lens wiper system. Detection of an intruder is possible at up to 1000meters.

Specifications	
Camera	Powerful 36 x optical
Lens options	Numerous thermal lenses
Operating time	Effective 24 hours a day
Detection range	Up to 1000m
Sensor format	320 x 240 pixels
Spectral response	7 - 14µm filter bandwidth
Frame rate	9Hz
Analog output	PAL
Horizontal angle of view	12°
Outputs	Dual, separate video for thermal and optical
Construction	Rugged, in weather-proof housing
Mounting positions	Upright, inverted or inclined
Accessories	Incl. wiper system, holder and external mains adapter (230VAC/24VAC)



PKI 5200 Nightvision and Thermal Imaging System

The **PKI 5200** is an easy to use, handheld device for direct observations by means of an uncooled thermal imaging system. It provides „round-the-clock“ observation, monitoring and security for any military, paramilitary, police or civilian application. Not only problematic areas like border fences, buildings and industrial sites can be surveyed but also hidden objects in cars, cases etc. It also detects human traces like foot- and fingerprints as well as overheating and fires before flames and smoke become visible. This makes it the ideal, cost effective, warning device for any monitoring task. **PKI 5200** is an integrated electro- optical system incorporating a micro bolometric IR camera for night-vision and a CCD camera for daylight use into a highly affordable unit for monitoring any sensitive location or observing potential trouble spots. **PKI 5200** can be fixed to a solid base at a particular observation point and being connected via optical fiber or wireless link for remote display and centralized control by the operator situated at a safe distance. Vehicle mounting for mobile reconnaissance also is possible.



Specifications

A) Thermal Imaging part	
Detector type FPA (Focal Plane Array) uncooled microbolometer (amorphous silicon or vanadium oxide)	
Transmission (hard carbon exterior coating) 81 % (8-12µm average)	
Control operation AGC, focus (manual) contrast, on/off, video polarity, NUC	
Spectral range 8 – 12µm	B) Video camera part Sensor CCD Pixels 768 x 494 Optics F 1.4 / 50mm Field of view 5.6° H x 4.2° V Detection range better than 2.500m Recognition range better than 1.000m Modular options optimised to applications Remotely controlled Easy installation Built-in “Go/No Go” Tester
Resolution 320 x 240 pixels	
Focal length 100mm	
F# 1	
Field of view 8.45°H x 6.33° V	
Video output CCIR or RS 170	
Remote control RS 422 or RS 232	
Operating voltage 12 V nominal	
NETD < 100°mK	
Detection range (human being) better than 800m	
Recognition range (human being) better than 300m	

PKI 5210 **PKI 5220** **Nightvision Monocular, Nightvision Binocular**

Whenever visual observations under low-light or even no-light conditions must be affected, the use of a professional night vision device is indispensable. With these two units, whether monocular or binocular, such tasks can easily be fulfilled. These extremely lightweight but robust night vision devices have been designed for operation under all weather conditions and at any light level. Even in complete darkness these units will work due to the built-in IR-illuminator being invisible to the human eyes. Each type, whether the **PKI 5210** or the **PKI 5220** provide a sharp and clear picture of the area to be surveyed and is therefore especially useful for police, customs, security guards and border controls. Each type is waterproof, and another main advantage is the low power consumption which allows an outstanding operating time of approx. 50 hours continuously with one set of standard batteries. Different adapters optionally can be supplied to connect the **PKI 5210 / PKI 5220** to cameras or camcorders.

Specifications	
Controls multi-latching push-button	- On/Off
	- Intensifier only
	- Intensifier plus IR-Illuminator
Eyepiece	Adjustable diopter
Magnification	1x with 25mm lens or adaptor for 75mm Lens
Power supply	Standard Alkaline batteries, type AAA
Waterproof	According to IP 67
Ambient temperature	- 50°C to +60°C
MTBF	10.000 operating hours
Size	PKI 5210 – approx. 190 x 60mm
	PKI 5220 – approx. 140 x 125mm
Weight	PKI 5210 – approx. 350g
	PKI 5220 – approx. 900g
Available with 2nd, 2nd+ and 3rd Gen. tubes	
Waterproof according to IP 67	
Provides all weather operation	
Accepts standard C-mount lenses	
Operates from standard batteries	
More than 50 hours battery lifetime	
Built-in near IR-illuminator	



PKI 5225 **Handheld Thermal Imaging System**

PKI 5225 is a highly effective device for all-hour observation and is intended to carry out search and rescue operations, evidence searching, hidden burial detection, night patrolling, concealed observation and tracking, mass events securing, environment protection etc. **PKI 5225** has a shock-proof plastic rubber coated shell with ribbed surface and is safe against external actions. It provides a high-resolution binocular eyepiece and not required interorbital distance correction. **PKI 5225** operates with two buttons and optical encoder. The objective is protected by metal lens hood which can be easily removed for fastening of 2x optical adapter (extender).



Specifications			
Objective lens parameters		Eyepiece and built-in microdisplay	
Focal length	50mm	Adjusting range of diopter	+/- 4
FOV	12° x 9°	Microdisplay	Type: AMLCD 0,44"
Focusing range	1m ...∞		Resolution: 640 x 480 pixel
Detector characteristics		Operating range	
Detector type	Uncooled microbolometer aSi	Range to detect/recognize human	1015/ 400m
Resolution	320 x 240 pixel	Operating conditions	
Thermal sensitivity (NETD)	No more than 0,05°C	Operating temperature range	-20°C to +40°C
Spectral operating range	7-14µm		
Boot time	No more than 5s		

Functional capabilities	
Switch thermal image mode	White hot (positive), black hot (negative)
Changing of color palette thermal imaging picture	Black-and-white, black-and-green
Manual setting highhigh brightness of built-in microdisplay	
Digital zoom	1x, 2x, 4x
Save frames BMP-ratio with indication free memory space of the card	
Battery charge level indication	

Power supply	
Semi-contained	Type of source: Li-ion accumulator
	Power supply: 14,4V
	Power consumption: 6W
Network	Network adapter 12V
	Power consumption during accumulator charge 18W
	Power consumption during concurrently device work and charge accumulator 24W
Time of continuous operation under normal conditions	Not less than 6 hours

Physical characteristics	
Weight, with batteries	Not more than 1,5kg
Overall size	225 x 144 x 70mm
Protection class	IP 65

Interface	
Video	PAL, LEMO connector

PKI 5230 Long Range Thermal Imaging System

The **PKI 5230** is intended for the use in harsh applications including perimeter surveillance and coastal security. Therefore, it perfectly matches the tasks of police-, military-, customs and border-control departments. It is a high-performance thermal imager based on an indium Antimonide (InSb) 320 x 256, 30µm pitch focal plane array (FPA) and operates in the 3 - 5µm spectral range. Its sealed housing (backfilled dry nitrogen) and marine hard carbon coated lens with front element defroster makes it perfect in all conditions incl. snow and sea. The triple-FOV lens 250 - 1000mm/ F 4.0 allows a man detection up to 17km. Also, the camera features RS232/RS422 link for fast integration in any surveillance equipment.



Specifications	
Thermal imaging system with	InSb FPA array - 320 x 256 or 640 x 512 pixels
Weatherproof	N2-pressurised housing
Highest temperature sensitivity	NETD 35mK in spectral range of 3 to 5µm
Serial remote control	RS232/422 of all camera and lens functions
Analogue	PAL video output
IR lenses available with	17/60/200mm / F4.0 or 50/250mm / F4.0 or 250/500/1.000mm / F4.0
Range to detect a person	Up to 17km
Seawater resistant	(IP 67/ MIL-Std 810e)

PKI 5240**Night Vision Binocular**

PKI ELECTRONIC INTELLIGENCE GmbH is one of the leading distributors worldwide for night vision devices. Although the optics play a critical role of the night vision device, the heart of a night vision device and the most important component is the Image Intensifier Tube (IIT). As a leading consumer for IITs, we source and acquire the best and the latest available image intensification technologies from top US and European producers. From hand selected premium grade 1st Generation to filmless/autogated 4th Generation that would satisfy the most performance obsessed clientele, we offer the best for your specific application.

When you see night vision units with built-in infrared illuminators for total darkness, remember that we were one of the first to offer this feature that now has become an industry standard. All our night vision units are outfitted with an IR- illuminator. Furthermore, some of such devices offer interchangeable lenses, optical doublers and remote controls. Our R&D engineers are making sure that we are always on the cutting edge providing you with the latest in features and technology. The **PKI 5240** as an infrared, low light level device for the use in public security, armed police forces, custom houses, frontier - and safeguards for night patrols as well as investigations. In one word, the operator cannot miss using the **PKI 5240** in any kind of night observations. Being fully portable, self-powered and lightweight, this system offers a reliable tool at a cost-effective price.

Specifications	
Effective visual distance	600m
Magnification	6 times
Field of view	6°50'
Objective focusing range	15m to infinity
Eyepiece diopter range	-5 to + 2 diopter
Exit pupil diameter	7mm
Resolution	< 0.46mrad
Operating voltage	3VDC
Weight	2.5kg

**PKI 5245****Low Light Level Nightvision Goggle**

If what you need is hands free night vision, **PKI ELECTRONIC INTELLIGENCE** has the unit for you to drive or walk through the darkness with the confidence of a cat with our **PKI 5245** dual eye goggle system. It is a low light level, head mounted, light weight dual eye / tube goggle being comfortable to wear and most easy to use. Surprisingly, even though we gave the unit a heavy coated glass lens, we were still able to keep its weight down to only less than 1kg. Powered by two high quality light intensifier tubes and using fast precision optics this device has one of the clearest and brightest images in a goggle. Combine all the above with a built-in infrared illuminator that lets you see in total darkness, and you will be on your way to exploring even the darkest of places.

This is of most importance for the use of the **PKI 5245** by public security, armed police forces protecting the streets, custom houses, nuclear power plant security, frontier and safeguards for night patrols as well as every member of military or industrial security staffs working in dark conditions. Wherever hands-free operation is required, the **PKI 5245** offers the right solution. For the observation of suspicious objects in the dark or driving a car under no-light conditions, the **PKI 5245** provides a comfortable and cost-effective solution. In a word, you can do nothing at night and in dark rooms without the use of the **PKI 5245**.

Specifications	
Effective visual distance	150m
Magnification	1 time
Field of view	45°
Objective focusing range	360mm to infinity
Eyepiece diopter range	+/- 5 diopters
Resolution	< 2.8mrad
Operating voltage	1.5VDC
Weight	0.9kg



PKI 5250 Long Range Video System

The **PKI 5250** - Long Range Video System combines state-of-the-art video with high definition nightvision technology. It is designed for 24 hours operation by combining three camera modules in just one housing - forming a unique system of:

- A colour CCD-camera for daylight
- A black & white camera for twilight
- An intensified camera for nighttime



The system is either available in 1" or 1/2" image format - in buyer's option. The lifetime of the image intensifier is optimized, and the method of night vision technology only must be used in cases of absolute darkness or where it is necessary (closed dark rooms, underneath bridges etc). This **PKI 5250** optionally also is prepared for operation with infrared illuminators for spot elimination and non-visible target illumination as well as range gating applications. Optionally additional filters like infrared or band pass filter are available.

Specifications	
General	
Dimensions (without lens)	135 x 172 x 224mm
Weight (without lens)	Approx. 6kg
Power consumption	1200mA (TBD)
Operating voltage	12VDC
Operation temperature	-10°C to +50°C (recommended 0°C - 40°C)
Lens format	C-mount
Lens control	Zoom, focus, iris
Comm. Connection	RS232, RS485
Video standard	PAL/CCIR/NTSC/EIA
Video signal	FBAS
Black/White Camera	
Horizontal resolution	570TVL
Sensitivity	0,0006lx (F1.2, 50% video, AGC 20dB, normal shutter 1/50s)
Signal-to-noise	52dB
Colour Camera	
Horizontal resolution	480TVL
Sensitivity	0.1lx (F1.2, 50% video, AGC 20dB, normal shutter 1/50s)
Signal-to-noise	50dB
Intensified Camera	
Image intensifier	XD 4 technology 1/2"
CCD sensor	1/2" interline transfer, 752 x 582 pixel
Horizontal resolution	Up to 530 TVL
Sensitivity	0.000001lx
Signal-to-noise	42dB
Control auto gain, auto gating - down to 1µsec (optional 50nsec) external range gating option	
Multisensor camera system	
Image intensified, B&W and colour	
Combined system in one housing	
24 hours a day full operation	
Automatic back focus correction	
Selectable objectives	

PKI 5255 Low Light Level Viewer

A new extremely fast lens system combined with a high-resolution Gen 1+ light intensifier tube gives the user an unparalleled bright image in a 1st gen. night vision device by just easy push button controls. Therefore, the **PKI 5255** is recommended for most comfortable and handheld use at any observation tasks in the dark. It is a must to use this unit by police forces, secret services, and other government departments where such investigations must be affected under lowlight conditions or even in total darkness. With its effective range of approx. 150 to 200m the **PKI 5255** provides perfectly illuminated pictures, which allows excellent observation results. The built-in IR-Illuminator provides additional light, being invisible to the human eye, allowing the user to observe his target even if there is no surrounding light. The adjustable hand-buckling belt makes its handling very comfortable.

Specifications	
Magnification	1.38 times
Field of view	20°
Resolution	< 1.5mrad
Dioptric adjustment range	+/- 5 diopter
Focussing range	0.25 m to infinity
Operating voltage	3VDC battery
Enhanced infrared lamp	Built-in
Effective visual distance	150 to 200m
Weight	Approx. 700g


PKI 5260 Day & Night IR LED Camera

For a permanent video observation, a clear colour picture in daytime and an automatical change to B/W picture at nighttime, the **PKI 5260** is what you need. As our duty is to deliver the best quality, we have developed this complete camera which is a highly sophisticated day & night camera for use in every outdoor surrounding where video observations are necessary. By this, industrial areas, military camps, police stations or any other territories are protected by video monitoring for 24 hours a day. A clear colour picture is given in the daytime which automatically is changed to b/w picture at nighttime. 180 integrated infrared diodes illuminate the area of observation at nighttime or low-light conditions. The complete system comes in a weather-proof housing, including a cooling-fan for the control of heat from the IR-LED's and a CDS sensor for the change from colour to b/w operation - depending on light conditions. The complete system optionally is available in PAL or NTSC version using a SONY Super HAD CCD camera with 410K pixels.

Specifications	
Image device	Super HAD SONY CCD
Scanning system	NTSC - 525 lines /60 fields per second PAL - 625 lines / 50 fields per second
Synchronisation system	Internal synchronisation
Number of pixels	NTSC - 768 x 494 (HxV) PAL - 752 x 586 (HxV)
Horizontal resolution	480 TV lines
Video output	1Vpp 75Ohm, composite
Signal to noise ratio	> 45dB (AGC off)
Gamma characteristics	0.45
White balance	Automatic white balance
Back light compensation	Automatic BLC
Minimum illumination	0.3lux at daytime 0.0 lux at night time
Electronic shutter	NTSC - 1/60 to 1/10.000 sec PAL - 1/50 to 1/10.000 sec
Lens mount	260x Zoom (Optical: 26x, Digital: 10x)
Number of LED	180 pieces infrared LED
Wavelength	850nm
Angle of IR-LED	10° and 30° in combination
Illuminated distance / outdoor	Max 75m
Power supply	12VDC, 3A
Power consumption	2200 mA
Operating temperature	-10°C to +45°C
Weight	Approx. 3.5kg



PKI 5270 Dual CCD Night Vision Camera

The **PKI 5270** is designed for day and night observations with just one complete unit. It consists of two cameras in one weatherproof housing - colour and b/w. The colour camera is for use at daylight and the b/w-camera, with integrated IR-lightning diodes, covers all tasks at nighttime. Depending on the field of application various objectives for both cameras are available. Just let us have your request and we shall provide the best possible configuration. The following technical data show every possible combination.



Specifications	
Signal format	NTSC or PAL for colour camera, EIA or CCIR for b/w camera
Total pixels	811 x 508 for NTSC, 795 x 596 for PAL 537 x 505 for EIA, 537 x 597 for CCIR
Effective pixels	768 x 494 for NTSC, 752 x 582 for PAL 510 x 492 for EIA, 500 x 582 for CCIR
Horizontal resolution	550 lines for colour camera, 420 lines for b/w camera
S/N ratio	>45dB for colour and > 50dB for b/w
Sensitivity	1lux /F2.0 for colour, 0.05lux/F2.0 for b/w camera
Image sensor	1/3" SONY Super HAD CCD
Power supply	12VDC
Gamma correction	0.45
Electronic shutter	NTSC/EIA - 1/60 - 1/100.000 sec automatic PAL/CCIR - 1/50 - 1/100.000 sec automatic
Current consumption	LED on = 520 mA or less LED off = 280 mA or less
Infrared LED's	30 pcs, 850nm, for 50m distance max.
Lenses available	3.6mm, 6mm, 8mm in buyer's option
Operating temperature	-10°C to +50°C

PKI 5275 Long Range Binocular

This legendary **PKI 5275** model with its large objective diameter of 150mm, is a magnificent tool in many sectors, covering a large range of applications, such as surveillance operations of suspect objects or persons, border control, fire prevention and other scientific research, where a crisp, bright, sharp and high-resolution image is indispensable. Many other applications like wild animal observation, sightseeing from the top of high buildings or home balcony, hunting, shipping, fishery, forest observation etc. are also possible. This binocular, with its large aperture and high magnification of 31x to 50x allows a long range, fatigue-proof operation under every condition. The unit is equipped with a fast dual focusing which is ultra smooth. The telescope tube is covered with a protective rubberised paint finish to help protecting it from the elements.

Specifications	
Magnification	31 - 50 times
Field of view	2°
Objective diameter	12 mm
Diopter adjustment	- 5 to +5
Exit pupil diameter	4.48mm
Exit pupil distance	16.66mm
Resolution	< 1.6"
Interpupillary distance	58 - 74mm
Weight	Approx. 12kg
Dimensions	Approx. 60 x25 x 15cm



PKI 5280 Long Range Video Camera

This high resolution colour camera, with its 220x Zoom-objective and integrated pan/tilt head, provides pictures of perfect brilliance and sharpness. Even a car number plate can be recognised from up to 500m and larger objects like persons or cars and boats can be observed even from more than that range. Up to 32 fixed positions of the zoom and the pan/tilt head can be programmed and recalled automatically. **PKI 5280** is supplied with a wired remote control for every function of the device. On request, it can be equipped with a wireless remote control. The complete set comes with a cable connected 19" flatscreen monitor combined with an optional high power video transmitter the **PKI 5280** is ideal for border controls and other wide range observations in outdoor conditions. Such transmitters should be selected from our wide range shown in this catalogue. Only then we can guarantee that camera, transmitter, receiver and monitor match perfectly.

Specifications	
Resolution	480 TV-lines, colour
Min. illumination	1Lux
Backlight compensation	Automatic
Objective	f: 12-128mm, f: 1.4 – 3.6
Monitor	19" flat screen
Dimensions	Approx. 420 x 350 x 220mm
Weight	Approx. 9,8kg
Power supply	12VDC with separate mains adapter


PKI 5285 Autarkic Video Observationssystem

PKI 5285 is the latest mobile video surveillance system for professional use. With a few strokes of work, it can be attached to any lamppost. As no wiring is required, **PKI 5285** can be activated immediately. Several cameras record automatically e.g. a VIP street convoy and/or transmit recording wireless. It's possible to change the battery pack in just a few seconds, for further 144 hours operation of **PKI 5285**, if required.

Specifications
Mobile connection (2G, 3G, 4G) (SIM card required)
Motion, sound and light detection
Different fields of view (7° and 180°) for each sensor
Day/night/thermal sensors, Lenses options: from 10mm till 270mm
Up to 128GB internal memory, Sliding sleeve battery connection
Dual power source (primary and secondary battery)
Up to 144 hours battery operation time w/o charging
-30°C to +60°C operational temperature


PKI 5290 PKI 5295 IR Spotlight 100m, IR Spotlight 150m

The IR spotlights **PKI 5290** and **PKI 5295** were developed to provide the respective illumination in total darkness. Absolutely invisible to the human eye, but something like a searchlight for observation cameras. Equipped with the latest chip technology, energy-saving and maintenance-free, the spotlights in a rugged aluminium case can also be perfectly used in rough environments.

Specifications	
Operating range	PKI 5290: up to 100m / PKI 5295: up to 150m
Angle of radiation	15 degrees
Power supply	12V DC
Power consumption	PKI 5290: 9W / PKI 5295: 7.2W
IR output	PKI 5290: 3800mW / PKI 5295: 3200mW
IR wavelength	940nm
Operating temperature	-40°C up to +60°C
Protection	IP 66
Dimensions & Weight	62mm x 150mm, Approx. 410g



PKI 5300

IR Night Vision System

PKI 5300, a great development of Images and videos of observation. This camera not only delivers 12-megapixel photos but also videos in Full HD of objects that the sensor captures within a range of 20 meters and a viewing angle of 100 degrees. It provides the highest standard, is compatible with 4G LTE and equipped with two antennas.

This product provides not only quality but also great control. By inserting a suitable SIM card, it can send media to an FTP server or to an e-mail address. Therefore, the absence of the user from the location of use does not become a disadvantage for him, as the basic requirement for secure control is guaranteed.



Competitive advantages

Video resolution	1920 x 1080 (Full HD)
Photo resolution	12 Mega Pixel
Features	Continuous shooting, GPS, weatherproof, Motion sensor
Response time	0.4 seconds
Viewing angle	100
Number of LEDs	57
Flash type	IR LEDs
Sensor range	20 m
Power supply	Batteries (12 x AA)
Storage media	SD (max 32 GB)

Specifications

Image sensor	5 Mega Pixels Color CMOS
Resolution	2560 x 1920
Day / Night Mode	Yes
IR range	20m
IR LEDs	Up= 27 LED/ Down= 30 LED
Operational keys	7
Lenses	F=3.0; FOV=100°; Auto IR-Cut-Remove (at night)
PIR distance	20m (65feet)
LCD screen	2" TFT, RGB, 262k
Photo resolutions	5MP/8MP/12MP = 2560 x 1920/ 3264x2448/ 4032 x 3024
Photo format	JPEG
Video resolution	FHD (1920 x 1080), HD (1280 x 720), WVGA (848 x 480)
Video format	AVI
Video recording time	05-10 sec. programmable for wireless transmission (pe e-mail) 05-59 sec. programmable for cable transmission
Successive photos	1-5
Trigger Time	0.4s
Trigger Interval	4s-7s
Loop recording	Yes. ON/OFF
Power supply	Batteries = 12 buc AA/R6, External = 12V
Battery type	Alkaline or Li-Ion or NiMH accumulators
Consumption (stand-by)	0.135mA
Stand-by time	5~8 months (6x AA~12x AA)
Auto power off	In Test mode, the camera will automatically turn off in 3 minutes if you do not touch any key.
Interface	USB/SD/DC
Wireless mode	LTE Cat.4 modules
Operating temperature	-30°C to +60°C
Waterproof	IP66
Dimensions	148 x 117 x 78mm
Weight	448g

PKI 5310 Pocket Night Vision Scope

With its very small dimensions, minimal weight and comfortable one-hand operation, the **PKI 5310** can easily be placed in any pocket and at any time it is ready for disguised observations in the dark. Especially developed for secret service agencies, police tasks forces and other government departments, this handy unit offers a perfect solution to every need of night surveillance. Through the image intensifier tube, it transfers the faint target image into a bright image, but still providing an automatic bright light control for accidentally incoming light. In addition, the device contains a concealed IR-light source for the illumination of the area to be observed. This IR-light is nearly invisible to the human eyes.

Specifications	
Max. observation distance	Approx. 80 to 120m at 10-2 Lux
Magnification	2x
Bright-light protection	Automatic bright-light proof
Field of view	> 15°
Objective focal length	57mm
Objective aperture	34mm
Focusing range	0.5m to infinity
Diopter adjustment	-4 to + 4 diopter
Power supply	3 VDC, battery operated
Battery type	Two batteries, type AAA
IR lamp	Concealed inside with 10 to 15m operating range
Dimensions / Weight	Approx. 175 x 80 x 50mm / approx. 0,35kg



PKI 5315 Long Range Night Vision Scope

Beside hand-held and disguised units for observations at nighttime it is very often necessary to have a complete unit for longer ranges. The **PKI 5315** fulfils all requirements. With its large aperture and low-light objective, combined with the image intensifier of 2nd generation, it provides a stable and reliable night-vision system for border controls, permanent observation of industrial areas and other important points. It has a large eyepiece, enabling the user to comfortably view targets with both eyes. By using the supplied tripod, the unit can be rotated by 360° and elevated by 90° during operation. **PKI 5315** can be equipped with a lowlight watching system, which will transfer and display the image on TV-systems.

Specifications	
Objective aperture	200mm
Magnification	4,8x
Field of view	5,6°
Focusing range	50m to infinity
Fixed diopter	-2 diopter
Operating range	700 to 1000m to discover or recognise a person
Weight	Approx. 13kg



PKI 5320 Binocular Night Vision Goggle

PKI 5320 is a helmet-mounted night vision device for hands-free operations. It improves the remaining light by its light intensifying tube of 2nd generation and should be used for patrols, (walking or driving), medical care, reading of maps or any other observation task under poor light conditions. Due to its universally adjustable head-mounting it can be used for every observation purpose where hands-free operation is essential. The integrated IR-light helps the operator to illuminate the area to be observed with a nearly invisible IR-light.

Specifications	
Magnification	1x
Field of view	38°
Focusing range	250mm to infinity
Resolving power	1.59mrad
Diopter adjustment	+2 to +5 diopter
Exit Pupil diameter	7mm



PKI 5325

Night Vision System

The **PKI 5325** has been developed as a platform for underwater applications. Combined with a submersible mini monocular night vision viewer of 2nd or 3rd generation and a tactical illuminator, this device offers the best choice for any underwater purpose. It also allows fixation of an ACD (Advanced Combat Display), giving the user a remote viewing display that works underwater. The ACD can be used with a large variety of systems, such as thermal sights, night vision devices or remote cameras.



The kit consists of

Modified U.S. diver's mask monocular night vision device with
Multiuse monocular assembly
Head mount assembly for land use
Swing arm interface
Soft carry case
Battery adapter
Batteries (2 pcs)
Neck cord
Shoulder strap
Objective lens cap
Sacrificial filter
Lens tissue
Demist shield
Eyecup assembly

Illuminator with
High intensity underwater light Underwater personnel ID illuminators (3 each - red, green and yellow)
Laser sticks (2 each)
VIP-amber illuminator
IR/Red bikini filter (2)

Specifications
Field of view 40°
Submersible to approx. 20m
Dual mission - sea and land
Adjustable eyepiece
Standard rail interface
AA-type or 3 VDC battery
Covert application ready
Head mounting included
Variety of illuminators
Kit complete in waterproof case

PKI 5330

Thermal Night Vision Goggle

The **PKI 5330** provides a bright clear picture of surroundings, unaffected by lights or shadows that will render image intensified night vision useless. The only way to keep your edge, whether in the battlefield or in the streets, is to have the best equipment – and the **PKI 5330** really is the best. Even camouflage will not be an asset against the detection capability of this unit. Made by latest DSP technology and ultra lightweight materials, these goggles are small and comfortable. This system is a self-contained thermal unit that only requires 2 AA-type batteries to function and features:

- Digital thermal viewing
- Ruggedized housing
- Hands-free operation
- Simple user operation
- Helmet mountable
- Binocular viewer
- Video output
- Light weight
- Low MTBF



Specifications	
Sensor	Microbolometer
Detector uncooled	160 x 120
Image size	320 x 240 2D interpolated
Thermal sensitivity	<100mK
Spectral response	7 – 14µm
Objective	25mm germanium
Field of view	17 x 12 degrees
Battery type	2 each AA type
Operation time	Approx. 2 hours continuously
Display	FLCD – 320 x 240 format
Diopter adjustment	+6 to -0
Eye relief	15mm
Dimensions	Approx. 15 x 16 x 10cm
Weight	Approx. 680g with head gear

PKI 5340 Laser Night Vision Unit for Long Distances

This strong and high-quality **PKI 5340** night vision unit allows observations at night up to 10km distance even at total darkness. To cover this exceptional distance is only possible due to the integrated 200m telescope objective with 240mm focal length and a 60 - 240x magnification. Nothing will be left to chance with the built-in 15W laser at 860nm range (invisible for human eye) as well as the lowlight image amplifier of 3rd generation. An indispensable device at border controls, by sea or ashore. The video control terminal with display records all events.



Specifications

Dimensions	55 x 52 x 37cm
Weight	55kg
Power supply	100 – 240V AC
Power consumption	350W
Optic	240mm focal length at F 1: 5 to 1: 20 angle: min. 0,15° x 0,11°, max. 0,61° x 0,46°
Laser	15" with air cooling
Low light picture tube	III. generation Ø 18mm
Video resolution	640 x 480 pixel video IN, video OUT: NTSC or PAL communication: Ethernet (TCP/IP)

PKI 5345 Digital Night Vision Binoculars

The quality of digital techniques is nearly equivalent to the 2nd generation of tube night vision devices. The **PKI 5345** is equipped with two IR-lights, of which one permanently illuminates the area and is for use in semi-light conditions. The 2nd IR-light can additionally be switched on and allows excellent vision at low-light conditions or absolute darkness. The integrated video output socket allows play-back via an external display or recording with an external recorder.

Specifications

Dimensions	Approx. 116 x 76 x 170mm
Weight	Approx. 800g
Power supply	6 batteries type AA or power plug 7.2 - 9VDC (not included)
Magnification	5 times
Visual range	Up to 150m
Video output	PAL/NTSC
Lens diameter	42mm



PKI 5350 Night Vision Binoculars

For lengthy night visions surveillances, it is advisable to use night vision binoculars, because at longer surveillance operations the use of a monocular would be exhausting for your eye. The **PKI 5350** is one of the best night vision binoculars with an image intensifier tube of the 1st generation. It is rare to find something comparable, where design and easy handling have been combined so perfectly. The **PKI 5350** features an integrated infrared light which can be switched on additionally at low light conditions. It is especially useful for security agencies, hunters, nature lovers or private ship-owners. The **PKI 5350** is equipped with automatic ON/OFF function and can be controlled via three buttons.

Specifications

Power supply	2 x 3V batteries
Magnification	5 times
Lens	90mm / F 1.7
Angle of view	20°
Diopter adjustment	-5 to +5
Dimensions	225 x 150 x 62mm
Weight	1.400g



PKI 5355 Under Water Night Vision Unit

This handy under water night vision unit provides completely new working condition for divers. There is no danger of being detected at secret actions. A built-in low light amplifier with max. 100.000x light amplification allows impeccable view up to 150m. **PKI 5355** is easy to handle under water. Two additional plummets inside the housing avoid unintended lifting of the unit. An outer contact switch allows quick switch on/off. The lens is fixed and allows observation from 50cm to unlimited. Operating time for battery set is 50 hours, max. diving depth 80m.

Specifications	
Dimensions	Ø 160mm x 350mm
Weight	8,5kg
Power supply	6,75V Mallory battery
Housing	Plastic, black or olive-green
Lens	50mm
Opening	1: 1.4
View angle	20°
Brightness adjustment	Built-in Display for observation with both eyes


PKI 5385 Under Water Night Vision Unit

PKI 5385 shoots individual photos in high resolution at selectable intervals and when having finished the shooting, it automatically prepares a time lapse film in HD quality. The rugged camera can be easily set up or installed inside and outside. Playback is realised via the integrated 6cm screen. The adjustable recording interval between 5s and 24h offers interesting fields of application, e.g. observation of front doors. What happens when and how often at the object to be monitored. For the observation at night, additional IR spotlights can be delivered on request.

Specifications	
Camera	1 megapixel color CMOS
Observation angle	45°
Recording interval	Adjustable between 5 s and 24h
Time lapse film	Automatically upon playback
Frame rate	5 up to 30fps adjustable
Frame resolution	720P or 1080P
Recording on micro-SD card	Up to 32GB
Memory requirements per frame	Approx. 615kB
Focus	Manually adjustable
Frame control	6cm LCD monitor integrated
Weatherproof design	IP54
Temperature	-10°C up to +50°C
Operating time	580h when a photo is taken every 5 min.
Power supply	4x AA batteries
Weight	340g


PKI 5435 Mirror Film for Observation

Trust, but verify! Unfortunately, this statement has become true quite often. Using our mirror film, you can look from one room into the other without the person becoming aware of it. All you need is a wall with a glass pane. Just stick the **PKI 5435** film onto the pane and it will only be possible to look through it from one side, i.e. the observed person cannot see the observer. Formerly so-called "look through mirrors" were used but with our film you can decide individually which pane you want to transform.

Specifications	
Delivery	Rolled mirror film 1m wide and 5m long, self-adhesive



PKI 5445 EMCCD Night Vision Camera with Laser

The **PKI 5445** night vision camera is designed for application in wide terrain. Not only that the extremely sensitive EMCCD sensor already provides clear noiseless indoor images even in the faintest light, but the camera is also additionally equipped with a very powerful laser illuminator. It increases the operating range at total darkness to several kilometers. The laser beam is fanned out parallel to the camera lens so that the illuminated area is adjusted to the zoom area. This way, an optimum illumination is always achieved irrespective of the distance. Together with the laser, the camera is mounted on a pan/tilt head and can be adjusted via the remote control. The lens with a 60x zoom is equipped with additional filters providing optimum image quality even under aggravated viewing conditions.

Specifications	
Temperature range	-20°C to +60°C
Zoom	60x
Resolution	Up to 480 lines
Opening angle	30°
Sensitivity	0.0005Lux at F1.2
Power supply	12V 1.5A
Image sensor	EMCCD
Laser wavelength	810nm
Laser power	6000mW



PKI 5450 Video Traffic Control System

This system has been developed according to the requirements of our clients to monitor the number plates of vehicles on highways. **PKI 5450** records all vehicles passing by, stores the data and can transmit them within a range of 1km. A control point in a police car parked nearby may compare the data with the existing data base. An evaluation is possible within seconds and a suspected car can be stopped immediately. The **PKI 5450** system consists of a mechanical camera mast with a high-speed camera and a transmitter. The receiver is connected to a high-resolution monitor. It is equipped with a special software. The complete system can easily be stored in a police vehicle.



Specifications	
Camera	1/1,8" progressive color CCD camera
Lens	Motorized zoom lens, focal length 8 - 80mm (IR corrected lens)
Light device	IR-LED
Control board	Power, light, fans, heaters, automatic control and fault-auto-recovery function
Vehicle sensor	Loop coil (for image detector)
CPU	More than Intel Core 2 Duo
Memory	More than 2GB DDR2
Storage	More than SATA 500G HDD
Video input	Giga Ethernet
Housing	Waterproof, dustproof, special paint

PKI 5455

Camouflaged Audio / Video Multifunctional Camera for Police Operation

This multifunctional camera is the latest highlight in the camera sector and fulfills all needs for police operation to provide security to population. It is perfectly designed in an anthracite grey aluminum cylinder with dimensions of 80 x 16cm diameter. The cylinder unit, equipped with a quick release fastener, can easily be mounted on any lighting mast within a few minutes. The solid device is sufficiently protected against vandalism. As **PKI 5455** works totally autarkic no cables for operations up to max. 100 hours are necessary. For permanent use the device offers various sockets for different voltage.

This high-tech device consists of a pan/tilt camera for day and night with recorder, digital transmitter for audio video with encryption system, telemetric transmitter and receiver, sensor technology unit and power supply module as well as a portable control unit within a case for controlling, monitoring and programming.

The **PKI 5455** pan/tilt camera with zoom function offers pinpoint audio video monitoring of outdoor areas at day and night. The system can be switched from permanent to sensor operation, i.e. the built-in motion sensor will be activated by captured actions or movements, which automatically starts the whole system. Cascading is also possible, provided for example every 100m one of our multifunctional cameras is installed. In case of a convoy with VIPs driving down a certain road, all actions will be automatically monitored and recorded. Transmission of audio video signal is affected with high resolution and frame rate. Diversity-antenna-principle is used for reception, which means that the antennas are slightly displaced allowing multiple reception of the antenna signals.

The various antenna signals will be evaluated and only the best parts will be combined to a high-quality, error-free signal. This offers a considerable advantage compared to standard receivers in respect of range and transmission quality. According to the selected power the range of the audio video digital transmitter reaches up to 3km.

The portable control unit can evaluate up to 8 systems sequentially. All actions will be recorded and can be transferred at any time by USB cable to view them on PC. For further security, the transmission of video signals is done via encrypted signals.

There is a bi-directional telemetric radio connection for all functions between multifunctional camera and control unit. All details are shown on the built-in LCD-display. If required, we offer 2 days training for correct operation of our professional audio video monitoring system.



Specifications	
Dimensions of housing	80 x 60cm diameter
Protection class	IP 64
Weight	48kg
Material	Aluminium plastics, anthracite, other colours available on request
Fixing	4 metal quick release fastener
Antennas	Integrated in plastic part
Power supply	Integrated L-ion/polymer 160Ah, 14V, external sockets, 12V DC / 230V AC
Power consumption	Approx. 30W
Operating temperature	-10°C to +50°C

Camera	
Resolution	520 TV lines
Sensitivity	1lux colour - 0,05lux black/white 0lux IR
Frame acquisition	1/4" ex view HAD CCD
Signal format	PAL
Effective pixels	795 H x 596V
S/N ratio	50dB
Lens	4=3,25 – 88m
Zoom	27x optical / 12 x digital
Pan/tilt range	H = 350° (max. 120°/sec) V = 90° (max. 120°/sec)
White balance	Auto/indoor manual/outdoor
Shutter speed	1/50 - 1/50.000
Synchronisation	Internal
Video output signal	1 V at 75ohm composite
Iris control	Auto/manual
Sensor	Motion detector
Preset function	128 positions
Private zone	8 zones
Interface	RS 485
Alarm input	4
Power supply	12V DC
Power consumption	1A
Weight	2,5kg

Digital Recorder	
Resolution	720 x 576 at 25fps
Recording time	50 hours
Compression	MJPEG
HD	120 Gbyte SATA
Power supply	12V DC
Power consumption	7W
Weight	650g

Encryption	
Mode	AES with 256 Bit
Encryption possibilities	More than 34 x 1038
Power supply	12V DC, 70mA
Video band width	4,8MHz

AV digital transmitter/receiver	
COFDM	Coded orthogonal frequency division multiplexing
Frequency	GHz-range
Channels	8
Power	100mW / 1W switchable, higher power available on request
Power consumption	100mW / 15W, 1W / 55W
Weight	1,5kg
Power supply	12V DC
Receiver antennas	1 - 4 SMA
Receiver outlet	Audio/video

Telemetric transmitter/receiver	
Frequency	868 – 868.6MHz
Channels	8
Power	25mW – 4W
Data transmission	Bi-directional
Interface	RS 485
Power supply	12V
Power consumption	1,8W – 24W

Control unit	
Housing	Pellicase, plastic
Display	12" TFT
Remote control	Bi-directional telemetric transmitter for pan/tilt camera, a/v signal, day/night, A/V recorder, battery display
Digital receiver	8 channels
Antennas	Diversity-principle
Dimensions	485 x 390 x 190mm
Power supply	12V DC L-ion/polymer battery
Power consumption	25W
Weight	8,5kg

PKI 5475

PKI 5480

COFDM Video Transmitter (SD/ HD) and Receiver

PKI 5475 is a wireless COFDM-SDI and AV video transmitter that sends high quality real-time video from UAV/ UGV/ and body cams to our **PKI 5480** receiver for display.

Specifications	
Modulation	COFDM
Modulation Type	QPSK (4QAM), 16QAM, 64QAM
	SDI and CVBS dual video inputs
Transmission range	Up to 1 – 1.5km NLOS
Frequencies	300MHz – 2.7GHz
Encryption	AES256 (User defined password)
Inputs	SDI/ CVBS dual video
Video Input	SD/ HD-SDI: 1080p/ 1080i/ 720i.... (self-adaption) AV: 720 x 480/60i (NTSC), 720 x 576/50i (PAL) (self-adaption)
Video Compression	H.264
Output Power	30dBm (33dBm optional)
RF Bandwidth	2/ 4/ 6/ 8MHz
FEC	1/2, 2/3, 3/4, 7/8
Guard Interval	1/4, 1/8, 1/16, 1/32
RF Interface	SMA F head
Control Method	Using the Programmer
Working Voltage	DC12V (8 - 16V)
Working Current	<1.2A (@ 12V)
Power Consumption	<14W
Dimensions	157 x 70 x 37mm
Weight	350g
Working Temperature	-20°C to +70°C



PKI 5480 is a wireless mini-COFDM video receiver with diversity reception. **PKI 5480** can receive multiple frequencies and supports real-time SDI/HD video transmission under high-speed mobile and NLOS conditions. **PKI 5480** is particularly suitable for use in complex environments.

Specifications	
Modulation	COFDM
Modulation Type	QPSK(4Qam), 16QAM, 64QAM
Frequency	300MHz – 860MHz, 860MHz – 2.7GHz for customization
Sensitivity	-106 dBm@2MHz
RF Bandwidth	2MHz – 8MHz
FEC	1/2, 2/3, 3/4, 7/8
Guard Interval	1/4, 1/8, 1/16, 1/32
Encryption	256 – bit AES (support set password)
Video Input	HDMI: 1080p/ 1080i/ 720p/ 720i AV: 720 x 480/60i (NTSC), 720 x 576/50i (PAL)
Video Compression	H.264
RF Interface	SMA F head
Storage Interface	TFcard
Parameter Settings	LED control box
Working Voltage	DC 6V – 15V
Working Current	<0.2A (@12V)
Power Consumption	< 2.5W
Dimensions	105 x 89,5 x 30mm
Weight	248g
Working Temperature	-20°C to +70°C



PKI 5535

Audio/Video Transmission via Mains with PC Remote Recording

PKI 5535 is a high-tech product for camouflaged operations and can be incorporated into mains-powered everyday objects, e.g. vacuum cleaners (interesting for hotel floors), coffee mills, wall clocks, etc. The camera with microphone records the A/V signal. This is stored in the recorder module and can be recalled at any time via the delivered laptop. Transmission is realized online via the transmitting module, AC line 220V and the receiving module which is connected to the laptop. All module connections are provided with polarized plugs or jacks so that assembly consists in connecting the camera, recorder and transmitting modules with the enclosed prefabricated cables. The receiving module is plugged into a socket outlet and connected to the delivered laptop. The computer software includes all required application commands executed via the laptop. The transmission data is encrypted and inaccessible to unauthorized persons. The **PKI 5535** transmitting module enables data transmission via the 220V mains. The maximum data transmission rate is 200Mbit. The new 128bit AES (Advanced Encryption Standard) encryption offers maximum security and protection against unauthorized access. The **PKI 5535** receiving module receives the encrypted A/V data from the mains (220V). The data is evaluated by the connected laptop. With a bandwidth of 200Mbit/s, it is designed for professional applications.



Specifications

Camera with recorder	
Camera	1.3MP D/N remote focus/zoom
Imaging	1.3 megapixel effective CMOS image sensor
Progressive scan	
Full resolution	1280 (H) x 1024 (V) pixel array 1 / 2.7" optical format 3µm pixel pitch
	Minimum illumination of color (non-binned): 0.1 Lux @ F1.2
	Dynamic range: 69dB
	Maximum SNR: 45dB
Full field of view resolution	¼ resolution 640(H) x 512(V)
Cropped (FOV) resolution	Flexible cropping crop to 2 pixels in H.264 and 1 pixel in JPEG 1280 x 720 HDTV - 720p 640 x 480VGA
Camera Electrical	General purpose opto-isolated input and output Power over Ethernet (PoE); PoE 802.3af for camera
	Auxiliary power 12 - 48V DC, 2V AC Power consumption: 9watts
Environmental	
Operating temperature	-20°C to +50°C
Stable image temperature	0°C to +50°C
Storage temperature	-40°C to +60°C
Humidity	0% to 90% (non condensing)
Programmability	
Remote focus, remote zoom and auto-iris	

- Privacy mask Flexible cropping
- Low light noise filter control
- Auto exposure (AE) and gain control (AGC) higher than 120dB
- Shutter speed: 1ms - 500ms
- On-camera real-time motion detection with 1024 detection zones
- Auto backlight compensation Auto multi-matrix white balance 50/60Hz selectable flicker control
- Resolution windowing down to 1x1 pixel for JPEG and 2x 2 pixels for H.264 Programmable shutter speed to help control motion blur
- Moonlight mode - extended exposure & proprietary noise cancellation Programmable resolution, brightness, saturation, gamma, sharpness, tint
- Bandwidth & storage savings by running at ¼ resolution

Transmitting module	
Technical data	
Intellon INT6400 chip set / 1 x RJ45 10/100 fast Ethernet interface	
Quality of Service (QoS) for Triple Play /Voice over IP	
Supported standards	IEEE 802.3, IEEE 802.3U, IEEE 802.3af/
Supports Single End Point PSE	
Supports PoE class	0, 1, 2, 3-up to max. 15.4Watt on PIN 4.5 (+) and 7.8 (-)
IPv4 and IPv6 IGMP protocol support	
Supports	Windows 98 SE/ME/NT/2000/XP/Vista, MAC, Linux
Temperature	Operation: 0°C to +40°C, Storage: -20°C to +60°C
Humidity	Operation: 10 - 85%, Storage: 5 - 90%
CE certified	
Power consumption	Max. 20W

Receiving module

The receiving module receives the encrypted audio/video data from mains (220V) and analyses it via a connected computer. The bandwidth of 200Mbit/s is designed for professional operation.

Technical data	
Chipset IEEE 1901	
Range	Up to 200m
Frequency band	2 - 68MHz (with mask)
Access method	CSMA/CA
Quality of Service	Self-learning quality of service, classification Tos, COS and port number
Modulation	OFDM 4096/1024/256/64/16/8 QAM, QPSK, BPSK, ROBO
Powerline	EURO-Net plug
Net connection	1 x RJ45 10/100Mbps
Encryption	128-bit AES Link Encryption with key management
LED indicator	PWR (red) PLC (green/orange/red indicator for flowrate) ETH (green)
Power supply	220 - 240VAC, 50/60Hz
Power consumption	Less than 4w in operation, less than 0.5w in standby
Supported standards	Powerline: IEEE 802.3, IEEE 802.3u, HomePlug AV with HomePlug 1.0 Co-existence
Operating systems	Windows XP32bit, Windows Vista32/64bit, Windows 7 32/64bit, Linux, Mac OS X and all TCP/IP systems
Housing	Plastic
Ambient	Operating temperature: 0°C to 40°C Operating humidity: 10% - 85% (non-condensing)
Storage temperature	-20°C to +60°C
Storage humidity	5% - 90% (non-condensing)
Classification	FCC; CE, RoHS
Dimensions	70 x 50 x 27mm (height x width x depth)
Weight	100g (only adapter)

Key Features

- Storage & forward / streaming capabilities
- Captures video and still images (audio optional)
- High picture quality under low light conditions
- Self contained, requires only power source for unit and camera
- Optional integrated Wi-Fi 802.11b/g adapter + encryption (WPA2)
- External power Lan module and alarm receiver for wireless sensors
- Internal 2GB storage
- Wire-based or wireless passive IR sensor or radar sensor or vox sensor
- Up to 25 m extendable camera head and microphone
- Plug-and-play management software (internet browser based e.g. Internet Explorer, Firefox etc.)

Product Benefits

- Minimum device (cigarette box size)
- High performance D1/H.264/25fps
- Stability and robustness: aluminium case with noiseless air cooler
- Fully reliable / plug-and-play laptop inclusive delivery package
- Flexible remote-controlled programming
- Wireless download of collected data according to operational constraints
- Engineered and made in Germany
- Neutral software outfit
- Professional low light camera adaptable day/night with pinhole or high-resolution b/w camera up to 700 TV lines
- One-day training in Germany included

PKI 5540**GSM Remote Monitoring System**

PKI 5540 enables to trigger the remote control of 8 different and independent channels via mobile phone or to activate connected devices such as water pump, heating or lighting. And this all over the world in the global mobile phone network. In the following, we listed some advance features:

- Configurable for alarm and recovery of SMS
- Automatically reports its own status on schedule
- Supports remote setting via SMS commands
- Presetting of 10 phone numbers
- Remote add/edit/delete phone groups
- Automatically update internal clock via SMS
- Time stamped in alarm or recover messages
- Supports ring call upon alarm
- Audio in and audio out can connect speak and mic
- Temperature sensor
- Internal battery and providing power cut off alarm
- Easy used GUI configure software
- Adopted highly integrated industrial CPU
- Reliable performance with built-in double watchdog
- Can execute preset tasks by re-defined conditions
- Low maintenance

**Specifications**

Specifications	
Frequency range	Quad frequency 900/1800/850/1900MHz
SIM card	Supporting 3V & 1.8V SIM card
Antenna	50 ohm SMA antenna interface
Communication interface	RS-232 C
Digital input	8 digital inputs
Analog input	4 analog inputs (4-20mA or 0-5V)
Output	8 drivable relay outputs
Output drive voltage	Equal to input DC voltage
Output drive power	Drive voltage ≤ 35V drive current ≤ 500mA
Audio interface	3.5mm audio in and audio out
DC power supply	12 - 24V DC standard adapter DC 12V /1.5 A
Power consumption	12 V input, max. 150 mA/average 50 mA
Working temperature	-30°C to +70°C
Working humidity	Relative humidity 95%
Exterior dimension	130 x 80 x 25mm
Weight	380g

PKI 5550**Wireless Audio/Video Transmitter and Receiver**

PKI 5550 provides a complete wireless audio/video program with matching receiver and repeater. Pocket-sized transmitter and receiver housings are made of Aluminum.

Following standard frequencies are available:

- 1.2GHz, 1.5GHz, 2.4GHz, 5.8GHz
- Further frequencies on request!

The output power can be:

100mW, 200mW, 400mW, 600mW, 700mW, 800mW, 1W, 1.5W, 2.0W, 2.5W, 3W, 5W, 10W.



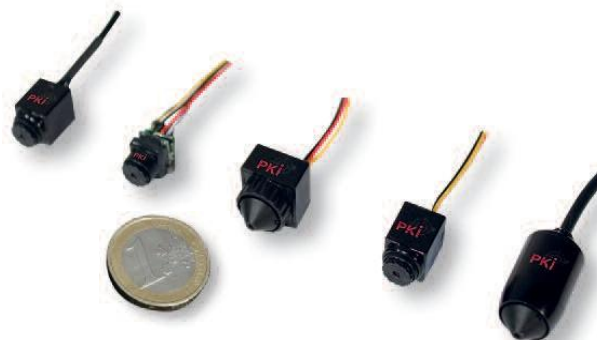
The devices are powered by built-in 12V Li-ion batteries. Charger, as well as antennas with A/V cables are included. The dimensions of the devices are mostly that small that they easily can be built in typical everyday objects, characteristic for the country, without great effort. Our micro cameras can be connected.

PKI 5555

Micro Cameras

These **PKI 5555** micro cameras are very suitable for hidden surveillance. As small as a finger nail and nevertheless excellent technical parameters, e.g. day & night dual mode auto switch, CMOS sensor generation III + DSP chip offer true color & HD video. All including microphone for audio and video recording. In the following, we offer 5 different designs:

PKI 5555 Version 1	
Sensor	1/3 CMOS
System	NTSC / Pal
Pixel	NTSC 656 x 492, Pal 768 x 576
Horizontal resolution	520 TV lines
Sensitivity	0.008 Lux / F2.0
Lens & view angle	0.5mm F2.0/55°
Video out	1.0 V p-p/75 Ohm
Audio out	1.0 V p-p/1kOhm
Size	11,5 x 11,5 x 17mm
Power requirement	DC 3.6 - 5V 75mA



PKI 5555 Version 2	
Lens & view angle	0,5mm F2.0/55°
Dimensions	11,5 x 11,5 x 17mm
Sensor	1/3 CMOS
System	NTSC /Pal
Pixel	NTSC 656 x 492, Pal 768 x 576
Horizontal resolution	520 TV lines
Video out	1.0 V p-p/75 Ohm
Audio out	1.0 V p-p/1kOhm
Work current	75mA
Power requirement	DC 3.6V - 5V

PKI 5555 Version 3	
Lens & view angle	F2.8 /90°
Dimensions	15,5 x 15,5 x 20mm
Sensor	1/4 CMOS
System	NTSC /Pal
Pixel	NTSC 720 x 480, Pal 720 x 576
Horizontal resolution	480 TV lines
Sensitivity	0.1 Lux / F2,8
Video out	1.0 V p-p/75Ohm
Audio out	1.0 V p-p/1kOhm
Power requirement	DC 3.6V - 24V

PKI 5555 Version 4	
Lens & view angle	0,5mm F2.0 / 55°
Dimensions	9,5 x 9,5 x 15mm
Sensor	1/3 CMOS
System	NTSC /Pal
Pixel	NTSC 656 x 492, Pal 768 x 576
Horizontal resolution	520 TV lines
Sensitivity	0.008 Lux / F1.2
Video out	1.0 V p-p/75 Ohm
Audio out	1.0 V p-p/1kOhm
Power supply	DC 3.6V – 5V 75mA

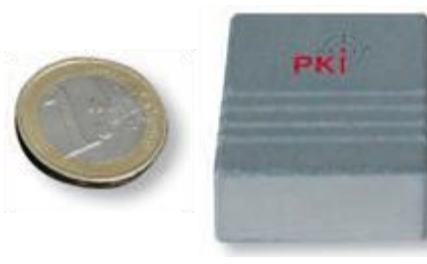
PKI 5555 Version 5	
Lens & view angle	0,5mm F2.0 / 90°
Dimensions	15 x 24 x mm
Sensor	1/3 CMOS
System	NTSC /Pal
Pixel	NTSC 656 x 492, Pal 768 x 576
Horizontal resolution	520 TV lines
Sensitivity	0.008 Lux / F1.2
Video out	1.0 V p-p/75 Ohm
Audio out	1.0 V p-p/1kOhm
Power requirement	DC 3.6V - 5V 72mA

PKI 5560

Digital Audio / Video Pocket Recorder

No way to have smaller dimensions with the same features as the **PKI 5560** with its size of 68 x 38 x 18mm in Full HD quality. **PKI 5560** can perfectly be used for mobile and disguised observation tasks. In combination with our different micro cameras **PKI 5560** can be a complete body-worn system with most effective camouflaging. Audio and video recordings are stored on a 32GB micro-SD card. Playback can be done by a common computer.

Specifications	
In combination with PKI micro camera Full HD resolution MPEG	1920 x 1080 Pixel, 30 fps
Video compression	Optimized MPEG-4-AVC H.264
Microphone	Built-in
Power supply	Lithium-Ionen-Akku 3,6V
Power consumption	500 mAh, 300mAh
Recording time	120 min.
Dimension / Weight	68 x 38 x 18mm/ 45g



PKI 5565**Intelligent 360° Day and Night Observer**

Fixation of this 360° camera is very simple and quick, as it is equipped by a ground spike. The **PKI 5565** unit consists of 3 cameras, which allows an all-around observation. Activated by a sensor or remote-control it stores all captured data on a digital recorder. At darkness the high-power LEDs are automatically switched on, so that night visions can be effected up to a distance of 100m. The built-in GH-transmitter transfers the audio and video signals up to 500m to an LCD- receiver. The observer is controlled by remote pocket transmitter.

Specifications	
Image sensor	3x 470 TVL
Shutter	Automatic
Frame rate	Live video, 24fps
Microphone	Records conversation up to 10m distance
TFT-display	6,4"
Remote control	Camera, zoom, ON/OFF
A/V transmitter	GHZ-range
Dimensions	Ø 380mm x 150mm
Weight	4kg
Power supply	Dry fit battery 12V / 80Ah, set into soil

**PKI 5600****24GHz Audio Video Directional Transmission System**

This newly developed directional transmission system allows transmission of audio, video and switch signals via the 24GHz-ISM frequency range, which is register and cost-free. The use of directional antennas reduces its interference response coming from other systems and increases safety from interception. The **PKI 5600** covers a range of up to 5km at a transmission power of 100mW. Also available are similar devices only for export purposes with 1W, 10W and 50W and up to 50km transmission range. All cameras out of the PKI product range can be connected to the transmission system and the receiving system is compatible with all our TFT colour displays and video recorders.



Specifications	
Transmission system	
Video input	1V _{ss} / 75Ohm
Video frequency range	30Hz - 5MHz
Audio input	100mV _{ss} - 10V _{ss}
Audio frequency range	30Hz - 15kHz
Modulation	F3F
Power supply	9 - 30V
Power consumption	Max. 500mA/12V
Antenna	36dB parabolic antenna
Dimensions incl. antenna	500 x 500 x 400mm
Protection against dust/moisture	IP 65
Operation temperature	-25°C to +55°C
Transmission power	100mW
Receiving system	
Frequency range / Channels	ISM 24.020-24.230GHz / 16 channels
Video output	1V _{ss} / 75W
Video frequency range	30Hz - 5MHz
Audio frequency range	30Hz - 15kHz
Receiver response	-85dBm
Modulation	F3F
Switching channel output	15V / 100mA
Power supply	9 - 30V
Power consumption	max. 250mA at 12V
Operation temperature	-25°C to +55°C
Dimensions incl. parabolic antenna	500 x 500 x 400mm

PKI 5605**Microwave Radio Transmission**

This **PKI 5605** system comprises one transmitting and one receiving unit at a frequency range of 10,5GHz including parabolic antennas. It allows transmissions of audio, video and switch signals. At 10W output power a range of max. 50km can be achieved. Should this be insufficient cascading is possible, i.e. to overcome larger obstacles (mountains, buildings etc.) or to get longer distances several radio systems can be switched in series.

Specifications	
Frequency	10.5GHz
Output power	0,1 / 0,5 / 1 / 2 / 5 / 10W
Topology	PTP & PTMP
Digital line Interface	E1 / Ethernet
Encryption	AES (WPA2 – PSK)
Dish & grid & panel directional	High gain
Dimension	39,2 x 31 x 15,6cms Antenna Ø 35,5cm
Weight	6,8kg
Temperature	-30°C to +60°C
Housing	IP 68
Power supply	110 / 220V AC

**PKI 5610****Digital AV Encryption System**

In professional use you shouldn't miss the **PKI 5610** audio/video encryption when using wireless directional transmitters. With our encryption system you can focus 2 audio channels with 1 video channel. This is especially important if you need to secure surveillance links. The system embeds digital audio data within the video's vertical blanking period. The data is encrypted under control of the **PKI** encryption algorithms resulting in a highly secure transmission.



Specifications	
Scrambling method	Encrypted digital audio sent as VBI data
Audio input level	10mV to 4Vpp, 100kOhm
Audio bandwidth	100Hz to > 5kHz dual channel 100Hz to > 10kHz single channel
Video input level	1Vpp 75Ohm
Digital sampling rate	8 bits at 22,5MHz
Video bandwidth	To 5.5MHz
Lock-in-time	< 0,5 sec. max.
Video standards	PAL, NTSC
Dimensions	130 x 60 x 23mm
Operating temperature range	-10°C to +70°C
Weight	220g
Connectors	BNC
DC power	6 to 32V DC, 800mW

PKI 5620**Video Surveillance Helicopter**

The **PKI 5620** video surveillance helicopter is designed for all circumstances where no other methods of video surveillance are possible. For this reason, our **PKI** video surveillance helicopter is called "your eye in the sky". Equipped with a special camera and video transmitter it delivers the requested pictures. It is ideal for various application fields, for example in a soccer stadium (for observation of hooligans) at street riots (where political groups fight against each other) or at special police operations.

An assortment of components can be chosen individually according to requirements. Please find hereafter a choice of components.

Specifications

Microdrone set 4-200 ready-to-fly		Video transmitter	
Flight duration	Approx. 20min.	2.4GHz analogue, 200mW	
Payload	200g	With this option the drone transmits the video and telemetry data to the base station/mobile video receiver	
Size	< 1m Ø	Different cameras are available such as:	
Power supply	5V/1A	Daylight Color video camera	
Servo	2 x standard	Low-light b/w video camera	
Switch channel	2 x 5V/16V	Still photography	
Including	1 FM-synthesizer transmitter 13-channel 35/40/41MHz	Videography	
3 x carbon blade, 370mm (front and rear motor)			
3 x carbon blade, 370mm (left and right motor)			
2 x LIPO batteries 4s, 14.8V, 2300 mAh			
1 x peli case, dimensions 800 x 581 x 479mm			
Mobile Video Receiver		GPS position hold	
2.4Ghz 4-fold diversity receiver		GPS-receiver and antenna	
1 x 1.4 megapixel video eyeglasses		3D-magnetometer	
1 x LIPO batteries 4s, 14.8V, 2300mAh		Firmware extension	
LIPO Loader			
		With true single cell balancer	
		Supply: 12VDC	
		Max. load current: 3.1A	
GPS waypoint navigation			
This option allows the drone to follow a flight path, that can be planned or uploaded into its memory.			
LIPO batteries 4s, 14.8V, 2300 mAh			

Base station set
1 x 1.4 megapixel video eyeglasses
1 x 2.4 GHz 4-fold diversity receiver, high gain antenna
1 x Internal power supply, inputs: 230/115VAC, 12/14.8VDC
1 x charger and true single cell balancer
1 x USB video frame grabber, video splitter 3x out
1 downlink decoder for receiving the complete machine state
2 x LIPO batteries 4s, 14.8V, 2300mAh
1 x peli case, dimensions 486 x 392 x 192mm (notebook not included)



PKI 5625 Video Drone with Unlimited Flying Time

Today, the existence of flying drones is absolutely justified. Fast monitoring operations from any desired altitude and with any operating range are thus rendered possible. Our **PKI 5625** is designed for another interesting monitoring option, namely long-term monitoring. Standard flying drones are not suited for this. The **PKI 5625** take-off and landing platform is located on the roof of a conventional vehicle with a cable connection to the flying object. **PKI 5625** with integrated camera can take-off from there up to an altitude of 30m. Power is supplied via a cable. The camera constantly analyses the position in space and automatically directs **PKI 5625** to the specified position.



Specifications	
Dimensions	Drone 1 x 1 x 0.55m
	Landing platform 1.2 x 1 x 0.43m
Weight	Drone 4.2kg
Carrying capacity	1kg
Flying altitude	30m
Power supply	12VDC / 80A
Positioning	Automatic take-off/landing and positioning
Video transmission	Via WLAN
Manual control	Pan, tilt, zoom
Miscellaneous	Driving with an active flying drone is possible up to a driving speed of 20km/h.

PKI 5630 Foldable rocket drone

This tiny drone of only 30 x 30 x 20cm is ideal for mobile applications. The propellers are simply folded out for operation. **PKI 5630** is designed for an operating range of 120m given a flying time of 10 minutes. The integrated camera transmits video frames in the 2.4GHz range. **PKI 5630** will be delivered complete with remote control incl. video receiver and charging station.



Specifications	
Video transmission	2.4GHz range
Gyroscope	Built-in 6-axis
Charging time	150 min.
Battery	Li-polymer 3.7 V, 900mAh
Support	Wi-Fi control
Miscellaneous	Obstacle avoidance function

PKI 5635**Number Plate Recognition Camera**

This high-speed camera captures every number plate of cars passing by at a speed of 60fps (frames per second) completely independently from the illumination conditions. This is unnoticeable for drivers, as the IR illuminator works at an invisible 850nm IR band- width with 2000W light power. Effective range of number plate capturing is up to 15m. The **PKI 5635** is ideal for various applications, such as traffic surveys, vehicle access control, private car parkings, airports, harbours, law enforcement automation, transit traffic monitoring, vehicle entrance admission, speed enforcement, etc. The compatible software for data storage resp. filing can be offered upon request.

Specifications	
Dimensions	155 x 155 x 124mm
Weight	3.2kg
Operation temperature	-20°C to +50°C
Power consumption	24VAC / 20W
Digital IR-Camera	
Resolution	752 x 480 pixels
Image processing speed	60 frames/sec at full image size
Format	RAW, JPEG
Shutter time	1/100 to 1/30000 sec. adjustable gain
Communication interface	Ethernet UDP/IP or USB
Image sensor	High speed and ultra sensible, CMOS monochrome WideVGA
Pixel size	6µm x 6µm
Dynamic range	Up to 100dB
Miscellaneous	
Built-in motion detection Integrated flush memory Real time clock	
IP class 67	

**PKI 5640****High-Tech Professional Camera**

Our new **PKI 5640** camera goes beyond all previous frames. Camera development is moving forward at a rapid pace. The **PKI 5640** not only impresses with its small dimensions and minimal weight but is also an absolute high-tech product. The technical data speak for themselves, as listed below.

Specifications	
Sensor	1, 2,8" CMOS Sensor
Focal length	2.8 - 8mm
Lens type	Varifocal
Horizontal angle of view	(FOV) 112° - 39°
Maximum resolution	1920 x 1080
Video compression formats	H.264, M-JPEG
Supported graphic resolutions	160 x 90, 1920 x 1080 (HD 1080)
Full HD	Yes
Network standard	IEEE 802.1x, IEEE 802.3, IEEE 802.3af, IEEE 802.3at, IEEE 802.3u
Supported network protocols	IPv4/v6, HTTP, HTTPS, SSL/TLS, QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP, SNMP v1/v2/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, SFTP, TCP, UDP
Picture quality adjustment	Brightness, colour depth, contrast, sharpness
Privacy masking	Yes
Sample rate	48kHz
Max. frame rate	50fps
Light sensitivity	0.11 LUX
Wide Dynamic Range (WDR)	WDR Forensic Capture
Motion detection	Yes
Operating temperature	0°C to +55°C

**Main features**

- Full HD 1080@50fps, max. 1920 x 1080 pixels
- True day&night with switchable blocking filter
- Light finder and forensic capture technology
- H.264 with Zipstream technology
- Multiple H.264 and MJPEG streams
- Card slot for microSD/ MICROSDHC/microSDXC
- RS-422/485 for control of SNK
- 8 - 24VDC power via Ethernet

PKI 5645 Micro Drone

PKI 5645 is a small and very fast reconnaissance tool which fits in the palm of a hand. It comes together with a long-range remote control and FPV video goggles. Using **PKI 5645** makes you feel as if you are watching out of the cockpit of an aeroplane. **The PKI 5645** drone is up to 70km/h fast and the remote control has a range of up to 1,5km. The onboard video camera transmits the signal back to the video goggles with very low latency. A 5,8GHz diversity receiver provides a stable signal with low interference. The four propellers give the drone the needed agility to fulfill any mission.



Everything is organized in a rugged and waterproof suitcase for easy transportation. The batteries can be replaced in seconds. The video goggles show all needed parameters on screen like battery voltage and signal quality. **PKI** also offers training courses to become familiar with the functions of **PKI 5645**.

Specifications	
Weight	150gr
Max speed	70km/h
Propeller size	63,5mm
Max. range	1,5km
Width	140mm
Length	160mm
Height	55mm
Input voltage	12V
Flight time	5 min
Battery size	650mah
Antenna	Circular polarized
Video	Two 5,8GHz diversity receiver
Rechargeable batteries for all components	
Rotor reverse mode	



PKI 5650 License Plate Scanner with Face Recognition

When it comes to vehicle access monitoring, our **PKI 5635** number plate recognition camera is a proven solution. However, they only check the vehicle. The question of who controls the vehicle is often of greater importance. **The PKI 5650** is a powerful solution that ideally combines our license plate scanners and face recognition. The powerful IP camera fit for night vision together with the highperformance software allows to evaluate both characteristics and to compare the results with a database.

Any actions can be triggered based on the results. For example, to release the access or to alert the guard. Time and attendance applications can also be integrated. **The PKI 5650** scanner must be aligned to the front of the vehicle to detect driver and license plate. Special light sources ensure a sufficient image recognition quality also in dark environments.

For covert operations, an infrared light source can be used, too. Due to its modular design, the **PKI 5650** is versatile in use. The image recognition server can manage several cameras simultaneously. The components are connected via network connections and can thus also be used from the distance. All components are weatherproof and resistant to vibration, so they can be installed in vehicles.

Comprising
Special lights
IP camera(s)
Server for image recognition



PKI 5655**Long Distance Day/ Night Camera with 360° Continuous Pan**

This **PKI 5655** camera is especially designed for long distance observation. Equipped with a weather- proof and solid housing it is often used at airports, highways, harbour's and seashores. Due to an integrated water tank and its windscreen wiper, it always provides excellent visibility, independently from environmental conditions.

Specifications

Camera Specifications	
Sync system	Internal
Image sensor	1/4" Exview HAD CCD
Scan system	2:1 Interlace
Resolution	470 TVL(C)/570TVL(M)
Sensitivity	0,01 Lux (1/4 sec. NTSC), 1/3 sec. PAL
Lens aperture	Auto/ manual
Focus	Auto/ manual
Zoom ratio	432X (optical 36x, digital 12x)
Focal length	3,4mm - 122,4mm
View angle	Wide 57,80° /tele 1,70°
BLC	Close/auto
White balance	Auto
Gain control	Auto
Privacy mask	24
Signal format	PAL/NTSC
S/N	≥ 50dB
Video output	1.0 +/- 0.2Vp-p
Video output port	Female BNC



Connection type	
Interface	RS485/RS422, Bi-phase

Electrical specifications	
Input power	AC24V, AC220V, AC110V selectable, 50/60Hz
Max. power consumption	60W
Voltage for defroster, heater, fan	24V AC
Power consumption for defroster, heater, fan	21W 4000V, video, data, power lightning proof

Functions	
OSD menu	
Scheduled various functions	
220 presets with title	
4 panning, 4 sequences, 4 patterns	
8 zones with title	
8 privacy masks	
Auto running function	
Temperature display	
18x/22x/23x/30x/35x/36x optical zoom camera optional	
9 language OSD menu (Chinese, English, French, Portuguese, Spanish, Italian, German, Russian, Polish)	

IR Specification	
Power supply	100 - 240VAC (outer)
Power consumption	10W
IR output power	20W
IR emission angle	15°
IP optical wavelength	850nm
Operating temperature	-40°C to +60°C
Size	Ø 58mm x 135mm
Weight	300g

Weather-proof equipment	
Protection against dust/moisture	IP66 Sun shield, auto running defroster/heater/fan/wiper
Operating temperature	-40°C to +60°C
Operating humidity	0 - 90%
Operating wind speed	90km/hour
Wind speed resistance	130km/hour
Resistance against rain	4mm/min. With relay out for water jet control

PKI 5665**Microwave Surveillance Solution**

Audio and Video surveillance is necessary and required everywhere. In the **PKI** product range, you will find complete network systems including antenna and transmitter/receiver. The systems are designed to be cascading, so that they can achieve a range of more than 1000km according to installed number of systems.

Specifications	
Frequency	140MHz - 10,5GHz
Output power	0,1 - 100W
Digital line interface	E1 / Ethernet
Encryption	AES (WPA2-PSK)
Antenna	High gain
Dimension	355 x 445 x 238mm
Weight	4 - 7kg
Operation temperature	-30°C to +60°C
Protection against dust/moisture	IP 68
Power supply	110/220V AC
Solar	Optional for low power
Format	PAL/ NTSC
Bit rate	32kb/s – 4Mb/s
Resolution	D1 size (720 x 480)
Compression	Video MPEG 4 Audio ADPCM

**PKI 5670****Stationary Laser Speed Monitoring**

The **PKI 5670** is based on a laser measuring principle. A scanning laser is used here which determines the speed and position of all vehicles in the tracking zone via a time-of-flight measurement. The **PKI 5670** consists of rotating segments so that the traffic can be monitored in both directions of travel. In-road equipment, such as piezo sensors or induction loops, is not required. The elegant and inconspicuous design fits into any town- or landscape. It is possible to monitor up to three lanes in both directions from the central reservation. The digital documentation is encrypted which thus protects against manipulations. The **PKI 5670** operates irrespective of the time of day, weather conditions and traffic density.

Specifications	
Measuring mode	Automatic
Operating range	15m to 75m
Measuring range	10km/h to 250km/h
Measuring rate	> 1 vehicle per second
Monitoring range	3 lanes per direction of travel / a total of 6 lanes
Camera	2 high resolution matrix cameras
Standard flash	Red flash (650nm)
Alternative	IR flash, invisible < 890nm
Control unit	Autarkic measuring mode, operation and transfer of incident data via encrypted network connection
Interface	Encrypted connection between control unit and measuring unit
Display	Calibrated display: 2 x 16 characters, 9mm character size
Evidentiary photography	Per case one digitally encrypted and signed file each with image and measuring data as well as indications on measurement system, user and measurement place approx. 3300 cases storable
Operating voltage	230V AC, alternatively 12V DC
Power consumption	Max. 50W
Dimensions	Ø 400mm, height 2700mm
Weight	Aluminium pillar 170kg Measuring unit 13kg Flash unit 10,5kg IR flash unit 6,8kg
Installation	Mounted on a concrete foundation



PKI 5675**Outdoor Fire Detection System**

The **PKI 5675** can be used to automatically monitor large areas of land for blazing flames. Besides woodland, it is for example possible to protect large storage areas or residential areas using the **PKI 5675**. The system combines a thermographic camera and a CCD camera and evaluates temperature development as well as the occurrence of smoke clouds. When installed appropriately, operating ranges covering a radius of up to 10km are possible. The system automatically searches the environment in a specified pattern and can thus trigger fire alarms at an early stage. The alarms of the **PKI 5675** can be centrally collected in a reporting office and provide the employees with a valuable decision support based on the camera images. The data can be displayed within maps thus facilitating the disposition of the fire fighting brigade.

Specifications	
System entirely remote controllable via IP link	
IR and CCD camera with low-light function	
Operating range	Up to 10km
Resolution	Thermal 384 x 288 pixels / B/W 720 x 576 pixels
PTZ head	
Zoom	36x
Operating temperature range	-20°C to +50°C
Housing conforms to IP 65	

**PKI 5700****360° Long-Term Surveillance Camera**

Visual long-term observations require top equipment. Targets monitored for weeks or even months must be immediately detected and recorded accordingly at the moment of „ACTION“ by the camera used. The **PKI 5700** 360° surveillance camera can capture surroundings of 360°. This allows automated photo and video recordings by day and night. Video recordings are made with sound. The built-in display allows to directly look at the photos and videos on the spot. The maximum resolution of the camera is 5 megapixels. It is equipped with multiple PIR sensors to monitor the entire surroundings of the camera. The pictures are taken with a hyperbolic mirror and converted to a 360° photo using the delivered software.

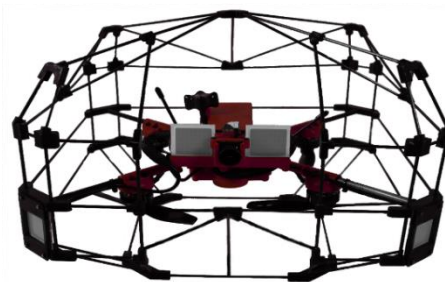
Specifications	
Multiple PIR sensor for 360° detection.	
„Invisible“ LED night vision flash (approx. 10 - 12m range)	
360° colour photos with 5 MP resolution	
360° video recording	
Various recording modes, interval, single, series	
Date and time stamp on each photo	
Power supply	4 or 8 AA batteries or 6V mains adapter
Connections	USB, SD card slot, 6V DC external
Standard thread for stand mounting	
Special software to edit the 360° photograph	
Weatherproof and rugged	
Dimensions	Approx. 43 x cm
Weight	Approx. 1kg
Photos are stored on SD card (max. 8GB)	



It is optionally possible to connect our **PKI 5700** surveillance camera with our **PKI 2505** universal surveillance server. This enables the transmission of the collected photographic material or the live transmission via the GSM network to the internet.

PKI 5740**UAV Mini Inspection Drone**

PKI 5740 is especially designed for extremely confined environments, i.e. inspections of industrial parks, chimneys, tunnels, pipelines etc. **PKI 5740** is shock and collision resistant up to 15km/h. The 360° carbon cage makes this possible. The use of **PKI 5740** reduces the human risk in dangerous and narrow places.

**Specifications**

Dimensions	Ø 29cm
Weight	610g
Camera	Full HD 1080p, 2MP / FOV 160° 16/9
LED light	3000 Lumens
Flight safety	Carbon cage with 360° rotation on 1 axis
Flight time	8min
Remote controller range	500m
Video Transmission range	500m
Telemetry range	500m
Power supply	Li-Ion Battery

PKI 5775**UAV Hybrid Drone**

PKI 5775 offers the ultimate solution for air surveillance. The flight time is 60 minutes, a runway is not necessary. After the vertical take-off a transition to the gliding flight mode is possible. With this combination option, operations for rescue searches, border controls, railway and road inspections, power line checks, infrastructure etc. are easy to manage.

**Specifications**

Dimensions	Length 130cm, wingspan 230cm
Weight	6,8kg
Material	Fibreglass, Kevlar
Motors	4 vertical motors, 1 horizontal motor
Cameras	Dual camera with 20x optical zoom, High performance thermal imaging camera 640 x 480
Video range	500m, optional up to 10km
Data Security	Encrypted in AES 256
Power Supply	Li-Ion Battery
Miscellaneous	The high-precision RGB camera coupled with RTK enables centimeter-accurate, fast and powerful Photogrammetry

PKI 5780 sUAS Small Flight Indicator System

PKI 5780 is a vertically strating and landing VTOL unmanned aerial vehicle system designed specifically as a portable, rapidly deployable reconnaissance and surveillance platform (ISR). The development of this system started more than 10 years ago. After completion of the field tests and an initial production run in 2012, more than 300 systems have been successfully put into operation. Today, with the continuous simplification and feedback from our customer base, our latest sUAS solution is the **PKI 5780** system. With a low acoustic signature, robust reliability and backpack portability, **PKI 5780** is successfully deployed to support military operations and covert operations worldwide.

Special features:

- Hand packed, compact folding design
- Setup in 60 seconds, airborne in 2.5 minutes
- Whisper quiet, robust, all-weather
- Operation via hand controller or Windows laptop
- With external antenna
- Tactically scalable MANET (TSM) encrypted radio
- Hot-swappable payload options for ISR, battlefield situational awareness and target acquisition
- Market-leading image stabilization with image tracking
- Configurable fail-safe behavior



Specifications	
Dimensions	32 x 32 x 7cm (12 x 9 x 7cm folded)
Weight	2,2kg
Flight time	50 to 75 min with payload
Reach	10km line of sight
Operating height	10 – 500ft AGL

PKI 5785 Long term monitoring drone

PKI 5785 is connected to a ground station and therefore self-sufficient from internal batteries, which only allow a limited flight time. This technology allows a long-term monitoring and the associated operations are unique. Whether for traffic surveillance, monitoring of military exercises or terrain, everywhere where you want and need to see better and further. The integrated gyro-stabilized multi-sensor full HD camera with optical daylight zoom 30x and an infrared camera, for operation day or night and even in changing weather conditions, **PKI 5785** is particularly distinguished. In addition, an emergency security system is integrated. **PKI 5785** can be mounted and dismounted without tools. The arms can be easily disconnected, which minimizes the space during transport. When the system is put into operation, the control panel is coupled to the system, the desired hover height is set and the start button activated.



Specifications	
Max. Operation Height	80m
Max. Wind Speed	35kph
Data rate	Up to 100 Mbps
Global positioning	GPS
Safety battery	Onboard
Daylight camera	Full HD 1080p
Infra-red camera	640 x 512 pixels
Optical Zoom	30times
Stabilization system	2 axis

PKI 5790

Miniature Video Repeater

Small-sized video cameras with integrated transmitters only have a limited transmission range. Wherever larger distances to receiving points must be covered, it is necessary to use a repeater-station. Our **PKI 5790** is the right solution for such applications. It receives the standard video signal within the 1.2GHz range and transfers this into the 2.4GHz range. With its max. output power of 4Watts and the 18dbi directional Yagi-antenna, a max. distance of up to 20km (depending on surrounding conditions) is possible. **PKI 5790** especially has been developed for disguised purposes, and its smallest dimensions are perfect for any mobile operation. Power supply of the **PKI 5790** is provided by a separate 12V rechargeable battery and/or mains adapter/charger. For the reception of the signals, we recommend our **PKI 5550** A/V- Receiver/Recorder.



Specifications

Incoming	-1.2GHz-range
Outgoing	-2.4GHz-range (other frequencies - like 1.3GHz to 2.6GHz - are available on request)
Max. transmission range	Up to 20km (depending on surrounding conditions)
Max. output power	Up to 4 Watts
Antenna Directional	Yagi-Antenna, 18dbi gain
Power supply	12VDC rechargeable battery and/or mains adapter/charger
Dimensions	Approx. 135 x 60 x 40mm
Weight	Approx. 400g

PKI 5805

PKI 5810

PKI 5815

A/V Pen, A/V Glasses, A/V Watch and more

Camouflaged audio and video recording without attracting attention in the surroundings, these devices enable you to do so. Excellent HD quality and simple operation characterize these devices. A stylish **PKI 5805** ball pen at the pocket of your shirt or jacket is the right position for unnoticed video recording or photo taking and this incl. audio recording. If you let the ball pen lie on your desk, video recording starts automatically via the built-in motion sensor. **PKI 5810** A/V glasses can exactly record what you see. The HD video camera integrated into these glasses almost invisibly allows audio and video recording of up to 1.5 hours. Playback is realized via the PC connection via USB, as well as charging of the built-in rechargeable Li-ion battery within one hour. The full HD watch camera **PKI 5815** is delivered with 8 GB memory card. Even at darkness, it is possible to take surprisingly good photos and videos because of the active infrared light. The integrated microphone still records conversations from a distance of 15m.

Besides **PKI 5805, 5810, 5815**, we deliver the following items with the same specifications:

- A/V Tie
- A/V Smoke detector
- A/V Motion detector
- A/V Distribution box
- A/V Key chain
- A/V Lighter
- A/V Mains adapter
- A/V Clock

Specifications PKI 5805

Pen camera	HD resolution 1600 x 1200 pixel Full HD at 30fps
Picture resolution	12 megapixel JPG format interpolated
Internal memory	MicroSD 16GB
Recording time	70 min. per battery charge
Dimension / Weight	Ø 12 x 142mm / 36g
Power supply	Rechargeable Li-ion battery
Playback	PC or Mac computer via USB
Charging time	1 hour

Specifications PKI 5810

Glasses camera	HD resolution 1600 x 1200 pixel Full HD at 30fps
Picture resolution	12 megapixel JPG format interpolated
Internal memory	MicroSD 32GB Stores up to 20hrs video
Dimensions / Weight	160 x 40 x 210mm / 45g
Power supply	Rechargeable Li-ion battery 330mA
Playback	PC or Mac computer via USB
Charging time	1 hour

Specifications PKI 5815

Watch camera	HD resolution 1920 x 1080 pixel Full HD at 30fps
Picture resolution	12 megapixel interpolated jpg format
Internal memory	MicroSD 8GB
Recording time	80min. video
Dimensions/ Weight	common watch/ 110g
Power supply	Rechargeable Li-po battery
Playback	PC or Mac computer via USB
Charging time	1 hour



PKI 5895**Remote Control and Video Surveillance Unit**

PKI 5895 is a remote-control unit designed to play back and receive video data using video exploration equipment. The remote-control unit developed by our technical department offers the following features: Joystick, buttons for unit control, audio/video output for connection of an external monitor, frequency channel switch, battery charge status of the mobile unit, selection of highlights - LED (white) or infrared, flexible spring antennas, as well as standardized components such as on/off button, etc. Via the remote-control unit, **PKI 5895** is able to transmit the following commands to the mobile unit: On/Off, control of movement, reception of video data, listening to video data from the microphone of the mobile unit either via headphones or built-in speakers, control of devices built into the platform, battery level indication, selection of frequency channels and highlighting of control.

Specifications	
Frequency range	Video image (digital) 1300 - 1400MHz, Video image (analog) 1110 - 1230MHz
Remote control frequency	917MHz
Power supply	Digital wireless: Li-PO, analogue wireless Li-Ion,
Time of continuous operation	Not less than 240minutes
Dimensions	271 x 163 x 77mm
Weight	1.8kg

**PKI 5900****Submarine Video Camera**

The **PKI 5900** conducts searches with actual underwater views without sending a diver into a potentially dangerous situation. Up to a maximum depth of approx. 20m this self-contained video system can be used for location and study of suspicious objects and areas. The built-in 1/4 inch colour camera together with 2 integrated ballasts guarantee for a stable and clear picture of the area to be examined. The video signal as well as power supply for the camera are transferred by only one cable between camera and receiving unit. At receiving site a 7" TFT LCD display provides the picture of the inspected area. A socket for recording devices is implemented.

The complete set consists of:

- Colour camera with sealed housing and ballasts
- 7" TFT colour display
- Sunshade for the display
- Battery and A/C-Adapter
- Protective aluminium storage case with inlays
- 20m cable for video signal and power supply for the camera



Specifications	
Camera	1/4" high resolution CCD colour camera, 420 TV lines
Cable length	Approx. 20m
Display	7" TFT LCD colour
Power supply	12VDC operation with rechargeable battery with charge cord and AC/DC adaptor for the display
Weight	8,9kg
Dimensions	Storage case 60 x 40 x 20m
Hermetically sealed	
Diving depth up to 20m	
Colour CCD image sensor	
7" TFT LCD monitor	

PKI 5940**Day/Night Vehicle Camera with Directional Microphone**

With our **PKI 5940** we offer a powerful PTZ day/night vision camera with up to 36x optical zoom. Depending on the brightness of the environment, the camera changes, if requested even automatically, between colour and black/white mode and thus delivers top image quality by day and night.

The WDR function (Wide Dynamic Range for extreme back light conditions, distinction of features and shapes and extreme contrast differences in darkness and light) provides for realistic photos at the most difficult light and weather conditions. The 36x optical zoom of the **PKI 5940** can be digitally increased up to 432x and thus enables the identification of objects and persons even from a great distance.

Besides a 360° pan range and 100° tilt range, it also disposes of adjustable preset positions. Tracking of persons is also possible (auto tracking and zoom). Protection class IP66 provides maximum protection against the penetration of dust, dirt, and water. Optionally equipped with additional IR spotlight (operating range up to 100m) or thermal camera for thermographic photos. Control via delivered control unit or standard Pelco P or D protocol (RS-485).

Specifications	
Camera dimensions	Diameter: 278mm, Height: 295mm
Mounting base	Diameter 310mm
Weight	9.5kg
Protection	IP66
Double lens system (camera, thermal sensor, IR spotlight, ...)	
Power supply	12V / 20W (with heating max. 50W)
Panorama (horizontal) range 360° = 0.1 - 55°/sec	
Tilt (vertical) range -10 to 90° = 0.1 - 40°/sec	
Control protocol	Pelco P or D
Format	RS 485 baud rate 1200/2400/4800/9600
Working temperature	-30°C to +55°C
Video camera	Sony FCB-EX 1010 CP (WDR)
Resolution	3800000 pixels 1010 TV lines
Light sensitivity 1/60 s mode	1.4lx / 1/4 s mode: 0.1lx
Zoom	36x optical, up to 432x digital
Option	
IR spotlight with 850nm / 5000mW / Operating range max. 100m	
Thermal camera	

**PKI 5950****Camera Spy Set**

This camera set includes different objectives with focal distances of 8, 12, 25 and 50mm. A screw head objective is included as well, which is an excellent camouflage. The set also includes a pinhole colour camera with exchangeable thread for the various objectives. With this large variety of camera types, the **PKI 5950** set covers all needs that might occur during unobtrusive video surveillance.

Specifications	
Image scanner	CMOS
Video output	PAL
Synchronisation	Horizontal 15625Hz, vertical 50Hz
Resolution	628 x 582 pixel
Minimum illumination	4Lux
S/N ratio	>40dB
Video output	1Vss / 75Ohm
Operation Temperature	0°C to +40°C
Power supply	5-7,5V = 40mA
Dimensions	20 x 20 x 28mm
Weight	1,2kg
Carrying case and camera connection cable included	



PKI 5955**Outdoor Video Investigation Set**

On many occasions when you need to observe rooms from the outside, a precise preparation is necessary as well as the use of our special equipment. Our complete program, as shown in this catalogue, offers the complete range of devices for such tasks, but there is no omnipotent single unit to do everything. But as each government department should have at least a minimum range of equipment for video observation we have assembled this basic set **PKI 5955** to satisfy each demand in daily and practical use. Other combinations of our products can be assembled in close contact with our customers. Please contact us for further combination possibilities. Technical data of each item included in this set can be taken from this catalogue.

Specifications

The complete set consists of:

- PKI 4930** A/V Stethoscope HD camera
- PKI 8040** Silent drill
- PKI 8015** Rigid search endoscope
- PKI 5020** A/V Wireless Camera System with HD Recording
- PKI 4980** A/V Flexible Endoscope HD Camera

**PKI 5960****Wireless A/V Mirror Camera**

An ordinary observation mirror conceals a colour camera. This type of reliable surveillance is simple but efficient. The audio and video signal is transmitted wirelessly up to 100m where it is received and recorded.

Specifications

Camera		Wireless USB A/V camera receiver	
Pickup device	Colour 1/3" solid state image device CCD	Power supply	USB port
Pickup elements	NTSC: 512 (H) x 492 (V); PAL: 512 (H) x 582 (V)	Frequency	2.4GHz or other
Scanning system	NTSC 2: 1 interlace, V: 60Hz, H: 17.750kHz	Channels	4
	PAL 2: 1 interlace, V: 50Hz, H: 15.625kHz	Dimensions	100 x 67 x 15mm
Sync. system	Internal sync	Weight	180g
Video output	1Vp-p composite output, 75 ohms	System requirements	Pentium III, 1GHz 256 MB RAM, USB 2.0, Windows 2000, XP, Vista
Lens	Board lens f=3.6, 4.3, 6.8mm /F = 2.0	Playback and storage	PC computer
Resolution	420 TV lines horizontal		
Gamma correction	0.45		
Min. illumination	0.3 Lux / F=2.0		
S/N ratio	>48dB, AGC off		
Shutter control	NTSC auto: 1/60 to 1/100,000 sec PAL auto: 1/50 to 1/100,000 sec		
White balance	Auto		
Gain control	Auto		
Power source	DC 12V +/- 10%		
Power consumption	110mA (max.)		
Dimensions	60 (D) x 216 (Ø) mm		
Weight	Approx. 440g		



PKI 5990

AV HD COFDM Pocket Transmitter and Receiver

The use of **PKI 5990** COFDM multi carrier modulation technology is the fourth-generation mobile communication technology. It uses efficient H.264 compression encoding method. The **PKI 5990** equipment has high brightness and low power consumption OLED display control interface. **PKI 5990** can clear transmission of digital video and audio in fast-moving mobile and with small size and light weight. It can transmit full HD 1080P video and audio in a building block environment. Our **PKI 5990** product is widely used in high quality and high standards of aerial photography, news, sports, hidden investigation, video surveillance and wireless video transmission areas.



The **PKI 5990** handheld receiver uses also the advanced multi-carrier diversity reception technology. Support fast-moving mobile and NLOS. The use of **PKI 5990** receiver with full touch control 177,8mm TFT display provides the simple handling experience and the perfect image display in addition adds the all-band frequency sweep function. It can quickly search stray intervention in the current areas. **PKI 5990** will provide the reference data for engineering installation.

Specifications

COFDM Transmitter	
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Frequency of operation	300MHz - 900MHz, adjustable, 1MHz steps, other frequency can be customized
Operating bandwidth	2 / 2,5 / 4 / 8MHz
Output power	24dBm
Decryption	AES
Demodulation	COFDM
Forward error correction	1/2, 2/3, 3/4, 7/8
Guard space	1/32, 1/16, 1/8, 1/4
Video processing method	H.264
Operating voltage	DC 7.2V, 1400mA, lithium battery
Video input	AV 3,5mm port, external SD analogue video signals - Camera: 2,5mm port, external SD camera - SDI: support HD 1080P, 720P, 576, 480 with audio de-embedding function
Dimensions	Only 100 x 59 x 22mm
Weight	Only 240g

COFDM Receiver	
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Frequency of operation	300-864MHz, stepping 1MHz
Frequency of operation	300-864MHz, stepping 2MHz
Demodulation	COFDM
Decoding	H.264/MPEG-2
Decryption	AES
Sweep function	Built-in menu options sweep function
Parameter control mode	Through the TFT touch screen setting related parameters
RF signal input port	N-type, high performance dual channel diversity reception
Operating voltage	DC 12V
Operating current	Built-in lithium battery, it can work continuously for 5 hours
Video output	HDMI connection high-definition digital video output
Audio output	Connected with 3,5mm earphone
Dimensions	Only 214 x 115 x 40mm
Weight	Only 360g

PKI 5995**Professional Body-Worn Police Camera**

Nowadays, as the aggressiveness against police officers has drastically increased, it is not surprising that the demand for a „Body-Worn Police Camera“ has come up. **PKI 5995** covers all these demands completely. The system is equipped with GPS and Wi-Fi, a 4M pixel sensor in full HD and voice recording. With a weight of only 140g and a dimension of only 90 x 60 x 30mm, **PKI 5995** can easily be fixed to any uniform. By now, **PKI 5995** has become essential for the preservation of evidence and deterrence.



Specifications	
Video	Full HD 1080P (1920*1080/30fps), HD 1080P (1440*1080/30fps), 1280*720 (30-60 fps), 720*480 (30-60fps), H.264 encode, AVI format, synchronization of audio and video, seamless record (including the function of segment record, cycle record and capture record)
Photo	8M, 12M, 16M, 22M, 4x digital zoom, jpg
Image sensor	4M pixel, CMOS sensor
Lens	Diagonal angle; 170°, horizontal angle: 125°
Chipset	Ambarella chipset
Stamps overlaying	Police no. + device no. + GPS + date + time
Infrared mode	Auto IR cut, shooting distance 10m
Voice recording	High-sensitivity mic, support separate recording, WAV, sampling frequency code rate adjustable
GPS	Built-in GOS module, the data of longitude and latitude and real time overlay to video files, GPS track played on google map with special player
Playback	Video and text files playback in native machine, PC, TV and camera
Log recording	Time recording of operation, read on computer
Wireless remote	2.4G MHz function remoter
Light	High bright LED for auxiliary lighting
Interphone connection	All kinds of interphones, mono phones
USB and encryption	USB2.0 interface, data transfer and charging function, password needed when USB connecting, two levels of passwords, user password can only view the data file, can't delete, modify, administrator password to view, export data, edit and delete data
Extension interface	Can support external 3G/4G transmitter or external power bank
Storage	Can support 16G, 32G, 64G or 128GBTF card, 1GB recording time, 11min/1080P, 24 min/720P, 60 m/D1
System settings	Set various parameters, such as the time correction, screen off time, save electricity pattern, resolution, bit rate, frame rate, video segmentation time etc.
Battery	2800mA polymer lithium battery
Continuous video recording time	4H (1080P), 6H (720P), 8H (D1), LCD/GPS/IR off
Standby time	Approx. 18hrs
Professional back clip	Can be worn on the shoulder or the waist, lens can rotate 180° and fixed
Free softwares	<ol style="list-style-type: none"> 1. HD camera setup software 2. GPS track player 3. Single machine data management software
Operating system	Windows XP/2003/vista/win7/win8
Working temperature	-20°C to +50°C
Storage temperature	-30°C to +70°C
Working humidity	10% -80%
Dimensions	90 (L) x 60 (W) x 30 (H) mm
Weight	140g

JAMMING SYSTEMS



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

Dear Customer,

For more than 10 years, **PKI Electronic Intelligence GmbH** has been providing a wide range of jammers for various applications. Although the technological achievements of modern wireless communication are substantial, there are certain issues where they become a problem. For example, when mobile phones are misused as igniters for explosives or when GPS devices are used to draw up an exact moving profile via internet.

Furthermore, it is sad reality that mobile phones are used to arrange criminal acts. According to press releases, nearly 4000 illegally used mobile phones have been collected in Berlin's prisons during the last years. This results in a high estimate of unknown cases. The smuggling of objects and substances into prisons has never been successfully stopped, but **PKI** now provides a reliable technical solution for this problem regarding mobile phones. By using jammers, communication becomes impossible thus making the mobile phones useless. Even more, they can be traced and monitored in order to gain information. For VIP security, we provide powerful jammers for installation in cars which operate effectively against remote controlled blast compositions.

These devices are also designed for anti-terror operations and military convoys. But even if you like to carry on your business conversation undisturbed and want to be sure that no information gets outside, you might make use of the wide range of **PKI Jammers**. As you can see, there are no limits! **PKI Electronic Intelligence** supports you in all sectors with a wide range of anti-terror devices. With our products, you have the chance to be one step ahead, just the way our customers were during the last 40 years.

Your PKI-Team

Jammer systems for blocking unwanted RF communication in defined areas

The aim of our systems is to prevent the leakage of critical information and to ensure the isolation of certain locations, such as prisons, government buildings, military installations, embassies, airports, and customs areas. **PKI Electronic Intelligence GmbH** designs a complete line of jamming transmitters and software management systems that guarantee the blocking of any mobile phone and other communication devices with such precision that there is no collateral interference nearby.

PKI Electronic has been a leader in the production of all types of jammers for over 40 years. Whether in



We offer any desired frequency and power; in the kW range up to max. 10kW and in the High Power range in VHF or UHF up to max. 1kW per channel.

Our **PKI** program includes:

- Handheld Signal Jammer
- Desktop Signal Jammer
- High Power Drone Jammer
- Backpack Jammer
- DDS Bomb Jammer
- Prison/ Jail Jammer
- School/ college jammers up to convoy jammers in all desired services

PKI Jammers are used in civil as well as military areas. They are also used to block unwanted RF communication in defined areas.

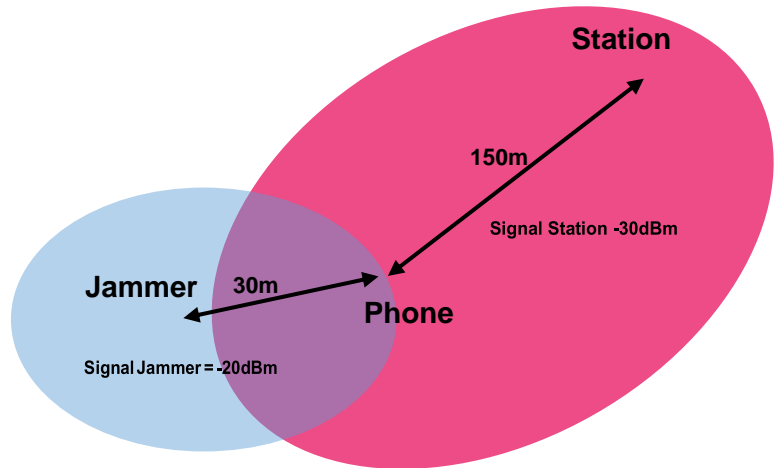
The purpose of **PKI Jammer Systems** is to prevent the leakage of critical information and to ensure the isolation of certain locations such as prisons, government buildings, military installations, embassies, and customs areas.

PKI, based on decades of experience, enables blocking of any mobile phone and other communication devices with extreme precision so that no collateral interference occurs nearby.

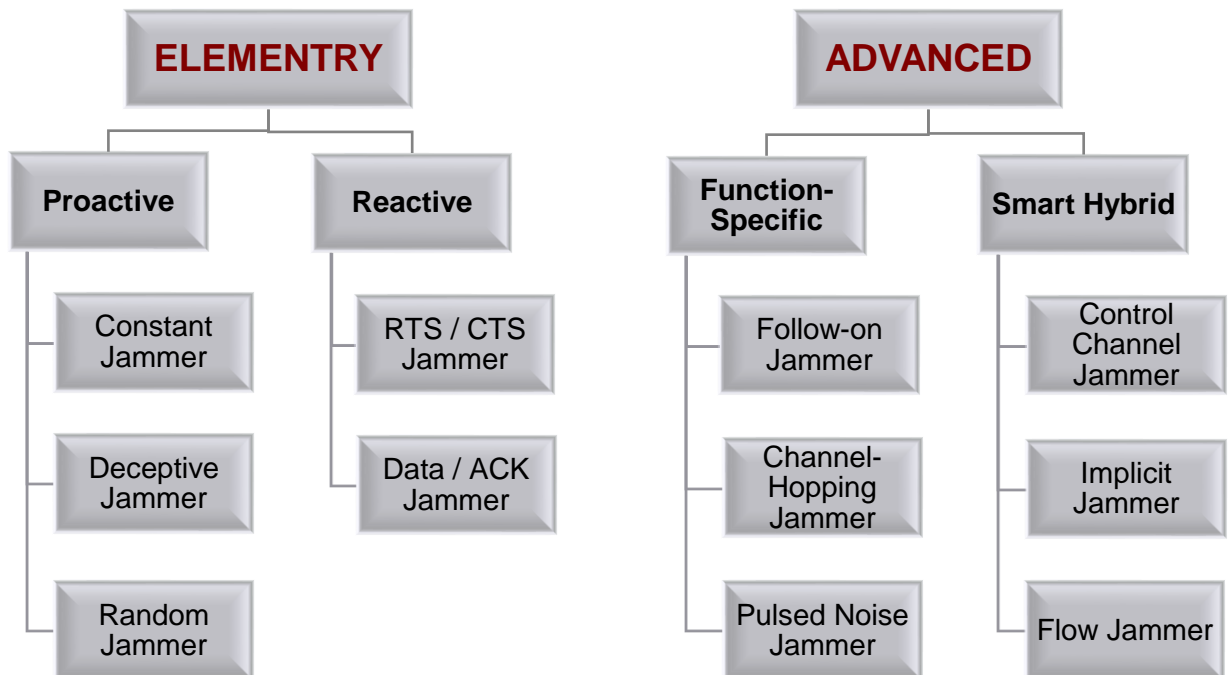
General Information Effective range of a Jamming System

In general, the effective jamming distance or radius depends not only on the topographic, environmental features of the place being jammed (e.g. remote or populous place) but also on the output power and the antenna performance of the system in use. In addition to that, the signal strength of the other side must be taken into consideration.

On a standard Jamming system with an output power of 200W or 53dBm, we can monitor a signal level of approx. -20dBm in a distance of 30m. To effectively jam a signal, the jamming power should be at least 10dBm above the signal used by the cell phone or remote control. This concludes that in the above example, every signal that is below -30dBm at the reception point can be blocked if the jammer is 30m away.



Types of Jammers



PKI MOBILE JAMMING SYSTEMS VEHICLE MOUNTED

Modular Design

The **PKI** modular jamming system can be scaled and adapted to any necessary application. Depending on available space and power, country of destination and customer specification PKI adapts the electronics and antennas to match given specifications.

Full Range Jamming

Frequencies can be covered from 20MHz up to 6000MHz using high sophisticated sweep generators which are capable of interfering analogue and digital transmissions. Depending on the requested power the number of incorporated units may vary.

Intensified Bands

Based on our experience on available remote controls of cell phones and other devices we incorporate additional units to improve the covered distance for well known frequency ranges.

Sweeping Technology

PKI „High Speed Sweeper“ show how precise the power amplifier are modulated. This avoids unnecessary technical side effects which could endanger the mission.

Power Supply

The high-power modules of the HF-modules can be either powered by:

- Vehicle engine alternator
- Independent Generator
- Main's operation

For high power systems vehicle engine alternator, also improved versions (< 2KW), might not be sufficient to source a system. Therefore, we offer a build-in high power generator solution.

Cooling

Depending on the given environment of the country of operation, we offer separate cooling solutions for the electronics and driver compartment.

Antennas

All antennas are specially designed to the specific frequencies to broadcast. We offer two options for the antennas:

- Directional antennas, because they are much more effective to produce a „clean“ corridor along the convoy
- Omni-directional antennas

Shielding

All high-power jamming systems are equipped with special protection mechanism to avoid health damages to the driver and the operators. Even though the output power is in the official limits, we protect the car with special window foil to block any high frequency power from the antenna going inside the car. The complete car will be shielded like a Faraday cage.

Control and Monitoring

All controls will be placed in the driver's compartment. The system is to operate, just by one button. For trained personnel it is possible to monitor all system parameters, function, temperatures and video surveillance from the operator seat.

The operator of the Jamming System gets an immediate warning if one of the components fails. He can easily see the location of the problem.

Vehicles

The optimum vehicles for mobile jamming systems vary due to power requirements. We are capable to adapt the electronics to most cars offering enough space. Ideally it is installed in long version vans or pick-up trucks. As option armored cars or 4x 4 vehicles can be equipped.

Vehicle Selection Criteria

- Top Speed
- Armoured
- Available Service in Country
- Size and appearance
- Emergency functions

Communication

For higher security we do not recommend communication between the vehicles. Every communication gap can be used to compromise the system. Usually, clients use acoustic or optical methods to communicate with running jammer systems. All cars can be equipped with PA systems, sirens, special horns and emergency lights. If requested, the end user can specify frequencies for communication.

Video Surveillance

The vehicles can be equipped with every kind of video surveillance for front, back or all-round view with regular cameras, day-night or thermal imaging systems. Different models of recording devices can be selected for long recording periods.

Complete Solution

PKI offers:

- Customized development
- Small quantity production
- Delivery in time
- Service worldwide
- Training as requested
- Repair and Maintenance
- Documentation
- Test and Measurement Equipment

For system testing we will provide:

- Modern measurement equipment for all system specifications
- Field test equipment
- Training for the system and all measurement tools.

All devices are built from subassembly units, which can be interchanged or replaced in case of malfunction. Diagnostic tools for error analysis to assist the operating staff are included.

There is a so-called frequency table for every country. This table refers to Germany.

from MHZ	to MHz	short name	power	range	description
26,5	27,4	CB radio	4 W	10 km	CB radio
41,0	68,0	TV	some 100 kW	50 km	TV (VHF) sector 1
50,08	51,0	6 m band	24W ERP	100 km	amateur radio 6 m band
87,3	87,4	Europe signal	2000W	500 km	Europe signal
87,5	108,0	radio broadcast	100 kW	500 km	Radio broadcast (UKW band)
144,0	146,0	2m band	750 W	500 km	amateur radio 2 m band
149,0	149,1	Free net	500mW ERP	5 km	voice radio, free of charge
174,0	230,0	TV	Some 100 kW	50 km	TV (VHF)
174,0	230,0	DVB-T	Some 100 kW	50 km	digital TV
223,0	230,0	T-DAB	Some kW	50 km	digital audio broadcasting
380,0	385,0	TETRA (UL)	30 mW-25W ERP	50km	digital trunked radio for national authorities
390,0	395,0	TETRA (DL)	30 mW-25W ERP	50 km	digital trunked radio for national authorities
430,0	440,0	70 cm band	750 W	500 km	amateur radio 70 cm band
433,0	434,8	ISM 433	10mW ERP	300 m	radio data transmission for various applications (radio keys, alarm systems, weather station etc.)
446,0	446,1	PMR 446	1W ERP	5 km	voice radio for devices with integrated antenna
448,0	466,2	city call services	100W	50 km	city call, scall, skyper, euro message
470,0	862,0	TV /DVB-T	Some 100 kW	50 km	TV (UHF), digital TV
800	965	GSM 900, 4G LTD, 4G Wimax	-	-	USA Type
800	895	4G LTE, 4G WiMax	-	-	EURO Type
863,0	865,0		10mW ERP	100 m	radio microphones
864,1	868,1	CT2	10mW EIRP	300m	cordless phones
868,0	870,0	ISM 868	5mW-500mW ERP	10 km	radio data transmission for various applications
876,0	880,0	GSM R (UL)	2W ERP (peak)	32 km	mobile communications of German railway
885,0	887,0	CT1 - (UL)	10mW ERP	300 m	cordless phones
890,1	914,9	GSM 900 (UL)	2W ERP (peak)	32 km	mobile communication (D1 + D2)
914,0	915,0	CT1 (UL)	10mW EIRP	300 m	cordless phones
920	965	GSM 900	-	-	EURO Type
921,0	925,0	GSM R (DL)	400W ERP	32 km	mobil communication of German railway
930,0	932,0	CT1 + (DL)	10mW EIRP	300 m	cordless phones
935,1	959,9	GSM 900 (DL)	400W ERP	32 km	mobile communication (D1 + D2)
959,0	960,0	CT1 (DL)	10mW EIRP	300 m	wireless phones
960,0	1.215,0	Radar	10 kW	50 km	flight navigation
1.215,0	1.240,0	GPS	50W	20.000km	satellite navigation
1.240,0	1.300,0	23 cm band	750 W	400 km	amateur radio 23 cm band
1.240,0	1.400,0	Radar ARSR	10 kW	50 km	radar air traffic control
1.452,0	1.479,5	T-DAB	Some kW	50 km	digital audio radio broadcast
1.492,0	1.525,0	Microwave radio relay	10W EIRP	10 km	microwave radio relay, stationary and mobile
1.559,0	1.610,0	GPS	50 W	20.000km	satellite navigation
1.616,0	1.626,5	Iridium (UL&DL)	2W EIRP	1.500 km	mobile SAT communication
1.616,0	1.626,5	Globalstar (JL)	2W EIRP	1.500 km	dto.
1.710,0	1785,0	GSM 1800 (UL)	1W ERP (peak)	16 km	mobile communication (E-net) and military application
1.800	1.990	DCS, GSM 1800, PHS, PCS, CDMA 1900	-	-	USA Type
1.800	1.990	DCS, GSM 1800, PHS, PCS, CDMA 1900	-	-	EURO Type
1.805,0	1.880,0	GSM 1800 (DL)	300W ERP	16 km	dto.
1.880,0	1.900,0	DECT	250mW EIRP	50 m	digital cordless phones
1.900,1	2.200,0	UMTS	500W EIRP	8 km	digital mobile phones (UMTS)
2.100	2.170	UMTS, 3G, WCDMA, TD-SCDMA, CDMA2000	-	-	USA Type
2.100	2.170	UMTS, 3G, WCDMA, TD-SCDMA, CDMA2000	-	-	EURO Type
2.290,0	2.300	Microwave radio relay	10W EIRP	10 km	mobile phones (microwave radio relay)
2.320,0	2.450,0	11 cm band	75 W	300 km	amateur radio 11 cm band
2.328,5	2.391,5	TV2	-	300 m	wireless cameras of broadcast station and TV
2.400	2.500	Wi-Fi / Bluetooth	-	-	USA Type
2.400	2.500	Wi-Fi / Bluetooth	-	-	EURO Type
2.400,0	2.483,5	WLAN	100mW EIRP	50 m	WLAN 802.11g & 802.11b (Wi-Fi)
2.402,0	2.480,0	Bluetooth	1mW - 100 mW	50 m	bluetooth data transmission
2.455,0	2.455,0	Microwave	1 kW	-	Microwave oven
2.483,5	2.500,0	Globalstar (DL)	50W	1.500 km	mobile SAT communication
2.500,0	2.670,0	Microwave radio relay	10W EIRP	10 km	microwave radio relay
2.540,0	2.670,0	PMP	10W EIRP	10 km	point to point
2.620	2.690	4G WiMAX2, 4G LTE	-	-	USA Type
2.620	2.690	4G WiMAX2, 4G LTE	-	-	EURO Type
2.700,0	3.400,0	Radar	500 kW	100 km	radar air traffic control
3.400,0	3.475,0	9 cm band	75W	200 km	amateur radio 9 cm band
3.410,0	3.594,0	WiMAX	40W EIRP	50 km	WiMAX 802.16-2004
3.600,0	4.200,0	Microwave radio relay	10W EIRP	10 km	microwave radio relay, stationary radio service
4.400,0	5.000,0	Microwave radio relay	10W EIRP	10 km	microwave radio relay
5.150,0	5.250,0	WLAN	200 mW EIRP	300 m	WLAN 802.11a stationary
5.250,0	5.350,0	WLAN	200 mW EIRP	500 m	WLAN 802.11 a stationary and mobile
5.255,0	5.850,0	Radar	50 kW	300 km	airplane bord radar, weather radar
5.470,0	5.725,0	WLAN	1W EIRP	10 km	WLAN 802.11 a (stationary and mobile)
5.650,0	5.850,0	5 cm band	75 W	100 km	amateur radio 5 cm band
5.725,0	5.825,0	DECT2	25mW EIRP	50 m	cordless phones
5.725,0	5.825,0	WLAN	25mW EIRP	300 m	WLAN 802.11 a
9.000,0	9.200,0	Radar	10 kW	50 km	flight security radar
9.300,0	9.500,0	Radar	10 kW	50 km	flight security radar, weather radar, pilot radar

PKI 6300

RD Counter Drone Solution for Perimeter Security



Multilayer tactical drone defense:

The **PKI** platform provides a layered solution for detecting, locating and containing enemy drones, providing a secure environment for strategic connections or public appearances by high-ranking officials. The **PKI 6300** system creates a virtual protective dome over the tactical forces, preventing unauthorized drones from endangering the armed forces.

The system is based on the **PKI** concept and uses a modular slider architecture, with each module being a separate element that forms the jamming and sensing segments. The drone sensor and jammer are installed in portable, rugged trolley housings that can be used in harsh weather conditions that meet military standards.

Detection and Identification

Scanning segment

PKI detection techniques are based on the continuous analysis of time and frequency domains by RF sensors. Pre-installed spectral signatures of all commercially available drones are used as system database. During the recognition phase, the **PKI** system searches for activity patterns that match the stored communication signatures of the drone. As soon as a match is found, the console warns of the drone's detection, type and controller type. The low false alarm rate is achieved by using a SDR-SIGINT receiver, which can detect drones based on their spectral signature, while completely ignoring the drone's protocol data (which can be encrypted or technically difficult to capture), resulting in a rapidly evolving signature database.

Localization

DF-Segment

The bearing sensor continuously scans the spectrum and analyzes the spectral activity around an endangered target. A single bearing sensor is not only able to detect unauthorized drones, but also to determine the direction from which the drones are trying to enter the airspace. The identity and direction of the drone is displayed on a console. While a single bearing sensor measurement indicates the direction of the drone, measurements from a network of bearing sensors used at different locations can be used to determine the exact location of the drone. The threat is located and displayed on the network. The accuracy of the estimated position is determined by the number of sensors used and the deployment topology.

Mitigation

Jamming segment

Upon detection, the system blocks communication between the drone and its operations on ISM bands as well as the GPS signal used by the drone.

The **PKI Jammer** consists of 5 bands covering all potential drone frequencies. Each band addresses a different communication channel, which is used by the drone for a different purpose;

- Disabling the drone's control and telemetry channel, resulting in loss of control of the drone.
- Blocking video downlink transmission
- Interfering with the GPS signal, disabling the drone's navigation and stabilization capabilities

The modular design of the system allows for future upgrades and the introduction of additional frequencies and threats.

Features
Covers all drone threats simultaneously; 433MHz, 900MHz, GPS, 2.4GHz, 5.8GHz
Passive detection and localization
Does not require visual contact with the drone
Extremely low MTTR (Mean Time to Repair), no periodic maintenance required
Based on an SDR platform that enables DDS / AWG signal generation
Omnidirectional / directional according to the requirements of the mission
Zeroize function to delete sensitive data from the system

PKI 6305 Vehicle Counter Drone



Solution for convoy protection:

Multilayer tactical counter-drone defence

PKI's platform provides a multi-layered counter-drone solution to detect, locate and mitigate enemy drones and provides a secure environment for driving military vehicles or high-value VIP convoys. The **PKI 6305** system creates a virtual protective dome over the tactical forces, preventing unauthorized drones from endangering the forces in the field.

The **PKI 6305** system is based on the concept of **PKI**, using a slider-modular architecture in which each module is an independent element that forms the interference and detection segments. The drone sensor and jamming transmitter are installed in the mission vehicle, which is designed to support convoy operations, be it temporary or operations on the move.

Detection and identification

Sensing segment

The techniques of the **PKI 6305** model are based on the continuous analysis of time and frequency ranges by RF sensors. Preloaded spectral signatures of all commercially available drones are used as a database of the system. During the detection phase, **PKI 6305** searches for activity patterns that match the stored signatures. Once a match is found, the console alerts the user to the detection of a drone and its type and controller type.

The low false alarm rate is achieved by using a modular SIGINT receiver (SDR) that recognizes drones based on their spectral signature, completely ignoring the drone's protocol data (which is encrypted or technically difficult to capture), resulting in a rapidly evolving signature database.

Localization

DF-Segment

The DF sensor continuously scans the spectrum and analyzes the spectral activity around a vulnerable target. A single DF sensor installed in a vehicle is not only able to detect unauthorized drones, but also to determine the direction from which the drones are trying to enter the airspace. The identity and direction of the drone are displayed on a console installed in the vehicle.

Damage Limitation

Jamming segment

If detected, the system blocks communication between the drone and its operator on ISM bands and the GPS signal used by the drone.

PKI's jammer consists of 5 bands covering all potential drone frequencies. Each band addresses a different communication channel that is used by the drone for a different purpose:

- Disabling the drone's control and telemetry channel, resulting in loss of control of the drone.
- Blocking video downlink transmission
- Interference with the GPS signal, deactivation of the drone's navigation and stabilization capabilities

The modular design of the system allows for future upgrades and the inclusion of additional frequencies and threats.

Features
Covers all Drin threats simultaneously; 433MHz, 900MHz, GPS, 2.4GHz, 5.8GHz
Passive detection and localization
Does not require visual contact with the drone
Very low Mean Time to Repair (MTTR), no periodic maintenance required
Based on an SDR platform and enables the generation of DDS 7 AWG signals
Omnidirectional / directional according to the requirements of the mission
Zeroize function to delete sensitive data from the system

PKI 6310

Frontline Drone Protection

Tactical counter-drone defence:

PKI's ManPack platform provides a two-tiered solution for detecting and engaging enemy drones, carried by the front units on a single unit protected from the rear.

The **PKI** system creates a virtual protective dome over the tactical forces and prevents unauthorized drones from endangering the operational forces.

Detection and identification

Sensing segment

The recognition techniques of **PKI** are based on the continuous analysis of time and frequency ranges by RF sensors. Preloaded spectral signatures of all commercially available drones are used as a database of the system. During the detection phase, the **PKI** system searches for activity patterns that correspond to the stored signatures. As soon as a match is found, the console warns of the drone's recognition, type and controller type.

The low false alarm rate is achieved by using a modular SIGNIT receiver (SDR), which is able to recognize drones based on their spectral signature, while completely ignoring the drone's protocol data (which may be encrypted or technically difficult to capture), resulting in a rapidly developed signature database.

Damage Limitation

Jamming segment

After detection, the system blocks communication between the drone and its operator on ISM bands and the GPS signal used by the drone.

The **PKI** jammer consists of 5 bands covering all potential drone frequencies. Each band addresses a different communication channel that is used by the drone for a different purpose.

- Disabling the drone's control and telemetry channel, resulting in loss of control of the drone.
- Blocking video downlink transmission
- Interfering with the GPS signal, disabling the drone's navigation and stabilization capabilities



Features
Covers all threats from drones; 433MHz, 900MHz, GPS, 2.4GHz, 5.8GHz
Blocks multiple threats simultaneously
Multiple interference schemes: barrage, sweep, spot and complex waveforms
Does not require line of sight
Compact, lightweight and durable design in a MIL-STD backpack
Hot-swap batteries - continuous operation
Radiation safety - SAR (Specific Absorption Rate) tested and qualified
Based on an SDR platform that enables the generation of DDS signals
Compact shoulder-mounted remote control (RCU)
Zeroise function to delete sensitive data from the system

PKI 6315

Infrastructure Drone Protection

Multilayer counter-drone defence

PKI's platform provides a multi-layered, anti-drone solution to detect, locate and migrate enemy drones attempting to enter critical airspace. The fixed **PKI 6315** model is designed to provide end users with real-time situational awareness to protect critical infrastructure.



The system is based on a modular architecture, with each module being a self-contained element that allows for rapid on-site repair and maintenance and facilitates frequency updates in the event of future threats. The modules are installed in outdoor cabinets designed to operate 24 hours a day in harsh weather conditions and meet the most stringent environmental standards.

Detection and Identification

Scanning segment

The detection segment is based on a network of broadband sensors arranged around the secured facility. The deployment architecture is determined based on a site survey around the facility to determine the optimal installation locations.

The detection techniques of **PKI** are based on the continuous analysis of time and frequency domains by RF sensors. Preloaded spectral signatures from commercially available drones are used as the system's database. The **PKI** system searches for activity patterns that match the communication signatures of the stored drones. As soon as a match is found, the center receives an alert informing it that a drone has been detected and its type. The low false alarm rate of **PKI 6315** is achieved by using an SDR-SIGINT receiver, which can detect drones based on their spectral signature and is completely agnostic to the drone's (possibly encrypted) protocol data, resulting in a rapidly evolving signature database.

Localization

Determination of direction (DF) Segment

The exact position of the drone is determined by using a network of overlapping and complementary direction finders, considering the likely threat axes. Drones are immediately detected and located when they attempt to enter airspace, when they attempt to enter airspace that is at a safe distance (a few kilometers radius) from the target, and connected to a central control center, which enables the control center to wait and react appropriately. The accuracy of the estimated position is determined by the number of sensors used and the deployment topology.

Containment

Disturbing segment

Once the mitigation phase begins, the system blocks communication between the drone and its operator on ISM bands and the GPS signal used by the drone. The **PKI** jammer consists of 5 bands covering all potential drone frequencies. Each band addresses a different communication channel that is used by the drone for a different purpose.

- Disabling the drone's control and telemetry channel, resulting in loss of control of the drone.
- Blocking video downlink transmission
- Interference with the GPS signal, deactivation of the drone's navigation and stabilization capabilities

The modular design of the system allows for future upgrades and the inclusion of additional frequencies and threats.

Mission Control

C&C segment

Collecting real-time tracking data from a multi-sensor network usually requires feedback of the collected data over a high bandwidth fiber optic communications infrastructure. The **PKI** system can also be used in scenarios where a high bandwidth fiber optic infrastructure is not available. In such cases, the **PKI 6315** model of **PKI** can be operated over cellular networks (assuming sufficient coverage is available), using data reduction techniques that focus on reducing the volume of data transmitted within the network. The data collected by each DF sensor is transferred to the central one via the cellular network.

PKI 6315 can be integrated into any third-party system, leveraging its core capabilities while maintaining the end-user interface, facilitating the integration of **PKI 6315** into a broader C&C application.

PKI 6500

Digital High Power Convoy Jammer System 20MHz - 6GHz

PKI offers with this high-tech power jammer, which has been proven in the world market, protection against RCIEDs (remote control improvised explosive devices). **PKI 6500** is equipped with a fully integrated broadband jamming system. A special HF-lining is incorporated to ensure the special protection of drivers and passengers. This allows ultra-high HF transmission power up to 2000 W, distributed in various modules. The operation is carried out via a shockproof laptop, operated by the passenger.



The **PKI 6500** system is fully programmable. Military and VIP convoys can thus protect themselves individually. In addition, all peripheral units are self-sufficient. 2 high-performance batteries and a built-in DC generator provide the power supply. An infinitely variable air conditioning system allows the **PKI 6500** to be used in any part of the world. **PKI** is especially proud of the antenna development for a very demanding customer. These so called "Shark Antennas" are hardly noticeable in public traffic and this at extreme radiation. This distinguishes our product from many competitors, as well as the RF interference over the transmitted frequency range of 20MHz - 6GHz and this without gaps. The special features, which should ultimately be decisive for an order, are summarized in the following overviews.

The purpose of **PKI 6500** is to block the RF detonators of an improvised explosive device (IED) as the convoy approaches. This prevents the explosion, saves the lives of vehicle occupants and prevents collateral damage. With years of **PKI** experience in designing and manufacturing advanced jammer systems for military, government and VIP customers, **PKI** is ready to meet any requirement in terms of jammer technology, RF performance, installation, and special **PKI** shark antennas. Including **PKI** after-sales service. **PKI 6500** is a digital anti-RC IED communication modular jammer. User-friendly due to the on-field programming possibilities. **PKI 6500** can accommodate up to 24 stand-alone modules to cover the 20 - 6000MHz spectrum with an RF output power of up to 2KW, all housed in two 19" racks. **PKI's** special Shark antenna system can be adapted to any vehicle and is much more inconspicuous than most competitors. This was a prerequisite for a customer order and was developed by **PKI**.

Intelligent RCIED jamming solution

PKI 6500 is a unique jamming system with continuous and reactive jamming module specifically designed for in-vehicle applications. The constant jamming provides a safe zone in the near field. The reactive jamming module detects any resistive signal stronger than the noise level generated by the continuous jamming. The detected powerful interfering signals are precisely blocked in the exact channel bandwidth with the full power of the dedicated amplifier. The 90 microsecond response time provides the ability to detect and block even the fastest frequency-hopping radios on the market. The solution blocks high-power terrorist transmitters (HF/VHF/UHF radio) even in the near field (15 metres to the receiver). The working distance of the reactive jamming module is 100 times greater than standard jammers available on the market. Compared to standard jamming systems, the **PKI 6500** core technology is a signal generation module that allows any type of RF waveform to be designed to efficiently match and cover the resisting signal.

Unique features

- Real-time detection of resistive RF signal and jamming on the specific detected channel (Reactive Jamming).
- 4x FPGA chips control 24 DDS chips. Each DDS chip controls an individual amplifier. Possibility to combine different jamming signals for a single frequency band, ensuring high efficiency of jamming signals in the near and far range.
- DDS&DSP technologies: can generate any modulation.
- The ability to adjust the interference signal for each individual frequency bandwidth can be adjusted to cover the interference signal more efficiently. The following parameters are adjusted: Sweep speed, carrier step size, power, channel grid and modulation. Each potential threat contains RF characteristics and waveforms. Thus, the interfering signal is generated in each bandwidth with adjustable features that cover each threat more efficiently.
- The tone/DTMF transmission type provides the ability to suppress VHF/UHF radios over long distances.
- Special filters provide selectable channels for user-friendly communication.

Amplifier module

Continuous jamming ensures that the surrounding fields are continuously jammed (up to 2000W output power), while reactive jamming jams the VHF and UHF bands and picks up again in standby mode. When a threshold is detected, they are reactivated. The reactive jammer can be used for continuous jamming at any time by simply switching off the RF detection.

Remote control

The RC (remote control) gives the operator the option of 3 (or 6) preset jamming modes. When passing through rural or urban areas, different jamming modes are requested. In high hazard situations, namely when passing bridges, a high output mode can be selected. RC is also available with the CAN BUS interface.

Antenna system

The antenna system is an array of mainly directional antennas. For the mobile bands, directional antennas with high gain are used to suppress the GSM base station link in advance and with high power when travelling fast. The **PKI** shark antennas have proved particularly successful. These are hardly recognizable but at the same time have a high directivity characteristic.

RF shielding

RF shielding is extremely important for vehicles with built-in interference systems, both in terms of the safety of people inside the vehicle and in terms of electromagnetic compatibility.

Specification
Frequency range 20MHz - 6GHz
Continuous jamming signals (no gaps)
Stable power supply (integrated unit)
Modular jamming system (bays)
Inconspicuous antenna system (shark fins)
Shielded HF foil (driver protection)
Digital programming (gaps for communication)
Radiation 100/200W per channel (as requested by the customer)
Minimum power 1,100W (max. power 1900W)
Internal remote control (in the vehicle)
Control function of the channels (rugged display)
Sweeping technology (precise modulation)
Different power supply options (alternator, mains operation generator)
Cooling system (for the electronic and driver)
Antennas (directional or omni-directional antennas)
Favourite type of vehicle Toyota Cruiser (as requested by the customer)
Training and installation (in the respective country; needs to be booked extra)
Video surveillance (possible on request)
Field Service Testing (measurement tools)
Maintenance tools (as requested by the customer)
After Sales Period (plans for maintenance)
Spare parts (as requested by the customer)
Complete solution (customized development, worldwide service, training as requested, repair and maintenance, test and measurement equipment and complete documentation.)

PKI 6505 **DDS 1000W Bomb Jammer**

This digital Bomb Jammer meets the highest demands. The years of **PKI** development in the digital jammer sector are used very successfully in the police and military sector. Frequency ranges and power can be adjusted as required. DDS is called Direct Digital Synthesized Technology. Within the frequency band of 20 - 6000MHz the intended frequency band can be adjusted to meet all customer requirements. Modular design of the internal structure, arbitrary combination and settings of the interference blocking frequency. Each module can be switched individually with failure alarm function. Each module has a RS 485 USB interface and each module can output 4 frequency bands simultaneously. In total 40 frequency bands of 10 modules are possible. **PKI 6505** has an intelligent cooling and ventilation system; no additional cooling is required. **PKI 6505** is a versatile unit for international use. It is suitable for the protection of important command or VIP security, SWAT teams, EOD teams, anti-terrorist units, anti-drug units, bomb squads, security checkpoints, law enforcement, hostage negotiations, border control and military security forces etc.



Specifications	
Dimensions	650 x 510 x 360mm
Antenna	760mm Ø 35mm
Weight	60Kg
Ambient Temperature	-10°C to +50°C
Transmission Power	1000W
Relative Humidity	≤80%
Frequency band	20 – 6000MHz
Shielding Range	300 – 500m (-75dBm, depending on the distance of base station in an open field and the signal Strength in the using area).
Power Consumption	2160W
Power Input	AC110~240V, DC27V
Battery	28,5V, 95AH, Extraposition standby battery can used for 90 minutes
Antenna Parameter	Omni Antenna, Gain: 5dBi
Switch Control	Manually
Accessories	Omni Antenna, AC Power Line/Charger, DDS Digital FM, Software Interface, Battery, Battery Connection Line, Line Controller Data Line, AC Power Cable, USB to RS-485 cable

Each module is individually switchable without affecting the others. **PKI 6505** is a mobile system, which can be easily integrated into vehicles.

PKI 6510 **Portable IED Bomb Jammer**

This professional **PKI** bomb jammer with 8 frequency channels and an output power of 640w allows interference distances up to 500m (-75dBm, depending on the distance of base station in an open field). The modules or the desired frequencies of the customer are individually possible and interchangeable. Each module is equipped with three indicator lights for operation, power and alarm.

Each module has its own module switch, which can be turned on or off depending on the requirements of the field application. The built-in efficient cooling fan and cooling fins ensure that the **PKI 6510** is always stable. The housing used complies with military standard, which is drop-proof, pressure-resistant and durable.



Specifications		
Dimensions	650 x 510 x 360mm	
Antenna	Ø 35	
Weight	90kg	
Power supply failure	AC 110/220V, built-in battery supply: DC 27V, vehicle power supply: DC 27V	
Operating time per battery charge	1,5h	
Output power	640W	
Ambient Temperature	-10°C to +50°C	
Relative Humidity	≤ 80%	
Power Consumption	≤ 360W	
Antenna Parameters	Omni antennas, Gain: 5 - 7dBi	
Frequencies	Version A	Version B
	27MHz, 35 MHz, 41MHz, 72MHz	CDMA: 850-892MHz
	100-300MHz	GSM: 925-960MHz
	315/433MHz	DCS 1800/1900: 1805-1990MHz
	CDMA/GSM: 850-960MHz	3G: 2110-2170MHz
	DCS: 1805-1990MHz	4G: 2345-2400 or 2620-2690MHz
	3G: 2110-2170MHz	4G1: 725-770 or 790-826MHz
	4G LTE: 725-770 or 790-826MHz	GPS: 1570-1580MHz
4G Wimax: 2345-2400 or 2620-2690MHz	Wi-Fi: 2400-2500MHz	

PKI 6520

High Performance Man Pack Jammer

PKI 6520 is used for special missions such as anti-terrorism, bomb disposal, EOD, VIP protection etc. Due to the high output power of 135W, radius ranges up to 120m are possible (-75dBm depends on the signal strength in the given area). For portable transport and flexible use **PKI** has chosen a camouflage backpack design for this purpose. This is also particularly suitable for emergencies, transitions, and temporary control requirements. The integrated Lithion-Ion battery can supply **PKI 6520** with up to 2 hours of full power after a full charge. **PKI 6520** has an efficient cooling fan connection based on a cooling fin principle. The following frequencies, divided into 6 bands, are available as standard.

Specifications	
Dimensions	450 x 300 x 165mm (6 Antennas 375 x Ø 29mm)
Weight	30kg
Power Consumption	≤ 360W
Power input	AC 110 ~ 240V, DC 24V
Battery	24V, 20AH; can used for 120 minutes
Antenna Parameters	Omni antennas, gain 4 ~ 5dBi
Switch control	Manually
Accessories	6 Omni Antennas, AC Power Cable, Battery Charger
Miscellaneous	Weight without battery 14,5kg
Frequencies	CDMA / GSM 800; 850 ~ 960MHz DCS / PCS 1800 / 1900; 1805 ~ 1990MHz 3G 2110 ~ 2170MHz 4G 2345 ~ 2400 or 2620 ~ 2690MHz 4G 725 ~ 770MHz or 790 ~ 826MHz Lojack 165 ~ 174MHz Wi-Fi 2400 ~ 2500MHz GPS L1 1570 ~ 1580MHz 2.4G Wi-Fi 2400 ~ 2450MHz 2.4G Wi-Fi 2450 ~ 2500MHz 5.8G Wi-Fi 5725 ~ 5850MHz GPS L2 - L5 1170 ~ 1280MHz RC 868 ~ 912MHz



Other frequencies are available on request, which **PKI** will manufacture accordingly.

PKI 6525

Mobile broadband jammer 20 - 6000MHz

PKI 6525 is a unique broadband jamming system for protection against RCIED (Remotely Controlled Improvised Explosive Devices). The system is designed as a portable, shock-resistant Peli-Case to be used for mobile applications. Transmitters, mobile phones or radios normally used to activate bombs transmit signals with special signal characteristics (modulation/channel, magnitude/output power, etc.). It is important to identify the interfering signal, which is individually generated and adjusted to cover any RF signal. Several signal-generating DDS chips are used to generate multiple interfering signals. The efficiency of the interfering signal is determined by the ability to generate the matched RF signals (not only to the output power of the interferer). The system design and software of the **PKI 6525** provides the ability to generate any interference signal with any modulation.

Features:

- Programming signal generation for precise adaptation to various interference signals
- Up to 12x DDS chips for programming up to 12x frequency bands
- Unrivalled programming possibilities
- External battery power supply for faster battery change
- User-friendly operation and fast start of work in seconds
- Portable

Applications:

- Protection of critical infrastructure (Government sites, religious sites, crowded places)
- Military and internal security
- Protection against espionage attacks



Specifications	
Dimensions	600 x 270 x 250mm
Weight	16kg
Power supply	24 – 28VDC/110 - 230V AC;
	Rechargeable Li-Ion Polymer battery 20Ah@24V standard
Output power	100 – 600W (custom based)
Programming features	Frequency start/stop; Output power 0 - 100%; Modulation Speed carrier; Channel raster size
Frequency bands	20 – 6000MHz (can be up to 18GHz) up to the customer
Antenna System	Omni-directional; Monopole/ Wideband Dipole; Diagrams are custom based
Operation temperature	-10°C to +55°C
Storage temperature	-40°C to +80°C

PKI 6530

Pocket – Jammer

This Handheld Jammer is designed for close-range interference, i.e. 5 - 20m maximum. Nevertheless, **PKI 6530** is interesting for the bus, train, ship, theatre, just in the immediate area where interference should be eliminated. Whether through mobile phones or other surrounding sources. The battery charge is strong enough for 2 hours of operation, which is usually sufficient. In addition, **PKI 6530** is rechargeable in the vehicle. As a handheld jammer, **PKI 6530** can be always carried with you and is suitable for any transmission.

The 6 Band Pocket Jammer contains the following frequencies	
Band 1	CDMA 800 850 – 894MHz
Band 2	GSM 900 925 – 960MHz
Band 3	DCS/PCS 1805 – 1990MHz
Band 4	3G 2110 – 2170MHz
Band 5	4 GLTE 725 – 770MHz or 790 – 826MHz
Band 6	4G Wimax 2345 – 2400MHz or 2620 – 2690MHz

Specifications	
Dimensions	133 x 75 x 35mm (not include Antenna)
Weight	Only 750g
Output power	3W
Power Supply	110/220V AC/12V DC
Working time	Built-in battery 7,4V/ 4000mAh
Shielding Radius	5 – 20m (depends on the signal strength in the given area)
Charging full time	4 hours



PKI 6535

Desktop – Jammer

This **PKI 6535** Jammer is designed for office use. With an output power of 18W, ranges of up to 40m are possible, which is sufficient in most cases. All frequencies can be manufactured according to **PKI's** customer requirements, i.e. you determine the desired frequencies, which are all adjustable in their power and can be switched on or off independently without disturbing the other channels. Additionally, remote control is possible.

The following is a presentation of the possibility of the different standard frequencies	
Band 1	4G LTE 790 – 870MHz 3W
Band 2	920 – 965MHz 3W
Band 3	1800 – 1890MHz 3W
Band 4	2100 – 2170MHz 3W
Band 5	Wi-Fi 2400 – 2480MHz 2W
Band 6	4G LTE WiMAX2 2620 – 2690MHz 2W

Specifications	
Dimensions	305 x 140 x 51mm
Weight	3kg
Power Supply	110/220V AC or 12V Car Charger
Jamming Range	40 max (-75@dBm@Omnidirectional antennas)
Working Time	Work non-stopped
Miscellaneous	Frequency range in 5G available with extra charge



PKI 6540

High Power Convoy/Stationary Jammer

PKI 6540 is a high-performance jammer that can be installed and programmed according to individual requirements and is used stationary or in vehicles. Up to 24 different modules are possible in the frequency range of 20MHz - 6000MHz. The power of individual modules can be set individually, e.g. 30W/ 80W/ 120W/ 250W. Up to 2000W total power is possible, above this it can cause damage to health. The antenna selection is also selectable, i.e. omnidirectional or directional antennas for each module. The antenna camouflage is possible open or in the roof box. Our shark antennas are particularly popular. Small, elegant and hardly noticeable, yet with high directivity (see picture). A built-in generator provides the necessary power. Air conditioning and RF protection foil are also part of the standard program.



Programmable user-friendly control is via the supplied robust laptop.

Specifications

The system can operate up to 24 modules of independent jammer modules in groups of 4 chassis with 6 modules each. The jamming system is capable of covering all of the following: VHF, UHF, CDMA, GSM, UMTS 3G, LTE 4G, Thuraya, GPS, GLONAS, Wi-Fi/Bluetooth, Wi-Max and Tetra (from 20 - 6000MHz) communication bands. This depends mostly on the selected configuration.

Standard 12 Modules Configuration (possible up to 24)

Top Left Chassis:

1. 20 - 140MHz, 120W
2. 140 – 200MHz, 120W
3. 200 – 400MHz, 120W
4. 400 – 520MHz, 120W
5. 400 – 520MHz, 120W
6. 960 – 1805MHz, (SAT PHONES/GPS), 80W

Top Right Chassis:

1. 1880 – 2500MHz (CDMA 1900/ Wi-Fi 2400), 80W
2. 2500 – 4000MHz (Wi-Max 3600), 30W
3. 4000 – 6000MHz (Wi-Fi 5 GHz), 30W
4. GSM 925 – 960MHz, 80W
5. GSM/LTE 1805 – 1880MHz, 80W
6. UMTS 2110 – 2150MHz, 80W

Key features

- Programmable high-power modules
- Stand alone modules
- Scalable system
- Full coverage from 20 - 6000MHz
- User-friendly interface and remote control
- Easy employment through external SD card
- Independent programmable bands by SD card on remote control
- 12 x digital 30W jammer modules (+ 12 bands optional)
- Silent automatic air-cooling system
- Approx. 400W power output
- Vehicle installation adapter kit



PKI 6545

Cellular Jammer

The **PKI 6545** cellular signal suppressor is used to protect information during negotiations by restricting the operation of mobile phones and some digital communication channels (Wi-Fi, Bluetooth). The principle of operation is based on the suppression of signals from the communication system, through the establishment of a blocking barrier in the relative frequency range. **PKI 6545** is capable of suppressing the operation of mobile phones and digital data transmission devices up to 15 meters away.

Technical specifications	
Operating frequency range	
GSM900 standard	935-960MHz
GSM1800 standard	1805-1880MHz
UMTS 3G standard	2110-2170MHz, 2125-2170MHz
Wi-Fi, Bluetooth standard	2400-2483. 5MHz
WiMax (4G) standard	2500-2700MHz
Radiant power	
GSM900 standard	1500mW
GSM1800 standard	1500mW
UMTS 3G standard	1500mW
Wi-Fi, Bluetooth standard	1000mW
WiMax (4G) Standard	1000mW
Operating time	Unlimited
Antenna type	Built-in Dedicated Band
Power supply	100...240V via adapter (12-18V, 90W)
Dimensions	260 x 180 x 65mm
Weight	0.8kg (without power supply unit)



Application:

PKI 6545 is used in areas where silence must be maintained: schools, hospitals, cultural institutions, churches, conference rooms, etc.

PKI 6555

Drone Defense System

Increasing access to mini and micro UAVs makes drones a growing potential threat to national and commercial security. Drones, both commercial and non-commercial, are among the most rapidly evolving technological threats to military and civilian interests. After many years of research and development, **PKI** introduces its latest state-of-the-art drone detection system, the **PKI 6555** Drone Defense System, which provides intrusion detection based on real-time directional measurement of the drone's electromagnetic emissions (including remote control). The **PKI 6555** user receives alerts and warnings about intrusive drones. The **PKI 6555** drone detection system can be used virtually anywhere. Already tried and tested locations of use include border protection, events, government facilities and residential areas, as well as commercial or industrial sites.

PKI 6555 is available as a single or multi-user solution and can be customized to meet the needs of any environment. Under normal circumstances, the coverage area of **PKI 6555** is equal to (or better than) the maximum distance between the user and the drone, depending on the transmission power of the drone and your operator. The range of **PKI 6555** can reach 50km or more. The installed detector of the **PKI 6555** unit triggers an alarm as soon as control of the drone begins and signals are thus transmitted even before the drone has actually taken off. Countermeasures can thus be initiated at a very early stage. The **PKI 6555** detector is based on a 3D directional antenna, real-time spectrum analyzers and a special software plug-in for the software used. The resulting linkage of all these elements enables round-the-clock monitoring and recording with an uninterrupted data stream.



The highly flexible **PKI 6555** system is extremely compact and saves considerable measurement time. This ensures that it can practically be set up and used at any location. The **PKI 6555** system can be extended with an integrated automatic jammer, which effectively prevents a drone from receiving the associated RF signals and activates the drone's fail-safe mode, for example, to hover or land safely or to return to its point of origin. This caused interference is highly selective to ensure that other RF channels are not affected by the operation. Apart from being highly selective, the jammer is directional and only jams signals in the direction of the incoming UAV. RF detection of drone signals has significant advantages over other methods such as radar, optical and acoustic detection. The system developed by **PKI** also does not confuse UAVs with other flying objects such as birds, balloons or kites.

Because **PKI 6555** detects both the drone and its corresponding remote control, the movement of both can be tracked immediately. In the case of multiple DDS systems, triangulation can determine the exact position of the targets. A top-down 2D perspective is the most used visualization of drone detection. The 3D view extends this perspective by adding the drone's height information. In addition, the 3D view facilitates the assessment of distances between different objects on the map. Another view mode is topographic. This shows the surface of the surrounding terrain, displaying hills, mountains, peaks and valleys. In combination with the 3D building system, the topographic view produces the most accurate representation of the surrounding area. The 3D view is able to integrate 3D models of complex areas (e.g. cities, airports, etc.). This highly realistic view greatly enhances the user experience of **PKI 6555** for the end user.

Highlights

- Up to 48THz/s sweep speed
- Detects 3G, 4G and 5G drones
- Optic triangulation with multiple PTZ cameras
- Multi-frequency, multi-directional swarm attack detection
- Pre-programmed drones can be detected
- Fully automatic mode can be switched
- Enables real-time measurement of RF emissions from drones/ UAVs, jammers, phones, etc.
- Tracks and locates the operator(s) controlling the drone
- Identifies the drone make and model
- Enables 24/7 seamless recording (tracking and/or raw data) and monitoring
- 3D bearing measurement accuracy up to ITU Class A
- Tested and operated in the most adverse weather conditions (night/ fog/ rain etc.)
- Extended temperature range (desert installations)
- All-in-one solutions (RF, radar, camera and software)
- Set up and ready to use within one minute (portable version)
- Powerful mobile application with automatic multi-level threat alerts and threat map display

Features

- Real-time monitoring of all frequencies (no bands), detects any drone on any frequency
- Real-time AI frequency monitoring and 3D direction finding, including altitude information
- Extremely high detection range of up to 50km
- Scalable for extremely large sites and boundaries
- 360°A/ 90°E full dome coverage with high accuracy
- Detects and tracks 3G, 4G and 5G drones
- Ultra-wide frequency range (9kHz to 20GHz)
- All-in-one solution, multi-sensor support, latest AI-based software
- Locates drone swarms and drone operators

Specification	
Operating temperature	-40°C to +65°C
Humidity	10 - 100% RH
Consumption	24V/AC, 120W
Lightning protection and more	
Rotation	360°continuous rotation
Tilt	From -90°C to +45°C (automatic inversion)
Pan speed	Configurable, from 0.05°/s to 120°/s
Tilt speed	Configurable, from 0.05^/s to 65°/s

PKI 6560

High Power Jammer 260W

A range of 150m is possible. Continuous operation is no problem due to the intelligent cooling system. After all **PKI 6560** is equipped with 11 cooling fans. The temperature-controlled fans start automatically after the surface temperature has risen to 50°C to ensure that **PKI 6560** operates in a continuously stable manner. Despite the many cooling fans, the noise level is extremely low. The frequencies are divided into 10 channels.



The following frequencies are covered	
Band 1	CDMA 800: 850 – 894MHz 30W
Band 2	GSM 900: 925 – 960MHz 30W
Band 3	DCS 1805 – 1990MHz 25W
Band 4	PCS 1920 – 1990MHz 25W
Band 5	3G 2110 – 2170MHz 25W
Band 6	4G LTE 725 – 770 MHz or 790 - 826MHz 25W
Band 7	4G Wimax 2345 – 2400MHz or 2620 – 2690MHz 25W
Band 8	Lojack 165 – 175MHz 25W
Band 9	GPSL 1 1570 – 1580MHz 25W
Band 10	Wi-Fi 2400 – 2500MHz 25W

Specifications	
Dimensions	520 x 310 x 90mm (not include Antenna)
Weight	12kg
Output power	260W
Power supply	AC 110V / 220V DC24V
Shielding Radius	Max. 150m @-75dBm (depends on the signal strength in the given area)
Others	Each band can be switched on or off individually without affecting the operation of the other bands.
Accessories	Antennas, power supply unit, manuals

PKI 6565

Power Jammer

More than 80W high output power is required to achieve a maximum range of 100m. These are divided into 10 bands. The built-in cooling system with 9 fans and temperature control allows continuous operation of **PKI 6565**. Each individual band can be switched on and off without affecting the operation of the other bands.



The frequency spectrum is divided as follows	
Band 1	CDMA 800 850 – 894MHz 10W
Band 2	GSM 900 925 – 960MHz 10W
Band 3	DCS 1805 – 1990MHz 10W
Band 4	PCS 1920 – 1990MHz 10W
Band 5	3G 2110 – 2170MHz 8W
Band 6	4G LTE 725 – 770MHz or 790 – 826MHz 10W
Band 7	4G Wimax 2345 – 2400MHz or 2620 – 2690MHz 6W
Band 8	Lojack 165 – 175MHz 6W
Band 9	GPSL1 1570 – 1580MHz 8W
Band 10	Wi-Fi 2400 – 2500 6W

If special frequencies are required, **PKI** will manufacture them tailor-made according to customer specifications.

Specifications	
Dimensions	310 x 290 x 90mm (not include Antenna)
Weight	8,5kg
Output Power	84W
Power Supply	AC 110/220V DC 24V
Shielding Radius	Max. 100m @-75dBm (depends on the signal strength in the given area)
Working time	Work non-stopped
Accessories	Antennas, power supply unit

PKI 6570

Universal Jammer 3G, 4G, 5G

This Jammer with its 20 frequency bands, including 5G, is universally applicable. The output power is more than 50W and reaches a shielding radius of max. 60m @ -75dBm (depends on the signal strength in the given area). The frequencies cover most of the used channels. Each individual band can be set or switched off without altering the operation of the other bands. The remote control allows remote switching of **PKI 6570**. This universal Jammer is designed for continuous operation thanks to its 5 cooling fans.



The frequencies are divided as follows	
Band 1	CDMA 800 850 – 894MHz
Band 2	GSM 900 925 – 960MHz
Band 3	DCS & PCS 1805 – 1990MHz
Band 4	3G 2110 – 2170MHz
Band 5	4G LTE 725 – 770MHz (American standard) Or 790 – 826MHz (European standard)
Band 6	4G WiMAX 2345 – 2400MHz (American standard) Or 2620 – 2690MHz (European standard)
Band 7	GPSL1 1570 – 1580MHz
Band 8	GPSL2 – 5 1170 – 1230MHz
Band 9	GPSL3 – 4 1370 – 1390MHz
Band 10	Wi-Fi 2400 – 2500MHz
Band 11	VHF 135 – 174MHz
Band 12	LOJACK 167 – 175MHz
Band 13	RF 315MHz
Band 14	RF 433MHz
Band 15	RF 868MHz
Band 16	5.2G 5100 – 5680MHz
Band 17	5.8G 5600 – 5900MHz
Band 18	3.5G (5G Cell Phone) 3400 – 3600MHz
Band 19	3.5G (5G Cell Phone) 3400 – 3600MHz
Band 20	3.7G (5G Cell Phone) 3600 – 3800MHz

Specifications	
Dimensions	450 x 240 x 50mm (not including antenna)
Output Power	52W
Weight	7,5kg
Power Supply	AC 110V/220V and 12V cable to car battery
Accessories	20 antennas, power supply unit AC/DC, car cable
Miscellaneous	Should you require special frequencies, these will be manufactured by us

PKI 6575

Jammer handset 2G, 3G, 4G, 5G

This powerful **PKI 6575** Jammer handheld device with 14 bands is the newest of its type on the world market. It will satisfy all your needs. The integrated, powerful Lithion-Ion battery with a capacity of 12.000mAH allows a continuous power of 14W up to 2.5 hours. Each band is individually switchable via DIP switches, this is indicated by an LED light.

The frequencies are divided as follows	
Band 1	CDMA & GSM 850 – 960MHz
Band 2	DCS & PCS 1805 – 1990MHz
Band 3	3G 2110 – 2170MHz
Band 4	Wi-Fi 2400 – 2500MHz
Band 5	GPSL1 1570 – 1580MHz
Band 6	4G LTE 725 – 770MHz (American standard) Or 790 – 826MHz (European standard)
Band 7	4G Wimax 2345 – 2400MHz (American standard) Or 2620 – 2690MHz (European standard)
Band 8	GPSL2 – 5 1170 – 1280MHz
Band 9	GPSL3 – 4 1370 – 1390MHz
Band 10	5G Mobile Phone 3400 – 3600MHz
Band 11	5G1 Mobile Phone 3600 – 3800MHz
Band 12	LOJACK 135 – 174MHz
Band 13	5.2G 5100 – 5680MHz
Band 14	5.8G 5680 – 5900MHz



PKI 6580

Drone Loudspeaker System

This ultra-lightweight speaker system is suitable for all drones with a payload of ≥ 3kg. **PKI 6580** includes the ground station, transceiver unit, monitor system for flight control and the speaker unit with integrated camera system. This drone loudspeaker system was developed to provide intelligible voice transmissions over a long distance. PKI can deliver this system including drone or as pure standalone version. The possible applications are immense, whether in law enforcement, a military use, civil defense tasks, commercial security, land protection, port and border security, population warning, personnel guidance, emergency warning, mountain and water rescue, etc.



Specifications	
Loudspeaker equipment	New, ultra-lightweight 1.5 high-power driver, weatherproof IP65
Operating range	± 10dB 250Hz bis 10kHz / ± 3dB 300Hz bis 8kHz
Working range Beam width/ Nominal coverage	60° x 35° (hor. X vert.)
Output power (dB SPL)	
1KHz, third octave band noise	133dB
Output power RMS	1m 134dB SPL @ 1kHz
Output power Peak (dB SPL)	1m 136dB SPL @ 2,2kHz (lim.)
Type of battery	Li-Ion
IP protection class	IP 65
Sound reinforcement range	Up to 1000m
Operating time	Depending on performance 45 to 90min.
Weight	≤ 2.9kg (LI. incl. battery and video transmission)

PKI 6585

PKI Anti-Bugjammer

PKI 6585 interferes with the widest frequencies of wireless listening devices. It possesses an output load of 30W. Divided into 12 bands, eliminations up to max. 70m are possible to prevent eavesdropping. **PKI 6585** is designed for continuous operation due to its 5 cooling fans. Each frequency band is individually adjustable and does not affect the operation of the other bands.



The respective bands are divided up as follows	
Band 1	CDMA 800/ GSM 900; 850 – 960MHz
Band 2	DCS / PCS 1805 – 1990MHz
Band 3	3G 2110 – 2170MHz
Band 4	4G LTE 725 – 770MHz or 790 – 826MHz
Band 5	4G Wimax 2345 – 2400MHz or 2620 – 2690MHz
Band 6	GPS L1; 1570 – 1580MHz
Band 7	Wi-Fi 2400 – 2500MHz
Band 8	RF Bugs 135 – 205MHz
Band 9	RF Bugs 205 – 275MHz
Band 10	RF Bugs 275 – 345MHz
Band 11	RF Bugs 345 – 415MHz
Band 12	RF Bugs 415 – 500MHz

Specifications	
Dimensions	330 x 238 x 60mm (Not include Antenna)
Weight	6kg
Shielding Radius	40 – 70 meters @-75dBm (depends on the signal strength in the given Area)
Output power	30W
power supply	110V / 220V and 12V cable to car battery

PKI 6590

Cellphone Jammer 130 – 2700MHz

This 16 band jammer with a total output power of 42W has been specially developed by us to interfere or prevent mobile phone reception. The 5 integrated cooling fans allow continuous operation. Each band is individually switchable without affecting the operation of the other bands. The jamming range is usually up to max. 70m at @ - 75dBm (depends on the signal strictly in the given area).

The frequencies are divided as follows	
Band 1	130 – 200MHz
Band 2	200 – 300MHz
Band 3	300 – 400MHz
Band 4	400 – 500MHz
Band 5	700 – 800MHz
Band 6	800 – 900MHz
Band 7	900 – 980MHz
Band 8	1050 – 1200MHz
Band 9	1200 – 1390MHz
Band 10	1500 – 1600MHz
Band 11	1700 – 1800MHz
Band 12	1800 – 2000MHz
Band 13	2100 – 2199MHz
Band 14	2300 – 2400MHz
Band 15	2400 – 2500MHz
Band 16	2500 – 2700MHz



Specifications	
Dimensions	395 x 238 x 60mm (not include Antenna)
Weight	7kg
Power supply	AC 110V / 220V and 12V cable to car battery
Power output	42W

PKI 6595

Remote controlled 3G, 4G, 5G 18 Band Jammer

Latest design and excellent cooling system with 5 cooling fans and 50W output power distinguish **PKI 6595**. The remote control is designed for remote switching. Each individual band can be turned on or off without affecting the operation of the other bands.



The 18 frequency bands, including 5G, are divided as follows	
Band 1	CDMA 800: 850 – 890MHz
Band 2	GSM 900: 925 – 960MHz
Band 3	PCS & DCS 1805 - 1990MHz
Band 4	3G 2110 – 2170MHz
Band 5	4G LTE 725 – 770MHz or 790 – 826MHz
Band 6	4G Wimax 2345 – 2400MHz or 2620 - 2690MHz
Band 7	GPSL1 1570 – 1580MHz
Band 8	GPSL2 – L5 1170 – 1230MHz
Band 9	GPSL3 – L4 1370 – 1390MHz
Band 10	Wi-Fi 2400 – 2500MHz
Band 11	VHF 135 – 174MHz
Band 12	UHF 400 – 470MHz
Band 13	Lojack 167 – 175MHz
Band 14	RF 315: 315MHz
Band 15	RF 433: 433MHz
Band 16	RF 868: 868MHz
Band 17	5.2G 5100 – 5600MHz
Band 18	5.8G 5600 – 5900MHz

Specifications	
Dimensions	450 x 240 x 60mm (Antennas not included)
Shielding Radius	Max. 70m @-75dBm (depends on the signal strength in the given area)
Output Power	50W
Weight	7,5kg
Power Supply	AC 110V / 220V and 12V cable to car battery
Operating time	Works non-stop

PKI 6600

Cell Tower Jammer System

The **PKI 6600** Cell Tower Jammer System is the solution if conventional jammers do not provide sufficient operating range. Generally, jammers for mobile phones operate on the so-called downlink frequencies and thus disturb the signal reception at the mobile phone. The cell tower jammer system adopts the reverse approach. This special system starts at the mobile cells. It prevents mobile phones from connecting to the network. Particularly in scenarios in which any communication must be prevented, this solution is the first choice. In the first step, the surrounding mobile network cells are analysed. With these data, several jammer modules are programmed which specifically interfere with the receiver section (uplink) of the radio cells. This way, the mobile communication can be interrupted over a wide area. The system consists of a scanner unit analysing the local mobile networks and clearly arranging the radio cells on a map. Based on these measured data, the jammers are configured for operation on the individual radio cells. These components are the „satellites“ which need to be positioned in the vicinity of the radio cells. They are equipped with battery and directional antenna and can be operated autonomously. The satellites are remote-controlled via a control signal and can thus be activated and reprogrammed. The system will be delivered ready for use in carrying cases with integrated charging electronics ensuring that the batteries are always operational.

Specifications	
Frequency range	
2G/GSM	880 - 915MHz / 1710.2 - 1784.8MHz / 824.2 - 848.8MHz / 1850.2 - 1909.8
3G/UMTS	1920 - 1980MHz / 880 - 915 MHz / 1710 - 1785MHz / 824 - 849MHz
4G/LTE	832 - 862MHz / 1710 - 1785MHz / 2500 - 2570MHz
Control laptop unit	
Size	380 x 260 x 25mm
Antenna	Wide band omnidirectional
Power	Battery / wide range power supply 90 - 230V
Jammer units	
Antenna	Multi-band directional antenna
Power	Rechargeable battery / wide range power supply
Size	380 x 180 x 90mm



PKI 6605

Mobile Power Jammer 56W

With **PKI 6575** we offer a powerful **PKI** Jammer handheld device with 14 bands and 14W. With **PKI 6605** we offer a mobile jammer with 56W total output power and 6 bands. Due to the enormous power, possible ranges of up to 40 - 60 meters @ - 75dBm (depends on the signal strictly in the given area) are feasible. Due to its mobility, **PKI 6605** offers a wide range of applications. Thus, our model **PKI 6605** is omnipresent and universally applicable. The frequencies cover most standard channels. On customer request **PKI** also creates other desired channel frequencies.



Specification	
Dimensions	200 x 135 x 50mm (Not include Antennas)
Weight	3,8kg
Working time	50 minutes
Power supply	Li-Ionen battery, 16.000mAh, Charger AC 100 – 240V
Antennas	210mm
Cooling System	Build-in

Frequencies and Power American Standard	
Band 1	CMDA 850 – 895MHz; 10W
Band 2	DCS, PCS 1800 – 1990MHz; 10W
Band 3	3G, UMTS 2100 – 2170MHz; 10W
Band 4	Wi-Fi 2,4 GHz; 4G LTE H 2350 – 2700MHz; 8W
Band 5	4G LTE Low 720 – 805MHz; 8W
Band 6	5G 617 – 652MHz; 10W

Frequencies and Power Europe Standard	
Band 1	GSM 900, 920 – 965MHz; 10W
Band 2	DCS, 1800 – 1920MHz; 10W
Band 3	3G, UMTS 2100 – 2170MHz; 10W
Band 4	Wi-Fi 2,4GHz; 4G LTE H 2400 – 2690MHz; 8W
Band 5	4G LTE Low 758 – 825MHz; 8W
Band 6	5G 3400 – 3800MHz; 10W

PKI 6615

Mobile Broadband Radio Generator

PKI 6615 is a wideband frequency generator that can be used for hiding information, emitting jammers from computers and peripherals, suppressing them from receivers and for radio remote control.

PKI 6615 is a high-performance broadband generator that generates electromagnetic interference in the range of 0.1 to 2500MHz with an integral output power of up to 35W.



Specifications	
Frequency range	0.1 - 2500MHz
Spectral density of the electrical component of the electromagnetic noise field emitted by telescopic antennas at a distance of 5m (referred to $1 \sqrt{m \times \sqrt{kHz}}$), not less than:	0.1 - 30MHz: 55dB
	30 - 100MHz: 45dB
	100 - 650MHz: 55dB
	650 - 850MHz: 45dB
	850 - 1000MHz: 25dB
1000 - 2500MHz: 20dB	
Power supply	220V alternating current / 50Hz mains from 12V direct current (in a car)
Power consumption / output power	≤ 100W / 35W
Operating mode setting time	≤ 10s
Operating temperature	+5°C to +40°C
Dimensions of metal housing / Weight	220 x 135 x 35mm / ≤ 4kg

PKI 6635

12 Band Mobile Phone Jammer

PKI 6635 is the latest fixed version of our proven Multiband Medium Power Digital Jammer. It covers the combination of mobile and Wi-Fi bands, a total of up to 12 modules for each system. It has been designed to operate around the clock in an anti-vandalism fiber IP65 box. It can be easily installed and managed to create a complete capillary system in the most complicated locations.

PKI 6635 can be controlled by our Remote-Control Management Software, which allows the user to visualize the map of the installation, check the status of each jammer and protect individual groups of units against sabotage and faults, either manually or by time palm monitoring. **PKI 6635** has individual user access. It is available to enable or disable sound and email alerts.



Specifications	
Size	380 x 575 x 260mm
Weight	25kg
Humidity	Up to 90%
Antennas	High Gain internal Integrated Camouflaged Patch Antennas
Wired LAN	Ethernet remote control + Software Management
Power Supply	AC 110 / 220 – 240V / DC 27V
Jamming technology	Direct Modulation over Synthesized Signal
Temperatur range	-10°C to +55°C
Cooling System	Automatic forced Air-Cooling System
Deployment	Wall mounting. Pole mounting
Stand-alone Modular	Each Jammer Module is completely independent,
Construction	Which allows greater flexibility for upgrades, maintenances and substitutions
Working bands Frequencies and Power Output Custom Bands available	LTE 790 30W ± 1.5dB + Antenna Gain
	CDMA 850 30W ± 1.5dB + Antenna Gain
	CMDA 1900 30W ± 1.5dB + Antenna Gain
	GSM 900 30W ± 1.5dB + Antenna Gain
	DCS 1800 30W ± 1.5dB + Antenna Gain
	UMTS 2100 30W ± 1.5dB + Antenna Gain
	Wi-Fi 2400 30W ± 1.5dB + Antenna Gain
	LTE 2600 30W ± 1.5dB + Antenna Gain
	Wi-Fi 5800 15W ± 1.5dB + Antenna Gain
	2400MHz Drones Rem Control
	5GHz / 5.8GHz Drones Rem Control
Glonass / GPS Sat 1500MHz	

PKI 6655

Microphone Jammer

PKI 6655 is a powerful and efficient microphone jammer. The mobile housing, measuring only 18 x 22 x 5cm, contains a high-quality directional ultrasound array with two additional ultrasound transducers, which pushes a complex, tailored noise waveform to a frequency band that is below the human listening point but exactly in the zone of the common audio microphone bandwidth, exerting a constant sound pressure on the diaphragm of the microphone being jammed. The 24 high-level array and the two additional piezo-ceramic transducers, controlled by a microchip that automatically shifts the interfering signal into time and frequency domains, thus achieving the best possible interference efficiency and making any actual speech signal on the microphone to be interfered with unintelligible.



For most people, the ultrasonic interference signal of 24 - 26KHz is practically inaudible from a distance of one meter from **PKI 6655**. The effective range of interference can vary depending on the type of microphone used in the audio equipment and its relative position to the interfering transmitter. **PKI 6655** provides effective protection against eavesdropping and recording devices and is highly recommended for any conference or meeting. **PKI 6655** effectively blocks most of the various recording interceptions at an average distance of 0.5 - 4m. Multiple **PKI 6655** units can be independently placed in rooms of any size to achieve the desired success that no information is leaked. **PKI 6655** can be remotely controlled wirelessly, i.e. the unit can be switched on or off remotely as required.

As an example, we name the following devices, which prevent audio recording when using **PKI 6655**. Older mobile phones such as Nokia, Samsung, cassette recorders, analogue recorders, digital audio recorders, digital voice recorders, smartphones, including iPhones, Sony, LG, Samsung, iPad etc, wireless microphones, audio and video recorders, wireless cameras, microphones, bugs, digital voice recorders etc. **PKI 6655** also prevents leakage of information through listening devices analogue, digital and stethoscope.

Technical specifications	
Generated noise frequency bandwidth	24-26kHz
Number of ultrasonic transducers	24 Array plus ultrasonic transducer
Type of emitted interference	Complex structured ultrasonic noise
Microphone suppression	Directional characteristic
Average effective listening distance	4 metres (the effective listening distance may vary depending on the type of microphone used in the audio equipment and its position relative to the jammer)
Power supply	+12V DC lithium-ion battery
Continuous operating time	6 hours
Housing material	Plastic
Dimensions	18 x 22 x 5m
Weight	1,1kg
Operating temperature range	0°C to +50°C
Relative humidity	≤ 85%.

PKI 6660

Car Lock Jammer

This jammer is designed for situations when inspection of a parked car is required for example for installation of special **PKI Electronic** items such as recorder, transmitter, GPS etc. or whenever a car is parked, and the driver uses the car key remote control to lock the doors. However, locking won't be successful as our **PKI 6660** interrupts the signal. Most of the drivers do not control whether the doors are closed or not when they leave the car. Now the police can control the car or make the modification they want. The other policeman in civil controls the driver and gives a message to his colleague when he must finish his action before the driver comes back. **PKI 6660** is a small handheld item for the pocket complete with antennas. The **PKI 6660** signal jams the radio signal from the remote key to the car lock. **PKI 6660** can even be placed inside a neighboring car or be operated directly handheld from the observing person. The jamming range is depending on the type of car to be observed and ranges from 1m to max. 40m.



Specifications	
Dimensions	Approx. 80 x 140 x 25mm
Weight	Approx. 280g
Output frequency	315MHz, 433MHz, 868MHz sweeping of a frequency band at ultra-high speed
Output power	4W
Battery	Li-ion
Running time	2 hours with internal battery, outside 12V DC unlimited
Antennas	3
Modulation protocols	AM, FM, AFSK, FSK
Charger	For 12 VDC
Specials	The whole system is powered by an integrated rechargeable battery. It means the system is completely autarkic and mobile

PKI 6675

MINI - UAV Handheld Jammer

This portable **PKI 6675** hand-held jammer, with 32W output power, has an enormous range of max. 1km due to the integrated directional antenna. The offered frequencies cover most commercially available drone models. Other frequencies are manufactured by **PKI** on customer request.

The offered 3 standard bands are divided as follows:

- Band 1: 2.4 - 2.5GHz
- Band 2: 1.57 - 1.62GHz
- Band 3: 5.7 - 5.9GHz



One full battery charge is sufficient for 80 minutes of continuous operation.

Specifications	
Dimension	200 x 200 x 100mm
Weight	2,7kg
Total output power	32W, adjustable
Operating temperature	-20°C to +60°C
Accessories	Battery charger

PKI 6685

Microphone Jammer

Our **PKI 6685** Microphone Jammer is designed to fully protect conversations prior to recording on devices with microphones such as mobile phones including smartphones, voice recorders, analogue and digital audio recorders and wireless and wireline microphones. **PKI 6685** generates a complex, structured ultrasonic signal that acts directly on the membrane of the microphone. The complex, structured ultrasonic interference in the frequency range of 24 to 26KHz makes this application possible. For most people, the interference signal is practically inaudible from one meter to **PKI 6685**. **PKI 6685** provides on/off interference through a wireless remote control.



Technical specifications	
Quantity of ultrasound suppressors	10
Emission range	24 - 26KHz
Type of emission disturbance	Acoustic pseudo-random signal like a "speech chorus"
Recording device with suppression	Distance of up to 3m (depending on the type and location of the microphone)
Type of integrated batteries	Li-Pol
Capacity of each battery	4100mA/h
Input of supply voltage	5V, 2A
Continuous operation with one full battery charge	For up to 4 hours
Continuous operation	Possible with an external adapter
Time of full charge cycle	No more than 10 hours
Display of charge status	Yes
Possibility of intermediate charging	Yes
Operating temperature range	+5°C to +40°C
Relative humidity	≤ 85%
Dimensions	110 x 105 x 46mm
Weight	300g

PKI 6690

Jammer against Microfons and Recorders

PKI 6690 is indispensable in both the civil and military sectors. It is based on the system for generating interfering signals that change variably in time. **PKI 6690** effectively protects against eavesdropping and recording devices such as mobile phones, recorders etc. Confidential conversations, especially during conferences, can therefore not get outside and be made accessible to everyone. For most people, the interfering signal from one meter to **PKI 6690** is practically inaudible. The built-in rechargeable battery allows an operating time of 6 hours. The camouflage in the microphone minimizes detection and can be used mobile anywhere. **PKI 6690** effectively blocks most of the various hearing aids at an average distance of approximately 0.5 – 3m.



Specifications	
Directionality generators	Horizontal plane: 60°C
	In a vertical plane: 60°C
Power supply built-in battery or mains adapter	110-230V
Operating time with built-in battery	Up to 6 hours
Charging time	6 hours
Weight	7kg
Operating temperature range	0°C to +40°C
Dimensions	44 x 33 x 10cm

PKI 6700

Ultrasonic Detector

PKI 6700 is an ultrasonic detector to determine the direction of the ultrasonic waves when positioning our Conference Listening Eliminator **PKI 6715**. This is essential for the optimal use of **PKI 6715**. Detection of the radiation is such, for example in the conference room, that the possible recording devices including smartphones are optimally exposed to ultrasonic waves and the recording of speech is eliminated, because the interfering signal is targeted at the recording source. The handling is very easy, an LED bargraph display and a gentle acoustic signal indicates the optimal ultrasonic strength. Power is switched on by the potentiometer knob with a setting before full scale is reached. The user will very quickly determine where the strongest ultrasonic signals are present by moving in each direction. **PKI 6715** should be then positioned accordingly. Power is supplied by a 9V battery. Sensitivity should be set to Hi or Lo as desired, as well as sound ON or OFF. The battery can be viewed by pressing the button on the back and pulling the snap-on housing upwards. External microphone is used for additional recordings of the smallest dimensions.



Specifications	
Battery	9V E-Block
Power consumption	100mA
Duration	5 hours
Dimension	14cm x 8cm x 2,5cm
Sensor 1	Ext. Electret, Sound pressure up to 150dB 18-50KHz
Sensor 2	Int. Electret via 1m cable, Sound pressure up to 150dB 18-50KHz

PKI 6705

Conference Guard

No chance for wireless bugging devices. Conferences often take place to discuss future projects, internal affairs or to settle financial details. Some conference talk is absolutely confidential, and it can cause great damage if it is published e.g. by the press without hindrance and without authorization. **PKI** can eliminate all these dangers and therefore has developed this new device. **PKI 6705** is a lightweight, mobile device which can be located anywhere. It is a highly sensitive surveillance-counter to analyze frequencies from 10kHz - 6GHz. Frequency changes or field intensity variations are immediately output acoustically or visually. The required antenna system is located invisibly in the case.



Specifications	
Dimensions	330 x 240 x 60mm
Power supply	Built-in rechargeable battery for 12 hours or 100 - 240VAC
Working time	Unlimited in case of mains operation
Display	Graphical touch screen
Weight	6kg incl. tripod
RF detector sensitivity	-75dBm for 3GHz frequency -85dBm for 500MHz frequency
Input sensitivity	Continuously adjustable
Alarm	Acoustic and/or visual
Miscellaneous	PKI 6705 will be delivered complete with cases and installation manual.

PKI 6710

Conference Protector against Mains Wired and Wireless Interception Possibilities

PKI 6710 should not be missing at any conference to avoid that conference talk leaks out or is made accessible to unauthorized persons. For this purpose, **PKI** has developed different jammers (refer to **PKI 6700** (previously **PKI 4000**). This unique jammer **PKI 6710** feeds a jamming signal into the power line to prevent possible interception activities in the analog and digital audio/video range. Additionally, it disturbs all wireless interception microphones in the VHF/ UHF/ GPS/ GSM/ UMTS/ 3G/ WCDM/ WLAN Bluetooth Wi-Fi/ LTE 4G range. The operating range is 10-15m and does not impair other offices, but only eliminates the bugging devices in the conference room. Handling couldn't be simpler as **PKI 6710** is connected to the power line via the socket outlet using a plug. Afterwards, the device is switched on and ready. **PKI 6710** is entirely noiseless and can of course also be camouflaged so that none of the conference participants recognizes the use of **PKI 6710**. In larger conference rooms, several devices should be used, for power line disturbances in order to cover all phases.



Specifications	
Dimensions	330 x 240 x 380mm
Weight	5.9 g
Power supply	220V AC, 50 / 60Hz
Mains wired Jammer	
Interference power	+30dBm
Current consumption	15W
Interfering signal on mains	50kHz - 30MHz >+30dBm per band
Jamming of all common LAN standards	
Jamming of all modulation on power line from 30MHz to 1GHz (on same phase)	
Jamming of mains audio transmitter, antenna on mains	
3 connectors, each with 5m cable	
Jammer data via briefcase	
Jamming of lines > 1000Mbit/s	
Jamming on O/F/earth contact	
No connection via Internet possible in the room	
Surveillance jammer	
Output power	>+ 25dBm per band
Operating frequencies free air	Band 1 VHF
	Band 2 UHF
	Band 3 SHF
	Band 4 SHF
	Band 5 GPS
	Band 6 GSM
	Band 7 DCS/GSM
	Band 8 4G Wimax
	Band 9 CDMA
	Band 10 3G
	Band 11 4G LTE
	Band 12 Wi-Fi
Jamming range	50m
Total output power	30W
Antennas	10 omni-directional antennas
Specials	PKI 6710 is entirely noiseless.

PKI 6715

Audio Jammer

Again, and again information from important conferences leak to the outside. **PKI** has specialized with various devices to prevent this lack of security and **PKI 6715** has been particularly developed for this case. It is used wherever a certain level of confidentiality is required. **PKI 6715** specifically provides effective protection against devices that use a microphone, such as analogue and digital micro-recorders, audio transmitters, smartphones, etc. to retrieve audio information.

PKI 6715 is powered by a lithium-ion-battery and comes in a desktop housing which can be placed on any conference table. Furthermore, it can be placed or taken anywhere to counteract audio interception, even outdoors or in a vehicle. If desired, **PKI 6715** can be activated via a remote control.



The **PKI 6715** Audio Jammer has 24 + 2 ultrasonic speakers and produces 125 dB noise, in a sound of 24.000 – 26.000Hz, which is usually inaudible to humans. The ultrasonic transmission provides an interference signal that is received by the mobile-phone and smartphone-recorders so that the recording of a conversation is no longer clear and understandable i.e. your conference or conversation will not be disturbed. The effectiveness of the interference depends on several factors: distance, direction of the microphones, environment, model of the microphone used or volume of the conversation, i.e. 100% interference cannot be guaranteed. The limitations resulting from the laws of physics must be considered when using the supersonic microphone

interference technology. Ultrasound is also reflected from the surface. Therefore, it is advisable to use the correct number of **PKI 6715** Audio Jammers and their position in the room, i.e. a **PKI 6715** single unit has a radiation of 120 degrees and an average range of about 5m.

If larger beam angles are required, 3 - 5 units of **PKI 6715** can be combined to achieve the desired success. For larger conference rooms, a **PKI 6715** 5 pack Audio Jammer can be assembled to provide 360° omnidirectional coverage. Individual installation in conference rooms is of course also possible. With our ultrasonic detector **PKI 6705** you can optimize the position of the devices to achieve the perfect coverage. All **PKI 6715** Audio Jammers are completely self-sufficient, i.e. each with its own integral power supply for a runtime of approx. 5 hours. Each unit is individually adjustable via remote control. This **PKI** system has already proven itself because the requirements in real operation can be taken into account.



Specifications	
Number of Ultrasonic emitters	24 + 2
Generated noise frequency bandwidth, Hz	24000 – 26000Hz
Type of radiated interference	Complex structured ultrasonic noise
Maximum installation range for effective suppression	5m (effective jamming range may vary based on type of microphone of the audio device and its relative position to the jammer)
Power supply	Accu 12V 3000 mAh lithium-ion-battery
Continues operation time	5 hours (stand-by 7 days); unlimited with power supply
Operation temperature range	0°C to +50°C
Relative humidity, no more	85%
Weight, kg	1,2kg
Dimensions	220 x 180 x 55mm

PKI 6720

Jammer Set

There are always unforeseen events that must be eliminated immediately. For this reason, **PKI** assorted this set. For a prompt reaction, we considered it important to have certain jammers available.

PKI 6730 Mobile Phone Jammer

PKI 6820 Wi-Fi and Bluetooth Jammer

PKI 6840 12 Band Mobile Jamming System

PKI 6860 Audio/Video Jammer

PKI 6870 Mains Jammer

PKI 6890 GPS Jammer

PKI 6910 Two-Way Radio Jammer



The specifications can be found under the respective **PKI** number. **PKI** jammers are easily operated. Plug on the antennas, connect the power supply, switch on. In case of several channels, control the power individually. Our jammers operate noiselessly and are designed for permanent operation.

PKI 6730

Mobile Phone Jammer

This compact device, the **PKI 6730** Portable Cellular Phone Jammer is designed for mobile use. Due to its small pocket size, it can easily be hidden in clothing, handbags or any other personal belongings. It is powered by a rechargeable Ni-H battery for continuous operation of up to 90 minutes.

Specifications	
Tx frequency for type A	845 to 975MHz
Tx frequency for type B	1785 to 2000Hz
Tx frequency for type C	2100 to 2180MHz
Output power	+25dBm / 300mW
Power supply	Ni-H battery 12 DC / 1600mA/h
Weight	Approx. 300g
Dimensions	Approx. 110 x 62 x 30mm (without antenna)
Jamming Range	Radius 5 – 8m
Various frequency ranges available	
Keeps your conferences quiet and confidential	
Avoids cellular interruption	
300mW output power	



PKI 6735

Conference Phone and Bug Detector

Time and again, information of conference talk leaks to the outside which, in some cases, has devastating consequences to prevent this, **PKI** has especially developed a note pad for the conference table for each participant with integrated electronics to detect cell phones and listening devices. At the beginning of the conference, this can be mentioned or a remark on the note pad indicates it. This should normally suffice to switch off cell phones or not to activate listening devices. Should this not be accepted despite the initial remark and should anyone act wrongfully, a red LED lamp on the note pad of each participant lights up. The participant in the conversation can be expelled from the conference and can be held responsible for it.



Specifications	
Dimensions	600 x 450mm
Weight	2,4kg
Power supply	Li-ion battery
Sensitivity	3-stage slide switch with ON/OFF
Operating times	16 hours
Frequency range	CDMA 824 - 849MHz
	GSM 880 - 920MHz
	GSM (DCS) 1710 - 1790MHz
	WCDMA 3G, GSM (PCS) Dect 1920 - 2000MHz
	Bluetooth, Wi-Fi, 2400 - 2480MHz
WIMAX 3000 - 6000MHz	
Antenna	2 omni-directional, integrated
Detection range	1 - 10m
Bug detector	
Frequency	1MHz - 7GHz
Antenna	Directional, integrated
Display	Optical, clearly visible red LED
Miscellaneous	Complete delivery: Charger, note pad with fully integrated electronics, fully camouflaged, only red LED is visible

PKI 6740

80W Mobile Phone Jammer

This jammer provides ranges of up to 150m which means that an area of approx. 70.000 m² is a mobile phone activity free zone when the jammer is activated. Furthermore **PKI 6740** is applicable as a mobile device in a case with integrated 45Ah rechargeable battery for 3-5 hours operating time. Each channel is individually variable regarding output power. A unique jammer for police and army operation.



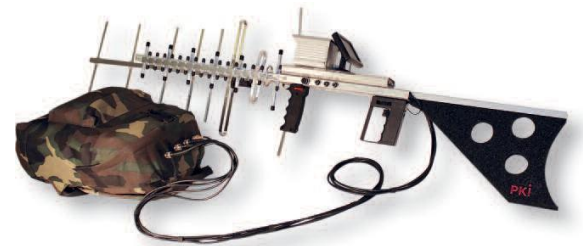
Specifications	
Tx frequency	850-895MHz
	920-965MHz
	1800-2000MHz
	2100-2170MHz
Antennas optional deployable	4x external omnidirectional, 4x directional patch panel
Power supply	Built-in 45Ah rechargeable battery for 3 - 5hrs operation time mains adapter 110/230V AC
Jamming range	Radius 50-150m (signal ≤ -80dBm)
Dimensions	520 x 430 x 230mm
Weight	22kg

PKI 6745

Drone Jammer

Modern drones found their way into everyday life for many reasons. But they also have their risks, not only to privacy. **PKI** is a well-known brand in the field of jamming devices, so it was no surprise that our customers told us about their huge demand for anti-drone concepts. This led to a new generation of jammers tailored for defeating drones and other autonomous flying devices. The **PKI 6745** is a combination of several specified jammers together with a handheld directional antenna in one portable unit. The focus are the frequencies which are used to navigate modern unmanned air vehicles to prevent the remote operation or autonomous flights. Additionally, all known frequencies for remote controllers are blocked as well to prevent manual operated flights. The drone will switch to emergency mode or even land. The **PKI 6745** drone jammer is portable and always ready with his rechargeable battery. All these components come together in a manpack for easy operation.

Specifications	
Frequencies	2,4GHz and 5,8GHz for remote control signals
	1,5 – 1,6GHz for Satellite Navigation signals
	370 – 460MHz
RF Power	4 x 30W
IP65 Manpack unit	
Weight	20kg
Comes with a handheld directional antenna	



PKI 6750

Mobile Phone and Wi-Fi Jammer

We recommend our **PKI 6750** jammer when offices or conference rooms must be protected from eavesdropping. Its compact design provides stationary and mobile operation. The **PKI 6750** covers not only frequency for mobile phones but also 2.4GHz frequency for Wi-Fi, Bluetooth and video transmission. Each frequency range can be controlled separately to achieve optimal adaptation to local networks. The **PKI 6750** allows optimal tuning of transmitting power to restrict the operating radius to necessary premises. It is also possible to use directional antennas instead of the supplied omni-directional antennas. The operation of **PKI 6750** is very easy due to its comfortable control elements.



Specifications	
Frequency	CDMA 845 - 894MHz, 3W output power
	GSM 920 - 975MHz, 3W output power
	DCS 1805 - 1990MHz, 2W output power
	3G 2110 - 2170MHz, 2W output power
	Wi-Fi 2400 - 2484MHz, 1W output power
Power supply	110V AC or 220V AC
Total output power	11W
Jamming range	Radius 10 - 40 meters (-75dBm at omnidirectional antennas)
Operating time	Without limit, works continuously.
Dimensions	190 x 50 x 170mm
Weight	2.5kg

PKI 6755 **Portable Bluetooth, Wi-Fi, Video Jammer**

This pocket-sized device is the one and only solution for protecting conference rooms, schools, hospitals, court rooms, jails, military establishments, petrol stations, theatres, churches, mosques etc. Due to its minimized size, it can easily be body-worn and disguised in clothing, handbags or any other personal belongings.

Specifications	
Tx frequency for type A	895/900 to 1000MHz
Tx frequency for type B	1195/1200 to 1300MHz
Tx frequency for type C	2395/2400 to 2500MHz
Output power	+25dBm / 300mW
Power supply	Ni-H battery, 12VDC / 1600mA/h
Weight	Approx. 300
Dimensions	Approx. 110 x 62 x 30mm (without antenna)
Jamming range – radius	5 - 8 meters
Protects from unwanted remote-controlled monitoring	
Covers every kind of Bluetooth, WiFi and video transmission	
Various frequency ranges available	



PKI 6790 **Intelligent Prison Jammer**

With this solution, we present a modular system which allows to inhibit mobile communication in a targeted way even in difficult environments (inner cities, etc.). This system helps to realize a local selective and time-limited reactive suppression. It consists of decentralized detectors, jammers as well as a control center. Targeted jamming is thus possible while enabling allowed communication. There is no continuous jamming, but only the respective band is jammed in a targeted way if it is required. This way, it is possible to create areas within the zones to be monitored where a communication for own purposes is enabled. The system has a modular design and can be perfectly adapted to your needs and requirements. Operation and control can be realized separately at one location as a stand-alone system or also via an external management system. From the individual cell to monitoring several blocks, monitoring and control of several prisons can also be carried out externally.



This **PKI** Intelligent Prison Jammer is a stand-alone mobile detection and reactive blocker device with good energy efficiency. A conversation or an SMS detected in the vicinity are immediately indicated as an alarm via LED and sound. During the alarm, a display shows among others frequency band and field strength; date, time, duration, frequency and other parameters are stored in an internal memory in a tamper-proof way.

Features

- Detects conversations and SMS of mobile phones in the networks GSM 900, GSM 1800 (DCS), UMTS
- Acoustic warning signal, can be deactivated
- Reactive blocking, can be deactivated
- Operating mode selectable via key switch
- Displays alarms and stores them
- All data (date, time, level, frequency band) are stored internally in a non-volatile memory
- Detection range in the open: approx. 40m radius
- Detection range in buildings: approx. 20m radius
- LC display 2x 16 with integrated backlight
- 4 keys for easy operation
- User-friendly, interactive menu
- Password protection against unauthorized access
- Whip antenna, swiveling
- High-capacity battery for approx. 10 operating hours
- Charge level indication via LED display
- Permanent operation in case of mains supply
- Built-in battery charger with mains supply

Specifications	
Operating voltage	110 - 240V AC
Power consumption	80W max.
Battery capacity	7.2Ah (standard), optional 12Ah or 15Ah
Charging current	1.5Ah
Permissible operating temperature	0°C to +50°C
Protection class	IP 67 (for closed housings)
Monitoring ranges	880 – 915MHz / 1705 – 1780MHz / 1920 – 1980MHz
Blocker frequencies	915 – 960MHz / 2W max. / 1810 – 1880MHz / 2W max. / 2110 – 2170MHz / 2W max.
Serial port	RS485
Dimensions	305 x 270 x 195mm (Without antenna)
Weight	7.5kg

PKI 6800

Camouflaged Conference Jammer

This jammer is designed especially for prisons and other large sensitive locations such as military or governmental compounds. It can also be used in oil and gas storage facilities and fields, security services, military units, secret services, museums, border patrol and drug enforcement, customs etc. **PKI 6800** provides remote PC control with software to turn each jammer ON/OFF, VSWR alarm in a wireless set up (RFmodule). Each unit has a control I/O (RF module) with hard relays (for alarm trigger) via wireless output for 2 - 8 data transmission to control all functions of each unit and to be controlled wirelessly via software program on remote PC workstation. Each unit can send wirelessly an alarm to the remote-control PC if any of the RF frequency bands fail individually from each of the units.

All units have individual digital ID to identify them through the PC workstation.

The wireless data will travel to converter in the main office and then convert to RS232 so that it can communicate with a PC workstation computer.



Specifications

Frequency	CDMA 850-894MHz, 50W GSM 935-960MHz, 50W
	DCS 1805-1850MHz, 50W PHS 1930-1990MHz, 50W
	3G 2110-2170MHz, 50W
	Wi-Fi 802.11B/802.11G 2401-2496MHz, 25W (option)
	450-470MHz, 50/100W (option)
	Satellite phones 1500-1600 or 1600-1700MHz, 15W (option)
Total RF output	Over 200/260 Watt
Power supply	AC220V / 110V DC27-28V
Power consumption	100 Watt
Jamming range	200 - 600m based on background signal strength □-75dBm
Operation	24hrs / 7days a week
Dimension	720 x 450 x 320mm
Weight	42kg
RF range	(Adjustable) 50 - 400 meters

PKI 6805

Camouflaged Conference Jammer

The great majority of frequencies of standard bugs are in the VHF, UHF and SHF range. Our **PKI 6805** Conference Jammer interferes with exactly these frequencies with a power of 50W, i.e. the interference range is several hundred meters so that in case of possible eavesdropping in the conference room the receiver of the eavesdropper cannot receive any message. Together with our conference recorder jammer and our mobile phone tracker, **PKI** provides the necessary security to prevent unauthorized eavesdropping. Each conference participant is certainly aware of the devastating impact it can have if the information is passed on to the wrong people.



Specifications	
Frequency	VHF, UHF, SHF
Output power	50W
Antennas	Built-in
Power supply	110/230VAC and 12V Li-Ion battery
Battery operating time	2 - 3 hours
Humidity	5% - 90%
Operating temperature	-20°C to +60°C
Dimensions	610 x 490 x 75mm
Weight	6,5kg

PKI 6810

Wi-Fi Jammer

Our **PKI 6810** is a powerful jammer which jams communication via WLAN networks. In times where wireless network adapters are not bigger than a USB socket, network security is an important issue to avoid unauthorized data flow. The **PKI 6810** jams not only the common 2.4GHz frequency but also the 5GHz range which is used more and more frequently. The antennas for both frequency ranges are placed within a solid and outdoor-proof housing. Due to the directivity of the antennas, a high coverage will be obtained. The **PKI 6810** is suitable for wall and mast mounting and use under extreme weather conditions due to its water-proof housing. The device is equipped with a remote control to activate the jammer discreetly in case of hard-to-reach fixing points. Of course, **PKI 6810** is also designed for further application within the 2.4 and 5GHz range such as data transmission for Bluetooth or wireless video transmission. Therefore, operation of **PKI 6810** is not limited to the radio network.

Specifications	
TX frequency	2.4 - 2.5GHz
TX frequency	5.1 - 5.9GHz
Cover interface standards	802.11 a/b/g
Total output power	EIRP 8W
Patch antenna gain	6 dBi of each band
Range	Ø 50 - 60m
Automatic power switching power supply	50/60Hz/100 - 240V AC to 12V DC
IR remote control	
Housing	Waterproof IP 68 outdoor design
Operating temperature	-10°C to +60°C
Humidity	95% non-condensing
Size	28.5 x 27 x 9.5cm
Weight	2.5kg



PKI 6815

Digital Handheld Jammer

PKI 6815 is an intelligent and adaptive digital protocol jamming solution. It is a portable jammer developed to protect law enforcement personnel from information leakage caused by any type of GSM/3G/4G or Wi-Fi /Bluetooth transmitter and to prevent location tracking with GPS/GSM devices. **PKI 6815** can be used covertly with an effective range of up to 10-15 meters. The jammer is equipped with a built-in lithium battery good for 1,5 hours of operation. Every RF band can be independently switched ON/OFF.

Specifications	
Operating frequencies	Band 1 GPS L1: 1563 - 1615MHz
	Band 2 GSM 850/900: 830 - 975MHz
	Band 3 GSM 1800/1900: 1790 - 2000MHz
	Band 4 3G/UMTS WCDMA: 2100 - 2180MHz
	Band 5 WLAN, Bluetooth, Wi-Fi: 2400 - 2500MHz
	Band 6 LTE 4G 2600MHz: 2620 - 269 MHz
Jamming range	10-15 meters (GSM signal strength - 70dBm)
External omni antennas	
LED indication for each RF band output	
ON/OFF switch for every separate band by DIP SW	
Battery	Lithium battery supports 1,5 hours of operation
Output power	>+25dBm per band
Dimensions	77 x 127 x 32mm (without antenna)
Weight	400g
Input voltage	AC 100 - 250V/DC 12V/2.5A
Can be operated simultaneously while being charged	



PKI 6820

Wi-Fi and Bluetooth Jammer

By means of its 1,5W output power **PKI 6820** provides a jamming range of 10 - 40m. The individual channels are independently variable. The jammer comes including antennas, power supply and car charger adapter. **PKI 6820** can be operated 4 hours with external 12V/20Ah rechargeable battery. Thus, this jammer is applicable for mobile and for stationary operation.

Specifications	
Frequency	2400 - 2480MHz
Power supply	AC 100 - 240V or 12V car charger
Dimension	300 x 140 x 50m
Weight	34g
Working time	Without time limit
External rechargeable battery	Option
HF-output power	1,5W
Various	Frequencies can be supplied variable on request



PKI 6825

Jammer Detector

PKI 6825 applies with fuzzy scanning technology, specially made for detecting jammer signals ranging from 50MHz - 6GHz without interference of cell phones, Wi-Fi, WLAN, Bluetooth and DECT phone. This detector has 10 LEDs indicating the detected signal strength. When detecting jammer signals, the LED will light from green to yellow to red, indicating the strength of the detected signal. This device includes a special environment noise verified circuit. A relay output wire allows connection to required alarm systems with e.g. acoustic or optical signal or wireless alarm transmission when an alarm is activated.



The **PKI 6825** analyses the radio spectrum of your environment and traces characteristics of jammer. The device provides high reliability and sensitivity. False alarms will be prevented by innovative techniques. **PKI 6825** can be used stationary or with batteries and is a reliable companion when it is necessary to trace any influence in mobile communication.

Specifications	
Dimension	130 x 68 x 26mm
Weight	About 195g
Power	9V - 24VDC
Detecting frequency	50MHz - 6GHz
Warning mode	10 LEDs
Alarm output	1A relay with normal open output
Sensitivity tunes	Eliminates the environment interference (background noise)

PKI 6835

Jammer Detector

The **PKI 6835** can be used to detect RF and ultrasonic interferers. The integrated detection channels include radio frequencies and sound (ultrasound). Whether mobile phone jammers, GPS or broadband jammers, **PKI 6835** locates them. Even jammers in moving vehicles up to 100km/h can be measured. The management and dissemination of the work results is done via the Android smartphone using the software. The areas of application are versatile. Whether in the office, to secretly check the presence of jamming transmitters, e.g. for mobile phones or voice recorders, or to detect jamming transmitters installed in a vehicle, e.g. in the case of a kidnapping.

Specification	
Frequencies	901 – 907MHz
	925 – 975MHz
	1570 – 1580MHz
	1795 – 1820MHz
Power supply	Li-Ion 3,6V accu
Power consumption	Ca. 450mA
Dynamic range	65dB
Interface	Bluetooth, USB
Temperature range	-30°C to +30°C
Dimensions	84 x 53 x 15mm
Accessories	Charger, Cable USB micro – USB, USB flash



PKI 6840

12 Band Mobile Jamming System

This universal jammer covers 12 different frequency bands. Each band is infinitely variable, i.e. required jamming frequencies can be activated, others deactivated. Power supply via car charger allows mobile as well as stationary operation. A mains adapter is included for stationary application.



Specifications	
Frequency	Band 1 130-205MHz 3W
	Band 2 205-275MHz 3W
	Band 3 275-345MHz 3W
	Band 4 345-415MHz 3W
	Band 5 415-500MHz 3W
	Band 6 920-965MHz 3W
	Band 7 1800-1890MHz 3W
	Band 8 2100-2170MHz 3G 3W
	Band 9 2620-2690MHz 1,5W
	Band 10 790-870MHz 4G 3W
	Band 11 2400-2480MHz 3W
	Band 12 1575,42MHz 1,5W
Total output power	33W
Single frequencies can be modified on request, same refers to output power.	
Power supply	AC100-240V AC or 12V car charger
Jamming range	10 - 40m radius (-75dBm@omnidirectional antennas)
Weight	6kg
Dimension	330 x 240 x 60mm
Working time	Unlimited
Various	The jammer comes complete with case and all necessary antennas

PKI 6845

Jammer in a Suitcase

The **PKI 6845** is a powerful and portable jammer for mobile phone frequencies. By means of its unobtrusive suitcase design, it is easy to operate on-site. The built-in lithium batteries provide independent and continuous operation up to 4 hours. The transmitting power can be adapted to the requirements and its integrated panel antenna provides immediate application. The **PKI 6845** can also be equipped with an omni-directional or directional antenna for stationary use. The built-in batteries are chargeable during operation. The jammer comes with a wide range power adapter for worldwide operation. The PLL synthesizer-controlled power amplifier covers GSM and UMTS frequency ranges from 450 - 470MHz which makes the jammer suitable for changing environments. The special design of the jammer transfers the thermal energy produced by the power amplifier to the outside so that even continuous use under tropic conditions is no problem.

Specifications	
Frequency	851/869 - 894MHz EIRP: 3 - 32W
	925/936 - 965MHz EIRP: 3 - 32W
	1800 - 1990MHz EIRP: 3 - 32W
	2110 - 2170MHz EIRP: 3 - 32W
	450 - 470MHz EIRP: 3 - 9W
Power supply	110V - 250V, 50Hz - 6Hz
Dimensions	47 x 11 x 36cm
Weight	Up to 6kg depending on batteries



PKI 6850

45W Satellite Phone Jammer

This **PKI 6850** 4 band jammer blocks phone connections in approx. 500m radius of standard networks like Iridium, Globalstar, Inmarsat BGAN, Teldest.

The frequencies are as follows:

- Band 1 1520-1560MHz 10W output power
- Band 2 1610-1630MHz 10W output power
- Band 3 2170-2200MHz 15W output power
- Band 4 2480-2502MHz 10W output power

Each band is infinitely variable from 0 to max. output power.



Specifications

Dimension	350 x 275 x 150mm
Weight	10kg
Power supply	AC 110/240V, DC 12 or 27V
Antennas	4x omnidirectional or 4x directional patch panel antennas
Housing	Aluminium with fan for heat removal, 4 switches for infinitely variable output power per channel from 0-10 reps. 15W.

PKI 6860

Audio/Video Jammer

It is obligatory to use different frequencies in the audio/video surveillance sector which are UHF, GHz and WLAN. To ward off an attack, a strong jammer with different frequency bands is essential. **PKI 6860** meets this requirement and provides significant safety against a/v monitoring actions.

Specifications

TX frequencies, 4 bands	420 - 480MHz
	1200 - 1300MHz
	2395 - 2500MHz
	5500 - 5900MHz
Total output power	20W
Jamming range	10 - 40m (-75dBm@omnidirectional antennas)
Dimension	380 x 190 x 60mm
Weight	3,8kg
Various	PKI 6860 comes complete with 4 omnidirectional antennas and 110/ 23V AC mains adapter.



PKI 6865

Multiband Mobile Phone Jammer

PKI 6865 is exclusively a mobile phone jammer. It covers the complete mobile bands. A total of 12 modules with 30W per band. **PKI 6865** can be mounted anywhere and is fully stealth with internal high gain patch antenna. **PKI 6865** can be controlled via remote control management software i.e. to check, activate or deactivate the status of each band.

Specifications	
Possible Frequencies and Power Output	LTE 700 30W +/- 1.5dB + Antenna Gain
	CDMA 850 30W +/- 1.5dB + Antenna Gain
	GSM 900 30W +/- 1.5dB + Antenna Gain
	DCS 1800 30W +/- 1.5dB + Antenna Gain
	CDMA 1900 30W +/- 1.5dB + Antenna Gain
	UMTS 2100 30W +/- 1.5dB + Antenna Gain
	Wi-Fi 2400 30W +/- 1.5dB + Antenna Gain
	LTE 2600 30W +/- 1.5dB + Antenna Gain
	Wi-Fi 5800 15W +/- 1.5dB + Antenna Gain
	2400MHz Drones Rem Control
	5GHz/ 5.8GHz Drones Rem Control
	Glonass/ GPS Sat 1500MHz
Stand-alone Modular Construction	Each Jammer Module is completely independent.
Power Supply	AC 110/ 220 – 240V/ DC 27V
Jamming Technology	Direct Modulation Over Synthesized Signal
Temperature Range	-10°C to +55°C
Humidity	Up to 90%
Size	380 x 575 x 260mm (x 2 for 12 bands configuration)
Weight	25kg
Antennas	High Gain Internal Integrated Camouflaged Patch Antennas
Wired LAN	Ethernet remote control + Software Management
Cooling System	Automatic forced Air-Cooling System
Deployment	Wall mounting, pole mounting



PKI 6870

Mains Jammer

Most of the time a room monitoring attack is carried out by smart RF bugs, in some cases even equipped with remote control to prevent quick and easy detection by counter surveillance scanners. But less sophisticated and low-cost solutions like Intercom systems for the communication through the main lines most often are not taken into consideration. Such systems simply can be bought in normal stores, and by removing the housings, the basic components are small enough to be hidden in places of mains power distribution sockets or junctions. Therefore, the risk of this kind of attack is enormous. The **PKI** mains jammer protects sensitive areas against room eavesdropping through the mains line. It simply must be plugged into the mains socket and is running fully automatic and disturbs the signal with an AM/FM-modulated noise. Direct listening to the target transmission is possible via headphone.

Specifications	
Frequency range	50 to 500KHz
Modulation	AM / FM simultaneously
Direct listening	Via headphone
Power Supply	120 or 230VAC
RF output power	Approx. 1W
Size	170 x 100 x 40mm
Prevents against Intercom attacks	
Suitable for 115 & 230VAC	
Against mains listening	



PKI 6875

Wireless Camera Blocker

This wireless camera blocker disrupts Audio/Video signals without being detected. **PKI 6875** transmits interruption-code frequencies to interrupt and block the signal of wireless cameras in the range from 900MHz to 2499MHz. A Lion-hydrogen battery allows interference activity of up to 90m. Due to its small size and its built-in power supply this device is perfect for camouflaged operation.

Specifications	
Frequency	Band 1: 0,9 – 1,10GHz
	Band 2: 1,2 – 1,45GHz
	Band 3: 2,4 – 2,499GHz
Interference mode	Interruption of wireless frequency transmission
Power output	800W
Interference range	10 - 20m radius
Power supply	AC - DC Adapter
Battery	Rechargeable Lion-hydrogen 900mAh
Operating temperature	0°C to +50°C
Operating humidity	80% to +90%
Dimensions	Only 70 x 5 x 30mm
Weight	170
Triband jammer	
Small size	
Protects your privacy	
10 - 20m range interference range	



PKI 6885

High Power Jammer

The **PKI 6885** is a high-power jammer for all GSM and 3G (UMTS) frequency ranges. It reliably disables all communications within the direct proximity of the **PKI 6885**. The transmission power of each single frequency range can be adjusted or deactivated independently from each other. In combination with our GSM monitoring systems or the GSM IMSI Catcher it is possible to transfer 3G (UMTS) mobile phones specifically onto GSM frequencies, where they can be monitored for further investigations. Due to its high transmitting power, the **PKI 6885** is perfect for use in areas with good cellphone coverage. It jams all downlink frequencies between the BTS of the network operator and the mobile phone. By this, the GSM/3G telephone network will not be affected at all.



Specifications	
Frequency ranges	- GSM 850
	- GSM 900
	- GSM 1800
	- GSM 1900
	- 3G/UMTS
Output power	Up to 250W (TX power can be decreased by steps for each band separately)
Dimensions	72 x 46 x 35cm
Weight	About 80kg including areals
Operating temperature	0°C to +50°C
Operating humidity	Up to 80%
Accessory	230V or 110V power supply, or 12/ 24V DC optional.
	12 -15dBi directional antenna
	7 - 8dBi omni directional antenna

PKI 6890

GPS Jammer

During the last years, the number of GPS tracker and GPS/GSM detection devices has increased considerably. Especially recording units are not disclosed anymore by transmittance. As the GPS devices receive their positioning data from the satellite in the orbit, it is possible to jam the signal to provide the required privacy. The **PKI 6890** jams both frequency ranges used by military and civil authorities independently of each other. GPS devices camouflaged in a vehicle are cut off from satellite signals so that no recording is possible. The **PKI 6890** is also suitable for government authorities and security institutions when undetected control of vehicles and containers is required. As soon as the **PKI 6890** jams the satellite signal of the GPS device, the required object can be moved and controlled without notice.



Specifications	
(A) Transmitter frequency	1,227.6MHz
(B) Transmitter frequency	1,575.42MHz
Global GPS system	L1 & L2
Output power	(A) +25dBm / 300mW (B) +25 Bm / 300mW
Power supply	Ni-MH battery 12V DC / 1600mA/h or by car cigarette adapter
Continuous operating time	1.5 hours
Charging	First time 3 hrs up supports charging at the same time as using
Jamming range	Radius 20m up
Operating temperature	-10°C to +60°C
Humidity	5% - 80%
Dimensions	110 x 62 x 30mm without antenna
Weight	200g

PKI 6895

GPS Jamming Detector

The **PKI 6895** jamming detector has been developed for selective detection if GPS devices are jammed by someone. If your vehicles are equipped with GPS devices, the **PKI 6895** finds out if the determination of their position is disturbed by any jamming device. This for example might be possible in the case of a deviation from the scheduled itinerary. The **PKI 6895** jamming detector is not affected by interferences from mobile phones or radio devices, but reliably indicates interferences produced by jamming devices. Its electronic system contains a specific filter mechanism that selectively indicates jamming signals only. Interferences of other frequency ranges (GSM, UMTS) can be detected as well. Inversely it suppresses the normal background noise.

Specifications	
Frequency range	500MHz - 6GHz
Power supply	9V - 2V DC
Alarm output	1A relay
Sensitivity	Adjustable
Dimensions	130 x 68 x 26mm



PKI 6900

Man Pack Jammer

PKI 6900 is perfectly designed for mobile operation in the field and works totally autarkic due to integrated power supply. Independently it provides 110/230V AC operation. As standard frequency we have configured VHF/UHF and SHF range. 5 different frequency bands can optionally be ordered according to clients' requirements. 100 watt is the maximum output power for a jammer to be worn on the body without health problems. This implicates a jamming range of max. 150m. The **PKI** jammer is constructed to block continuously and simultaneously up to five frequency bands. Its smart active cooling system enables non-stopped use even in a very hard climate and weather condition. **PKI 6900** is a state-of-the-art efficient cellular / satellite / mobile phone jammer designed for bomb disposal security applications, like troop marching and field operation.

Specifications	
Number of frequency bands	Up to 4 bands: 130 - 174MHz VHF 25W 400 - 470MHz UHF 25W 1200 - 1300MHz SHF 25W 2400 - 2500MHz Wi-Fi 2,4G 25W
For example: VHF/UHF SHF	
Output power	100W
Power consumption	Max. 380W
Power supply voltage	110/230VAC / + 12/24VDC
Power adjustment	Multi level potentiometer, adjustable by computer
Battery operation time	2-3 hours
Range radius	Up to 120-150m (signal \leq -75dbi in application place)
Housing	Metal
Total system weight	Approx. 25kg
Humidity	Up to 80%
Operation temperature	-10°C to +50°C
Control	Wireless management
Cooling system	Active, integrated air filter
Antenna type	External high gain omni directional (standard)
Antenna gain	3-4dB (omnidirectional)
Directional antennas	Up to 2 pcs
Omnidirectional antennas	Up to 5 pcs



PKI 6910

VHF / UHF / SHF Surveillance Jammer

HF-Surveillance transmitter, the so-called bugging devices, are spread in large quantities all over the world. Whether inside the telephone or used as stethoscope for rooms or walls, whether battery- or mains-operated, the target is the same everywhere, i. e. to receive important information you normally cannot get access to. With **PKI 6910** this undesirable electronic eavesdropping can be eliminated. Our **PKI 6910** Jammer is made for frequencies that are used for the eavesdropping technique. Due to the fact that the bands of the bugging devices are very narrow (20-25kHz), it is extremely difficult to jam their receivers. **PKI 6910** jams the receiver in such a way that the transmitted information cannot be heard. The RF Jammer cannot disturb the bugging device itself or the information. To reach a wide jamming range of 500 - 1000m, a high output power of 250W is required.

Specifications	
Frequency	VHF 130 – 180MHz, 100W
	UHF 420 – 480MHz, 100W
	SHF 2100 – 2600Mhz, 50W
Power Supply	AC 220V adapter, DC 24V, 50 Amp.
Jamming Range	500-1000m, depending on the surrounding houses
Dimensions	600 x 400 x 390mm
Weight	20kg
Operating Temperature	-20°C to +60°C
Humidity	5% - 90%
Antenna	3 coordinated omnidirectional antennas
Various	Temperature protection



PKI 6915

High Power DDS Mobile Jammer

Protecting military and VIP convoys from the threat of Remote Control Improvised Explosive Devices (RCIEDs) road-side bombs has become challenge and task in many parts of the world. The **PKI** High Power DDS Convoy Jamming System implements the most effective and reliable RF jamming technology and is equipped with a fully integrated broadband jamming system. The **PKI** Mobile Jammer System enables RF jamming in moving scenarios. The equipment can cover continuously and simultaneously all the RF communication frequencies 20-6000MHz which are most used by terrorists to detonate road-side bombs (RCIEDs). All frequencies from 20 - 6000MHz can be covered on request. The vehicle is customized with special RF protection for full protection of the driver and passengers.

The **PKI 6915** system management, including activation, control and operation, is carried out through a wired remote-control unit. Once the system is activated, it transmits a unique noise signal which creates „Firewall“ between the transmitter (terrorist) and its receiver (explosive device). The special antennas are screwed onto the trolley. The **PKI 6915** is equipped with considerable security mechanisms which ensure continuous operation. The power amplifiers are overload-proof and switch off automatically when the antenna matching fails. The transmitting power of the single frequency bands can be controlled separately. The individual antenna sockets per frequency range allow an optimal coverage. It has a user-friendly GUI (Graphic User Interface) display and control.

Specification	
Frequency Range	20 - 6000MHz
Total RF Power	Up to 1300W
Jammer Module Number	12
Channel Number	Up to 40 bands
Cooling System	Systematic Smart Cooling System
System Protection	VSWR, Over-voltage, Over-current
Jamming Source	Digital Signal Source Technology
Remote Control	Wired remote control unit
Antenna Type	High Gain Omnidirectional Antennas
Number of Antennas	10 - 12
Vehicle Platform	Off-road four-wheel drive car
Total Power Consumption	Max. 4500VA, (+28VDC)
Battery Back Up Capacity	200AH/+28VDC
Operating Temperature Range	-35°C to +65°C
Operating Humidity	Up to 80%
Size	970 x 600 x 470mm
Net weight	Approx. 95kg



Features:

- 12 modules plug and play design, facilitate for future power upgrading, change and maintenance. Any ruin on the modules never interferes the normal operating for other modules.
- The **PKI** technology is integrated in a robust trolley housing with wheels.
- Operators can regulate the working frequency band and output power of each module through the software. Configuring a specific frequency band can ensure the internal communication in emergency.
- System operation can be performed in the driver's console unit. Each module can be put ON/OFF. Backup battery or generator system can be optional. Equipped with high power generator to ensure excellent low noise operational capabilities.
- Integrated smart active cooling system to make sure the device is working constantly.
- Selection of turn-key, „ready-to-drive“ solutions to the threat of road-side bombs and organized riots can be available as required.
- The power supply is ensured by the built-in rechargeable batteries or external power supply.
- The configurations are manufactured according to customer requirements. Corresponding offers are possible at any time upon customer request.

PKI 6935

120W Anti-Drone Jammer

The civil drone market has expanded explosively. The drones are now much easier to operate. The flight time has also increased many times over. Due to these circumstances PKI has developed a mobile, powerful anti-drone jammer. PKI 6935 used the latest jammer technologies. This PKI 6935 jammer cannon comprises up to 15 bands, which are capable of interrupting the most frequent connections between the UAS and the operators of the latest generation.



Specifications	
Jamming Frequencies and RF Power Output	Band no.1 433;868;902MHz: T.D.M. Mode 30W
	Band no.2 2.4GHz: 30W
	Band no.3 5.8GHz: 15W
	Band no.4 1.5GHz 2W SAT PHONES/GNSS
Optional	433; 868; 902; LTE 850; LTE 800, LTE 900 Hopping 30W total (LOG Antenna)
	LTE2G3; 2G4 RC; LTE 1800/1900/2100/2G6 Hopping 30W total (Coax Helix A.)
	1G5 GPS, 1G5 GPS (L1&L2): 2W total Hopping (Fin Yagi Antenna)
	5G8 Remote Control (or Extended 5GHz Band): 15W (Coax Helix Antenna)
Power supply	Battery operated by internal lithium battery 1 x BT2590 MIL SPEC Li-Ion Batteries
Endurance	Stand-by 20 h – Full Power Transmission ON approx. 1 h
Temperature operating range	0°C to +50°C
Jamming Mode	CW Full Band Digital sweep and Digital Noise
Jamming Technology	Direct Modulation over DDS
Antennas Jamming sector	Total 4 antennas
(Another configuration)	Antenna Log + Double Coaxial Helix + Fin Yagi
	Front Antenna 3 different type front antennas remov.
Effective UAV blocking range	≥ m. where 75m is the distance between the UCS (remote control) and the drone itself (ratio 10:1)
	(Distance PKI 6935 / distance UAV-UCS)
	For no hopping frequencies
Dimensions	1085cm lenght
Weight	9kg (with battery)
Power Supply (Optional delivery)	Li-Ion rechargeable battery
Battery Charger	Dedicated battery charger for BB2590

PKI 6940

Car Lock Jammer

This jammer is designed for the use in situations where it is necessary to inspect a parked car. Whenever a car is parked and the driver uses the car key in order to lock the doors by remote control, normally he does not check afterwards if the doors are really locked or not. For such a case you can use the **PKI 6940**. It can be placed in carparks, both outdoors and in car-park buildings. The briefcase-sized jammer can be placed anywhere nearby the suspicious car and jams the radio signal from key to car lock. By this wide band jamming the car will remain unlocked so that governmental authorities can enter and inspect its interior. The complete system is integrated in a standard briefcase. Optionally it can be supplied with a socket for an external antenna, so that **PKI 6940** can even be placed inside a car, parked in the same area, with the antenna placed on top of the car. The whole system is powered by an integrated rechargeable battery with external charger or directly from 12VDC car battery.



Specifications	
Frequency	315, 433 and 868MHz, channels individually switchable
Output power	60W, each band 20W, power variable
Dimensions	Standard briefcase - approx. 50 x 40 x 20cm
Weight	Approx. 5kg
Output frequency	To cover all radio frequencies for remote-controlled car locks
Output antenna	Integrated inside the briefcase, optionally external antenna if jammer is positioned inside a car
Jamming of a particular frequency or channel	

PKI 6955

Bomb Squad Jammer

This Bomb Squad Jammer, equipped with digital DDS - Jamming - technology with 12 bands in the range of 20 - 6000MHz, leaves nothing to be desired. The 12 bands with 30 watts each and high antenna gain for mobile use with remote control options and built-in batteries make **PKI 6955** completely self-sufficient.

Specification		
Jammer Frequencies Bands and Power Output (possible Jammer Configuration)	VHF 20 – 100MHz 30W +/- 1.5dB	
	VHF 10 – 100MHz 30W +/- 1.5dB	
	VHF 100 – 300MHz 30W +/- 1.5dB	
	UHF 300 – 520MHz 30W +/- 1.5dB	
	UHF 520 – 960MHz 30W +/- 1.5dB	
	UHF 960 – 1805MHz 30W +/- 1.5dB	
	UHF 1805 – 2400MHz 30W +/- 1.5dB	
	UHF 2400 – 3800MHz 30W +/- 1.5dB	
	SHF 3800 – 5000MHz 30W +/- 1.5dB	
	SHF 5000 – 6000MHz 30W +/- 1.5dB	
	Power Output	30 – 15W per Band x 12 Bands + Antenna Gain
	Batteries	Trolley Batteries/ or External from AC/ DC
Remote Control	Push Buttons RC with power regulation and up to 20 meters cable	
Jamming Mode	Full Band Digital Sweep + PN Noise for 3G/ 4G cellular bands	
Jamming Technology	Direct Modulation Over Synthesized Signal	
Batteries Duration	1h	
Temperature range	0°C to +55°C	
Humidity	Up to 80%	
Antennas	Internal Directive High Gain Antennas and External Omnidirectional	
Dimensions	Jammer System 440 x 386 x 140mm	
	Jammer System in Rack 19" standard rack 10U	
	Jammer + Trolley 550 x 857 x 310mm	
Weight	Jammer System approx. 25kg	
	Jammer System in Rack approx. 60kg	
	Jammer + Trolley approx. 20kg	



PKI 6960

Long Distance Jammer 1 - 6GHz

The **PKI 6960** strongly disturbs the communication between transmitter and receiver with special jamming methods. Especially in case of digital transmissions, this causes faulty signals and does not allow for any communication. A synchronization between receiver and transmitter is prevented and a transmission can does not take place. Thus disturbed, even the simplest actions, as usual for remote controls, are no longer possible. Easy operation (optionally with remote control) as well as extensive self-test functions allow rapid responses to changing scenarios also during an operation. The **PKI** modular jamming system can be scaled and adapted to any necessary application. Depending on available space and power, country of destination and customer specification **PKI** adapts the electronics and antennas to match given specifications. Frequencies can be from 20MHz up to 6000MHz using high sophisticated sweep generators which are capable of interfering analogue and digital transmissions. Depending on the requested power the number of incorporated units may vary.



Specifications	
Frequency range	1GHz up to 6GHz
	2 - 3GHz 100W
	3 - 4GHz 100W
	4 - 5GHz 100W
	5 - 6GHz 100W
Power output	510W, divided into 5 bands: 1 - 2GHz 110W
Dimensions	48 x 14 x 31cm
Power supply	24V DC
Antenna system	Directional log-periodic antenna
Average amplification	9 - 12dBi

PKI 6965

Long Distance Jammer 6 - 18GHz

With a bandwidth of 12GHz, our **PKI 6965**, like the model **PKI 6965**, is also a high-performance jammer with optimized coverage. In the past, it was particularly difficult to jam transmitters and receivers in these high frequency ranges so that no communication between these units could take place. Our **PKI 6965** now succeeds in optimally jamming this frequency range.



Specifications	
Frequency range	6 - 18GHz
Power output	120W, divided into 3 bands:
	6 - 9GHz, 40W
	9 - 12GHz, 40W
	12 - 18GHz, 40W
Dimensions	48 x 14 x 31cm
Power supply	24V DC
Antenna system	Directional log-periodic antenna
Average amplification	10 - 14dBi

PKI 6970

Mobile Jamming Systems

The **PKI 6970** uses the technology of the more advanced digital frequency generation, compared to the traditional PLL technique, to allow different modes of signal generation.

- A) Spot-jamming of a particular frequency or channel
- B) Hopping - Jamming of jumping frequencies in combination with an optional connected surveillance receiver, a single bus-band may be selected or the whole spectrum of 20 - 3000MHz. On special request we can deliver also frequencies up to 6GHz.
- C) Sweep - Jamming of a frequency band at an ultra-fast speed and in a continuous mode, various programmable frequency windows allow to define the beginning and end of the frequency bands to cover.
- D) Barriage - Instantaneous and continuous p.n. noise (pseudo noise) jamming over a wide band. It is possible to activate all sub-bands at the same time and to get a total complete RMS power of 1100W output to the antenna.



Specifications		
Frequency coverage	20MHz to 3000MHz (including 800,900,1800,1900 and 2100 mobile phone bands to cover AMPK, CDMA, TDMA, GSM, IDEN and UMTS bands)	
Power output	1100W total	
Number of channels 12	Channel 1: 20 - 80MHz 200W	Channel 2: 80 - 200MHz 200W
	Channel 3: 200 - 500MHz 200W	Channel 4: 500 - 1000MHz 100W
	Channel 5: 1 - 2GHz 100W	Channel 6: 2 - 3GHz 100W
	Channel 7: 800MHz 50W	Channel 8: 900MHz 30W
	Channel 9: 1800MHz 30W	Channel 10: 1900MHz 30W
	Channel 11: 2100MHz 30W	Channel 12: 2400MHz 30W
Power consumption	Approx. 260A at 12V (3120W)	
Effective operating range	Approx. 80 - 200 meter (depending on location)	
Jamming Signal	CDSS (Complex Digital Sweep Signal)	
Amplifiers	Class A Linear, gain flatness +/- 1.5dB	
VSWR Protection	Protected against antenna miss match including open and short circuit	
Temperature range	-10°C to +70°C	
Humidity	0 - 90% relative humidity	
Power sources	12 V DC from car system and additional generator	
Cooling system	Forced air (by built-in blower)	
Dimensions	Approx. 500 x 500 x 1150mm (h x d x w)	
Weight	Approx. 130 - 150kg	

The data may vary depending on the vehicle. The system includes a complete set of roof mounted antennas, remote control and monitoring system.

Technical data is subject to change without notice.

PKI 6975

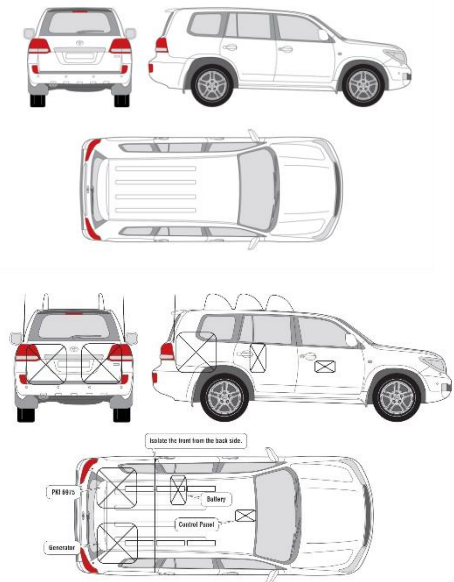
High Power DDS Convoy Jammer

Protecting military and VIP convoys from the threat of Radio/Remote Controlled Improvised Explosive Devices (RCIEDs) road-side bombs has become challenge and task in many parts of the world. The **PKI 6975** High Power DDS Convoy Jamming System implements the most effective and reliable RF jamming technology and is equipped with a fully integrated broadband jamming system. The equipment can cover continuously and simultaneously all the RF communication frequencies 20-6000MHz which are most used by terrorists to detonate road-side bombs (RCIEDs). The vehicle is customized with special RF protection for full protection of the driver and passengers.



The **PKI 6975** system management, including activation, control and operation, is carried out through a wired remote-control unit installed covertly inside the driver's console unit. Once the system is activated, it transmits a unique noise signal which creates a „Firewall“ between the transmitter (terrorist) and its receiver (explosive device). The antennas can be camouflaged in a roof box or visibly mounted to the car. The **PKI 6975** is equipped with considerable security mechanisms which ensure continuous operation. The power amplifiers are overload-proof and switch off automatically when the antenna matching fails. The transmitting power of the single frequency bands can be controlled separately. The individual antenna sockets per frequency range allow an optimal coverage. It has a user-friendly GUI (Graphic User Interface) display and control.

Specifications	
Frequency Range	20 - 6000MHz
Total RF Power	Up to 1300W
Jammer Module Number	12
Channel Number	Up to 40 bands
Cooling System	Systematic Smart Cooling System
System Protection	VSWR, Over-voltage, Over-current
Jamming Source	Digital Signal Source Technology
Remote Control	Wired remote control unit
Antenna Type	High Gain Omnidirectional Antennas
Number of Antennas	10-12
Vehicle Platform	Off-road four-wheel drive car
Total Power Consumption	Max. 4500VA, (+28VDC)
Battery Back Up Capacity	200AH/+28VDC
Operating Temperature Range	-35°C to +65°C
Operating Humidity	Up to 80%
Size	970 x 600 x 470mm
Net weight	Approx. 95Kg



Features:

- 12 modules plug and play design, facilitate for future power upgrading, change and maintenance. Any malfunction on a particular module with never interferes with the normal operation for the other modules.
- The housing is a Mil-spec standard case, shockproof and drop-resistance, available for the vehicle running in a worse field environment.
- Up to 40 frequency bands. All jamming modules designed by DDS technology.
- Operators can regulate the working frequency band and output power of each module through the software. Configuring a specific frequency band can ensure the internal communication in emergency situations.
- System operation can be performed in the driver's console unit. Each module can be switched put ON/OFF. Backup battery or generator system can be optional.
- Equipped with high power generator to ensure excellent low noise operational capabilities.
- Integrated smart active cooling system to make sure the device is working constantly.
- Selection of turn-key, „ready-to-drive“ solutions to the threat of road-side bombs and organized riots can be available as required.

PKI 6980

5kW / 10kW Jammer on Shortwave

Power Amplifier 3-30MHz - 5kW Power Amplifier 3 - 30MHz - 10kW is a self-contained water / air cooled, broadband LDMOS amplifier. The amplifier's front panel digital display shows system status information's.

Specifications	
Saturated output power	5kW (nominal)
Frequency response	3 to 30MHz
Gain	70dB minimum
Flatness	±2dB, ±1,5dB at rated power
Input for rated output	0dBm
Harmonic distortion H2 and H3	20dBc at rated power, -35dB typical
Input impedance	50 ohms, vswr 2:1
Output impedance	50 ohms, vswr 2.5: 1 typical
Mismatch tolerance	3: 1 max. Above 3 kW reflected power (fold back protection)
On/ Off Isolation	>60dB
Output RF sample ports	Dir/ refl power: 60dB
Primary power	400V ac +/-10% 3 phases 47-63Hz
Power consumption	24kVA max.
Cooling	Water cooled on closed loop (+ internal water/air exchanger)
Air flow	400l/s
Air temperature for nominal output power	+22°C
Working temperature	0°C to +35°C (0°C to +50°C as option)
Storage temperature	-10°C to +50°C (-20°C to +70°C as option)
RF input connector	Type N female on rear panel
RF output connector	Type EIA flanged 3" 1/8 on rear panel
RF output sample ports (forward and reflected)	Type N female on rear panel
Interface connector	LAN on rear panel
Primary power connector	3Ph x 40 A + N + T
Sizes (W x H x D)	65 x 177 x 84cm
Weight	325kg
Stationary Cage Antenna 3 - 30MHz 5kW	
Frequency	3 - 30MHz
Power	5kW
Polarisation	Vertical
Input impedance	50 Ohm (nominal)
Mast height	24m
Ground screen diameter	48m
Wind speed	160km/h

The following components are included in this position

- Mast (24m)
- Mast base (to set in mast foundation)
- Antenna base with insulator and RF-intertace (EIA 1 5/8")
- Mounting platforms at mast for guy ropes
- Mounting platforms at mast radiation wires
- Radiation wires
- Mounting material (thimbies, clamps...).
- Ground net
- Spark gap at mast base for lightning protection
- Steel anchors for foundations
- Foundation plan
- Ground net plan
- Statically analysis
- Safety ladder
- 7/8"-coaxial cable 100m
- Grounding material kit for coaxial cable
- Service Manual (English)
- Anti-collision warning light at mast top (including cable from mast top to mast base)



PKI 6985

Multipurpose Digital Jammer

Our **PKI 6985** is the latest version of our proven multiband digital Jammer, medium power in the 20 - 600MHz range.

The frequency bands are divided into 12 modules and can be individually equipped by us in frequency and power according to the customer's wishes. **PKI 6985** is equipped with efficient GaN technology power amplifiers. High-gain directional antennas and digital jamming technology round off this professional trolley jammer.

The **PKI 6985** 360W Multi-Band Trolley Jammer is the newest iteration of our tried and tested multi-band digital jamming system. It also covers combinations of VHF/UHF bands and of 20 - 6000 MHz bands, for a total of 12 bands each system. The jammer is compact and with a very high power in respect to its size and weight.

Equipped with the efficient GaN Technology Power Amplifiers, High-Tech Li-Ion Rechargeable Batteries, High-gain Directive Internal Antennas and Digital Jamming Technology, the **PKI 6985** is one of the most complete transportable systems in the market.



Specifications

Specifications	
Dimension	630 x 530 x 280mm
Weight	25kg
Output Power	360W divided into 12 bands
Power supply	High-tech Li-ion batteries
Antennas	Internal for mobile phones, other frequencies with directivity, optional external antennas
Operation	Simple commands via remote control with extension cable
Jamming Technology	Direct Modulation over synthesized signal
Cooling System	Integrated
Application	Portable, Backpack, Trolley
Frequencies	Band 1 LTE 4G 790 – 820MHz 30W
	Band 2 GSM 925 – 960MHz 30W
	Band 3 SAT 1525 – 1616MHz 30W
	Band 4 GSM 1805 – 1880MHz 30W
	Band 5 UMTS 3G 2110 – 2170MHz 30W
	Band 6 Wi-Fi/ BT 2400 – 2500MHz 30W
	Band 7 LTE 2620 – 2690MHz 30W
	Band 8 5G 3400 – 3600MHz 30W
	Band 9 Wi-Fi 5 GHz 5170 – 5330MHz 30W
	Band 10 Wi-Fi 5 GHz 5735 – 5850MHz 30W
	Band 11 CDMA 1700
	Band 12 CDMA 1900

PKI 6990

High Power Broadcasting Jammer

- Modulation: COFDM
- Dynamic Jamming through RF detection capability: detection of RF signals within 1 nano second / 1GHz
- Programming interface: USB, Ethernet
- Command of system: switches/keyboard on control unit
- Software controlled through PC laptop / Tough book / PDA
- Programming possibilities: frequency bandwidth / channels within full bandwidth, number of windows
- Unlimited individual channel programming accuracy 0.1kHz
- Individual allocation of power for each band width / channel
- Alarm (visual / audio) in case of malfunction of the system
- Alarm (visual / audio) and system shutdown in case of exceeded ROS value
- Self-protection of the system in case of any malfunction
- System impedance: 50 Ohm
- HF connections: N socket backside
- Optional outputs: HF monitoring outputs Boost calibration
- Supply voltage: 200 - 240VAC, 50 - 60Hz, 7 A 12 - 48VDC
- Input VSWR: 2.0:1 max. with respect to 50 Ohm
- Output VSWR: 2.5:1 typ.
- Load VSWR: 2.0:1 max. without damage continuous



Specifications PKI Jamming System (5000 W)	
Power output	5000W in total
Number of channels	5
Frequencies	Channel 1: 140 to 170MHz, 1000W
	Channel 2: 400 to 500MHz, 1000W
	Channel 3: 540 to 1630kHz, 1000W
	Channel 4: 87.5 to 108MHz, 1000W
	Channel 5: 800 to 900MHz, 1000W
Jamming signal	CDSS (Complex Digital Sweep Signal).
Amplifiers	Class A linear, Gain flatness +/- 1.5dB
VSWR protection	Protected against antenna mismatch including open and short circuit
Temperature range	-10°C to +70°C
Humidity	0 - 90% relative humidity
Power sources	External generator (10 kW)
Cooling system	Forced air (by built-in blower)
Dimensions	Approx. 500 x 500 x 1150mm (h x d x w) 1050 x 500 x 500mm (h x d x w) x2
Weight	Approx. 110 - 120kg
Housing construction	19" racks with independent slide-in channels, to be specified

PKI 6995

Trolley Jammer

- Modulation: COFDM
- Dynamic Jamming through RF detection capability: detection of RF signals within 1 nano second / 1GHz
- Programming interface: USB, Ethernet
- Command of system: switches/keyboard on control unit
- Software controlled through PC laptop / Tough book / PDA
- Programming possibilities: frequency bandwidth / channels within full bandwidth, number of windows
- Unlimited individual channel programming accuracy 0.1kHz
- Individual allocation of power for each band width / channel
- Alarm (visual / audio) in case of malfunction of the system
- Alarm (visual / audio) and system shutdown in case of exceeded ROS value
- Self-protection of the system in case of any malfunction
- System impedance: 50 Ohm
- HF connections: N socket backside
- Optional outputs: HF monitoring outputs Boost calibration
- Supply voltage: 200 - 240VAC, 50 - 60Hz, 7A 12 - 48VDC
- Input VSWR: 2.0:1 max. with respect to 50 Ohm
- Output VSWR: 2.5:1 typ.
- Load VSWR: 2.0:1 max. without damage continuous



Specifications	
PKI Jamming System (5000W)	
Power output	5000W in total
Number of channels	5
Channel 1	140 to 170MHz, 1000W
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Channel 3	540 to 1630kHz, 1000W
Channel 4	87.5 to 108MHz, 1000W
Channel 5	800 to 900MHz, 1000W
Jamming signal	CDSS (Complex Digital Sweep Signal).
Amplifiers	Class A linear, Gain flatness +/- 1.5dB
VSWR protection	Protected against antenna mismatch including open and short circuit
Temperature range	-10°C to +70°C
Humidity	0 - 90% relative humidity
Power sources	External generator (10kW)
Cooling system	Forced air (by built-in blower)
Dimensions	Approx. 500 x 500 x 1150mm (h x d x w) 1050 x 500 x 500mm (h x d x w) x2
Weight	Approx. 110 - 120kg
Housing construction	19" racks with independent slide-in channels, to be specified

German turn-key solutions from one source

developed and produced by **PKI** engineers

PKI is a leading solution provider in the field of Anti Terror Equipment for among others:

- **GSM Cellular Monitoring Systems**
- **Surveillance Devices**
- **Video and Night Vision Systems using Image Intensifying and IR Cameras**
- **Thermal Cameras**
- **IP Monitoring Systems**
- **Intelligent Broadband Jamming Systems**
- **Miniature Audio Transmitter**
- **Mechanical and Electronic devices for Police, Customs and Military Departments**
- **EOD Equipment**
- **Explosive Detectors**
- **Custom-made and Portable Devices for Digital Audio/Video Transmission, Receivers and Recorders**
- **GPS, GSM Navigation and Tracking Systems**
- **Video Observation**
- **Systems for Interception and Monitoring of IT and Radio Transmission**
- **Protective Clothing**
- **Armored Vehicles**
- **Systems for Optical and Wireless Detection, Inspection and Analysis**
- **All Types of Devices for Counter Surveillance**
- **X-ray Inspection Systems**
- **Electronic Devices for Prisons**
- **Professional Equipment for Emergency Aid**
- **Professional Maintenance and Training Program**

Established more than 50 years ago, the independent company is well known for its services in more than 50 countries worldwide. The headquarter is in Germany near Hamburg.



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POLICE, CUSTOMS AND MILITARY EQUIPMENT



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

Company Introduction

For many years, **PKI** has successfully offered police, customs and military equipment to various governmental departments.

In most cases, our customers dispose of a budget for security equipment with many single positions containing **PKI** products as well as **PKI** merchandise.

As many departments do not want to break their budget into many small orders, they trust in our **PKI** logistics with its worldwide net of experience.

Another advantage is the warranty also for products that are not made by **PKI** but ordered by us as part of the package.

To complete our **PKI** programme we also offer inhouse training.

To put the responsibility and the handling of a complete order for anti-terror equipment in the hands of **PKI** is for sure a good decision.

IF IT WORKS, ITS **PKI**



PKI 7100**Portable Flat X-Ray System**

As far as possible, no time should be lost from the threat to the identification. The **PKI 7100**, weighing only 6.5kg for the complete unit consisting of X-Ray Source and X-Ray Detector, is ideal for rapid deployment on site. It fits into any standard backpack or carrier bag. Equipped with a touchpad and the latest image processing software, the system is ready for universal use.

Specifications	
X-Ray Detector	
Dimensions	425 x 320 x 25mm
Weight	3,5kg
Power supply	Mains/ rechargeable battery
Resolution	40 AWG/ 1.25lp/ mm
Pixel Size	400
Active area	307 x 230mm / 15 In diag
Dead Zone	5mm
Communication protocols	Wi-Fi/ Bluetooth or cable driven (optional)
X-Ray Source	
Dimensions	35 x 8 x 11,5cm
Weight	3kg
Maximum kV	120kV (adjustable from 40 to 120kV)
Waveform	Constant Potential

**PKI 7110****X-Ray Color Mailscanner**

This X-ray scanner is designed for security control of incoming mail, such as parcels and letters. The **PKI 7110** is used at embassies, courts, jails, ministries, military departments and factory security offices. It works with a special short-time exposure and records the taken x-ray picture for further analysis. X-Ray scanning is only done behind closed protective door. If the door happens to be opened prematurely the x-ray scanning will stop immediately. **PKI 7110** complies with CE and X-ray regulations.

Specifications	
Dimensions	430 x 610 x 1610mm
Inspection scanner	420 x 560 x 530mm
Doorway	340 x 530mm
X-ray source	90kW, 7mA, oil cooled
Picture analysis	2 brightness grades, inverted display with zoom and pseudo-color
Display	17", low-radiation
Weight	150kg
Power supply	230VAC, 50Hz, 5A



PKI 7130

Letter Bomb Detector

With the **PKI 7130** letter bomb detector you can check all suspicious mail like letters and small parcels. It is easy to handle and detects all kind of metal and alloys and even very small components of improvised bombs or incendiary devices. Alarm is given as audio and optic signal. The audio alarm can be switched off. Two different modes are available: static or dynamic. In static mode, the alarm depends on an adjustable trigger threshold and must be reset manually. In dynamic mode, the alarm signal depends completely on the target's characteristics. This allows the cross-checking and determination of the target's size and position when a letter was separated due to an alarm. The sensitivity of the **PKI 7130** letter bomb detector is very high. It can be adjusted according to the required value and it is possible to suppress the indication of staples, clips or unwanted metal objects.



Specifications	
Alarm	Optical alarm and switchable audio alarm
Dynamic mode	Intermittent alarm with automatic reset
Static mode	Continuous alarm with manual reset by button press
Power supply	Built-in NiCd battery
Operating time	Approx. 18h with NiCd battery
Battery control	Flashing led
Dimensions	380 x 280 x 65mm folded 380 x 280 x 215mm unfolded

PKI 7195

Explosive Liquids Detection

Dangers lurk everywhere, whether in the Justice and Court System, Border & Port, Government, Conference Centre, Airport, etc. Sometimes it is indispensable to check bottles or containers for their contents. With this **PKI 7195** hand-held device a check is possible within 10sec. without direct touching.

Specifications	
Technical theory	Quasi-static computed tomography
Maximum container thickness	8mm non-metal container
Effective distance	Within 3mm
Effective detecting dangerous liquid	More than 50 kinds of dangerous liquids such as petrol, diesel oil, coal oil, no water ethanol, acetone, benzene, etc.
Dangerous liquid display	Red „X“ Safe liquid display: green „O“
Unknown liquid display	Yellow „?“&“unknown liquid“

Installation Data	
Working voltage	3V
Power attenuation	0.75VA
Operating current	250mA
Operating humidity/temperature	0°C to +35°C / 0% - 95% (non-condensing)
Storage humidity/temperature	-40°C to + 60°C/ 0% - 95% (non-condensing)
Exterior dimension	210 x 50 x 70mm
Weight	190g (with battery)

Technology Features:

- Quasi-static computed tomography to define the object inflammable and explosive through measuring liquid dielectric constant and conductivity
- Recognize the hazardous liquids from the safety liquid without directly touching
- Liquid container's size and the air between the container and detector won't affect the inspection results
- To avoid long time worthless battery energy costs, this apparatus is also equipped with automatic shutdown function
- Keep pressing the button for 10 seconds, the detector will shutdown automatically with „shutdown“ display on the LCD
- The detector excludes ion, microwave radiation and other potential radioactive elements, it is safe and harmless to the operator
- Comply with 89/336/EEC and 2002/95EC (RoHS) standards, without lead, harmless to people's health after use
- For security inspection, protection against terrorist attacks, fire hazard, etc.



PKI 7200**X-Ray Scanner**

The **PKI 7200** X-Ray Scanner is based on the principle of registration of the back-scattered X- radiation from the enclosures located behind various kinds of obstacles (steel, aluminum, wood etc.) and designed for detection of the enclosures located in the optically opaque and covered-up spaces, such as motor vehicle doors, seats, fuel tanks, wheels, truck body walls, racks etc. **PKI 7200** is a handy, dust- and splash-proof device which can be operated either as a stationary version (with power from the mains of 100-240V) or as a portable version (with power from the supplied battery pack of 12VDC). **PKI 7200** surely detects the enclosures measuring down to 2 x 2 x 2cm with the density ranging from 0.5 to 2g/ m³ (plastics, organic and inorganic substances) which are located behind the obstacles with a maximum thickness of 40mm for wood, 10mm for aluminum and 1.0mm for steel.

Specifications	
Warm-up time	Max. 10sec
Output power	From X-Ray source 50kV
Annual effective dose of radiation	Less than 5mSv at 1700 operating hours per year
Operating temperature	-20°C to +50°C
Operation time	Stationary: 24h, continuously portable: approx. 7 hours
Dimensions	Approx. 325 x 70 x 175mm for scanning device and 200 x 50 x 105mm for battery pack
Weight	Approx. 2.4kg for scanner plus approx. 1.8kg for battery pack with carrying belt
Power consumption	27W A/C-operated// 18W battery-operated
Search of arms, drugs, contraband goods	
Inspection of cavities with one side access	
High speed inspection	
Safe radiation	

**PKI 7210****X-Ray Aircraft Scanning System**

PKI 7210 is the unique solution for aircraft security inspection. It is possible to scan aircrafts ranging from small private jets to medium-sized commercial airplanes. It is giving the operator the capability to detect threats, illegal or undeclared goods. The scanning process is remotely operated inside airport premises with minimal impact on routine operations, without any human exposure to ionizing radiations. **PKI 7210** is the unique tool that closes this gap in aviation security and allows scanning in minutes of the entire aircraft without crew or passengers on board.



The main features of PKI 7210 system are

- Complete scan of the aircraft fuselage in a single pass through the screening frame and depending on the aircraft size, complete wings scan with additional passes
- Fully autonomous, no local resources required for operation
- Optimized for entire aircraft screening: the vertical scanning frame will deliver a clear radiography of the fuselage and wings, generating a high-resolution image with unparalleled details offering to the end users an essential tool for security applications
- Highly mobile, can be driven on public roads, from one site to another, without any additional infrastructure requirement, being ready to scan in 15 minutes from arrival on site
- Anti-collision system preventing any damage due to human operating error

- High quality X-ray images based on
- State-of-the-art image processing algorithms. One image analysis operator, safely situated outside the controlled area
- Robotic operation, controlled by one process operator from outside the controlled area, avoiding ionising radiation exposure
- Outdoor, weather-proof operating capability in airport environment
- Radiation safe for operators and bystanders
- Built-in auto archiving facility and statistic reports capability; operators can create customized databases including images of scanned aircraft
- Fully automated screening process
- Megapixel resolution intelligent video surveillance process
- Certified components for aviation us
- Automatic protection of the controlled area (APCA) system
- Data integration in command & control centres via wireless LAN or broadband INTERNET connection (optional)

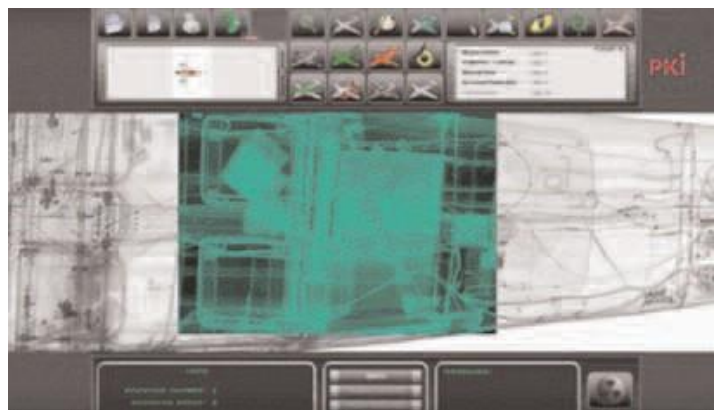
The operational concept of PKI 7210 system

a. Main components

1. Mobile scanning unit - integrating the X-ray generator and the command center placed inside the driver's cabin (portable remote operation console as option)
2. Portable detector modules with crossing ramps and mobile electronics cabinet
3. Aircraft tug mobile unit with process operator's console
4. Safety and security system, - portable Automatic Protection of the Controlled Area (APCA) system, video surveillance system, additional command centers integrated in pelican cases or existing building infrastructure

b. Configurations and operating sequences

1. In transport configuration, during transport, the mobile scanning unit will also safely carry all the other components of **PKI 7210** in dedicated compartments. The crew drives the unit on public roads, with appropriate driving licence.
2. In scanning configuration, the components are unloaded from the mobile unit and deployed in designated positions according to the deployment sequence
3. Deployment sequence:
 - Driving the mobile scanning unit to the designated scanning location
 - Unloading all the operational components
 - Positioning of the x-ray generator boom
 - Positioning of the portable detector modules, ramps and cabinet
 - Positioning of the automatic protection of the controlled area subsystem
4. Scanning sequence:
 - Clearing the aircraft from any human presence
 - Attaching the tug mobile unit to the aircraft
 - Towing the aircraft through the screening frame, by using straight automatic movement
 - Removing the tug mobile unit from the aircraft
 - Free moving the tug mobile unit to reception area and going back for the next aircraft



Scanning Mode and Safety Features of PKI 7210 System

- Recommended controlled area during scanning operation of 30m x 30m
- Radiation dose outside the controlled area less than the legal limit according to International Regulations, namely IAEA 115/1996
- Compliant with Safety of Radiation Generators and Sealed Radioactive Sources, Safety Guide No. RS-G-1.10 from 2006 issued by IAEA and with EUROTOM Radiation Protection Directive 96/29
- Controlled area perimeter supervised by a portable APCA system; X-ray generator automatically stopped in case of an intrusion

Specifications	
Operation and performances	
Triangle Scanning Frame	6.6m base; 10m height, other dimensions on request
Scan mode	Aircraft tugged through the scanning frame, straight automatic movement
Scanning speed	Variable 0.1 to 0.3m/sec
Deployment/stowing time	Less than 15 min.
Operating personnel	One process operator and one image analysis supervisor
Remote operation	Yes, by internet connection or portable operation console
Anti-collision protection	Yes
Special features	Data integration in command-and-control centre (optional)
Continuous operation	24/7/365
Imaging system	
Penetration in Aluminium (Al)	230mm
Wire resolution	0,5mm Cu (in air)
Contrast sensitivity	4%
Material discrimination capability	Four classes: organic, light minerals, medium density minerals, heavy minerals
TIP (Threat Image Projection)	Optional
Environment	
Operation temperature range	-15°C to +45°C standard
Storage temperature range	-25°C to +60°C standard
Relative humidity	Max. 98% non-condensing
Safety Systems	
Megapixel video surveillance subsystem	Yes (standard)
Personal radiation monitor	Yes (standard)
Optic and acoustic warning signals during scanning	Yes (standard)
Automatic protection of the controlled area	Yes (standard)

PKI 7215**X-Ray Cargo Scanning System**

The increasing growth of terrorist activities, contraband and illegal transportation drives the demand for high performance security systems as **PKI 7215**. Special attention needs to be paid to the area of international cargo transport. That is usually the preferred sector for the contraband of weapons, radioactive and explosive materials, narcotics and other forbidden substances, easy to hide inside large volume of goods. The daily increasing volume of transported cargo makes it impossible to physically inspect all suspicious transports.



PKI 7215 is the most technologically advanced Gamma scanner available in the world with impressive image analysis capabilities that ensure the highest productivity for cargo inspection applications without compromising the safety and security of the operators. **PKI 7215** technology provides a safe, reliable and optimized solution in terms of throughput of more than 200 scanned long vehicles per hour. **PKI 7215** remote operation principle is a unique feature with positive impact on operation costs, making it the only mobile scanner that guarantees zero professional radiation exposure for its operators and total protection against incidents caused by dangerous cargo or terrorist attempts targeting security checkpoint.

Key features of PKI 7215

Maximum safety

PKI 7215 fully eliminates the risk of professional or accidental exposure to ionizing radiation by controlling all scanning processes from a mobile control center (MCC) that can be supplied either as a rugged pelican-case or as a towable air-conditioned caravan. The MCC is placed safely outside the excursion area during scanning and is carried by the MSU in transport mode. The operation is fully automated, interactive and extremely simple, based on the principal of touching intuitive icons and displaying permanently the status of the system, as well as the sequence in progress. The imaging subsystem hardware has a special shape and structure constructed in welded aluminum. The boom is automatically deployed in just a few minutes by simply touching an intuitive icon on the operator interface.

The essential difference between all competitor systems and **PKI 7215** is that it doesn't need a driver to control the truck's movement (drive direction, sense, steering, brakes, vehicle's parameters etc.) These functions are managed by a „driverless“ subsystem that controls all the commands and parameters of the truck. In scan mode the operator initiates the scan procedure just by touching the corresponding virtual button on the touch screen display inside the MCU and the process is executed in a fully automated sequence, providing to the operator real time data by graphic animation and voice. The Cobalt source is deployed and stored with fully automated sequences. It is designed to provide a safe, reliable and constant source of gamma-rays (1.27MeV) turned ON/OFF by a pneumatic fail-safe actuator. Compared with linear accelerator technology, the Gamma-ray technology offers fast, reliable, and safe operation providing at the same time the advantage of at least 4 times lower total cost of operation for a lifetime of 10 years messages.

Intuitive Operation

The 3D interface of the application is very intuitive, indicating at each step the correct course of action and not leaving room for mistakes. It will only allow inputs that are expected by the system at that moment. The system runs self-test sequences on start-up, providing real-time status information of all subsystems. The operators command the conversion of the mobile scanning unit from “scan mode” to “transport mode” by simply touching the appropriate icon. The command-and-control software application is displayed on two monitors and manages the mobile unit's movement, video surveillance, perimeter protection, barriers' remote operation and the automation of the scanning process. All commands and status of the sub-systems are registered in a “black-box” file. The service menu and the content of the black box can be remotely administrated and interrogated by supervisors.

Mobility / Versatility

All the components of the unit are assembled on a light truck chassis, resulting in an extremely versatile and mobile robotized scanning system. The lightweight vehicle can access any type of road and can easily reach checkpoints with poor road infrastructure. It is EURO-5 compliant and powers the whole scanning system without the need of an additional electric generator. The end user can choose between several world-wide truck manufacturers, according to local support and service facilities.

Mobile Scanning Unit (MSU)

A lightweight, highly versatile scanner, fully operated from a safe distance. All the computers and imaging electronics are powered from the vehicle's engine resulting in great fuel efficiency and low operating costs. While in transport mode it can be driven on any type of road due to its low weight of approximately 6 tons. Several vehicle manufacturer options are available depending on local conditions.

Remote Operation Subsystem

Unique feature on the market, remote operation is the exceptional feature of **PKI 7215**. It ensures total radiation safety for the operators and unprecedented protection from terrorist explosion of scanned vehicles. The MCC is permanently connected to the MSU through advanced and redundant state-of-the-art encrypted wireless communication technologies through which all commands and data are safely transferred. When integrated into advanced integrated border management systems **PKI 7215** can also be operated through a secured internet connection from anywhere in the world or supervised in real-time for prevention of corrupt practices. Using the latest innovations in transmission imaging and in-house developed electronics, **PKI 7215** is the first mobile scanner to combine the reliability of isotope-based systems with the functionality of material separation. Ultra-fast sampling electronics and highly sensitive detector arrays ensure the best possible imaging performance even in drive-through scanning. All the hardware and electronics are mounted in stainless steel modular housings for durability and fast service intervention.

Mobile Control Centre

PKI 7215 is operated away from the scanned vehicle without human presence in the exclusion area and at a safe distance from a possible terrorist detonation. The operator is provided with a touch-based interface that controls the scanner's movement and ensures fast image analysis through multiple enhancement tools. All commands are given through the operating interface and performed by the scanner through automated processes that replace the traditional driver. Depending on customer requirements, the MCC is available as a rugged pelican-case, a towable caravan, a dedicated vehicle or an office container for permanent sites.

Software

The system runs self-test sequences on start-up, providing real-time status information of all subsystems. The operators command the conversion of the MCU from "scan mode" to "transport mode" by simply touching the appropriate icon. The 3D interface of the application is very intuitive, indicating at each step the correct course of action and leaving no room for mistakes. It will only allow inputs that are expected by the system at that moment. The operator can apply different filters and process algorithms to improve the penetration or image quality just by touching intuitive icons on the graphic user interface. The image is processed in a proprietary format and can be exported to bmp or jpeg format.

Customised Control Centres

Depending on the type of application and scanning site location, our customers may choose from three types of command centres. The standard pelican-case provides core functionality and efficient operation in military environments with minimal effort from the crew. A towable MCC is the perfect solution for semi-permanent scanning locations providing an autonomous & comfortable climate-controlled environment for the operation. For cases requiring more flexibility, a separate van can be supplied for operation of **PKI 7215** and for additional purposes such as a full mobile checkpoint with increased screening capabilities such as radiation detection, baggage and parcel screening, explosives & narcotics trace detection, document analysis and mobile surveillance.

Dual energy & high-resolution imaging

As a first for cargo & vehicle scanning systems, **PKI 7215** combines the advantages of material separation with the reliability of natural isotope imaging systems and takes image resolution to an impressive 1,5mm. The material separation feature provides extra information for the operators than can easily evaluate the radiography and establish a more accurate threat level by knowing whether the suspect area is organic, light organic or inorganic. With most explosives being organic, this feature is extremely useful in identifying bulk explosives and IEDs.

Command Centre Integration

Effective supervision of scanning activities and prevention of corrupt practices has always been a serious concern for border control authorities. **PKI 7215** scanners can be remotely supervised in real time from a central management location with or without knowledge of the operators and can even be operated from the supervisor console. Additional integration options include automatic traffic management systems, under-vehicle inspection, radiation detection and nuclear, chemical and biological detection capabilities.

Specification	
Imaging performance	
Principle of operation	Transmission imaging
Penetration	180mm in steel
Image resolution	Sstandard 4mm steel object visible / 1,5mm object visible with the high-resolution & dual-energy option
Level of radiation for the operation	Natural level, no professional exposure
Dose of radiation to the inspected vehicle	Less than 0.01mSv/scan
Dose of radiation to public outside the exclusion area	Max. 1 mSv/year
Radiation monitoring	Individual monitoring for each operator
No human presence inside the exclusion area	
Vehicle	
Chassis	2-axle, 7.5t GVM, computer-managed speed, steering and braking during the scanning process, left or right hand drive, various manufacturer models depending on specific local conditions
Dimensions	8.1 x 2.3 x 2.6m (transport mode)
Environmental	Euro-5 compliant
Fuel consumption	Less than 4l/h in scanning mode
Operating features	
Remote operation via secured wireless technology or via internet connection	
Scanning frame dimensions	4.3m width x 4.7m height; different dimensions available on request
Time to deploy	Max. 5 minutes from arrival on site by automated process control
Crew requirements	1 operator / shift
Vehicle's inspection mode	Continuous, sequential, or drive through in portal mode
Throughput	30 to 500 vehicles/containers/ hour according to the length of each scanned object and scanning mode
Scanning speed	Continuously variable inside the range 0.15 - 1.0m/sec. Or 10 to 15km/hour in drive through mode; warning lights and audible alarm indicating „radiation on“ status
Safety features	Exterior lighting for night time operation; digital video surveillance subsystem, allowing the operator to monitor the scanning area
Operation	Between -15°C and +45°C; optional extreme conditions kit available on request
Relative humidity	10-95% (non-condensing)

X-Ray Security Inspection Equipment - General

This X-ray security inspection equipment is able to detect the organic, inorganic, mixtures or light metals precisely and quickly. Simple and highly efficient operation combined with reasonable human design provides a completely intelligent and safe inspection system.

Features:

- Shiny clear images
- Multi-energy penetration system ($\geq 32\text{mm}$)
- New x-ray protection technology ($< 1\mu\text{Gy/h}$)
- Multi-functions image processing system
- Threat image projection function
- Any selection of the image magnified area
- Removable split structure with independent console
- Supports JPG & BMP image transformation format to USB
- Middle tunnel design with multi-functions operator interface
- High-resolution (40AWG diameter 0.0787mm tinned copper)

X-ray generator:

- Anode voltage: 160KV (adjustable)
- Beam direction: from the bottom
- Cooling & running cycle. Sealed oil cooling, 100%
- X-ray sensor: multi-energy L photoelectric diode array detector

Image Processing System:

- Display: colourful, black and white
- Processing function: F1/F2/F3 self-definition combination, edge enhancement, negative, the organic & inorganic excluding, high & low penetration, super enhancement, gray scale scan
- Save capacity & pull back: 100,000 images/infinite review
- Resolution: 1280 x 1024
- Processing & gray scale: 24Bit real-time processing /4096
- Constituencies & enlarge: any constituencies
- 1 - 32 multiple enlarge, full screen continuous check

X-ray security:

- Single inspection dose rate: $< 2\mu\text{Gy}$
- Leakage: $< 1\mu\text{Gy/h}$ (from the shell 5cm), according to the national and international safety standard
- Film safety: according to ISO1600(33DIN) high speed standard

PKI 7235

X-Ray Security Inspection Equipment

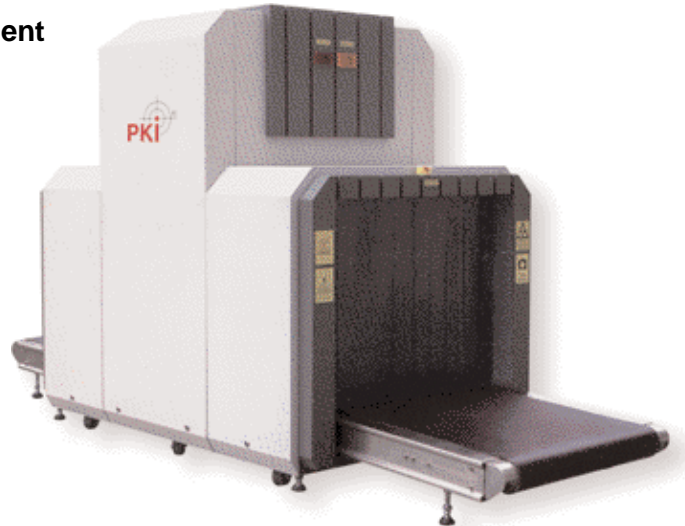
General specification	
Tunnel size	650mm (W) x 500mm (H)
Conveyor speed	0.2m/s
Conveyor height	676.5mm
Max. load	160kg (evenly distributed)
Resolution	40AWG (diameter 0.0787mm tinned copper)
Penetration	$\geq 32\text{mm}$ steel
Spatial resolution	Horizontal $\varnothing 1\text{mm}$, vertical $\varnothing 1\text{mm}$
Image resolution	17" LCD 1280 x 1024

Installation Data	
Size	2300mm (L) x 910mm (W) x 1320mm (H)
Weight	650kg
Working temperature/humidity	0°C to +45°C / 20% - 95% (non-condensing)
Storage temperature/humidity	-40°C to + 60°C / 20% - 95% (non-condensing)
Power supply	AC 220V (+10% - -15%), 50+/-3Hz
Power consumption	About 0.46 (KVA)



PKI 7240**X-Ray Security Inspection Equipment**

General specification	
Tunnel size	1010mm (W) x 810mm (H)
Conveyor speed	0.2m/s
Conveyor height	310mm
Max. load	200kg (evenly distributed)
Resolution	40AWG (diameter 0.0787mm tinned copper)
Penetration	≥32mm steel
Spatial resolution	Horizontal Ø1.0mm, vertical Ø1.3mm
Image resolution	17" LCD 1280 x 1024



Installation Data	
Size	3130mm (L) x 1310mm (W) x 1888mm (H)
Weight	950kg
Working temperature/humidity	0°C to +45°C/ 20% - 95% (non-condensing)
Storage temperature/humidity	-40°C to +60°C /20% - 95% (non-condensing)
Power supply	AC 220V (+10% to -15%), 50+/-3Hz
Power consumption	About 0.47 (KVA)

PKI 7245**X-Ray Security Inspection Equipment**

General specification	
Tunnel size	1550mm (W) x 1810mm (H)
Conveyor speed	0.2m/s
Conveyor height	350mm
Max. load	2000kg (evenly distributed)
Resolution	36AWG (diameter 0.127mm tinned copper)
Penetration	40mm steel (guarantee) 43mm steel (typical)
Spatial resolution	Horizontal Ø1.3mm, vertical Ø1.3mm
Image resolution	22" LCD 1920 x 1080



Installation Data	
Size	5150mm (L) x 2758mm (W) x 2500mm (H)
Weight	3300kg
Working temperature/humidity	0°C to +45°C/ 20% - 95% (non-condensing)
Storage temperature/humidity	-40°C to +60°C/20% - 95% (non-condensing)
Power supply	AC 380V (+10% to -15%)
Power consumption	About 2.3 (KVA)

PKI 7250

Mobile X-Ray Security Inspection Equipment

The **PKI 7250** is the worldwide leading, mobile system for fast, reliable and sophisticated X-Ray, Metal- and Trace-detection screening. It is a self-contained and trailer-mounted device providing a mobile security system to be used by any government department, in sea- and airports, at border crossings, warehouses and prisons to meet every requirement to screen cargo, packages and luggage. Many government departments of transportation have already approved this tandem axle trailer as being the best solution for all these purposes. Free from noise and distraction, the operators can concentrate on such inspections, as the **PKI 7250** is equipped with a double-walled insulation of 50mm and a super-silent roof-mounted air-condition system. Precise X-ray images of renowned clarity are generated by the integrated X-Ray detector system and superbly displayed on flat screen monitors. The well-appointed station console is ergonomically adjustable and provides a complete array of image identification and processing feature. For each operation, equipment quality and placement are determined for longevity and reliability. Several software programmes are already installed on the Pentium 4 computer.



Features:

- Flexible, mobile x-ray security inspection equipment
- Stable and superior performance
- High resolution and penetration
- Comfortable internal working condition
- Easy for the passengers and high inspection efficiency

X-ray inspection general specification	
Tunnel size	1010mm x 1010mm
Conveyor speed	0,2m/s
Film safety	Film safety ISO 1600 film
X-ray leakage	Complaint with internal standards
max. load	200kg (evenly distributed)
resolution	Typical: 40AWG (diam. 0.0787mm tinned copper), standard: 36AWG
penetration (steel)	Typical: 32mm, standard: 27mm
spatial resolution	Horizontal Ø1,0mm, vertical Ø1,3mm
anode voltage	160KV (adjustable)
beam direction	From the top
cooling and running cycle	Sealed oil cooling 100%
X-ray sensor	Multi-energy L photoelectric diode array detector

Vehicle general specification	
Vehicle model	IVECO Turbo daily 2.8T - V42 or similar
External dimension	5990mm (L) x 2100mm (V) x 2770mm (H)
Weight	3950kg around (including PKI 7250 X-ray inspection machine) Synchronous, automatically trigger, automatically calibration
Power	5,5kW
Dynamo	7.1kw/3600rpm, air displacement 357,4 stroke air cooling
Comes with	Weight lacquer, aluminium guard board, abrasive floor, back door of the operating room, reversible lock, power supply system

PKI 7255**Document Checking System**

Document Checking System for Border Security, Homeland Protection and Air- and Seaport Security **PKI 7255** is the frontline practical response to the need for high security, fast and mobile verification of any printed document as well as for a detailed examination of any surface by analyzing a highly magnified video image, captured in different light wavelengths and light directions. Banknotes, passports, ID cards, visas, applied holograms, shares, titles, permits, passes, vouchers, stamps, cheques, labels and anything that represents a security document can be thoroughly analyzed in seconds with a few mouse clicks on the dedicated hardware that is connected to a desktop or laptop PC, running our special in-house developed software application. **PKI 7255** provides the necessary light spectrum coverage, using various visible, infrared and ultra-violet lights together with the proper magnification to determine whether the document is real, counterfeited or altered.



PKI 7255 can verify all security features embedded in a document including material embedded UV fibres, watermarks, cotton textures, threads, surface integrity, security-designed background, micro letters, intaglio printing, engraving, relief effect, embossing, latent images, optically variable inks and devices; UV, iridescent, infrared and visible inks, micro surgery and mechanical alterations, cut and paste operation traces, IR ballpoint ink analysis, hologram images including embedded nano letters and laser perforations.

Operation:

PKI 7255 can be turned on by pressing any of its buttons while the light source in use will be indicated by the external light indicators. The left button with the UV indication for ultra-violet light activates the UV light sources in order to analyze the document visually or by video image for UV light fluorescence from the so-called „invisible“ printed inks, paper embedded UV fibers, threads or bands. The centre button with the VL indication for visible light spectrum turns the camera on and shows the first color from the seven available colors and frequencies. These colors are white, red, yellow, green, cyan, blue, magenta, after which the camera stays on without any lightning, for transparency analysis. This configuration requires a small light table (optional) where the document is placed. In addition, demetalized hologram areas as well as brands or threads can be easily verified for their details such as microtext or additional designs such as the Euro or US Dollars threads. The right button with the IR indication for infrared light activates the camera and all IR lights (800nm) are on. Pressing again will lit only one of these light sources at a time circling the inspected area from all four directions until it returns to the original pulsating pink light.

Components:

The optional light table (for transmission white light) is particularly useful when inspecting watermarks or demetalized holograms or even threads, always in transparency mode. The unit can operate with batteries or with its power adaptor.

PKI 7255 Software/Specification
Real time live image display from camera at full resolution
Open/save feature in different formats like: BMP, JPG, TIFF, GIF, PNG, WMF, ICO, EMF
Digital zoom capability, glass magnifier zoom effect and image resize feature
Superimposition of positive and negative images
Software algorithm to expand the dynamic range in order to be fully compatible and visible to the human eye
Save feature of the captured images
Superimposition of live and stored images, in order to compare them
Split screen feature to compare side by side live with stored images
Different measurement features: distances, areas and angles
Complete undo and redo operations
Gamma correction
Operation history
Possibility of mirroring and flipping
Variable super imposition of two images
Computing of the histogram of each image
Real time histogram (red, green, blue and luminescence) of live images and static images
Enhancing filters: emboss, emboss laplacian, sharpen, smooth, mean removal, gaussian blur, grayscale, binary transform
Invisible information (IPI decoder) filters used for some passport (like Swiss or Bulgarian) to identify invisible text
Different color and grayscale filters.

PKI 7290**Quick Test for Proof of Explosives**

This quick test has a low rate of false alarm at highest sensitivity giving a result within only a few seconds. Its easy manipulation, which needs only little training time, makes the **PKI 7290** indispensable for police operations, flight attendants, customs, etc. Long shelf-life (18 months) at a wide temperature range and its handy size that allows to inconspicuously wear it on you are only two of its advantages.

Specifications	
Detection	Aromatic, aliphatic and anorganic explosives
Proof	Smallest quantities are sufficient (nanogram range)
Sorts of explosives	ANFO, DNT, RDX, TETRYL, TNT
Various	Very cheap possibility of detection of explosives

**PKI 7300****Handheld Explosive Detector**

With a total redesigned **PKI 7300** for explosives detection capabilities for combat, physical security and anti-terrorism operations combined with visible, audible and tactile alerting options, the new **PKI 7300** is ideally suited to covert operations or screening in high risk or high threat environments. The expanded detection capabilities and reduced size enables the system to be easily integrated into existing security measures. Detection of explosives, explosive objects and revealing of explosion organizers has great significance for prevention of acts of terrorism. It can be done by checking clothes, hands and things of a suspect. If there are any elements of explosives, they would be detected. Usually, dogs and large complicated equipment are used for these operations; this circumstance does not allow checking suspect object effectively. Usually it is difficult to use dogs in such operations because their skill is cut down by external factors, especially in urban or industrial areas (smells of paintwork materials, oil products, pothe animals, noise, etc.). Moreover, even well-trained dog doesn't understand how carefully it should work with explosive and provoke an explosion. All explosives detecting operations may be easily realized using portable explosive vapor detector **PKI 7300**. This extremely sensitive device can operate for a full 4 hours on a single battery and requires no calibration. Starts up quickly and swiftly clears down after an explosives alert to permit rapid throughput. The **PKI 7300** does not require periodical adjustment and setup procedures.



Specifications	
Detection Technology	No radioactive source or gas supply
Power supply	AC (via 12V adapter- supplied) 100-240V/47-63Hz / DC (2 rechargeable- supplied) 6V
Max. distance between VD nozzle and examined object	30mm
TNT Threshold Sensitivity	Under +20°C, 80% humidity, not less than 10-13 g/cr
Operation conditions Temperature	+5°C to +40°C
Relative Humidity	Up to 90% (under +25°C)
Indication	Audio & LCD
Detector's mass	Not more than 2kg incl. battery
Weight	2kg incl. battery
Total carrying weight in case	Less than 6kg
Dimensions	300 x 180 x 90mm

Features:

- Warm up time 10sec. max.
- Analysis time not more than 1sec.
- Able to detect TNT, TATP, NG, EGDN, HMTD, PETN, RDX
- Able to detect particles and vapors not more than 1sec.
- Able to detect military, commercial and homemade explosives
- Range in PPM 10-13
- Survival after strong environment effect temperature: -50°C to +50°C
- NANO gram detection
- Ion Mobility Spectrometry
- Quick reference brochure for maintenance and operation
- 1 battery charger for 4 devices
- Good quality bag for storage with pockets for accessories
- ON/OFF button to reload software
- 2 additional batteries
- Specification and technical manual for installation and connection
- CDNI batteries, working time 2.5 hours

PKI 7305**Detector of Plastic Explosives**

Plastic explosives are more and more frequently used by terrorists. To detect them the **PKI 7305** has been developed. It uses the Doppler effect with selected frequencies and simultaneously compares metallic and non-metallic compounds. The discrepancy between these two measured results is analyzed.

**Specifications**

Dimensions	175 x 66 x 129mm control device 146cm length, searching probe
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PKI 7310**Handheld Detector of Explosives**

This **PKI 7310** portable explosive detector is capable of detecting the presence of all explosives, including ICAO taggants, military plastics and TATP. It is self-contained, lightweight and comes in a fully equipped, rugged carrying case and offers fast, stable detection with very high selectivity for explosives. Ready to operate within one minute of powering-up, a simple push of the button automatically activates the sampling and analysis modes. Results are displayed in just some seconds on an easy-to-read LCD. Therefore, this detector is ideal for all non-technical personnel as only minimal operator training is necessary and no carrier gas or radioactive source is used.

**Specifications**

Detectable compounds	C4, TNT, Nitroglycerin, Dynamite, PETN, Semtex, RDX, ANFO, ICAO, Taggants, (DMNB, EGDN, o-MNT, p-MNT), urea nitrate and TAPT
Sampling capabilities	Vapours and particulates - dual mode
Typical sample/analysis time	Sample: 5 - 30 seconds (user selectable based on application) analysis: within 20 seconds
Controls	Power switch, keypad, automatic vapour/particular selector, volume control, sample switch
Operational status indicators	LED indicator light, liquid crystal display with graphic display
Data storage + communications	1000 data records stored for further analysis serial output port for remote control and monitoring
Power supply	12V DC rechargeable battery pack external battery pack 12V AC adapter
Operating temperature	0°C to +55°C
Storage temperature	0°C to +65°C
Size	510 x 140 x 110mm
Weight	3kg

PKI 7315

Portable Explosives Detector

The **PKI 7315** can detect explosive substances from the air or by means of a wipe test. The detector is portable and with its exchangeable rechargeable battery it can be operated mains-independently. Its sensors detect all kinds of explosives from black powder via plastic explosives to TNT.

The analysis time is only 5 - 10 seconds and the device outputs its alarm acoustically and via the integrated colour display. The kind of explosive detected is displayed.

The device disposes of an interface to the PC for software updates and measurement evaluations.



Specifications	
Technology	IMS, Hardmard Transfer
Detection capability	Black powders, ammonium nitrates (AN), TNT, AN-TNT, RDX, PETN, HMX, Tetryl, C4, TATP, SEMTEX, etc. (the explosives database can be updated for new explosives)
Sensitivity	10 - 9g
False alarm rate	1 %
Sampling mode	Air sample collection of vapor particle and surface wipe of trace particle
Warm-up time	10 minutes
Analysis time	5 - 10s
Calibration time	30s
Alarm mode	Buzzer and visual display in English
Dimensions	430 x 113 x 205mm
Weight	4kg (including battery)
Power supply	AC 220V at 50/60Hz or DC
Temperature	-20°C to +55°C
Working humidity	RH 95 %
Display	English menu, 3.5 inches TFT colour screen
Connector	Net port or USB port

PKI 7325**Handheld Explosives Detector**

Our most innovative and latest version of the Handheld Explosive Detector **PKI 7325** successfully detects explosives as phases and particles with extreme sensitivity. No other explosives detector on the market does this in this form. When inspecting people, luggage, mail and parcels, vehicles and buildings, the **PKI 7325** delivers highly accurate results even in smoky and dusty environments. This performance is achieved without excessive explosion concentration and even without the usual lengthy cleaning and service procedures. The list of detected explosives can also be extended under field conditions. The operation of **PKI 7325** is based on the principle of non-linear dependence of ion mobility on an electric field. The **PKI 7325** Explosive Detector exceeds the characteristics of the best mass-produced devices due to its optimal design, sensitivity, compact size of the basic elements and low power consumption. **PKI 7325** has several noteworthy features as listed below:



- A direct, non-contact detection of TNT vapours and non-volatile explosives, including RDX, HMX, as well as nitroglycerine, ethylene glycol dinitrate (EGDN), pentaerythritol tetranitrate (PENT) and its compounds, Semtex, cyclotriacetone triperoxide, ammonium nitrate, dynamite and explosives based on these explosives.
- Trace detection of flowing and volatile explosives on the surface in a piezodesorber is guaranteed.
- Direct operation in smoky and dusty areas, without the use of tools and without the risk of excessive concentration of explosive vapours is possible with **PKI 7325**.
- Explosive's detection using defined points that allow reliable detection over a wider range of temperature and humidity.
- A self-cleaning and automatic protection against concentration overload - the detector remains operational without the need for lengthy cleaning procedures.
- **PKI 7325** is expandable by detecting explosives directly via the detector interface or via USB or Bluetooth connection. New explosives can also be used without a computer by the operator in field conditions.
- **PKI 7325's** small size, light weight and long-term use in field conditions make it the perfect choice for any office.

Specifications	
Sensitivity to TNT vapours	g/cm ³ 10-14
Analysis time	2sec
Certified detection and sensitivity measured for explosives	TNT, RDX, HMX, PENT
Start time from standby mode	6sec
Distance of vortex sampling in the range	60 - 100mm
Operating temperature range	5°C to +50°C
Battery life for mixed mode	6 - 10 hours
Dimensions	350 x 103 x 94mm
Weight	1,7kg

PKI 7335

Detector for Explosive Vapours

PKI 7335 is capable of accurately detecting explosives and displaying their traces in real-time mode. The operating principle of **PKI 7335** is based on the release of photoluminescence on the sensor material under the condition of the presence of explosive vapours. **PKI 7335** is used wherever security is a top priority: at mass events, border and customs controls, defence objects, to ensure transport security, to prevent terrorist attacks with explosives, at critical infrastructure objects, even to control the presence of explosive vapours in the air of factories in their work zones. **PKI 7335** has no radioactive source. It has a TNT threshold sensitivity of 1.31×10^{-11} gr/sm³, a detection time of 1-2 seconds, and a readiness time of only 15 seconds, with a false alarm rate of only 0.1%.

PKI 7335 detected:

- Ammonium nitrate
- Dinitrotoluen
- TNT
- Trinitro Resorcinol (picric acid)
- Dinitronaphthalene
- Dimetildinitrobutan
- Ethylene-glycolylated
- Nitroglycerin
- TEN
- Pentaerythritoltetranitrate
- RDX
- HMX
- Benzofuroxan
- Hexamethylene Triperoxide diamine
- Industrial explosives based on hexogen (RDX+plasticizer)
- Industrial explosives based on octogen (HXM+plasticizer)
- Simteks (RDX+PETN+plasticizer)
- (HMX+plasticizer)
- Octal (RDX+TNT)
- Ammonite
- Ammonal
- Nitropowder etc.



Specifications	
Dimensions	410 x 192 x 140mm
Weight	2kg
Detection time	2 seconds
Distance from tested object	< 250mm
Power supply	100 - 240V, from the adapter network alternating current with the frequency 50/60GHz
Output voltage	At least 12 V
Continuous operation with fully charged battery	Min. 48 hours
Operating temperature	0°C to +40°C
Relative humidity	< 85%.

PKI 7340**Explosive Raman Identifier**

PKI 7340 is a next generation handheld device for explosives and precursors, as well as narcotics and toxic chemicals, based on the Raman identifier principle. Materials can be identified through translucent and semi-translucent containers such as plastic and glass. Solids, powders and water-based solutions are identified by **PKI 7340**.

PKI 7340 is robust, can be operated with one hand and is suitable for use in harsh climates and terrain.

PKI 7340 guides through the entire identification process, making it indispensable for military explosive ordnance disposal forces and bomb disposal specialists.

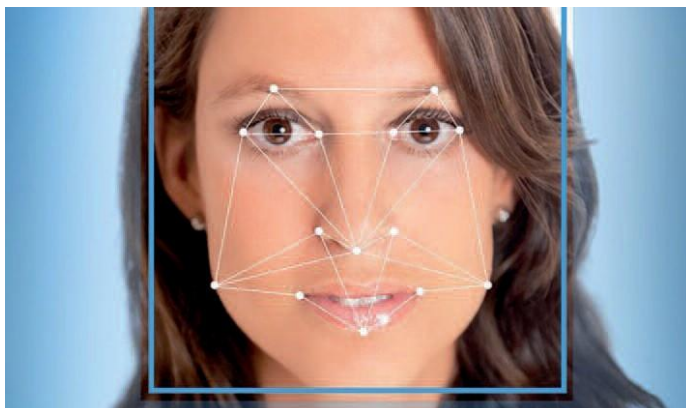


Specifications	
Display	Touch screen (compatible with level A PSA gloves)
Library	Over 500 substances with library user capabilities via laptop software for adding samples of interest
Detection time	Less than 20 seconds at 20°C
Sampling	Show and shoot
Connectivity	Micro USB
Start time	Less than 20 seconds at 20°C
Operating temperature	-20°C to +50°C
Storage temperature	-40°C to +70°C
Operation in humid conditions	> 95%
Power	One lithium battery or USB power source
Size	12.7 x 8.9 x 5.6cm
Weight	0.45kg

PKI 7350

Face Recognition

PKI 7350 is suitable for real-time video screening and anonymous people analytics. **PKI** supplies these face recognition technologies and applications for governmental entities around the world. Various independent evaluation tests have proven the premier performance of the software. The application of **PKI 7350** is only possible with an authorization by the responsible authorities. The **PKI 7350** offers such a wide variety of applications that consultation or an analysis of the requirements is necessary prior to each purchase order. The majority of applications take place on highly frequented locations such as airports, railway stations, event venues, etc., but also at passport control points or in security areas. **PKI** will provide further information after an analysis of your requirements.



PKI 7360

System for Detection of Hidden Persons in Vehicles

PKI 7360 is essential for control of vehicles in prisons, for detection of illegal immigrants or terrorist risks. The so-called detection of heartbeats is the only known technology so far which allows reliable detection of hidden persons in vehicles. Not only the heartbeat will be detected but also inner movements of other body organs which cannot be influenced by human beings.

The whole control of vehicles lasts only 2 minutes. As **PKI 7360** uses highly sensitive sensors out of the earthquake research results are displayed within 10 to 25 seconds. **PKI 7360** is recommended by European Federal Police and is used by police and justice departments in many European and neighbored countries.



System components
1 Stationary PC
1 Colour monitor 15" touch screen
1 PKI software
4 Magnetic sensors for trucks 1 floor sensor
1 Low frequency measuring microphone 1 spare sensor

Remark:

The detection of hidden persons is an extreme complex task due to nearly unlimited versions of different truck constructions. **PKI 7360** is a measuring device. The operation of this device and high security requirements claims trained personnel.

PKI 7405**Radar Observation System**

PKI 7405 opens unforeseen opportunities. Walls, doors or other sight screens such as truck tarpaulins are no longer closed. With **PKI 7405** you simply look through all obstacles and this up to a distance of 40m without dangerous radiation. **PKI 7405** allows unlimited operation and is nowadays essential, e. g. for the following services/authorities:

SWAT Teams – Fast Response to Dynamically Evolving Situations

1. Positive identification of mission objective
2. Valuable situational awareness for enhanced complex mission planning
3. Recognition of risks prior to sending troops to hostile environment
4. Improved tactics
5. Higher chance of rescue in hostage situations
6. Reduced risk of life loss among own forces, captives as well as suspects
7. Significantly increased chance of mission success

Criminal Investigation and Intelligence Services -Covert Surveillance and Monitoring

1. Long-time covert surveillance of an area of interest
2. Deployment of the system on a tripod and data transfer to a remotely connected location
3. Signal undetectability due to SCFW technology implementation

Fire and Rescue Services - Search and Rescue Operations made easier

1. Valuable assistance in search for survivors of building collapses and natural disasters
2. Rapid decision-making
3. Tactical advantage based on real-time information gained on-scene
4. Determining exact location of casualties even under difficult, hostile conditions

Foreign Police - Locating illegal Immigrants in Truck Trailers

1. Quick check of truck trailer's interior without the necessity to open it.
2. Possibility of expeditious creation of improvised checkpoint thanks to the system's stand-off capability.
3. Easier border checks without any risk and with significantly smaller physical demands on deployed troops.

PKI 7405 is a unique application of radar technology designed to detect living beings concealed behind walls and often non-metal obstacles. **PKI 7405** is an especially useful tool for police, military and rescue units as it significantly improves their situational awareness about their operating environment.

PKI 7405 is primarily optimized for the detection of moving human beings, but it is sensitive enough to detect even micromovements such as breathing.

It is a system of choice for law enforcement and military special forces when responding against dangerous suspects and persons of interest as well as for fire and rescue services in case of natural disasters and other emergencies. Information gained by the system is displayed in real-time using either 2D or 3D representation.



Specifications	
Size	345 x 280 x 112mm
Weight	Only 3kg including battery
Operating Time	Up to 4.5 hours
Display	7" color LCD touchscreen
Range	Up to 40m
Detection	Motion, motionless people
Field of View	120° horizontally, 90° in elevation
Transmitter Output	0.63mW
Remote Control	LAN, Wi-Fi

Highlights

- Range up to 40m
- Intuitive user interface
- Extremely lightweight
- Breathing action detection
- Remote control capability
- Vertical (through wall) or horizontal (floor/ceiling) deployment
- Built-in recording function
- Tripod and UGV mountable

PKI 7430

Acoustic Warning Device

This device immobilizes everyone approaching you nearer than 200m. A directed audio signal with 80dB attains absolute threshold of pain. The sound beam can be used to assist law enforcement and security officers in riot control, maritime/perimeter security and counterterrorist hostage situations by allowing the operator to communicate with, and in some instances determine the intention of, a target individual over previously unattainable distance. At close range the device can be used to send an extremely uncomfortable ear-piercing noise to deter potential intruders or rioters. In anti-terror or hostage situations the **PKI 7430** can be used to distract attention away from other activity or to project a clear voice signal over many hundreds of metres.



Specifications	
Maximum continuous output	148dB SPL at 1 meter
Beam width	+/- 15° at 1kHz/ -3dB
Frequency range	200Hz - 20KHz
Communication range	Highly intelligible speech transmission over 2000 meters max. range of 650 meters over 88dB of background noise
Emitter array dimension	635 x 635 x 304mm
Emitter array weight	20kg
Power consumption	Normal power consumption 250W peak power consumption 350W
Power input	12 - 28 VDC
Safety	MIL-STD-1474D
Electromagnetic compatibility	FCC part 15 class B radiated emissions MIL-STD-461E, CE

PKI 7435

High-Performance Loudspeaker Systems for Voice Transmission

The loudspeakers **PKI 7435** are passive loudspeaker units being controlled by controller-amplifier units. These loudspeaker systems designed for mobile operation even under the most adverse weather conditions use new patented high-performance sound converters. A decisive criterion for the sound quality is the angle of radiation of the loudspeaker systems. **PKI** has the right product for the most different operation requirements. Loudspeaker equipment for vehicles with an operating range of up to 2km or 360° high-performance omnidirectional antennas for playback at a close range radius of 100m.

Specifications	
Equipment	10* 7" Neodym / high-performance driver / weather-resistant
Transmission range	+/- 10dB 150Hz up to 8kHz +/- 3dB 200Hz up to 6kHz
Angle of radiation	Nominal 40° x 360° (hor. x vert.)
Wattage rating of the loudspeakers	1000W / 2000W
Sound pressure	(1 m) (1W) 96,6dB SPL@1kHz
Sound pressure max.	(1 m) 126,5dB SPL@1kHz
Sound pressure peak	(1 m) (1W) 138dB SPL@1kHz
Surface	Plastic black, powder coating
Housing design	Housing made of Alu /ABS
Scope of supply	Loudspeaker in housing IP55
Accessory	Wide range of assembly & fastening material
Dimensions	200 x 500 x 200mm (WxHxD)
Weight	18kg
Temperature resistance	-20°C up to +55°C (free of condensates)



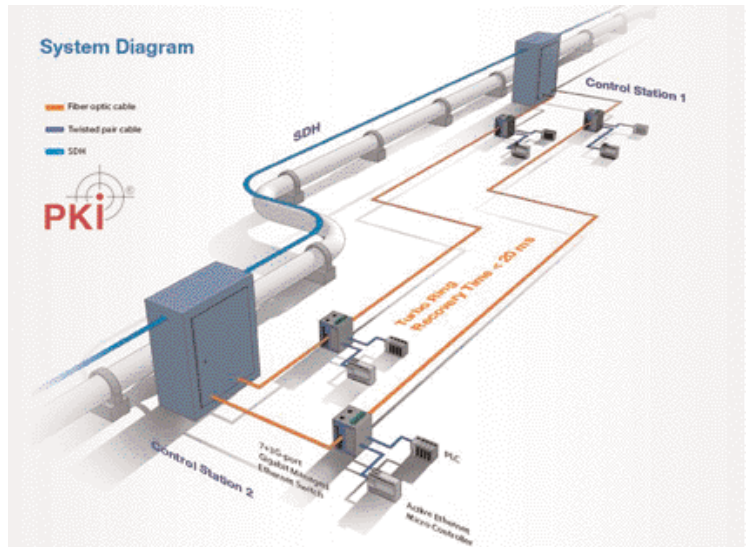
Ultra Compact Megaphone for military, police, fire department operations	
Output power	75W/RMS
Sound pressure	138dBA@1m / 1kHz
Sound pressure max.	142dB@1m (peak)
Transmission range	400Hz - 10kHz +/- 3dB
Alarm signal	Optional button with alarm signal
Combi-COM/ Microphone input	Low impedance, asymmetric, 5-pin XLR interlocked, phantom power, Headset input, headset output for monitor
WR radio input	XLR & bus for radio technology
Line input/ Record output	AUX input, high impedance, 10K asymmetric, record output
Line output (post fade)	Low impedance, asymmetric
Illumination	Illumination of the operating elements with dimmer and switch-off of the LED display
Recorder option	Ext. MP-3 recorder in IP67 version
Ad hoc recorder option	Int. MP-3 recorder with remote control
Rechargeable batteries	12V, 9,5 Ah, gas-proof lead storage battery
External power supply	9 - 36VDC
Connection f. replacement battery	12 Volt
Operating time	4 - 10 hours (depending on program)
Mains supply	90 - 240VAC, 50/60Hz
Dimensions / Weight	25 x 25 x 30cm (H/W/D) / 10,5kg
Remote control	2 pc. UP/DOWN motor controller
	1 pc. MIK, XLR input with controller 1 pc. line input with controller
	1 pc. record out for mini-mix function 1 pc. battery state indicator

Special loudspeaker system suitable for the most different climate zones and at sea	
Equipment	4 x 1.5" Neodym / 4 x 1.5" folded high-performance waveguide weather-resistant
Transmission range	+/- 10dB 250 Hz up to 9kHz // +/- 3dB 300Hz up to 7kHz
Angle of radiation	Nominal 40° x 20° (hor. x vert.)
Wattage rating of the loudspeakers	600 / 1200W
Sound pressure	1m / 1W 119,5dB SPL@1kHz
Sound pressure max.	1m / 148,5dB SPL@1kHz
Sound pressure peak	1m / 152,5dB SPL@1kHz // 1m / 156,5dB SPL@3.2kHz
Surface	Powder coating
Housing design	Housing made of Alu, horn PUR
Scope of supply	Loudspeaker in housing IP 65
Accessory	Wide range of assembly & fastening material (U-bolts, etc.)
Dimensions / Weight	240 x 1000 x 240mm (WxHxD) / 18kg
Temperature resistance	-20°C up to +55°C (free of condensates) FULL-MIL-SPECIFIED

High-performance loudspeaker system for voice transmission over large distances > 3000 meters	
Equipment	6 x 1.5" Neodym, 6 x 1.5" folded high-performance waveguide weather-resistant
Transmission range	+/- 10dB 250Hz up to 9kHz // +/- 3dB 300Hz up to 7kHz
Angle of radiation	Nominal 35° x 20° (hor. x vert.)
Wattage rating of the loudspeakers	800 / 1200W
Sound pressure	1m/ 1W 119,5dB SPL@1kHz
Sound pressure max.	1m/ 152,5dB SPL@1kHz
Sound pressure peak	1m/ 154,5dB SPL@1kHz // 1m / 160,5dB SPL@3.2kHz
Surface	Black or sand, powder coating
Housing design	Housing made of Alu, horn PUR
Scope of supply	Loudspeaker in housing IP 67
Accessory	Wide range of assembly & fastening material (U-bolts, etc.)
Dimensions / Weight	240 x 1500 x 240mm (WxHxD) / 27kg
Temperature resistance	-20°C up to +55°C (free of condensation)

PKI 7440 Pipeline Protection System with Fibre Optic

The protection of land based and sub-aqua pipelines against sabotage, illegal tapping and terrorist actions etc. is a high priority in all countries, particularly in times of heightened tension. However, until now, this has been notoriously difficult to achieve effectively. When a pipeline is damaged significant revenues will be lost, damage is caused to the local environment and the leakage is a potential hazard to the local population. Often the damage may not become apparent to the pipeline operators for days or even weeks and then it may take days to accurately pinpoint the location of the damage. Not only any system must be able to provide a high probability of detection with a very low probability of false alarm activations but with pipelines extending over hundreds, if not thousands, of miles, the ability to pinpoint the location of any incident is also a vital requirement if loss is to be avoided or minimized.



PKI offers a range of solutions that can be used to provide a high degree of protection to pipelines and terminals and which can be networked and interfaced with other systems to provide a common control and command system covering the whole infrastructure. **PKI 7440** pipeline protection systems are designed to protect gas, oil and liquid pipelines and other utility pipeline distribution networks. At the heart of the system is the intelligence built into the sensing controller. A laser beam is transmitted along the fibre optic cable buried next to the pipeline and the returned signal is automatically monitored and analysed for disturbances. This returned signal is also intelligently processed to minimize false alarms, while still detecting and reacting to the smallest hostile event. The entire pipeline is monitored in real time to detect threats from illegal tapping, physical damage from excavators, or stream scour. Know exactly where the threat occurs and where to dispatch your security staff or maintenance teams to before environmental damage occurs. Monitoring staff can have faith in the system - **PKI** delivers > 95% detection with extremely low nuisance alarm rates by intelligently analysing event information. Only fibre optic cable that is extremely durable and reliable is in the field. There is no field maintenance; the fibre optic cable is intrinsically safe and is not affected by RFI, EMI, lightning or storms.

Specifications	
Probability of detection (POD)	Independently tested to better than 95% due to intelligent signal processing and analysis of disturbances.
Nuisance alarm rate (NAR)	Less than 3% due to multi-parameter intelligent signal analysis, discarding non-intrusion and environmental events
Fibre optic sensor	Can use existing dark single mode fibres if suitable, or FFT's customs direct burial single mode fibre optic sensor cable. Expected life > 25 years
Location accuracy	Within 150 metres anywhere along the pipeline (or better)
Sensing configuration	Distributed sensor with up to 40km of pipeline protected per controller. Multiple system can be networked to protect longer pipelines
Electrical data	Input voltage 110 - 240VAC, 50 - 60HZ, auto ranging, max. 300W
Note	All field-installed components are intrinsically safe and require no power, communications, or electronics on the pipeline
System interface	TCP/IP via FFT's central alarm monitoring system software
Operating temperature range	FFT sensor cables: -40°C to +70°C
Alarm monitoring	Real-time distributed monitoring.
Provides an intuitive map-based operator GUI and interfaces to CCTV systems, MODBUS, e-mail systems, external SMS systems, lighting, alarms etc. via TCO/IP	
Calibration	No seasonal calibration or adjustments required
Zone length & number	Infinitely variable, "virtual zones" are created in the CAMS software to suit specific site requirements

PKI 7445**Handheld X-Ray Scanner Sensor Voice**

This small, compact handheld X-ray scanner weighs only 3.5kg and provides excellent localization in the smallest available dimensions. Especially for the detection of drugs, money, cigarettes, and firearms hidden in walls, tires, car bodies, vehicle interiors, barrels, containers, wings etc., the **PKI 7445** has proven itself. The optimal image quality due to the double detection, the high-quality optics and the high scanning speed of 15 to 30cm per second leave nothing to be desired. **PKI 7445** is part of every basic equipment for customs, police, border controls, etc. This unique **PKI** scanner makes the invisible visible.



With the **PKI 7445** you could see through:

- 3mm Steel
- 13mm Aluminium
- 15mm Concrete
- 32mm Carbon fibre
- 51mm Plastics
- 28mm Plasterboard partition
- 76mm Wood
- 10mm Ceramic tile
- 51mm Rubber

Specifications	
Dimensions	24 x 22 x 17cm
Weight	3,5kg
Temperature range	-20°C to +60°C
Emission indicator	Lights
Housing	Splash-proof and dust-proof housing
Batteries	2 Li-ion Batteries (included) 4 hrs autonomy per battery
Connections	Images can be transferred via USB to a PC.
X-Tube Generator	5W, 120keV x 42µA
Storage memory	More than 10,000 scans

Ergonomics:

- 2 Triggers
- 2 Handles
- LCD screen
- Touch screen and colour display 720 x 1280 pixels
- Camera
- Flash
- Integrated laser guidance

PKI 7465**IR Wide-Area Surveillance IR Radar**

PKI 7465 is used to protect critical infrastructures such as Power Plants, Data Centres, Dams, Prisons, Water Treatment Plants, Solar and Wind Farms, Oil and Ammunition Depots etc. **PKI 7465** offers full 360° panoramic coverage, day and night inspection even in adverse weather conditions, quick deployment and easy installation, automatic tracking with excellent image quality and undetectable as a passive system. The uncooled IR technology allows almost maintenance-free operation. **PKI 7465** is a high-resolution panoramic thermal camera that works as an infrared radar. It can be mounted quickly and discreetly on a mast or on the roof of a building. Surveillance coverage, even in complete darkness, is possible up to 900m, on special request even up to 1.5km.

Specifications	
Dimensions	125mm x 200mm
Weight	1.8kg
Power supply	24V / Power over Ethernet
Power Consumption	8W
Protection Standard	IP 66
Detection Range for	Human: Up to 400m Car: Up to 900m (On special request up to 1.5km)
Horizontal Field of View	360°
Vertical Field of View	36°
Vertical Adjustable Tilt	-18° / +18°
Scanning Rate	1Hz (360° / 1 sec.)
Sector Scan Rate	1.5Hz on 180-degree sector 2.5Hz on 90-degree sector
Detector Format (Horizontal)	> 600 pixels
Image Resolution	2.6 Mpixels
Video Output and Control	TCP/ IP
Optional Communication	Wireless
Operating Temperature Range	-40°C to +55°C



PKI 7470

IR Wide-Area Surveillance Transmission

PKI 7470 is an uncooled long-wave infrared camera system with a visible 360° field with high resolution as an option. This can detect people at up to 2.5km in total darkness or through smoke or in adverse weather conditions. **PKI 7470** is the ideal surveillance solution for commercial applications such as monitoring airports, ports or critical infrastructure facilities. It can simultaneously detect an unlimited number of targets, including detectable threats such as small, slow or tangentially moving targets.

Advantages

- 360°-degree full panoramic view with a single sensor
- All-round surveillance day and night, even in adverse weather conditions
- Automatic, simultaneous target tracking of all threats with excellent image quality
- Cost-effective and reliable surveillance against asymmetric threats
- Compact, robust, lightweight equipment for rapid deployment
- Fully passive system, completely undetectable compared to radar
- Maintenance-free uncooled LWIR detector



Applications

- 24/7 perimeter security
- 360°- Asymmetric threat detection
- Continuous wide area surveillance (airport/ taxiway/ port)
- Protection of critical infrastructure facilities
- Passive surveillance at the border and coast

Specifications	
Dimensions	400mm x 500mm
Weight	25kg
Power supply	24V DC / 10 Amps max at startup
Protection Standard	IP 66
Detection Range for	Human: Up to 2km
	Car: Up to 4km
	Ship: Up to 12km
Horizontal Field of View	360°
Vertical Field of View	9° (-6.5° to +2.5°)
Scanning Speed	0.25 rps (360° / 4 sec)
	2.5Hz on 90-degree sector
Infrared detector type	Uncooled LWIR FPA (> 600 pixels horizontally)
Infrared image resolution	10 Mpixels
Visible detector type	2048 x 1536
Visible image resolution	100 Mpixels
Video output and control	TCP/ IP

PKI 7480**Laser Shot Simulator**

This laser shot simulator is designed for virtual training of appropriate reactions in rapidly evolving situations which may occur in hostile environments. Applicable tactics are practiced by approaching or confronting persons in lifelike scenarios e.g. identifying the target, making an instantaneous judgement as to the use of deadly force and place the shot. Various types of weapons can be chosen for training. Furthermore **PKI 7480** teaches handling with prescribed courses of fire.



PKI 7480 comes in a rolling, weather-proof Pelican case.

Specifications

Comes with	Detection camera, Laptop, Video projector, Handgun, Laser inserts, Projection screen, Courseware
Courseware	Branching Video Player, Skill Drills Vol.1, Course of Fire Vol. 2, 3D Firearm Cyclic Actions

PKI 7495**Long Range Microwave Barrier**

PKI 7495 is a microwave bistatic barrier (transmitter/receiver separated) for the control of the area between the transmitter and the receiver for a range up to 1km (longer range on request). Our system selectivity allows to deploy several systems in the same area and in severely electromagnetically interfered areas (airports, railways, telecommunication and broadcasting stations, etc.).

Specifications

Frequency Band	24 - 24,25GHz (K band), ETSI EN 300 440, EN 302 288, EN 302 858 and 1999/5/EC R&TTE directive compliant	
Adjacent channel rejection	>50dB	
Digital frequency synthesis up to 61 channels (4MHz step)		
Minimum detection time	1mS	
Programmable transmission power	Min. +10dBm, max. +20dBm EIRP	
Receiver sensitivity	Min. NF 8dB	
Min. channel step	4MHz (CW modulation)	
System range	1m to 1km	
Standard 25 cm dia. Antenna, gain >30dB/ Antenna aperture <3°/ Standard WR42 waveguide RF interconnection/ Radome de-icing system (optional)/ Zenith-Azimuth precision antenna alignment system/ Isolated bipolar extractable terminals/ Redundant power supply		
Power supply	Standard PEO, isolated IEEE 802.3, max. 3W, POE 5/18V, 9/36V	
Alarm, warning and tamper signaling	On NO and NC relay contacts on electronic optoisolators (for fast detection)	
Environmental working conditions	-35°C to +65°C, IP66	
System control	Ethernet 10/100 (optional RS485, RS422, RS232)	
Local and remote control and supervision thru webserver and web-browser. No need to install dedicated management software.		
Working conditions setting and supervision	Alarm strategy setting, event memory with time stamping and NTP server dating, remote software upgrading, SNMP protocol with MIB file and event TRAP, radome de-icing system control, complete operation setting, Ethernet network interfacing setting	



PKI 7535**Underwater Welding Equipment**

The **PKI 7535** is a welding apparatus designed for underwater welding and flame cutting. The underwater welding electrodes are provided with a special coating. This coating prevents the absorption of humidity and the dissolution of the electrode covering and thus the development of an uncontrolled current flow. The electric current flowing in water is directly proportional to the voltage and decreases with the voltage. The **PKI 7535** operates with a no-load voltage of approx. 12V. The voltage increases when the bar electrode touches the workpiece and the arc ignites. A control circuit in the device exactly controls the required parameters. Failure to observe these parameters results in an automatic shutdown. During flame cutting, the power demand (300 - 400A) increases to such an extent that flame cutting is performed with so-called exothermic electrodes.

Specifications	
Supply voltage	3 - 230V, 3 - 400V, 3 - 460V
No-load voltage	12V, maximum welding voltage 55V
No-load power	Approx. 25W
Power demand during flame cutting	300 - 400A
Bar electrode size	Ø 1.5 - 6mm
Operating temperature	-20°C up to +40°C
Protection class	IP 23C
Dimensions	625 (L) x 215 (W) x 445 (H) mm
Weight	31kg

**PKI 7540****Inspection Mini Robot**

You shouldn't miss this small and powerful mini robot in your equipment. It is completely remote controlled up to 130m and has a weight of only 5,6 kg. All 4 wheels are driven by electric engines and cameras with microphones are integrated at the front and at the back. The **PKI 7540** can be used at day and night due to white and IR LEDs. A disruptor is mounted to the mini robot and can be activated by remote control. Further devices can be mounted on request. An additional cargo of 5kg is possible.



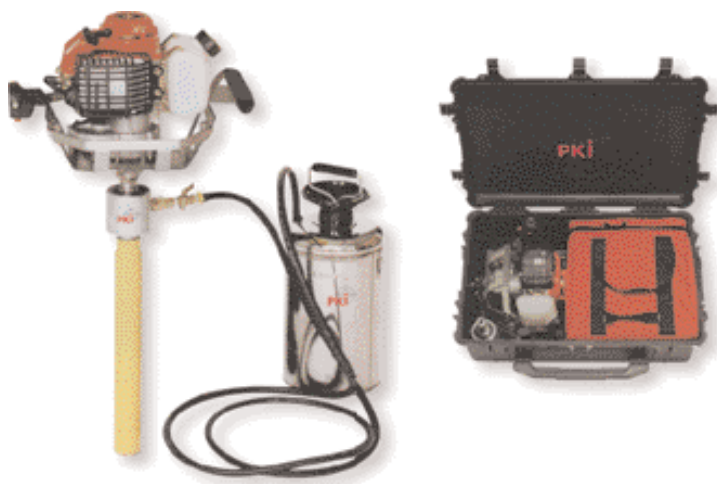
Specifications	
Dimensions	364 x 392 x 170mm
Weight	5,6kg
Drive	4 wheels
Power supply	12V /Ni/Mh
Operation time	60 – 90 minutes
Max. speed	7,5km/h
Front camera	With zoom 3x
Rear camera	68° horizontal, 54° vertical
Control station	Remote control for all functions A/V receiver with 5,6" LCD display



PKI 7545

Breaching System

Drilling access holes through concrete, wood and sheet metal, with the **PKI 7545** Breaching System makes searching sealed voids becomes quick and easy. The Breaching System is the fastest method available to positively locate victims of structural collapse. Its operation is facilitated by compact, comfortable support handles and a convenient throttle control and thumb operated safety switch. Four heavy duty various bits are provided with each system. The high-speed diamond bits are water cooled by attaching the pressurized water container to the provided coupling. Coring in standard construction concrete averages 8cm per minute. The **PKI 7545** Breaching System doesn't need an electrical generator or air compressors. The system is fully portable and saves precious time when life is in danger.



Specifications	
Power train	Two cycle 40CC, 2.75 Horsepower Centrifugal Clutch
Power head weight	11,4kg
Speed	950rpm
Boring speed	7,6cm per minute, Standard construction grade concrete (Results may deviate depending upon the material to be drilled)
Bits	5,1cm x 43,2cm diamond faced thin kerf - close segment
	5,1cm x 43,2cm carbide faced
Max. bit size	10cm
Spindle	1-1/4" x 7 threads per 2,53cms
Cooling	Pressurized water container
	7,57 litre capacity
	Hose 3,7m with quick-connect fittings
Field service kit	Codura storage pouch spare fuel tank cap
	Spare pre-wound starter recoil assembly
	2 pcs key set for starter assembly
	Spare spark plug
	Spare plug wrench
	Copper washer
Spindel extensions	30,5cm optional up to three may be used
Dimensions	81 x 53 x 31cm
Weight	34kg

PKI 7550

Modular EOD / IEDD Robot

REMOTE ARM MANIPULATION: The multi-axis arm makes this robot a versatile tool for clearing rooms, removing suspicious packages, and remote surveillance. The ability to handle heavier payloads improves the performance of this robot.

EXPLOSIVE ORDINANCE DISPOSAL & HAZMAT: Our ROV is an essential tool to keep people out of harm's way when it comes to Explosive Ordnance Disposal (EOD). The **PKI 7550** Arm can be equipped with a mount for a Carbon Fire 10 Disruptor. MultiRAE sensors allow for detection of gas, radiation, and other potential hazards.

STAIR CLIMBING: Capable of climbing household stairs and obstacles. For more aggressive terrain and steeper stairs, the **PKI 7550** includes rear stabilizer bars, which are used as a stabilizer to prevent roll over on steep pitches.

REMOTE SURVEILLANCE: The 30X zoom tilt camera at the base of the **PKI 7550** enables the user to view from a safe distance even in low light. The additional arm mounted camera provides the perfect angle for operating the robot's gripper.

REMOTE ROOM CLEARING: With the Multi-axis arm, things like doors will no longer stop you from surveying potentially dangerous locations.



General Specifications	
Speed	2km/ h /min
Runtime	Up to 8 hours
Weight	91kg
Length	96,5cm
Length (with stabilizer arms)	122cm
Width	56cm
Height (arm stowed)	66cm
Ground Clearance	6,35cm

Multi-Axis Arm (6-Axis)	
Rotating Base	400 Degree
Shoulder	180 Degree
Elbow	270 Degree
Wrist Rotation	360 Degree
Wrist Tilt	160 Degree
Parallel Finger (Opening)	11,5cm
Parallel Finger (Grip Strength)	29,5kg
Vertical Reach	179cm
Horizontal Reach	138,5cm
Arm Payload (Fully Extended)	11,3kg

Features Overview

Main Chassis:

- Enclosed Weather Resistant Chassis
- LiFePO Battery System
- Rear Flipper/Stabilizer
- Multi-Axis Arm
- Operator Control Unit (OCU)
- Ethernet Jack
- Carbon Fire Disruptor Mount
- Transport Case

Camera System:

- 360° 20x Zoom IR Camera
- Gripper Arm IR Camera
- Front Nose IR Camera
- Rear view IR Camera

Operator Control Unit (OCU):

- Rugged Pelican-style Case
- 12" Touchscreen
- 2.4GHz Digital Radio
- Lithium-Ion Battery
- Integrated Joysticks
- Preset Arm Positions
- Kinematic Modeling
- Collision Detection
- Video & Image Recording
- 2-Way Audio
- Quad View Display
- Additional Control Modes: Cartesian & Joint

PKI 7555

Barrier Riot Control Vehicle

Entering buildings must be realized quickly and inconspicuously. A mission can only be managed successfully with our **PKI 7555** as an elite force must quickly force an entry to the terrorists. An assault is often imperative. The surprise is half the battle. This device only made various arrests of criminals possible in the first place. It can be equipped flexibly, on customer's request and desired application.

This also applies to the vehicle used. The bridges are hydraulically adjustable and can be controlled separately. A desired height of up to 10m is possible. A mission can't be faster or more efficient. The **PKI 7555** should be a must for any assault or elite force.



PKI 7565

Computer Controlled Military Searchlight

Searchlights are required for any kind of night observation, whether from a helicopter, truck or in a stationary version. **PKI** can deliver these searchlights according to the requirements.

Whether remote controlled, with pan/tilt possibility, program-controlled via a computer or manually operated. Devices with different powers from 35W to 1600W Xenon lamps are available, i.e. an illumination up to 3km is definitely possible.



Specifications	
Power	35 - 1600W Xenon lamps
Housing	Compact aluminium
Pan/tilt	350° pan, 250° tilt with high-speed motors
Remote control	Computerized command box and software or by joystick for manual operation
Housing	Outdoor IP 54
Special	For marine applications, IP 65 housing, remote controlled

PKI 7570**Ground and Coastal Radar**

PKI 7570 persistent ground and coastal surveillance radar is a new advanced high-resolution radar with unique and outstanding capabilities. Featuring simultaneous multi beam technology, the radar provides persistent surveillance and instantaneous target tracking over a wide area. **PKI 7570** is perfectly suitable for border/ harbour surveillance and protection as well as critical infrastructure protection. Optional in all weather conditions, the radar immediately detects, monitors and tracks all ground moving targets and all sea targets (moving and stationary) in the region of interest, such as a walking person, a moving vehicle and various vessels and boats at sea. The radar features one stationary (non-rotating) planar array antenna, covering a sector of 90°. Full 360° coverage is achieved either by adding more antennas or by placing the radar on a positioner. **PKI 7570** radar detection range is 15km for a rubber boat or a moving person and 30km for a small sailboat or a moving vehicle. One of this radar's most unique capability is its simultaneous detection and tracking targets, both on ground and on sea surface.

**Features:**

- Unparallel performance for small and slow-moving targets
- Easily deployed and operated
- Multi-target automatic tracking
- Automatic and continuous detection and tracking with high accuracy
- Very low false alarm rate
- Dual mode simultaneous operation both on ground and on the sea surface
- Locally or remotely controlled and operated
- High probability of target interception, in all weather conditions, even if the target is not persistent
- Solid state radar with very high MTBF
- Multi-beam solid state FMCW radar
- Instantaneous and continuous multi-beam coverage of the entire region of interest
- Interoperability with electro-optic sensor
- Very low life cycle cost
- Non-moving parts
- Each target is continuously monitored and its track is updated multiple times per second
- Several radars can be networked, providing an integrated picture on a C4/SR console display
- 360° coverage can be achieved by employing 4 planar stationary antennas of 90° each

Specifications

Specifications	
Radar type	High resolution FMCW radar
Frequency	X-band
Detection range	Up to 15km for rubber boat /moving person up to 30km for sailboat / moving vehicle up to 96km for medium size ships
Azimuth coverage	Instantaneous 90°
Range accuracy	Less than 10m
Azimuth accuracy	0,25°
Interface connection	Ethernet TCP/IP
Power	24VDC
Power consumption	500W
Radiated power	50W
Radar weight	45kg
Max. number of tracks	500
Track update rate	Few times per second

PKI 7575

3D Through Wall Radar

This makes insurmountable walls transparent, i.e. **PKI 7575** makes it possible to quickly locate people who are hidden by walls and barriers. This makes it possible for the tactical team to obtain mission-critical information. **PKI 7575** is a great tool for augmenting human vision and is used very successfully by military and law enforcement agencies around the world. When performing in dangerous and high-risk situations, including search and rescue organisations, it is always about real-time information on human movements, locations and numbers behind solid structures to analyse the situation and develop an action strategy. **PKI 7575** is mainly used for counterterrorism, hostage rescue or trapped persons.



Specifications	
Dimensions	540 x 520 x 120mm
Weight	7kg
Power supply	Lithium battery
Durable working time	8h
Penetrable materials	Concrete, reinforced concrete, cement, plaster, mixed brick, wood, adobe, Stucco and other non-metal standard building material
Detection Range	20m (static living object) 30m (moving living object) @ 37cm brick & concrete wall
FOV	120° in Azimuth, 90° in Elevation
Display Model	3D, 2D, side view, target location and height
Multi-target detection	5 – 7
Orientation accuracy	3°
Resolution	Range: 10cm, cross range: 30cm @ 10m
Protection grade	IP67
Wireless operation	Built-in wireless module, support remote display and control distance: 150m

Miscellaneous

PKI 7575 is also available as a hand-held device, without 3D effect for the flexible, mobile and always with you 600g light search device.

Specifications	
Dimensions	218 x 105 x 46mm
Weight	600g (include battery)
Power supply	Lithium battery
Durable working time	4h
Penetrable materials	Concrete, reinforced concrete, cement, plaster, mixed brick, wood, adobe, Stucco and other non-metal standard building material
Detection Range	20m (static living object) 30m (moving living object)
FOV	120° in Azimuth, 90° in Elevation
Display Model	Presence of static & moving targets, quantity and real-time
Multi-target detection	>3
Protection grade	IP67
Wireless operation	Built-in wireless module, support remote display and control distance: 50m

PKI 7700**Screening Smoke System**

To assure protection of critical infrastructures this special Screening Smoke Emitting Unit has been developed. The **PKI 7700** can easily be installed at the right place of premises to be protected and within seconds emits a visually impenetrable cloud of smoke. The used smoke emitting material is harmless to human health and environment. The **PKI 7700** can be adapted according to customer's requirements. We produce our **PKI 7700** on an individual basis and case by case in a very close cooperation with our clients. Like all the other products of our programme, we keep the price at a reasonable level, and agree with you how we can meet your needs. When contacting us on this device, please have the following information ready at hand:

- Duration of smoke required
- Volume required (cubic meters)
- Ignition method required (fuse or electric)
- Physical size restrictions
- Intended use for the device



We will consider all this information to develop a product designed specifically for your application.

Specifications

Due to the tailor-made procedure of each single unit, we regret being unable to state here specific technical details. Please ask us for these by answering the a.m. questions.

PKI 7710**Liquid Container**

The **PKI 7710** is a practical, cost-effective, and hygienic transport solution for liquids. A so-called inliner made of 70 my Coex LDPE / Metallocene / LDPE offers a long storage life of the filled product and is aseptic also in case of partial withdrawal. The IBC container has a volume of 1000l, is stackable and, when empty, even collapsible. Easy filling and emptying via 2" inlet or outlet ports make this liquid container indispensable for various applications.

**Specifications**

Dimensions	120 x 80 x 100cm
Weight	40kg when empty
Colour	Silver-grey
Storage capacity	1000l

PKI 7950**Fuel Cell Generator**

There are areas where no mains supply is available when electrical energy is needed for longer operations. This refers to potential operation at various measuring stations in rough terrain or to covert surveillance for longer period. The fuel cell generator **PKI 7950** is available in different power versions and can supply power for up to 4 months without producing exhaust gas or noise as other generators do.

Specifications

Power requirement	8 to 100W
	5 to 20W
	15 to 100W
Energy requirement	200 to 2400Wh/day
	120 to 480Wh/day
	360 to 2400Wh/day
Autonomy requirement	Up to 16 weeks
	At least 4 months (esp. during winter)
	Up to 12 weeks



PKI 8005**Mobile Power Station**

This mobile power pack includes a high-performance battery combined with an electronic inverter. The whole unit weighs no more than 27kg and is designed for mobile applications. The **PKI 8005** is used anywhere where power failures occur or where sometimes no current is available at all. Its advantage is also that the device operates noiselessly, in contrast to current generators which additionally produce exhaust gases.

Specifications	
Battery	12V DC, 85Ah
AC output power	800W
AC voltage	115/230V, 50/60Hz
Charging voltage	13.6V
Charging time	8h
Dimensions	280 x 172 x 375mm
Weight	27kg
Temperature range	-20°C up to +55°C
Miscellaneous	On request, we can also deliver higher-power devices.

**PKI 8010****PKI 8015****PKI 8020****PKI 8030****Pin Fiberscope, Rigid Search Fiberscope, Flexible Fiberscope, Ultra-slim Fiberscope**

Often observations and inspections have to be done through very small openings. To look through key holes, to monitor rooms through smallest holes in the wall, or simply to control areas behind a door, this all is possible with our fiberscopes. We offer a large variety of fiberscopes for day-to-day inspections. Whether you need it long, short, rigid, flexible, with or without light, with connection to video recorder or for direct observation. Please let us have your individual requirements and we will be pleased to issue a personally designed offer.



Specifications					
	Angle of view	Field of view	Dimensions	Light	Camera adapter
PKI 8010	0° forward	50°	170 x Ø 2mm	12V/50W Halogen	Included
PKI 8015	0° forward	30°	300 x Ø12mm	12V/50W Halogen	Included
PKI 8020	0° forward	60°	700-3000 x Ø 4-12mm	12V/50W Halogen	Included
PKI 8030	0° forward	50°	1000 x Ø 2mm	Without	Included

PKI 8035

PKI 8040

A/V Microprobe Ø 4.5mm, Silent Drill



This observation set **PKI 8035** and **PKI 8040** allows the A/V observation from outside, i. e. through walls. With the silent drill **PKI 8040**, the almost silent drilling system, you can drill a hole having a diameter of 5 mm into walls up to a thickness of 40cm. The special drilling system **PKI 8040** is almost silent at the lowest speed. It is only necessary to remove the accumulated drilling residues from the special drill. The drilling residues are removed manually.

Specifications	
Power supply	85 - 270VAC (50 - 60Hz) from mains or 12VDC rechargeable battery with mains adapter/charger.
Drilling speed	140rpm at 12VDC Drives forward or reverse with switch on the side of the drill
Motor protection	Special clutch system to disengage the motor at 10 Amps draw to protect the system
Dimensions	Approx. 43 x 32 x 13cm
Weight	Approx. 8.5kg
The system is contained in a watertight case	

Through the hole drilled this way, you can now introduce the **PKI 8035** A/V microprobe and use it for observation purposes. The **PKI 8035** is designed as a modular system. The camera directly transmits the image data onto the 8.9cm colour monitor. Optionally, wireless transmission is also possible. Power is supplied via a rechargeable Li-ion battery. Highly interesting is the video recording function on SD memory card (max. 16GB); operations can be reliably documented and stored. Playback on a larger monitor is possible via the integrated connection. The **PKI 8035** disposes of a fixed focus function and a continuously dimmable LED light source.

Specifications	
8.9cm TFT colour monitor	
Resolution	640 x 480 pixels
Recording and playback via MicroSD memory card	
Endoscopic camera with a useful length of 90cm	
Watertight (IP67) camera head with a diameter of 4.5mm	
1.4mm CMOS image sensor with 320 x 240 pixels	
Automatic sharpness control via fixed focus function	
White light LEDs (dimmable)	
Horizontal opening angle	63°
Operating temperature	-10°C up to +50°C
Air humidity	15 ~ 85 %

Housing	
Dimensions	140 x 70 x 28mm (TFT colour monitor)
	50 x 20 x 20mm (camera excl. endoscope)
Weight	300g (camera incl. holder) 275g (TFT colour monitor)
Power supply	Camera (4 x AA batteries), TFT colour monitor (rechargeable Li-ion battery, mains adapter)

Scope of supply	
Camera, 90cm camera probe with 4.5mm camera head, TFT colour monitor, mains adapter for monitor, batteries, USB cable, hard-top case, instruction manual.	

PKI 8045**Wireless Keyhole Endoscopic Camera with Receiver**

This special innovation originates from our company, too. The **PKI 8045** is suitable for every conventional keyhole. Inserted in no time, it offers undreamt of possibilities. The integrated transmitter wirelessly transmits the recorded audio and video signals up to a distance of 50m where it is stored. Direct observation is possible, but also the option with GSM module for location-independent observation. The retrieval command is given via SMS, and the transmission via your mobile phone as well.

Specifications	
Diameter from lens	3.5mm Ø
Length	60mm
Min. illumination	0.003 Lux
Power supply	Rechargeable lithium battery
Frequency	5.8GHz
Dimensions of receiver	120 x 70 x 35mm

**PKI 8050****Ultracam Videoscope**

Often it is necessary to visually control a room before entering. There are many reasons, e.g. to check whether there are one or more persons in the room, which objects are in the room, etc. The **PKI 8050** Ultracam Videoscope system is equipped with IR power diodes and can also be used at night when the room is totally dark without being recognized by present people. Just slide the very flat strip light of only 4mm with integrated camera under the door and you can monitor the room due to its IR-light.



Specifications	
Dimensions of strip light	4mm flat x 50 x 27mm with integrated camera
Camera	CCD, 420 TV lines
Monitor recorder	2,5" TFT LCD display with integrated video recorder for 4,5 hours recording time
Power supply	Li-ion batteries, rechargeable, charger included

PKI 8055**Control Mirrors**

A large variety of special control mirrors are always available in our stock. Inspection by mirror is the easiest and less expensive way. However, electronic surveillance with high resolution cameras is much more effective, especially as you can record time and date of traced objects. Therefore, the use of mirrors can only be a first rough control.

- Telescopic Arm & Interchangeable Mirrors
- Short Arm Mirror with Torch
- Pocket Search Mirror
- Miniature Inspection Mirror
- Under Vehicle Search Mirror



PKI 8060

Under Door Camera with IR

With **PKI 8060** an unnoticeable, visual room surveillance is possible in daylight or at night. There are many reasons for a check, e.g. whether there are people in the room or which objects are located there.

PKI 8060 is equipped with IR power diodes and can therefore be checked at night, i.e. when the room is completely dark without being detected by those present. As the **PKI 8060** under door camera has a diameter of only 4.5mm, in most cases it is possible to slide it between the door and the floor.

Due to the fact that the camera shaft with the light-emitting diodes is angled, the entire room can be made visible by turning it after pushing it through. Playback is via a 3-inch handheld monitor with 3 million pixel resolution for video and photo recording.



In addition, **PKI** offers an audio stethoscope for acoustic room surveillance with a special microphone of 2.5mm diameter and 200 mm length with amplifier and headphones.

Spezifikationen	
Dimensions	Monitor 194 X 87 X 35mm
	Camera 200 x ø 4, mm
Weight	Monitor 120g
	Camera 6 g
Recording	Micro SD card
Screen	3-inch; HD
Photo resolution	1920 1080 P
Video resolution	1920 1080 P
Battery capacity	1800 mAh, lithium battery
Battery life	Approx. 3 hours
IR diodes	860nm
Accessories	USB cable, power supply, memory card, manual

PKI 8065**Wireless Audio / Video / Photo Inspection Set**

This complete control unit has been designed for professional applications. The flexible and moving camera with illumination measures no more than 5mm in diameter. You can reach into the smallest openings with it, e.g. below a door, window frame, even walls made of concrete are no longer an obstacle with our Silent Drill **PKI 8065**. Watching and listening even at total darkness. The A/V signal is directly visualized on an LCD screen, the sound is audible via earphones. All data are recorded on SD card. The recorded signals can be directly transmitted onto a large monitor, which is e.g. installed in a surveillance vehicle, with the help of the built-in A/V transmitter via the delivered wireless receiver. Thus, the entire surveillance team is immediately informed.



Specifications	
Image sensor	Colour CMOS
Mini illumination	1 Lux / F1.2
Electric shutter	1/60 - 1/10000
Viewing angle	0.96mm/F3 (55°)
Resolution	240 TV lines
Effective pixels	320 x 240
Auxiliary illumination	Fiber-lead cold light
Tube outer diameter	Ø 5mm
Direction control	Left/right, >60°
Tube operating length	Approx. 145cm
Transmitter	1200MHz/ 6ch
Output power	200mW
Transmitting range	50m
Battery life	70 minutes
Power supply	3.6V / 1800mA
Dimensions	Approx. 300 x 110 x 110mm (without protruding part)
Weight	Approx. 605g
Recording resolution	720 x 480 at 18fps, 640 x 480 at 30fps
Memory	HC-SD card
Date/time record	Y/M/D/S
Low power indication	Yes

Wireless receiver	
Receiving channels	4 switchable channels
AV output	2
Dimensions	192 x 140 x 33mm
Weight	755g
Power supply	12V DC
Miscellaneous	Total pan range 120°
Accessories	Battery charger and cable
The PKI 8065 is equipped with super mini CMOS camera, light, DVR and wireless A/V transmitter to easily get excellent photo/video of inspection	
Also built-in high sensitivity microphone to transmit operator's voice with inspected video to the remote side cooperater for synchronous monitoring/recording	
Two-way articulations of camera direction control Ø 5mm outer diameter of tube	
Single-hand convenient operation	
The insertion tube is constructed by scaled polyurethane rubber covered tungsten braids sheathing to ensure solidness and water/oil resistance.	
Designed to check/inspect industrial devices / drainage systems / aviation carriers / national defense / law enforcements / research / education, etc.	
Wireless receiver comes with 2AV outputs to connect with the other monitoring/recording devices	

PKI 8070**UV Flash Camera**

This **PKI 8070** UV flash camera with built-in UV flash and infrared short pass filter is used in criminalistics to detect counterfeit banknotes, documents and other materials. A major advantage of this camera is that it can also be used in ambient lighting of up to 200lx. Due to the powerful UV flash, fluorinating displays can be recorded with high contrast even without darkening shielding.



Specifications	
Resolution	16.0 megapixels
Lens	35x optical zoom with image stabilizer
Screen	3 inch (7.6cm) LCD

PKI 8075**UV Flash Unit**

PKI 8075 is a powerful UV flash unit for mounting on various electronic cameras. The UV-flash combined with a high-resolution electric camera is indispensable in criminalistics to detect forged ID cards, documents, banknotes, or other materials. Even in daylight **PKI 8075** is suitable up to a distance of 2m.



Specifications	
Flash power setting	7 steps (1/1, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64)
Flash head	Swivels for indirect flash, vertical 0° - 90° horizontal to the right up to 90°, to the left up to 180°
Automatic	Switch to stand-by mode after 60min. (energy saving function)
Flash duration	1/800s - 1/20,000s (depending on camera model)
Power supply	4 high performance AA batteries or NI-MH rechargeable batteries
Weight	250g (without batteries)
Dimensions	135 x 85 x 72mm

PKI 8080**Smartphone Endoscope Camera**

PKI 8080 is used for visual troubleshooting or inspection at de-energized equipment and systems. Thanks to the flexible gooseneck, the camera located at its top can also be brought into positions that are difficult to access. The built-in white LEDs in the camera head enable pictures even in absolutely dark areas. With the integrated Bluetooth function, a direct visual inspection using your smartphone is possible and this without any wires at all up to a distance of 10m. Moreover, it is possible to record the pictures or videos taken.

Specifications	
Network standard	IEEE 802.11 b/g/n
Antenna	Integrated IPEX antenna
Power supply	4 AA mignon batteries
Battery life	2 - 4h
Operating frequency	2.4GHz
Data transmission rate	802.11 a/b/g/n, up to 150Mbps
Camera diameter	8.5mm
Image resolution	2.0 megapixels
Video resolution	800 x 600, 1024 x 768, 1280 x 720 pixels
Cable length	1 - 5m (optional)
Viewing angle	60°
Focal length	60 - 100mm
Light source	6 dimmable LEDs
LED flashlight	1W CREE LED



- Apps: SmartEndoskop by Somikon (iOS), IPCamera (Android)
- Appropriate for: iPhone 3GS, iPhone 4, iPhone 4S, iPhone 5, iPod touch (3./4./5. generation), iPad. Requires at least iOS 5.0. App is optimized for iPhone 5, PC, Android devices

PKI 8085

Audio/ Videoscope Cameraset

PKI 8085 is an indispensable tool for audio/video surveillance. Whether through keyholes, under doors or wall openings of only a few millimetres. With this, the possibilities are endless to get valuable information. This means it is not only interesting for secret services, but also for explosives burials and emergency operations of any kind.

The camera set is divided into different categories:

- **PKI 8045** Keyhole Endoscopic Videocamera
- **PKI 8050** Ultracam Audio/ Videoscope



PKI 8095

Periscope

For unobtrusive optical observation a periscope is absolutely essential. Thus, all actions can be supervised even if the controlled person hides behind a wall, container, hedge etc. **PKI 8095** is a simple device with metal housing and 5x magnification. The main body and the handle are rotatable and detachable, which is very convenient and quick. **PKI 8095** can be dismantled and stored when not in use. The special coating makes viewing more comfortable and reduces eye fatigue during prolonged use. **PKI 8095** is made of high-quality, wear-resistant materials. It is flexible and portable, quiet during expansion and contraction and has a free length. It truly solves the dilemma of harsh and adverse viewing conditions.

Features:

- Elegant and practical design
- Aluminium alloy mirror housing
- Environmentally friendly materials
- Strong and durable
- Waterproof and cold resistant
- Ultra-light texture
- Anti-pressure and anti-collision



Specifications	
EyePiece Caliber	15mm
Objective LENS Caliber	20mm
Material	Aluminium Alloy+Rubber
Prism System	Porro Bak4 Prism
Lens coating	FMC Multilayer Green Film
Magnification	5x
Weight	320g
Color	Black



PKI 8100**Flexible HD Endoscope Camera**

PKI 8100 is a portable, handheld video endoscope system with a flexible insertion tube. It can easily be operated by plugging directly into your computer or handy. The high resolution camera provides very good video quality and with adjustable LED lights on the tip, it is possible to see clearly in dark areas. The camera head and cable are water resistant which makes it possible to work in multiple environments. Pictures can be taken or videos recorded through your computer, laptop or handy.

Specifications	
Camera	HD Android System
Cable length / neck / head	3m, 5m or 10m/ 6mm diameter/ 7mm diameter
Lens	F2.8 view of angle: 54°
Focal distance	3cm - 6cm
Waterproof level	IP 67
Frame rate	Up to 30fps at VGA resolution
Snapshot and LED lighting	Adjustable
USB cable	USB 2.0 interface
Image resolution	640 x 480 pixels
Operation temperature	-10°C to +80°C
Support	Windows 2000, Windows XP / Vista, Windows 7
Weight	95g
Others	Screw-on mirror for a 90° view

**PKI 8105****IR Marker**

IR markers can be used for identification in any place. Wherever no HF radiation is desired (can be easily detected) and a line of sight exists. Our IR markers are tailored to the customer's requirements: low power, high power, long operating time, short operating time, and the respective dimensions are accordingly. We mainly manufacture IR markers in the 880nm range; however, we can also produce them in the 860nm or 940nm range. They are frequently used by ground forces, but also in technical devices for identification purposes from the vehicle. The **PKI 8105** standard device weighs only 80g, is 50 x 50 x 10mm in size and can thus be installed unobtrusively anywhere.



Specifications	
Dimensions	50 x 50 x 10mm
Weight	80g
Power supply	Li-ion battery
Light source	IR LEDs 860 - 940nm (invisible to the human eye from 910nm on)
Operating time	According to the desired power up to max. 360h (impulse operation)

PKI 8110**Telescopic Inspection Camera for Day and Night Observation and Recording**

Trust, but verify! This saw often becomes true. We keep many different surveillance devices in stock, but **PKI 8110** is an exceptional one. The camera with enlarged optic and IR diodes for night observation is the head section. Due to its small dimensions monitoring even behind closed doors is possible. The camera is mounted slightly angled to the telescopic rod with strap. **PKI 8110** works totally autarkic; the power supply is built-in the tube as well as the A/V transmitter. Completely wireless functioning and supervision via monitor is possible. Now you can watch the pictures of the camera by means of wireless spy glasses or a receiver with built-in recorder and display which is fixed on your arm with a Velcro strap. Now you or a second person can act if required.

Specifications	
Dimension	Rod telescoped 48cm, not telescoped 150cm
Weight	350g
Power supply	12V battery
IR-diode	5mW, 4 pieces, 850nm
Head of camera	3 x 30 x 60mm
Camera	1/4" color CCD
Illumination	0,1 Lux
Resolution	420 TV lines
Focal distance	3.7mm, other distances on request
Transmitter	GHz-range
Power	10mW
Receiver	4 channels, GHz-range
Recorder	4,5 hours recording time
Memory	SD card
Display	2,5" TFT, larger sizes on request
Spy glasses	Incl. GHz-receiver

**PKI 8120****Handheld Document Scanner**

Thanks to its compact design it fits into any bag. The scans in JPEG format can be directly stored on micro-SD card (up to max. 32GB) independently of a notebook or be transmitted to a PC or Mac via USB 2.0. The OCR software allows to convert the scans into an editable text. Documents can be immediately copied or stored on site using our **PKI 8120**.



Specifications	
4 scan modes	600 x 600dpi colour or monochrome 300 x 300dpi colour or monochrome
Compatible with Windows XP SP2/Vista/7, Mac OSX 10.4+	
Scan width	Max. 21cm (A4 width)
Scan length	Max. 127cm (300dpi) max. 63.5cm (600dpi)
Delivery	Incl. USB cable OCR software, 2x AA batteries, 2GB micro-SD card

PKI 8125**Video Stick Camera**

PKI 8125 finds applications from inspection of high suspended ceilings, vehicle chassis to look around corners, searching in luggage compartments etc. Even dark objects are illuminated by the IR light sources. **PKI 8125** records video and still images and can be 198cm or 380cm long depending on the model. **PKI 8125** offers considerable advantages or advantages over the competition such as:

- Motorised camera tilt head up to 60°
- Video recording and playback on a micro-SD card
- Still image capture and view
- Colour camera head with LED lighting and brightness control
- Black/white camera head with IR-LED
- 8" LCD colour display
- Date/time registration
- Weatherproof housing
- No external cables



PKI 8125 is ready to use right out of the box.

Specifications	
Colour LCD display	
Size	20,3cm diagonal
resolution	800 x 600
Auto brightness	Up to 1000nits
Viewing angle	(70°@3.9 & 6 o'clock), (50°@12 o'clock)
Display controls	Colour saturation, contrast and brightness
Camera head controls	Variable lighting
Colour camera head (standard)	
Signal format	NTSC
Horizontal resolution	550 TV lines
Sensitivity	0.05 Lux / front panel
Illumination	White LEDs with variable brightness control
Black and white camera head	
Signal format	NTSC
Horizontal resolution	600 TV lines
Sensitivity	1 Lux/front panel
Illumination	Infrared LEDs with variable brightness control
DVR	
Formatting	MPEG 25fps
record time	5s, 10s, 30s, 60s, 120s
Date and time stamp on the screen	
Video playback mode	640 x 480mpeg
Snapshot mode	720 x 480jpg
Miscellaneous	
Video output socket	
Audio output socket	
Micro SD card slot (supports 1GB - 4GB cards)	
Internal battery charger (external battery charger included with Deluxe)	
2 lithium-ion batteries (included)	
Typical running time	5 hours
Maximum charging time	3 hours

Mechanical	VPC 2.0	DELUXE
Folded length (with camera head)	62.23cm	89cm
Extended length (with camera head)	201.93cm	392.43cm
Housing dimensions	50 x 39 x 14cm	100 x 43 x 18cm
Case weight (with all accessories)	5.4kg	12.3kg

PKI 8130 Colour Low-Light Night Vision System

Which monitoring authority has not long wished for this in the observation tool. **PKI 8130** offers a full colour night vision system for minimum 0.000001LUX residual colour illumination for night observation for up to 2km. **PKI 8130** allows a number plate number to be identified up to 500m away. The video resolution of 1080P (25fps) and the screen size of IPS 7-inch widescreen LCD allows this excellent capability. As storage medium **PKI 8130** standard includes 1TB (maximum 2TB). The observation time with a charged, integrated Li-ion battery is 6 working hours.

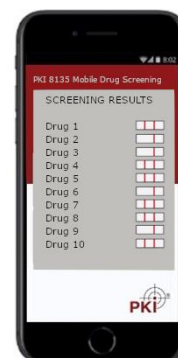


Specification	
Sensor type	CMOS
Sensor size	1/2-inch CMOS
Effective pixels	1945 (H) *1225 (V)
Video resolution	1080P (25fps)
Picture sensor system	Colour with day and night lighting
Screen size	IPS 7-inch widescreen LCD
Screen resolution	1920*1200
Screen brightness	1500nit
Operating mode	Touch screen control
Storage medium	Standard 1TB (maximum 2TB)
Video file format	MOV (10-bit code)
Working time	6 hours (Integrated Li-Ion battery)
Accessories	Charger, packaging, 1TB storage medium

PKI 8135 Mobile Drug Screening

The **PKI 8135** mobile application is an easy-to-use drug search capture solution with a streamlined user interface. By alleviating additional steps and reducing human error in the interpretation process, organizations can save both time and money while reaping the many benefits of observed oral fluid testing with **PKI 8135**.

Available panel options for detection of 5 - 10 drugs, including AMP, BAR, B20, COC, MET, MTD, OPI, OXY, PCP, THC and more. The **PKI 8135** software is for use with the oral liquid rapid test. The app automates result interpretation and reporting with an easy-to-use interface.



Application
QR capture and scan
The built-in QR scanning function ties the specific test to the individual, eliminating user input and potential human error that can result from input.
Entering donor information
Using the intuitive input and selection fields, donor information such as the name, date of birth, ID, gender and reason for testing is quickly captured.
Electronic consent
Donor consent is captured electronically within the app using on-screen signature technology. This saves time, eliminating the need for additional paperwork or the use of alternative apps.
Scan and capture
Fast, accurate results without the need for manual interpretation or reporting. Drug screening results are captured via the mobile reader's smart scan technology. To capture and send, simply align the scan guides.
Secure reporting
Data is securely transferred between the application and the defined data centre. The scanning application also supports integration with existing systems, so real-time results can be delivered on demand.

PKI 8155 Super Probe

This multi-stage telescopic super probe has been carefully designed to provide the extra-extended length up to 6,5m yet retract to a manageable length of less than 2m. This allows the operators to retain good mobility on and in destructed areas or buildings. The expanded length of **PKI 8155** Super Probe is unvaluable in large collapse areas and enables floor-by-floor searches of multistory structures. The fully extended probe functions well in either horizontal or vertical applications. **PKI 8155** Super Probe is designed for extended building collapse search operations and is an effective tool for confined space rescue operations. The extra length allows the probe to be inserted into tanks, vaults and underground spaces to visualize and communicate with the victim without having to enter the space. The super probe can give the rescue team advanced knowledge of what they are up against with minimal risk and in many cases may facilitate the decision of how to operate in a rescue or recovery mode.



Specifications	
Dimensions	Telescopes from 1,75m to 6,5m Camera 43mm diam.
Weight	3,2kg probe 2,3kg control console
Articulation travel	180° total, right to left
Total area viewed	260°
Control console	Handheld pistol grip, finger operated rocker switch controls for articulation illumination, audio gain, and push to talk quick connect display

Video	
Camera	Color, 1/4" CCD, 5 Lux, 380 lines, auto iris
Illumination	Xenon high intensity lamp, 20 hour minimum life
Display monitor	5" diagonal, flat screen LCD active-matrix system status graphics - illumination intensity, audio gain, push to talk, battery reserve, camera head position in 15° increments
Auxiliary output	7 pin, accessory multi-port
Video standard	NTSC or PAL
Viewing distance	6m in total darkness
Audio	Two-way audio integrated speaker, microphone, headphones

Battery		Environmental	
Type	Sealed lead-acid	Operating temperature	-10°C to +60°C
Endurance	3 hours continuous operation		
Recharge	2 hours to 90%	Storage	-25°C to +60°C
Weight	2,7kg	Water resistance	Water resistant, not designed for submersion
Charger	Automatic, dual rate, AC Dual voltage switchable 120/200 VAC		

PKI 8160 LED Balloon Light

PKI 8160 LED Balloon Lights have been highly successful in the most different operations. Among others they are applied during roadwork or firefighting operations as well as by railway operators or the police. It's advantage is the non-glare 360° light emission. Furthermore, the low weight allows for versatile mobile application possibilities. **PKI 8160** can be delivered in 3 different intensities, e.g. 100W, 240W, 500W. Carry bag for lamp and carry bag for tripod are included in the scope of supply.

Specifications	
Voltage	100 - 240VAC
Frequency	50/60Hz
Operating amperage	1.1A
Power consumption	110W
Weight incl. tripod	7.6kg
Lamp panel	LED, 100 W, luminous flux +/- 10 %: 13000lm, 130lm/W
Lamp size	600mm Ø, 405mm height
Tripod	Height 800-1600mm
Weight	2.6kg



PKI 8210

PKI 8215

PKI 8220

PKI 8225

Handheld Metal Detectors

These metal detectors for handheld use are the perfect equipment for professionals, giving reliable results at metal detection on persons. Invaluable because of their high sensitivity, easy manipulation and unique hardness. All devices are different from each other, for special details please see their specification listed below.

Specifications	
PKI 8210	
Alarm	Acoustic
Power supply	9V battery
Dimensions	400mm total length, foldable
Special feature	Circular searchcoil
PKI 8215	
Alarm	Acoustic
Power supply	9V battery
Dimensions	400mm total length, foldable
Special feature	Baton design, foldable
PKI 8220	
Alarm	Acoustic, optical, vibration
Power supply	9V battery
Dimensions	240mm total length, pocket-size
Dimensions	720 x 230 x 150mm
Weight	2.8kg
LCD display	Directional arrow, depth sensor, ground balance, battery life
Audio output	2.5" loudspeaker or headphones
Metal detection	3 different sounds for different metals



PKI 8225	
Alarm	Acoustic, optical, vibration
Power supply	9V battery
Dimensions	462mm, total length

PKI 8230

Top Quality Metal Detector

The **PKI 8230** has been developed for professional use and leaves nothing to be desired. A large display shows all necessary details. Detections are indicated by acoustic signals via the integrated loudspeaker. Of course, the **PKI 8230** is equipped with socket for headphones for silent search. Its sensitivity allows detection of an object of the size of a 1 Euro coin in a depth of 25cm. Extremely easy to use due to its digital measurement processing.



Specifications	
Power supply	2x 9V batteries
Dimensions	720 x 230 x 150mm
Weight	2.8kg
LCD display	Directional arrow, depth sensor, ground balance, battery life
Audio output	2.5" loudspeaker or headphones
Metal detection	3 different sounds for different metals
Control button	Switchable for volume and ground quality
Switchover	Mode, adjustment (+/-), ground inspection, entries

PKI 8250**Radiation Detection System for Hand Luggage**

The **PKI 8250** is an automatic detection system for radioactive material to avoid illicit trafficking and to protect security areas like airports, public buildings, customs offices etc. The very easy to handle **PKI 8250** can be mounted directly on-top of the conveyer belt of x ray scanners for hand luggage or at any other place where personal belongings are being checked. The system works fully automatically and in case radioactive material is passing, a sound alarm plus a red display indicates the hidden material in the corresponding bag.

Specifications	
A) Functions automatic monitoring against hidden radioactive sources	
Integrated electronics	Multi-Channel-Analyser
Integrated detectors	2" x 2" dia. NAI(Tl) detector
B) General	
Physical dimensions	95 x 124 x 90mm with 30kg weight
Protection class	IP 57
Operating temperature	-20°C to +50°C
C) System specifications	
Energy range	60keV - 3MeV
Sensitivity	> 1200cps/μSv/h
Response time	2sec
Detection sensitivity	A shielded 137CS source with 30nSv/h dose rate in 1m distance will be detected (this is equivalent to an unshielded 35kBq source)
Detector housing	Steel case, powder painted
D) Control unit Pocket PC with touch screen	
Display LINUX operating system	
3 alarm levels, software controlled	
Keys for power On/Off and alarm	Reset, alarm output by LED and acoustic sound
Dimensions	100 x 210 x 60mm
Weight	1kg
Power supply	240VAC

**PKI 8255****Gas Warning Instruments**

The **PKI 8255** family comes in three versions for the detection of either CO, H₂S and O₂. All instruments are equipped with a well-arranged display providing the most important information. During the development the focus was laid on a long operating time without need to exchange sensors or battery. Just two buttons allow handling of the unit. Each instrument can be configured via an infrared interface. **PKI 8255** allows adjustment of several display modes, different alarm limits, measuring units (mg/m³) or a life signal. As a special accessory a helmet holder is available allowing fixation of the device not only at the chest pocket or belt, but also at the helmet. The sensors, installed in the instruments, guarantee a lowest drift, cross-sensitivity and longest service life for operation during a two-years period without calibration. After a 2-year operating period (1 year in case of O₂ detection) the user may need to renew the instrument or to receive a reconditioned unit upon return of the used one. This low-cost method then allows an operating period of another 2 years.



Specifications	
Three versions for CO, H ₂ S and O ₂ / CO measuring range 400ppm / H ₂ S measuring range 100ppm / O ₂ measuring range 25 % by vol. / Protection class IP 54	
Operating conditions	-20°C to +50°C for short periods -40°C to +60°C (limited display function)
Storage conditions	700 to 1300hPa 10 to 95% relative humidity for short periods 5 to 99% relative humidity
Operating period	0°C to +30°C/ 30% to 80% relative humidity
Operating period	2 years for CO and H ₂ S - 1 year for O ₂
Dimensions	54 x 84 x 32mm
Weight	105g
Loudness of alarm signal	> 90dB A (typical at 30cm distance)

PKI 8260

Drug Test Kit

It is our ambition to provide you with high-quality products and top service. Germany is well known for its accuracy. We stick to this cultural background and assure to deliver only products of highest quality and absolute pureness, which meet with all requirements as to analysis results and substance identification. The **PKI 8260** delivers detailed, exact and absolutely reliable results of consumed drugs. This price worthy set is an immunological test for identification of consumed drugs in the urine, as well as in other suspicious compact material and is very easy to apply. The **PKI 8260** offers full mobility and security for the user, as no further items or dangerous chemical substances are necessary. A result with up to 99% reliability can be obtained with this high-tech device within 1-5 minutes. Also available is an additional drug test panel, produced individually according to our customer's requirements. Every urinary test is based on the chemical reaction between the substance and the relevant test strips, which have a shelf life of approx. 12 months before use. Test properties of the stripes do not alter under normal storage conditions at moderate temperatures and comply with international standards with test results that are comparable to GC/MS. **PKI 8260** comes with urine cup.

Specifications	
Identified Substances	Amphetamines (AMP)
	Secobarbital (BAR)
	Benzodiazepines (BZD)
	Buprenorphines (BUP)
	Cocaine (COC)
	Methamphetamine (MET)
	Methadon (MTD)
	Methylendioxy-Metamphetamin (MDMA/XTC)
	Nortriptyline (TCA)
	Morphines (MOR)
	Phencyclidine (PCP)
	Tetrahydrocannabinol (THC)



PKI 8265

Handheld Remote Key Programmer

With this versatile **PKI 8265** device, all possibilities regarding identification, copying and access control from cloning credentials, simulating chips, copying chips, generating chips, generating remote control keys, generating smart key cards, detecting remote control frequencies, detecting infrared signals, searching induction areas, unlocking smart key cards etc. are available. In combination with our Carlock Jammer **PKI 6660**, the most versatile and unnoticed gate and door openings of any kind are possible. **PKI 8265** should therefore not be missing as a useful tool at any official institution.



Specifications	
Dimensions	19.5 x 90 x 25mm
Screen size	2.8inch
Screen resolution	320 x 240
Battery	3.7V; 2000mAH
Power	5V; 1A
Working temperature	-5°C to +60°C

PKI 8270 IED / RCIED Detector

This very sensitive detector traces hidden analogue and digital signals which are frequently used for ignition of IED/RCIED bombs. Up to a distance of 120cm the operator is able to handle the **PKI 8270** which offers an increased level of safety. The **PKI 8270** has been designed to detect waves of mechanical count-down timers and cell phones etc. in improvised explosive devices such as mechanical timing devices, wrist watches etc.

It is equipped with a crystal detection sensor for detecting conducted circuits commonly found in IEDs and radio transmitted wireless devices. This is possible even through solid materials such as walls, bricks, glass, plastic, concrete, wood and similar. An integrated display at the detection head shows the results found during the operation. **PKI 8270** is an essential device for police, military and special EOD/IEDD forces for application at airports, check points, government buildings, police and military zones, oil and chemical zones, religious centres.



PKI 8270 CONSISTS OF 2 PARTS

Part I: TELESCOPIC SENSOR/ PROBE - evaluation unit for high frequency oscillation and metal Intensity.

First device is a combination made of a metal detector and an included near-field probe/sensor attached to a telescopic rod with variable length adjustment. By turning the case to the left, the telescope lock is released, so that the length of the telescope can be extended by up to twice the length.

To fix and lock the telescope, turn clockwise after setting the desired length of the case. The near-field probe/ sensor not only serves as a metal detector but also for the device's second function which is to detect electromagnetic fields and radiation from 50KHz to 960MHz coming from the targeted object which are reproduced through the spectrum analyser.

The evaluation unit has an LED bar display for the optical reproduction of the detected metal intensity. This is switched on by the METAL TRACKNG switch. A RESET button is used for the Zero = 0 setting. Ready display for active use and alarm indication when detecting metal. The built-in battery for the power supply is charged via the 5VDC socket with the supplied power adapter.

As a sample and for practice, such a receiver is included in the set. Power supply is a 9V battery. If the user sweeps with the tracking sensor head over the supplied active receiver (connect to a 9V battery), the radiation in Spectrum Analyser is made visible. Each remotely controllable bomb includes such a receiver that is detectable with the **PKI 8270** probe/ sensor.

Specifications	
Display	High contrast LCD display with backlight, 128 x 64 pixels
Amplitude resolution	0.5dBm
Dynamic range	-110dBm to 0dBm
Absolute max. input power	+5dBm
Medium noise level	-105dBm (typical)
RF generator amplitude	-30dBm to 1dBm
Frequency stability and accuracy	±10ppm (typical) ≅ 0.001 %
Amplitude stability and accuracy	±3dBm (typical)
Frequency resolution	1kHz
Resolution bandwidth (RBW)	50kHz – 960MHz

How to operate:

The evaluation unit is switched on via the switch with METAL TRACKING or RF.

METAL TRACKING, the device functions as a metal detector. LED bars shows the intensity of the detected object, from green to yellow to red. This is also signalled by the alarm light. The flawless operation is signalled by the green flashing LED lamp (READY). Detection sensitivity can be increased by pressing the RESET button. The alarm can be signalled acoustically by turning the switch from OFF to ON.



NOTE:

The features in the evaluation unit only work if the measurement probe is plugged in. Otherwise, optical signals are not flawless.

RF, the spectrum analyser will be activated. With this spectrum analyser, you can detect all EMC radiation received by the measuring probe (50 - 960000KHz). Accuracy, sensitivity and spectrum coverage can be adjusted in the menu.

TIP:

For a general overview, start with a wide a spectrum as possible. Sensitivity can then be increased gradually.

Part II: PKI STETHOSCOPE - Acoustic Detection Unit

The second part in the set is a stethoscope with an oscilloscope. The device can be used to detect sounds from objects. The harder and firmer these objects are, the more efficient detection of the signals. These signals are picked up by an active piezo sensor.



The piezo sensor is attached to the targeted object with the included mastic material (special paste). Depending on the material of the targeted object, thickness can range from 1mm to 5mm. The best efficiency or the best result will be achieved by trying out various thickness applications. Lightly press the piezo sensor onto the object to be observed. The mastic material used will ensure that the piezo sensor will stay in place at the targeted place. The device is set clockwise via the VOLUME button. Connect the connecting cable in the INPUT jack which is between the piezo sensor and amplifier. Insert the headphone cable in EAR jack.

This **PKI** stethoscope with 80,000 times the amplification shows the vibrations via the LCD display. The vibrations recorded are made audible via the headphones. The volume controller not only switches ON/OFF, but also regulates the recorded signals visually as well as acoustically.

Specifications Oscilloscope	
Dimension	14 x 80 x 25mm
Weight	350g
Power Supply	9V Battery
Changing Battery	Press the back button and push the inner case forward until the battery compartment becomes visible. Use the battery and pay attention to the right polarity. Then push the inner case back until the button snaps in the back.
Frequency	200 - 3700Hz
Amplifier	80,000 times
Sensor	Piezo Element
Display	Optical = LCD display, acoustic = headphone
Operating Temp.	-5°C to +70°C
Humidity	RH 10-90%

Operating Instruction OSCILLOSCOPE

BASIC BUTTON FUNCTION OPERATION	
V/DIV	Select sensitivity or vertical position. The selected parameter indicator will be highlighted.
SEC/DIV	Select timebase or horizontal position. The selected parameter indicator will be highlighted
TRIGGER	Select trigger mode, trigger level, and trigger edge. The selected parameter indicator will be highlighted
OK	Enter HOLD state (freeze waveform). Press it again will de-freeze
ADJ	Adjust the parameter selected (highlighted). Short press toggles Fast Adjustment mode.
Couple switch	Set couple to DC, AC, or GND. When GND is selected the scope input is isolated from input signal and connected to ground (0V input)

Specifications OSCILLOSCOPE

Max. realtime sample rate	1MSa/s
Analog bandwidth	0 – 200KHz
Sensitivity range	5mV/div-20V/div
Max input voltage	50V pk (1X probe)
Input independence	1M ohm/20pF
Resolution	12bits
Record length	1024 points
Timebase range	500s/Div – 10us/Div
Trigger position	Center of buffer

PKI 8270 is packed in ruggedized case.

Dimension including packaging: 110 x 40 x 17cm
Total weight: 12kg gross



More functions	
Functions	Operations
Vpos Alignment	Set Couple Switch to GND position. Hold down (V/DIV) button for about 3 seconds.
Measurements	Hold down (OK) button for about 3 seconds. This will turn ON or OFF on-screen display of
ON/OFF	Measurements including Vmax, Vmin, Vavr, Vpp, Vrms, Freq., Cycle, Pulse width, and Duty cycle.
Save Waveform	Press (ADJ) & (SEC/DIV) buttons simultaneously. The current displayed waveform is saved to EEPROM. The existing data in EEPROM will be over-written.
Recall Waveform	Press (ADJ) & (TRIGGER) buttons simultaneously. Recalled waveform is always displayed in Hold state.
Default Restore	Hold down (SEC/DIV) and (TRIGGER) buttons simultaneously for about 3 seconds.
Center Hpos	Hold down (SEC/DIV) button for about 3 seconds. This will make the data at the center of capture buffer displayed.
Center Trigger	Hold down (TRIGGER) button for about 3 seconds. This will set the trigger level to the
Level	Medium value of signal amplitude.
Fast Adjustment	Short press of (ADJ) toggles Fast Adjustment mode on and off for Vpos, Hpos, and Trigger Lever. A ">>" sign appearing at top of screen indicates <i>Fast Adjustment</i> in ON.

PKI 8275**Chemical Handheld Detector**

PKI 8275 is a handheld detector for field detection and classification of Chemical Warfare Agents (CWAs) and selected Toxic Industrial Chemicals (TICs). Chemical accidents, terrorism or criminal activities are the actual challenges soldiers and first responders have to prepare for on a daily basis.

The key features are:

- Widest range of detectable chemicals
- Simple maintenance
- Easy to operate
- Versatility (CWA/TIC)
- Minimal false alarm rate
- Radiological and biological detection with add-on modules

The applications are:

- Locating leaks and faulty containers
- Monitoring of industrial sites
- Chemical safety of harbours and railways
- Customs and border control
- Monitoring of mass events and high security meetings
- Law enforcement agencies
- Battlefield detection and monitoring
- CBRN Reconnaissance and surveillance

Specifications	
Size	Approx. 230 x 101 x 57mm (9"L x 4"W x 2"H)
Weight	Approx. 880G (31oz.) (w/Li-Ion battery)
Sensors	Orthogonal detection using: <ul style="list-style-type: none"> - Open-loop (aspirated) IMS cell - 6 Semiconductor sensors - Temperature, humidity, pressure and mass flow sensors
Detection	Chemical Warfare Agent/CWA (std)
Libraries	Optional libraries available
Battery	Easily interchangeable Li-Ion rechargeable and alkaline (6x AA) packs
Operating hours	Approx. 8 hours continuous use on rechargeable Li-Ion; Up to 12 hours continuous use on AA-batteries
Battery recharge time	Approx. 5 hours using the standard power supplies unit with run and charge simultaneously
Power	110 - 250VAC, 50 - 60Hz; Mains power supply (standard)
User Interface	Graphical LCD display with white backlight and 3 operation keys
Sampling	1,3 LPM internal pump with continuous airflow
Calibration	No calibration is required, but a simple confidence check is recommended before use
Alarm modes	Audible (adjustable up to 85dB) and visual alarms
Temperature	Operating -30°C to +55°C (-22°F to 131°F) Storage -40°C to +71°C (-40°F to 160°F)
Humidity	0-95% non-condensing
Dust and water IP67	Dust tight (resists blowing sand MILSTD-810F) and
Resistance	Protected against water; Immersion when inlet is closed
Shock & vibration	High impact composite case
Resistance	Passes vibration & drop tests (MIL-STD-810E)
EMI/RFI Interface	Highly resistant to electromagnetic & radio interference and does not generate electromagnetic interference
Other features	RS-232 / USB communication port; User adjustable data logging. Optional User Interface Programme needed for downloading the data to a computer
Warranty	1-year standard warranty

Optional Accessories: Radiation Detector Module	
Size	Approx. 103 x 74 x 43mm
Weight	Approx. 150g
Detected radiation	Gamma and X-ray radiation
Dose rate	0.04mSv/h to 100mSv/h
Energy range	From 50keV to 1.3MeV
Response time	Fast mode 2.5 seconds
	Normal mode 3min. at ambient radiation levels

PKI 8275 Reader Module	
Size	Approx. 120 x 55 x 60mm
Weight	Approx. 245g
Memory	100 test results
Reading modes	Read test results: 10sec. response time
Run test	15 - 20min. response time

PKI 8280**Hand-Held Radioisotope Detector**

The **PKI 8280** is a complete, portable, digital gamma spectrometer and dose rate measurement device for all members of:

- Custom and border security
- Civil defence
- Police and military
- Metal industries
- Nuclear medicine etc.

It features a digital multi-channel analyser, amplifier, high voltage power supply and memory embedded in a lightweight, easy to use device. In standard configuration the **PKI 8240** comes with an integrated ^{137}CS source of about 500Bq (^{15}nCi) for calibration and stabilisation. Optionally a ^3He neutron detector can be installed. Its main benefits are detection, location, measurement and identification of radionuclides, automatic calibration and continuous stabilisation, digital signal processing plus isotope ID based on template matching. All these functions are easy to operate by just two modes and a 3 button operation:



- a) **EASY MODE** (automatic mode): Dose rate, finder and isotope identification parameters are password protected.
- b) **EXPERT MODE**: Full functionality of all features incl. access for changing parameters/ settings.

Specifications	
Detector type	Nal(Tl)
Shaping	Digital filter
Resolution	7% to 7.5% at 662 keV (typical)
Throughput rate	> 100.000cps
Energy range	15kV to 3MV
Operating time	10 hours with 2500mAH NiMH rechargeable battery in dose rate mode
Dimensions	255 x 93 x 81mm
Weight	Approx. 1250g incl. batteries and Nal(Tl) detector
Operating temperature	-15°C to +55°C
Accessories AC adaptor for stationary use and recharging power pack plus, RS232 and USB cables and connector box, holster, carrying case, optionally: earphones	

PKI 8290**CBRN Threat Detection**

Early warning range of solutions **PKI** offers a range of special products for civilian and military protection. There is multiple application for this equipment nowadays. Fighting against emerging threats (border control, transport, non-proliferation) Securing critical infrastructures (people protection, crisis management) Facing emergency situations (contaminated area, command post, victims) Major events protection (dirty bombs, major events) Securing military base (national security, outside operations) Operating on the field (CBRN reconnaissance team) Operating on the move (truck, helicopters, ship)

Chemical PKI

Standoff Gas Cloud Detection Camera

Biological PKI

Portable Air Sampler for Airborne Pathogens Collection

Radiological PKI

Environmental Monitoring Systems Gammatracer, Spectrotracer, SkyLink

Nuclear PKI

Pedestrians & Vehicles Access Control

**PKI 8320****Gamma Radiation Indicator**

The **PKI 8320** Gamma Radiation Detector is integrated into a watch. For this reason, the device can always be carried without any problems and thus enables an immediate alarm as soon as radiation occurs. This is as important for employees in nuclear research institutions as for security services and anti-terrorist squads. The housing is watertight up to 100m and is battery-operated for up to 12 months.

**Specifications**

Weight	100g
Battery	CR2032
Dimensions	50 x 45 x 20mm
Protection class	IP 68 standard
Dose rate range	0.01 - 9999.9 μ Sv/h
Energy range	0.06 - 1.5MeV

PKI 8325**Radiation Monitor System**

The **PKI 8325** Radiation Monitor System is a complete solution when dealing with radiation safety in companies and research institutions. But its use can also reliably document the occurrence of radiation and ensure the alerting thereof in areas open to the general public. The individual detectors are installed at central points and interlinked. Alarm messages and measured values are collected on a central PC and can be displayed in real time there. Alarm messages in case of increased radiation are displayed together with the location information of the detector concerned. This way, the path of a radiation source within the building can be traced back. The **PKI 8325** indicates gamma and neutron radiation and has a low false alarm rate. The detectors of the system are equipped with rechargeable batteries and are still operational in case of a power failure.

Specifications

Power supply	1.5V AA battery or 5V DC
Battery life	Up to 1000h
Temperature range	-30°C to +50°C
Humidity	Up to 95%
Housing	IP 65
Weight	620g
Dimensions	195 x 85 x 35mm



Turnkey Mobile & Digital Forensic Solution

Product overview

Mobile Forensic Software

PKI 8425

Forensic software solution for live data extraction and analysis from smartphones that supports first responders.

PKI 8430

Forensic software solution for data extraction on smartphone, feature phone, drone, smart TV, IoT device, USIM card, SD memory card, JTAG and chip-off memory

PKI 8435

Mobile forensic software solution for recovery, analysis and reporting of extracted mobile and digital data

Mobile Forensic Hardware

PKI 8445

Mobile forensic hardware solution for the extraction of data directly from the motherboards of mobile devices via the JTAG interface

PKI 8450

Forensic hardware solution for reading data after chip-off forensics. Extraction of data directly from a detached memory chip pulled from the motherboard of a mobile phone.

PKI 8455

Package of forensic hardware devices to physically remove memory chips from the motherboards of mobile phones when performing chip-off forensics

Digital Forensic Software

PKI 8440

Forensic software solution for the extraction and analysis of cloud data

PKI 8465

Video forensic software solution for the preview, recovery and analysis of video data

Mobile Forensic Packages

PKI 8460

Mobile forensic package solution for conducting inverse investigations in portable forensic centres or directly on site at the crime scene

PKI 8420

Portable mobile forensic package solution for live data acquisition and analysis on site

PKI 8470

Academic training package which includes all the necessary equipment for mobile forensic training

PKI 8420 Portable Mobile Forensic package



Mobile, portable forensic package with **PKI 8425** for the first responder or triage at the scene. **PKI 8420** supports rapid response to field enquiries by enabling faster and more selective collection of evidence data with **PKI 8425**. **PKI 8420** can be used as a mobile evidence triage and supports selective collection for privacy protection. The mobile evidence triage and selective collection without disclosure of privacy is possible with **PKI 8425**.

Specification

Product Highlights

Preinstalled PKI 8425 tray
All-in-one package for the first responder on site
Adaptable package components

Key features

Portable live forensic tool for the investigator on site	Portable tablet with PKI 8425 software enables rapid response at the crime scene on site and data capture on the move
Supports faster and more secure forensic processes	Quick capture of selective data with PKI 8425 to ensure the privacy of the phone owner
Mirroring and remote control of the smartphone display	Can be used when the phone's screen is broken and prevents unwanted operations on the phone; The mirrored screen can be captured and recorded as evidence
Screen recording of the PKI 8425 software	PC screen of the PKI 8425 recording for playback and verification of its forensic process
External camera for the chain of custody	Photographing evidence and recording the investigation process with an external camera for the chain of custody
Supports all necessary forensic accessories	USB Cable, External Camera, Tablet, Portable Carrier

Components of the package

Portable carrier
PKI 8425 installation software (USB/online)
USB dongle key
Touch tray
5 types of smartphone cables (5, 8, 20, 30, C-type pin)
HD External Camera
Portable printer

Tablet specifications

Operating system	Windows 8/ 10 (all 64 bit)
CPU	i5 or faster
Working memory	8GB
SSD	512G
Displays	1024 x 768 x or higher
USB	1 or more USB 2.0/ 3.0/ 3.1 ports
	Microsoft Net Framework 4.5

PKI 8425**On-the-Spot Investigation Software**

Mobile forensic software for on-site investigations with live extraction and analysis on mobile devices. **PKI 8425** is a mobile forensic solution for fast execution of logical extraction and data analysis on live mobile devices. It also supports a range of regulatory compliance features, such as selective evidence collection to ensure a suspect's right to privacy, and mirroring and recording of the suspect smartphone display during the forensic process. **PKI 8425** also supports the use of a separate camera for external recording of the forensic process.

**Product highlights**

Mobile forensic software solution for on-site investigations and forensic triage
The best forensic tool for collecting data from smartphones of witnesses or victims
Selective collection of data to protect privacy
Advanced data filtering and options for keyword search, mirroring, recording and capturing personal data, mirroring Recording and capturing smartphone displays
High-speed analysis engine enables minimum labour time and automated steps
Supports the use of an external camera to record the forensic process (for audit or legal compliance purposes)
Convenient and straightforward experience with an intuitive user interface

Main features**Selective extraction and analysis of evidence data**

- Data not related to the case can be excluded from the selection and analysis
- Minimising the extraction of unnecessary data reduces the time spent on the website and protects the privacy of the parties involved
- Key applications can be scanned based on time and frequency of use

Processes evidence data as shown on a real smartphone display

- The viewing interface is thematically structured and presented as a smartphone app, so that users can quickly and intuitively identify different evidence data

Integrated data view

- Users can view evidentiary files such as photos, videos, audio files, documents, maps and website browsing history directly in the software

Mirroring and remote control of smartphone displays

- The smartphone display mirroring and remote-control function can be used to bypass a broken display or to prevent unwanted operations that the device has won
- The mirrored image can also be captured and recorded as evidence

Screen recording of the PKI 8425 software

- The PC screen recording function allows forensic processes performed in **PKI 8425** to be recorded for reproduction and verification purposes

Simple and concise experience

- The analysis after extraction is automated, which makes the examination process even faster

Report function

- Supports report formats such as PDF, Excel and SQLite DB
- Supports saving reports and dump images to USB/DVD

External camera (option)

- Optional standing camera is offered for taking photographs of evidence and displaying them or for recording the investigation procedure

System requirements

OS	Windows 8/10 (all 64 bit)
CPU	i5 or faster
RAM	8GB or more
Memory	256G or more
Display	120 x 700 or higher
USB	2 or more USB 2.0 ports
Microsoft.Net Framework 4.6.2	

Product Components

- **PKI 8425** Software (CD/USB/online)
- USB dongle key

PKI 8430

Data Extraction Software for Smartphones

Data extraction software for smartphones, function phones, drone, smart TV's, wearables, IoT devices, USIM cards, SD memory cards, JTAG cards and chip-off memory. **PKI 8430** is a forensic software solution for data extraction on a variety of mobile and digital devices. It supports both physical and logical extraction methods for Android, iOS, Windows OS, Tizen OS and other mobile operating systems.



Product-Highlights

Data extraction from smartphones, feature phones, IoT devices, smart TV's, drones, chip-off memories and JTAG boards
Powerful extraction tools for devices from Asian manufacturers (Samsung, LG and Chinese brands)
Supports all physical extraction methods - boot loader, (...) and removable media
Supports all logical extraction methods - file systems, (...) and MTP
Activation of the latest mobile phones from Samsung and Chinese (Oppo/ Vivo/ Huawei/ Xiaomi)
iOS backup file decryption and keychain extraction
Selective extraction by partitions, files, categories and applications

Main features

The perfect data extraction tool for various mobile and digital devices
Supports data collection for various models of global smartphone manufacturers (Samsung/ Apple/ LG/ HTC/ ZTE)
Supports devices manufactured in China (Huawei/ Xiaomi/ Oppo/ Vivo, etc.)
Supports extraction of IoT devices, AI speakers, drone and smart TV

Advanced physical extraction

- Supports Bootloader, Fastboot, MTK, QEDL, Custom Image Android Rooted, iOS Physical, DL, JTAG, SD card, removable media
- ADB PRO extraction, which supports data collection using vulnerability attacks from Android-based devices
- JTAG pin map viewer and connection scan AP
- Data extraction from drones - DJI (Phantom, Mavic), parrot, PixHawk
- AI Speaker chip-off extraction - Amazon Echo, Cocoa Mini, Naver Clova

Supports the latest iPhone logical extraction

- iOS Keychain
- Complete iOS file system
- Logical extraction for iPhone up to the XS/ XR model
- Decryption of secured data for the latest version of the iOS device

Supports different physical data reader hardware

- JTAG reader (**PKI 8445**)
- Memory chip reader (**PKI 8450**)
- SD memory reader and USIM reader

Advanced logical extraction

- Android Live, MTP, iOS full file system backup, manufacturer backup protocol, local backup, USIM

IoT device data extraction

- Smart Band - Fitbit
- Intelligent Watch - Apple Watch (iOS), Galaxy Gear (TizenOS)
- Smart TV - Samsung (TizenOS), LG (WebOS)
- AI speakers - Amazon Echo, Google Home, Cocoa Mini, Naver Clova, KT Giga Genie, SK NUGU
- Drone - DJI (Phantom, Mavic), Parrot, PixHawk

Selective extraction to protect privacy

- Supports the selective capture of partitions, file, category and application

Useful extraction options

- User-defined extraction for unlisted models with predefined methods
- Selective extraction by partition, file, category, privacy application
- Automatic detection and decryption of partition table and encrypted partition
- Automatic firmware recovery and retry after failed recovery
- Pause/ resume function
- Merges multiple image files - MDF - and binary file - Creates MDF file from PC backup
- Supports the creation of an MDF file from a PC backup

Special extraction features

- Supports extraction from Google cloud drives

Ensures the integrity of evidence data

- Write protection for each piece of evidence
- Supports ten different hash algorithms, including MD5, SHA1/ 224/ 256/ 384/ 512, RIPEMD128/ 160/ 256/ 320
- Excellent extraction performance - maximum 32GB/ 20 minutes
- Support for extraction of multiple devices
- Supports both simultaneous and sequential extraction

User-friendly and intuitive interface

- Intuitive graphical user interface for each extraction method
- List of characteristics 'Recently selected models'

Data preview and memory functions

- Preview of the extraction data - Hex-Viewer
- Sound alarm and TTS alarm when extraction status changes

Supports various physical data reading hardware

- JTAG reader (**PKI 8445**) - Memory chip reader (**PKI 8450**)
- SD memory reader/ USIM reader

Reporting

- Extraction information - hash value, time, method and file name
- Generation of an 'extracted file list' with a hash value of each file
- Generates 'Witness Document'

System requirements	
Operating system	Windows 8/ 10 (all 64bit)
CPU	i5 or faster
RAM	Minimum 4GB
Storage	Minimum 1TB
Displays	1024 x 768 or higher
USB	2 or more UBS 2.0 ports
Microsoft.Net framework 4.6.2	

Product Components

- **PKI 8430** installation software (CD/ USB/ Online)
- USB dongle key

Supports the extraction and unlocking/decrypting of the latest Asian mobile phones
Physical extraction through all barrier bypasses (KNOX/ FRP/OEM, Screen Lock):
Samsung Galaxy S/ J/ A/ Note Series
Screen locks: Samsung Galaxy S/ J/ A/ Note Series
ADB Pro physical KNOX bypass - Samsung Galaxy S/ J/ A/ Note series
Vendor backup protocol extraction - Samsung, LG, Huawei
Local backup extraction - Huawei, Xiaomi, Oppo, Gionee
Physical extraction for Japanese manufacturer models - Sharp, Sony

PKI 8435**Software Solution for recovering and decrypting**

Data analysis software to recover, decode, decrypt, visualise and report evidence data from mobile and digital devices. **PKI 8435** is a forensic software solution for recovering, decrypting, visualising, performing analytical data mining and reporting of evidence data extracted with **PKI 8430** or any other analogue extraction tool. The analysis results output by **PKI 8435** can be exported as forensic reports for crime and accident investigations. In addition, **PKI 8435** analysis engine for mobile applications is constantly updated as a result of our ongoing research and supports the analysis of the latest applications.

**Product Highlights**

- | |
|---|
| Supports analysis and recovery for a range of file systems and over 2,000 mobile applications |
| Supports decryption of encrypted instant messaging applications |
| Provides fast updates and ongoing support for new versions of applications |
| Supports the analysis of social relationships |
| Supports the analysis of drones and IoT devices |
| Supports the visualisation of data after analysis |
| Includes a built-in Python script editor for analysing custom applications |

Main features**Supports a wide range of mobile operating systems and devices**

- Functional telephones, smartphones and various other digital devices
- iOS, Android, Windows, TizenOS and other mobile operating systems

Parsing and recovery of different file systems

- FAT12/16/32, exFAT, NTFS, ext3/4, HFS+, EFS, YAFFS, FSR, XSR, F2FS, VDFS, XFS file systems
- Data carving of unused areas

Supports analysis of mobile data from over 2,000 popular mobile apps

- Multimedia files recorded by device camera
- Call logs, address book information, SMS/MMS messages, e-mails, memos and Internet history
- Social networks, maps, navigation, banking, health and lifestyle apps
- Detection of anti-forensic applications and hidden applications

Supports decoding of screen lock and password information

- Decoding of unlock patterns, PINs and passwords
- Brute force through GPU acceleration
- Analysis of iPhone keychain data - credentials (collected from iOS keychain, iOS and app information) can be exported and analysed by **PKI 8440**

Data decryption

- Identifying encrypted documents
- Supports decryption of chat messages, e-mails, files and other application data

Comprehensive analysis of popular messenger apps

- Deserialisation, decryption and recovery of data
- Skype, Facebook Messenger, Telegram, Wickr, QQ, KakaoTalk, Line, Zalo, Viber, Snapchat and many others
- WhatsApp - Analysis of multiple backup files
- WeChat - Analysis of several accounts, rainbow table analysis

Multimedia data recovery and analysis

- Supports image recovery for deleted/damaged video files
- Supports the use of the reference data set (RDS) to exclude from the analysis results data more than 9.8M of known unusable images
- Supports conversion of audio files (from AMR/AUD/QCP/SILK to MP3/AMR/WAV)
- Supports playback of QCP files and SILK encoded audio

Log Analysis

- Supports the analysis of different protocols: media, keyword, system and network protocols (Bluetooth, Wi-Fi, mobile phone masts)

Analysis of social relations

- Provides basic/advanced modes for single/multiple phone analysis
- Analysis of call history, messenger and e-mail communication data
- Filtering by application, period, contact(s) and type(s) of communication
- Community analysis
- Relationship visualisation and automatic reorganisation

Embedded data viewers

- Display extracted data and source information directly in the application
- SQLite databases, HEX, lists, documents (text, XML, PDF, MS Office), photos, videos and audio

Visualisation of the analysed data

- Map viewer for GPS and mobile mast location data
- Offline/Online map (view levels region/country/city)
- Timeline view
- Link-Viewer (Visualizer for social relations)
- Chat viewer
- Web browser view (for the history of Internet surfing)

Advanced data filter options

- Filtering by a variety of properties such as file system, signature and time
- Dynamic filter operators, sorting and grouping
- Search with regular expressions
- Character search - Supports the search for similar words
- Keyword registration
- Bookmarks for selected data

Analysis of new digital devices

- UAV data analysis - flight history, multimedia data, supports the manufacturer DJI/Parrot/PixHawk
- IoT device data analysis - AI speakers, smart TV, car navigation

Python scripting IDE for custom analysis

- Includes a Python script editor
- Supports code generation, execution and debugging and includes sample scripts

Case management and hash value verification

- Various case management functions
- Grouping of extraction images
- Hash value verification on a per image basis

Maximised performance

- High-speed analysis through multi-core CPU/GPU parallel processing
- Supports the execution of several instances of the programme (i.e.: one instance for each open case)
- Analysis status alert - pop-up message informs the user when forensically important data and history is found (i.e. initialisation history, data hidden applications, parallel space)

Reporting

- Supports hashing of individual files
- Supports export analysed multimedia
- Supports automatic report generation (PDF, Excel, HTML, XML, SQLite DB formats)
- Supports third-party reporting formats such as Nuix and Relativity
- Bundling function - bundle generated reports/outputs (exported folders etc.) into one MDF file

System Requirements	
OS	Windows 8/10 (all 64bit)
CPU	i7 or faster
RAM	8GB or more
Storage	1TB or more
Display	1024 x 768 or higher
USB	1 or more USB 2.0 ports
Microsoft.Net framework 4.6.2	

Product components

- **PKI 8435** installation software (USB/Online)
- USB dongle key
- External HDD for WeChat analysis

PKI 8440 Cloud account forensic Software

Digital forensic software for extraction and analysis of cloud accounts. **PKI 8440** is an intuitive digital forensic software tool for the extraction and analysis of data from the cloud. It supports a wide range of cloud services as well as a variety of other data sources such as E-Mail, IoT devices and social media accounts.



Specification
Product highlights
Supports extraction from global cloud services like Google and iCloud
Supports extraction of cloud based IoT device data
Supports the extraction of cloud services based in East Asia, such as Baidu and Naver Cloud
Provides automatic evidence tagging function for intuitive search
Authenticates via ID and password, two-factor authentication, captcha and token credentials found locally on smartphone images such as iOS keychains
Includes an automated web scraping tool for recursively capturing public web pages
Integrates seamlessly with PKI 8435

System requirements	
OS	Windows 8/10 (All 64bit)
CPU	i5 or faster
RAM	4GB or more
Displays	1024x768 or higher
USB	1 or more USB 2.0 ports
Network	Internet connection via wired or wireless LAN

Supports a variety of cloud services

- Google, iCloud, Samsung Cloud, Naver Cloud, Evernote, One drive, Baidu

Supports e-mail extraction

- POP3 and IMAP, and special support for Gmail and Naver Mail

Supports extraction from social media services

- Current support for Twitter and Tumblr, with Facebook support being actively developed

Specialised in East Asian cloud services

- Baidu cloud in China - Naver cloud in South Korea

Capture cloud-based IoT device data

- KI speakers and smart home devices
- Supports authentication via public and unofficial APIs

Supports various authentication methods

- ID and password
- Captcha image tests
- Two-Factor Authentication Messages
- ID card data extracted from smartphone dump images (such as iOS Keychain)

Provides an automatic web capture function

- Automated web crawler capable of recursively extracting from a target web page

Real-time monitoring of the extraction progress

- Shows the progress of running extraction jobs in real time, from zero to one hundred percent

Product components

- **PKI 8440** installation software (USB/Online)
- USB dongle key

User-friendly interface

- Characterised by a simple, intuitive and effective user experience that requires little training

Native PKI 8435 integration

- Imports credentials information found in suspicious smartphone images analysed in **PKI 8435**

Intuitive search function based on 'evidence tagging'

- Automatically labels and categorises data as it is extracted from the cloud so that it can be quickly searched, grouped and organised

Integrated data preview

- Supports the preview of all selected images, videos, documents, websites, emails and much more

Web capture function

- Supports web acquisition when cloud acquisition does not provide an API

Real-time status check of the acquisition

- Monitors data acquisition in real time

Simple user-friendly use

- Intuitive user interface and fast data extraction

Supports filtering by date range and file type

- Allows users to limit the results of their analysis only to the period and file types relevant to their case

Securing data integrity on a hash basis

- Guarantees the integrity of evidence data through powerful hash algorithms such as MD5 and SHA256

Reporting

- Provides a reporting tool that supports both PDF and Excel formats

PKI 8445**Hardware for directly data extraction**

PKI 8445 is a forensic hardware solution to extract data directly from the main board of a phone via the JTAG interface. In cases where the main board of a mobile device has survived despite external damage to the phone, a forensic examiner can connect **PKI 8445** to the phone via the JTAG interface.

**Specification****Product highlights**

- Physical extraction for the motherboard with JTAG
- Applicable to the damaged mobile device
- Various Mobile CPU support
- Faster and robust extraction function
- Write protection and preservation of evidence
- Save data image file with **PKI 8430**

Hardware Specification

Dimensions	75 x 120 x 18mm
CPU	ARM9
RAM	64Mbytes
Input voltage	DC current 5V/2A
JTAG clock	1KHz ~ 50MHz
Connector type	20-pole connector
Target voltage	1.8V ~ 5.0V

Key features**Data extraction from the board with JTAG interface**

- Forensic hardware to read data directly from the mobile device's motherboard using the JTAG interface
- Advanced extraction functions
- Automatic scanning of partitions
- The selected partition extraction
- Extraction without reference voltage - DMA (Direct Memory Access) type extraction
- Resume extraction of the stopped point

Excellent extraction performance

- Max. 1MB/sec extraction capacity

Ensuring the integrity of evidence data

- Write protection of the evidence data
- 10 hash algorithms like MD5 and SHA256

Mobile CPU support

- CPU family MSM6XXX, MSM7XXX, APQ, Exynos, OMAP, Cortex-A, X-scale series

Ensuring the integrity of evidence data

- Write protection of the evidence data
- 10 hash algorithms like MD5 and SHA256

Product Components

- **PKI 8445** Hardware
- Probe connection
- Main adapter
- USB cable

JTAG cable holder

- FPCB connector cable sets
- Manual connection by soldering

Saving image files with **PKI 8430**

- Saves data as MDF image file with **PKI 8430** software

PKI 8450

Hardware extracting data from Chip-off memory



PKI 8450 is a forensic hardware solution for extracting data directly from flash memory extracted during chip-off forensics. Once the flash memory is installed in one of the memory sockets of **PKI 8455**, forensic scientists can extract data using the chip-off feature of **PKI 8430**.

Specifications	
Dimensions	110 x 140 x 35mm
CPU	Samsung S5PV210
RAM	DDR256M
Memory	NAND 512M
Input Voltage	5V

Product highlights

- Supports data extraction from chip-off flash memories
- Supports heavily damaged mobile phones or digital devices
- Supports 10 types of eMMC/ eMCP memory sockets
- Supports universal SD memory socket
- Excellent extraction performance
- Write protection and preservation of evidence
- Save data image file with **PKI 8430**

Main features

Data extraction from chip-off flash memory

- Data extraction from the flash memory of mobile phones or digital devices that have been severely damaged by fire, water or external shock

Supports 10 types of eMMC/ eMCP memory sockets

eMMC memory socket (5 types)

- BGA153 eMMC - 11.5 x 13 x 0.5mm
- BGA169 eMMC - 12 x 16 x 0.5mm
- BGA169 eMMC - 14 x 18 x 0.5mm
- BGA100 eMMC - 14 x 18 x 1mm (option)
- BGA136 eMMC - 10 x 10 x 0.5mm (option)

eMCP memory socket (5 types)

- BGA186 eMCP - 12 x 16 x 0.5mm
- BGA221 eMCP - 11.5 x 13 x 0.5mm
- BGA162 eMCP - 11.5 x 13 x 0.5mm (option)
- BGA254 eMCP - 11.5 x 13 x 0.5mm (option)
- BGA529 eMCP - 15 x 15 x 0.5mm (option)

Universal SD memory card socket

- SD card, Mini-SD card, Micro-SD card

Selected Partition Extraction

- Automatic scanning of partitions
- Extraction for selected partitions

Excellent extraction performance

- Max. 12MB/sec extra capacity

Ensuring the integrity of evidence data

- Write protection of the evidence data
- 10 hash algorithms like MD5 and SHA256

Save image file with PKI 8430

- Saves data as MDF image file with **PKI 8430** software

Scope of delivery

PKI 8450 Hardware

Socket of eMMC or eMCP 5 pieces (5+ socket as option)

Universal SD memory card socket

Network adapter

USB cable

Monthly update license for new models

PKI 8455 Hardware detaching package

Digital forensic hardware package to detach the memory from the motherboards of mobile phones and other digital devices. **PKI 8455** is a forensic hardware package solution for removing the memory from the motherboard of a mobile phone or other digital device. If a device has been damaged by physical force, fire or water, **PKI 8455** can perform chip-off forensics.

PKI 8455 includes five flash memory sockets for **PKI 8450**, a heat fan, soldering station, fume extraction unit and microscope, as well as optional components such as a mobile device dryer, rework system and mobile device security box.

Specifications

Indispensable devices for manual memory removal

Optional automatic finishing machine, dryer for mobile devices and safety box

Key features

PKI 8455 standard models

- 5 Flash eMMC/ eMCP memory sockets for **PKI 8450**
- Heat fan for dismantling work
- Support for manual soldering
- Fume extraction for soldering work
- Microscope - zoom stereo, 3,5x ~ 180x, illumination
- Digital microscope with HDMI/USB for PCB inspection

PKI 8455 Optional devices

- Post-processing station
- Post-processing station for small PCBs (BK-350S)
- Optimised for the revision of mobile phones



Mobile equipment and PCB dryer

- Dryer for printed circuit boards and small digital devices (RG-202)

Security box for mobile devices

- Memory for mobile devices for smartphone and tablet
- Charging the battery during storage
- Sterilisation
- Digital locking system

PKI 8460 Professional On-Site investigation package

Robust mobile forensics hardware and software package for frontline investigators. **PKI 8460** supports professional on-site investigations and allows data to be extracted and analysed directly at the crime scene.

Specification

Product Highlights

- **PKI 8430/ PKI 8435** pre-installed laptop
- Mobile forensic all-in-one package for on-site investigation
- Adaptable package components

Laptop Specification	
Operating system	Windows 8/ 10 (all 64 bit)
CPU	i/ or faster
RAM	8GB or more
SSD	1TB or more
Displays	1024 x 768 or higher
USB	2 or more USB 2.0/ 3.0/ 3.1 ports
Microsoft.Net framework 4.5	

Key features

Supports data extraction at laboratory level

- Supports all logical and physical extraction possibilities on site

Supports temporary command center

- Functions as a mobile forensic control tower at the exact spot where the accident occurred

External camera for chain custody

- Photography of evidence and recording of the investigation process with an external camera for the chain of custody

Supports all necessary forensic accessories

- A USB cable, SD reader, USIM reader, USB hub, external camera and external hard disk

Components of the package

- Robust carrier
- **PKI 8430/ PKI 8435** installation software (USB/ Online)
- USB dongle key
- Powerful laptop
- 5 types of smartphone cables (5, 8, 20, 30, C-type pin)
- HD External Camera
- External HDD (for Wechat multi-account analysis)
- SD reader
- USIM Reader
- USB-Hub
- Portable printer



PKI 8465

Digital Forensic Software

PKI 8465 is a software tool for extracting and restoring video files directly from damaged video files, as well as from media storage devices such as floppy disks and memory cards.

Key features of PKI 8465

Forensic video data from CCTV, auto black box, smart phone, media storage

- Global manufacturers IP-CCTV and major manufacturers of auto-dashboard camera, smartphone, desktop, server, camera, camcorder and drone, portable devices and embedded systems

3 types of video data sharing

- Supports mounted memory like a hard disk through physical connection
- Supports binary plate images of DD, E01, BIN and MDF
- Supports files or folders containing damaged or deleted files

3 types of video recovery

- Restoring the file system
- Video file signature recovery (DAV, Mp4, MOV, MKV, MPEG, SSF, AVI, ZAV, PS)
- Recovery of video images (h.264, H.265, MPEG-4, M-Jpeg)

Supports different file systems

- Supports automatic file system detection
- FAT 12/ 16/ 32, NTFS, esFAT, HFS+, EXT3/4, TATA16, HIKVISION, DHFS4.1, XFS, F "FS, VDFS
- Supports the DVR manufacturer's file system - HikVision, Dahua, Zhiling, Samsung, Bosch, Honeywell, Sony, Panasonic, etc.

Support with PKI 8465 is provided as follows

Supports various video codecs

- Supports H.264, H.265, MPEG4, M-Jpeg
- Adjusting the H.264 resolution for recovery
- HEVC (H.265) recovery and media playback with ios 11 or higher model
- Supports video file sampling codec and smartphone codec
- Custom codec parameter setting

Supports scanning of video files

- Scanning of frames and file formats
- Scan deleted and damaged files

Recovery of video images

- Reconstructs the frame of video files
- Extracts picture frames with images
- Supports thumbnail preview and image view

Supports audio file recovery

- Supports the recovery of audio files for the SILK format

Restoring the selected partition

- Supports automatic scanning of the partition
- Supports the recovery of the selected partition

Multi-core CPU/ GPU acceleration

- Recovery acceleration of the multi-core CPU
- Detection of object acceleration with multi-core GPU (planned)



Specifications	
Product Highlights	Supports preview, recovery and analysis of video data from CCTV, dashboard camera, camcorder and smartphone
	Supports various DVR file systems, video formats, video codecs
	Regenerate video with restored video image
Bookmarks, filtering, indexing	Supports bookmarking for investigation and report
	Supports file and frame arranging, filtering and indexing
Extracts time information	Obtain time information for image files through metadata analysis of each individual image
Built-in video player	Playback of multi-channel video
	Playback speed control (1/10X, 1/2X, 2X, 4X, 8X)
	Supports more than 300 image formats (MPS, AVI, WMV, MPEG etc.)
	DVR video file (DAV, ZAV, SSF)
	Video Steam Playback
	Audio playback (QCP, SILK, etc.)
Data viewer	Frame picture viewer
	HEX viewer
	File viewer
File/ Format Converter	Exporting the original or converted file
	Supports multi-channel image separation memory when extracting files
	Supports restored single images for conversion to JPG and PNG format
	Supports conversion of video files to AVI and MP4 format
	Supports conversion of audio files to MP3 and AMR formats
Ensuring the integrity of evidence data	Guarantees the integrity of evidence data based on powerful hash algorithms such as MD5 and SHA256
Reporting functions	Supports report formats such as PDF and Excel
System requirements	Operating system. Windows 7/8/10 (64bit)
	CPU: i7 or faster
	GPU: 1 or multiple multi-core GPU cards for acceleration
	RAM: 32 GB or more
	Storage: 8 TB or more
	USB: 2 or more USB 2.0/ 3.0/ 3.1 ports
	Microsoft.Net framework 4.6.2
Product Components	MD-VIDEO installation software (CD/USB/Online)
	USB-Dingle key 1EA

PKI 8470**Customized complete Forensic Set for training and education**

Complete set of mobile forensic tools adapted for education and training. **PKI 8470** is the complete set of mobile forensic tools specifically designed for mobile forensic training.

PKI 8470 consists of the test materials and the academic version of **PKI 8430**, **PKI 8435** for in-depth mobile forensic education and training of the latest mobile forensic technology.



Specifications

Product Highlights

- Provides an academic version of **PKI 8430** and **PKI 8435**
- License and material set for 1, 5, 10, 20 users
- Offers various data readers - SD readers / USIM readers / chip-off memory readers
- Adaptable package components
- Offers a complete set of academic tutorials

Offers a complete set of mobile forensic training

- Tutorial for training such as basic theory and practical guide academic version of **PKI 8430**
- Academic version of **8435**

Designed for the practical mobile forensic practice

- Provides examples of mobile forensic training; smartphone/ memory/ data reader

Designed for practical data analysis training

- Provides sample data for data analysis training

User-adapted package set

- **PKI 8470** can be adapted according to the number of users (1/ 5/ 10/ 20 users)

Components of the package
PKI 8470 carrier for 1/ 5/ 10/ 20 user package
PKI 8430 , PKI 8435 (academic version)
USB dongle key (1/ 5/ 10/ 20 users)
Samples of USIM cards
Samples of SD cards
SD Memory Readers
USIM readers
5 types of smartphone cables (5, 8; 20, 30, C-type pin)

Optional components
PKI 8450 Demo Set
Textbook copies
Training video
Sample of test phone
Example for chip-off memory

PKI 8475**Survey Detector**

The **PKI 8475** enables the detection of various types of time measuring devices such as mechanical, electromagnetic, electronic and other electronic devices based on their electrical, magnetic, acoustic and vibrating emissions. **PKI 8475** is characterised by its high sensitivity and easy handling, especially in terms of design.

Specification	
Dimensions (length / diameter)	510mm/ 34mm
weight	0,7kg
Power supply	4 x AA cells
Continuous operating time	30 hours
Indication	headphones
Operating temperature range	-5°C to +40°C

**Detected:**

- Electromagnetic time measuring devices up to 40cm distance
- Electronic timers up to 10cm distance
- Radio signal receiver up to 15cm distance

Inspection of:

- Aircraft
- RC IED or detonator with time delay
- The objects in question
- People search

PKI 8480**Non-invasive parametric detector**

PKI 8480 is designed for the non-invasive detection of various timing devices: Mechanical, electromagnetic or electronic in active mode and hidden multiple metal objects. **PKI 8480** is a special tool for covert detection. Suspicious objects can be inspected immediately.

Specifications	
Dimensions (without handle)	200 x 200 x 35mm
Weight	600g
Key signal	CW
Output power	10mW
Power supply	6x AA cell
Continuous operating time	10 hours
Operating temperature range	-5°C to +40°C

**Detects:**

- Mechanical and electromechanical timers at up to 5m
- Electronic timers at up to 1.2m
- Communication receiver at up to 1.5m
- Several metallic objects at up to 5m
- Checking the items in question for RC IEDs or time-delayed explosives
- Individual`s survey for suicide-bomber with body-worn pellet-bomb

PKI 8485**Weapon and Radioactive Detector**

More security by intelligent solutions. **PKI 8485** detects covert radioactive materials/ sources. It is a simultaneous measuring/screening tool for metal objects like weapons. This detector based on high-sensitive scintillation detector technology is indispensable for airports, harbours, access control at nuclear power plants, homeland security etc. **PKI 8485** is easy to handle at quick response time. It is an intelligent measuring electronic with independent evaluation of the signals received from the radioactivity detector and the metal detector. **PKI 8485** provides different clearly distinguishable alarm signals.

Specifications	
High- sensitive CsI-scintillation detector with photo multiplier	
Detector crystal approx.	20 x 20mm
Detection of γ -radiation	> 25keV
Detection of β -radiation > 200keV (medium β -energy)	
Physical detection limit 30 kBq Cs-137 in 2s with a scanning speed of 20 cm/s, a reduction of the detection limit is possible by reducing the scanning speed	
Well proven metal detector to detect smallest metal objects	
Weight (with battery)	Approx. 400g

**PKI 8495****Wireline control detector**

PKI 8495 is designed for object inspection in the field or on roads to detect explosives with electrical components, improvised explosive devices (IED), mines etc. It can also be used to inspect questionable objects, search for sabotage terrorist devices or search for hidden caches with weapons, ammunition or explosives. These special search requests can be controlled with **PKI 8495**. Especially this particular detector should not be missing in security teams or law enforcement agencies. It is well known to the relevant authorities that terrorists usually use wired IEDs, such as standard SPP-s detonating cables or telephone cables. **PKI 8495** detects such IED command lines with a length of over 20m and underground at a depth of max. 30cm at a distance of 4m from their connections.

Specifications	
Weight	3,3kg
Power supply	6 AA cells, 2.5Ah
Start-up time	Under 10 minutes
Search speed	3 -5km/h
Detection operating accuracy	Not worse than +/- 10cm
Continuous operating time	About 10 hours
Operating temperature range	-40°C to +50°C
Humidity	Up to 100%

**Advantages:**

- User-friendly design, the device can be easily adjusted to the operator's measurements, surface relief and the height of the given vegetation
- Short RC IED wire detection (from 20m and longer)
- Two operating modes:
 - Unknown wire detection
 - Detected wire tracking
 - Audio display
 - LED display:
 - Signal level in wired search mode
 - direction of deflection from the detected conductor path
- LED display for the status of the power source together with the continuous voltage control
- Possibility of operation with separate generator and receiver modules

PKI 8500

PKI 8505

Banknote Validator

Most of the banknotes, cheques, bank cards, etc. contain fluorescent substances that intensively light up under ultraviolet (UV) light. In general, counterfeit notes do not contain these substances so that exposure to UV light offers sufficient protection from counterfeit notes. Due to the increasing criminality, these devices become indispensable in the private as well as in the professional sector. The **PKI 8500** is designed for mobile use and the **PKI 8505** for use in the office or private houses with 230V power supply.

Specifications	
PKI 8500	
Power supply	4 batteries type AA
UV tube	130mm length
Dimensions	165 x 55 x 23mm
PKI 8505	
Power supply	230V / 50Hz
UV tube	4W
Dimensions	Approx. 180 x 60 x 120mm



PKI 8515

Handheld Explosives and Drug Detector

Our **PKI 8515** is a portable detector for different kinds of drugs, black powder and explosives. **PKI 8515** comes in a fashionable design with top advanced IMS technology. The detector has got an extremely high sensitivity - it can reach 100 Nanogram level. **PKI 8515** can detect the following drugs: Cocaine, opiates (Heroin and Morphine), cannabis (Marijuana and Hashish) and amphetamine-type stimulants (amphetamine, ecstasy and methamphetamine). **PKI 8515** can identify the following explosives: A variety of military, civilian and homemade explosives: Black Powder, AN, TNT, DNT, Tetry, PETN, Gun Powder, NG, RDX etc.

Highlights:

- High sensitivity: can detect at least 100ng powder
- High speed identification and accurate result
- Advanced migration tube ensures high resolution
- Automatic cleaning system
- Renewable gas purification system
- Unlimited storage, USB port to output the data



Specifications	
Weight	4,3kg
Dimensions	450 x 160 x 200mm (LxWxH)
Power	AC 187- 240V 50/60Hz
Operating temperature	-10°C to +55°C
Rechargeable battery	At least 2 hours
Display	2,8-inch TFT color touch screen
False alarm rate	Less than 1%
Built-in clearing system	Clears the system within 10 seconds
Warm-up time	Within 15 minutes
Analysis time	Less than 5 seconds
Sensitivity limit	100ng TNT
Alarm	Audio and visual alert

How to use PKI 8515:

1. Prepare testing stick and get sampling paper ready
2. Take sampling
3. Insert the sampling paper
4. Check the test result

PKI 8520 Gas Warning Device

This carbon monoxide detector should be installed in any garage, workshop or household. The measuring range is divided into 3 different concentration levels: 50, 100, 250ppm and an alarm is given by an acoustic and optical signal. An LED light indicates a low battery level. The use of the **PKI 8520** is as easy as can be. Turn on and ready to work. The built-in sensor permanently examines the absorbed air and analyses it by means of its microprocessor. In case that the gas concentration found is too high, the corresponding alarm will be given.


Specifications

Power supply	4x batteries type AA power plug
Dimensions	14 x 7 x 3cm

PKI 8525 Alcohol Tester

Don't take the risk to drive after alcohol consumption. Birthday parties or dinners with friends; there are various occasions where you are tempted to drink only 1 or 2 glasses of beer or wine. You will never know if the alcohol concentration in your blood exceeds the limit of 0.5 per mille in Germany. Our **PKI 8525** alcohol tester gives you the exact value of your alcohol concentration within a few seconds.


Specifications

Dimensions	120 x 65 x 27mm
Weight	20g
Power supply	2 batteries type AA
Accuracy	0.005% at 0.05% BAC
Memory	5 test results
Miscellaneous	Exchangeable mouth piece, car adapter

PKI 8530 Geiger Counter

This Geiger counter measures alpha, beta and gamma radiation. Continuous measurement of radioactivity with data storage is possible and ranges from low environmental radiation levels of 0.01mSv/h up to high radiation levels of 1000mSv/h (legal limit value 20mSv/h per year). The 10-key keypad offers a variety of information possibilities. The device comes with a CD-ROM containing a menu-driven Windows analysis software. The **PKI 8530** provides dosimeter function and display of the cumulated radiation level and also measures minimal changes of the radiation levels in your environment. Countable pulse resolution of 1 count per min., per 10 min, 1h, 1 day or 7 days is possible.

Specifications

Power supply	Lithium battery
Gamma radiation	As of 0.02MeV
Gamma sensitivity	95 pulses/min. at 1mSv/h
Operating time	117,000h at 20 pulses/min.
Dimensions	70 x 161 x 30mm
Weight	153g
Alpha sensitivity	From 4MeV
Beta sensitivity	From 0.2MeV
Gamma sensitivity	From 0.02MeV
Serial interface	



PKI 8535 Electromagnetic Pollution Detector

With this device, the electromagnetic pollution from pulsed high frequency in your environment becomes audible. Electrical devices, increasingly sophisticated, are almost constantly used everywhere in our day-to-day life. Unfortunately, this is not always an advantage. People do not all the time give enough consideration to the impact of electromagnetic radiation so that more and more people suffer from adverse health effects. With the **PKI 8535**, you can hear electromagnetic pollution produced by mobile phones, wireless DECT phones and other devices. Its use is most simple; just push the button to do a first check of your personal environment.

Specifications	
Power supply	1 x 9V battery
Dimensions	147 x 85 x 42mm
Remarks	No quantification of electromagnetic pollution, indication of presence only.



PKI 8540 Display Radiation Indicator

Protect yourself from display radiation! In the era of computers and telecommunication, video displays and screens constitute an increasing part of our private and professional life. Even our children spend most of their time in front of video displays. Quite frequently, they linger in front of the TV at a distance of just a few centimetres in order to be as close as possible to their heroes. In doing so, they expose themselves to a high risk as everyone sitting too close to a PC or a TV set. Everybody knows that video displays produce various types of radiation affecting our health. The radiation intensity varies from device to device. This is why it is difficult to determine at what distance the radiation is innocuous. The **PKI 8540** helps you to find out at what distance the radiation of your TV set does not present a danger. LEDs and an acoustic signal indicate if the person stays within the unhealthy distance to the video screen. Invaluable in your office as well as in your house in order to protect your own and your family's health.

Specifications	
Dimensions	120 x 55 x 24mm
Weight	70g
Power supply	9V battery
Display	Acoustic signal and LED



PKI 8545 Ultrasonic Converter

Listen to the cries of bats. The audible range of a human being only covers a minor part of the existing sound spectrum. Normally, very interesting sounds, such as cries of bats, noises of leaves in the wind or even the sound of ultrasonic remote controls and various alert sensors, are not audible to the human ear. Our new ultrasonic converter transmits these signals into an audible range and thus offers multiple interesting acoustical experiences. Equipped with a high-quality NF microphone covering an extended frequency range up to 100kHz, the **PKI 8545** converts these high frequencies into the frequency range that can be heard by human ears. Also, very useful to detect devices emitting ultrasounds, some of them of extremely high intensities. It is not excluded that these ultrasounds have a negative impact on the human well-being and at high intensities may possibly cause headaches or other adverse health effects. The **PKI 8545** helps finding those sources of interferences.

Specifications	
Power supply	9V battery
Dimensions	140 x 77 x 24mm
Microphone	100kHz
Operating method	Conversion of the high ultrasonic frequencies into audible frequencies



PKI 8550**Metal Detector for Gold, Silver, Iron in Depths up to 3.5m**

This metal detector meets the highest expectations of the exigent metal prospector. It has been developed to locate small, medium-sized and large metal objects and indicates them by a corresponding signal. This especially solid device allows the detection of metals in extreme depths and ignores the toughest ground conditions. Special technical features, such as adjustable frequency, various search programs, pinpoint for non-motion detection, are of course a must for this high-tech metal detector.

Specifications	
Search coil	Ø 30cm
Search depth	Up to 3.5m
Weight	Approx. 1.8kg
Power supply	Rechargeable batteries, incl. charger
Special features	Discrimination between gold and silver
	Discriminator manually adjustable
	Automatic ground balance control
	Indication of depth
	Identification of found object
	Various power levels available
	Different search modes available

**PKI 8555****Gold Prospecting Metal Detector**

Already several thousand years ago, gold has been used as a means of payment. Gold had its importance in every era and people often just buried their treasures somewhere. Today, it is a challenge to locate and to retrieve them. The pulse induction system allows exact discrimination between different types of metal. With the **PKI 8555**, you can now locate gold at extreme depths. This is possible due to its digital dual processor technique and its automatic measurement processing. The graphic display shows the optimal tuning. Metal detection is indicated by optical and acoustic signals.

Specifications	
Display	Graphic
Power supply	Rechargeable battery, charger included in the package
System	Pulse induction circuit of the 5th generation
Pulsating power	430 (250ms)
Frequency	500Hz / 650Hz
Operating time	4 - 6 hours depending on pulsating power
Dimensions	780 x 180 x 95mm Search coil: Ø 280mm
Weight	1.8kg
Search depth	2.8m



PKI 8560 Top Quality Metal Detector

The **PKI 8560** has been developed for professional use and leaves nothing to be desired. A large display shows all necessary details. Detections are indicated by acoustic signals via the integrated loudspeaker. Of course, the **PKI 8560** is equipped with a headphone socket for silent search. Its sensitivity allows the detection of an object having the size of a 1 Euro coin at a depth of 25cm. Extremely easy to use due to its digital measurement processing.

Specifications	
Power supply	2 x 9V batteries
Dimensions	720 x 230 x 150mm
Weight	2.8kg
LCD display	Directional arrow, depth sensor, ground balance, battery life
Audio output	2.5" loudspeaker or headphones
Metal detection	3 different sounds for different metals
Control button	Switchable for volume and ground quality
Switchover	Mode, adjustment (+/-), ground inspection, entries


PKI 8565 Underwater Metal Detector

How often did you wish to have a professional underwater metal detector with you while on a dive. What a pleasure to unexpectedly find something valuable! We can supply the technical equipment for this. Easy to handle, high sensitivity (locates metallic objects having the size of a 1 Euro coin at a depth of up to 20cm) and resistance to depths of up to 40m make the **PKI 8565** your reliable companion. The device can detect and distinguish various metal types which are indicated by different LED lights or acoustically via piezo earphones. It can be used in seawater and fresh water.

Specifications	
Max. depth	Up to 40m
Housing	Aluminium
Sensitivity	1 Euro coin at a depth of up to 20cm
Alarm	Optical and acoustic
Emission of different signals on detection of different metals	
Power supply	9V battery
Operating time	20 - 40 hours
Search coil	Ø 28cm
Search frequency	2.4kHz
Resonance frequency	400Hz
Functional principle	Pulse induction circuit
Dimensions	Approx. 680 x 90mm diameter
Weight	Approx. 3.8kg



PKI 8570 Portable Magnetometric Gradiometer

PKI 8570 can be used for the detection of ferromagnetic objects such as unexploded ordnance or other explosive objects in soil or water. **PKI 8570** is intended for humanitarian demining and other special operations.

Specification	
Weight	2,7kg
Operating time (continuous)	More than 8 hours
Operating principle	Magnetometric gradiometer
Max. detection depth of 100mm artillery shells	Not less than 2.5m
Max. detection depth of 152mm artillery shells	Not less than 3.5m
Max. detection depth of an aircraft bomb FAB-500	Not less than 5m



Features:

- Significant depth of detection of unexploded ordnance
- Possibility of scanning & detected ferromagnetic object position
- Can be used as part of a versatile integral system for ferromagnetic object detection.
- Ability to detect explosives at a depth of up to 7m
- Possibility of adapting the device profile to the requirements of the real task

PKI 8580 Various Pyrotechnical Products

For more than 50 years, we **PKI ELECTRONIC INTELLIGENCE GmbH** have been working with prominent government authorities all over the world. Due to many important enquiries, we have decided to complete our already extensive range of products by including pyrotechnics. To back this up, we are proud of our very special relationship with the world's leading pyrotechnic manufacturers. Please do not hesitate to contact us. We will answer promptly. We are sure that our new programme will satisfy your requirements. The complete range of available pyrotechnics cannot be shown on just this one page, but we would like to give you a short summary. Our range of pyrotechnic products includes:



- Signal flares of various colours (red, green, yellow and white), different calibres and with or without parachute.
- Coloured smokes and screening cartridges
- Alarm and training devices like thunderflashes, alarm flares and gun fire simulation units
- Personal protective devices like dazzle and shock grenades, CN/CS or pepper spray canisters
- Distress items like hand flare or hand smoke devices in different colours and with various burning times.

Whatever you are requiring in the field of pyrotechnics, please let us have your enquiry and we shall send you full technical information on each item. Please ask for our special catalogue.

PKI 8900 V1 + V2 Blasting Machine

This industry proven blasting machines offer great firing capacity in a small, rugged, and compact design. The solid state circuitry assures excellent reliability and service life. The **PKI 8900 V1** has a 35-cap firing capacity and **PKI 8900 V2** has a 65-cap firing capacity. Both units operate on a 9 volt battery.


Specifications:

Model	Volts	Energy	Capacity		Weight [Shipping Weight]	Size	Power Source (ALKALINE Batteries)
			Single Series	Parallel Series			
Version 1	225	2 Joules	35	Not recommended	0.8lbs. (0.3kg.) [2lbs. (1kg.)]	Inch: 4.1 x 2.2 x 3.6	One 9 volt Eveready 522 or equal
Version 2	450	4 joules	65		0.6lbs. (0.3kg.) [2lbs. (1kg.)]	Cm: 10.5 x 5.6 x 9.0	

PKI 8905 Vapour Tracer & Analyser

This vapour tracer and analyser is the only portable, real-time, ultra-fast analyser available on the market, that detects and identifies all types of vapours and traces of organic, biological and chemical compounds accurately and in extremely short time. Therefore, this new equipment is used by law enforcement and military organisations for detection of explosive devices and all types of narcotics. The vapour analysis technology is based on surface acoustic wave sensors and flash chromatography, which allows the fragrance or odour that is associated with specific chemical processes or products to be chemically analysed and quantified, in parts per billion accuracy, and this within only few seconds.



Specifications	
Sensitivity	Analyses vapours within 10 seconds in parts per billion for most compounds detects hydrocarbons in the range of C4-C25, sensitivity will vary by compounds sampling time, matrix, interferences and detector temperature settings
Detector	Surface acoustic wave - quartz microbalance
Sensitivity temperature	0°C to +125°C programmable
Sampling	Internal sample pump, Sample introduction - 5ml/sec Time programmable from 1 - 300 seconds Sample absorbed into internal tenax pre-concentrator
Column heater range	Isothermal operation: 40°C to +180°C or 5°C above Ambient Column ramping: isothermal or ramped for 1 - 18°C/second
Carrier gas	Helium, typical usage is 300 tests per day with one helium charge
Analysis time	10 - 60 seconds
External input/output	Remote start input Digital output information
Dimensions	30 x 25 x 15cm
Weight	9.1kg
Power	100 - 260VAC at 250W max.

PKI 8975 IED and UXO detector for vehicle protection

PKI 8975 is designed to provide a visual and audible signal when an explosive device is detected. This extremely compact **PKI 8975** system consists of a search antenna with on-board electronics, a support frame, as well as mounting adapters and a signal unit for the vehicle cabin. The space underneath and to the sides is covered by an antenna. This electromagnetic detection screen enables the inspection of the vehicle. The **PKI** technology is 100% digital and based on electromagnetic induction (EMI). Furthermore, **PKI** uses only special materials that protect against mechanical shocks.



Specifications	
Dimensions	2520 x 1020 x 63mm (electronic shield)
Dimensions	2500 x 1000 x 5mm (antenna and electronics)
Weight	215kg
Operating height above floor	750mm above floor
Floor levelling	Automatic
Vehicle attachment	Quick attachment through high-strength support at fixed anchorage points. Fits most types of vehicles.
Installation	Front installation at 2 metres from the vehicle
Reference vehicle	Cougar
Operating principle	EMI - Electromagnetic Induction
Technology	Antenna with on-board electronics
External interface	Power cable, communication cable
Power supply	20 - 30VDC, 35W max.
Type of alarm	Visual and audible alarms emitted to the antennas placed in the driver's cab and terminals connected via serial link
Operating speed	0 - 5km/h the speed is not limited and depends on the breams reaction time of the vehicle.
Target detection	UXO and IED metals
Operating temperature	-20°C to +70°C
Protection class	IP68
Autodiagnosis	Self-diagnosis system that detects non-functioning components and cable breaks.

PKI 8980 Walk Through Temperature Detector

The **PKI 8980** Walk-Through Temperature Detector is **PKI's** latest ground-breaking invention. It is designed to contain an efficient and completely non-contact temperature measurement system that detects epidemic fever. This extraordinary device from **PKI** is so effectively designed to check people to determine if they have a fever or not. The device is completely made of weatherproof aluminium and has a very reliable electronic circuit. This allows professional operation in any kind of indoor or outdoor use. The range of use is therefore almost unlimited. The **PKI 8980** can easily be installed in front of any entrance, e.g. in public places, stadiums, shopping malls, shops, schools, hospitals, hotels, exhibition centres and other places where people need to be examined for danger.

Our highly sensitive **PKI 8980** Walk-Through Temperature Detector is available in an extended version. With this even more impressive model it is also possible to detect metal, which makes it feasible to detect weapons.

With this all-in-one device from **PKI** you are armed against all kinds of attacks.

Test Methods:
Non contact measuring



LCD display & Network Support

Display:

- 1. Passengers No.
- 2. Alarm No.
- 3. Real Time No.
- 4. Date & time



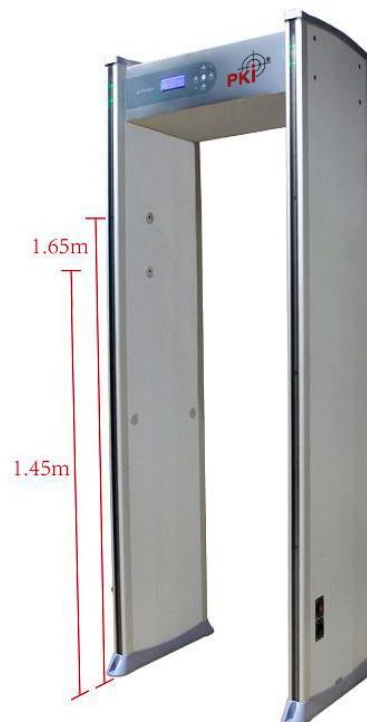
Network Software:

- Remote to check real time temperature in control room
- Summary data and view previous record
- Support multiple doors to connect to computer at the same time



Specifications	
Power supply	AC85V~264V/50 - 60HZ
Power consumption	≤20W
Accuracy	±0.1°C
Height of IR temperature sensor	1.45m & 1.65m (standard)
Alarm type	LED alarm & volume alarm
Alarm zone	1 zone
LCD display	Passenger & Alarm No. and temperature
Volume level	0 - 255 steps
Color	Grey & white
Communication interface	RJ45 (for option) - support display on monitor
Protection level	Password & hardware key
Inner Size	2000mm*710mm*500mm(H*W*D)
Outer Size	2230mm*830mm*580mm(H*W*D)
Function Metal detection	For option (6/12/18zones)
Package Size (2 cartons)	820*480*260mm / 2340*680*260mm
Net Weight	65kgs
Gross Weight	70kgs
Working environment 1	15°C to +35°C
Working environment 2	No direct sunlight
Humidity	0~95% non-condensing
Certifications	ISO, CE, ROHS, FCC

Two IR temperature sensors Height: 1.45m & 1.65m



PKI 8985 Portable Walk-Through Metal Detector

PKI 8985 is easy to install and disassemble, i.e. it can be set up and put into operation immediately anywhere if required. 18 detection zones, individually adjustable for sensitivity, provide exceptional detection of magnetic, non-magnetic and alloyed metals. The display is via a 7-inch LED screen. Commissioning is only possible for authorised security personnel via a password.

Specifications	
Dimensions	2.10 x 1.20 x 0.45m
Weight	32kg
Material	Polycarbonate
Power supply	Li-Ion Dual Batteries/ Charger 240V AC
Protection Performance	IP57
Self-testing Function	Built-in
Alarm Function	Alarm light, 2 different warning tones
Operating Temperature	-20°C to +65°C


PKI 8990 Portable Walk-Through Metal Detector

The **PKI 8990** Portable Walk-Through Metal Detector is the enhanced version of the former foldable detector. It is designed to detect dangerous weapons such as knives and pistols, even if these are concealed inside shoes or any other part of clothing. The unit is completely manufactured out of weather-resistant aluminium with highly reliable, battery-operated electronic circuitry. This provides a professional operation of 15-20 hours per battery load in each kind of in- or outdoor use independent of mains power. From this the field of application is rather unlimited. **PKI 8990** can easily be installed in front of any entry like prisons, boarder checkpoints, customs checks at sea- and airports, sport-arenas, fair-grounds and other places of events where persons have to be examined for dangerous goods.

Specifications	
Width	810mm
Height	2200mm
Depth	550mm
Package	110 x 68 x 70cm
Weight	35kg
Working power	AC 110-240V, additional recharging battery for 12-15 hours on request
Three sensor zones	With brilliant LED detection indicators
Head-to-Toe zone	Specific detection highly sensitive
Construction	Weather-resistant
Operating temperature	-20°C to +65°C
Assembly without tools	Single person in less than 5 minutes



PKI 9000 Digital Walkthrough Metal Detection Gate

PKI 9000 is globally used for the detection of suspicious metal objects. Whether in prisons, airports, bus stations, factories, banks, etc. The **PKI 9000** device has proven its value in every respect.

Our high sensitivity digital walkthrough metal detection gate uses excellent electromagnetic testing and digital processing technology, achieves high sensitivity as a tiny metal piece like a paper clip can be detected. Continuous detection without limited constituencies. Super anti-interference, auto frequency adjustable. Bilateral high-brightness LED alarm display.

Specifications	
Detection sensitivity	A needle can be detected (standard), a pin can be detected (typical)
Sensitivity level	255 level adjustable, totally 255 effective sensitivity
Detecting area	Sliding detecting area, available setup 4/8 fixed partition
Alarm time	Time of detection response; 0.3s, 1s, 2s, 3s, 4s, 5s adjustable, return to detection status automatically after alarm ends
Frequency setup	100 option frequency automatically
Audible alarm	10 volume levels adjustable, 10 tone levels adjustable
Display screen	5.7 inch LCD display screen
Preset working model	Total 10 working models, preset 5, self-definition 5
Alarm limits setup (analysis mode)	Setup the values of alarm limit according to the applications, no alarms when the conditions were not achieved
Size of the contraband display	The length of red and green warning lights show the content size of contraband
Operation authorization	Password protection function to avoid unauthorized change of setup
Throughput	120 people/min.
Counting function	100% counting the number of alarm an pedestrian (option), max. storage and display 999999
Light barrier connected	Connect & unconnect Anti-interference: detected environment interference automatically
Anti-interference capability	Normal working distance 30 cm, smallest distance can be 5 cm under special environment
Network (option)	Remote control data setup & inquiry function

Installation Data	
Size and weight	2235mm (L) x 838mm (W) x 705mm (H), 7 kg
Tunnel size	2055m (H) x 720mm (W) x 705mm (D)
Operating temperature/humidity	-20°C - +45°C / 0% - 95% (non-condensing)
Storage temperature/humidity	-40°C - + 60°C / 20% - 95% (non-condensing)
Power supply	AC 100V - 240V / 50-60Hz
Power consumption	30W



Features:

- precision number of bidirectional counting function
- pure digital processing technology, proprietary „multi-layer overlapping coil“
- auto detected, working time status display, self-diagnosis and audio-light alarm for failure
- super anti-interference ability, normal working distance is 30 cm, smallest distance can be 5 cm under special environment
- original „fly“ detection technology, detection performance not affected by any surrounding static and dynamic metals
- super environmental adaptive capacity, auto select best frequency, manual select 100 options
- made of high-strength materials, powerful ability of waterproof, fireproof, anticorrosive and shockproof
- 24 hours working normally under open-air and scorching sun

PKI 9005 Sprayer for Decontamination

This turbo sprayer is designed for interior decontamination / disinfection of tents, containers or buildings. Wherever a prompt and quick treatment against bacteria, fungi or insects is necessary, the use of our **PKI 9005** is indispensable. Its aerosol generator with highly efficient turbo system atomizes up to 38l disinfection liquid per hour.

Specifications	
Dimension	870 x 180 x 270mm
Weight	6.9kg
Content of tank	6l
Aerosol size	20 - 400µm
Spray distance	Max. 20m
Power supply	230V/ 50 Hz/ 1.0kW
Transport case	600 x 240 x 400m, impact-proof grey plastic



PKI 9010 Hot Vapor Producer

This **PKI 9010** high-performance thermal vapor device is designed for interior removal of decontamination agents (BDS 2000, Wofasteril SC250). Besides its plastic diaphragms no mechanical moving parts are built in, which allows long operation time without need for spares. All you need are standard batteries to start up the device.

Specifications	
Dimensions	133 x 29 x 33cm
Weight	9,3kg empty, 17kg full
Power of combustion chamber	18,7kW
Patrol consumption	2l/h
Patrol tank	1,4l
Overpressure in patrol tank	0,12bar
Content of agent tank	6,5l
Discharge pressure	0,4bar



PKI 9015 Decontamination Container

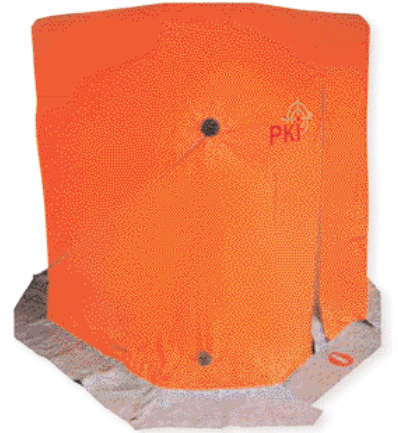
This universal environmental protection system has been designed for firefighting brigades wearing heavy C-protection suits at the place of an accident. It allows to take all necessary actions to pass from high contaminated area to safe area. Contaminated dirty water and other materials can be collected for further treatment or disposal. This autarkic system provides immediate decontamination of highly toxic hazardous substances.

Specifications	
Dimensions of container	5,50 x 2,45 x 2,30m
Weight	8 tons
Decontamination of persons	20 per hour
Decontamination of chemical protective clothing	8 per hour
Decontamination of vehicles	8 per hour
Operation pressure	30 - 140 bar
Volume output	300 - 900l/ hour
Operating temperature	30 - 150°C
Heating power	70kW
Power consumption	16kW, 230/400V / 50Hz



PKI 9025 Shower Tent for Decontamination of Persons

This mobile inflatable shower tent is designed for decontamination of persons directly on-site. The double walled tent construction offers privacy and protection from cold temperatures outside. 2 persons can take a shower at the same time. Outer tent and shower cubicle have a separate entry and exit. The tube frame is protected against over pressure by a safety valve. Installation of our **PKI 9025** Shower Tent is possible within 30 seconds.



Specifications	
Weight	45kg
Dimensions	2 x 2 x 2,5m
Packed	0,6 x 0,55 x 0,45m
Water consumption	8l/min.
Decontamination capacity	50 persons per hour
Various	If higher capacities are required, we can deliver shower tents for up to 240 people/hour.

PKI 9030 Hazardous Substance Combat Vehicle

Hazardous substances such as acids or chemicals which are set free at explosions or accidents have to be disposed of by trained personnel and suitable tools. The **PKI 9030** includes e.g. special diaphragm pumps of stainless steel, measuring devices, plastic containers, gas and acid protective clothing, light tower etc. These special devices are included in a fire truck and are part of standard equipment. Kindly let us have your specific enquiry, we will quote according to your requirements.



Specifications:

- On request

PKI 9035 Oil Barrier

Unfortunately, sometimes it happens that oil runs into a river, lake or ocean due to accidents or attacks. Our **PKI 9035** oil barriers have been designed to dam these oil spills. The barriers are floatable, seawater resistant and are made of aluminium and fibreglass. They follow the motion of the waves and can be enlarged individually by quick coupling. This prevents the oil spill from expanding and the oil can easily be pumped off.

Specifications	
Length	2,46m per unit
Weight	4kg/m
Colour	Red and orange
Diameter	20cm
Various	Correct positioning can easily be achieved by belts and loops.



PKI 9040 Lifting Bag

These lifting bags are available in different sizes from 11 to 67 ton lifting weight. The **PKI 9040** is designed for lifting extremely heavy devices, for rescue of buried people or enlargement of wall holes where other presses fail due to lack of space. A steel reinforced plastic bag is filled with 8 bar air pressure, which extends the bag and lifts up the device. Of course, more than 1 lifting bag can be used simultaneously.



Specifications	
Lifting weight	11 to 67 tons
Pressure	Up to 8 bar
Weight	4,3 - 33,3kg according to size

PKI 9045 Life Raft

When **PKI 9045** is launched into the water the hose cells are automatically filled with air within only 60 seconds. Once inflated, the life raft can accommodate up to 10 people. Life jackets, distress signs, first aid kits, food - all these things are stored inside the life raft. The upper tent can be closed and is waterproof, so that no water can come inside. This life raft is the perfect equipment to save lives!



Specifications	
Weight	Approx. 52kg
Dimensions (folded)	181 x 158 x 87cm

PKI 9050 Drinking Water Producer

Drinking water is a prerequisite for survival. In many cases, certain incidents aggravate this so that the **PKI 9050** can be indispensable in the event of earthquakes, combat missions or terrorist destructions, etc. We herewith offer a complete system incl. pumping, filtration, purification and storage.

Specifications	
Purification	
Technology	Electrolysis of salted water
Definition	12h per 1.5l of chlorine concentrate of 6000ppm
Ergonomics	30cm, 150g
Period of use	Approx. 2 years for a normal usage
Pump	
Technology	Diaphragm pump
Flow	19l/min.
Power	25W
Service life	50,000 hours
Filtration	
Technology	6 levels of filtration + UV
Definition	300l/day, 0.1nm
Ergonomics	7kg, portable in a backpack
Period of use	Approx. 2 years for a normal usage
Flexible tank	
Ergonomics	Portable, light
Volume	150l to 300l
Ecological	Material 100% recyclable, 1000g/m2
Contamination	Impossible with the external environment, no algae
Resistance	400DaN/5cm



PKI 9055 Drinking Water Container

There are not only terror attacks, but also earthquakes, wars, droughts etc. where drinking water is needed. In all these cases the most important thing is to provide the people with water. The **PKI 9055** drinking water container is the perfect solution. The container with built-in water tank can be used anywhere and can easily be transported by plane, ship, truck or train. Furthermore, it is comfortably stackable and is approved for civil and military operation.

Specifications	
Dimensions	20" container or according to customer's request
Approval	BAM, US DOT, DOT (UK) TC, SELO
Power pack	Chlorination, UV, double-pressure pump and heating/cooling systems
Material	Stainless steel
Capacity	1000 - 18.000 litre, according to size
Operating temperature	-45°C to +80°C



PKI 9060 Foldable Drinking Water Tank

With the **PKI 9060** drinking water tank the supply with drinking water is not a problem anymore, even far away from sources. It is indispensable, especially in cases of emergency. When empty this foldable drinking water tank can easily be transported.

Specifications	
Dimension folded	0,6 x 0,6 x 0,8m
Weight	11kg
Dimension unfolded	2,9 x 2,43 x 0,8m
Capacity	3000l
Material	Top-quality
Outlet	3 way manifold



PKI 9065 Anti-Riot Water Cannon Truck

PKI 9065 has effective ability to disperse the riot crowd. As one of the most important deterrents in mass riot control operation, this non-lethal weapon integrates a lot of advanced systems and equipment. With tough appearance, high mobility, well self-protection and easy operation, it enjoys high reputation in policy force and can be used by law enforcement in riot-control and anti-terrorism operations around the world. With **PKI 9065** it is possible to break up non-permitted demonstrations and provides essential support for the police against radicals. At least this measure avoids that people are injured or even killed during those conflicts. The windows as well as front and back lights of the **PKI 9065** water cannon truck are protected with steel bars against stone's throw. Door grips are designed in a way that there is no possibility to cling to them. By means of a covered loudspeaker of 75W power clear announcement can be made. The driver's cabin offers space for 6 persons. Windows are made of bullet-proof glass. The tank has a capacity of 9000l and the water gun shoots over a distance of max. 65m with 15 bar pressure.

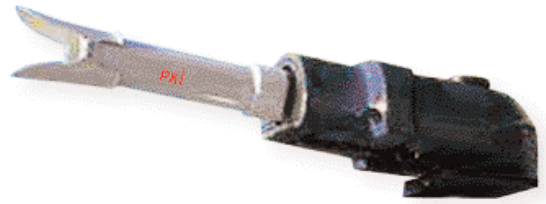
Specifications	
Overall dimension	1020 x 250 x 390cm
Gross weight	25 tons
Crew	6
Water canon	2, 360° horizontal pan, 90° vertical pan



Chassis	Mercedes Benz or other
Colour	Grey, green or others
Pump capacity	2200 litres per minute
Rated power	247kW @ 2200rpm
Max. speed	90km/h
Engine	Arrayal 6-cylinder, diesel engine
Fuel capacity	300L
Rated pressure	1.0MPa
Rated flux	60L/S
CS solution tank	150L
Dyeing solution tank	150L
Foam tank	15 L
Water	9000L (6000L optional)
Max. shooting range of water cannon	≥ 50m

PKI 9070**Water Canon for Prison or other Application**

For the guarding of prisons, penal camps, etc. this water canon is often used in case of revolts. Riots are held in check without endangering any lives. The **PKI 9070** system consists of water cannon, water tank and high-pressure pump and can also be used for foam. Mounted on a support, the water canon can be manually swivelled in any direction and be connected with the water tank and the high-performance pump using a high-pressure hose. The on/off control is located directly at the water cannon and is activated by the user.



Specifications	
Body Water Canon	
Made of corrosion-resistant anodised light alloy Glycerine-damped manometer 0-25 bar	
Movements in vertical and horizontal direction are performed with a height-adjustable handlebar. The handlebar with two hand grips can easily be adapted to the operating personnel by a vertical adjustment and can be folded down to compact dimensions for transportation.	
The monitor can be adjusted in any desired position by means of a quick-locking device.	
Rotation horizontal	360° endless
Elevation vertical	-50° / +80°
Nozzle	
The nozzle is made of corrosion-resistant anodised light alloy with a rubber coating of the jet adjustment ring.	
Two functions are accomplished by the nozzle:	
- Adjustment of stream	By turning the adjustment ring the stream can be adjusted infinitely variable from full jet to spray during operation
- Adjustment of flow rate	By turning the quantity adjustment ring, the flow rate can be adjusted infinitely variable during operation, whereas there are stops at 800, 1200, 1600 and 2400l/min.
Foam barrel	
The low expansion foam barrel is made of corrosion-resistant anodised light alloy, has got a diameter of 120 mm and is suitable for flow rates up to 2400l/min at 10 bar. The foam barrel can be swivelled with a hand lever for alternative water or foam operation of the monitor and can be retained in both positions.	
The foam barrel is suitable for	Protein foam compound, Fluorprotein foam compound, synthetic foam compound
Complete with manual turret for water/foam, nozzle setting 2400l/min at 10 bar.	
Low expansion foam barrel, swivelling, stainless steel, DN 120 up to 2400l/min, instead of foam barrel LA.	
Baffle plate for foam barrel, DN 120 up to 2400l/min.	
Dimensions	2300 x 880 x 465mm
Weight	Approx. 35kg
Water tank	10,000l, 20,000l

PKI 9075 Non Magnetic Tool Kit 36 Pieces

- 1 Tweezers
- 4 Screwdrivers crosspoint
- 1 Double end scribe
- 7 Pliers (cutting, flat nose, round nose)
- 2 Knives
- 2 Adjustable wrenches
- 1 Scissors
- 1 Adjustable pipe wrench
- 1 Hacksaw
- 1 Hammer ball point
- 1 Blade for hacksaw
- 1 Hammer sledge German type
- 1 Wire brush
- 2 Chisel flat
- 5 Screwdrivers flat
- 2 Bars lever
- 3 Screwdrivers offset
- 1 Transportation case



PKI 9080 Non Magnetic Tool Kit 84 Pieces

A comprehensive non-magnetic tool kit especially for use at EOD operations. All tools are manufactured in beryllium copper alloy and are hardened for durability. The kit comes in two foams lined protective carrying bags, also fully certified as non-magnetic. Replacement tools can be supplied separately.

Specifications
Tweezers, 200mm O/A
Probe, straight and right angle, 150mm O/A
Knife, 80mm blade, 210mm O/A
Scissors, 150mm O/A
Hacksaw, blade length 300mm
Blade, 300mm to fit hacksaw
Scraper, 25mm blade width, stiff, 250mm O/A
Wire brush, 305mm O/A
Screwdriver, flat, 2mm blade width, 150mm O/A
Screwdriver, flat, 4mm blade width, 170mm O/A
Screwdriver, flat, 6mm blade width, 240mm O/A
Screwdriver, flat, 8mm blade width, 295mm O/A
Screwdriver, flat, 9mm blade width, 380mm O/A
Screwdriver, flat, offset, 6mm blade width, 75mm O/A
Screwdriver flat offset, 7mm blade width, 120mm O/A
Screwdriver, flat, offset, 10mm blade width 195mm O/A
Screwdriver, crosspoint, Philips No. 1, 150mm O/A
Screwdriver, crosspoint, Philips No. 2, 225mm O/A
Screwdriver, crosspoint, Philips No. 3, 260mm O/A
Screwdriver, crosspoint, Philips No. 3, 260mm O/A
Pliers, cutters/grips combination, 205mm O/A
Spanner, adjustable, 19 mm max. 160mm O/A
Spanner, adjustable, 28 mm max. 255mm O/A
Spanners, hexagonal, 10 pc metric set, size across flats:
Spanners, hexagonal, 10 pc imperial set, size 1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 10mm across
Flats: 1/16, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8, 1/2 inch
Wrench, pipe, adjustable, 38mm max. 355mm O/A
Hammer, ball pein, 680g, 355mm O/A
Hammer, club, 910g, 255mm O/A
Chisel, flat, 15mm cutting edge, 165mm O/A
Chisel, flat, 22mm cutting edge, 230mm O/A
Bar, lever, spike & cranked chisel ends, 445mm O/A
Bar, lever, cranked fork & wedge ends, 260mm O/A
1/2 inch square drive socket set, 29 pcs consisting of: ratchet, sliding T bar, 100 mm extension, 200mm extension, ball joint, AF sockets, sizes: 10, 11, 12, 13, 14, 15, 17, 19, 22, 24, 27, 30 1 mm imperial sockets sizes: 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8



PKI 9085 Mine Clearing Vehicle

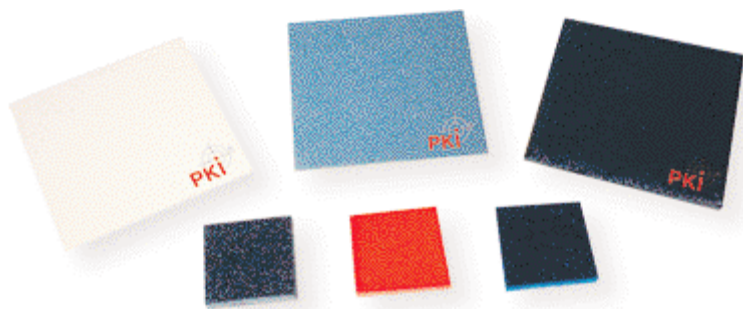
Mine laying is relatively simple and cost-effective, their clearance, however, presents a great challenge for the „clearer“. Dangerous mine fields left behind, rarely mapped, extensively used untargeted and this particularly often in areas of civilian life present a lot of problems after conflicts. Usually, different types of mines are laid miscellaneously so that mine clearing devices can not simply drive into an area of presumed anti-personnel mines and in turn human mine clearers can safely disarm anti tank mines which can usually not be triggered by the weight of a human being. As the important thing when clearing mines in civilian areas is the complete and definite destruction of the presumed mines, thorough mine clearing has top priority. The technology used in the military sector has been developed for the fast way through a mine field and shall allow troops to quickly progress. But due care is neglected. The clearing vehicles offered by **PKI** are optimally arranged according to the customer-specific requirements regarding the existing problem. Our modular concept allows to equip the different carrier vehicles (wheel / chain drive / mixed) with different clearing tools (rolls, rotary cutters, chains, etc.) and thus to gain an optimal result for the prevailing situation. Whether manually, semi-automatic or completely remote-controlled units shall be used totally depends on the local conditions. A small-size clearing device can e.g. completely clear surfaces of up to 2500m² per hour depending on the terrain. Equipped with classical hydraulics (Bosch Rexroth) and engine (Deutz), maintenance and repair are no problem for a good truck workshop.



Specifications	
Length total	5280mm
Length of prime mover	3305mm
Length of flail unit	2000mm
Width of prime mover with tracks	1985mm
Width of flail unit	2840mm
Height of prime mover	2270mm
Weight total	6983kg
Weight of prime mover	5576kg
Weight of flail unit	1407kg
Engine	DEUTZ BF 6L914, turbo
Rated power at 2 500 RPM	110kW (147HP)
Torque at 1600 RPM	550Nm
Fuel consumption - average/max	13.2/ 19.5l/h
Mine clearance width	2.2m
Mine clearance depth	Max. 250mm
Blast resistance	9kg TNT
Operating RPM of the Flail unit	350 - 500
Working efficiency (max.)	2500 q m/hour
Vegetation cutting - diameter/height	Up to 30cm/ 4m
Fuel tank capacity	140l
Maximum speed	9km/h
Remote control - range/battery life	5000m/11 h

PKI 9090**Useful Surface Coating**

This versatile useful surface coating outperforms all coating systems already on the market. Excellent properties such as fire-retardant, waterproof, corrosion-proof, food safe, hygienic, sound-proof, skid-proof, tear-proof, etc. offer a wide variety of applications especially for the military. The **PKI** coating is so incomparably strong that even shootings, explosions and earthquakes cannot destroy it. A revolutionary product when it comes to the issue of security. And this in particular in case of a special coating that automatically closes again when tanks, pipelines, etc. are under fire.



PKI 9090 consists of extremely resistant polyurethane and is temperature-resistant from -40°C to $+90^{\circ}\text{C}$. When adding pigments, a variable colouring is possible.

The properties of the PKI 9090 useful surface coating are as follows:

- Approved for the contact with food and drinking water
- Abrasion-resistant
- Fire-retardant
- Watertight, resistant to normal water and salt water
- Protects against rust and corrosion from normal and salt water
- Can be sprayed on any surface
- Strong adhesion on all materials (e.g. metal, wood, aluminium, concrete, bitumen, plastic, foam plastic, styrofoam, glass, etc.)
- Skid-proof with texture or slippery without texture
- Drying time 3 seconds
- Can be sprayed in any thickness
- Can be sprayed vertically to walls and ceiling
- Noise-absorbing
- Anti-static
- Insulating
- Protects against X-rays
- Thermal insulation -50° to $+80^{\circ}\text{C}$
- Available in any colour
- Easy to apply
- Flexible
- Chemically resistant to most kinds of chemicals
- Can be bulletproof if it is combined with other materials
- Explosion protection (acc. to American military tests)
- Can be used as heating material
- Self-sealing (e.g. for oil tanker)
- Earthquake protection
- Lifetime guarantee
- UV protection
- 100% environmentally friendly

PKI 9090 is delivered in different container sizes depending on the desired surface and thickness. It is applied by means of customary paint spraying.

The physical properties are as follows

Hardness (shore D)	55 +/- 5
Tensile strength	2100 - 2200psi
Elongation	50 - 80%
Flexural modulus	2400 - 2800psi
Taber abrasion resistance	(Mg of loss / 1000 cycles) CS17 wheel, 1000 grams weight 25 - 30
Tear resistance	200 - 250pli
Ross flex	0% crack growth per 50,000 cycles
Specific gravity	1.06 - 1.08grams/cc
Water absorption	Less than 1.6%
Dielectric strength	300 volts/mil
Volume resistance	6 x 10 (12) ohm/inches
Dielectric constant	5.4MHz
Dissipation factor	0.058MHz

PKI 9090 FOR MILITARY APPLICATION

For vehicles:

Around the world, **PKI 9090** sprayed-on polyurethane has become a valuable weapon in safeguarding the military. It is used to protect vehicles, buildings and an unlimited range of equipment from damage by abrasion, heavy impact, wear and tear, corrosion and harsh environmental conditions.

PKI useful surface coating has several flagship formulations and can customize formulations to meet virtually any type of military specification. Its textured surface provides non-skid protection and insulation from vibration and sound. Linings can be sprayed from a minimum of 1/18 inch to unlimited thicknesses because all our formulations are 100% solids, containing no VOCs.

PKI 9090 can be sprayed on steel, aluminium, fiberglass, wood, rubber, concrete and most other substrates. From non-skid protection on equipment, vehicles and ships... to secondary containment... to the walls of detonation chambers, **PKI 9090** provides a tough, airtight barrier of unbeatable protection.

PKI 9090 provides military vehicles with a defensive shield against the most treacherous conditions. It protects interior and exterior surfaces from corrosion, impact and abrasion and its non-skid texture protects sensitive cargo from shifting during transit.

For facilities:

PKI 9090 protects military installations from natural and man-made forces. It seals out damage from the most severe weather conditions. The thick, tough lining resists wear and tear, and the non-skid texture provides sure footing for military personnel.

PKI 9095 Ground Radar

PKI 9095 is a very flexible, mobile and powerful ground radar used to locate subterranean anomalies such as caves, bunkers, foundations, pipings and the like. **PKI 9095** sends a signal into the ground and waits for the reflection or the echo of this signal in order to detect subterranean anomalies and this up to a depth of 40m. **PKI 9095** uses a frequency range between 60MHz and 300MHz. This is realised by the adjustable telescopic antenna. **PKI 9095** comes with numerous automatic settings in order to optimize ground surveys on different types of ground and to simplify the operation of the ground radar for the user who just sets the depth range and starts a geophysical measurement. The measurement data collected by **PKI 9095** are directly transmitted to an android tablet PC. The android software receives the measurement data via Bluetooth and displays them on the screen without delay. Among others, the software offers possibilities for the integration of GPS data, Google Maps, automatic filters and the input of individual notes. The existing filter possibilities improve the measuring results and support the analysis of hidden objects and structures. As a result of the integrated GPS support, all motion patterns are stored together with the measured values.



Specifications	
Operating temperature	-20°C to +55°C
Storage temperature	-25°C to +70°C
Air humidity	5% - 75%
Watertight	No
Dimensions	350 x 182 x 60mm (HxWxD)
Weight	Approx. 1700g
Operating voltage	9.6 - 13.2VDC, 18W
Operating time	(Alkaline batteries, 25°C): approx. 6h
Operating time	(Rechargeable batteries, 25°C): approx. 3h
Operating time	(OKM power pack 25°C): approx. 10h
Display	LED
Feedback	Acoustic, visual
External battery	Optional
Multifunction button	Yes
Transmission frequency range	60MHz - 300MHz
Timing/Sampling settings	16 stages
Complete measuring cycles	9 per second
Data transmission	
Technology	Bluetooth
Frequency range	2,4 - 2,4835GHz
Max. transmission rate	1Mbps
Receiving sensitivity	-85dBm
Max. operating range	Approx. 10m

Optional:

- 60MHz GPR antenna: The particularly rugged 60MHz antenna enables geophysical measurements in large depths. In the process, this optionally available GPR antenna achieves far better depths of penetration than the 100MHz antenna and is particularly suitable for the location of larger and deeper objects.
- 100MHz GPR antenna: The 100MHz antenna is not only rugged and stable, but it is also capable of realizing high-definition measurements. In contrast to the 60MHz antenna, the 100MHz antenna is particularly suitable when searching smaller objects located near the surface.
- Power pack: Instead of the AAA batteries, the power pack can also be used for the ground radar. This way, the georadar can be continuously operated for 10 hours without having to change the batteries after 3 hours.

PKI 9100 Disguised Metal Detector

Either for participants at specific meetings or during general check-up tasks at entrances, where people have to be examined, without their knowledge, the **PKI 9100** Disguised Metal Detector is an especially designed equipment for detection of both metallic and non-metallic objects. Because of its hand-free application the operator - at one and the same time - can examine a person physically and investigate, automatically and electronically, for the presence of metallic objects. Its silent vibrating alarm allows fully covert operation and is able to discriminate between large and small metal objects. The **PKI 9100** comes in one universal size, which fits both the left and right forearm, fixed by a velcrostrip, and can be hidden under every normal clothing like shirt or jacket. It is simple to use as the user just approaches his arm inconspicuously towards the suspect person. If this person carries a weapon or any other metallic object, the vibrator will give its silent alarm.

Specifications	
Weight	Approx. 200g
Operating time	Approx. 80 hours with standard 9V battery
Ideal for body searches	
Combines physical and electronic investigations	
Silent vibrating alarm	
Standard 9V battery	
Fully automatic	
100% finger dexterity	


PKI 9105 Hydraulic Jamb Spreader

In several cases, doors have to be opened by force in a silent and quick manner because criminal acts like drug dealing, hostages or terrorism have to be intercepted and rooms have to be entered to arrest the expected perpetrators. The **PKI 9105** is designed for Police and Military Special Assault Teams and other government departments especially trained for such tasks. This device is using a quiet hydraulic pressure technique to spread door jambs and release latch bolts. The non-slip clutch allows the telescopic bar to hand-fit into the door opening. The operator then uses the hand pump, which quickly extends the piston and exerts 3 tons of force - enough power to open or break most types of single doors. The system virtually works noiseless, is fast and instantly adjustable.



Specifications	
Max. power	3 tons
Weight	Approx. 7.7kg
Carrying bag black	CORDURA with dual handles plus shoulder strap
Size of carrying bag	Approx. 66 x 116cm
Colour	Tactical black finish

PKI 9110 Series of Door Rams

In combination with our **PKI 9105** Hydraulic Jamb Spreader, the **PKI 9110** as a series of door rams with different sizes and weights offers a perfect combination with our full range of tools to open doors by force. Every police-, military-, anti-drug and special operational task force team should be equipped with this product as it is the one and only device that is capable to give immediate entrance into rooms where scenes of crime are suspected. It really could not be easier to use and no setting up time is required. Originally the **PKI 9110** have been developed for US Police Swat teams, but now are more and more used by police and Military Special Forces worldwide. Simply get in position in front of the door, swing the ram back to gain momentum and swing it forward to smash the toughest door. Three different versions are available - each one being electrically non-conductive, shock-absorbent, compact and this at a very reasonable price.

Specifications

Different versions are available, but each department should have the full range of rams in order to be prepared for every different application. Therefore, we offer the complete range as a set consisting of:

PKI 9110/A - This ram is designed for one-man operation

Length	550mm
Impact diameter	Ø 100mm
Weight	14kg
Operators	1
Handles	2
Type of handles	Rigid
Material	Black, zinc plated steel



PKI 9110/B - This ram is a heavier version

Length	820mm
Impact diameter	Ø 100mm
Weight	20kg
Operators	1 - 2
Handles	2
Type of handles	Rigid
Material	Black, zinc plated steel



PKI 9110/C - This ram is our largest version

Length	1090mm
Impact diameter	Ø 100mm
Weight	30kg
Operators	2
Handles	2
Type of handles	Rigid
Material	Black, zinc plated steel



We recommend the complete set of **PKI 9110/A - C**; however, each ram of course can be ordered separately as well.

PKI 9115 Underwater Metal Detector

The **PKI 9115** is a versatile under water detection system being consequently the further development of our former land & underwater metal detectors. Improved detection performance and a wide auto-adaptation to interfering metal components characterise the new **PKI 9115**. The full unit, and especially the electronic design, is based on our thousandfold proven technology being in service with many government departments worldwide. **PKI 9115** is tested for water pressure up to 10 bars and is very comfortable to handle for the diver.

It is operated by only one adjuster. **PKI 9115** can detect minimum amount of mine shallows being buried - such as A/P 72A - at operational depth. Larger undefined objects can be located up to a depth of 1.5m. For even larger depths, a further sensor is available.

PKI 9115 applies a dynamic mode pulse induction concept. Short bipolar magnetic pulses generate detection signals from ferrous or non-ferrous metals and alloys. Target acquisition is indicated as visual or audible alarm. A silent mode (visual LED only) improves operator's safety on "smart" munitions with acoustic sensors.

When used with a larger search head of 80 x 80cm (optionally available), the detection range is significantly extended and larger objects - such as 105mm shells, bombs, torpedoes etc. - may be detected at 2m depth or more. The detector operates on a dynamic search mode, which compensates interference from metal diving equipment. If required, the detector can be operated in a "silent mode" without headset. In such case the red LED will indicate target acquisition. To operate the **PKI 9115**, switch the rotary sensitivity calibrator into position I (low), II or III (high). Sensitivity can be changed stepless within ranges I-III by an internal adjuster inside the electronics cylinder.



Optional accessories - available on request:

- Probe 32 x 370mm
- Oval search head 300 x 170mm
- Foldable large loop 800 x 800mm
- Extension rod 36 x 600mm

Specifications	
Battery	1 x dry battery 9V U9VL or U 9 VL (Lithium)
Operation time	Approx. 3 hours with dry battery, approx. 10 hours with Lithium cell
Temperature range	Approx. -20°C to +60°C
Pressure test	10 bar (approx. 90m)
Dimensions, approx.	Oval search head - 300 x 170mm Square search head - 260 x 260mm Electronics cylinder - 40 x 535mm Large loop - 800 x 800mm Extension rod (PVC) - 36 x 600mm Extension rod (GRP) - 25 x 600mm - Short version - 800mm - Long version - 1400mm max. length - 2000mm

PKI 9120 Mine Detector

The **PKI 9120** mine detector is designed for use on all grounds even on compact soils such as volcanic soil or laterit, which makes it suitable for use everywhere in the world. In many regions mine detectors can be influenced by a mixture of soils such as laterit, magnetic rock and by soil conductivity due to monsoon rain. The wide band compensation of this **PKI 9120** Mine Detector meets such environmental working conditions and also rejects interference from saltwater due to its pulse induction operating principle. Components subject to wear and tear can easily be exchanged without further calibration work. This eases fault definition and significantly improves equipment availability in the field. Rugged design and constructional features, coupled with various accessories make the **PKI 9120** Mine Detector a very versatile equipment, which allows use in lying, kneeling or upright position.



Specifications	
Power supply	8 alkaline batteries 1,5V type LR 14 (operating time 40h) or 8 rech. batteries NiMH 1,2V - 3,5Ah (operating time 10h) or battery pack 9,6V - 3,8Ah (operating time 10h)
Temperature range	From -21°C to +55°C approx.
Dimensions	Circular search head 230mm diam. optional search head 450mm diam.
Electronic cylinder	35 x 460mm
Extension rod	25 x 600mm
Battery container	30 x 360mm
Lenghts and weights	
Short version	Approx. 1000mm and 2,1kg
Long version	Approx. 1700mm and 2,4kg
Complete in satchel	Approx. 3,8kg
Complete in carrying case	Approx. 8,5kg

PKI 9125 Non Magnetic Probe

This non-magnetic device is designed for manual location of mines, buried at depths of up to 250mm. The mine probe is lightweight, robust and easy to assemble. It consists of three main components (handle, extension tube, probe) and can be assembled in two versions for kneeling and upright position.



PKI 9130 Multi-Plier Gerber

Made from 410 grade stainless steel with serrated sheepsfoot blade, saw blade, cross non-reflective black oxide coating, the **PKI 9130** point screwdriver, large, medium and small flat Multi-Plier Gerber tool incorporates the following blade screwdrivers, file, bottle opener and tools: explosive punch, blasting cap crimper, wire lanyard. Comes in a solid nylon sheath. cutter, needle nose pliers, 3" drop point blade, 3"


PKI 9135 Active Metal Detection System

This newly developed active metal detection system is primarily used for the detection of large metal objects such as underground deposits, barrels and bombs. The special features of the **PKI 9135** Active Metal Detection System consist in its selectivity regarding small metal objects buried close to the surface and - in comparison to active metal detectors - its excellent detection range on large objects (transmitter effect). For conventional operations, there is a galvanometer and an audio alarm integrated into the electronic box. Furthermore, the system has an analogue data output and can therefore also be linked to an external data logger to allow data recording.



Specifications	
Power supply	Rechargeable NiMH battery 12V, 2Ah
Operating time	4 hours approx.
Sensitivity levels	5
Temperature range	-10°C to +40°C
Dimensions	Total 1500 x 420 x 210mm, coils 420 x 280mm, sensor spacing 120cm
Weight	3,1kg approx.

PKI 9140 Large Loop

This technology enables low skilled personnel to locate air delivered ordnance buried at depth. The **PKI 9140** Large Loop applies the eddy current pulse induction principle. It detects all ferrous and non ferrous metals. The equipment consists in an electronics box, a battery container and a large loop diameter 2600mm with search frame. A ring coil diameter 260mm is available as an option. The modular frame can be assembled in several ways, which allows to obtain frames from different sizes (1x 1m, 1x 2m, 1,5x 2,5m) according to the searched objects and depth. The ring coil (option), working with the same electronic system is used for pin-point location, after detection with the large loop. Detection signals are easy to interpret, and no advanced training is required for operation. The unit is splash-proof and of sturdy design. The target acquisition is indicated by audio alarm and on a galvanometer. The delay setting suppresses the indication of small metal fragments located at the surface in order to assure the detection of bigger objects in deeper grounds, such as bombs or big shells buried very deeply and to ignore surface clutters.



Specifications	
Power supply	8 dry batteries 1,5V type LR14 or rechargeable batteries
Operating time	55h in pos. low /25h in pos. high (LR14)
Dimensions	Electronics box: 270 x 90 x 70mm Battery pack: 290 x 105 x 50mm Search loop: 2550mm diameter
Weights	Frame 2,5kg electronics box 0,9kg battery pack 1,1kg
Detection range (in air)	Mine T57 at approx. 1,6m, bomb 250kg at approx. 3,5m

PKI 9145 Arm- and Leg Protectors

The **PKI 9145** arm- and leg protectors consists in body-shaped protective parts made of polypropylen and flame-resistant fabrics. The protectors can easily be adjusted individually, so that they are extremely comfortable and very quick to put on and to remove. An individual adjustment of ergonomically formed protector parts can be achieved by elastic cords with Velcro strips and fleece shutters.

Specifications	
Arm protection	Protectability 35Nm, consisting of elbow and lower arm protector
Material	Aluminium alloy edged by breathable fabrics
Leg protection	Protectability 35Nm, body-shaped knee protector fixed with special seam between tights and upper shin bone protector
Material	Special aluminium alloy, inlets with special stitching for optimal air ventilation



PKI 9150 Protective Shield

The **PKI 9150** Protective Shield is a must for any police and security task force. **PKI 9150** Protective Shield already has proved its efficiency in many actions against terroristic acts, riots and demonstrations. Due to the clear visibility of the polycarbonate material the wearer is protected against most common attacks in riot situations but still has a full survey about critical situations. A specially constructed supporting holder with leather-coated handgrip and swivelling armrest provides comfortable wearing either on the right or left arm. The curved shape of the highly resistant shield deflects any thrown objects and affords perfect and fullbody protection to the wearer. Each shield can be supplied with a specific and tailor-made label or Insignia as per customer's requirement.



Specifications	
Material	Polycarbonate
Dimensions	Approx. 90 x 60cm
Weight	Approx. 2.3kg
Armrest and handle	Leather-coated, swivelling for right-/left arm operation
Label	Standard - „POLICE“- others on request
Options	Additional holders/supports for batons, torch-lamps, handcuffs etc. available on request

- Lightweight
- Transparent material
- Easy to handle
- Protection against thrown objects
- Labelling according to customer's needs

PKI 9155 Multifunctional Belt for Police

Security staff must have a possibility to wear tools for daily use like radio transmitter, pistol, handcuffs, baton, knife, mace and torch easily on the body. This **PKI 9155** multifunctional and solid belt meets all these requirements as it is equipped with loops and hooks of different sizes for all kinds of tools and equipment. On request we can deliver belts adapted to your personal specification.



PKI 9160 Entry Force Tool

This universal tool is a must for any task force. **PKI 9160** is indispensable when quick and violent opening of doors and locks is required. Whether used as a hammer, axe, drift or crowbar **PKI 9160** is a real universal miracle.



Specifications

Material	Steel, reinforced
Length	90cm
Various	On request it can be delivered in 2 parts of 45cm each screwable

PKI 9165 Emergency Set

Our protective outfit **PKI 9165** offers breathing and body protection against powdery, liquid or gaseous toxic agents, when put on properly and in time. In order to avoid handling errors, please carefully read the instruction manual. It complies with European regulation and is CE approved. For many years it has been used in chemical industry, fire brigades and others.

Specifications

Weight	84,6g/ m ²
Resistance	128,3kPa
Abrasion	1500 - 2000 cycles
Resistance against stabs	16.7N
Shelf life	Min. 10 years
Comes with	1 Protective suit, 1 protective mask, 2 protective mask filters 1 pair protective gloves, 1 pair overboots, 1 bag, 1 manual



PKI 9170 Gas Mask

The **PKI 9170** Gas Mask and its straps are produced in black and yellow silicone. The screen provides a large vision angle and can be adjusted with anti-solvent or anti-scratch treatment on request. The system is shock- and solvent-resistant and equipped with two breathe out valves. One breathe-in valve and one phonic membrane allow easy communication. The specifically designed air circulation avoids steaming up of the screen.



The **PKI 9170** Gas Mask is equipped with straps for rapid fastening. It can be used with assisted ventilation or with compressed air adduction. It must not be used in atmospheres where the concentration exceeds 0,5% or where the oxygen rate is less than 17%. Different cartridges are available upon request for example for dust, different types of gas or combined gas/dust. The cartridges are equipped with caps in order to increase their lifetime, as they keep them sealed when not used. A case designed in a specific thermoplastic material increases the mask's lifetime, as it protects against dust, light, vapours of chemical agents and heat sources. This case can contain one mask and one cartridge of any type, not screwed.

Available Filter Cartridges

Available Filter Cartridges	
Combined A	Small absorption capacity of gases and vapors of organic compounds with a boiling point > 65°C; solid particles and aqueous aerosols (toxic substances) with large separation efficiency
Combined B	Medium absorption capacity of gases and vapors of organic compounds with a boiling point > 65°C, inorganic gases and vapors, e.g. chlorine, hydrogen sulfide (hydrogen sulfide), hydrogencyanide (hydrogen cyanide [hydrocyanic acid]); solid particles and aqueous aerosols (toxic substances) with large separation efficiency
Universal	Medium absorption capacity of gases and vapors of organic compounds with a boiling point > 65°C, inorganic gases and vapors, e.g. chlorine, hydrogen sulfide (hydrogen sulfide), hydrogencyanide (hydrogen cyanide [hydrocyanic acid]) medium absorption capacity, solid particles and aqueous aerosols (toxic substances), Sulfur dioxide, hydrogen chloride (hydrogen chloride); small absorption capacity of ammonia; solid particles and aqueous aerosols (toxic substances) with large separation efficiency
Gas only	Small absorption capacity of gases and vapors of organic compounds with a boiling point > 65°C
Particles only	Solid particles and aqueous aerosols (toxic substances) with large separation efficiency

PKI 9175 Hydraulics Door Opener

PKI 9175 has been designed for quick, mobile application to open doors of any kind. It is used to spread door jambs so that the locking mechanism is released from the door lock and the door can be opened. This equipment uses quiet hydraulic pressure to spread door jambs and release latch bolts from mortices. The non-slip clutch allows the telescopic bar to hand-fit into the door opening. The operator then uses the hand pump, which quickly extends the piston and exerts 3 tons of force - enough to break open most types of single doors.



Specifications

weight	14kg
dimension	70cm, Ø 8cm, extractable up to 110cm
carrying bag	Black
carrying bag dimensions	80 x 40 x 20cm

- 3 tons of horizontal force
- Virtually noiseless
- Lightweight
- Instantly adjustable
- Fits most single, swing-in doors
- Fast - piston extends quickly

PKI 9180**Hydraulic Door Opener**

PKI 9180 is a hand-held unit for mobile, quick, uncomplicated opening of doors. The steel wedge located in the device is pressed into the gap between door and jamb and is spread using the hydraulic hand pump until the locking mechanism yields and the door can be opened. Door spreading is also possible below the hinge assembly. **PKI 9180** is completely embedded into foam plastic in an aluminium carrying case and quickly mounted. Auxiliary tools, such as a steel hammer with plastic coating and pry bars, are also included.



PKI 9180 consists of the following 6 parts:

1. 10 to hydraulic door opener, 100mm stroke, with claw, swivel joint, quick coupling plug with dust cover and 120mm sling assembly.
2. Compact hydraulic pump, 700bar, single stroke with quick coupling socket
3. Hose, 3m, with quick coupling socket and plug with dust cover
4. Compo-cast dead blow hammer, 1,200g
5. Pry bar, 340 x 45mm
6. 90° HD adaptor with quick coupling plug and socket and dust cover



Specifications	
Hand pump	4.3kg
Carrying bag dimensions	80 x 40 x 20cm
Total weight	20kg
Operating pressure (bar/psi)	400-700 (+4/-1)/ 5,800 - 10,150 (+580/-140)
Oil capacity / usable oil capacity	0.7/ 0.5l
Oil delivery LP/HP cm ³	7.2/0.9 per piston stroke
Switch over (bar/psi)	20/290
Dimensions	353 x 150 x 171mm
Weight with oil	4.3kg
Operating temperatures	-20°C to +55°C
Ambient temperature (device in use)	-24°C to +45°C
Storage temperature (device not in use)	-30°C to +60°C
Door opener	7kg
Dimensions	25 x 12cm
Hydraulic line	3m, 1kg
Hammer	1.2kg, length of handle 28 x 12cm x Ø 7 head
Pry bar	0.6kg, L = 32cm x 3.5cm
Angle	L = 7cm x 3.5cm

PKI 9185 Response Backpack

This extremely lightweight EOD response pack is a new backpack-mounted kit made to provide a two man search team with significant „real time“ capability at minimum weight and bulk. All the search tools contained in the response backpack have undergone rigorous testing in hostile and demanding operations. The **PKI 9185** kit includes a new and innovative lightweight hook and line kit, an advanced metal detector and other search equipment, as well an ultra-light Vulcan disruptor and a new fuse removal key.



PKI 9190 Swat Hood

The lightweight, black-coloured swat hood is designed to protect police operators from heat and flash. It is made of breathable, moisture-resistant material and is fully washable. One size fits all.



PKI 9195 Kevlar Sleeves

These Kevlar Sleeves are designed to efficiently protect forearms of special operators from heat, flashes and cuts. **PKI 9195** Kevlar Sleeves allow fully flexible arm movements and are manufactured out of double-knit black Kevlar.



PKI 9200 Protective Police Helmet

The **PKI 9200** Protective Police Helmet is specially designed, according to DIN ISO 9001- norm, for any police and anti-riot squads. By using high impact strength compound, colour white, with ventilation holes for the helmet-shell and crystal-clear polycarbonate of 4mm thickness for the visor, this helmet provides a maximum of protection, but still is lightweight and most comfortable for wearing even under tropical conditions. Each helmet comes with a 3-section leather neck protection. The detachable inner lining, individually adjustable to head sizes, offers highest shock-damping and together with the 3-point chinstrap perfectly matches for optimised fit. Additionally, **PKI 9200** can be supplied with specific governmental insignias of non-detachable, self-adhesive and multi- coloured labels according to buyer's requirements. Please contact us for further information.



Specifications	
Material of shell	High impact strength PA 6 compound
Material of visor	Crystal clear polycarbonate, 4mm thick
Inner lining	Special wearing-net with leather sweatband easily detachable without tools for size alignment
Available head size	Small = size 53 - 58, large = size 57 - 62, - others on request
Total weight	Approx. 1.85kg
Standard colour of shell	White - other colours on request -
Features	Lightweight, Crystal clear visor, Neck Protection, Ventilation holes

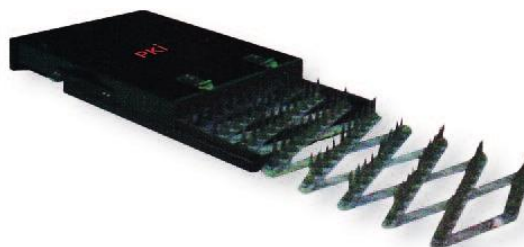
PKI 9205 A

PKI 9205 B

Road Blocking Barrier / Automatic Road Blocking Barrier

The **PKI 9205 A** is a very rugged, portable barrier specifically developed for police and military personnel in order to stop vehicles instantly. Designed for the use by just one person it is an inexpensive tool which can be deployed in seconds at a roadblock. Alternatively, it can be used semi-permanently to protect a target building. Any vehicle passing over the **PKI 9205 A**, no matter its speed, will have its tyres instantly deflated by the 50mm spikes quickly, safely and effectively. The unit comes as a complete kit and consists of two separate sections, each of which can be extended up to 3m and contains 45 spikes. **PKI 9205 A** is made of a mix of Nylon 66 and glass fibre making it flexible but yet firm. The stainless steel spikes with a length of 50 mm long and a diameter of 4 mm diameter will penetrate through all types of tyres. When the spikes penetrate a tyre, they break off from the base and therefore a spare kit comprising spare spikes, pliers and screwdriver is provided with each **PKI 9205 A**.

Specifications	
Extended size	Max. 3m
Folded size	52 x 28 x 8cm
Weight	5kg
Number of spikes	45



The **PKI 9205 B** is used for traffic, criminal investigation, anti-riot and traffic superintendence. Because it is remotely deployed, **PKI 9205 B** reduces the risk for the user to be injured greatly, compared to the manual version. Packed in a portable strong case, **PKI 9205 B** can be easily carried to the required destination, which allows a simple and quick operation. The linear array of strong and sharp stainless steel hollow spikes, puncture and flatten tires when a vehicle is driven over them. The high-strength spikes with break-away design have an excellent deflation effect.



Specifications	
Case material	Special Plastic
Spike material	Stainless Steel
Spike size	Φ 5 x 40mm (Dia. x H)
Quantity of spikes	166pcs.
Length of strip	> 6m (Notice: for wide road requirement, say 4-6 lanes highway, customized solution of 2 or more spike strips by 1 remote controller and blocks located on each side of the road could be provided.)
Weight	About 10kg
Package Size	56 x 44 x 16cm
Wireless Remote Control Range	More than 50 meters.
Working mode (electrical or mechanical control)	Wireless remote control (recommend) / Pedal / Manual pulling (no power needed)
Immediate Deployment	Less than 1 second to extend across 2 lanes of traffic (more than 6 meters).
Spikes replaceable in very low cost	20 replacement spikes in each system. Strike strip also replaceable in case damaged on duty.



All packed inside one portable strong case.



PKI 9210 Barbed Tape Wire

Very often cheap and effective solutions are needed for protection of different institutions. The perfect solution for this is our special **PKI 9210** Barbed Tape Wire. There are more than 100 different varieties of applications depending on requirements. Do you want to secure a wall, fence or scaffolding? Kindly let us know your problem, we will be pleased to present you, our solution.

Specifications	
Dimensions	Thickness 5cm, diam. 450 - 980mm; length: 7-16m per coil
Material	Hot galvanized steel sheet AISI430 and AISI304
Packing	Waterproof paper inside and plastic weaving bag outside
Device for detachment	Upon request



PKI 9215 EOD Tripod

The essential function of this robust and portable **PKI 9215** EOD tripod is to lift heavy objects of up to 2.260kg during EOD operations (including IEDD). The two-section telescopic legs can be locked at a range of heights enabling it to be used in areas of restricted height or on sloping ground. The head is fitted with leg stops in order to prevent the tripod from collapsing under load, as well as eyes and a karabiner for attaching lifting tackle and for tying objects down. The self-adjusting feet may be pegged to the ground for extra stability. The tripod is a high strength aluminium construction and is supplied with a set of anchor pegs in a durable nylon transport case.

Specifications	
Weight	22kg
Load capacity with feet anchored	Up to 2.260kg
Overall length	(Folded) 1.620mm
Max. working height	2.740mm (under the suspension eye)



PKI 9220 Contraband Detector

This item can positively detect drugs, explosives, weapons, currency and much more. Its typical application field is the inspection of tires, car doors, fuel tanks, wall and lined containers, aircraft, trucks, caravans, bus, trains etc. Identical packages, flower shipments, boats and ships, freight container.

Principle of Operation:

PKI 9220 Contraband Detector measures the mass density of the inspected objects and indicates the difference in density between illegally hidden goods (drugs, explosives, weapons, currency, etc.) and the object in which the contraband is hidden. For example, an "empty" tire filled with air and a tire filled with drugs give different results or an "empty" cross member in a freight container stuffed with contraband indicates a different density than a full one. It also detects radioactive materials. The **PKI 9220** Contraband Detector directs a beam of energy into the inspected object. A filled space reflects back more energy than an empty space. As **PKI 9220** Contraband Detector is moved across the surface of the object, the measurement is displayed on a digital LCD and an alarm is given if the density changes or radioactive material is encountered.



PKI 9225 Vehicle Protection against AP Mines

This lightweight system has been developed for protection of vehicles against anti-personnel mines during humanitarian missions. In this new system following criteria have been given highest priority:

- High degree of protection - V 50 > 600m/s for 1,1g
- Low weight
- Quick and easy mounting
- No modification of the vehicle

Before mounting the system, it is necessary to remove the seats, door panels and bottom mats from the car. Afterwards the ballistic mats are being glued to the bottom of the vehicle. The individual mats must overlap each other in order to secure maximum protection. After proper mounting of the ballistic mats, the original components of the car can be reinstalled. The **PKI 9225** Vehicle Protections system can be supplied as a kit ready for mounting.

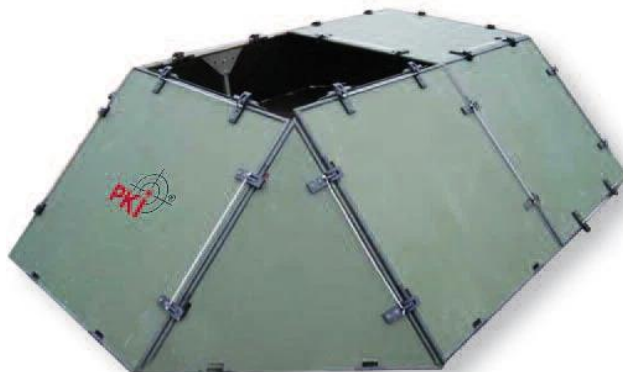


Specifications

Protection level	V50 >600m/s for 1.1g FSP
Material	Aramid fibres woven and stitched together to flexible mats
Surface	PFC foil
Weight	8,2kg/sqm
Total weight	Approx.60kg, depending on the model
Interior	No modifications

PKI 9230 Rapid Armor Shelter System

This lightweight fortification wall system is ideal for fast moving troops. Fortification walls can be built and dismantled in a few minutes allowing troops to be protected even during short stops or operations. Panels protect men or property mainly from fragments, protection level of V 50 >600 m/s. For bullet protection a double panel system can be used. All components are capable of withstanding UV-radiation, fuel and oil spatters as well as temperatures between -40°C and +60°C. The panels are fully moisture resistant. This innovative ballistic multipurpose protection system is easy to adapt for various military, police and peace keeping applications. It can also be used for civilian protection, e.g. protection of window and door openings.



Specifications

Material	Fibreglass and phenolic resin
Protection area	Square 0,90m ² , triangle 0,39 m ²
Thickness	About 9,5mm
Areal weight	Under 19kg/ m ²
Splinter protection	V50-value (1,1 g ESP) >600m/s
Explosion test	Endures 0,5 bar overpressure, pressure influencing time 0,01sec.

PKI 9235 A + B
Armour Protected Vehicles

We offer various armour protected vehicles for military, paramilitary, police and bomb disposal. Please let us have your enquiry, we will offer you the appropriate vehicle specifically designed according to your requirements.

General Design PKI 9235 A:

The hull is a fully welded body unit complete with seats for up to fourteen persons including the driver. It is fabricated from lightweight high hardness steel armour and is bolted to the chassis. Windscreen and front windows are of laminated armoured glass with anti-splinter screens out of polycarbonate. The vehicle gives protection to the engine compartment and incorporates gun ports complete with vision blocks on each side, as well as at the rear. The doors of the driver, co-driver and rear crew are provided with internally operated shoot bolts. Special attention has been given to the design of door/door apertures to ensure full protection. The armour door overlap incorporates a double seal unit and a spall return strip to protect against petrol ingress and spall fragments.



Armour PKI 9235 A: The steel armour provides ballistic immunity at 25 metres and an attack angle of 90° from ball 7,62 ammunition fired from high velocity rifles and machine guns as well as all threats lesser than that. The armoured glass/polycarbonate construction used for the windscreen and front windows is of a corresponding ballistic resistance. Additional protection for the windscreen and front windows is provided by armoured visors with incorporated vision slits which are actuated from inside the vehicle. The floor armour protects against mine fragments and grenades and, being an integral part of the monocoque hull, possesses good blast deflection characteristics. The doors are constructed of the same material as the hull and all transparent armour is glazed into armoured steel frames.

Specifications PKI 9235 B

4 wheel drive
Seats 8 operators
Armored up to .50 CAL (exceeds NIJ IV/B7)
360° rotating hatch (zero gravity)
Armored cupola with ballistic windows
Armored shield
Dual A/C & Heat
Spot lights
200W siren / PA system
Intercom System
Back-up camera
Bomb jammer
Shooter detection
240/.50 CAL gun mount
LRAD crowd control
Blast seats



PKI 9240**Bulletproof Vest for Army**

This bulletproof vest is designed for army operation. It not only protects the soldier's breast but also neck and shoulders. Additionally, ceramic plates are inserted due to which this vest reaches protection class IV. Despite this high classification **PKI 9240** weights not more than 3.5kg in IIIA, which allows high bearing comfort during longer operations.



Specifications	
Threat level and weight	NIJ IIA = 2,5kg, II = 3,0 kg, IIIA = 3,5kg
Colors	Black, woodland and desert camouflage
Special	Waterproof and anti-fire carrier
Size	S, M, L, XL

PKI 9245**Knife-Slash Protective Vest**

This protection vest against knife-slash attacks is a multi-layer production. The exterior layer consists in solid and rough nylon fabrics and the interior is a fine structured nylon material with good sliding qualities, which reduces friction on clothes that the person wears under this vest. Flexible 1.8mm thick plastic plates serve as basic protection. The vest as well as the plates offers protection of the lateral parts of the body as well. The most vulnerable area of the body (middle of the thorax and the back) is protected by a 1mm thick aluminium plate of 23 x 23cm. All four protection plate pockets are equipped with a tuck-in and Velcro strip to avoid unintended loss of the plates. Due to the light weight of only 1.5kg and the flexible fixation of the protection plates the **PKI 9245** is very comfortable and as such is the ideal protection equipment for long-time operations.



Specifications	
Material	Nylon, plastics, aluminium
Sizes	S / M / L / XL
Weight	1.5kg

PKI 9250**Protective Vests**

The range of the **PKI 9250** Protective Vests offers an unlimited variety of personal protection to any member of Police-, Military- and Special-Squad- Forces. The style and specification of these vests has been widely adopted throughout the world. Because of the superior design, these vests can be worn for extended periods of time. Each vest individually is constructed in different sizes and weights as a highly cost-effective garment which provides optimum protection against knife-slash attacks and hits from fragments and bullets. Depending on required protection the **PKI 9250** Protective Vests are manufactured according to international standards (NIJ threat levels 2, 3, 3A and 4). Each vest can be up-armoured with the use of ceramic plates to give protection even against armour-piercing rounds. Ballistic collars and groin protectors are available on request.



Specifications	
Threat level	NIJ 2, 3, 3A, 4 in buyer's option
Size	S, M, L, XL in buyer's option
Colour	White, blue, olive-green
Weight	From approx. 1.2kg to 3.0kg depending on type plus 1.0 - 3.4kg for ceramic plates if required.

- Various models available from fragmentation to level IV protection.
- Protection - proved according to international standards.
- Available from concealed underwear up to fully protective jackets.
- Lightweight and comfortable to wear

PKI 9255 Immediate Response Jacket

The **PKI 9255** Immediate Response Jacket provides the wearer with a stylishly designed, lightweight and easily concealable vest for having every necessary equipment right at hand whenever these are needed. Whether teargas bottles, handcuffs, electric shock units, communication devices etc. - being necessary for undercover police agents - or transceivers, body worn receivers, concealed monitoring devices etc. - for the discrete observations with special agents from any governmental organisation - this vest offers a maximum versatility for placing such kinds of material and equipment in the various pouches, holsters and slings being incorporated. The vest with its beige, skin-colour occurrence is the perfect carrying device for camouflaged and comfortable wearing of what you need during your mission.



Specifications	
Material	Robust, washable fabric
Size	S, M, L, XL – in buyer's option
Colour	Beige
Weight	200g

- Lightweight
- Robust, washable fabric
- Various pouches, holsters and slings for every purpose

PKI 9260 Bomb Blast Suppression Curtains

The bomb suppression curtains are designed to prevent from flying fragments of glass and other secondary materials generated as a result at bomb blasts. The curtains are easy to install and are available in various sizes and thickness of material in order to offer protection against a wide range of threat levels. **PKI 9260** bomb suppression curtains are inconspicuous and lightweight, various adjustable styles are available. Heavy duty, permanently fixed curtains can also be provided.

Specifications:

The curtains can be custom designed according to individual requirements.



PKI 9265 Armored Vehicle

Armored vehicles are used for VIP-persons for protection against terrorist attacks. An efficient protection is not limited to the vehicle body, but also includes the windows, wheels, fuel tank, communication systems and jammers. **PKI** is prepared to offer these special vehicles, new or second-hand, which are not recognizable as such from outside. On order of a new car individual requirements can be taken into account.

Specifications	
Car type	Every bigger car
Fuel tank	Ex-proofed
Windows	Bulletproof, 45mm thick glass
Tyres	Reinforced with synthetic core
Jammer	Full frequency range for prevention of remote ignition of explosives
For communication "open windows" can be programmed individually.	



PKI 9270 Equipment against Mines

Our **PKI 9270** should belong to the basic equipment of all military and civil forces in current or former battlespaces. All tools are placed in a handy belt bag to be at hand immediately and at any time. The trip wire detector is made of carbon and extremely lightweight. This allows detection of very sensitive wire traps. Also, part of the set is a telescopic mine search needle, the single parts of which are placed inside its ergonomically formed hand grip. **PKI 9270** comes with hand guard. A torch and extendible mirror complete this set, which are of usefull assistance at numerous occasions.


Specifications

Belt bag	Black
Mine search needle	With predetermined breaking point

PKI 9275 Bomb Trailer System

The **PKI 9275** Bomb trailer system was developed to enable inexperienced operators to remove a suspect explosive device to a safe location where it can be examined or destroyed in safety. This system consists in a specially designed bomb container mounted on a four-wheeled trailer which can easily be towed. The container is made of two layers of high-strength, high-impact 40mm ballistic steel. Due to its special design the unit is able to transport an IED containing up to 4kg of TNT. The suspect object is picked up by means of a hand-portable telescopic manipulator that is included in the system.

Specifications

Trailer size	367 x 190cm
Dimensions of the container, outside	100 x 100cm
Dimensions of the container, insider	100 x 64cm
Weight	90kg


PKI 9280
PKI 9285
Bomb Fragment Protection Cover, Letter Bomb Bag

This **PKI** fragment protection cover is a very efficient first-action unit to protect from suspected explosives, that might be contained in suspicious items of mail, luggage etc. It consists of several Kevlar-layers and is specially reinforced in the centre to prevent from potential injuries in case of detonation. The bomb fragment protection cover is equipped with loops allowing the use of hook and line set or remote manipulator to place or lift up the cover.


Specifications

Dimensions	2,2 x 2,2m
Weight	12kg
Specially reinforced surface	0,4 x 0,4m
Miscellaneous	Also, part of our product range is the PKI 9285 letter bomb bag, that is based on the same principle. It is suitable for a maximum letter size of DIN A4 and measures 1 x 0,8m (unfolded) and 0,4 x 0,3m (folded) at a weight of 3,3kg

PKI 9290 Explosives Identification Set

With this set it is possible to identify all known and improvised explosive compounds. An instantaneous colour change indicates the type of explosives, even Semtex H. No special training is necessary. The set can be used indoor and outdoor independently from the climatic conditions. Even smallest quantities like 20 nanogram explosives can be identified. The complete set is supplied in a hardcover case of 1,4kg weight.



Technical background:

The **PKI 9290** Explosives Identification Set is our newest detection and identification system for explosives. It detects a maximum of different types of explosives due to its capability to identify also improvised explosive compounds namely explosives based on chlorite and peroxide. These explosives based on peroxide are very strong substances which can be produced with chemical substances that are openly sold. Presently terrorists often use this sort of explosives, that is commonly known as TATP (Tri Acetone Tri Peroxide).

PKI Explosives Identification Set covers detection of:

Group A: (Aromatic nitrogen) This range comprises TBT, Tetryl, TNB, DNT, picric acid and its salts

Group B: (Nitratester and nitratamine) This range comprises dynamite, nitro glycerin, RDX, C4, PETN, Semtex H, nitro cellulose and non-fuming powder. *Remark:* Most plastic explosives belong to this group.

Group C: Anorganic nitrate (nitric acid). Explosives based on nitrate, such as ANFO (Ammonium Nitrate fuel oil), commercial and improvised explosives, which are based on anorganic nitrate, black powder, radiance powder, potassium nitrate and ammonium nitrate. Chloride and bromate comprising explosives based on potassium chloride and sodium chloride. Explosives based on peroxide comprising TATP (Tri Acetone tri-Peroxide) and HMTD.

PKI 9295 Operation Overall

Excellent quality, resistivity and a modern design are the main characteristics of the **PKI 9295** Operation Overall. It is flame-retardant, wind-proof, moisture protected and breathable. Furthermore, we offer additional protection against knife-slashes by means of an inlay for the abdomen.

Specifications	
Material	NOMEX by DuPont
Shoulder	Abrasion-proof, waterproof CORDURA by Du Pont
Collar	Equipped with cut-restraint at shoulder, chest and back
Rescue loop	On the back
Superimposed pockets	For radio device etc. further pockets on the upper arm, chest, waist, buttock, thigh and lower leg
Fleece areas	For tactical labelling on the upper arm and the back
Waist belt	Width regulation by cord through reinforced belt loops of 5cm width
Zip	Manageable with gloves, water-retardant



PKI 9300 Protective Suits

The choice of the adequate protective clothing is determined by the different characteristics of hazardous agents and the operating conditions. Protection of these clothes is provided by styling, special fabrics, their resistance against contaminations and/or heat or coldness. **PKI** offers protective suits for numerous requirements such as chemical resistance, heat protection, underwear overalls against coldness and much more. Please let us know your requirements enabling us to issue a specifically designed offer for you.



Specifications	
One-way protective suit	Protection class II, overall, with hood, double zipper cover
Protection	Against anorganic acids and caustic solutions and a large variety of organic chemicals
One-piece protective suit	Polyamid fabrics, one side PVC coated
Operation	For salvage crews, can be used with compressed air breather of complete mask
Two-piece protective suit	Comprises jacket and overall, to be worn over normal clothing
Protection	Against liquids which are self-inflammable. This clothing is meant for self-rescue and not for active fire rescue

PKI 9305 Bulletproof Briefcase

This briefcase grants important persons excellent protection from unexpected events regarding assaults with weapons. **PKI 9305** comprises a ceramic plate with additional Kevlar material, the briefcase nevertheless offering enough space for the usual manager documents. In case of imminent danger, **PKI 9305** is used as a protective shield, like a bulletproof vest, in which case the advantage is that it is flexible enough to protect individual body parts.



Specifications	
Hard-top case	Black
Dimensions	External: 48 x 35 x 12cm, internal dimensions for documents: 46 x 32 x 8cm
Weight	6.5kg
Threat level	NIJ 3A

PKI 9310 Breathing Mask

This **PKI 9310** breathing mask offers nearly 100% of natural field of vision. The voice transmission is outstanding due to the ideally positioned speech membrane and the special sound conduct. The connecting piece comes with inhalation and exhalation valves. Speech membrane and thread connection are fixed by adjustable straps to the face mask. Impacts are diverted by the specific construction of mask.



Specifications	
Material	Neoprene of mainly non-aging and skin-friendly mixture
Classification	EN 136-3
Weight	0,68kg
Note	Normal pressure mask, round thread according to EN 148-1, suitable for safety helmet PKI 9315

PKI 9315 Safety Helmet for Fire Brigade

Numerous outstanding details make this **PKI 9315** helmet one of the best worldwide. Not only the integrated lamp but also the unmatched GFK-fabrics provide highest stability and resistance to impact even at extreme temperatures. Wearer of glasses appreciate the large face piece. The neck protection is made of heat and flame resistant material. Size adjusting can be done from outside and even with fire-fighting gloves.



Specifications	
Classification	According to EN 443 and pr EN
Interior	Comfortable padding
Chin strap	Trapezoid for ideal fitting
Ear protection	Integrated in padding
Colours	Grey, white, blue, red, green, silver or green shining
Note	Voice radio can be built-in
Helmet lamp	LED technology 100.000 hours lifetime very high illumination battery 3x AA can be removed and used as hand lamp (possible with fire-fighting gloves)

PKI 9320 Breathing Device with Compressed Air

Without this unit of our **PKI 9320** it is impossible to enter a burning building. The compressed air tank is attached to a body-comfortable strap-on device made of light carbon fibre. The straps can be twisted and is flexibly connected with the carrying tray. Lateral adjustment can be done via special straps. The shoulder straps are easily adjustable for various body sizes and are secured against unintended twisting. The compressed air hose is conducted over the shoulder.

Specifications	
Weight	4.9kg
Filling junction	For 300 bar
Approval	EN 137 and vfdb 0802
Belts and straps	Flame-resistant
Air supply	>1000l/min, sufficient for 2 persons
Compressed air hose	With security plug-and-socket clutch
Manometer	After glowing display
Various	Indicating remaining usage time automatic alert immobility manual emergency alert
Temperature display at the push of a button data recording	
C-data can be transferred on PC via IR interface	



PKI 9325 Heat Protective Suit

This **PKI 9325** suit offers protection against flames and intensive heat and has been designed for longer operations. It enables the fire fighter to cope with special high risk operations and rescue actions which require additional use of respirator as well as head-, hand- and foot protection. The sight glass is made of laminated safety glass, curved, gold steamed, 100 x 220mm large.

Specifications	
Material	Special fabrics made of glass fibre, flame-retardant cotton lining
Hood	Suitable for fire brigade helmets and breathing masks
Gloves	Back of hand skulpo cloth, Kevlar/glass palm heat-resistant chrome split leather
Boots	Kevlar/Glass 660g/ m ²
Bag	600 x 350 x 300mm
Weight	8,8kg
Note	Easy dressing due to front, back and leg zipper, also with respirator



PKI 9330 Medical Kit / First Aid Box

The medical kit for injuries by fire is made of ABS plastics and comes with a wall retainer. The bandaging material is suitable for first aid. Its aluminium evaporation avoids adhesion to the wound. The first aid box is equipped with a carrying handle for mobile use. The kit comprises all necessary tools for first aid of up to 5 persons according to NORM Z1020.



Specifications	
Dimensions	400 x 300 x 150mm
Colour	Signal orange
Content medical kit	Compresses, bandage tissue, special bandages for face, head, hand, arm and leg, cooling pad, sterile water, infusion set, injection set, scissors, rescue blankets
Content first aid box	First-class bandages, compresses, bandage tissue, gauze bandage, adhesive plaster, splinter tweezers, scissors, tourniquet,
Note	The medical kit can also be adapted to individual requirements

PKI 9335 Quick Operation Tent

This inflatable tent can be used on any occasion where quick action is required such as accidents, first aid, necessary decontamination with a shower or as headquarter. The load bearing, air-filled construction consists of both-side coated NBR fabrics. The tent comes complete with 4 windows, removable floor and additional ballast tanks for better stability on sealed surfaces.



Specifications	
Dimensions	5 x 4,4 x 2,8m
Floor space	20 m ²
Size packed	1,4 x 0,75 x 0,7m
Operating pressure	0,25bar
Volume hose frame	Approx. 1.650l
Filling sockets	3 pieces
Overpressure valves	2 pieces diagonally arranged
Weight (with packing blanket)	Approx. 90kg
Air filling	PA bottle 6l/300 bar or foot-operated air pump or fan 0,25bar, 7,8kg, 230V/50 HZ, 1,1kW
Note	Tent heating, partitions, tent lighting, additional blankets on request

PKI 9340**Acoustic Hailing Device**

PKI 9340 is a high performance loudspeaker system constructed in an ultra-compact array format for excellent speech intelligibility at distances of 500 to 1000 metres. It is one of the most powerful systems available world-wide in its size. Typical operational uses for **PKI 9340** are:

- Support of logistics and operations management
- Sound reinforcement of large areas
- Civil unrest
- Large scale fires
- Hostage situations
- Rescue and search operations
- Evacuation from dangerous terrain
- Psychological warfare
- Securing a flight zone
- Training over large areas
- Public speaking with announcements



The use of high efficiency precision loudspeakers in combination with the latest in amplifier, battery and speaker technology, creates a superior performance within such a small package. The acoustic design of the **PKI 9340** allows the system to be cascaded to double the output of the system (+6db) and effective radius. Modern battery management allows operational battery life to be extended from 6 to 24 hours and for standby use up to 120 hours. The optional remote control allows operation even from an undercover position or while on the move. The robust folded aluminium housing has been developed for use by the military, police, fire and emergency services as well as rescue and disaster relief organisation.

Specifications	
Operating range	+/-10dB 300Hz to 10kHz; +/-3dB 500Hz to 8kHz
Long term (dB SPL) with 1 KHz, one-third octave band noise	130dB / 132*dB
Output RMS	1m 132 / 134*dB SPL@1kHz
Calculated output max.	1m 134 / 136*dB SPL@1kHz
Output peak (dB SPL)	1m 136 / 138*dB SPL@2kHz (Lim.)
Coverage with 85dB 500m / opening angle 60°	
Speaker Assembly	2 x 3/4* ND-high-power-driver, weather resistant
Beam width/nominal coverage	60° x 35° (hor. x vert.)
Signal-Alarm	Release button for alarm signal & volume control
Output	XLR or MIL-standard, low impedance
Security system AP-Lock	Semiautomatic / 3 steps with LED indication (optional RFID, key-less-go)
Mixer inputs	4 variable industrial and MIL-standard inputs
Battery	2x12V, 3 or 1 x 7Ah, sealed lead-acid battery or 1x LI BB-2590/U 15Ah
DC external power supply	9 to 32V DC with cda-120
Operating time with PB-battery	6- 24h (depending on the program)
Standby	> 60h
Battery protection /display	Integrated deep discharge protection, 3-stage display
Audio-recorder	MP3-recorder integ. Ad-hoc-recorder external MP3 recorder
Microphone/wireless	ML-515 with PIT or wireless microphone XLR plug-transmitter for ML-515 RPL-600 recording/play/PTT microphone
Backpack	Sturdy bag with carrying
Dimensions	330 x 290 x 200mm
Weights without backpack	5,8kg
With backpack	6,8kg
Waterproof transport case	8,2kg

PKI 9345 Megaphone of the Latest Generation

There are different types of megaphones. The **PKI 9345** megaphone is so remarkable, as it offers a recording function i.e. the message which is to be transmitted can be stored beforehand. Common direct announcements, of course, are also possible. Its small dimensions and light weight are ideal for everywhere use, especially due to comfortable handle grip and bearing loop. Furthermore, it can be used either with standard or rechargeable batteries.

Specifications	
Dimensions	250 x 146 x 210mm
Weight	595g
Output power	6W
Middle sound pressure	(1W/1m): 92dB
Power supply	6 x 1,5V type AA batteries
Housing	Plastic, splash-proof
Microphone	Built-in
Digital recording	Possible
Mode of operation	Play, direct announcement, record
Volume and on/off	Built-in
Range	500m
Note	Megaphone with transmitter and receiver available on request, higher output power can be supplied



PKI 9350 Mobile Monitoring Station with Telescopic Mast

PKI 9350 operates completely autonomously, i.e. it is provided with its own power supply (rechargeable battery, generator). Cameras for day/night, floodlights attached to a telescopic mast extendable up to 12m. All electronics such as A/V recorder, transmitter for wireless data transmission, etc. are integrated into the trailer. **PKI 9350** is equipped as requested by the customer and should not be missing at any police operations centre. A megaphone can also be integrated (refer to **PKI 7435** and **PKI 9340**).

Specifications	
Dimensions Trailer	2.20 (L) x 1.80 (W) x 3.50m (H)
Weight	750kg – 1,250kg depending on the equipment
Mast	4 extendable cylinders, max. height 15m
Power supply	220VAC or 110VAC (option)
Operating Voltage	24VDC
Approvals	CE-certified, IP65
Miscellaneous	Ask for your individual requirements regarding the monitoring equipment.



PKI 9360 Police and Military Vehicle

PKI 9360 is an all-terrain vehicle offering high mobility and meeting high security demands with respect to ballistics, IED and mines. This vehicle fitted with permanent all-wheel drive, a fully automated transmission and 3 differential locks has been developed for current police, military and paramilitary operations. **PKI 9360** is made of special armoured steel with composite materials to protect the crew. It also includes standard equipment such as bullet-proof windscreens, mine protection and securing points at the frame for transport by air, sea and train.

Specifications	
Power	250hp / 184kW
Torque	950Nm
Max. speed	100km/h
Gradeability	Up to 60%
Side-slope	Up to 35%
Turning radius	8m
Fording depth	850mm
Cruising range	600km
GVW	12,500kg
Payload	Up to 2,500kg
4WD	Permanent
Differential locks	3 x 100%
Tyres	335 / 80 R20
Seat capacity	Up to 2 + 8
Tyre inflation system	Automatic
Suspension	Coil
Brake system	Disc
Protection level	STANAG 4569
Ballistic (up to)	Level 2
Mine (up to)	Level 2
IED	Approved



PKI 9365 Silent Generator

Electricity is needed always and everywhere, but frequently a mains supply is impossible. Of course, generators are also available everywhere, but our **PKI 9365** is something special. This powerful generator with a continuous output of 3.5kW is embedded in a sound insulation capsule so that it is almost inaudible. Its super silent, extremely compact and lightweight design allows for a very large number of special applications.

Specifications	
Dimensions	575 x 365 x 550mm
Weight	97kg
Sound level	v7m = 54dB, 3m = 64dB, 1m = 69dB
Cooling system	Heat exchanger, water
Starter system	Electric
Remote control	Via control unit
Engine	Farymann
Engine displacement	298ccm
Speed	3000rpm
Nominal power	3.8kW
Continuous output	3.5kW
Voltage stability	230V +/- 5%
Frequency stability	50Hz/ 2Hz



PKI 9375 360° Crime Scene Camera

PKI 9375 is a special tripod-mounted camera with combined LED lamps turning around its axis as a unit on the tripod in 7 ¾ minutes and recording the 360° view. Independently of external light and power sources, the camera scans every location in 26 aperture stops in order to reproduce all contrasts and thus all details correctly. Twice, it scans different heights with its fisheye to be able to calculate the position of all objects in the room afterwards. **PKI 9375** has been developed for the specific documentation of crime scenes, i.e. the analysis and investigation of criminal offences and is the future of forensics. Even after years, the investigators could still search for clues. The associated software allows to consider and to measure traces in the context of the environment and to record all information. This clever **PKI 9375** camera is also suitable for many other purposes wherever the task is to detect and to represent rooms and objects exactly three-dimensionally, i.e. it is possible to configure **PKI 9375** for individual purposes. The military and security services that can simulate, train and document operations with this technology, are also among the users of this special camera. The used software allows virtual access to a crime scene site and provides forensic professionals with an ability to revisit a crime location via a rich interactive display all from their desktops. It facilitates remote virtual location access whilst also offering a collaboration tool between multiple Police/Forensic staff, providing them with a communication method in the timeliest and cost effective manner.



Specifications	
Dimension	Hard protective case
Weight	6.5kg
Resolution	32bit HDR (high dynamic range) image capture technology
Lighting environments	26 aperture stops with automatic adjustment
3D measurement	Unique, photogrammetric immersive measurement technology

PKI 9380 Forensic Vehicle Laboratory

Crime is continuously increasing all over the world. In order to increase the detection rate trained personnel and adequate tools of latest technologies are crucial. The **PKI 9380** vehicle can be equipped according to requirements of your department. You determine top priorities, whether more forensic equipment, murder clarification case or a laboratory for DNA analysis is required. In order to technologically support the investigation and solving of a criminal case, we can also deliver the latest hardware.



Specifications	
Basic equipment	Emergency generator, air condition, fridge, various microscopes, chromatograph, murder clarification case, forensic case, digital images and video equipment, computer with the corresponding software, laboratory workstation, various devices for analysis, portable lighting unit, VZA bowls and case for storage, identification kit, chemical forensic kit, blood tracing kit, various versions of silicone kits, various laboratory apparatus for examination of blood and sperm, nitrate examination equipment, activating device for neutrons (NAA-kit), powder analysis unit for narcotics and ammunition, equipment for taking cadaver tissue samples, set of masks against putrefaction, various mechanical tools, etc.
Vehicle	Mercedes Van or as per your demand
Various	Second-hand vehicles on request



PKI 9385**Artificial DNA**

PKI 9385 is a chemical tincture which has a unique composition like natural DNA. The application of a small spot of this artificial DNA on valuable goods, that might be exposed to the danger of being stolen, guarantees the owner to be able to identify them later. **PKI 9385** is a transparent liquid which can hardly be removed due to the adhesive which is included in delivery. The liquid consists of different chemical elements, one of which becomes visible under UV-light. Numerized micro points represent the authenticating mark of the artificial DNA, as their composition is unique. These DNA sequences are registered and can be analyzed in laboratories.



Specifications	
Liquid, 10 ml filled in a little bottle	Artificial DNA, transparent, a biochemical marker
Comes with	UV-lamp for visualisation of the biochemical marker, PC software, analysis device
Note	Sufficient for thousands of markings

PKI 9390**Visual Theft Detection Set**

This theft detection substance sticks on the hands or fingers of the person that touches an object on which it has been applied. The colour won't completely disappear before several days. This is a reliable and quick method to convict thefts. This special powder is the ideal protection of valuable coins, banknotes, important certificates and documents, etc. Even for outdoor purposes the **PKI 9390** is fully suitable, as for example for protection of laptops or other objects with plain surfaces.



Specifications	
Powder/paste available in the following colours	Grey, black, red
Contents	60g
Protective gloves and application sticks are included in the set.	

PKI 9395**Invisible Theft Detection Set**

These substances will stick on the hands or fingers on contact. Compared with the visual theft detection substances, they only become visible under UV-light. These invisible substances find their application field rather in long-term observation activities of suspicious persons. Even smallest quantities of the **PKI 9395** powder or paste will become visible under UV-light (included).



Specifications	
Available Colour	Neutral, turns to green under UV-light
Contents	60g
UV-light, protective gloves and application sticks included	

PKI 9400 X-Ray Spray

The **PKI 9400** is a reasonably priced, very effective and quick technique to check incoming mail for suspicious contents. No need for electrical power or complex material. The direct visual examination protects you from false alarms in the case of metallic items such as staples or paperclips, which may occur when using metal detectors. This X-ray spray is the perfect mail examination tool for security personnel, incoming mail departments and director's offices. The use of the **PKI 9400** is as easy as possible. Just spray it onto the suspicious envelope, which becomes transparent. After a few seconds the liquid will evaporate without leaving any traces and free of residues. With its quick and easy use, the **PKI 9400** perfectly completes the use of metal detectors and electronic mail scanners, in order to affect a first check of the incoming mail.



Specifications	
Contents	Approx. 170g
Dimensions	Approx. 150mm x 50mm
Total weight	Approx. 210g
Ingredients	Non-toxic, non-inflammable, highly volatile
Packing unit	12 cans per carton

PKI 9410 Professional Access Control System

This professional access system combines 2 parameters that have to be met for access. Fingerprint identification and face controlling. The integrated high resolution infrared camera enables 5000 face templates. The **PKI 9410** is provided with a RS232/485 interface for computer storage. In addition, authorized persons can directly use it with HID card.

Specifications	
General	4.3" TFT touch screen; Face and fingerprint identification; 500 face templates; 2000 fingerprint templates; High resolution IR camera TCP/IP, RS 232/485
Standard function	Extendable schedules-bell self-inquiry, work code short message, T9 input power suppl: 12V 3A
Option	GPRS, serial printer, ID/Mifare/HID card, battery backup, 1500 faces



PKI 9415 Portable Forgery Detector

The **PKI 9415** is a versatile, compact and portable forgery detection system for the examination of all types of suspect documents. It is particularly useful for officials and immigration officers at sea- and airports, mobile border controls and the scene of crime officers. A large unobstructed working area allows quick and easy examination using the four integral light sources:

- A diffuse white light for visual examination in low light conditions
- Two black light lamps providing a strong ultraviolet source for examination of bleaching, alterations and fluorescent security marks
- A transmissive source for inspection of watermarks and internal threads
- An intense fibre optic illuminator for examination of intended writing and for transmission through photographs.

PKI 9415 can be operated by three different power sources: an internal battery, a wide range of AC power supplies and an external DC power source - like car batteries.

PKI 9415 is housed in a rugged ABS hardcover case with "O-Ring" sealing for the protection against water, dust and other contaminants.



- Rugged construction
- Flexible fibre optic
- Lightweight
- Four light sources
- Mains/battery operation

Specifications
A - Light Sources
aa Ultraviolet, 2 long wave lamps each 4W, 150mm, 365nm, housed in a stainless-steel reflector for maximum illumination
ab Visible Overhead, single cool white lamp, 4 Watts, 150mm mounted between UV lamps
ac Transmissive, 2 cool white lamps, each 4 Watts, 150mm mounted behind a white plastic window
ad Fibre Optic Source, high intensity quartz halogen lamp with internal prefocussed optics giving maximum efficiency with the fibre optic, 9W
ae Fibre Optic, flexible glass fibre light pipe, 5mm active area, 1000mm length, click-fit connection to light source. Stored in tool storage wallet when not in use.
B - Mechanical
ba Housing, rugged ABS plastic case with soft feel handle. completely waterproof when closed bb Size: 355 x 250 x 160mm
bc Weight: 5.2kg with 1.2Ah accu, 7.25 kg with accu 7.0Ah
bd Internal wallet for tool storage - size 175 x 115 x 35mm
C - Electrical
ca Internal Battery, option of 2 battery sizes, Standard 1.2Ah or extended life with 7.0Ah 1.2Ah gives 1 hour constant use, 7Ah gives 6 hours constant use.
cb Mains Power, 90 to 260VAC. The battery is charged automatically
cc External DC power supply, 10 to 14VDC via a 3.5mm jack. Optionally leads for connection to vehicle power systems are available on request
D - Switches
da Internal or external DC-source selector. Switching to external position isolates the internal battery
db Lamp change. Push button switch for sequential switching of lamps. Sequence: off - overhead white - ultraviolet - transmissive -fibre optic - off

PKI 9520 Opening Set for Car Doors

Already for many years government departments like police, special tasks forces, military and intelligence squads rely on this sophisticated set with its comprehensive scope of equipments. **PKI ELECTRONIC INTELLIGENCE** recommends this set to each of these departments for European cars of latest generation with or without "Safe-Guard-Locking". The **PKI 9520** is a full set of cars opening tools, accessories and illustrative documentation on videos and booklet. All parts are packed in an artificial leather bag for carrying and storage.

Specifications	
Videos and books	2 Video tapes with car opening methods 1 Booklet with car opening methods
Accessories	2 Pressure cushions 1 Vehicle sleeve 1 Suction-lever for vehicle doors 1 Wedge, 9.5mm 1 Wedge, 19mm 1 Torch lamp
Universal Openers	1 Universal hook, horizontal 1 Universal hook, vertical 1 Opening set "hooks and slings" 1 Opening set "Euro Strip"



PKI 9525 Door Opening Kit for Cars and Rooms

Professional observation often requires the installation of surveillance devices in locked rooms or cars. In order to solve this problem, we have developed an universal kit for opening doors of rooms and cars. The **PKI 9525** should be the basic equipment of every government organisation being involved in the fight against terrorism and criminal acts. It contains the standard pick sets, hooks for opening the doors of cars and a gun plug for grinding barrel locks. If required, we can of course also offer the complete range of our door opening devices plus our training seminars at our premises. We wish to point out that the user of our door opening kit must have some experience and talent in order to be successful in this field.



Specifications	
Dimensions of the aluminium case	320 x 240 x 110mm
Weight of the case	2kg
Contents	24 picks, 2 hooks for opening cars, 1 gun plug
Kit for beginners	
Universal kit for room and car locks	
Small and lightweight	
Delivered in an aluminium case	

PKI 9530 Car ID Set

Very often the original chassis numbers of stolen cars, machines etc. are made invisible, grinded away or even replaced by new, forged numbers. With our **PKI 9530** the originally stamped numbers can be made visible again. This identification set especially has been assembled for the use by special police forces and other government departments being related to the identification of stolen cars or other valuable items. Basically, a testing can only be executed on iron materials and if the ID-numbers have been impacted automatically or by hand. A magnetic flux is produced in the soft-iron-core by two magnetic coils. This magnetic flux is directed into the material via the poles. If the lines of magnetic flux impact vertically hit on a material-compression, some of the lines drop out of the material and from the magnetic stray field at the compression field point. Now the magnetic powder has to be applied on the compression point and the magnetic stray field will attract all available iron parts of the powder in order to react against the magnetic air-resistance.

Specifications	
Content	1 Pce hand yoke magnet for evidence of grinded ID-numbers 1 Pce UV lamp for visualisation of numbers 1 Pce NFR 101 Aerosol tin, high fluorescent magnetic powder 1 Pce cleaner for degreasing of surfaces
Power supply	220VAC, 50Hz
Dimensions	Approx. 480 x 380 x 200mm (standard briefcase)
Weight	Approx. 12,5kg



PKI 9535 Door Opening Case

This modern shaped case is equipped with every necessary tool for opening of locked doors. With the **PKI 9535** we have combined our long-lasting experience in this field together with "State-of-the-Art" tools for a professional and quick opening of every kind of lock. It is a must for any government department, like police forces, special tasks forces and intelligence services to obtain immediate access to rooms and buildings whenever closed and locked doors prevent the direct entrance. The content of the **PKI 9535** has been determined by us in close co-operation with our customers and according to their needs. Special configurations, of course, can be affected whenever our customer is asking for. Contact us and inform us of your special requirements.

Specifications	
Content of the PKI 9535 Door Opening Case	Pointed pliers, straight
	Pointed pliers, cranked
	Screwdriver set
	Lubrication spray can
	Set of ring/open end spanners
	Ratchet spanner, size 17-19
	Support for pulling screws
	Pulling bell
	Pulling plate for circular locking cylinders
	Pulling plate for profile locking cylinders
	Handgrip
	Pulling screws, 4.2mm diam. - 20 pcs
	Pulling screws, 5.5mm diam. - 20 pcs



PKI 9540 Simulated Training Kits

PKI Electronic Intelligence provides different training kits containing simulated IEDs. **PKI 9540** kits are designed to train special forces and security personnel giving them knowledge of various types of identical explosive material. A wide range of simulators replicating the most commonly used explosive materials including detonators and activation mechanism is available as well as an assortment of simulated IEDs used for the perpetration of mass attacks. Even more training kits for different applications such as identifying IEDs in X-ray machines at airports, simulated IEDs concealed in electronic devices, clothing or common items for daily use can be supplied by **PKI Electronic Intelligence**. Please let us know your requirements and we will offer you an adequate training kit.



PKI 9545 Belt Flashlight

PKI 9545 is our highlight among the flashlights. Up to 400 lumens with one CR 123A battery. This top mark is achieved by this lamp as one of the first of its class worldwide. Watertight (IPX8), electronic control with temperature sensor, self-supporting on the end cap, exchangeable tactical ring and an application-optimized light pattern are facts that convince even demanding experts. With a weight of only 69g it is ideal to be worn on the belt and is always ready for use, where required.

Specifications	
LED	Extreme power LED
Length	88mm
Weight	69g
Lighting current	400Lm
Battery	1 x CR 123A
Energy tank	3.9Wh
Operating time	2h
Luminous range	100m
3 light functions	Power, low power, defence strobe



PKI 9550 Inspection Mirror

The security inspecting device **PKI 9550** is developed for visual inspection of vehicles, cargo, inaccessible dusky areas and used for police authorities, security agencies, customs etc. **PKI 9550** is a light-weight item with durable, adjustable and built-in LED lights. 4 different-sized mirrors are included in delivery scope.

Specifications	
Size	Min. length = 690mm max. length = 1865mm
Weight without mirror	470gr
Working temperature	From -20°C to +50°C
Light source	5 emitting LEDs
Illumination distance	500mm
Battery	2x AAA
Stand-by time	At least 9 hours
Mirrors	Ø 73mm, Ø 107mm, Ø147mm, 177mm x 70mm



PKI 9555 Under Vehicle Video System

The use of car bombs, ignited by suicide terrorists, more and more become a deadly threat. Every government organisation has to protect themselves against this. The **PKI 9555** Under Vehicle Video System is the most useful device for customs, police authorities and security personnel to investigate vehicles from underneath at borders, checkpoints and premises like embassies, energy plants, banks and other security-related commercial buildings. **PKI 9555** Under Vehicle Video System enables every security personnel to identify any suspicious item (weapon, bomb, contraband etc), carried underneath a vehicle. By means of a motorised shuttle and the use of computerised video-vision system every vehicle can be examined thoroughly. The observation unit is equipped with a high-resolution monochrome camera and an illumination system and transmits the pictures to the notebook for further examination and storage.



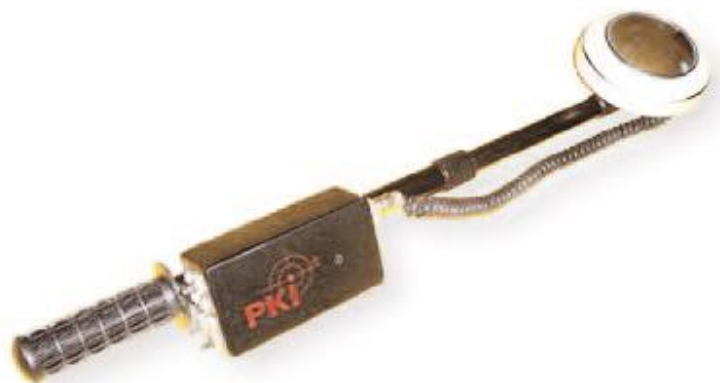
Specifications	
Easy to manoeuvre under vehicles	
Portable and mobile	
On-time viewing by video technology.	
Recording and storage on notebook	
Camera linear CCD	
Pixel speed 20MHz	
Power supply 12VDC	
Power consumption 600mA	
Lens 12mm	
Field of view 120°	
Light source halogen lights	
Dimensions approx. 480 x 480 x 90mm, for observation item	
Receiving station laptop	



PKI 9560 Magnetic Clamps Detector

Controlling the entrance of sensitive areas means that each and every passenger car or truck has to be checked carefully. This device is a part of the different instruments used to investigate vehicles from underneath, like inspection mirrors, explosives detectors or bomb sniffers. The **PKI 9560** is only destined to detect magnetic clamps mostly used to install auto bombs, drugs, vehicle location equipment etc. beneath cars. A convex mirror on the magnet sensor allows a quick and easy optical control in conjunction with the location of magnetic waves which are indicated as an optical alarm signal. You can choose between 2 different levels of sensitivity. An additionally control lamp shows the charge level of the built-in battery and a reset switch is used to neutralise the instrument as to magnet waves.

Specifications	
Dimensions telescopic arm	Standard 45cm, extended 110cm
Weight	2,6kg
Diameter of the sensor	110mm
Power supply	Built-in 12V rechargeable battery
Accessories	Battery charger
Easy to handle	
Easy location of magnetic clamps	
Sturdy housing for the electronic	



PKI 9565 Mobile Vehicle Monitoring System

PKI 9565 is easy to install and dismantle, i.e. it can be deployed anywhere as required. The automatically operating digital line scan camera with high resolution enables excellent image quality. Even objects with a diameter of 2mm can be detected. The additional automatic number plate recognition makes **PKI 9565** indispensable for road surveillance. All data is stored digitally and can be transferred and retrieved at any time or viewed on the integrated screen.

Specifications	
Effective Field of View (FOV)	Less than 170°
Check the width viewing angle	<4 meters
Scan Mode Full Auto	5000*2048 pixels
Auxiliary light	100W
Weight capacity	< 20T
Water-proof grade	Ip 68
Scanning device volume	450 x 400 x 88mm
Scanning device weight	24kg
Speed of vehicle	< 30km/h with ALPR (Automatic Licence Plate Recognition)
	< 70km/h without ALPR (Automatic Licence Plate Recognition)



PKI 9570 Door Opening Set Multipick

The **PKI 9570** is used for a non-destructive opening of each kind of modern cylinder locks. Its working method is quite similar to the well-known electropick system but being an advanced system, the **PKI 9570** can be used in the same way at a higher sophisticated level for nearly every known type of lock. By the use of the optionally available accessories, this system can unlock “exotic” locking systems as well. Therefore, it should not be missed to have this device available in every government department being involved in fights against criminal acts and where a direct access to locked rooms is important. For the way how to use this special set please contact us for the next training held at our premises. **PKI 9570** is powered by 24VDC using the supplied battery pack and therefore is independent from any mains power supply. The battery pack is charged by the supplied electronically regulated mains adapter.

Specifications
Multipick-handheld unit complete with needle-holder
24VDC battery pack
Main's adapter, electronically regulated
Set of picking needles, 50 pcs
Spanning tools, 2 pcs
Hexagon socket screw key, 3mm
Operational manual



PKI 9575 Professional Lockpicking Set

In close co-operation with our customers and German authorities, **PKI ELECTRONIC INTELLIGENCE** offers this extraordinary set which successfully is in use by many police forces, fire brigades, intelligence departments and authorised locksmiths worldwide. Beside the supplied material, **PKI ELECTRONIC INTELLIGENCE**, also offers trainings and seminars in regard to every door-opening purpose. Please ask us for suitable dates. Nearly 40 years of experience in this field enabled us to offer the **PKI 9575** as the most complete set of professional tools and accessories for an immediate action in lock-picking tasks. But as the development in this specific field proceeds rapidly, we always improve our scope of supply in this regard and to the benefit of our customers



Specifications	
1 "PARAT" Leather case	1 Screwdriver, 1.6 x 6 x 150mm
1 Torx-Bit TX 20	1 Spanning tool TR-4
1 video tape about lockpicking	1 Plastic profile cylinder locker
1 Philips-bit, size 2	1 Spanning tool TEN-2
1 "ROCKO"-Vario-Set	1 Opener for "Melchert" armatures
1 Universal holder	1 Spanning tool TEN-5
1 "Zieh-Fix Premium"-set	1 Needle set for door foldings
1 Connection Sk-3/8"Avk	1 Spanning tool TNT-20
1 "Zieh-Fix"- set	1 Lever for door foldings
1 Nut SW 17, 3/8" drive	1 Opener for cross-bearded locks
1 Pulling plate for profile locking cylinders	1 Set of cards for door opening
2 Ti-drills, 1.0 mm	1 Flipper
1 Pulling plate for circular locking cylinders	1 Square bolt, 8mm for extraction of 72mm locks
2 Ti-drills, 3.5 mm	1 Window opener
1 Can of cutting and lubrication spray	1 Square bolt, 10mm for extraction of 92mm locks
2 Ti-drills, 10.0 mm	2 pick-needles, straight pick
1 Special screwdriver TX20	3 Protective collar for "Zieh-Fix Premium"
1 Hook K 1-12	2 pick-needles, angle pick
1 T-key nut, SW 17	50 Pulling screws standard
1 Hook O 1-15	1 Tubular-Pick Standard
1 Pointed pliers, straight	50 Pulling screws extra
1 Extractor set	1 "Zieh-Fix" electro incl. charger
1 Pointed pliers, cranked	50 Pulling screws super
1 Pick set	1 "Zieh-Fix" Novum pick needle set
1 Screwdriver, 1.2 x 8 x 150mm	3 Profile cylinders 30 - 30mm
1 Spanning tool TR-25	1 Video Tape "Electro-Picking"

PKI 9580 Lock Opening Device

This **PKI 9580** has been designed as an assortment around the well-known mechanical tearoff device for the opening of every kind of locked doors and has been assembled in close co-operation with a large number of our customers from all over the world. No matter what kind of locks, whether round-type or cylinder-type is to be opened, this set offers the best possible choice to every kind of government department. Even breaking of fixed links is possible with this set of high-quality tools.

Specifications

The professionally assortment of this kit consists of the following parts:

- 1 pc carrying and storage case
- 1 pc mechanical tear-off device
- 1 pc tear-off plate for profile-cylinders, 14.7mm diam.
- 1 pc tear-off plate for round-type cylinders, 16.8mm diam.
- 100 ml special lubrication spray for cuts and slidings
- 1 pc special graphite slip additive for hub-screws
- 1 pc special screw-driver TX 20
- 1 pc special T-key with nut SW 17
- 1 pc short, straight pointed pliers
- 1 pc bended pointed pliers
- 1 pc screwdriver 1.2 x 8 x 150mm
- 1 pc screwdriver 1.6 x 6 x 150mm
- 1 pc Universal-profile-cylinder- locker
- 1 pc opener for Melchert-Visor-type locks
- 50 pcs pulling-screws, type standard for mechanical tear-off device
- 50 pcs pulling-screws, type extra for mechanical tear-off device
- 50 pcs pulling screws, type super for mechanical tear-off device
- 1 pc profile cylinder 30 - 30mm
- 1 pc CD/DVD-Video-Demonstration-Cassette



PKI 9585 Door Opening Kit for Cars

In many cases of surveillance, it is of utmost importance to open a monitored car without any risk of damage in order to install for example microphones, cameras or GPS-systems. For this application there are different systems available which we have combined in one set:

- 1.) Decoder for car lock cylinders
- 2.) Lock picks for car lock cylinders
- 3.) Car lock scanner
- 4.) Car killing kit



These special tools can also be delivered separately. In most cases it is important to find out the model and year of manufacture of the car, for example by using our decoder for car lock cylinders. With this code you are now able to directly compose a special key for the car by using the provided master keys. For this, you do not need any further tools or machines. Everything is contained in the set. Our software can decode even the latest generations of car lock cylinders and then offer a proposal for the key code. Concerning the lock picks, it is also essential to know the model and year of manufacture of the car. Please indicate this together with your order. The tools of the car lock scanner are used to crack the code of the plates integrated in the tumbler of the car lock cylinders even of the latest generation. By means of the cracked code it is now possible to cut a matching key. The car killing kit consists of different bent needles made out of steel wire which are inserted through the rubber joint in order to reach the locking mechanism of the car.

PKI 9590 Electric Powered Multipick Door Opening Kit

This door opening kit works with up to 44.000 vibrations per minute. Even locks with more than 20 tumblers on several locking sections can be opened within seconds. The frequency of the strokes can be adjusted continuously. The power supply is guaranteed by means of a built-in battery. Most of the opening kits of our competitors destroy the door lock which is of course acceptable in case of an emergency. However, such tools cannot be used for surveillance operations. **PKI 9590** can be used in order to open and relock all current available key cylinders without damaging them at all. This is imperative for all kind of room surveillance. The **PKI 9590** works in such a way that a special pick is inserted into the locking canal of the key cylinder. The pick is then put into extremely high vibrations which are transferred at the correct angle to the locking bolts of the key cylinder. The locking bolts put into such a vibration fall into their corresponding locking positions and such enabling the core of the key cylinder to rotate freely as if it was opened by using a matching key.

Specifications	
Dimensions	38 x 28 x 8cm
Power Supply	24V battery pack
	Handset with plain needle holder
Accessories	Electronically controlled charging unit 220V 50 plain picks 2 chuck tools 3mm Allen wrench Instruction manual in English



PKI 9595 Thermal Lance - Complete Unit

If there is no chance to open a door with conventional tools or if this is not possible because of any special material, we recommend our thermal lance. It penetrates any material like cast iron, steel, stainless steel, concrete, granite, nickel, ceramic or titanium compound as well as aluminium. The fuel rods reach a temperature of up to 5.500°C at the tip and therefore can cut, melt or liquefy the different materials indicated above. Each lance burns about 30 - 40 seconds. There is no other equipment available which is so versatile and reliable. The **PKI 9595** contains everything in order to carry all tools with you. The application is very simple and safe, because no dangerous acetylene or high power are required.



Specifications
Carrying device for fixing a 5l air tank and oxygene mounting
Belt for fixing the provided 12V battery incl. charging unit
Leather tubular for the 450mm long lances and scratch plate
Further accessories protective goggles, ignition cable, earth cable, oxygene hose, protective gloves as well as 9 pcs. lances 6,35 x 450mm and 6 pcs. lances 9,53 x 450mm

PKI 9600 Forged Chassis Numbers Identification Set

Unfortunately, the number of stolen cars is steadily increasing. The police has to face a serious problem. Even when they trace stolen cars, the original stamped chassis number often has been made invisible, grinded off or has been replaced by a new, forged number. Now **PKI** created the easy-to-use **PKI 9600** set which is indispensable in order to prove the car theft, as it makes the originally stamped chassis number visible again. You simply have to apply the adequate etching gel on the place where you suspect the chassis number, to treat it with the included brush and afterward with the neutralising liquid. In order to protect your hands always put on the included gloves. After this treatment the chassis number will clearly reappear.



There is a magnetic (**PKI 9530**) and a chemical (**PKI 9600**) procedure as the surface of the material with chassis numbers may vary from one car type to the other. So, it could be very useful to test both methods.

Specifications	
Dimensions of the aluminium case	32 x 25 x 10cm
Weight	1kg
Contents	3 bottles with etching gel for aluminium, steel and copper, 2 bottles with neutralising liquid, 1 brush, 1 magnifier with UV-light

PKI 9605 Key Copying Kit

Wherever it is necessary to place monitoring devices into a room, non-destructive methods to open and close locked doors are required. For such purposes, different methods are possible. Whether using our lock-picking devices or casting a perfect copy of the original key - in any way we can supply the right solutions. With our **PKI 9605** Key Copying Kit we offer the best way for all special forces to enter the room as often as required under the condition that the original key is available at least once. For each and every type of key you can easily obtain a totally identical copy of the original, without the need of any key blank and within only a few minutes. The original has to be fixed in the supplied mould and the mixed-up impression material has to be filled into this. After curing of the material, the original key has to be removed and the remaining shape is to be filled with the supplied special casting metal material. With this mould, several similar copies of the original can be done, one by one, within seconds.

Specifications:

- 1 Pc. metal casting mould
- 2 Pcs. support for keys
- 1 Block special metal casting material
- 1 Pc. burner with gas-cartridge
- 1 Pc. mixing bowl
- 1 Bottle hardener
- 1 Bottle interlace agent
- 1 Box impression material
- 1 Set tools, with screwdriver, knife, spatula, one-way syringes, casting spoon etc.
- 1 Pc. operating manual
- 1 Pc. carrying case for the whole kit



PKI 9610 Fast-Entry Equipment for Doors and Windows

If you need a fast solution. For some operations, a fast access shall be enabled. However, this should not be done with brute force but as inconspicuously as possible. For this purpose, with our **PKI 9610**, we have assorted an optimum set for non-destructive opening of doors and windows. Whether door trap opener, lever opening tool, tilting window opener or door and window lifting tools, wedges, lifting bags, etc. This set almost always enables fast and unobtrusive access. With these tools, unlocked doors are opened unobtrusively in seconds without being destroyed. The same applies to side-hung/tilting windows which, if unlocked, do not present an obstacle within seconds any longer. Complete set in a rugged carrying case. Whether in a hotel room, apartment door, windows made of wood, synthetic materials or metal. If these are unlocked, our tools will provide you an unobtrusive access. We are offering training courses for this non-destructive opening in our premises, and not only for doors.



PKI 9615 IR Light Barrier

Very often the surrounding conditions only allow a mobile and flexible intrusion protection especially in sensitive areas like mobile camps for police or military forces, industrial and / or private sectors where no mains supply is available. The **PKI 9615** is the smallest device available in the world-market for IR motion detection. Consisting of palm sized transmitter and receiver, the **PKI 9615** secures an area with a diameter of up to 70m against unauthorised intrusions. If a person crosses the invisible beam between transmitter and receiver, a radio-controlled acoustical and visible alarm signal is given to the receiver (pager). Optionally, this signal can also be transferred to a mobile phone by means of an interface.



Specifications	
IR-Wavelength	Approx. 940 Nanometers (invisible to human eyes)
Secured area	1 - 70m
Distance of alarm transmission	Up to 400m (depending on surrounding conditions) or unlimited range to GSM mobile phone via interface
Alarm	Acoustical and optical on alarm receiver (pager)
Power supply	9 VDC standard block battery
Dimensions.	Approx. 65 x 40 x 20mm
Weight	Approx. 300g

PKI 9620**Bulletproof Helmet**

PKI 9620 is produced using extremely dense aramid ballistic material to comply with level III-A ballistic performance. The interior includes trauma pads to help reduce user trauma and also contributes to user's comfort. With a cover, **PKI 9620** is compatible with side rails & attachments and is available in four sizes to fit comfortably & effectively on each user.

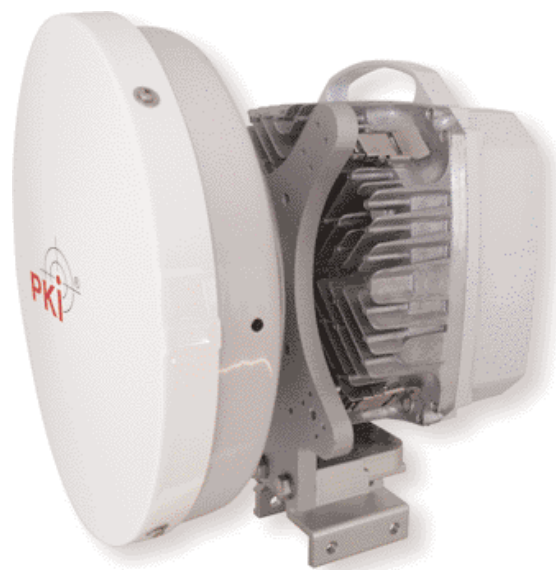
- State-of-the-art SPUA coating and anti-glare matte finish which features: low profile, waterproof, shock resistant and high temperature resistant performance.
- With the 4 points retention system with detachable and resilient foam padding it is 7 times more stable and secure even under intense operations. It also makes the wearers more comfortable due to the good ventilation and breathability performance.
- Advanced adjustable suspension system, durable Nylon strap/ harness with quick release buckle and breathable chin cup. Reinforced tactical side rails (ARC) and shroud with hooked elastic band, which is compatible with some tactical accessories such as night vision devices, goggles, camera, communications headsets, flashlight and etc.
- Conform to NIJ-STD -0106.01 Level IIIA (Modified) and STANAG2920, withstanding pistol ammunition like 9mm Para FMJ and .44Magnum SJHP shot from 5 meters, excellent fragment protection against high velocity shrapnels. The ballistic material of the helmet is made from Aramid/UHMW-PE fabric which features approx. 650m/s to 680m/s high V50 value (MIL-STD-662F) and excellent ballistic performance.



Specifications	
Material	Aramid/ UHMWPE
Size	267 x 245 x 165mm, one size fits for all, can be customized
Color	Black, Green, Tan, other colors are available for quantity orders.
Unit weight	1.52 - 1.72kg
Protective area	0.13sqm
Thickness	7.8 - 8mm
Ballistic Level	NIJ IIIA (9mm/ 44mm)
Accessory	Chin strap, Suspension system & Pad
Warranty	5 years
Size	S/M/L/XL

PKI 9625 Microwave Radio Relay System

Microwave radio transmission offers itself as a perfect solution for a voice-data connection across locations. Short, medium and long distances can be connected quickly and cost-effectively with a very high availability. Like all radio relay systems, the **PKI** Microwave and Radio Relay Systems require a direct line of sight between the terminal stations. Under certain conditions, a passive redirection using a mirror or coupled back-to-back antennas is possible. The operating range of our **PKI** systems depends on the selected effective bandwidth, the transmission frequency and the antenna diameter. Our **PKI** Radio Relay Systems operate in all adjusted frequency ranges from 7/13/18/23/26 to 38GHz. This way, transmission problems up to about 50 km radio field length can be solved reliably.



Advantages of **PKI 9625** are bandwidths up to 1000Mbit/s in full duplex voice and data transmission from buildings located far away from each other, bridging of streets, rivers, etc. The typical interfaces for the user are one or more E1 or S2m channels with 2.048Mbit/s, 100 Base TX or 1 Gbit/s.

- High safety from interception
- High availability > 99.99%
- Transparent transmission (direct LAN-LAN coupling)
- Low cable laying effort
- Simple monitoring via SNMP
- A radio relay connection requires radio field planning before installation. Site inspection and assessment of possible locations with the user.
- Check of the line of sight
- Determination of availability in relation to the weather conditions
- Clarification of the type of assembly
- Statics and design of the supports or poles
- Laying of cables, lightning protection, power supply, etc.
- On demand, **PKI** offers complete systems incl. the required assembly or civil works.

Specifications	
Frequency ranges	Directional radio 2.400MHz - 38GHz Gigabit directional radio 60 - 80GHz
Modulation	QAM 4 to 128
Bandwidth	From 3.5 to 56MHz
Capacity	From 2 to 622Mbps
Interfaces	1 - 16 E1, E3
	1 - 4 ETH 1800
	1 - 4 STM-1 and ETH 1000
Operating range	Up to 50km
Miscellaneous	Further specifications will be included in case of a specific enquiry.

PKI 9630 Special Entry Tool

This low velocity, indirect acting tool is designed for police, fire fighters, military and emergency response personnel to quickly gain access through locked doors, gates, security bars, fences etc. It uses special breaching modules with drive/cutting heads that move at speeds over 60m per second. **PKI 9630** is an indirect acting powder actuated tool which uses the expanding gases of a powder load to drive a piston rod forward. The piston rod then engages and drives a chisel or other type of object through a lock, bolt, padlock, window bar, or similar.



Specifications

Size	With flying chisel attached 495 x 45 x 159mm
Weight / tool	Loaded tool with flying chisel attached 2.9kg
Weight / full kit	6,8kg
Chisels and piston	Forged tool steel, especially heat treated for impact stresses
Striking force	13.6000kg at chisel head with red powder loads
Tools	Flying chisel 75mm, Boltbuster chisel 25mm, Lockbuster rod 69mm
Re-cock time for next shot	Less than 1 second
Power loads	10 cartridges low velocity strip loads 3 (green) for training, 5 (red) for operations

PKI 9635 Street Barriers

A large variety of operations require street barriers, e.g. cleaning works after terrorist attacks or safeguarding of vehicles, buildings etc. or at demonstrations. We can deliver street barriers in different sizes and colours. **PKI 9635** barriers are easy to pile and therefore space-saving during transport by truck. Furthermore, they offer retainers for signboards like "police control", "diversion" or similar.



Specifications

Material	Steel or aluminium tube
Dimensions	280 x 120 x 50cm
Colour	Standard red/white, other colours on request

PKI 9640 Fluorescent Safety Products

Some special objects have always to be visible even at power blackout, such as exits and stairs, but also signs for fire extinguishers, fire alarm or emergency exits, direction arrows etc. In addition, various kinds of signs with **PKI 9640** we also offer self-adhesive fluorescent tapes. Should this still be insufficient we are able to supply fluorescent colour. Even if there is no light anymore this colour afterglows up to 30 minutes.

Specifications

Dimensions signs	320 x 160mm
Material	Polyvinylchlorid, self-adhesive
Dimensions fluorescent tapes	Roll length 30 x 0,30m
Specific weight colour	1.4
Lasts for	1kg/m2
Packed in	50 kg
Note	These products can be stored for 1 year.



PKI 9650 High-Performance LED Flashlight

Performance on the verge of technical feasibility, this ambition motivates the PKI employees for innovation, research and development. An example for this research is our **PKI 9650** flashlight. The impressive light power of 1600 lumen can be focussed via seven reflector lenses. The rays fuse to form a circular homogeneous low beam or a highly concentrated searchlight beam and achieve a luminous range of 600m.

Specifications	
Functions	Power on/off, low power, defence strobe
LED	7x high end power LED
Lighting current	1600Lm
Energy tank	120Wh
Operating time	100h
Luminous range	600m
Power supply	4 x D batteries
Dimensions	397mm
Weight	1.4kg
Accessories	Carrying strap and hard-top case


PKI 9655 UV LED Hand Lamps

UV light is used to check counterfeits in forensic science. But it is also frequently used in non-destructive quality control. We offer different UV LED hand lamps with different UV intensities.

PKI 9655 No. 1	
Voltage	4.8V (4 rechargeable batteries, 1.2V)
Normal current	Approx. 650mA
UV source	1x UV LED
Lifetime of UV LED	Approx. 20,000 hours
UV light intensity at 400 mm Distance	Approx. 6,000 μ W/cm ²
Wavelength	365nm
Half-width of emission	8.5nm
Weight	Approx. 320g
Dimensions	170 x 45mm
Risk classification	2



PKI 9655 No. 2	
Voltage	4.8V (4 rechargeable batteries, 1.2V)
Normal current	Approx. 650mA
UV source	1x UV LED
Lifetime of UV LED	Approx. 20.000 hours
UV light intensity at 400 mm Distance	Approx. 10,000 μ W/cm ²
Wavelength	365nm
Half-width of emission	8.5nm
Weight	Approx. 480g
Dimensions	230 x 75mm
Risk classification	2



PKI 9655 No. 3	
Voltage	14.4V (12 x 1.2V)
Normal current	Approx. 650mA
UV source	3x UV LED
Lifetime of UV LED	Approx. 20000 hours
UV light intensity at 400 mm Distance	Approx. 1,700 - 10,000 μ W/ m ²
Wavelength	365nm
Half-width of emission	8.5nm
Weight	Approx. 550g
Dimensions	160 x 200 x 80mm
Risk classification	2



PKI 9655 No. 4	
Input Voltage	100-240V (AC) 50-60Hz
Normal current	Approx. 750mA
UV source	9x UV LED
White light source	10 white light LED
Brightness	Approx. 500lx
Lifetime of UV LED	Approx. 10000 hours
UV light intensity at 400 mm Distance	Approx. 3,500 μ W/ m ²
Wavelength	365nm
Half-width of emission	8.5nm
Weight	Approx. 1.2kg
Risk classification	2 acc. EM6 DGZfP + BGFE



PKI 9655 No. 5	
Voltage	14.4V (rechargeable batteries 3Ah)
Normal current	Approx. 800mA
UV source	3x UV LED
Lifetime of UV LED	Approx. 20.000 hours
UV light intensity at 400 mm Distance	2,500 - 10,000 μ W/ m ² , adjustable acc. to client's requirement
Wavelength	365nm
Half-width of emission	8.5nm
Weight	Approx. 1200g
Dimensions	75 x 240 x 90mm
Risk classification	2 acc. EM6 DGZfP + BGFE



PKI 9655 No. 6	
Weight of steel sheet housing	Approx. 3.4kg
Lead wire metal housing	Approx. 2.0m
Weight of lamp body	Approx. 1.3kg
Lead wire UV lamp	Approx. 4.0m
Dimensions	200 x 100 x 65mm
Input voltage	230 V 50/60Hz
Starting current	1.60A
Normal current	1.10A
Starting time	Less than 5 minutes
Reclosing time	Less than 10 minutes
UV lamp	HN 100W - E27
Protection class	I
Protection	IP 20
Microfuse	3.15 A - T
UV radiation intensity	Approx. 9000 μ W/ m ² at a distance of 400mm
Wavelength	365nm
Half-width of emission	Approx. 1.5nm
Risk classification	4



PKI 9670 Generator

A lot of our **PKI**-devices are used at emergency cases like terrorist attacks, earthquakes etc. where no conventional power supply is available. Our various generators of different power classes are the ideal solution **PKI** offers all types of generators from standard hand-held to stationary devices. In general, we can recommend two types: diesel engines and patrol 4-stroke engines, but of course all special demands will be considered.



Specifications	
Power	1 - 10kW continuous power, portable version or on wheels 10-400 kW stationary version
Working voltage	230V or/and 380V AC
Frequency	50Hz
Speciality	Generator integrated in stable frame construction
Protection class	IP 23
Acoustic level	83dB(A)

PKI 9675 Telescopic Ladder

The advantage of telescopic ladders is that they are easy to store if you don't need them. In the case of emergency, however, they are ready to hand immediately. The **PKI 9675** has a total length of 3.80m and can carry up to 150kg. A handy and useful ladder, which is indispensable for any operation.



Specifications	
Dimensions	78cm (folded), 380cm (expanded)
Max. carrying capacity	150kg
Material	Aluminium
Weight	10,7kg

PKI 9680 Portable Plasma Cutter

This plasma cutter cuts iron plates like butter which is often of highest importance at special operations. The plasma flame reaches a temperature of 8000°C. The **PKI 9680** weighs only 6kg and is powered by a separate generator which is included and allows long working times. A battery pack can also be used for shorter times of operation (depending on power).



Specifications	
Dimensions	500 x 700 x 300mm
Weight	6kg
Power supply	220V/50Hz, generator, batteries and power switch
Plasma flame	8000°C
Note	The operator imperatively must wear the included protection mask due to strong UV rays.

PKI 9685**Hydraulic Spreader**

The **PKI 9685** is a multi-functional item for various operations, such as spreading, pulling, holding, separating and much more. The spreading head with anti-sliding teeth is made of super-high strength light aluminium alloy for navigation and astronautics. It ensures that the spreading and holding operation is safe and reliable. Our system adopts German seals and hydraulic oil for navigation, which ensures the use in an environment of -30°C to +55°C and in a depth of 30m under water. **PKI 9685** complies with German DIN 14751.

Specifications	
Dimensions	704 x 280 x 185mm
Weight	17kg
Working pressure	63MPa
Spreading force	42-120kN
Spreading distance	630mm
Pulling force	55kN
Pulling stroke	500mm
Hydraulic pump	On request

**PKI 9690****Hydraulic Cutter**

PKI 9690 has a powerful cutting function and is able to cut round steel up to a diameter of 30mm. The cylinder is made of high strength light alloy for astronautics. The surface is ceramic treated. The cutter is made of special tool steel, which can be sharpened repeatedly. The system adapts German seals and hydraulic oil for navigation which ensures the use in an environment of -30°C to +55°C and in a depth of 30m under water. **PKI 9690** complies with German DIN 14751.

Specifications	
Dimensions	730 x 190 x 165mm
Weight	12.8kg
Working pressure	63MPa
Max. cutting force	420kN
Max. cutting capacity	30mm diam.
Max. opening capacity	150mm
Hydraulic pump	On request

**PKI 9695****Hydraulic Door Opener**

This **PKI 9695** hydraulic door opener is indispensable for special forces who need to get attack-like access to rooms. Very often only seconds determine whether for example a terrorist can escape or not. The spreading jaws are equipped with anti slip coating. **PKI 9695** complies with German DIN 14751.

Specifications	
Dimensions	140 x 110 x 235mm
Weight	7kg
Temperature range	-30°C to +55°C
Wedging angle	28°
Working pressure	63Mpa
Load	Up to 9 to.

Note: In addition to **PKI 9695** a small, portable hydraulic compressor can be supplied on request.



PKI 9700 Universal car opening kit

Sometimes special operations of drug squad, intelligence services or surveillance of criminal practices require the observation of a car. In this case it is essential to open the car quick and unobtrusively. Our PKI catalogue provides a wide range of essential versions for car observation by GPS, GSM or other audio / video surveillance. If used properly no car will remain closed. The **PKI 9700** universal car opening kit comprises various special car openers, window wedges, door opening spreader, window lever, pressure cushions etc. The different tools are displayed in detail on the supplied 2 CDs.

Specifications
14 Top door openers
2 Window wedges 9,5mm thick
2 Window wedges 19mm thick
2 Window wedges, 99 + 100
1 Door spreader
2 wWindow levers
1 Car sleeve
2 Pressure cushions
1 Door opening lamp
2 CDs



PKI 9705 Door Latch Opening Set

Especially locks of the new generation with end-to-end bolts are appropriate for this kind of opening set. Just install the lifting tool between the door and the door handle plate, to obtain the necessary gap that allows introducing the square bolt tool. Actuate the bolt with the tool to unlock the door latch. The **PKI 9705** is also appropriate for double rabbet doors and self-closing systems. Our handle plate lifting tool can be used on all door systems with enough ridges that allow placing it precisely and to exert force on it. The tools are delivered in a solid hard-cover plastic case with inlays.

Specifications
Handle plate lifting tool
Bolt, square, 8mm for 72 distances
Bolt, square, 9mm for FH-doors
2x bolts, square, 10mm for 92 distances
Long pliers
Set of latch pick needles
Set of latch opening cards



PKI 9710 Safety Suitcase

The **PKI 9710** has been developed for secure transportation of various valuable items, such as cash money, jewels, important documents, etc. It features multiple functions to avoid theft and pilferage. Sensors are integrated in the handle and both surfaces of the suitcase, which can be activated, so that the **PKI 9710** emits high voltage pulsed electric shocks of 30KV. The wireless activation is done by means of a small remote control that must be carried separately from the suitcase. This remote control also activates the "loss function", which prevents from simply forgetting it somewhere during voyages or theft. If the distance between the remote control and the **PKI 9710** exceeds 3 - 15m, a loud warning signal will be emitted. If ever the suitcase has really been stolen by someone, for your own protection you should wait until the person has obtained a distance of at least 50m, to activate the anti-robbery function of the suitcase, which will activate the alarm signal as well as the high-voltage electric shocks.

Specifications	
Activation distances	3 - 15m for alarm signal, approx. 50m for high-voltage electric shocks
Electric shocks	High voltage >30KV
Audio alarm	> 85dB
Power supply	Remote control: battery
	Electric shocks: 12VDC / 6x alkaline batteries or equivalent rechargeable batteries
Material	High-quality PVC or leather in black or red colour, according to customer's request
Double code locks	



PKI 9715 GSM Remote Control

It is hard to believe but today's GSM-technology allows many actions for remote controls all over the world. This is what our **PKI 9715** can do. Switching on and off electric heaters, lamps, radio sets or other household equipment is as well possible as activating mains- powered monitoring devices like those shown in this catalogue. No matter whether you are in Spain and you must activate a certain device at home in Germany, or in your office in Turkey or anywhere else in the world - distances are of no importance. Of course, it is up to you what kind of device you wish to switch on or off, but the **PKI 9715** is the right choice for all such operations. With its potentialfree in- and outputs, the minimised dimensions of only 68 x 60 x 30mm and the low weight it can easily be installed wherever you might need it. Simply place a commercial and prepaid SIM-card into the slot and off it goes.

Specifications	
Frequency	GSM 900/1800MHz
Peak	Switching current 300VA
Power supply	110 - 240VAC or 12VDC with mains adapter/charger
Dimensions	Approx. 68 x 60 x 30mm
Weight	Approx. 220g



PKI 9720 Wireless Remote Control

This professional wireless remote control activates respectively deactivates electronic devices from a distance of up to 1000m with a coded signal. **PKI 9720** operates absolutely safely and interference-free to and from other electronic devices. Therefore, it is the best possible solution, if you need a wireless remote control for all of your equipment. As standard, the **PKI 9720** is supplied as a single-channel version. Multichannel versions are available upon request.

Specifications	
Switching channel one, potentialfree connection with 100VA breaking capacity	
Transmitting frequency	UHF-range, coded
Transmitting range	Up to 1000m (depending on surrounding conditions)
Power supply	9VDC standard block batteries for receiver and/or mains adapter for transmitter
Dimensions	Transmitter - approx. 140 x 75 x 22mm
	Receiver - approx. 100 x 60 x 20mm
Weights	Transmitter - approx. 350g Receiver - approx. 220g



PKI 9725 NBC Protection Suit

The outer material of **PKI 9725** is made of a hard-wearing mixed fabric with approx. 300g/m², which is dirt, oil and water repellent. The straight cut of **PKI 9725** offers great freedom of movement. To increase the longevity of **PKI 9725**, the knee pockets are provided with an abrasion resistant CORDURA®. It is also possible to equip **PKI 9725** with height-adjustable knee pads through the inserts. **PKI 9725** is closed with a front zipper, which is concealed by a wide wind protection strip and a snap fastener. This ends in a high stand-up collar.

You also have the possibility to adjust the waist and cuffs for an optimal fit. The EN ISO 11611 protects against hazards during welding work, while the EN ISO 11612 simultaneously protects against heat and flames. The EN 13034 offers protection against liquid chemical splashes. IEC 61482-2 provides protection against thermal hazards of an electric arc. **PKI 9725** is suitable for industrial washing due to EN ISO 15797. Together with the knee pads 124292 the padded pockets are certified as knee protection according to EN14404.

Specifications	
Outer material	45% modacrylic, 35% cotton, 18% polyamide, 2% antistatic fibre - approx. 300 g/m ²
Reinforcement	79% cotton FR, 20% polyamide, 1% antistatic fibre
Certifications	OEKO-TEX® Standard 100
Standards	EN 1149-5 / EN ISO 11611 A1 Class 2 / EN ISO 11612 A1, B1,C1,E2,F1 / EN IEC 61482-1-2 Class 1 - EBT: 12.8 cal/cm ² - HAF: 84.2% / EN 13034 Type PB 6 / EN ISO 20471 Class 1 / EN 14404 with knee pad 10020521 / EN ISO 15797
Special features	Flame retardant, heat insulating and antistatic overall / Dirt, oil and water repellent / OEKO-TEX® / Reinforced kneepad pockets with CORDURA / great freedom of movement due to straight cut
Pockets	2 Breast pockets with flap and concealed press stud fastener 1 With internal D-ring and pen holder 1 Breast pocket with zip 2 Front pockets with hammer loop 2 Hip pockets with flap and velcro 1 Folding rule pocket with flap, concealed press stud and loop for working knife 1 Leg pocket with zip, flap and concealed press stud 1 Mobile phone pocket with flap and velcro
Application area	Construction site Chemical environment Industry Multinorm areas Welders
Washing & care instructions	Suitable for industrial washing No bleaching possible Washable up to 70°C
Colour	Yellow, marine
Clothing layer	Outer Layer
Summer/Winter/ all year round	Allround
Size	XS – 3XL



PKI 9740**Protective T-Shirt**

PKI 9740 is designed for law enforcement and security personnel. It is a concealed body protector and ideal to wear under normal street clothes for extended periods of time, even in hotter climates. After all, this T-shirt is not only waterproof and heat resistant, but also meets the ballistic level of NIJ IIIA. **PKI 9740** is made of special stretchable material and conforms to the body, which means **PKI 9740** is comfortable to wear.



Specifications	
Weight	Approx. 1.3kg
Ballistic level	IIIA
Protective area	0.25 sqm
Size	L
Feature	Long life, flexible and stretchable

PKI 9745**Mine Shoes**

The **PKI 9745** Mine Shoes are built on the theory of air cushions, which support the body while reducing the pressure in relation to the minefield. **PKI 9745** Mine Shoes are the culmination of years of research and have been designed and developed by teams who tested and used them in the field. **PKI 9745** represents a totally unique concept enabling the wearer to traverse a mine field over mud, water or any other terrain safely. By simply slipping the compact unit out of his luggage and inflating the air cushions, the user can continue his way within only some seconds. The shoes fold up into a small lightweight package that can easily be stored in a rucksack. The mine shoes are made of sturdy nylon, nylon-reinforced PVC, coated aluminium and steel alloys. The five-aircushions are of specially designed, patented material created for maximum strength and resiliency.



Specifications	
Size	360 x 160 x 120mm
Weight	2.3kg
Completely portable, Fully inflatable/deflatable within seconds. Made of tough nylon, nylon reinforced PVC; air cushions of PVC L 152 type, upper rigid frame of aluminium and steel alloys. Self-locking, error-proof device with no moving parts, Metallic parts will not interfere with mine detectors or any other metal detectors.	

PKI 9750**Defence Tool**

These tools are indispensable for all persons working as security guards, whether at government departments or in industrial companies like power plants, metal- or chemical factories etc. To avoid that they are seriously injured or even die when doing their job or by being attacked by demonstrators, terrorists or other crowds ready to use violence, they must be equipped with adequate defence devices. However, it is necessary to practise the application of these special tools. With our special training courses, we can provide each user with the necessary knowledge to use our equipment correctly and to avoid injuries. Unlike the tools of many other suppliers the **PKI 9750** includes a wide range of features, i.e. baton, torch light and tear gas in one tool. Optionally tools with bent hooks for capturing a person or tools with a grip and long lance to keep the aggressor at a safe distance are also available.



Specifications	
Dimensions	40 - 60cm
Weight	Approx. 150g
Material	Plastic, aluminium and iron
Sturdy finishing, Shock-proof material, Easy to handle, Lightweight	

PKI 9755 Electricity Generation Unit

There are many life-threatening events in which current might save lives. The **PKI 9755**, a compact device of only 10kg, offers a remedy here. This electricity generation kit, with its battery and different connectors, is packed into an easily portable compact tube weighing less than 10kg. A rollable, flexible solar panel fits inside with light-weight U-pins facilitating perfect set-up of the panel (on the ground, against a wall, hanging up or secured to the roof of a vehicle, etc.) Installed in a few seconds, this totally autonomous energy source is capable of lighting your entire habitat, working a water pump (20 - 30l/min) or simultaneously charging a computer, mobile phone, GPS or any other electrical/electronic device such as a refrigerator, for example. Its technical features provide a multitude of applications (clinics, expeditions, exhibition tents, first-aid units, etc.)



Specifications	
Tube size	100 x Ø 19cm
Operating temperature	-20°C to +60°C
Total weight	10kg
Battery life	Over 1000 cycles
Solar panel power	27W
Panel operating power	15V
Panel operating current	1800mA
Panel size	64 x 131cm
Lamp power	3W
Comes with	1 battery (approx. 200W/h) with charge and discharge control, 1 rollable flexible solar panel with fastenings, 1 universal cigarette lighter socket, 2 USB connectors, 8 LED lamp connectors, 4 LED lamps

PKI 9760 NBC Protection Suit

PKI 9760 NBC protection suit belongs to a group of activated carbon fabrics which has been designed in order to meet the latest challenge in case of a NBC threat. **PKI 9760** offers both advantages, i.e. total protection and high air- and water vapour permeability and reduces the threat of heat stress by its excellent wearing comfort. **PKI 9760** is especially convenient for operation in hot climatic conditions.

Specifications	
Weight	520g/m ²
Air permeability	250mm/s
Water vapour resistance	ISO 11092
Thermal resistance	0,030m ² K/W
Protection against chemical warfare	Laid drop test and falling drop test: protection against a 10gm ² HD challenge for 24hrs ≤ 4µg/cm ²
	Gas test: protection against a 20mg m ³ HD challenge for 6hrs ≤ 500mg min/m ³
Possibilities of decontamination	Hot gas/hot vapour (180°C/30 min.) twice
Burning resistance	Protection against heat and flames (EN 15025) level A
Available NBCF (F=fire) protection suit	High protection against fire and heat radiation
Washable	At 40°C
Shelf-life	Min. 10 years



PKI 9765 Fight Suit

PKI 9765 has been designed especially against punch weapons. It is particularly effective against hard attacks of special arm- and leg techniques. Due to its especially comfortable design, **PKI 9765** Fight Suit won't constrain the fighter's agility in the case of an attack or defense situation.


Specifications

Material	Upper shell cotton mixture 300g/ m ² , in addition firmly tufted with Cordura at chest and back, inner cloth humidity adjusting, stuffing by punch-absorbing fabrics. At chest, back, abdomen, upper and lower arm, tights, shin and calf-bone additional protectors are available made of punch resistant plastics.
Miscellaneous	Excellent flexibility and extraordinary wearing comfort, Velcro and fleece shutters to fix all protectors
Available sizes	S/ M/ L/ XL

PKI 9770 Underneath Vest

A complete body protecting vest not only consists of protection plates against punch-knife-slash and bullet attacks but of various elements which must be considered carefully. Besides high protection the vest must provide a maximum of comfort to the wearer so that it is steadily worn.


Specifications

Available colours	Black, blue, green
Protection	Against punch and knife-slash
Knife-slash restraint	35Nm
Note	Use of this vest makes sense when application of guns is highly unlikely. This means areas with personnel access control such as prisons, at court, or major events where special security attention is paid.

PKI 9775 Illumination Set for Forensic Investigations

The **PKI 9775** set is a composition of different light sources able to support crime scene investigations. The lamps among others produce a strong ultraviolet or green light to visualize traces and residues for the human eye or cameras. With an extensive selection of glasses, colour filters and lens attachments, even the slightest residues of for example fingerprints or body fluids can be tracked and secured. The lamps use energy-saving light sources, such as LEDs or halogen, to the greatest possible extent. Special attachments for reflex cameras facilitate the production of photographic evidence. All tools are arranged in a rugged carrying case and always ready for use.


Specifications

Light source colours	UV, violet, Blue, blue/green, red, white
Camera filters	Yellow, orange, orange/red, UV filters
Glasses	Yellow, orange, UV filters
Accessories	Object rings, Magnifying glass, Battery charger, Carrying case

PKI 9780 UV-Set

This UV-set consists in a strong UV-LED light, UV-ink, UV-pen and UV-spray and offers all facilities to convict perpetrators. Once applied on different surfaces and items, the UV-substances remain invisible for the human eye and can only be visualized by means of the strong UV-LED light. This is also the case for texts written with our UV-ink. To do so, just fill the UV-ink into a common fountain pen. If a person touches the UV-marked items, these UV-substances will stick on his hands, fingers or clothes. Afterwards he can easily be identified with the UV-LED light. Of special interest is our UV-spray. Applied onto bank notes, floor grounds, jewelleryes etc. it adheres to them during several days and transmits itself to the person that touches them. Afterwards nothing is easier than to provide evidence with our strong UV-LED light.

Specifications	
UV-LED light	Wavelength: 380 - 390nm
	Power supply: 2x batteries type AA
	Dimensions: ø 34 x 176mm
	Weight: 112g
UV-pen	ø 10 x 60mm
UV-ink	Contents 20ml
UV-spray	Contents 200ml
Assembled in an aluminium case of 250 x 200 x 85mm, Weight: 1,2kg	



PKI 9785 UV-Marker Spray

This invisible UV-spray can easily and inconspicuously be applied on various items to be secured. It remains on the items during several days and sticks on the hands or fingers of the person that touches these marked objects. By means of the UV-torch, that is included in the set, even smallest traces will become visible.

Specifications	
Contents	345ml
Colour	Neutral, turns to green under UV-light
UV-light, protective gloves and application sticks included.	



PKI 9790 Invisible Theft Detection Set

These substances will stick on the hands or fingers on contact. Compared with the visual theft detection substances, they only become visible under UV-light. These invisible substances find their application field rather in long-term observation activities of suspicious persons. Even smallest quantities of this powder or paste will become visible under UV-light (included).

Specifications	
Powder/paste available in the following colours	Neutral, turns to green under UV-light
Contents	60g
UV-light, protective gloves and application sticks included	



PKI 9800 Perpetrator Convincing Kit

Visible perpetrator materials are special powders or pastes that are applied on valuable items like banknotes, documents, laptops etc. Touching these marked items will create a long-lasting, clearly visible and permanently existing dot on the fingers and hands. Even persistent washing with water and soap cannot remove these stains which easily detect the theft. Invisible perpetrator materials, however, are special powders or pastes which are only visible under special UV-lamps (like our **PKI 9655**) and are invisible to the naked human eye. With the **PKI 9800**, we offer a complete set of every necessary material for a rapid and effective perception of perpetrators. Other companies only offer single components which then have to be assembled to a workable kit. Our complete case **PKI 9800** offers all this in a "all-in-one" assembly of state-of-the-art materials, guarantying that each government department is perfectly equipped with an outstanding assortment of visible and invisible powders and pastes plus every necessary tool in order to identify the perpetrator.



Specifications
Coloured powders and pastes, black, red, green, yellow, silver and copper for the visible marking
Powders and pastes for the invisible marking incl. mini-UVlamp, application sticks and protective gloves and various fingerprint-lifting foils and marking crayon

PKI 9805 Explosives Test Kit

The **PKI 9805** is in service with many governments all over the world and is designed and assembled as an exclusive and extremely cost-effective and easy-to-use system for detection of all types of military and other explosives. Due to its minimized false alarm rate and low price ratio, it is delivered to security forces in far greater numbers than conventional explosive detectors, which tend to be expensive and usually require a technically trained operator. Each **PKI 9805** comes with a clearly comprehensible set of instruction manuals so that an operator without any technical background - can immediately use the test kit in an operational environment. The complete kit is fitted in a sturdy plastic carrying and storage case with every necessary tool for an immediate and on the spot testing.



Specifications	
The complete set of the PKI 9805 is containing the test devices for	SEMTEX
	C4
	TNT
	RDX
	PETN

In less than three minutes, providing a fast and extremely accurate result. For home-made explosives a separate kit – the **PKI 9805/A** - is also available.

Please ask us for full information about this set.

PKI 9810 Bomb Search Kit

The **PKI 9810** is an inexpensive kit designed for IED search operations. It provides a range of tools for carrying out general searches in buildings, ships and vehicles and contains a portable endoscope/boroscope, a portable hand lamp, a portable drill as well as an assortment of tools. Whenever immediate visual inspection behind walls and panelling is required, the portable drill enables inspection via holes to be drilled through all types of material, allowing rapid internal and visual inspection by means of the supplied endoscope and hand lamp. Large and small inspection mirrors are also included to facilitate searches in confined spaces. The kit furthermore provides a range of tools for removing panelling and covers and is suitable for carrying out general searches in vehicles and ships as normally having to be done by customs authorities.

Specifications
Portable endoscope/boroscope
Portable drill set and bits
Portable hand lamp
63 Piece socket set & bits
25 Piece hexagon spanner set, metric and imperial
24 Piece combination spanner, metric and imperial
Vehicle door trim/panel removing tool
Combination pliers 7" insulated
Telescopic search mirror pole
Mirror to fit telescopic pole - 63.5mm diam.
Dental mirror - 22mm diam.
Adjustable spanner - 300mm
Wrecking bar 340 x 45mm
Safety torch - suitable for zone 0, 2 x D cell
Screwdriver - 400mm, 5.5mm flat tip
Screwdriver - 400mm, 8mm flat tip



PKI 9815 Body Cooling System

The **PKI 9815** is designed to keep the whole body cool in high ambient temperatures using iced water to remove body heat. **PKI 9815** offers a safe and cool environment for people who must maintain a high level of efficiency and concentration under extreme heat. When wearing heavy protective clothing - such as our bomb protection suit **PKI 9820** - or when particularly strenuous work has to be maintained over a long period in hot and humid environments (like firefighters, personnel in non-air- conditioned armoured vehicles, mineworkers etc.), the **PKI 9815** is the right choice. Made from flame-retardant, knitted material it is ideal for IED-, EOD-, surveillance and chemical clean-up operations in hot climates. The suit requires no hazardous pressurised canister or toxic cooling agent and also offers protection against heat and flash fire balls. The one-piece suit covers the trunk of the body, the upper arm and upper leg areas and the head (close fitting/open faced hood).

Specifications	
Heat removal rate	270W (full suit)
Endurance	Min. 45 min at 35°C
Weight	Suit - 1kg/ Cooling unit dry - 0.5kg Water - 0.7kg/ Battery Pack - 0.5kg
Material	Stretch flame retardant fabric
Cooling unit	Pump: 12VDC Cooling source: ice cubes and water. Second water/ice bottle is supplied as stand-by

PKI 9815 comes as a complete system with:

- 12VDC pump
- Charger
- 1.5kg iced water bottles
- Rechargeable batteries

One size fits all!



PKI 9820 Bomb Protection Suit

The **PKI 9820** is a new and state-of-the-art, up-armoured suit which already is in use at many government departments worldwide. It provides the highest protection level of all bomb suits currently manufactured, whilst at the same time offering maximum comfort and flexibility to the operator. The ballistic levels and materials used in the various components of the **PKI 9820** are tested and evaluated according to the full quality assurance standard laid down by the appropriate government organisations. All the ballistic inserts used in the **PKI 9820** are made of waterproof treated KEVLAR-HT which are enclosed in a special water-resistant and anti-ultraviolet membrane. The outer cover is supplied in flame retarding NOMEX III. In hot and humid countries, the **PKI 9820** can be supplied in conjunction with the **PKI 9815** Body Cooling System.

Materials

Helmet: GRP skin with elastomeric aramid core and inner lining (adjustable to various sizes), integrated microphone/earpiece with extension lead for connection to any radio transceiver, ambient sound facility, air cooling fan, helmet mounted torch with rechargeable batteries, anti-ballistic hardened acrylic/polycarbonate laminate visor, aluminium carrying case.

Jacket & Trousers: Ballistic inserts: multi-layer water-repellent Kevlar 129 HT. Outer cover: fire-retardant cotton. Colour: Navy blue or military green. Proprietary: armoured steel plates with closed cell, linear foam.



Specifications:
Outer cover NOMEX III
Insert KEVLAR 129 HT, spinal protector, neck protector, Suit 600m/s (without armoured blast plates)
Weight of suit approx. 26kg with steel blast plate approx. 15kg without blast plates
Weight of helmet approx. 4.7kg
Armoured blast plates 1600ms (groin, chest and neck)
Helmet 600ms
Visor 740 ms anti-ballistic hardened acrylic/polycarbonate laminate
Power pack 12VDC with auxiliary socket to power
Air blower min. 200 litres per minute, 3 speed, can accommodate an NBC canister
Optional accessories helmet-mounted torch or video camera.
For these 220VAC or 12VDC provides 90% recharge in 15min.

The suit consists of the following separate items:

- Jacket with attached collar
- Trousers
- Helmet with visor and air-cooling fan
- Separate overshoes
- Neck protection plate
- Chest protection plate
- Groin protection plate

PKI 9825**Search Suit**

The **PKI 9825** has been designed specifically for personnel involved in searching and clearing of mines and terrorist explosives devices. As a lightweight search suit, it fills the gap between our Bomb Protection Suit and conventional clothing in cases where maximum protection is not necessary or where greater freedom of movement is required. It is suitable for most EOD search projects, affording a high degree of ballistic protection whilst not encumbering the wearer unduly. The outer material of the **PKI 9825** is constructed of fire-retardant NOMEX III and includes the latest KEVLAR fibres technology. A steel plate is available as an optional extra.

Components	
Arms	Separate adjustable sleeves provide optimum movement.
Jacket	Provides front, back, side, shoulder and neck protection, with addition of up-armouring pockets for inserting optional ceramic or armoured steel plates.
Groin protector	Removable insert.
Trousers	The unique design provides freedom of movement and optimum protection of the legs.
Helmet & Visor	These, in conjunction with the search suit's high collar, provide maximum protection.

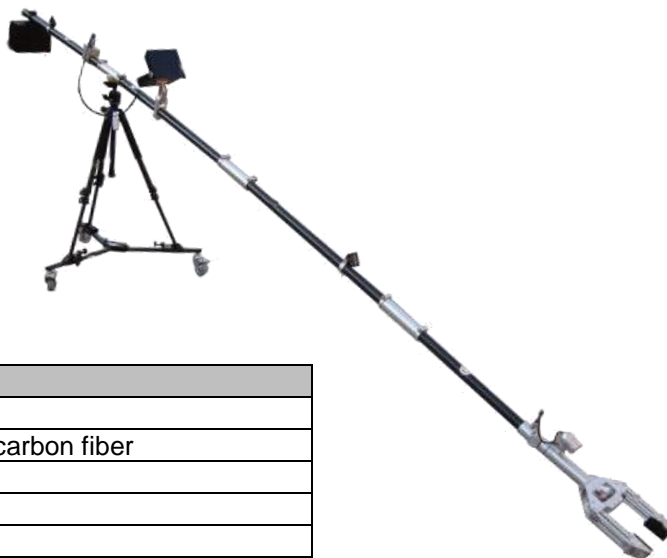
Specifications	
Arms, jacket, groin protector and trousers	V 50 (17 grain FSP) – 475m/s
Helmet	V 50 (17 grain FSP) – 450m/s
Visor	Acrylic/Polycarbonate, V 50 (17 grain FSP) – 450m/s
Colour	Navy blue or olive green

**PKI 9830****Robotic Telescope Manipulator**

The new **PKI 9830** has been developed by **PKI ELECTRONIC INTELLIGENCE GmbH**, in close cooperation with experts from all over the world. It allows EOD operators to manipulate suspect devices and objects at a secure distance. This significantly increases the operator's security if a device should detonate. **PKI 9830** is made of High-strength light-weight carbon fiber. An adjustable counterweight, which balances the manipulator, is behind the operator. The claws of the **PKI 9830** opens, closes and rotates under power control. We offer 3 versions of **PKI 9830**:

PKI 9830 A Features:

- High grabbing capacity: it can grab 10kg objects.
- 4m stand-off capability
- Rechargeable battery
- Adjustable counterbalance
- The mechanical claw can be operated electrically and rotated 360° manually
- The height of bracket is adjustable with universal wheels which can be locked
- The IR night vision camera and the LCD monitor can be operated at night.



Specifications	
Weight of Pole	10kg
Material	High-strength light-weight carbon fiber
Total Length	4.2m
Max. Grip Weight	10kg
Claw rotation	360 degrees continues
Display Size	8 inch LCD screen
Camera	IR night vision camera
Working Time	5hours with built-in rechargeable battery
Operating temperature	-20°C to +40°C
Storage temperature	-30°C to +6°C

PKI 9830 B Features:

- High grabbing capacity: it can grab about 20kg objects
- 4.7m stand-off capability
- Rechargeable battery
- Battery box designed as counterweight
- The mechanical claw can be operated electrically and rotated 360°manually
- The height of bracket is adjustable with universal wheels which can be locked

Specification	
Weight of Pole	14.8kg
Material	High-strength light-weight carbon fiber
Total Length	4.72m
Claw Max. Opening Size	20cm
Max. Grip Weight	20kg
Claw rotation	360 degrees continues
Display Size	8 inch LCD screen
Camera	IR night vision camera
Working Time	5hours with built-in rechargeable battery
Operating temperature	-20°C to +40°C
Storage temperature	-30°C to +60°C



PKI 9830 C Features:

- High grabbing capacity: it can grab about 15kg objects.
- 3 meters stand-off capability
- Rechargeable battery
- Adjustable counterbalance
- The mechanical claw can be operated electrically and rotated 360°manually
- The height of bracket is adjustable with universal wheels which can be locked



Specifications	
Weight	11kg
Material	High-strength light-weight carbon fiber
Grabbing Capacity	More than15kg
Max Clamp Weight	20kg
Counter Weight	9kg
Assembly Time	3 minutes
Length of Telescopic Pole	4.68m
Dimension (cm)	1286 x 346 x 140mm
Working Time	5hrs. continually
Claw Maximum Opening	20.5cm
Claw rotation	360 degrees continues



PKI 9835**Tactical EOD Shield**

The **PKI 9835** has been developed for the use by explosive disposal and tactical teams. Years of research and attention to details finally have resulted in a highly protective shield with outstanding manoeuvrability, being now available with the **PKI 9835**, and already in use in many countries throughout the world. It provides a maximum protection against overpressure and fragmentation during explosive disposal operations whilst being light enough to be held with one hand. This shield is equipped with removable spring-loaded legs making it self-supporting for lengthy operations. In the stowed position, the legs latch into the edge of the shield for easy storage and manoeuvrability. Just one quick push releases the supporting legs into the deployed position, allowing the shield to be self-supporting.

Specifications	
Materials	Multiple layer, compression moulded, KEVLAR composite laminate ballistic visor -LEXAN
Ballistic protection	V-50 rating as per NATO STANAG 2920, 555m/s (ballistic protection against firearms available upon request).
Impact attenuation	Forehead and forearm impact attenuating by special shock absorbing foam-pads built into the inside surface of the shield. These are designed to absorb shocks from fragments, bullets and pressure-wave impacts.
Dimensions	130 x 76cm
Weight	Shield - 13.5kg Spring loaded legs - 1.6kg, Optional shoulder harness - 1.0kg
Handles	The shield includes interchangeable handles (forearm and hand) to facilitate left or right handed approaches, or a vertical mounted strap and foldaway handle system. Other handle configurations are available
Colour	Standard matt black (other colours upon request)

**PKI 9840****Bomb Suppression Blanket & Safety Circle**

The **PKI 9840** is the most cost-effective and easy to use equipment currently available for protection against fragments and shrapnel from explosive devices. It has been designed for the use by both unskilled personnel as well as skilled Explosives Ordnance Disposal (EOD) operators, when confronted with a suspect explosive device in public area. **PKI 9840** is already in use at many armed forces, police units, government and corporate offices etc. in numerous countries worldwide. The **PKI 9840** safety circle is placed around the suspect bomb and then the bomb blanket, which has four heavy-duty webbing carrying handles, is carefully placed over the safety circle surrounding the bomb.

This eliminates any direct contact with the bomb and provides a safe environment for its examination and disposal. Two or more safety circles can be used together for larger bomb devices. Should the bomb explode, the safety circle directs the force of the explosion upwards, then the bomb blanket flexes and detains most of the fragments. The **PKI 9840** is a lightweight, highly protective equipment made out of multiple-layer ballistic material and folds up into a compact, easily portable bag.

Specifications	
Size	1.5 x 2m
Weight	Approx. 13.5kg
Protection level	V 50 (17 grain FSP) - 400m/s
Different sizes and protection levels can be made on order	



PKI 9845 Postal Bomb Container

The **PKI 9845** is designed for protection of targeted people as well as for ordinary staff, handling suspicious mails. As postal bombs, whether real or imagined, are an omnipresent problem, the identification of such suspicious items in the daily mail is vital. But even when this is successfully done, there still remains the problem of how to minimise the danger to personnel and property. For this the **PKI 9845** offers the right solution, as it is specially developed for this purpose and being the most cost-effective product in the world market. It is already in use at many government departments, police stations, EOD-teams and other large industrial companies worldwide. The container is designed to retain any suspicious item of mail in an upright position. An internally fitted net holds the item in such a position that removal, X-Ray scanning and controlled explosion remain possible. The **PKI 9845** is made of special glass re-enforced plastic material with additional fire-resistant resin and it is large enough to accommodate a briefcase. Blast will be directed upwards and an explosion device of up to 0.5kg can be absorbed. Most explosive devices that have been discovered so far did not contain more than 0.5kg of explosive material.


Specifications

Height	900mm
Outside diameter	493mm
Thickness of container's wall	18-19mm
Weight	Approx. 50kg
Ballistic protection	V 50 at 480m/s
Colour	Matt black
Shelf-life	Not less than 10 years

PKI 9850 Observation Vehicle

The **PKI 9850** should be used by police, special forces, security forces, border guards etc. to control mass happenings as well as extreme situations, disasters, rescue operations and border protection. The **PKI 9850** has been developed in response to the market's needs and we hereby created and present a fully equipped observation vehicle for any observation task. This mobile monitoring centre is based on the most technically advanced CCTV equipment and will be supplied with discreet monitoring, editing and recording devices plus high frequency signal transmission and GPR's. The car can be equipped with IR-cameras and directional microphones, if desired by the customer. The configuration of the built-in technologies and equipment depends on the client's needs. It may vary from simply one camera system with monitor and recording device to the most advanced systems comprising remote control, digital cameras, pneumatically telescopic mast with highdefinition, long-range cameras, GSM and UMTS picture transmission, satellite communication and integration with existing monitoring and command centres. The crew of the **PKI 9850** can handle each device by independent power supply (either external 230 V power supply, built-in power generator or powercells / accus withconverters). Refrigerator and coffeemaker are supplied as standard.


Specifications

As each PKI 9850 varies according to customer's needs, we would like you to contact us with your full list of requirements and we shall work out a personally tailored, complete offer for you.
State-of-the-art vehicle
Fully equipped with audio/video observation devices according to buyer's request

PKI 9855 Undercover Investigation Vehicle

Fully mobile & fully independent mobile labs

In our digital age, and with the rapidly growing amount of data associated with it, the collection of evidence is a critical point in digital forensic work. The **PKI** laboratory vehicles were designed to efficiently capture and analyze enormous amounts of data directly and immediately on site. These mobile labs enable e.g. companies suspected of economic fraud to infiltrate and to create a complete documentation in a short time, which is only one example of their manifold application possibilities. In case of suspicion, you can now bring a completely independent and complete mobile computer lab directly to the scene of the crime and easily map and analyze it just like in the headquarters! All **PKI** vehicles and containers are developed like a kind of mobile forensic

toolkit, so you always have the acquisition hardware, analysis software and workstations on board to find, collect, store, analyse and report the evidence. IT forensics, intrusion detection, eDiscovery and data recovery can be professionally used even in difficult environments, such as undercover operations or conflict areas.

Our novel and sophisticated **PKI** system, a worldwide unique concept with the specially developed module, enables the integration of highly sensitive IT systems into a vehicle that is constantly exposed to vibrations and shocks. Our unique suspension system ensures that the special electronic components are not damaged while driving! Only with our worldwide unique **PKI 9855** model is the long-term secure operation of IT and servers in a moving vehicle possible.

Separate technical area with quality generators with worldwide availability of spare parts.



PKI 9860 Special EOD Vehicle

This EOD vehicle **PKI 9860** was designed by experienced EOD specialists from all over the world. Hardest conditions in the Balkans, East and West Africa, Afghanistan and meanwhile also in the Iraq have made sure and also proven that this assortment meets the actual requirements of daily usage. Equipped for a typical EOD team, the required equipment for the different deployment phases:

- Reconnaissance and surveillance,
- Detection and location,
- Providing access,
- Identification and assessment,
- Neutralization,
- Disposal is available in the vehicle.

The equipment assorted by active EOD specialists and the vehicle can of course be expanded or modified optionally on the customer's request.

The equipment comprises among others: Hooks and sets of cords, metal detectors, various equipment to scan the environment, explosive auxiliaries, antimagnetic tools, bomb fragment protection suits and helmets, bomb fragment protection cover and EOD shield, telescopic manipulator, communications means (radio sets) mobile current generator, and a bomb container to evacuate smaller explosive devices.

This equipment perfectly accommodated in a van (e.g. Mercedes Benz Vito) can thus be quickly transported to the place of action.



PKI 9865**Leak Detector for Gases and Compressed-Air Systems**

PKI 9865 is a highly sensitive (ultrasonic range 35 - 45kHz), portable leak detector used to detect ultrasonic vibrations generated by turbulences of the gases escaping through leaks. The device detects escaping gases acoustically and converts their inaudible high-frequency sound into a low-frequency sound in the range of human hearing. The amplified and converted signal is transmitted by loudspeakers or headsets.

The system has a wide range of applications including detection of pressure gas leaks through miniature holes, blow holes or shrink holes in pipelines and tanks; inspection of air brakes at motor and railway vehicles; check of voltage flashovers and corona discharges at electrical installations; proof of sparking at electric motor brushes and ignition sparks at gasoline engines; check of valves; detection of cavitations at pumps and compressors, etc.

With the ultrasonic generator, leaks in welded seams and seals can be detected in closed systems without pressure generation.

A unit consists of **PKI 9865** leak detector, directional microphone, sound concentrator (is attached to the directional microphone), contact probe (for engine and ball bearing checks), headset, ultrasonic generator and carrying case. The measuring device is installed in a leather-covered metal housing together with the amplifier and a small loudspeaker. The device is operated with a 9V battery. It has a long service life and is virtually maintenance-free.

**PKI 9870****Magnetic Locator**

The **PKI 9870** is the No. 1 around the world in performance and reliability of detectors for location of the magnetic field of iron and steel objects and energised power lines. It has an easy to read digital and bar graph display for signal strength and polarity and provides audio detection signals that peak in frequency when the locator's tip is held directly over the target. Designed for one-hand operations, the ON/OFF/SENSITIVITY and VOLUME controls are located on the underside of the cover. This provides easy access, protects the knobs and contributes to their overall ruggedness and dependability. Once a target is located by using the audio signal, the digital readout and polarity indicator will help to visually pinpoint it and to determine its orientation, whether the pipes are vertical or horizontal.



- One-hand operation
- Digital readout and expanding bar graph display for signal strength and polarity
- Four sensitivity settings
- Piezoelectric speaker
- Analogue output for data logger entry using headset jack and standard stereo audio plug
- No response to aluminium, brass or copper

Specifications

Specifications	
Audio mode choice of two modes	"Mode B" - audio signal always present "Mode A" - audio signal is only present when locator is within detection range of a target.
Signal strength and polarity	Four settings for sensitivity read out by a 3-digit LCD readout
Battery status	Digitally indicated on bar graph
Operating time	Approx. 60 hours on 2 Lithium 9-Volt batteries
Dimensions	Approx. 8 x 8 x 100cm
Weight	Approx. 3.2kg
Carrying case	Rugged case for storage and transportation

PKI 9875**Cable Locator**

The **PKI 9875** is the latest development of metal and cable detectors and is designed to detect the presence of both buried and surface laid command cables or wires that could be used to activate Improvised Explosive Devices (IEDs). **PKI 9875** is lightweight, durable and easy to operate. It has a unique ergonomic design, i.e. the operator can use it for long periods in all types of terrain without wearing out. **PKI 9875** is powered by 3 standard LR20 batteries, providing an 8-hours continuous operation. It is packed in a sturdy IP67-rated transportation case. During operation the unit can be carried in the supplied, water-resistant backpack.

**Specifications**

Specifications	
Weight	Short version - 0,9kg long version - 1,2kg
Weight complete in transportation case	Approx. 4kg

PKI 9885**Surface Penetrating Radar**

The **PKI 9885** is a revolutionary, high- performance system designed for detecting any object concealed under the ground or behind walls. It has been designed according to the specific requests of several government authorities worldwide and is now in full operation with Police, Military, VIP-protection and commercial companies. The unit is completely weatherproof and can operate in any type of soil condition. Depth of detection depends on size of object and type of soil but is typically up to 3m.

The complete system consists of 3 main parts:

- The controller (which in fact is a ruggedised personal computer)
- The antenna set
- The transmitter/receiver head, which transmits the information from the antenna to the controller



The **PKI 9885** works by sending out pulses of electromagnetic energy and detecting the electrical echo caused by dielectric differences within the surface being investigated. One of the main features is that during a search, as the antenna is moved across a surface, the data is shown in colour and in real time on the monitor. This means that an anomaly beneath the surface can be seen immediately whenever the **PKI 9885** passes over it, thus making instant and on-site decisions possible. The data can be downloaded and printed on a paper-strip or stored on the hard disc for further processing or inclusion in a survey report.

The standard system is supplied with a 500MHz antenna which has a typical penetration depth of 1.5 to 2.5m in good conditions, i.e. where sand and peat are good and salt water and clay are poor. The other antennas in the range are the 250MHz (typical penetration depth of 2.5 to 4.5m) and the 1GHz and 2GHz antennas. As a general guide, the lower frequency antennas (250 and 500 MHz) are normally used for work below ground and the higher frequency for work above the ground. Important to know is that as soon as the penetration depth increases, the resolution will decrease. Hence the 1GHz and 2GHz antennas are very useful for locating very small objects behind a surface - such as a wall.

PKI 9890**Explosive Isolation Unit**

The **PKI 9890** Explosive Isolation unit is a simple-to-use and intrinsically safe steel box developed for safe confinement of postal bombs, explosives and IED devices. It is lined with a unique blast attenuation material that resembles a “sponge” to absorb blast and fragments. These are contained within the unit, thus allowing for the fast and effective collection of forensic evidence if required.



Specifications	
External size	630 x 650 x 680mm
Inner size	475 x 380 x 350mm
Weight	100kg

PKI 9900**Theft Evidence Kit**

PKI 9900 has especially been designed for mobile and on-site use whenever doubts exist and the investigator needs evidences. This aluminium case contains the most important tools and materials to collect such evidences in order to convict the theft.

Contents:

- 1 pc Mobile tube with lamp, battery and charger
- 1 pc Neon-bulb for tube lamp
- 1 pc UV-bulb for tube lamp
- 1 pc UV-light sensitive ink
- 1 pc UV-light sensitive ink, quick drying
- 1 pc UV-light sensitive paste, white/blue
- 1 pc UV-light sensitive paste, orange/red
- 1 pc UV-light sensitive paste, white
- 3 pcs UV-light sensitive crayon, water resistant
- 1 pc Crayon holder
- 1 pc Colour-transfer powder, violet/red
- 1 pc Colour-transfer powder, green/turquoise
- 1 pc Colour-transfer powder, violet
- 1 pc Colour-transfer powder, blue
- 1 pc Colour-transfer powder, lilac
- 5 pairs Disposable gloves
- 1 pc Detergent



Specifications	
Weight	Approx. 5.5kg, including the aluminium case
Dimensions	46 x 35 x 16cm

PKI 9905 Tire- and Footprint Investigation Kit

PKI 9905 is highly suitable for the investigator to make individual casts of foot- and tireprints in sand, mud, snow or any other surface where traces remain on the ground. Each necessary tools and materials are stowed in a sturdy aluminium case, designed for the use at site and in mobile operations.

Contents:

- 1 Pc protecting spray for prints
- 1 Pc special oil spray
- 1 Pc wire netting
- 2 Pcs mixing bowls
- 1 Pc wide-neck bottle, small
- 1 Pc wide-neck bottle, large
- 1 Pc wide-neck bottle, large, filled with printlifting mixture
- 1 Pc diffuser for printing powder
- 1 Pc shake sieve
- 2 Pcs casting strips
- 1 Pc forceps, large size
- 1 Set screwdrivers
- 1 Pc foot rule
- 1 Pc stirring rod for mixing bowls
- 1 Pc pocket saw
- 1 Pc pair of scissors
- 1 Pc disposable towels
- 5 Pairs disposable gloves
- 5 Pcs pull-string bags, large size
- 5 Pcs pull-string bags, medium
- 1 Pc spatula, medium size
- 1 Pc spatula, small size
- 1 Pc protection foil
- 1 Pc footprint lifting tape


PKI 9910 Standard Scene of Crime Investigation Kit

The contents of the **PKI 9910** meet the basic requirements for securing evidence at the scene of crime. Each necessary part is packed in a rigid, handy case and provides the full scope of tools and materials for an immediate action at site.

Contents:

- 1 Pc glass cutter
- 1 Pc postmortem spoon
- 1 Pc splinter forceps
- 1 Pc pair of scissors
- 1 Pcs nail cleaner
- 1 Pc magnifying glass
- 1 Pc forceps, medium size
- 1 Pc foot rule
- 1 Pc pencil
- 1 Pc ball-point pen
- 1 Pack self-adhesive labels
- 1 Pc magnetic latent fingerprint kit
- 1 Pc booklet, double pages of fingerprint colour foils
- 1 Pc marabu brush with diffuser
- 1 Pc transparent container with 6 inserts
- 4 Pcs glass tubes with lid
- 1 Roll fingerprint lifting tape, 10cm
- 1 Roll fingerprint lifting tape, 5cm
- 1 Pc fingerprint colour pad
- 1 Pc illuminated magnifying glass



Beside this basic assortment, we can offer an advanced version. For this please see our **PKI 9915** Advanced Scene of Crime Investigation Kit.

Specifications	
Weight	Approx. 6.5kg, including carrying case
Dimensions	51 x 38 x 21cm

PKI 9915 Advanced Scene of Crime Investigation Kit

Beside our standard kit **PKI 9910** we herewith offer the advanced model **PKI 9915**. The contents of this case almost offer a universal application for investigative work at the scene of crime. Although having an enlarged range of tools and materials, it is still supplied in a handy case.

Contents:

- 1 Pc universal pocketknife
- 1 Pc ripping chisel, small
- 1 Pc hammer
- 1 Pc ripping chisel, large
- 1 Pc crayon holder
- 1 Pc steel rule
- 1 Pc oil crayon for crayon holder
- 1 Pc compass
- 1 Pc universal pliers
- 1 Pc first-Aid kit
- 1 Pc wire scissors
- 2 Pcs transparent container, small
- 1 Pc glass cutter
- 2 Pcs wide-neck bottles
- 1 Pc pointed pliers
- 1 Pc bottle with pipette
- 1 Pc postmortem spoon
- 1 Pc glass stirring rod
- 1 Pc horse-shoe magnet
- 1 Pc measuring spoon
- 1 Pc splinter forceps
- 1 Pc voltage tester
- 1 Pc pair of scissors
- 1 Pc transparent container with 6 inserts
- 1 Pc small chisel
- 1 Pc transparent container, large
- 1 Pc nail cleaner
- 1 Pc transparent container w. sliding lid
- 1 Pc magnifying glass
- 1 Pc forceps, medium size
- 1 Pc foot rule
- 1 Pc plumber pliers
- 1 Pc pencil
- 1 Pc pocket saw
- 1 Pc ball-point pen
- 7 Pcs glass tubes with lid
- 1 Pack self-adhesive labels
- 1 Roll polypropylene string, green


Specifications

Weight	11kg, including carrying case
Dimensions	51 x 38 x 21,5cm

- 1 Pc magnetic latent fingerprint kit
- 1 Roll polypropylene string, red
- 1 Pc caliper
- 1 Roll polypropylene string, blue
- 1 Pc booklet w. double pages of fingerprint foils
- 2 Pairs disposable gloves
- 1 Pc marabu brush with diffusor
- 5 Pairs disposable gloves, extra strong
- 1 Pc zephyr brush with diffusor
- 10 Pcs closure bags
- 10 Pcs impregnated cleaning towels
- 5 Pcs pull-string bags, medium size
- 1 Pc flashlight
- 5 Pcs pull-string bags, large size
- 1 Set screwdrivers
- 1 Roll fingerprint lifting tape, 5cm
- 1 Pc flat file
- 1 Roll fingerprint lifting tape, 10cm

PKI 9920 Fire Investigation Kit

The combination of tools and materials in this kit has especially been designed for officials working on cases of fire and having to determine the cause. Each and every necessary part is securely packed in a sturdy aluminium case.

Contents:

- 1 Pc combined volt/ohmmeter
- 10 Pcs impregnated cleaning towels
- 1 Pc compass
- 1 Pc powder container
- 1 Pc voltage tester brushes
- 1 Pc steel measuring tape, 10m
- 1 Roll insulating tape
- 1 Pc steel measuring tape, 2m
- 5 Pairs disposable gloves
- 1 Pc marking set, consisting of
- 10 Pcs closure bags
- 10x Pointed rods
- 5 Pcs pull-string bag, large size
- 5x Positioning legs
- 5 Pcs pull-string bag, medium size
- 1x Number set, 1 - 20
- 1 Pc mobile tube lamp
- 1 Pc witing and drawing map
- 1 Pc ripping chisel
- 1 Pc hammer
- 1 Pc pair of scissors
- 1 Pc universal knife
- 1 Pc splinter forceps
- 1 Pc crayon holder
- 1 Pc oil crayon for crayon holder
- 1 Pc glass cutter
- 1 Pc foot rule
- 1 Pc magnifying glass
- 1 Pc pointed pliers
- 1 Pc combination pliers
- 1 Pc screwdriver set
- 1 Pc postmortem spoon
- 9 Pcs glass tubes with lid
- 1 Pc candle with holder
- 1 Pc plumber pliers
- 3 Pcs wide-neck bottle
- 1 Pc transparent container with 6 inserts
- 1 Pc hand saw with 3 inserts



Specifications	
Weight	12,5kg, including carrying case
Dimensions	51 x 38 x 21cm

PKI 9925**Narcotics Investigation Kit**

PKI 9925 enables the drug investigator to verify suspicious goods on site. The results allow to determine if further investigative work is required. The complete kit comes in a handy aluminium case, which can easily be carried and handled.

Contents:

- 1 Pc narcotic traces sweeper with accessories
- 1 Pc package drug test "A" (10 per pack)
- 1 Pc drug-quick-test
- 1 Pc package drug test "B" (10 per pack)
- 1 Pc hand drill tool
- 1 Pc package drug test "D" (10 per pack)
- 1 Pc magnifying glass, small size
- 1 Pc package drug test "E" (10 per pack)
- 1 Pc forceps, small size
- 1 Pc package drug test "G" (10 per pack)
- 1 Pc pair of scissors
- 1 Pc package drug test "K" (10 per pack)
- 1 Pc sample spoon
- 1 Pc scalpel
- 1 Pc universal knife
- 1 Pc one-way syringe
- 1 Pc chemical spoon, double
- 1 Pc soap
- 1 Pc one-way scalpel
- 1 Pc forceps, medium size
- 1 Pc one-way syringe with cannula
- 1 Pc pair of scissors
- 1 Pc package of round filters
- 1 Pc bottle cleaner brush
- 1 Pc drill with 2 inserts, small size
- 1 Pc universal pocketknife
- 1 Pc magnifying glass, large size
- 3 Pcs pipette bottle
- 1 Pc transparent container with sliding lid
- 1 Pc transparent container, large size
- 2 Pcs transparent container with 6 inserts
- 1 Pc package of closure bags

**Specifications**

Weight	10,5kg, including carrying case
Dimensions	51 x 38 x 21cm

PKI 9930 Rapid Analysing Kit

The **PKI 9930** is designed for analysis of environmental parameters directly at the measuring point. It is used for determination and measurement of nitride, nitrate, ammonium, free chlorine/halogen, chromate, free cyanamide, fluorides, copper, nickel, lipophilic agents (oil/fats), phenols, pH-value, sulphite, zinc etc. The complete kit is packed in a sturdy aluminium case, easy to handle and providing each necessary tool and material for on-site investigation.

Contents:

- 5 Pcs wide-neck bottles, PE, 1 litre
- 5 Pcs wide-neck bottles, Glass, 1 litre
- 1 Pc bottle support/holder for 6 bottles
- 1 Pc probe sampling device with telescopic handle
- 1 Pc funnel
- 1 Pc thermometer -50°C to +150°C
- 1 Pack pH-test strips (200pcs)
- 1 Pack oil-testing strips (100pcs)
- 1 Pc felt pen, black
- 1 Pc felt pen, orange
- 1 Pc felt pen, blue
- 1 Pc felt pen, green
- 30 Pcs mini grip bags, various sizes
- 1 Pc pair of scissors
- 1 Set adhesive labels, different sizes
- 2 Pairs protective gloves, rubber, colour red
- 5 Pairs disposal gloves
- 1 Pc hygienic towel
- 1 Pc clipboard
- 1 Pc protective eyeglasses
- 1 Pc shovel, small
- 1 Pc spoon spatula
- 1 Pc protective foil
- 1 pP water canister



Specifications	
Weight	14,5kg, including carrying case
Dimensions	63,5 x 43,5 x 25,5cm

PKI 9935 Two-Line-Rigging Kit

This Two-Line Rigging Kit is combining multiple access and disposal capabilities into one single highly effective unit. The equipment can be deployed in a wide range of IEDD scenarios involving buildings, vehicles and urban/rural locations. An excellent stand-alone kit, featuring an extensive range of components that easily achieves the essential functions of movement, attachment, anchoring, reach and manipulation and handling.



The kit comprises:

- A total of 100 components with over 30 component types for different use
- Two color-coded, high strength, low stretch core lines
- Robust reels with winding handle, brake and adjustable clutch
- Reel bags, to protect the lines and reels, also to provide utmost carrying capacity
- High strength, heat-treated hooks
- Standard and break-away pulleys for changing the movement direction
- Standard pulleys for rigging in combination to improve mechanical solidity
- Unique heavy duty jet clamp anchor for clamping to door/window frames
- Heavy duty cantilever-designed crocodile clamps for attaching to heavy sheet materials
- Full technical instruction manual

PKI 9940 EOD / IEDD Rigging Kits

This lightweight EOD/IEDD rigging kit consists in specialist equipment suitable for both semi-remote and manual stages of an IEDD task. It permits rapid and straightforward deployment. Its ability to deploy the various components quickly in all operational settings is possible due to the use of a custom-designed backpack. This backpack provides dedicated stowage for the comprehensive rigging kit, as well as other essential EOD/IEDD items. The stowage pockets inside the main compartment can be re-configured easily by the user according to personal needs.



The EOD/IEDD rigging kit comprises	
Movement	Main line, secondary line
Attachment and anchoring	Hooks and eyes, lightweight spring grip, vice jaw grip, self-adhesive anchor pads, suction anchors, shock cord, seizers, rope and wire slings, pitons, karabiners, grip, D-clamp, stoppers, screw eye, door stops
Reach	Extension rods, telescopic arm and hooks
Manipulation and handling	Standard snatch block/pulleys, self-opening snatch block/ break-away pulley, splitter ball
Visual search	Tactical search mirror, telescopic arm and mirror
Manual tools	EOD pocket tool kit

PKI 9945 Hook and Line Kit

This hook and line kit comprises a huge variety of components for attaching a line to a suspect IED and then manoeuvring it along a complex route in a single operation. The 120m line enables the removal operation to be conducted remotely. The kit includes devices for anchoring snatch blocks to floors, walls, windows and door frames, as well as a sledge and telescopic pole. The sledge can be used to improve the manoeuvrability of a suspect object on stairs or rough ground and to prevent snagging at corners. The telescopic pole which extends up to 3m allows remote fixation of hooks and lines. All components fit into a compact carrying case and can easily be carried by one man leaving one hand free.



Specifications	
Size	113 x 56 x 40cm
Weight	25kg

PKI 9950 Hook and Line Kit No. 1

This hook and line kit consists of:

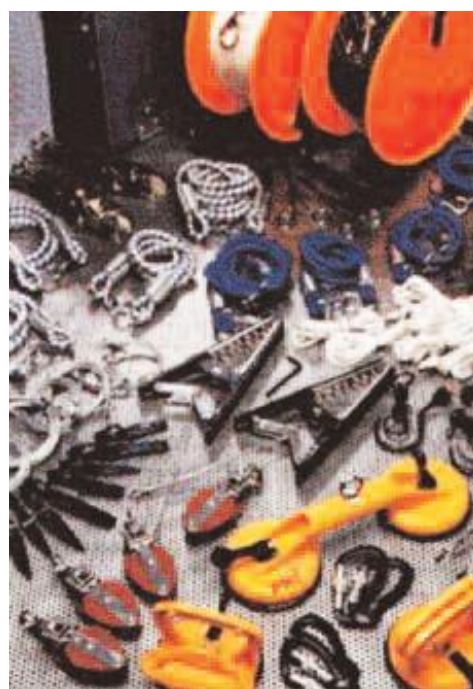
- 1x 100m Kevlar line of 5,5mm diameter, mounted on a drum with brake and rewind handle
- 1x Anchor line mounted on a steel case
- 1x Auxiliary line
- 12x Snatch blocks
- 2x Pulling handles
- 8x Extension rods
- 12x Perspex collars
- 2x Belt slings
- 4x Hooks, large
- 4x Hooks, medium
- 4x Hooks, small
- 4x Tangs
- 4x Double hooks, medium



PKI 9955 Hook and Line Kit No. 2

This hook and line kit consists of:

- 2x Reel and line 150m x 5,5mm Ø
- 4x Snatch blocks
- 2x Barbed tang hooks
- 2x 12mm Ø, Single plain tang hooks
- 2x 25mm Ø, Single plain tang hooks
- 2x 50mm Ø, Single plain tang hooks
- 2x 25mm Ø, Double plain tang hooks
- 2x 25mm Ø, dDuble barbed tang hooks
- 5x 25mm Ø, Rings
- 2x Treble tang fish hook with eye
- 2x 2m x 3mm Ø, Rope sling
- 2x 2m x 4mm Ø, Rope sling
- 2x 2m x 5mm Ø, Rope sling
- 2x 2m x 1,5mm Ø, Wire sling
- 2x 2m x 2mm Ø, Wire sling
- 2x 2m x 3mm Ø, Wire sling
- 8x Pitons (various sizes)
- 4x 15mm Screw gate karabiner
- 1x Double suction pad anchor
- 1x Single suction pad anchor
- 1x 2m x 10mm Ø, Shock cord
- 3x 1m x 10mm Ø, Shock cord
- 1x 2m x 12mm Ø, Shock cord
- 3x 1m x 12mm Ø, Shock cord



- 2x 35mm Jaw length seizers
- 2x 50mm Self grip
- 1x Self Grip anchor
- 1x Metal case

PKI 9960

Hook and Line Kit No. 3**This hook and line kit consists of:**

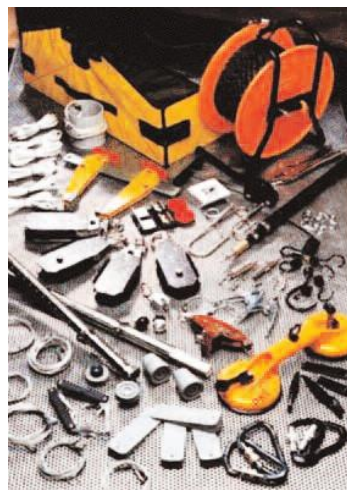
- 1x Line, 100m long, 5,5mm Ø, with snap hook
- 1x Anchor line, fitted with snap hooks at both ends
- 1x Hook, small single plain
- 1x hHok, medium single plain
- 2x Hook, medium double plain
- 1x Hook, large single plain
- 1x Hook, 25mm wide mouth and spring gate
- 1x Hook, 50mm wide mouth and spring gate
- 4x 25mm Eye
- 1x Hook triple barbed with key ring
- 1x Combined telescopic inspection arm and pole
- 1x Triple barb hook mount for tele pole
- 1x Spring gate hook mount for tele pole
- 2x Rope sling, 3mm Ø x 2m long
- 2x Rope sling, 4mm Ø x 2m long
- 2x Rope sling, 5mm Ø x 2m long
- 1x Wire sling, 1,5mm Ø x 2m long
- 1x Wire sling, 2,0mm Ø x 2m long
- 1x Wire sling, 3,0mm Ø x 2m long
- 1x Shock cord, 10mm Ø x 2m long
- 1x Shock cord, 10mm Ø x 1m long
- 2x Piton large chisel point
- 2x Cantilever clamp
- 1x Self locking forceps
- 1x Self locking "mole grip" with 25m eye
- 1x Self grip "C" pliers with eye
- 1x Spring loaded self grip clamp
- 4x Karabiner (alloy) 18mm screwgate 27kn
- 2x Karabiner (alloy) 25mm screwgate 27kn
- 2x Door stop
- 2x Wedge it black
- 1x Wall stopper small
- 1x Wall stopper large
- 15x Sticky eye
- 2x Single suction pad
- 2x Torpedo release
- 2x Extension rods
- 10x Screw eye self tap
- 2x Snatch block
- 2x Auto opening snatch block
- 2x Shackle D shape 13mm gate
- 1x Pocket search mirror
- 1x 140mm Ø Stainless steel screw fitting mirror
- 1x Toolkit, in roll up holder
- 1x Small backpack, mounts onto main pack
- 1x Main backpack



PKI 9965 Hook and Line Kit No. 4

This hook and line kit consists of:

- 1x Reel & line 120m x 5,5mm Ø
- 5x Snatch block - various
- 2x Splitter ball
- 1x 12mm Ø Single plain tang hook
- 1x 25mm Ø Single plain tang hook
- 1x 50mm Ø Single plain tang hook
- 1x 25mm Ø Double plain tang hook
- 1x Treble tang hook
- 1x 25mm Ø Ring
- 2x 2m x 3 mm Ø Rope sling
- 2x 2m x 4mm Ø Rope sling
- 2x 2m x 5mm Ø rRpe sling
- 2x 2m x 1,5mm Ø Wire sling
- 2x 2m x 2mm Ø Wire sling
- 2x 2m x 3mm Ø Wire sling
- 4x Piton- various
- 1x Mole grip
- 1x "D" shackle
- 2x 15mm Opening screw gate karabiner
- 10x Screw eye
- 2x 25mm Opening screw gate karabiner
- 1x Clamp anchor complete
- 1x Pulling handle



- 2x Door anchor
- 1x Line brancher
- 4x Door wedge
- 1x Telescopic pole
- 1x Rough terrain sledge
- 2x Hooks for telescopic pole
- 1x Double suction pad anchor
- 1x Self grip
- 10x Self sticking anchor
- 1x 80 x 1400mm Belt sling
- 1x Multi-tool
- 1x Nylon case

PKI 9970 Special Operations Search Kit

This lightweight and highly portable search kit is used for counter-terrorist tasks and other tactical situations. It enables search personnel to deploy with a compact but comprehensive range of search equipment. The **PKI 9970** is the perfect search kit to carry out a wide range of search activities in the most demanding of environments and under hostile tactical conditions if required. The equipment is contained in a specifically designed backpack that offers a comfortable ergonomic design combined with the practicality of equipment stowage. The equipment is laid out and designed to enable search personnel to gain access to the required grouping of equipment quickly and easily. The backpack has also been designed including extra free space, allowing search personnel to insert some of their own personal equipment if required. An additional hardened air transport case is available upon request.



The Special Operations Search Kit comprises	
Illumination	Head and handheld torches
Search	Search mirrors, mirror search arms, telescopic arms, miniature visual search equipment, endoscope
Surveillance	Binoculars, compact camera for night vision
Tools	Socket set, pliers, grips, wrench set, screw drivers, cordless drill and bits, pocket tool
Protection	Coveralls, gloves, goggles
Consumable and sundries	Seals, markers, ties, tapes, shock cords, releasing fluid, line, door wedges
Carrying equipment	Ssearch backpack, thigh pouch, ancillaries, hold all
Optional equipment	Freight/flight container

PKI 9975**Bomb Tec Kit**

The **PKI 9975** Tec Kit is a modern and highly effective rigging kit for bomb technicians and search personnel. The components provide a sound baseline capability, covering all essential functions of a reliable rigging kit in a cost-effective and user-friendly package. The range of components covers all necessary functions, such as movement, attachment, anchoring, reach and manipulation as well as handling. Used with proven rigging technique the **PKI 9975** Tec Kit can reduce the operator's risk and improve the efficiency of the task.

**The PKI 9975 Tec Kit comprises:**

- 1 Reel c/w dual-purpose transport bag
- 1 mMin line 120m
- 1 Pulling handle
- 1 12mm Hook plain tip
- 1 25mm Hook plain tip
- 1 50mm Hook plain tip
- 1 25mm Double hock plain tip
- 5 20mm Ring (attaches to hook)
- 1 Fishhook, triple tang barbed with eye
- 1 Lightweight spring grip
- 1 Vice jaw grip
- 10 Self adhesive anchor pads
- 1 sSock cord, 1mm diam. 1m
- 3 Extension rod, 300mm
- 2 Rope sling, 4mm diam. 2m length
- 1 Wire sling 2mm diam. 2m length
- 2 Piton no. 5, 70mm
- 2 Suction anchor, single pad
- 2 Karabiner, 15mm gate
- 1 Grip
- 1 Seizer
- 2 Rubber door wedge
- 1 Wedge it, 3-function door stop with eye
- 2 Self-opening snatch block/pulley
- 2 Splitter ball
- 2 Standard snatch blocks
- 1 Pocket search mirror

PKI 9980**Vehicle Access Kit**

Dealing successfully with an IEDD task involving a vehicle can be both physically demanding and technically complex, so that successful execution may require the use of special access equipment. This **PKI 9980** kit contains a range of field-proven special access tools for use when opening vehicles remotely in order to gain access during IEDD tasks. All items of **PKI 9980** are simple to operate and can be rigged in seconds, thus minimizing the time that the bomb technician remains at risk for a suspect device.

**The PKI 9980 kit comprises:**

- 1 Remote window breaker
- 1 Door handle lifter
- 2 Key/handle clamp
- 1 dDor button pusher
- 1 Multi-purpose clamp

PKI 9985 EOD Operators Tool Kit

This portable tool kit is designed for use by bomb technicians. It contains a comprehensive and high-quality selection of more than 60 hand tools for access, investigation and render safe procedures during EOD/IEDD tasks. The complete **PKI 9985** kit is supplied in a soft-sided carrying roll with easy-grip handle for convenient access and quick tool selection.

The PKI 9985 EOD operators tool kit comprises:



- Screwdriver, flat 3.2mm X 64
- Screwdriver, Philips 0-PTX75m 3.2mm
- Screwdrivers, jewellers set of 6
- Wrench, adjustable 150mm
- Hexagon wrench set
- Vice grip wrench 250mm
- Pliers combination 180mm
- Seizers - metal
- Tweezer's style 178mm
- Wire cutters, electrical
- Tin snips universal
- Utility knife heavy duty
- Flexi saw 385mm
- Mini saw
- Wire strippers 16-26AWG
- Needle files set
- Spring hook C-lift
- Magilite (2x AA cell)
- Battery AA size Alkaline
- Cable ties small /medium 10ea
- Insulated dental mirror 22mm
- Nylon cord 1.2mm - 10m
- Wrecking bar 300mm
- Claw hammer 453,6g
- Nonconductive probe BLK acetal 6mm
- Tool roll black cordura
- Screwdriver, flat 5mm x 100
- Screwdriver Philips 1-PTX75 5.0mm
- Screwdrivers, TX-Star/Torx set
- Wrench, adjustable 250mm
- Vice grip wrench 125mm
- Pliers snipe nose 40mm
- Pliers adjustable 250mm
- Tweezer's style 2 curved 174mm
- Wire cutters, fine
- Craft knife
- Blade dispenser heavy duty
- Pad saw + blades
- Mini saw blades 10 pack
- Scissors 150mm
- Grey rubber door wedge
- Spring hook C-W
- AA7" Bend-a-Beam
- Paint brush 1" dust removal
- PVC insulation tape
- Mirror telescopic/articulated 295/455mm
- Measuring tape steel 3m
- Scriber double ended
- Cold chisel engineers 15 x 150mm approx.
- nonconductive probe WHT acetal 6mm

PKI 9990 Special Operations Tool Kit

The design and construction of this special operations backpack **PKI 9990** makes it a suitable comprehensive tool kit for any conventional EOD/IEDD team to deploy with. The internal colour-coded compartments of this tool kit are designed to hold the specific tooling in a range of removable internal pouches and fixed netting compartments. Layout is based on tool set grouping and operational precedents when using manual equipment. The layout may be changed at the operator's discretion. The backpack has also been designed to include extra free space allowing the operator to insert some of their own personal equipment. All the tools of **PKI 9990** have been selected for their quality and reliability with some of them offering multi role capability to reduce total weight. The tools offer the capabilities for search, access, diagnostics and render safe.



Special operation tool kit PKI 9990 comprises	
Search	Head torch, mini hand torch, large hand torch, binoculars, metal detector (multi range)
Access	Cordless drill, including accessories and drill bits, knives, saws, nibbler, gas powered hot knife
Diagnostics	Multimeter and diagnostics cabling attachments, electrician probes, hook retrieval equipment, inspection and pick up tooling, consumable components for diagnostics work, cordless glue gun and a range of adhesives
Render Safe	Screw drivers - electricians and industrial, sockets and wrench sets, pliers - electricians and industrial, file sets, layout matting, heavy duty tooling - grips, hammer, lifters, wrench bar, electrician tools - strippers, test equipment, tweezers
Carrying equipment	Tool backpack, thigh pouch ancillaries hold all
Optional equipment	Freight/flight container

PKI 9995 Equipment for Fire Brigades and Rescue Service

The following **PKI 9995** equipment is indispensable for the fight against terrorism. After an attack of terrorists, the appropriate technical equipment must of course be available immediately in order to arrange the necessary rescue activities without any delay. As there is a wide range of such equipment, **PKI** can only suggest a list indicating a selection of the available products. If you are interested in any of the equipment or vehicles, we shall be pleased to submit you a detailed quotation. As a special service to our customers, we also offer second-hand equipment and vehicles for fire brigades and rescue teams.



- Fire fighting helmets, lamps for helmets, walkie-talkies, additional accessories for helmets
- Protective clothing, boots, gloves, heat protective equipment
- Breathing apparatus sets, thermal imaging cameras, radiation protection, cardiopulmonary resuscitation machines, respirator masks, compressed air bottles, hazmat equipment
- Valves, pressure hoses, siphon pipes, hose reels, couplers, repair sets for hoses
- Fire extinguishers, extinguishing agent, fire blankets, portable extinguishers, immersion pumps, portable pumps etc.
- Power generators, electrical equipment, lamps, spotlight, cable drums, battery charging units
- Audio/visual warning equipment, megaphones, flashing warning lights, warning and traffic management system
- Different types of ladders, rescue equipment, rescue stretchers, ambulance boxes, rescue blankets, antifall guard equipment, safety belts etc.
- Ventilation systems, rescue cutting tools, motor saws, cut-off saws, drilling machines, cable winches, accessories
- Hydraulic rescue equipment, cutting devices, hydraulic power units, battery-driven rescue equipment, lifting pads
- Equipment for hazardous waste cleanup, catchment tanks, vessels for waste disposal, sealing material, pumps for oil and chemicals, hose pumps, binding agent for oil, oil barriers, high pressure cleaners

Ask for special offer.

TRAINING PROGRAM



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

PKI 10000 Training program

PKI has been dealing with various types of drones, their uses, detection and elimination through our **PKI**-Jammers for years. This wide area requires a lot of expertise and experience, particularly in theory and practice. **PKI** provides this necessary knowledge in various training courses.

Through our specialists you will be expertly guided, especially in the practical application, that is, the user learns to fly different drones, which weight classes are required for which observations, and so forth.

Depending on the application requirements, a concept is worked out in cooperation between **PKI** and the customer and the subsequent delivery is carried out according to requirements.



PKI Training and Consultancy

- Wide spectrum of specialist subjects
- Tailor-made to customer's requirements
- Highly skilled training personnel
- Fully protected and secure training centre
- In-house accommodation for students



PKI ELECTRONIC INTELLIGENCE Training

Services form an important and often integral part of implementing a successful security operation. A major factor in **PKI**'s philosophy is the conviction, that training and understanding of products and technology are a critical factor and major strength in finding successful security solutions.

PKI's Training Services provide specialist courses covering a wide range of topics. The exact requirement, scope, style and level of training is normally defined after a fact-finding visit to the end-user's location. During this meeting with the client and final user of **PKI**'s products the gain of specific knowledge will be determined, and a syllabus of the coming training-course is defined. Every service provided can and will be individualised to meet our client's requirements.

PKI's highly trained personnel consist of only selected engineers with very special skills who are called upon by many governmental security organisations to give advice and consultation. Key factors are flexibility, personalised service, professionalism and utmost discretion. Total integrity and security of the client's information is guaranteed at all times.

The training centre is located on our own 20.000 square meters territory in Lütjensee (30min. away from the centre of Hamburg) allowing the necessary outdoor exercises and system training in a secure environment without any external interference or disturbance. The complete area can be protected by security guards if requested.

The whole range of Training Services includes seminars in the fields of:

1) Surveillance

including courses on academic basis, general techniques & equipment, audio surveillance, video surveillance, still photography, mobile surveillance, vehicle tracking, maintenance and service etc.

2) Counter Surveillance

including courses on basic threats, professional threats, general techniques and equipment, countermeasure methods, countermeasure devices etc.

3) Crime Investigation

including courses on photography, evidence collecting, analyst database etc.



4) Protective Security

including courses on static location, close protection, VIP security, VIP drivers and team leaders etc.

5) Methods of Entry

including courses on basic systems, advanced systems, techniques and equipment on how to gain access to closed rooms etc.

6) Anti Riot / Anti Drugs

including courses on EOD/IED disposal, basic demolitions, advanced demolitions, sniper, narcotic detection etc.

In each of these specialised seminars detailed understanding is passed on in academic bases, possible threats, maintenance and service, techniques and equipment plus the knowlegde about every feature of PKI's products and how to use these with a maximum of effectiveness.

Why is a training program with PKI Electronic Intelligence GmbH so important?

All over the world, significant changes of the political influences are recognizable. These challenges must necessarily be met.

This determines the social life of the population and decides about riots, terrorist attacks or peaceful and prosperous coexistence. To keep pace with the technical possibilities, to get to know what really happens in a country, information is essential. And this is true for every country in this world.

To gain access to this important information, often unorthodox methods are necessary, particularly as this is a very sensitive topic where confidentiality has top priority.

Nevertheless, the governments have taken the responsibility to govern their respective country peacefully and successfully. For this area of total control, **PKI** not only produces the required equipment, but trains and instructs the responsible persons of the various ministries, such as Law Enforcement, Military, Government Agencies etc. Without theoretical knowledge there will be no success, independently of the equipment used. And this is aggravated by the rapid technological development in the world

market. In order to be always "up to date", **PKI** wants to help that also in the future the responsible persons get the best formation and advanced training, i.e. **PKI** Training Programs should always be given priority for the reasons already mentioned.

The **PKI** Training Program must be No. 1 „Knowledge is power“.

PKI Training Program Overview

PKI Electronic Intelligence offers training courses as we are convinced that understanding of products and technology are most important for a successful operation. The training courses are held at our own premises, located on our own 20.000 square meters territory. The training centre allows the necessary outside exercises and systems training in a secure environment without any external interference or disturbances.

The ground floor consists of 2 comprehensive equipped training classrooms including workshops, offices, 2 show rooms and the main dining room with adjacent central kitchen including cooking staff for preparation of daily meals. The upper floor is designed for the accommodation of up to 12 students in single apartments. Each comfortably designed apartment is equipped with sleeping room, bathroom and some of them are equipped with their own kitchen.

The following training courses are available:

Training Course Overview "Surveillance"		
Academic Course	Basic Mathematics	4 weeks
	General English Language	
	Computer Studies	
	Basic Electronics	
Techniques & Equipment	Audio & Video Surveillance	4 weeks or adapted to client's requirements and equipment selection
	Body worn operations	
	Room surveillance	
	Telephone tapping	
	Vehicle eavesdropping	
	Camouflage	
	Laser monitoring	
	Infrared monitoring	
	Optical systems	
	Audio/Video transmission	
	Audio/Video enhancement	
	Low noise drilling	
	Protection against counter measure	
	Tactical deployments	
Search and inspection techniques		
Audio Surveillance	Wired/Wireless Systems	3 weeks or adapted to client's requirements and equipment selection
	Body worn operations	
	Room surveillance	
	Telephone tapping	
	Stethoscopes	
	Laser monitoring	
	Infrared monitoring	
	RF & GSM transmission	
	Graphic/Parametric equaliser	
	Audio enhancement	
Tactical deployments		

Training Course Overview "Surveillance"		
Video Surveillance	Surveillance	3 weeks or adapted to client's requirements and equipment selection
	PCB cameras	
	PCB camera lenses	
	Long range lenses	
	Open area surveillance	
	Room surveillance	
	Body worn surveillance	
	Day / Night video	
	Image intensifiers	
	Infrared illumination	
	Camouflage Recovering	
	Low noise drilling	
	Vehicle fits	
	ISDN / analogue telephone	
	Video transmission RF	
	Rigid / flexible endoscopes	
	GSM	
	Scrambling	
	Encryption	
	Repeater	
Remote control		
Enhancement & filter		
Video enhancement		
Stand alone system		
PC based system		
Still photography	Traditional Photography	2 weeks
	Film processing	
	Digital Photography	
	Digital Imaging	
	Image Intensifiers	
	Infrared	
Surveillance Course I: Static Surveillance	Personal Security	2 weeks
	Orders & Briefings	
	Recognition	
	Equipment	
	Dress & Appearance	
Surveillance Course II: Foot Surveillance	Personal Security	2 weeks
	Covert fits	
	Equipment	
	Orientation & map studies	
	Communications	
	Dress & Appearance	
	Information reporting	
Surveillance Course III: Mobile Surveillance	Covert fits	2 weeks
	Equipment	
	Orientation & map studies	
	Evasive & defensive driving	
	Information reporting	
Vehicle tracking	Tracking methods	2 weeks alternatively 1 week w/o GSM & GPS
	RF beacon & Directional Finding DF	
	RF System components	
	Covert installation	
	GSM + GPS tracking	
	Mapping software	
	Vehicle & object preparin	
	Practical exercises	

Training Course Overview "Surveillance"		
Vehicle tracking	Tracking methods	2 weeks alternatively 1 week w/o GSM & GPS
	RF beacon & Directional Finding DF	
	RF System components	
	Covert installation	
	GSM + GPS tracking	
	Mapping software	
	Vehicle & object preparin	
	Practical exercises	
Maintenance & Service	Theoretic background	depends on the type and range of selected equipment
	Function of equipment	
	Electronic boards and circuits	
	Circuit diagrams	
	Trouble shooting	
	Board & part exchange	
	Measuring & testing equipment	
	General Maintenance	
Electronic Counter Surveillance	Analogue threats	basic training: 3 weeks
	Manual search methods	
	Electronic search methods	
Basic	RF detection & locating	Adapted training depending on client's requirements and equipment selection
	Cable checking	
	Spectrum analysis	
	Microphone detection	
	IR & Laser threats	
	Software help tools	
	Sweep planning & concept	
	Active protection	
Electronic Counter Surveillance	Including - Basic -	basic training: 5 weeks
	Digital threats	
	Spread Spectrum	
Advanced	Frequency hopping	Adapted: depending on client's requirements and equipment selection
	Manual & optical search	
	Electronic search methods	
	RF detection	
	Location of bugs	
	Telephone cable checking	
	Mains cable checking	
	Spectrum analysis	
	Microphone detection	
	IR threats	
	Smart attacks	
	Attacks through PBX	
	Attacks via ISDN	
	Software help tools	
	Sweep planning	
	Sweep concept	
	Masking	
	Jamming	
Scrambling		
Encryption		

Training Course Overview “Crime Investigation”		
Scenes of crime Photography	Crime scene protocol	2 weeks
	Choice of equipment	
	Techniques of exposure	
	Lighting	
	Traditional photography	
	Digital photography	
	Digital Imaging	
	Photos as evidence	
	Specialist techniques	
	Practical exercises	
Scenes of crime Evidence	Preservation of crime scenes	2 weeks
	Preservation of evidence	
	Fingerprint techniques	
	Footprint moulding	
Investigation & Analyst Database	Range of training courses to meet the requirements of analysts and investigators and technical database developer	varies according to the level of courses adapted to the client’s requirements
Basic Course		
Investigators & Analysis		
Operational Users		
Technical Users		
Designer & Researcher		
Training Course Overview “Protective Security”		
Protective Security Static Location	Threat identification	2 weeks
	Terrorist operations	
	I.E.D.	
	Information & Office Security	
	Personal Security	
Protective Security Close Protection	Threat identification	2 weeks
	Terrorist operations	
	Personal Security	
	Escort organisations	
	Attack procedures	
	Weapon handling	
Protective Security VIP Drivers	Threat Identification	1 week
	Terrorist operations	
	Vehicle security	
	Convoy procedures	
	Evasive & defensive driving	
Protective Security Team Leader	Threat Identification	1 week
	Security levels	
	VIP protection	
	Protection profiles	
	Counter sniper & attack	

Training Course Overview “Covered Methods of Entry”		
Basic Systems	Theory of locking mechanisms	Standard: 2 weeks Adapted: depending on client’s requirements and equipment selection
	Introduction to lock pick tools	
	Padlocks	
	Lock recognition	
	Making of tools	
	Various methods of entry	
	Vehicles	
	Office Equipment	
	Key pressing and recording	
	Key cutting	
Advanced Systems	Recognition	3 weeks
	Impression	
	Alarm systems	
	PIR systems	
	Introduction to safes	
	Projects	
	Forces entry	
Training Course Overview “Anti Riot”		
Explosive Ordnance Device (E.O.D.) Disposal	Basic chemistry of explosives	3 weeks
	Basic explosives	
	Classification of explosives & ammunition	
	Ammunition design principles	
	Ammunition & explosive markings	
	Demolition stores & accessories	
	Explosives safety & handling	
	Methods of initiation & misfire drills	
	Theoretic basic of disposal	
	Disposal of blinds & uxo’s theory	
	Remote equipment	
	EOD specialist equipment	
	Demonstration of explosives	
	Dry training exercises	
	Confidence testing	
Live exercises		

Training Course Overview “Anti Riot”		
Improvised Explosive Device (I.E.D.) Disposal	IED philosophy	3 weeks
	IED types & construction	
	Commercial & home made explosive (HME.)	
	IED disrupters	
	IED team manual equipment	
	Remote equipment	
	Duties of an IED team No. 2	
	Incident control point drills	
	Questioning techniques & task	
	Appreciation	
	Basic search techniques	
	Access & render safe procedures	
	Vehicle clearance procedures	
	Manual operations	
	Military booby trap mechanisms	
	Radiography	
Equipment practice		
Practical exercises		
Explosive Demolitions (Basic)	Safety rules	2 weeks
	Electrical rules	
	Rules for detonation cord	
	Initiation sets	
	Electric & flash initiation	
	Ring mains & mains lines	
	Standard charges	
	Steel cutting	
	Wood cutting	
	Attack methods	
	Booby trap switches	
	Practical Exercises	

Training Course Overview “Anti Riot”		
Explosive Demolitions (Advanced)	Safety rules	4 weeks
	Exploders	
	Mines & improved mines	
	Remote type ambush	
	Advances steel cutting	
	Pressure & concussion charges	
	Pier footing charges	
	Landing site construction	
	Attack methods and profiles	
	Target RCCE formats	
	Tactical targets	
	Bridge types and construction	
	Incendiary devices & procedures	
	Home made explosives	
Improvised explosive devices		
Practical exercises		
Training Course Overview “Anti Riot – Anti Drugs”		
Basic	Sniper beginners	1-2 weeks
Advanced	Sniper veterans	
Tactical Operations	Emergency team officers	
Tactical Command	SWAT team leaders	
Narcotic Detection Dog Training	Obedience Evaluation and Training	8 - 12 weeks (dog training)
	Basic Safety Considerations	
	Basic Detection Training	
	Dog’s Sense of Smell	
	Scent Association	
	Improving Indication Skills	
	Building Search Strategies and Patterns	
	Vehicle Search Strategies and Patterns	
	Luggage and packages	
	Open area searches	
	Handler training	

VIEW AND LISTEN WHAT IS CONCEALED WITH PKI PRODUCTS



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

VIEW AND LISTEN TO WHAT IS CONCEALED WITH PKI PRODUCTS



PKI 2115 Digital Stethoscope Recorder

PKI 2470 Needle Microphone with Amplifier



PKI 2515 Tactical Audio Microphone Set

PKI 2910 Directional Microphone Set



PKI 2915 Directional Microphone of the latest generation

PKI 2925 Professional Super Directional Microphone



PKI 3000 Laser Microphone

PKI 3100 Laser Monitoring System



PKI 5070 Telephoto Recorder

VIEW AND LISTEN TO WHAT IS CONCEALED WITH PKI PRODUCTS



PKI 5100 Multi-Purpose Thermal Imager

PKI 2470 Video Drone with Unlimited Flying Time



PKI 5900 Submarine Video Camera

PKI 7100 X-Ray Inspector



PKI 7130 Letter Bomb Detector

PKI 7300 Handheld Explosive Detector



PKI 7405 Radar Observation System

PKI 8050 Ultracam Videoscope



PKI 8080 Smartphone Endoscope Camera

VIEW AND LISTEN TO WHAT IS CONCEALED WITH PKI PRODUCTS



PKI 9220 Contraband Detector

PKI 9380 Forensic Vehicle Laboratory



PKI 9400 X-Ray Spray

PKI 9530 Car ID Set



PKI 9550 Inspection Mirror

PKI 9780 UV-Set



PKI 9850 Observation Vehicle



PKI 9855 Undercover Investigation Vehicle



PKI 9885 Surface Penetrating Radar



Eavesdropping

Today, the electric microphone, e.g. **PKI 2205**, is part of the standard audio surveillance equipment. A hidden microphone in the conference room! There is a wide variety of possibilities to forward the information so obtained. Sometimes via radio using a bug, sometimes via pre-routed cables or telephone lines...

The biggest disadvantage of a microphone certainly is that it must be installed in the room to be monitored in advance. Nevertheless, this procedure is and remains the most used. One of the main advantages is the low risk of discovery of the eavesdropper who can do his job hundreds of meters away. Even if any microphone or transmission device is found, it can only be guessed who has overheard the conversation.

Structure-Borne Sound

Structure-borne sound can occur if air vibrations impact solid objects, such as walls or doors. Though it seems unbelievable at first start, even concrete walls start to vibrate (invisibly for the human eye) from airborne sound pressure and thus act as sound transmitters to adjacent rooms. Because of the large mass of a building wall, these tiny vibrations must first of all be made audible. And what is more natural than to start the job with a so-called structure-borne sound microphone. This is a special microphone (e.g. **PKI 2215**) which can receive mass vibrations (similar to a seismograph). If such a sensor is pressed to the wall, its structure-borne vibrations can immediately be heard in the headset of the subsequent amplifier. The background noise of a common apartment house is really impressive. The hissing of embedded gas and water pipes can be heard as well as voices from other rooms or even other apartments. Heating pipes or steel components are particularly good transmitters of structure-borne sound and sometimes transmit noise over several floors. Especially the thin apartment walls, which are typical for today, seem to have been created for eavesdropping techniques using structure-borne sound. Window glass panes vibrate particularly well under the influence of sound waves, too. It is obvious that this effect is used by professional surveillants. Corresponding listening devices (**PKI 3100**) are used that operate with an infrared red laser beam. The device is directed at a windowpane in the room to be monitored and part of the laser light is reflected by the glass. If the glass pane vibrates under the influence of the airborne sound, the reflected laser beam is also influenced. The receiver can again generate an audible voice signal from the reflected laser beam. This is a very elegant procedure, provided IR laser light is used that is invisible for the human eye. The surveillant can be a few hundred meters away.

From these examples it can be concluded that ordinary residential or office rooms are generally no guarantee for confidential discussions. Professionals defend themselves against such eavesdropping with the most varied methods, among others with the generation of artificial background noise near the windows (**PKI 4650**) or with fully screened conference cabins.

Directional Microphones

Whoever now seeks his salvation under the open sky, naturally escapes the above-mentioned eavesdropping, however, he is subjected to other hazards. Directional microphones, that are many times more sensitive than our ears, can intercept conversations of passers-by from distances of more than one hundred meters (**PKI 2915**). Due to their directional effect, they can simply mask parasitic noise from other directions.

The interception technology has made a significant leap forward with the development of signal processors. These devices, known as DSP (Digital Signal Processor), are used by the surveillant to filter out unwanted noise, no matter whether it is wind noise (when using a directional microphone) or the above-mentioned noise of water pipes (when using a structure-borne sound microphone). As a result of their many setting options and their small size, these filters are universally applicable. Thus, individual background noise in the midst of the noise spectrum can be eliminated using highly effective notch filters or any filter characteristic to select the voice band can be set. All in all, these filters offer options that one had at best dreamed of years ago.

Network Intercom Systems

Communication facilities, such as network intercom systems, within an apartment represent a special risk. For this, the carrier frequency technology of power supply lines is used (**PKI 2800**). However, the voice modulated high frequency signal is not transmitted to an antenna, but instead it is coupled to the power supply line via capacitors. At any point in the house, the signal can be isolated from the power supply line again. The only problem is the electricity meter whose solenoid coils act as cut-off chokes and can lead to a noticeable reduction in the transmission to other circuits (and thus to other households). For various technical reasons, these intercom systems operate differently well, since the propagation of the long waves on the power supply lines does not happen in an uncontrolled way. In larger housing complexes, it is not unusual to hear foreign voices whose origin is difficult to explain. For a surveillant, the interception of such carrier frequency procedures is no problem. A simple communication receiver with the appropriate waveband is fitted with one meter of wire as an antenna that is wound around the power cable. Now, the device isolates the long wave signals from the power supply line and can receive the FM (formerly also AM) modulated carriers. The exact operating frequencies of the devices are quite different, but they are always between 200 and 300kHz. The waveband search at the receiver can be used to scan this band comfortably. Occasionally, the operating ranges of such intercom systems are astonishing, sometimes even conversations from other buildings can be heard. Telephone lines are to be considered as quite critical. Today, the house entries for thick cable bundles are almost exclusively found in the rooms of the basement, where the distribution boxes for the apartments and offices are located, too. Until a few years ago, these distribution boxes were accessible without any protection and so it was possible to tap into each line in an undisturbed way. In the meantime, experience has obviously been gained and the distribution boxes were replaced by closed and lockable versions. A professional will certainly not be scared away and so these distribution boxes for entire housing complexes are still critical points: Nowhere tapping of an analogue phone line is as easy as here! The possibilities are numerous: Listening in, recording, using the same line, analysing incoming phone numbers (**PKI 2210**).

EARTHQUAKE PRODUCTS



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

EARTHQUAKE PRODUCTS



PKI 2180 Professional Quadro Stethoscope Recorder

PKI 5100 Multi-Purpose Thermal Imager



PKI 5070 Telephoto Recorder

PKI 5625 Video Drone with Unlimited Flying Time



PKI 5675 Outdoor Fire Detection System

PKI 5700 360° Long-Term Surveillance Camera



PKI 7100 Portable Flat X-Ray System

PKI 7200 X-Ray Scanner



PKI 7405 Radar Observation System



PKI 7540 Contraband Detector



EARTHQUAKE PRODUCTS



PKI 7550 Modular EOD / IEDD Robot

PKI 7565 Computer Controlled Military Searchlight



PKI 7575 3D Through Wall Radar

PKI 8005 Mobile Power Station



PKI 8020 Flexible Fiberscope

PKI 8050 Ultracam Videoscope Receiver



PKI 8055 Control Mirrors

PKI 8085 Audio/ Videoscope Cameraset



PKI 8110 Telescopic Inspection Camera for Day and Night Observation and Recording

PKI 8125 Video Stick Camera



EARTHQUAKE PRODUCTS



PKI 8155 Super Probe

PKI 8160 LED Balloon Light



PKI 8210 Handheld Metal Detectors

PKI 8230 Top Quality Metal Detector



PKI 8270 IED / RCIED Detector

PKI 8275 Chemical Handheld Detector



PKI 8565 Underwater Metal Detector

PKI 9055 Drinking Water Container



PKI 9060 Foldable Drinking Water Tank

PKI 9105 Hydraulic Jamb Spreader



EARTHQUAKE PRODUCTS



PKI 9110 Series of Door Rams

PKI 9165 Emergency Set



PKI 9170 Gas Mask

PKI 9175 Hydraulics Door Opener



PKI 9180 Hydraulic Door Opener

PKI 9200 Protective Police Helmet



PKI 9220 Contraband Detector

PKI 9300 Protective Suits



PKI 9310 Breathing Mask

PKI 9335 Quick Operation Tent



PKI 9340 Acoustic Hailing Device

EARTHQUAKE PRODUCTS



PKI 9860

Special EOD Vehicle



PKI 9865

Leak Detector for Gases and Compressed-Air Systems



PKI 9875

Cable Locator



PKI 9885

Surface Penetrating Radar



PKI 9935

Two-Line-Rigging Kit



PKI 9940

EOD / IEDD Rigging Kits

PKI 9945

Hook and Line Kit



PKI 9950

Hook and Line Kit No. 1

PKI 9955

Hook and Line Kit No. 2



PKI 9960

Hook and Line Kit No. 3

PKI 9965

Hook and Line Kit No. 4



THE LATEST DEVELOPMENT



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

PKI Electronic Intelligence GmbH is one of the leading international manufacturers of premium anti-terror equipment „Made in Germany“. Since 50 years our name stands for top quality, excellent service, motivated employees and innovative solutions. For us “After Sales Service” is an integral part of the contract as well as customer training on latest **PKI** products. Engagement, know-how and reliability result in long-lasting customer satisfaction and loyalty. Successful cooperation with our customers is the most important indicator of our efficiency. With this brochure we want to draw your attention to special PKI developments. Partially these are the results of tailor-made customer orders and also the possible outcome of discussions with customers:

- 1) **PKI 1400** Media Monitoring System
- 2) **PKI 2905** Digital Audio Bug with Download Server
- 3) **PKI 5645** License Plate Scanner with Face Recognition
- 4) **PKI 6500** High Power Convoy Jammer
- 5) **PKI 6600** Cell Tower Jammer System

We would like to take this opportunity to encourage you to discuss your problems regarding technical applications with our engineers in order to obtain positive results.



PKI 1400 Media Monitoring System

In contrast to the past, nowadays news are not always edited or come from the established news agencies. Many different media and the Internet compete for the attention of the users. When it comes to tracking the origin of messages or even “fake news”, the **PKI 1400** Media Monitoring System can be a precious help. The system combines all kinds of news sources and archives them for evaluation purposes. Television and radio programs can be recorded and evaluated from any source. All content and meta-information is automatically added to the database which can be searched for keywords and other criteria. The material can be automatically searched for specific content.

In addition, content from social networks can be integrated to be able to assess the response to messages in the media. Contents can be categorised by language and image analysis. Face recognition and speech2text conversion can also be used to enable the analysis of the contents. The system has a modular design and can be fed from many sources. Content can be directly digitally imported or be made available from analog sources by means of appropriate digitizers. Primarily, all existing TV and radio programs are fed in and automatically recorded. All these contents can later be retrieved via any client or also be exported.



PKI 2200 The Ultimate Surveillance Set

For 2022, **PKI Electronic Intelligence GmbH** continues to offer interesting Innovations in the „New Digital Surveillance Technology“ Sector:

These new **PKI** digital miniature monitoring devices considerably facilitate the acquisition of sensitive information. They help to easily realise transmissions never before thought possible both in the audio and the video sector. To be prepared for every operation, this **PKI 2200** equipment is designed as a set. The individual devices are designed for a wide range of operations. A detailed technical description follows below. Devices can be reordered at any time.

The **PKI 2200** comprises:

- 1) **PKI 2385** Digital Room Microphone
- 2) **PKI 2390** Digital Network Microphone
- 3) **PKI 2395** Digital Trojaner Telephone Coupling
- 4) **PKI 2400** Stethoscope „The Controller“
- 5) **PKI 2405** Digital Directional Microphone
- 6) **PKI 2410** Digital Throwable Microphone

The recorded monitoring signals are digitally recorded on the built-in memory with a maximum recording time of 132/264 hours, depending on the battery power used. This technological **PKI** miracle in miniature design amazes each and every secret service agent. These digital **PKI** devices do not send any HF radiation, i.e. they cannot be located by conventional tracking devices, which is a very important aspect for professional surveillance.

In dependence on location and duration of the operation, these digital **PKI** all-rounders can be collected, replaced and the respective digital data can be transformed into audible signals using the delivered laptop. Storage of the relevant data is of course possible, too. Several digital **PKI** listening devices can be activated simultaneously without mutual interference, because there is no frequency overlap as in conventional HF equipment. This is particularly useful in case of larger rooms or large window surfaces.

As a result of the miniature design, camouflaged missions are possible. This is part of standard professional surveillance. Especially our **PKI 2400** stethoscope “The Controller” deserves closer attention.



PKI 2385 Digital Room Microphone

PKI 2385 allows recording of conversation from up to 10m distance and storing for several weeks according to your requirement. Playback is made via common laptop or smartphone.

Specifications	
Dimension	40 x 20 x 10mm
Weight	3gr
Memory capacity	132/264 hours
Audio bandwidth	500 - 20.000Hz
Power supply	Polymer battery 3,7V 130mAh, rechargeable


PKI 2390 Digital Network Microphone

Operation of **PKI 2390** is most useful when long-time surveillance is required, i.e. audio recording for months. **PKI 2390** starts recording automatically when there is a sound level (VOX controlling). Playback is made via common laptop or smartphone.

Specifications	
Dimension	30 x 20 x 10 mm / power adapter 30 x 20 x 10mm
Weight	18gr
Memory capacity	264 hours
Audio bandwidth	500 - 20.000Hz
Power supply	110/220V AC


PKI 2395 Digital Trojan Telephone Coupling

Wiretapping can't be done easier. Capacitive coupling of telephone lines provides recording of both conversational partners without cutting the wires. Recording can be made for months as **PKI 2395** only starts recording when there are phone calls. Playback is made via common laptop or smartphone.

Specifications	
Dimension	Ø 30 x 25mm
Weight	25gr
Memory capacity	132/264 hours
Audio bandwidth	500 - 10.000Hz
Power supply	Polymer battery 3,7V, 130mAh



PKI 2405 Stethoscope „The Controller“ - newest Version

This is the latest development by **PKI**. Small, fine and naughty. Why?

With this professional all-rounder, you can listen through concrete walls as easily as through doors or windows, and this without having to be there. The **PKI 2405** controller with its miniature dimensions of Ø 30 x 14 mm, weight only 14g is easily connected to the object to be monitored using our special mastics and therefore adheres there. Monitoring can start and this up to 264 hours. The softest sounds and language are recorded, i.e. saved. Depending on the relevance, **PKI 2405** can be removed again and via the built-in memory and a laptop, a PC or a smartphone, the data obtained are made audible.

This device outperforms all previous stethoscope monitoring devices. With the built-in automatic sound recognition sensor, it is possible to record only if audible signals are present in the form of noise or conversations. As a result, significantly extended recording times are possible. All recorded data is password protected, no one except the user has access to the data. The easy „one touch“ operation facilitates the use considerably. For simple file navigation, the recordings are time-stamped. **PKI 2405** with built-in 8GB memory allows 4 different recordings in 32 kbps, 192 kbps, 512kbps, 1536kbps depending on the requirements or the desired maximum recording time or quality. The Piezo recording system developed by **PKI** with automatic control unit ensures excellent application possibilities and is suitable for any kind of monitoring.

Operating manual **PKI 2405** stethoscope „The Controller“:

Using this bugging tool allows inconspicuous eavesdropping through walls, windows, doors, floors and ceilings. Simply stick **PKI 2405** with our mastic material to the wall, door or window, switch ON and recording starts. Sound quality and volume can be optimized by thickness and diameter of the mastic material. You should try different quantities of mastic material as amplification factor of **PKI 2405** is 500.000.

The stethoscope provides low-frequency elimination so that disturbing noises from pumps and motors of household utensils are reduced in useful signal. Windows are louder and a pea-size quantity placed in the middle of **PKI 2405** will be sufficient. For application on thicker stone walls put on the mastic material thin and widespread. **PKI 2405** records up to 36 hours if it is not switched off before. For playback connect the device by mini USB cable to PC or USB playback device. WAF data is stored with date and time in USB file record voice. Recorder capacity is limited to 132 hours. **PKI 2405** works silently, is extremely small, lightweight and cannot be located, i.e. it sends no HF radiation as is usual when it comes to wireless transmissions.

Features:

- Plug & play
- Exactly adjustable by acoustic mastic material
- Easy eavesdropping through walls, floors, ceilings, glass and wood
- High-sensitive, 500.000 fold amplification
- Strong rechargeable battery
- Voice-activated recording or continuous mode
- Premium quality using special contact microphone
- Easy fixing by special acoustic mastic material
- Permanent recording up to 132/264 hours with external battery
- Audio bandwidth 500 - 20.000 Hz
- Low-frequency elimination



Specifications	
Weight	14gr
Size	30 x 14mm
Power supply	Polymer battery 3,7V 130mAh
Recording format	WAV 192 Kbps continuously 512 Kbps voice-activated

PKI 2410 Digital Directional Microphone

Our premium **PKI 2410** directional microphone records all conversation according to requirement for hours or days, i.e. **PKI 2410** works "stand alone" and conversation can be played back via common laptop or smartphone. A direct "online" surveillance is also possible.

Specifications	
Dimension	140 x 80 x 26mm
Weight	150g
Memory capacity	132/264 hours
Audio bandwidth	500 - 20.000Hz
Power supply	9V battery
Amplification	50.000x


PKI 2415 Digital Throwable Microphone

This is the perfect device for outdoor surveillance. **PKI 2415** can be placed or thrown wherever conversations which shall be monitored are assumed. When the conversation is ended, simply pick up the **PKI 2415** "ball" and play back the recording via common laptop or smartphone in best audio quality.

Specifications	
Dimension	Ø 30mm
Weight	25g
Memory capacity	132/264 hours
Audio bandwidth	500 - 20.000 Hz
Power supply	Polymer battery 3,7V 130 mAh, rechargeable
Amplification	50.000x


PKI 2650 Professional Unlimited Monitoring System - newest Version

If voice-controlled GSM bugs are used, a phone number is called in case of activation. This, however, implies that someone must always be ready to accept the call. The **PKI 2650** Server is an elegant solution to this problem. Incoming calls are automatically answered and recorded as an audio file. The files can be stored on a memory stick or be sent as an email. In addition, it is possible to send alarm notifications to smartphones. The **PKI 2650** is available as single-channel and multi-channel recorder. In the multichannel version, incoming calls can be recorded and managed by several GSM bugs in parallel. The server can be used on all current telephone lines (analog, SIP, ISDN) or directly in the GSM network with SIM card.

Specifications	
Size	100 x 70 x 25mm
Power supply	Can be provided via cable or battery
External power supply	90 - 230V to 5V/2,5A
Network	100 Mbit LAN
Optional	POTS, ISDN, GSM interface



PKI 2785**Encrypted Communication Device**

The **PKI 2785** communication devices enable bug-proof encrypted communication. In the process, the focus was not only on a secure encryption of call contents but also on the software of the devices. The entire software used is documented and does not contain any binary code from untrusted sources. The encryption algorithms used are state-of-the-art and on request can also be tailored to the requirements of the customer. The devices interconnect via a network connection and support LAN and WLAN connections. It is possible to make calls and to exchange short messages via a Messenger.

The short messages can subsequently be deleted on the receiving unit if it is suspected that the device might have fallen into the wrong hands. The devices do not store any meta data about the communication and after switching off, they do not offer information that could be exploited in a forensic investigation. The encryption is realised end-to-end between the devices.

Specifications	
Supported IP networks	3G, 4G LTE, satellite, WI-FI > 4.7" touch-screen
	Micro USB for charging
	Tamper proof and tempest secured hardware
	Battery life up to 6 hrs standby
	Audio with headset connector or built in speaker & microphone
Dimensions	80 x 150 x 20 mm
	Operating system is provided in 100 % verifiable source code

**PKI 2790****Self-organizing Mesh Network System**

PKI 2790 is a latest MIMO enabled radio specifically designed for mesh networking in harsh environments. It measures a mere 4.00" x 2.63" x 1.51" in size and delivers connectivity where traditional single antenna radios fail. This radio utilizes the advanced MN-MIMO waveform to enable true self-adaptive ad-hoc mesh networking without any user involvement. **PKI 2790** automatically self-adapts to deliver data rates as high as +100Mbps UDP across a single link and is fully interoperable with other radios in the **PKI** radio family. **PKI 2790** boasts a unique band flexible RF section providing capability across a wide range of frequencies, in a highly compact design with optional dual band support. The radio supports frequencies from 400MHz to 6GHz. Refer to the specifications section for a complete list of supported bands.

Specifications
True 2x2 MIMO diversity
NEW! Transmit Beamforming for up to 40% additional range
Spatial Multiplexing for enhanced throughput
Space Time Coding for enhanced robustness
Receive Beamforming for enhanced reception
Up to 4W Transmit Power
Data Rates up to 100+Mbps
Up to 128GB onboard storage
Optional twist-lock battery for portable use
Improved power efficiency for cooler operation and longer battery life
"HD quality" bidirectional push-to-talk voice with G.722 codec
Automatic link adaptation to continually optimize throughput in dynamic environments
Single frequency transmit and receive (TDD)
Self-healing, self-forming flexible MANET/mesh network
Enhanced support for high speed platforms
Dual band support (optional)
5MHz, 10MHz and 20MHz Bandwidth Modes
Ultra-low Latency (less than 10ms per hop)
Ethernet, USB, (x2), voice (PTT), and RS232 data interfaces
Ruggedized IP67-rated construction
Battery life of 8 - 10hrs



The **PKI 2790** transceiver, a stand-alone IP based packet MIMO radio, will surpass the Capabilities of traditional SISO (single antenna) solutions and will deliver:

- Connectivity in extreme NLOS (non-line-of-sight) multipath rich environments connectivity under highly mobile conditions on the ground, water and in the air
- High data throughput rates
- Mesh network (self-forming, or managed)
- GPS and multicast support

Missions benefiting from **PKI 2790**

The **PKI 2790** is ideal for cost-sensitive applications that require an aggressive form Factor with superior communications of voice/video/data in NLOS multipath rich Environments such as:

- Broadcast /ENG
- Covert surveillance
- ISR-operations and military communication
- Industrial communications
- Air-to-air & air-to-ground (manned, or unmanned)
- Urban ops, requiring video links within a building and with units outside the building
- Ship-to-shore high data rate transfer /comms
- First responder urban network /relay
- Connectivity within mines/tunnels/caves

Ease of Use

Each transceiver enables bidirectional networking to simplify logistics. As an Ethernet Bridge, the **PKI 2790** can be interfaced with countless third-party applications and a Multitude of configurations are accessible via web pages within the radio. The radio comes equipped with the powerful StreamScape network management tool. That allows for real-time management and control of all radio parameters in the network. Such as TX power, frequency, channel bandwidth, link adaptation and other parameters. Automatic link adaptation changes the radio operating parameters in real-time to provide Performance as close to capacity as possible while not losing the link when abrupt Changes in channel conditions occur such as moving around a corner or entering a Building.

PKI 2790 Tactical Terminal

PKI 2790 Tactical terminal is IP-networked tactical handheld terminal solution for homeland security and defense customers using MESH, Tactical LTD, Satellite or public cell networks. It contains situation scope mapping, tactical communication and sensor feed displays, like video sources. Solution can be tailored to suit range of missions and user role can be changed to limit access and visibility to these elements. Situation Scope is delivered to user with clear mapping interface where NATO APP6b, US MIL-STD-2525C or MIL-STD-2525D symbols are used for asset classification. Map data can be served from **PKI** tactical server element or stored on locally to **PKI 2790** terminal.

Video feeds can be subscribed into **PKI 2790** terminal from variety of sources like other **PKI** units or helmet mounted camera systems. Sensory feeds from UAV's or other platforms can be delivered to **PKI 2790** with data rain compatible MESH networking elements, like MESH radio systems. Controlling video sources is defined in user profile and can include sensory from visible, thermal, IR and swir segments. Optionally **PKI 2795** can have video proxa and payload convert functions inbuilt. So locally viewed full resolution imaginary can be shared with reduced bandwidth requirements.

PKI 2795

Tactical Terminal to PKI 2790

PKI 2795 tactical terminal for forward deployed missions with total Off-The-Grid capabilities. No need to create connections to your home server or ICT-infra. Fully independent fast and easy deployable performance capability!

Fast deployable tactical terminal

PKI 2795 Tactical Terminal is your companion when you need to conduct missions where META DATA safety and OPSEC of the mission is essential. It delivers 24/7 server functionality in any location with any mission. Collect your all sensor data with Tactical Sever and have real time operation awareness. It's designed to be discrete, carry along solution with full server capabilities inbuilt. It can receive tracking information from tenths of targets and serve hundreds of users. It communicates through a cell network, satellite or MESH radios. Design allows usage in over the horizon missions where network exposure should be minimized. Tactical Terminal can host your mission critical mapping data on board as well. This makes it easy to use in hostile environments where network access is monitored or possibly targeted. **PKI 2795** Tactical Terminal is a system, which is usable just with your web browser and with any device. It acts as 24/7 receiving entity for tracking data and you are allowed to access system with browser and observe targets locations and history routes.



Sensor and Information Data Gathering

PKI 2795 Tactical Terminal sensor integration offers complete situation awareness. Gather sensor data with TAC XS from various of cyber and intel sensors, like tracking, Wi-Fi-sniffer, movement, pressure, temperature, IR, camera, etc.

Specifications	
Hardware	Embedded Linux server in Peli 1470 case
Size	16.88" x 13.23" x 4.47" (42.9 x 33.6 x 11.4cm)
Software	Tracking Server V6 Browser based user interface Multi device support Sensor data gathering and analysis Local map data (OSGeo compatible) GSM, TETRA, MESH, IRIDIUM etc networks supported Geofencing, Radio Silence, Ghosting
User profiles	Up to 20 simultaneous user logged in. User profiles: Admin, Supervisor, Operator, Tech support
Operating voltage	Mains adapter 12 to 19VDC
Usage scenarios	High end Intelligence operations (intel, military) Foreign soil operations under deep cover X-MESH network based blueforce tracking Full Situational Awareness System platform with off-the-grid capability
Map data	Locally stored World, OSM data (700+ GB) Total Off the Grid solution

PKI 2980**Digital Audio Bug with Download Server**

The **PKI 2980** is a further development of our audio server. With its two microphones, the digital audio bug records a stereo signal of high quality directly on the built-in flash memory. In the process, permanent or event-controlled recording can be used. The recordings are made available on the integrated download server at regular intervals that can be freely defined. The files are protected by a hash value against later manipulation and then encrypted with a public key. The server can be accessed via Wi-Fi.

Depending on the configuration, the server can be accessed as a WLAN access point, and can thus for example be queried from nearby using a laptop. Alternatively, the server can connect itself with existing Wi-Fi networks and can make the recordings available worldwide via a VPN access. The power can be supplied by batteries or directly by a mains adapter. Connection to the power network turns the device into a readily available audio monitoring device.

Specifications	
Size	58 x 35 x 7mm
Audio frequency response	20 Hz - 22kHz
Compression Codec	mp3, Opus
WLAN	2.4GHz WPA2 as client or AP
Power supply	3.7V or wide-range power supply

**PKI 5640****High-Tech Professional Camera**

Our new **PKI 5640** camera goes beyond all previous frames. Camera development is moving forward at a rapid pace. The **PKI 5640** not only impresses with its small dimensions and minimal weight but is also an absolute high-tech product. The technical data speak for themselves, as listed below.

Specifications	
Sensor	1, 2,8" CMOS Sensor
Focal length	2.8 - 8mm
Lens type	Varifocal
Horizontal angle of view	(FOV) 112° - 39°
Maximum resolution	1920 x 1080
Video compression formats	H.264, M-JPEG
Supported graphic resolutions	160 x 90, 1920 x 1080 (HD 1080)
Full HD	Yes
Network standard	IEEE 802.1x, IEEE 802.3, IEEE 802.3af, IEEE 802.3at, IEEE 802.3u
Supported network protocols	IPv4/v6, HTTP, HTTPS, SSL/TLS, QoS Layer 3 DiffServ, FTP, CIFS/SMB, SMTP, Bonjour, UPnP, SNMP v1/v2/v3 (MIB-II), DNS, DynDNS, NTP, RTSP, RTP, SFTP, TCP, UDP
Picture quality adjustment	Brightness, colour depth, contrast, sharpness
Privacy masking	Yes
Sample rate	48kHz
Max. frame rate	50fps
Light sensitivity	0.11 LUX
Wide Dynamic Range (WDR)	WDR Forensic Capture
Motion detection	Yes
Operating temperature	0°C to +55°C

**Main features**

- Full HD 1080@50fps, max. 1920 x 1080 pixels
- True day&night with switchable blocking filter
- Light finder and forensic capture technology
- H.264 with Zipstream technology
- Multiple H.264 and MJPEG streams
- Card slot for microSD/ MICROSDHC/microSDXC
- RS-422/485 for control of SNK
- 8 - 24VDC power via Ethernet

PKI 5645 Micro Drone

PKI 5645 is a small and very fast reconnaissance tool which fits in the palm of a hand. It comes together with a long range remote control and FPV video goggles. Using **PKI 5645** makes you feel as if you are watching out of the cockpit of an aeroplane. **The PKI 5645** drone is up to 70km/h fast and the remote control has a range of up to 1,5km. The onboard video camera transmits the signal back to the video goggles with very low latency. A 5,8GHz diversity receiver provides a stable signal with low interference. The four propellers give the drone the needed agility to fulfill any mission.



Everything is organized in a rugged and waterproof suitcase for easy transportation. The batteries can be replaced in seconds. The video goggles show all needed parameters on screen like battery voltage and signal quality. **PKI** also offers training courses to become familiar with the functions of **PKI 5645**.

Specifications	
Weight	150gr
Max speed	70km/h
Propeller size	63,5mm
Max. range	1,5km
Width	140mm
Length	160mm
Height	55mm
Input voltage	12V
Flight time	5 min
Battery size	650mah
Antenna	Circular polarized
Video	Two 5,8GHz diversity receiver
Rechargeable batteries for all components	
Rotor reverse mode	



PKI 5650 License Plate Scanner with Face Recognition

When it comes to vehicle access monitoring, our **PKI 5635** number plate recognition camera is a proven solution. However, they only check the vehicle. The question of who controls the vehicle is often of greater importance. The **PKI 5645** is a powerful solution that ideally combines our license plate scanners and face recognition. The powerful IP camera fit for night vision together with the highperformance software allows to evaluate both characteristics and to compare the results with a database.

Any actions can be triggered on the basis of the results. For example, to release the access or to alert the guard. Time and attendance applications can also be integrated. The **PKI 5645** scanner must be aligned to the front of the vehicle in order to detect driver and license plate. Special light sources ensure a sufficient image recognition quality also in dark environments.

For covert operations, an infrared light source can be used, too. Due to its modular design, the **PKI 5645** is versatile in use. The image recognition server can manage several cameras simultaneously. The components are connected via network connections and can thus also be used from the distance. All components are weatherproof and resistant to vibration, so they can be installed in vehicles.

Comprising
Special lights
IP camera(s)
Server for image recognition



PKI 6500
Digital High Power Convoy Jammer System 20MHz - 6GHz

The indicated effective jamming range varies tremendously from manufacturer to manufacturer. **PKI Electronic Intelligence GmbH** tries hard to provide a neutral und physically dependent scale. The jamming range always depends on the field strength of the environment, i.e. it varies from 30 m to 150m.

For more than 30 years, **PKI** has developed, produced and distributed professional jammers „Made in Germany“. We have put many years of experience and development especially in our high power convoy jammer system operating in the frequency range from 20MHz to 6GHz with up to 1900W output power. Worldwide references relating to **PKI 6500** convince of its technical superiority. **PKI** quality is characterised by special features such as:



- Frequency range 20 MHz - 6GHz
- Continuous jamming signals (no gaps)
- Stable power supply (integrated unit)
- Modular jamming system (bays)
- Inconspicuous antenna system (shark fins)
- Shielded HF foil (driver protection)
- Digital programming (gaps for communication)
- Radiation 100/200W per channel (as requested by the customer)
- Minimum power 1,100W (max. power 1900W)
- Internal remote control (in the vehicle)
- Control function of the channels (rugged display)
- Sweeping technology (precise modulation)
- Different power supply options (alternator, mains operation generator)
- Cooling system (for the electronic and driver)
- Antennas (directional or omni-directional antennas)
- Favourite type of vehicle Toyota Cruiser (as requested by the customer)
- Training and installation (in the respective country; needs to be booked extra)
- Video surveillance (possible on request)
- Field Service Testing (measurement tools)
- Maintenance tools (as requested by the customer)
- After Sales Period (plans for maintenance)
- Spare parts (as requested by the customer)
- Complete solution (see description)


Modular Design

The modular **PKI** jamming system **PKI 6500** can be scaled and adapted to any necessary application depending on available space and power, country of destination and customer specification.

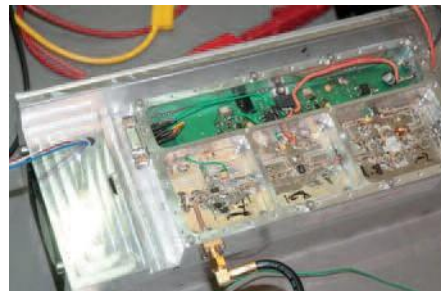


Full Range Jamming

All frequencies from 20MHz - 6GHz are covered using high sophisticated sweep generators which are capable of interfering analogue and digital transmission. Depending on the requested power the number of incorporated units may vary. For full range jamming at least 8 units (modular systems) must be set into operation.

Intensified Bands

Based on **PKI** experience and available remote controls of cell phones and other devices we incorporate additional units to improve the covered distance for well-known frequency ranges.



Sweeping Technology

The output of the **PKI** „High Speed Sweeper“ shows how precise the power amplifier is modulated. This avoids unnecessary technical side effects which could endanger the mission. The sweep signal includes four different waveforms with different modulations. First is a fundamental frequency creating the basic sweep and setting the frequency range for the required band. The sweep time is optimized for best performance with the associated power amplifier. Two additional AM modulations, one with low and one with high frequency, are used to disturb advanced digital transmission systems like UMTS. It is able to work against the internal error correction and frequency hopping algorithms.

Power Supply

The high-power modules of the HF-modules can be either powered by vehicle engine alternator, independent generator or mains operation. For high power systems vehicle engine alternator also improved version, more than 2000 Watt, might not be sufficient to source a system. Therefore, we offer a built-in high power silent generator solution. To buffer the power supply, 2 powerful dry-cell batteries 24V each are used. This ensures a one-hour emergency supply of the **PKI** jammer system, e.g. in case of a power generator failure.



Cooling

The integrated cooling system is used to cool the electronic systems and the driver.



Antennas

All antennas are specially designed to the specific frequencies to broadcast. **PKI** offers two options for the antennas. At first directional antennas because they are much more effective to produce a „clean“ corridor along the convoy. At second omni-directional antennas. This in turn reduces the jamming range, but radiates the jamming signal all around.



Control and Monitoring

All control will be placed in the driver compartment. The system is to operate fast by one button. For trained personnel it is possible to monitor all system parameters, function, temperatures and video surveillance from the operator seat. With one glimpse the operator may check the status of the complete system. The same panel allows him to switch the system ON or OFF. The operator of the **PKI** jamming system gets an immediate warning if one of the components fails. He can easily see the location of the problem.



Vehicles

The optimum vehicles for mobile jamming systems vary due to power requirements. We are capable to adapt the electronics to most cars offering enough space. Ideally it is installed in long version vans or pick-up trucks. As option armoured cars or 4x4 vehicles can be equipped. Here, **PKI** has very good experience with the Toyota Cruiser. This car is rugged, fast and used all over the world. What's more, service is available in every country.

Communication

For higher security we do not recommend communication between the vehicles. Every communication gap can be used to compromise the system. Usually clients use acoustic or optical methods to communicate with running jammer systems. All cars can be equipped with PA system sirens, special horns and emergency lights. If requested the end user can specify frequencies for communication.

Video Surveillance

The vehicles can be equipped with every kind of video surveillance for front, back or all round view with day and night cameras or thermal imaging systems. All pictures and sound will be recorded for long recording time.

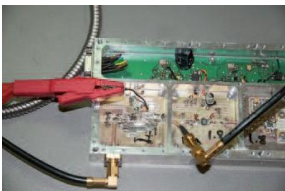


HF Protection

In order to protect the passengers of the **PKI 6500** vehicle from high frequency radiation, all windows are covered with transparent HF-proof protective foil. This also applies to the installed rear panel between the **PKI** electronics and the passengers.

Field Service Testing

PKI will provide modern measurement equipment for all system specifications. Also field test equipment and training for the system and all measurement tools.



First Line Maintenance

All devices are built from sub-assembly units which can be interchanged or replaced in case of malfunction. Diagnostic tools for error analysis to assist the operating staff are included. A broken module can be spotted instantly.



Tools Delivery

All necessary tools to service the system will be supplied for example spectrum analyser, power meters, tool box, cables and adapters.

After Sales Period

During the warranty period of any duration, which can be contracted, the system includes a periodical maintenance by **PKI** well trained engineers. After this period we offer different plans for maintenance. After each site visit a detailed maintenance report will be submitted including protocols and field test results.

Spare Parts

All major components and plug-in modules are equipped with malfunction indicators. Less training personnel can replace easily defective units. By this means the uptime of the system is kept at highest level. Defective parts can be repaired or changed afterwards.

Complete Solution

With this digital high power convoy jammer system operating from 20MHz to 6 GHz **PKI** offers an absolute innovation on the world market. **PKI** offers not only customized development, but also service worldwide, training as requested, repair and maintenance, test and measurement equipment and complete documentation. You can trust in **PKI's** worldwide experience and technologies and delivery in time.



PKI 6600**Cell Tower Jammer System**

The **PKI 6600** Cell Tower Jammer System is the solution if conventional jammers do not provide sufficient operating range. Generally, jammers for mobile phones operate on the so-called downlink frequencies and thus disturb the signal reception at the mobile phone. The cell tower jammer system adopts the reverse approach. This special system starts at the mobile cells. It prevents mobile phones from connecting to the network. Particularly in scenarios in which any communication must be prevented, this solution is the first choice.

In the first step, the surrounding mobile network cells are analysed. With these data, several jammer modules are programmed which specifically interfere with the receiver section (uplink) of the radio cells. This way, the mobile communication can be interrupted over a wide area. The system consists of a scanner unit analysing the local mobile networks and clearly arranging the radio cells on a map.

Based on these measured data, the jammers are configured for operation on the individual radio cells. These components are the „satellites“ which need to be positioned in the vicinity of the radio cells. They are equipped with battery and directional antenna and can be operated autonomously. The satellites are remote-controlled via a control signal and can thus be activated and reprogrammed. The system will be delivered ready for use in carrying cases with integrated charging electronics ensuring that the batteries are always operational.



Specifications	
Frequency range	
2G/GSM	880 - 915MHz / 1710.2 - 1784.8MHz / 824.2 - 848.8MHz / 1850.2 - 1909.8
3G/UMTS	1920 - 1980MHz / 880 - 915MHz / 1710 - 1785MHz / 824 - 849MHz
4G/LTE	832 - 862MHz / 1710 - 1785MHz / 2500 - 2570MHz
Control laptop unit	
Size	380 x 260 x 25mm
Antenna	Wide band omnidirectional
Power	Battery / wide range power supply 90 - 230V
Jammer units	
Antenna	Multi-band directional antenna
Power	Rechargeable battery / wide range power supply
Size	380 x 180 x 90mm

PKI 6715

Audio Jammer

Again, and again information from important conferences leak to the outside. **PKI** has specialized with various devices to prevent this lack of security and **PKI 6715** has been particularly developed for this case. It is used wherever a certain level of confidentiality is required. **PKI 6715** specifically provides effective protection against devices that use a microphone, such as analogue and digital micro-recorders, audio transmitters, smartphones, etc. to retrieve audio information.

PKI 6715 is powered by a lithium-ion-battery and comes in a desktop housing which can be placed on any conference table. Furthermore, it can be placed or taken anywhere to counteract audio interception, even outdoors or in a vehicle. If desired, **PKI 6715** can be activated via a remote control.



The **PKI 6715** Audio Jammer has 24 + 2 ultrasonic speakers and produces 125 dB noise, in a sound of 24.000 – 26.000Hz, which is usually inaudible to humans. The ultrasonic transmission provides an interference signal that is received by the mobile-phone and smartphone-recorders so that the recording of a conversation is no longer clear and understandable i.e. your conference or conversation will not be disturbed. The effectiveness of the interference depends on several factors: distance, direction of the microphones, environment, model of the microphone used or volume of the conversation, i.e. 100% interference cannot be guaranteed. The limitations resulting from the laws of physics must be considered when using the supersonic microphone

interference technology. Ultrasound is also reflected from the surface. Therefore, it is advisable to use the correct number of **PKI 6715** Audio Jammers and their position in the room, i.e. a **PKI 6715** single unit has a radiation of 120 degrees and an average range of about 5m.

If larger beam angles are required, 3 - 5 units of **PKI 6715** can be combined to achieve the desired success. For larger conference rooms, a **PKI 6715** 5 pack Audio Jammer can be assembled to provide 360° omnidirectional coverage. Individual installation in conference rooms is of course also possible. With our ultrasonic detector **PKI 6705** you can optimize the position of the devices to achieve the perfect coverage. All **PKI 6715** Audio Jammers are completely self-sufficient, i.e. each with its own integral power supply for a runtime of approx. 5 hours. Each unit is individually adjustable via remote control. This **PKI** system has already proven itself, because the requirements in real operation can be taken into account.



Specifications

Specifications	
Number of Ultrasonic emitters	24 + 2
Generated noise frequency bandwidth, Hz	24000 – 26000Hz
Type of radiated interference	Complex structured ultrasonic noise
Maximum installation range for effective suppression	5m (effective jamming range may vary based on type of microphone of the audio device and its relative position to the jammer)
Power supply	Accu 12V 3000 mAh lithium-ion-battery
Continues operation time	5 hours (stand-by 7 days); unlimited with power supply
Operation temperature range	0°C to +50°C
Relative humidity, no more	85%
Weight, kg	1,2kg
Dimensions	220 x 180 x 55mm

PKI 6805**Camouflaged Conference Jammer**

The great majority of frequencies of standard bugs are in the VHF, UHF and SHF range. Our **PKI 6805** Conference Jammer interferes with exactly these frequencies with a power of 50W, i.e. the interference range is several hundred meters so that in case of possible eavesdropping in the conference room the receiver of the eavesdropper cannot receive any message. Together with our conference recorder jammer and our mobile phone tracker, **PKI** provides the necessary security to prevent unauthorized eavesdropping. Each conference participant is certainly aware of the devastating impact it can have if the information is passed on to the wrong people.

Specifications	
Frequency	VHF, UHF, SHF
Output power	50W
Antennas	Built-in
Power supply	110/230VAC and 12V Li-Ion battery
Battery operating time	2 - 3 hours
Humidity	5% - 90%
Operating temperature	-20°C to +60°C
Dimensions	610 x 490 x 75mm
Weight	6,5kg

**PKI 6900****Man Pack Jammer**

PKI 6900 is perfectly designed for mobile operation in the field and works totally autarkic due to integrated power supply. Independently it provides 110/230V AC operation. As standard frequency we have configured VHF/UHF and SHF range. 5 different frequency bands can optionally be ordered according to clients' requirements. 100 watt is the maximum output power for a jammer to be worn on the body without health problems. This implicates a jamming range of max. 150m. The **PKI** jammer is constructed to block continuously and simultaneously up to five frequency bands. Its smart active cooling system enables non-stopped use even in a very hard climate and weather condition. **PKI 6900** is a state-of-the-art efficient cellular / satellite / mobile phone jammer designed for bomb disposal security applications, like troop marching and field operation.

Specifications	
Number of frequency bands	Up to 4 bands: 130 - 174MHz VHF 25W 400 - 470MHz UHF 25W 1200 - 1300MHz SHF 25W 2400 - 2500MHz Wi-Fi 2,4G 25W
For example: VHF/UHF SHF	
Output power	100W
Power consumption	Max. 380W
Power supply voltage	110/230VAC / + 12/24VDC
Power adjustment	Multi level potentiometer, adjustable by computer
Battery operation time	2-3 hours
Range radius	Up to 120-150m (signal \leq -75dBi in application place)
Housing	Metal
Total system weight	Approx. 25kg
Humidity	Up to 80%
Operation temperature	-10°C to +50°C
Control	Wireless management
Cooling system	Active, integrated air filter
Antenna type	External high gain omni directional (standard)
Antenna gain	3 - 4dB (omnidirectional)
Directional antennas	Up to 2 pcs
Omnidirectional antennas	Up to 5 pcs



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WORLDWIDE MANUFACTURER & SUPPLIER
OF ANTI-TERROR EQUIPMENTS



COMPANY PRESENTATION

PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

Großenseer Str. 17 • D-22952 Lütjensee / Hamburg / Germany

Tel.: 49(0)4154 - 98 96 32 • Fax: 49(0)4154 - 740 16

E-mail: information@pki-electronic.com Internet: www.pki-electronic.com



OUR HISTORY

PKI Electronic Intelligence GmbH is one of the world's leading partner for anti-terrorist and surveillance systems.

The founder, Mr. Peter Arthur Klüver, has brought into the company his full knowledge of surveillance technologies and has been a pioneer for all market players in this field.

PKI Electronic Intelligence GmbH has been in the business since 1968, serving various governmental departments as well as corporate entities world-wide for more than 50 years.

Our offices and production site in Germany with highly experienced and skilled team of technicians not only offers turn-key solutions to our customers but also provides the necessary training for all products and systems we offer.

We have the expertise and capabilities to offer detailed assessment to suit your exact requirement - ALL FROM ONE SOURCE.



WHAT WE PROVIDE

- ➔ High quality, German-made products
- ➔ Innovative & up-to-date technologies
- ➔ Turn-Key, customized systems & solutions
- ➔ Field training for our range of products
- ➔ Excellent customer & after-sales service
- ➔ More than 50 years experience & business with governments of over 100 countries worldwide



PKI INTELLIGENCE WITHOUT LIMIT

Our product range includes tactical monitoring of any form. **PKI** is a specialist provider of global interception and monitoring solutions in the communication sector. **PKI** provides R&D, manufacturing, delivery and special service for mobile and fixed systems for:

- Thuraya Satellite Monitoring
- Active & Passive Monitoring
- ISDN Monitoring Solution
- GSM, WiFi, LAN Monitoring
- Microwave Monitoring
- Internet Monitoring
- Keylogger, File Access, Web, Database Control
- CBRN Detection
- Surveillance A/V
- Jammer
- Counter Surveillance
- Night Vision
- Police, Military and Customs
- Mobile Phone Spy Software



WE GOT YOU COVERED

Our vision is to be a leading provider of services & products in the anti-terror, surveillance, security field. To be THE ONE SOURCE that meets customers' requirements. Our partners benefit from PKI's wide range of solutions & equipments.

- Interception Monitoring Systems
- Counter Surveillance
- Counter Surveillance
- Jamming Systems
- Digital High Power Convoy Jammer System
- Audio Surveillance Equipments
- Digital Audio/Video Recorder Equipments
- Video & Night Vision Systems
- Police, Customs, Military Equipments
- Training Programs



THE LATEST DEVELOPMENT

PKI specializes in custom-made Convoy Jammer Systems. We are proud to introduce our **PKI 6500 Digital High Power Convoy Jammer System** with the following highlights :



For more information, please visit our website :
www.pki-electronic.com



- ➔ One of a kind Shark-Fin Jammer Antennas, hardly noticeable thus camouflages the vehicles.
- ➔ Installation at country of destination including comprehensive training and field testing
- ➔ Can be installed in vehicles of customers' choice
- ➔ Jamming system functions without gaps
- ➔ Comes with a high power generator and emergency back-up for uninterrupted function
- ➔ Separate modules that can be programmed individually with the frequencies customers require.



DETECT & DEFEAT - EOD Products

PKI delivers complete EOD solutions for EOD personnel i.e. mine disposal & explosive clearance equipment, wide range of sub-systems, tactical equipment, EOD robots, protective clothing and tools for all aspects of explosive ordnance disposal. PKI will ensure that your EOD Unit or Division is fully prepared for the task.



PKI 7500
Modular EOD Robot



PKI 9120
Mine Detector



PKI 9820
Bomb Protection Suit



PKI 9860
Special EOD Vehicle



PKI 7300
Handheld Explosive
Detector

For more information, please visit our website :
www.pki-electronic.com



VIEW & LISTEN TO WHAT IS CONCEALED

Introducing products that are inevitable in the surveillance / security field :



PKI 2470
Professional
Unlimited Monitoring System



PKI 7130
Letter Bomb Detector



PKI 9885
Surface
Penetrating
Radar



PKI 2911
Directional Microphone Set



PKI 7405
Radar Observation System



PKI 7100
X-Ray Inspector

For more information, please visit our website :
www.pki-electronic.com





TRAINING

KNOWLEDGE IS POWER



PKI offers various training-programs. Programs are held at **PKI** Headquarter and executed by highly trained technicians. Trainings are in combination with contractual orders from our customers ensuring a deeper knowledge on how to use and maintain our equipment. Rely on **PKI** 's quality, seriousness, experience and knowledge from more than 50 years.



THE KEY TO OUR SUCCESS



Distinctive Know-How & Expertise :

Our customers & partners benefit from PKI's highly qualified technicians and sales representatives.

Solution Provider :

We supply complete solutions (systems, devices, vehicles, trainings) to fulfill our customers' requirements.

Market Knowledge :

Over 50 years of experience and intimate knowledge of the country we operate.

Technical Innovations :

Product development is a major key in this fast-moving industry. We ensure that PKI is always one step ahead from competition.

Loyal Customers Base :

Mutual confidence is crucial in this field. PKI has strong relationship with various Governments world-wide and understands their needs.



THANK YOU
FOR YOUR
ATTENTION

PKI ELECTRONIC INTELLIGENCE GmbH GERMANY

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Order Procedure

- 1) Client sends an enquiry to **PKI** stating **PKI** product numbers
- 2) **PKI** sends informal quotation
- 3) Client places firm order, stating required freight terms (i.e. ex works, C&F, CIF etc.)
- 4) **PKI** issues proforma invoice stating full bank details to t/t payment, delivery time etc. Payment terms are payment in advance. For lager orders 50% in advance, 50% by irrevocable and confirmed L/C
- 5) Client arranges for payment transfer
- 6) **PKI** starts production upon receipt of payment

PKI - Additional Information

You can also find the product range of **PKI Electronic Intelligence GmbH** on the enclosed CD-ROM. In case this catalogue should have been delivered without CD-ROM, we shall of course send you the same if required. However, you can also see the complete **PKI** delivery program on our website www.pki-electronic.com.

SPY MUSEUM



PKI ELECTRONIC INTELLIGENCE GmbH GERMANY



As already mentioned in the foreword to our new catalogue, the **PKI Group** was founded in 1968 by Mr. Peter Klüver, who is still active today as managing director, but with the support of Ms. Tamana Mokhlis, who is currently being set up as Mr. Klüver's successor.

Our worldwide customers, some of whom visit us for training, are always interested and surprised by the diversity and technical developments in surveillance technology. The multitude of exhibits on display prove this on site. In the following, we will give you a brief description of the development of the **PKI Group**.



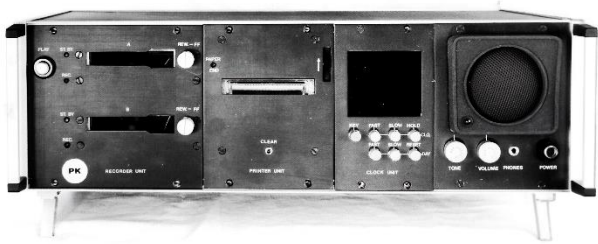
1) First laser interception devices



2) Wristwatch camera



3) Wiretap detector



4) Long-term telephone monitoring system



5) Stethoscope



6) IR night vision device



7) Long-term recorder



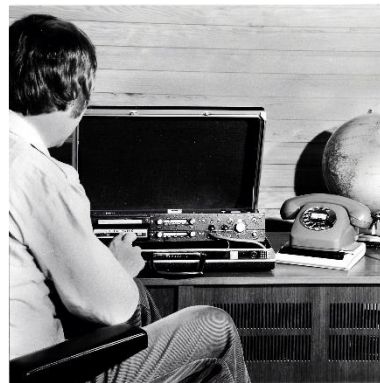
8) Multi-phone surveillance system



9) Interceptor



10) Direction finder / receiver



11) Suitcase monitoring receiver

PKI always tries to be at the cutting edge of technology, i.e. "Made in Germany" and technically at the highest level. We would like to invite you to visit the **PKI SPY Museum** on your next visit, this is only for our customers and not for the public.

Terms of Sale, Delivery and Payment

of **PKI ELECTRONIC INTELLIGENCE GmbH**
- hereinafter called **PKI** -

1) **Purview**

These conditions are valid for all **PKI** sales, deliveries, services and offers. Placing orders with **PKI** means acceptance of this. These terms will even be valid for coming bills of sale and commercial contacts if they are not mentioned explicitly. Differences, in particular the purchaser's own terms of trade and verbal agreements, are only valid if **PKI** expressly agree to them in writing.

2) **Product Information**

Although any product information was current at the time this document was approved for printing, **PKI** reserves the right to change specifications, designs and models without notice. **PKI** does not assume any responsibility or liability for typographical errors which may appear herein and such errors are subject to correction. Technical data are subject to change without prior notice.

3) **Quotations and Acceptance of Orders**

PKI's quotations are non-binding and we reserve the right to reject any order in whole or in part. In particular, quotations are subject to the goods still being available and to their not having been previously sold. Also **PKI** reserves the right to make price adjustments, unless **PKI** has expressly designated the quotation in writing as binding. All orders received are subject to final acceptance by **PKI** and agreements made verbally, by telephone, or through our representative are only valid if **PKI** has confirmed them in writing and only in accordance with the terms set forth herein.

4) **Cancellation**

In view of the nature of the service, any order - once confirmed by the company - is not cancellable. Cancellation of the order by the client will only be accepted on condition that any costs, charges and expenses already incurred, including any charges that will be levied by the list-owner on account of his expenses, work or cancellation conditions will be reimbursed to the company forthwith.

5) **Specification and Application of Goods**

Illustrations, details of size, weight and technical specifications generally are only approximate. Samples are not binding and are only representative of the type, unless **PKI** has expressly guaranteed certain properties in writing. **PKI** does not guarantee the suitability of equipment for the purchaser's intended application. **PKI** also excludes liability to the purchaser as well as to third parties.

6) **Delivery**

Purchaser's requested delivery schedule will be met by **PKI** to the best of its ability. Delivery dates are quoted to the best of **PKI's** knowledge based on the period of time likely to be required for delivery, but are only binding if this expressly is stated in writing. Partial deliveries are always allowed and count as individual transactions.

7) **Delay in deliveries**

Circumstances and events beyond our control, such as lack of raw materials, interruption in production, of force majeure etc. whether occurring with us or with our suppliers, release us from the obligation to supply within the tie stipulated. In such cases, we are entitled to either withdraw from the contract or to postpone delivery to a later date. The buyer shall not be entitled to claim damage for delayed delivery or non-fulfilment of orders.

8) **Shipments**

Shipments are invariably made for account and risk of the buyer, even if CIF-conditions might have been arranged. We are not liable for any damage caused after the goods have left our premises. In default of any special arrangement, we insure consignment at the expense of the buyer, though without assuming any obligation to do so.

9) Prices

All prices indicated are "ex works" and do not include packing, freight and insurance charges for equipment shipped overseas. The purchaser is responsible for any further transportation method. Additional charges relating to freight, insurance, handling, documentation, stamp duties, import duties or tariffs have to be born by the purchaser. In any case, where PKI supplies their goods, the INCO-terms - as per latest edition - shall be considered as being the basis of delivery.

10) Payment

PKI only supplies goods to firms abroad against an irrevocable letter of credit issued by customer's bank and being confirmed by a first-class German bank, or on 100% prepaid cash-in-advance payment into **PKI's** named bank-account. In every case payment is to be made in EURO-currency.

11) Guarantee

PKI only warrants for new products that are limited in use because of wrong material or insufficient workmanship within a period of 12 months from date of shipment. Identifiable defects have to be indicated in written form and within two weeks from date of shipment. Not identifiable defects have to be indicated in written form at detection, within than the warranty period of 12 months starting from date of shipment. We shall not be liable for any damaged due to improper handling, incorrect application or the like.

12) Limitation of Liability

The company shall not be liable for any claim arising out of the performance, non-performance, delay in delivery of or defect in the goods nor for any special, indirect, economic or consequential loss or damage howsoever arising or howsoever caused (including loss of profit or loss of revenue) whether from negligence or otherwise in connection with the supply, functioning or use of the goods. Any liability of the company shall in any event be limited to the license fees paid by the client in the year in which the event of default arises.

Nothing herein shall limit either party's liability for death or personal injury arising from the proven negligence by itself or its employees or agents. The client shall fully indemnify the company against any liability to third parties arising out of the client's use of the goods.

13) Legal Statute and Place of Jurisdiction

All cases of disagreement arising from **PKI's** transactions with customers are exclusively subject to the law of the Federal Republic of Germany. In all cases of dispute with customers local jurisdiction solely lies with the Lübeck Courts but **PKI** is also entitled to take legal action at the place of the orderer.

14) Copyright

PKI reserve all rights of copyright, publication or reproduction of any part of this catalogue whatsoever. No part of this catalogue may be copied or reproduced in any form without prior consent from **PKI ELECTRONIC INTELLIGENCE GmbH**. Failure to comply with these restrictions will result in legal proceedings.



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