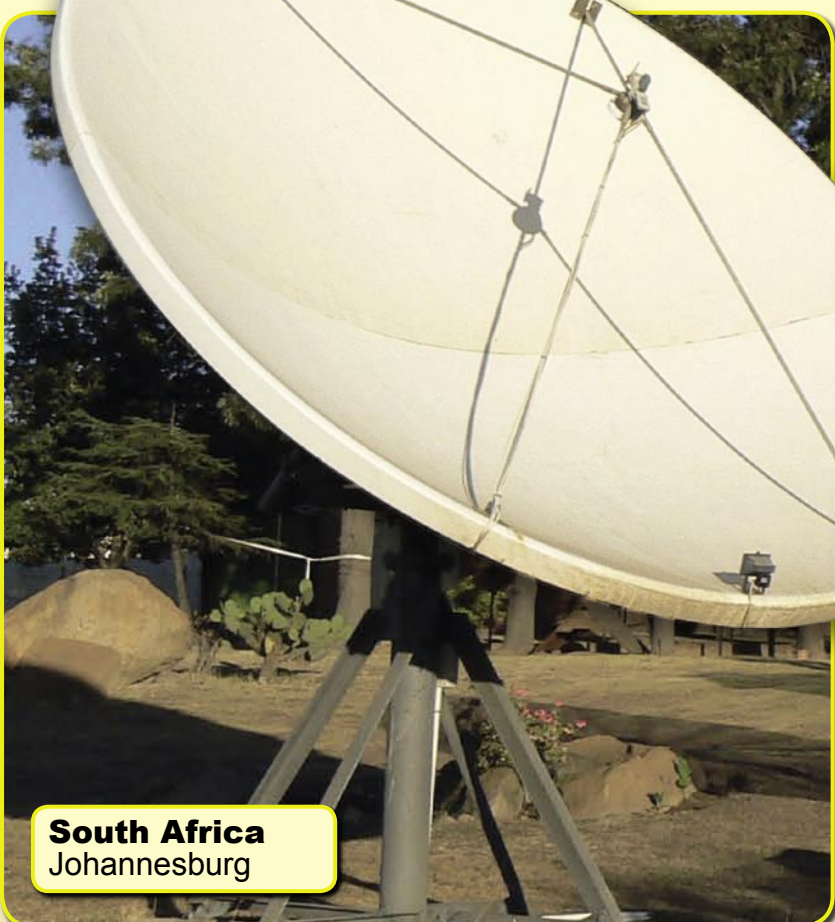


# SATELLITE

€ 6.95  
£ 4.95  
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**Australia:** AU\$11.90 incl GST  
**Austria:** €5.90  
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**ENG:** €6.95  
**Bahrain:** D2.50  
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**Sweden:** SKr69.50  
**Switzerland:** Fr9.90  
**Taiwan:** NT\$330  
**Turkey:** YTL7  
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**UK:** £4.95  
**USA:** US\$8.95



**South Africa  
Johannesburg**

**Test Report**  
**Nanoxx 9600 IP**  
 Network Interface Opens  
 Up a Whole New World

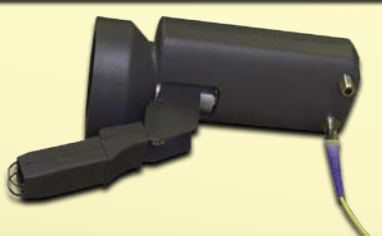


**Test Report**  
**AB IPBox 350Prime PVR**  
 Super Fast Channel Surfing



**Company Report**  
**INVACOM**

World's First:  
 Fibre Optic  
 LNB



**Test Report**  
**TOPFIELD**  
**TF7700HDPVR**



**TELE SATELLITE**  
**AWARD** & BROADBAND  
 02-03/2008



# TOPFIELD

Leader of Multimedia Home



**Company Report**  
**JIUZHOU**

Celebrating  
 50 Years



# Happy New Year!



## USB PVR READY

If you have a USB external Hard Disk Drive  
You can record programmes into it.



TF7700HSCI



USB External HDD

## TF7700HSCI

**HIGH DEFINITION Digital Satellite Receiver**  
2 common Interfaces for CONAX, CRYPTOWORKS,  
IRDETO, SECA & VIACCESS

HIGH DEFINITION  
HDMI Digital Video & Audio Output  
USB PVR READY  
1080i, 720P, 576P, 576i Video Out  
Firmware upgrade by Over-The-Air & USB  
VFD Display for service information



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**4 - 6 March 2008**

**Dubai International Convention and Exhibition Centre**



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**Scott Aukema, Senior Manger Channel Marketing, iDirect Technologies\***

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**BOOK A STAND AT CABSAT2008 NOW!**

\*Feedback compiled at CABSAT2007

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Twin



AP8-XTS2E



AP8-ST2E

# UNIVERSAL RANGE

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Mar. 4-6, 2008

Low Phase Noise & High Gain • Full Ku-Band Coverage • Low Power Consumption





**TOPFIELD TF7700 HDPVR**  
Digital DVB-S, DVB-S2  
HDPVR Receiver with  
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# Dear Readers



*In this issue of TELE-satellite we are handing out for the first time the TELE-satellite Innovations Award; and for the first time it is being awarded to a piece of software. And if you thoroughly read this issue, you will quickly find out that this award will soon be handed out again and this time to a newly developed LNB with fiber-optic technology.*

*What exactly is an innovation? At first you might say it represents something new, something that never existed before. Well, yes and no. The outstanding software presented in this issue and this newly designed LNB aren't really completely new. It is much more a combination of two existing technologies that has led to something completely new. Software to calculate azimuth and elevation has been around for some time now and Google Maps has also existed for several years now. But combining the two together: that's an innovation. The same is true with LNBs and fiber-optic technology: both are known technologies but put them together and you have something new.*

*A characteristic of this type of innovation is the realization, "Now why didn't I think of that?" It makes sense to link these technologies together. It's just that no one ever before came up with the idea or, perhaps better said,*

*thus far no one took the extra step and converted these ideas to reality. That is, of course, until now.*

*Satellite technology always provides an opportunity to link two technologies together. Consider a receiver with PVR: this is nothing more than the combination of a standard satellite receiver and a hard drive. Today this is an everyday sight; but when the first PVR appeared on the market, it was an innovation. Even the DiSEqC protocol is an innovation; today's satellite reception cannot do without it. The original idea was an innovation that no one had thought of before.*

*It is for this reason that TELE-satellite will bestow the Innovations Award on innovative equipment as well as software to highlight the fact that something new has found its way to the market that did not exist before. We hope to be able to hand out this award as much as possible!*

**Sincerely, Alexander Wiese**

*P.S.: My favorite radio station of the month: "Six Music", BBC's radio channel #6 from England on ASTRA 2A 28.2 (11.954H, Audio 5413) with continuous music, a new DJ every three hours and very little self-advertisement.*

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# NEW STAR ON THE HORIZON!

## AB IPBox 350S PRIME PVR

DIGITAL PVR RECEIVER WITH LINUX BASED OPERATING SYSTEM



**RECORD & PLAY**



plug&play tuner

- (possibility of usage of DVB-C, DVB-S, DVB-T tuner)
- USB Host
- LINUX based operating system (IBM Power PC 405, 64MB SDRAM)
- support for HDD with unlimited size
- Smartcard reader ( X-Crypt CAS, Firecrypt CAS)
- Ethernet 10/100 for connection with PC
- RS 232, software upgrade via Internet
- black or silver edition



## TRAVELING IN TIME?

With the Timeshift function that is provided only by Linux-based receivers AB IPBox 350S Prime PVR you are able to pause, play reverse or see again any watched TV show. Thanks to this function you can even record already finished programs, till 120 minutes backwards. Timeshift function is perfect for skipping adverts, just activate the function in the beginning of the program and wait some minutes for starting watching. Then you can simply skip adverts and continue watching the program.

The favorable programs can be burnt on DVD disc from built-in 2,5" or 3,5" HDD of unlimited capacity.

## CONTROL YOUR AB IPBox 350S PVR ANYTIME AND ANYWHERE!

The Web Interface function allows you to completely control your receiver through web - setting up the receiver, editing of settings, downloading of plugins, boot pictures and desktops in RADIO mode.



## CHOOSE YOUR OWN OPERATING SYSTEM!

The same way you can configure your own personal computer you can adjust your Linux AB IPBox satellite receiver. Thanks to the Multiboot function just choose one of the operating system - image (for example Enigma) and utilize its advantages or simply select the other one. It is easy to set up the default image.



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Slovakia  
e-mail: info@abcom.sk

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www.abipbox.com





## NEW TECHNOLOGIES – NOW ON STOCK

We are official **HUMAX** distributor

### HDTV Receiver Selection

#### HUMAX

PR-HD 1000 / PR-HD 1000 C



HDTV for satellite and cable reception

- Suitable for Premiere and Premiere HD
- MPEG4 / MPEG2 Technology
- opt. out for Dolby Surround Sound
- Nagravision embedded
- HDMI (with HDCP)
- 2 x CI Slots
- 2 x Scart

#### HUMAX

iCORD

**NEW**



Twin HDTV PVR Receiver

- Recording 4 channels whilst watching a live tv or Play-back
- Time shifted recording for 2 hours
- Integrated 160 or 320 GB HDD
- 1080i, 720p, 576p, 576i video resolution
- Audio decoding: Dolby AC-3 (Dolby Digital)
- AV File transfer by USB 2.0 port
- 2 Common Interfaces
- HDMI output

#### TOPFIELD

TF-7700 HD PVR

**NEW**



HDTV Digital Satellite Receiver with Personal Video Recorder

- Fully DVB-S / DVB-S2 (H.264) HD compliant
- With 2 tuners
- Time shift supported
- Dual Recording supported
- DivX codec embedded
- USB memory supported

#### TOPFIELD

TF-7700 HSCI / TF-7700 HCCI



HDTV for satellite and cable reception

- Supports MPEG-2, MPEG-4, H.264 and fully DVB compliant
- 2 Common Interfaces
- USB 2.0 supported for fast PC interface
- VFD Display for service information

#### HUMAX

**PREMIERE** Receiver

PR FOX II



- Premiere and Kabel Digital
- 1000 services (TV and Radio) programmable
- Optical digital output

BLU FOX S

**blucom ENTAVIO**



- Premiere and Premiere Star
- interactive services via mobile phone by Bluetooth
- Optical digital output

BLU FOX CI

**blucom ENTAVIO**



- Premiere and Premiere Star
- interactive services via mobile phone by Bluetooth
- 1x CI Slot
- Optical digital output

#### TOPFIELD

TF 6000 FE



Digital Satellite Receiver

- MPEG-2 Digital and fully DVB compliant
- DiSEqC 1.0, 1.1, 1.2 and USALS (DiSEqC 1.3)
- 5000 services (TV and Radio) programmable

TF 6000 T

Digital Terrestrial Receiver

- MPEG-2 Digital and fully DVB compliant
- 2000 services (TV and Radio) programmable
- Multilingual Audio support

#### HUMAX

F3 FOX CI



Digital Satellite Receiver with CI Slot

- Scrambled channel receivable with DVB CI.
- MPEG-II Digital & Fully DVB Compliant.
- Max. 4000 channels receivable.
- Channel list mode
- 4 Favorite channel groups
- DiSEqC version 1.0, 1.2 USALS compliant

### Measuring Instruments

**emitor**

#### MEGALOOK

MEGALOOK helps professional users to do exact adjustments and maintenance of satellite dishes and of cable TV and terrestrial networks.

- Input frequency: 2-900 MHz and 920-2150 MHz
- 4.5" B/W Monitor for PAL/NTSC
- Lots of memory positions for spectrum pictures
- RS232 for PC-connection
- Built in, rechargeable battery.
- Only 7.5kg complete with carrying case



ALSO AVAILABLE:

- Combolook
- Digital Satlook NIT
- Satlook Micro +
- Satlook Mark IV

#### DIGISAT PRO ACCU

Measuring instrument for dish-properties  
Check two LNBs at the same time  
With DiSEqC tester

ALSO AVAILABLE:

- Digisat
- Digisat+
- Digisat Pro
- Digisat Multi



#### DIGIAIR dB

The meter to use for easy Digital terrestrial installations. Very sensitive, easy to maximize weak and strong signals.

- Frequency range of 47-862 MHz
- Shows the signal strength in dBμV
- Shows the complete spectrum in one picture
- Presents one channel readout with high resolution or six channels simultaneously





**Türkçe konuşan personele sahibiz !**

**Мы говорим и даём консультации на русском языке!**

**ALPS**

**GIBERTINI**

**PREMIERE**

**Inverto**

**MTI**

**MICROELECTRONICS TECHNOLOGY INC.**

**Stab**

**NETWORK streaming clients**

**ELANVISION** EV-8000S



- Linux Operating System
- Ethernet Card 100 Mbit
- USB 1.1 Host Controller
- IBM Power PC ("STB04500/Pallas")
- Recording 2 channels simultaneously while playback another from HDD and many more features

**TOPFIELD**  
TF-6000 PVR E-LAN



Digital Satellite Personal Video Recorder

- Local Area Network ( HTTP/FTP )
- Picture-in-Picture
- Dual Recording

Available in black and silver

**TOPFIELD**  
TF-6000 PVR W-LAN



Digital Satellite Wireless Lan PVR

- Wireless Lan PVR
- Alphanumeric VFD Display
- Dual decoding (PIP) and Dual tuner

Available in black and silver

**PCMCIA-Modules**



- CONAX
- IRDETO
- VIACCESS
- ASTON / SECA
- CRYPTOWORKS
- CRYPTOWORKS (Arena)
- PREMIERE

- ALPHACRYPT Light
- ALPHACRYPT Classic
- ALPHACRYPT TC
- VIACCESS MPEG 2+4
- CONAX MPEG 2+4

**LNBs**

- MTI
- BEST
- INVACOM
- ALPS
- INVERTO
- MAXIMUM
- TITANIUM, etc.



- Single Universal
- Twin Universal
- Quattro Universal
- Quad Universal
- Octo LNB
- Monoblock Single Universal
- Monoblock Twin Universal
- Monoblock Quattro Switch
- KU
- C Band
- Circular and many more

**MAXIMUM**  
V-Series



AVAILABLE AS:

- V-1 Single
- V-11 Single + DiSEqC
- V-2 Twin
- V-4 Quad
- V-8 Octo
- V-21 Single Monoblock
- V-22 Twin Monoblock
- V-24 Quad Monoblock

Full LNB range MAXIMUM available from stock

**Multiswitches / DiSEqC - Switches**

- SPAUN
- DTRON
- JAEGER
- JOHANSSON
- MAXIMUM
- BEST



From 2 in/1 out  
up to 17 in/8 out



Full Range

**Parts**

Multifeederholder for 2, 3, or 4 LNB



**Wallmounts**

- 15 cm distance - Aluminium
- 25 cm distance - Aluminium
- 35 cm distance - Aluminium
- 45 cm distance - Aluminium
- 45 cm distance - Steel
- 50 cm distance - Steel
- 35 cm distance - Steel
- 70 cm distance - Steel



- F-Connector - 7 mm
- F-Connector - 7 mm waterresistant
- F-Connector - 4 mm and more

**Remotesystems**

- AV-Linker - Videosender for remote control
- Remote Blaster
- Zapline 2 and more



**Koaxialcable**

- High Quality coax cable
- Minicable Coax
- Mini-Twincable Coax
- > 100 dB / > 110 dB



**invacom** QDH 031



AVAILABLE AS:

- SNH-031
- TWH-031
- VQTH-031
- QDH-031
- SNF-031
- TWF-031
- QTF-031
- QDF-031

Full LNB range INVACOM available from stock

**MICROELECTRONICS TECHNOLOGY INC.**

High-Line-Series



AVAILABLE AS:

- MTI AP 8 T2NRC Single
- MTI AP 82 XT2N Twin
- MTI AK54 XT2N Quad

Full LNB range MTI available from stock

**Dishes**

**GIBERTINI**

**IRTE**

**TRIAx**

**emme esse**  
MULTIMEDIA SYSTEM



- 40 cm - White
- 70 cm - White, Black, Red
- 90 cm - White, Black, Red
- 100 cm - White, Black, Red
- 120 cm - White
- 130 cm - White, Black
- 160 cm - White

Big Dishes directly from our warehouse!  
KTI, ORBITRON, IRTE

- SDI 1,50 m
- SDI 1,80 m
- Mesh 3,10 m
- Mesh 3,70 m
- Irte 2,00 m
- Irte 2,40 m



**Motors**

Aktuatoren/ Actuators

- Mini Actuators - 6", 8", 10", 12"
- Regular Actuators - 12", 18", 24"
- Heavy Actuators - 24", 36"

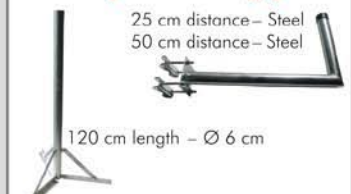


H-H Mounts

- SG 99 - up to 1,00 m
- SG 107 - up to 1,10 m
- SG 2100 A DiSEqC 1.2 - up to 1,00 m
- Stab HH100 DiSEqC 1.2 - up to 1,00 m
- Stab HH120 DiSEqC 1.2 - up to 1,20 m

**Balcony mounting parts**

- 25 cm distance - Steel
- 50 cm distance - Steel



ALSO AVAILABLE:

- Balcony stand 100 cm Aluminium
- Balcony stand 100 cm Steel
- Balcony stand "Holland"
- Balcony holder L-form 25 cm
- Balcony holder L-form 50 cm





Edited by  
**Branislav Pekic**

**EUROPE**

**FRANCE**

**M6 OPTS FOR ATEME FOR IPTV ENCODING**

French television broadcaster M6 has standardized its IPTV encoding platform around the ATEME Kyron H.264 solution. M6 can now deploy 9 SD channels and its HD channel M6 HD directly through ADSL. The entire ADSL encoding head-end has been standardized on Kyron to achieve the best-possible quality and bandwidth efficiency.

**PHILIPS AND CANALSAT SEEK TO BOOST HDTV ADOPTION**

Philips will be supplying high definition set-top boxes to French digital satellite operator Canalsat. Its subscribers will be given Philips dual HD digital satellite receivers, offering PVR and interactive functionality. Additionally, the Dual HD receivers will be made available in a Terrestrial configuration to Canal+ terrestrial subscribers from early 2008.

**NORWAY**

**APAX PARTNERS CLOSES TELENOR SATELLITE ACQUISITION**

Funds managed by private equity group Apax Partners have completed the US\$ 400 million acquisition of Telenor Satellite Services (TSS) from Telenor. The agreement had been signed on 25 October 2006. Telenor Satellite Services offers communication solutions via satellite to land, air and sea. Apax Partners intends to pursue the development of the company in Norway and abroad.

**TELENOR PLANS IPTV IN 2008**

Telenor plans to launch IPTV services in 2008 as it revamps its access networks and aims for 100 percent broadband coverage, the carrier's head of fixed networks, Berit Svendsen, announced. She said the Norwegian government has set Telenor the "tough challenge" of providing a broadband connection to all 2 million households in Norway. The carrier, which claims 94 per cent broadband coverage today, is getting some financial backing from the government to achieve this. Svendsen said Telenor is still to make a decision about its IPTV platform which it will launch during 2008.

**SWEDEN**

**TELIASONERA SIGNS UP 200,000 IPTV CUSTOMERS**

TeliaSonera has reported that it recently registered its 200,000th customer for its domestic IPTV service, double the number reported in May of this year. Currently, over 2.5 million households in Sweden are inside TeliaSonera's footprint for IPTV services. TeliaSonera also reported that its customers set a new record for its VOD service, renting nearly 1,000 movies per day.

**UNITED KINGDOM**

**TISCALI ROLLS OUT IPTV SERVICE NATIONWIDE**

Tiscali has started rolling out its IPTV service nationwide across the UK, and aims to sign up 500,000 subscribers by the end of 2007 and extend its reach to 10 million households. The service, called Tiscali TV, currently has 50,000 customers, mostly in North and West London

and in Hertfordshire. The service was initially extended to central, north and north-west England, with areas in the north-east and Scotland to go live in October. Tiscali TV offers 80 channels, and the basic triple play package of video, voice and broadband is available from £19.99 per month, including Sky's basic channels.

**BBC TRUST IN FAVOUR OF PERMANENT BBC HD SERVICE**

The BBC Trust - the body which must be consulted before any new BBC channel can begin - has indicated it was in favour of a permanent BBC HD service. BBC executives have proposed a daily nine-hour schedule - from 1500 to 0000 - on satellite, cable and Freeview. The trust set down several conditions for the overall HD service, saying it was important to broadcast material from a variety of channels during peak-time evening viewing, rather than simply simulcasting BBC One. A final announcement on the service will be published in November.

**NORTH AMERICA**

**CANADA**

**INDUSTRY CANADA APPROVES TELESAT CANADA ACQUISITION**

Industry Canada has approved the acquisition of Telesat Canada by Loral Space & Communications Inc. and its Canadian partner, the Public Sector Pension Investment Board (PSP Investments). Completion of financing is being coordinated for a late October closing of the Telesat transaction. Last December, the joint venture company formed by Loral and PSP Investments entered into a definitive agreement with BCE Inc. to acquire 100 percent of the stock of Telesat Canada from BCE for CAD 3.25 billion.

**UNITED STATES**

**NRTC and NTCA to offer IPTV programming to rural telcos in US**

The National Rural Telecommunications Cooperative (NRTC) and the National Telecommunications Cooperative Association (NTCA) have teamed up to provide a programming solution to rural telcos seeking to deploy IPTV services. The programming selection includes over 250 video and audio channels from companies such as A&E Television Networks, ESPN/ABC/Disney, Fox News, Discovery Communications, MTV Networks, NBC Universal, The Weather Channel, Showtime Networks, Turner Networks and Comcast Network Services. The distribution agreements include rights for telcos to deliver the programming in Internet protocol format and the use of MPEG-4 compression over copper, fibre or coaxial cable as well as MPEG-2 compression.

**LATIN AMERICA**

**BRAZIL**

**BRASIL TELECOM LAUNCHES IPTV IN BRASILIA**

Brazil's third largest fixed line operator Brasil Telecom has launched the first commercial IPTV service in the country, Videon, initially in the capital Brasilia. However, the company plans to extend in the short term Videon to the main state capitals and cities where the company already has a presence. BRT will offer two types of package: a fixed monthly package with up to 500 hours of programs and a PPV option.

Spain's Telefonica is also planning to launch a IPTV in the São Paulo area. Telefonica is currently testing this technology. Brazil's largest fixed line operator Oi intends to invest US\$ 150 million in an IPTV pilot project in Rio de Janeiro city this year.

**CHILE**

**TELSUR SELECTS RUCKUS WIRELESS FOR IPTV SERVICE**

Ruckus Wireless has been chosen by Telefonica del Sur (TelSur) to supply its MediaFlex to support Latin America's first commercial IPTV service. The Ruckus MediaFlex system, a unique multimedia Wi-Fi solution, extends the range and increase the reliability of Wi-Fi signals while automatically avoiding interference as it occurs. The solution enables flawless streaming of multimedia, such as IPTV channels, over standard 802.11a/b/g Wi-Fi.

**ASIA & PACIFIC**

**AZERBAIJAN**

**AZERBAIJAN RECEIVES FIVE PROPOSALS FOR NATIONAL SATELLITE**

Azerbaijani Communications and Information Technologies Ministry has submitted five proposals to the government on the launch of a national communications satellite. Communications and Information Technologies Minister Ali Abbasov said the package also includes technical and economic assessment of the project. "The government is likely to make a decision in the first half of 2008," he said. According to his words, Azerbaijan will use 25-30% of the capacity of the satellite and will sell the rest to the neighboring countries.

**CHINA**

**CHINA WITH 736,000 IPTV SUBSCRIBERS**

There were 736,000 IPTV subscribers in China in the second quarter of 2007, according to Analysys International. The number of IPTV subscribers increased by 20.3% compared to the previous quarter. UTStarcom was the largest operator of IPTV services in the period, accounting for 43.3% of all IPTV subscribers in the country. Second was Vcom with 39.6%, followed by ZTE with 12.8%, Huawei Technologies with 3.7%, Alcatel Shanghai Bell with 0.5%. Henan, Shanghai and Heilongjiang were the areas of the country found to have the most IPTV subscribers, all with over 100,000 subscribers.

**CCTV TO SET UP HDTV CHANNEL FOR OLYMPICS**

China Central Television has announced the setting up of a new TV channel for the upcoming Olympics, which will use high-definition technology. In China, seven national TV channels are scheduled to broadcast Olympics events, including four public channels, one high definition and two pay-TV channels. An estimated 4,000 hours of live TV signal are needed for the 2008 Games. Chinese broadcasters will provide the signal for the opening and closing ceremonies and the torch relay.

**INDIA**

**BROADCASTERS WANT SAME LAWS FOR IPTV AND TV**

The broadcasters' body Indian Media Group (IMG) has warned the government of the serious security implications of "unregulated" IPTV and mobile TV, which could open a back door for all channels that are banned or do not have permission to downlink in India. Since IPTV and mobile TV are being launched by telecom companies

on their network infrastructure, they are considered to be under the communications and IT ministry. Thus, they are not covered by the information and broadcasting ministry's Cable Television Networks (Regulation) Act of 1995.

#### INDIA LAUNCHES COMMERCIAL SATELLITE

India has launched a replacement for a communications satellite destroyed last year. The Insat-4CR satellite is equipped with 12 transponders. The high-powered satellite will augment the country's communication capacity and help meet increasing demand.

#### JAPAN

##### ARIANESPACE TO LAUNCH JCSAT-12

Japanese operator JSAT Corporation has chosen Arianespace to launch its JCSAT-12 communications satellite. JCSAT-12 will be launched by an Ariane 5 during the summer of 2009 from the Guiana Space Center and will provide service covering Japan, the Asia-Pacific region and Hawaii. Built by Lockheed Martin Commercial Space Systems, JCSAT-12 is designed for a minimum of 15 years in-orbit life and will serve as backup satellite for other JSAT satellites.

##### JSAT CORP SAYS SATELLITE FAILURE WILL NOT HURT BUSINESS

JSAT Corp has said that the failed launch of the JCSAT-11 satellite in Kazakhstan will have no immediate impact on its operations and finances. The company has eight existing satellites in orbit. A rocket carrying the satellite suffered an engine problem and plunged back to earth in a remote part of the country. The JCSAT-11 satellite would have been involved in re-transmitting television broadcasts to Japan and other parts of Asia, as well as to Hawaii. For its part, SES Global said it will delay the launch by Proton of SES's Sirius 4, scheduled for October, and Americom 14, scheduled for December, pending the findings of the official inquiry into the failure.

#### LEBANON

##### ORANGE WINS LEBANON IPTV DEAL

Orange Business Services has announced the signing of a three-year, multi-million US dollar deal to provide an IPTV operating platform for Solidere, the Lebanese Company for the Development and Reconstruction of Beirut Central District. It will be delivered, installed, supported and integrated into the existing Solidere-operated private broadband network that was designed and deployed by Orange in 2006.

#### NEW ZEALAND

##### TELECOM NEW ZEALAND PROMISES IPTV IN 2009

Telecom New Zealand's general manager of video services, Philip King, has announced the launch of IPTV services by late 2009. A full IPTV service will require a dedicated 2Mbit/s link to the home and would also have to be available wholesale, to comply with new telecoms regulations. This would mean any of Telecom's rivals could use the service to deliver their own IPTV offering to customers, which presents its own difficulties, said King.

##### TVNZ TO INTRODUCE HDTV FOR BEIJING OLYMPICS

TVNZ will introduce HDTV on the Freeview Digital Terrestrial Transmission platform (DTT), in time for the Beijing Olympics in August. The public broadcaster will invest in the technology infrastructure to introduce its TV ONE and TV2 channels in HDTV on the Freeview DTT platform by July 2008. On the Freeview DTT platform, TVNZ expects

to initially provide about 50 percent of peak time content on TV ONE in HD, and 80 percent on TV2.

#### SINGAPORE

##### MEDIACORP TO LAUNCH HDTV CHANNEL IN NOVEMBER

From November 11, MediaCorp will officially roll out its high definition free-to-air television signal. Called 'HD5', it is the first high definition channel in Southeast Asia. HD5 will be a simulcast of Channel 5's programming, but only 30 percent of prime time shows will be in true HD format.

#### SOUTH KOREA

##### HANARO TELECOM SIGNS UP 500,000 IPTV CUSTOMERS

Hanaro Telecom, the leading IP TV provider, says that its "Hana TV" has drawn more than 500,000 customers over the past 12 months and expects the figure to double by early next year. The firm has stashed more than 70,000 programs bought from 200 providers worldwide, available at any time a user wants to watch them. The company expects that it will become the largest player in the world in terms of the number of subscribers within this year, passing Hong Kong's PCCW which has around 820,000 users.

##### KT AND SONY TO LAUNCH IPTV SERVICE IN NOVEMBER

KT, Korea's dominant telecom operator, and Sony Computer Entertainment Korea (SCEK) will launch an Internet-based TV service in November that runs on the PlayStation 3 game console. The PS3 console will act as a set-top box for KT's Internet Protocol TV service (IPTV), named Mega TV. It is the first time that Sony has made such an alliance to use the PS3 as an IPTV set-top box.

#### UNITED ARAB EMIRATES

##### UAE TELCO SELECTS LATENS FOR IPTV SERVICE

Latens has been selected by United Arab Emirates (UAE) telco du to secure its new IPTV service. Latens is to protect the Motorola IPTV set-top boxes deployed by du, and the contract will see Latens' conditional access rolled out in the fourth quarter of 2007. du has now registered over 500,000 customers for its multilingual IPTV service since launch less than a year ago, representing over 10% of the population of the UAE.

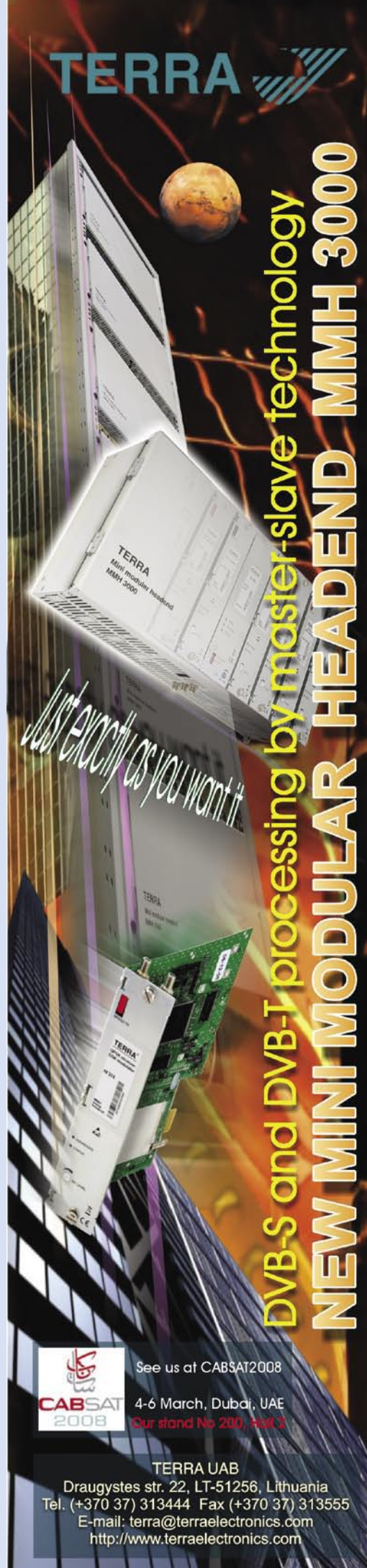
#### AFRICA

#### SOUTH AFRICA

##### TELKOM MEDIA GETS SATELLITE AND IPTV LICENSE

Telkom Media has been awarded a commercial satellite and cable broadcasting licence by ICASA, the industry regulator. The licence allows Telkom Media to operate both a satellite pay-TV service and an IPTV service in South Africa. Telkom Media plans to use both satellite and cable – which will most likely involve ADSL 2+ – to bring their offerings to consumers. Telkom Media plans to offer a range of international channels that previously have not been available in South Africa and has started negotiations with a number of international content providers. Telkom Media's own channels will include a 24 hour news service, sports channels, general entertainment and current affairs programs. Telkom Media will also bring HDTV content – which may include the 2010 World Cup – to consumers.

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# Dish Size versus EIRP

Jacek Pawlowski

You do not have to be a real satellite DX-er to ask yourself a question: "can I receive this or that transponder from this or that satellite in my location?". If you decide to install a motorized dish, this question immediately becomes very important to you. Your antenna will be receiving signals from many satellites, and while some of them will be very easy to receive, the others will be difficult or even impossible to read. Inevitably, you will start studying the footprints of various satellites and satellite beams. And very soon you will discover that some footprints show the minimum dish diameter required for reception but the others show something called EIRP.

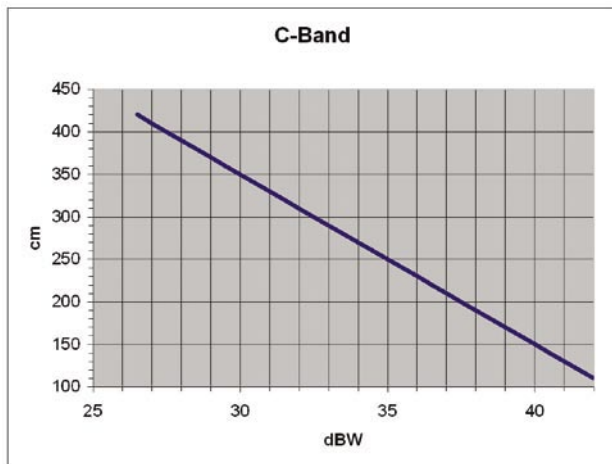


Figure 1. Dish size vs. EIRP for C-Band.

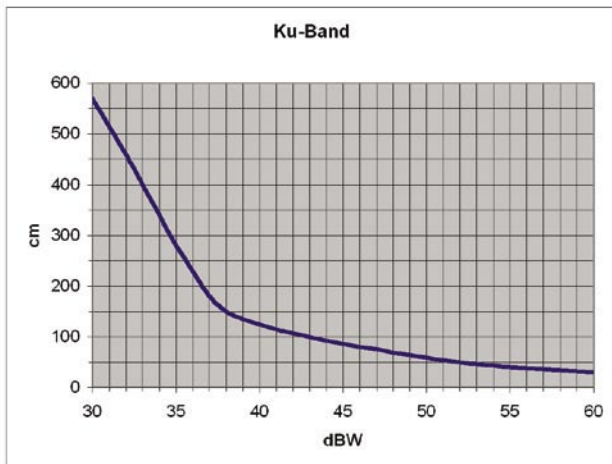


Figure 2. Dish size versus EIRP for Ku-Band.

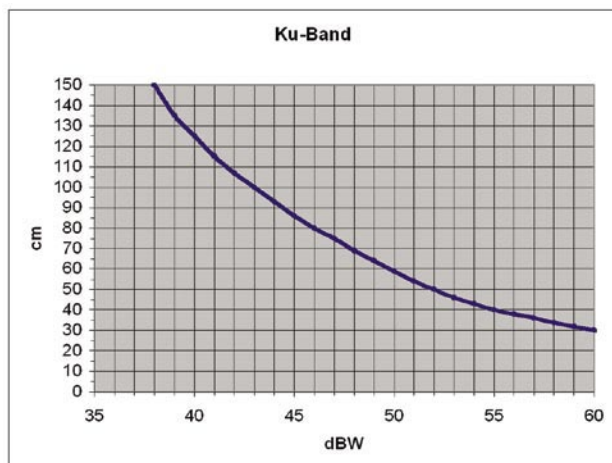


Figure 3. Dish size versus EIRP for Ku-Band.

and also EIRP can not be high. EIRP can be translated to the dish size as you can see in figures 1 through 3. Figure 3 is an enlarged part of figure 2 to make it easier for you to find the dish size for the most commonly used dish sizes for Ku-Band.

The graphs shown in the figures, assume 20° LNB for C-Band and an LNB with NF=0.6 dB for Ku-Band. Should you have better equipment, for example universal 0.3 dB LNB for Ku-Band, you may decrease the requirements for the dish size by a few percent. For example, you may expect that for EIRP=48 dBW, instead of 70 cm dish with 0.6 dB LNB, you can successfully use 65 cm dish with 0.3 dB LNB.

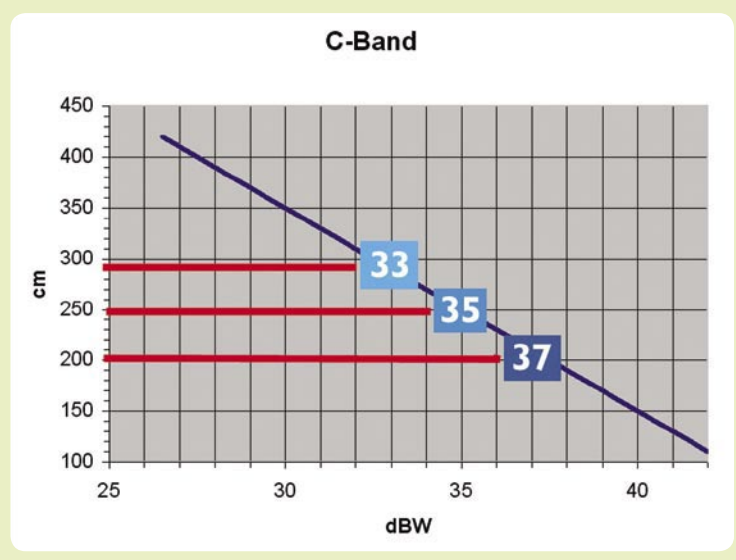
Occasionally, we hear that somebody receives signal with a smaller dish than the one shown in the graph for a given EIRP. It can happen if the satellite transmits somewhat stronger signal than promised in its specification. So, do not jump into conclusion that something is wrong with the graphs.

Now it will be easy for you to determine the dish size needed, with a look at the SatcoDX coverage images and matching the EIRP values given there with the charts in this report.

## How to read SatcoDX Coverage Images



First: Check the Band. In this case it is C-Band. Then check in which area the location of the dish is. Let's assume it is in the outer area marked with 33 dBW. Check Figure 1 of this report: 33 dBW is approx on the level with dish size 280 cm, 35 dBW with 250 cm and 37 with 210 cm.









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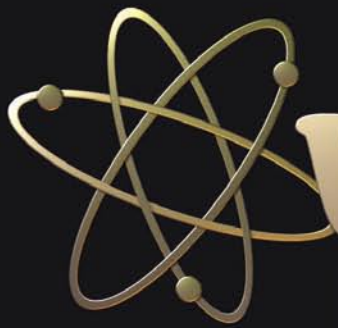
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# Topfield TF7700 HDPVR

## Leader of Multimedia Home

**Sometimes it happens really fast**, so fast that it surprises even us! While we introduced to you the first single tuner HDPVR box in the last issue of TELE-satellite, this issue already gives us the opportunity to present the first twin-tuner HDPVR unit. This receiver was produced and developed by the South Korean company Topfield. Would you have expected anything different? This manufacturer somehow always manages to implement the latest technology as well as an easy-to-use concept in their receivers.

We were quite anxious when the delivery truck showed up and dropped off a package from South Korea. Hidden inside the box were a receiver and a remote control that just by looking at it gave us the impression of sheer elegance and excellent quality.

On the front side of the black and silver cabinet an easy-to-read VFD display is located in the center. Below the display can be found a set of five buttons that let you operate the receiver if no remote control is at hand. Unfortunately, if no fresh batteries are available for the remote control, these buttons don't really let you do more than turn the box on and off or adjust the volume and change the channel.

Hidden nicely behind a flap are two CI slots that Topfield integrated in the TF7700 HDPVR. They can accept any compatible module such as Irdeto, Seca, Viaccess, Conax, Alphacrypt, etc. Directly alongside these slots can also be found a USB 2.0 interface that can be used to link the receiver with exter-

nal devices such as USB sticks, hard drives as well as digital cameras and MP3 players.

The rear panel of this new Topfield receiver is also very nicely appointed: in addition



HDTV Reception / Info Bar |

to the two IF inputs with corresponding looped-through outputs, there is also an HDMI connection, six RCA jacks for composite video, stereo audio and YUV video, an S-Video jack, two Scart connectors, an RS-232 serial interface and optical digital audio output as well as a LAN connection. All things considered, there's really nothing missing here.

The included remote control sits very nicely in your hand with buttons that are efficiently arranged making it fun to play with this receiver. The well-written user manual comes with numerous pictures that make it easy for users to step into the world of the TF7700 HDPVR without overloading them with several hundred pages at first glance.

### Everyday Use

As we have come to expect from Topfield, the TF7700

HDPVR also does not come with an Installation Assistant. The manufacturer incorporated a logical and user-friendly concept that takes the user directly to the main menu after turning on the box for the first time from which all initial settings can be undertaken.

Especially important with a receiver that will most likely be used with LCD or plasma TV's, is naturally the HDMI output and above all the video format to be used. The user manual clearly explains the differences and alerts the user to use a single button on the remote control with which the video format can be changed should there be no picture on the TV. The receiver supports all resolutions including 576i, 576p, 720p and 1080i whereby 1080i would of course be preferable.

The TF7700 HDPVR is a receiver that was designed



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for the international market; there is an extensive selection of OSD languages available: in addition to German, English, French, Italian, Spanish, Turkish, Danish, Swedish, Norwegian, Dutch and Polish, Finnish and Hungarian are also available. The System Settings screen also lets the user select the proper color standard for the Scart connectors as well as the desired picture format.

In principle, this receiver was designed with the 16:9 video format in mind but unfortunately, there are a number of providers that still transmit in 4:3 format for economical reasons. Thankfully, the receiver comes with two different display modes: full screen and centered. While the "centered" option is more interesting for LCD TV owners since the 4:3 picture format is presented with a black band to the left and right of the video image, the "full screen" option is better for plasma TV users since there is a danger that these black bands on the edge of the video image might burn in to the display panel. In "full screen" mode the video image occupies the entire screen and thus prevents damage to the TV. The audio signal can be outputted in PCM as well as in bit stream format.

Once the initial settings have been taken care of and the receiver is matched up with the TV, the next step takes you directly into the Installation menu so that all the external connections can be set up in the receiver. The Topfield operates with two tuners that can receive channels in both DVB-S and DVB-S2 as well as in QPSK and 8PSK. The manufacturer included a preprogrammed list of 145 (!) satellites that for the most part comes with up-to-date transponder data. With the exception of HOTBIRD 13° east and NILESAT 7° west, the list is alphabetically sorted making it very easy to find a desired satellite. In addition to DiSEqC 1.0, access to multiple satellite positions can also be accomplished with DiSEqC 1.1 for up to 16 LNBs as well as the motor control protocols DiSEqC 1.2 and 1.3 (USALS).

This box was essentially designed to be used with two independent satellite signals but, if this should not be available, a single signal source would work also. The input of the second tuner would simply be fed with the looped-through output of the first tuner. The receiver must be told this via the Installation menu since only then can the recording functions - that now can't be used to their fullest extent - be controlled.

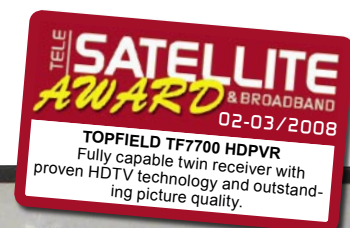
As we have come to expect from Topfield, the automatic scan was not the only scanning method: manual and other expanded scanning modes are also available whereby the latter lets you enter not only the frequency, symbolrate, polarization and modulation, but also the correct PIDs. As always, the satellite DXers thank Topfield for this.

If you have no need for PayTV despite the two CI slots, a simple push of a button in the same menu limits the scan to freely available channels. If you decide to use this box to receive multiple satellites, you may want to consider this since there's only room for 5000 channels in the receiver's memory.

After a channel scan of multiple satellites, the channel list of our test receiver was quite filled up despite the FTA limitation so we decided to go to work editing, sorting and rearranging. In a very logi-

For organizational fanatics or for all those who find it too much work to sort the channel list directly via the receiver, Topfield offers a small tool named Vega from their web site ([www.i-topfield.com](http://www.i-topfield.com)) that lets you perform many editing functions on your PC. Unfortunately, the only way at the moment to get the channel list to the PC is via the RS-232 port and a null modem cable. Hopefully the manufacturer will incorporate the ability to upload the channel list via the network interface at some point in the future.

While we're on the "network" subject: the TF7700 HDPVR operates with a fully capable 100 MBit network connection that in the future will also allow recordings to be transferred to a PC. At the moment this



TF7700HDPVR



We were quite surprised with the speed of the automatic channel scan: only about five minutes was needed to scan our test satellite with 80 transponders. We were also happy to see that the transponder data was up-to-date so that the recently activated HDTV channels in DVB-S2 were also found during this scan.

cally arranged menu, the individual channels in the list can be renamed, moved, deleted or blocked from the nosy kids with a parental PIN code. The more popular channels can be moved into one of the many user-nameable Favorites lists for easy recall at a later time with the push of a button on the remote control.

is not possible; an update is being quickly worked on. But, even so, this connection is definitely not useless: in addition to satellite, the manufacturer also offers software updates directly to the receiver via the Internet through the network interface. Simply assign an IP address via the Installation menu and provide this



information to the standard Internet gateway in your local network. The receiver will then download the latest software via the network. Next to the manual assignment of an IP address, the DHCP protocol is naturally also supported so that the receiver can acquire all the necessary information directly from the router leaving the user with no additional settings work to do.

The System Restore feature

for the next two to seven days in an easy-to-understand format. Since we are dealing with a hard drive receiver in the TF7700 HDPVR, Topfield naturally saw to it that recordings could be programmed directly from the EPG; a quick push of the Record button is all that is needed. Especially practical is the ability with the push of another button to alter the recording settings to, for example, add extra recording time at the beginning or

program it once and you won't miss any future episodes in a series.

Thanks to the two fully functional DVB-S and DVB-S2 tuners, this receiver is capable of recording two different programs at the same time (regardless if it is HD or SD) and also play back a third previously recorded program from the hard drive (again, regardless if it is HD or SD) or a third over-the-air pro-



is also very practical. This feature stores a snapshot of all the settings including channel list, timers, etc. on the hard drive so that, should something go wrong with the settings or if the channel list is deleted by mistake, all of the previous settings can be easily restored.

Once all of the initial settings have been taken care of, the user can exit the TF7700 HDPVR's main menu after which the receiver switches over to the first receivable channel. As is the norm with Topfield, a very informative and easy-to-read Info Bar is blended in that includes channel information such as teletext, subtitles, language selection, DD audio, multi-feed, etc. and even the title of the currently running program (as long as this data is made available by the provider). A push of the Info button displays expanded information and a detailed description of the current program.

A push of the Guide button activates the expanded EPG and, depending on the program provider, shows the entire programming schedule

the end. This will guarantee that you won't miss anything interesting.

Topfield also stayed true to form with an easy-to-use channel list. A push of the OK button blends in the channel list and that can then be sorted and filtered to various criteria using the colored function buttons on the remote control. In normal operation the currently running program is recorded in the background so that it can be paused or replayed at any time.

If the telephone should ring while you're comfortably watching a program, a simple push of a button pauses the program. As soon as you are finished with your telephone conversation, the program can be restarted without you having missed a single second of that action movie or your favorite TV series. The Time Shift function makes it possible. And since we are talking about TV series, the new Topfield TF7700 HDPVR also supports the ability to record programs on a weekly or daily basis, or every weekday or weekend. In other words, just

gram. And also thanks to the clever CI operation, recorded PayTV programs are stored decrypted when possible, and should this not be possible, a corresponding symbol appears in the recordings list and with the push of a button encrypted recordings such as these are put through a copying process that stores them in decrypted mode. In this way they are still viewable even if there would be a key change by the provider.

Despite the ease-of-use concept and typical box features, all receivers must go through a stringent tuner test. As it turns out, we could not disturb the TF7700 HDPVR at all: reception of weaker signals on NILESAT at 7° west, ARABSAT at 26° east and ASTRA2D at 28.2° east proved to be no problem. Even SCPC reception was no obstacle: our test transponder on EUTELSAT SEASAT at 36° east with a symbolrate of 2.668 Ms/sec. was handled effortlessly.

To top it all off, Topfield provided this new receiver with a number of extra goodies including a DivX and an MP3



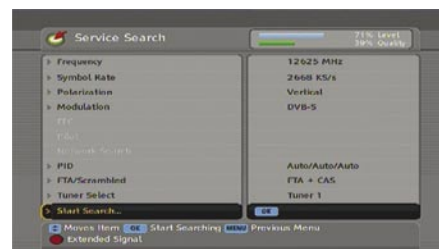
Main Menu |



EPG |



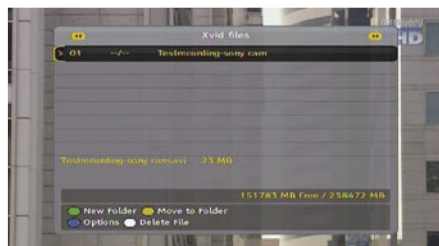
Channel List |



Channel Scan and SCPC Reception |



LAN Settings |



DivX Player |

player. It was no problem at all to use this box as an MP3 jukebox. Using the integrated DiVX player was a little more involved; to use it you first had to copy the recording from an external device to the receiver's hard drive via the USB 2.0 interface. Although this was taken care of very quickly, it still would have been nicer if the receiver could directly access the external device or if the DiVX files could have been copied to the receiver via the network interface.

## Picture Quality

The TF7700 HDPVR had to also supply a variety of test

images to our Samsung Full HD LCD TV and we were impressed each time. It was not only the hardly-noticeable delay when switching between SD and HD channels, but also the excellent SD picture quality that almost makes you forget that it's not a high-resolution image. Naturally, this only counts for certain SD transmissions; even the TF7700 HDPVR can't perform miracles with a data rate of 1.5 Mb/s.

Of course, its fullest capabilities could be seen with HD content. Many visitors to the test center stood in awe of its picture sharpness, precise detail, color depth and brilliance.

## Expert Opinion

+

The TF7700 HDPVR is one of the first fully capable twin HDPVR receivers and yet still offers proven technology with an operational concept that is logically thought out and clearly arranged. It is absolutely family and living room friendly and should be part of any household that has an LCD or plasma TV.



Thomas Haring  
TELE-satellite  
Test Center  
Austria

-

The available channel memory could stand for some improvement

## TECHNIC

### DATA

Manufacturer	Topfield, Seongnam/Korea
Fax	+82-31-7082607
E-Mail	inquiry@topfield.co.kr
Model	TF7700 HDPVR
Function	Digital DVB-S, DVB-S2 HDPVR Receiver with Ethernet Connection
Channel Memory	5000
SCPC compatible	yes (> 2Ms/s)
USALS	yes
DiSEqC	1.0 / 1.1 / 1.2 / 1.3
Scart Connectors	2
Audio/Video Outputs	3 x RCA + 3x RCA YUV
UHF Modulator	no
S-Video	yes
Component Output	yes
HDMI Connection	yes
Programmable 0/12 Volt	no
Digital Audio Output	yes
LAN	yes
EPG	yes
C/Ku-Band compatible	yes
Power Supply	95-250 VAC, 50/60 Hz
Power Consumption	max. 60W, Stand-by 9W

## HDTV-Sat-Receiver UFS 910

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Technotrend Budget C-1500 incl. Remotecontrol	DVB-C	51,90 €
Technotrend Budget C-1500HD High-Definition (MPEG2/4)	DVB-C/HDTV	61,90 €
Technotrend Budget C-1500HD High-Definition incl. CI Interface	DVB-C/HDTV	83,90 €
Technotrend Connect USB C1200 (DVB-C USB 1.1)	DVB-C	69,90 €
Technotrend Premium C-2300 Hybrid HardwareMPEG2	DVB-C	79,90 €
Technotrend Budget S-1401 Silicon Tuner	DVB-S	43,19 €
Technotrend Budget S-1500 incl. CI (Common Interface)	DVB-S	73,90 €
Technotrend Budget S-1500 incl. Remotecontrol	DVB-S	50,40 €
Technotrend Budget T-1500 incl. Remotecontrol	DVB-S	50,40 €
Technotrend Connect USB S2400 (USB 2.0)	DVB-S	49,99 €
Technotrend Premium S-2300 "modded" HardwareMPEG2	DVB-S	130,99 €
Technotrend S2-3200 HDTV-S2 + Remote + Common Interface	DVB-S/DVB-S2 (HDTV)	98,90 €
Technotrend S2-3200 HDTV-S2 incl. Remote	DVB-S/DVB-S2 (HDTV)	87,00 €
Technotrend S2-3600 HDTV-S2 USB 2.0	DVB-S/DVB-S2 (HDTV)	99,99 €
Technotrend S2-3650 HDTV-S2 USB+CI (Common Interface)	DVB-S/DVB-S2 (HDTV)	123,50 €
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Technotrend Budget T-3000 Hybrid Digital and Analog	DVB-T	49,90 €
Technotrend Premium T1200 (HardwareMPEG2 Decoder)	DVB-T	149,00 €
Technotrend Budget PCI CI (for Budget/Nova Serie), V 1.1	SAT/CABLE/TERR.	21,90 €
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Conax MPEG4 NP4 Neotion Processor HDTV	49,90 €
Cryptoworks Mascom (Arena,ORF,DigiT,Xtra,easyTV)	43,99 €
Diablo CAM Light	76,90 €
Dual CAM Irdeto plus Conax	45,90 €
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Full-X TV CAM	39,90 €
Matrix Reborn CAM	32,90 €
T-Rex CAM 4.1 Firecrypt	79,90 €
T-Rex Supermodul 4.6	105,00 €
Viaccess I/II CAM (V484)	42,99 €
Viaccess NP4 MPEG2+MPEG4 (HDTV) * Pocket * CAM	49,90 €
X-CAM Platinum CAM	37,99 €
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Technotrend TT-Micro S320 HDMI UpScale HDTV SILVER	DVB-S	81,99 €
Technotrend Scart TV S100 FreeTV Mini-Receiver SCART	DVB-S	72,90 €
Technotrend Scart TV S102 (DVB-S)	DVB-S	114,50 €
Technotrend Scart TV S102 (DVB-S) incl. Premiere Flex € 25	DVB-S	124,49 €
Technotrend Scart TV S106 (DVB-S)	DVB-S	129,00 €
Technotrend TT-micro S202 Premiere	DVB-S	61,00 €
Technotrend TT-Micro S305 HDMI Nagra+CI	DVB-S	109,90 €
Technotrend TT-Micro S326 Cryptoworks (ORF) Upscale	DVB-S	149,00 €
Technotrend TT-micro C201 (Conax embedded)	DVB-C	89,90 €
Technotrend TT-micro C202 Premiere	DVB-C	63,00 €
Technotrend TT-micro C254 (Arena/Tividi)	DVB-C	82,50 €
Technotrend TT-Micro C2800-BC (Betacrypt embedded)	DVB-C	39,90 €
Technotrend Scart TV C102 (DVB-C)	DVB-C	104,99 €
Technotrend Scart TV C102 (DVB-C) incl. Premiere Flex € 25	DVB-C	109,00 €
Technotrend Scart TV T100 FreeTV Minireceiver Scart	DVB-T	89,00 €

SCM Microsystems St@rkey USB 1.1 Satellite PC-receiver	Reception Type	Price
SCM Starkey DVB-S USB 1.1 incl. ProgDVB CD	DVB-S	19,99 €

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Tel: +49 34954/31960 · Fax: +49 34954/49233  
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# AB IPBox 350Prime PVR

## The return of the penguin

**A few months ago** we had a chance to test quite a unique receiver. It was based on the Linux operation system, had an open-source firmware, a rich variety of plugins, and a very user-friendly PVR. We're talking about the AB IPBox 250S PVR from the Slovakian company AB Com, which was presented in one of the previous issues of TELE-satellite International magazine (Issue 07/2007). Since then, it became a real legend, and the manufacturer decided to produce an even more advanced version of it, AB IPBox 350Prime PVR

When opening the package we didn't expect a big surprise, since from the outside, according to the pictures on the manufacturer's website, it had to look almost identical to its "older brother". But already the contents of the box attracted our attention: besides the receiver, there were two separate tuners included – for DVB-T and DVB-C, since AB IPBox 350Prime PVR also supports terrestrial and cable reception.

The receiver itself also had a few surprises to discover. On its rear panel, besides the regular 2 scart connectors, RCA, S/PDIF, RS-232, Ethernet port, LNB input and loop-through output, we found the newly added main power switch, as well as the USB port, which can be used for software upgrades or file exchange with different plugins, installed on the receiver. The front panel is identical to the 250S, and contains the Standby, Menu, Exit, OK, Left, Right, Up and Down buttons, as well as the smart-card reader and a segment display. AB IPBox 350Prime PVR is also available in two color variants – silver and black.

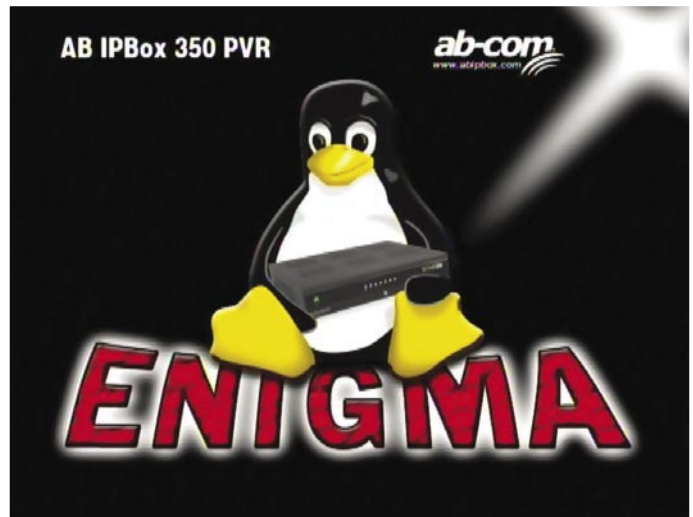
Why change the good things? The previous model had a very

nice remote control. It might have been designed quite simply, but it was lying in the hand perfectly, and all the buttons were clearly marked. It was also able to control your TV set as well, and it was possible to choose from several hundreds of TV manufacturers. Did all this become history? No way. The remote control of AB IPBox 350Prime PVR is as good, because it looks and works exactly the same.

### Installation

When you switch the AB IPBox 350Prime PVR on for the very first time, you are greeted by a nice penguin, holding a receiver. Right below you can read the name of the firmware, installed on this receiver by default – the legendary Enigma. It was also available for the previous model, but in our tests back then we used an "image" from "Highland team". And even though "Highland team" also has an image now for the 350Prime PVR, we decided to give Enigma a closer look.

In a few seconds after the



Welcome screen of Enigma software |

penguin picture, the wizard will appear, which will guide you through the installation process. In the first window, the receiver will ask you to select your time zone, in the second – to choose the DiSEqC option that would better match your antenna configuration. AB IP Box 350Prime PVR offers three options: no DiSEqC (direct connection to one LNB), Simple DiSEqC (for 2 LNBs/satellites) and Complex DiSEqC (all further variants). AB IP Box 350Prime PVR supports all DiSEqC versions, from 1.0 till 1.3 (USALS).

Next window will let you select the satellites you are planning to receive and configure their parameters. Once this is done, next step is again offering you three choices – regular automatic channel

search, multi-satellite channel search and manual channel scan. During the automatic search, the receiver will first try to lock to the signal of one of the transponders, and should this succeed, will offer you to start the channel scan itself. When the transponders are scanned, a very informative window appears, telling you the estimated remaining scan time, number of scanned transponders and found channels, as well as the data of currently processed transponder. The channel search itself can't be called very fast, it took around 18 minutes to process 94 transponders in the automatic scan mode, which resulted in 1379 TV and 453 radio channels. But! If something is slow, something else has to be really fast. And this is something we'll discover a



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seconds, between different transponders - in 0.5-0.7 seconds. When you put your AB IP Box 350Prime PVR into Standby mode, and later switch it on again, the picture will also appear in approximately 0.3 seconds, which is amazingly fast.

little further on. Once the channel search is completed, you'll land in the main channel list. Already here you can experience the menu style of Enigma. Prepare to use the colored buttons a lot. In the channel list, pressing the red one will display all channels, the green one will let you select the particular satellite (with sub-options - newly found, sorted by provider or all channels), yellow - will list all the broadcasters that the receiver found, and the blue one - give you access to the favorite lists, which are at this moment still empty. But anyhow, you are one click away from having the first picture on your TV screen !

Still, before we start watching TV, let's explore a bit more. When you press the "Menu" button, don't expect a long list of items to appear on the screen. Here you will see one at a time, and can switch between them using Left and Right buttons. The first item, "TV mode", fills the channel list with TV channels, second - "Radio mode" - with radio stations respectively. The third one is "File Mode", here the channel list turns into the list of files, available on one of the connected hard disks or USB devices. Fourth - "Information" - doesn't just tell you the model of the receiver you're using, but

also the detailed information about the channel currently selected, including all the PIDs, video format, aspect ratio, encryption system, and even bitrates for audio and video, which are measured on the fly from the transmitted signal!

Fifth menu item is called "Shutdown", here you can find the various receiver restarting options. Sixth is "Setup", the main place to configure AB IP Box 350Prime PVR. Everything you would ever want to modify, personalize or remove, you can find here. Including satellites, transponders, channels, network, languages, hard disks, USB devices etc. Seventh is called "Games", which provides quick access for installed plugins. Eighth submenu is "Timer" for programming the recording events, and ninth allows to switch the picture from the receiver to the one available from your VCR.

### Everyday use

So now let's grab that remote and prepare for a ride, really fast ride! And even though the channel search didn't hit the speed record, zapping sure does. The manufacturer didn't lie about it being "less than a second". The channels within the same transponder get changed in about 0.2-0.3



Expert Setup Menu |



Hard Disk Setup |



Receiver Information |

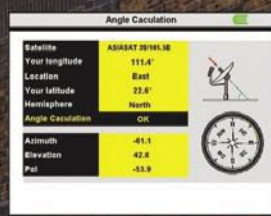
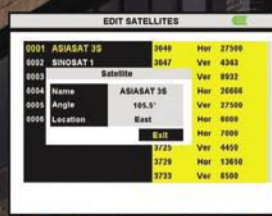


Info Bars |

from 1 to 6, this way, the EPG data can be displayed for any period from 1 to 6 hours simultaneously. Of course,







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EPG data is not limited to 6 hours, you can use the cursor keys to go as much further as you wish and provider made available.

Teletext decoder is also amazingly fast, but this is something we would expect now anyhow from a modern receiver. Switching between pages is as fast as between channels with AB IP Box 350Prime PVR, so you would hardly want to return to your TV set's teletext decoder.

## PVR, USB and LAN

And here comes the fun part for those who love to play around. Of course, the PVR here is something that any family member would enjoy, but the latter two are for the true experimenters. For the Personal Video Recorder to be used, first you have to install the hard disk into the receiver. Unfortunately, this involves opening the case, and at the moment this model is not offered with a HDD already built in. But once everything connected, all you have to do is to format the hard disk (Setup - System Settings -

Harddisk setup). Right after that you can start recording your favorite shows in a flash.

In case you see something on you'd like to record, just press the button with the red dot. It's also possible to select the recording start/stop time in the Timer menu, or use the EPG. In the latter you just have to select the show you're interested in, then press the blue button, which takes the program name and start/stop times to the Timer menu, where it can be adjusted further. While recording, the receiver displays the remaining disk space on its segment display, so you will always know, how much more you can record. Later all the recordings can be easily accessed in File Mode - Recorded Movies menu.

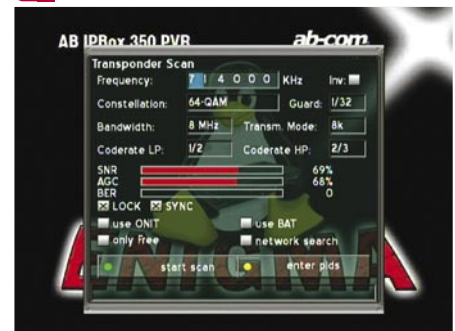
Serious step forward was done with adding a USB port to AB IP Box 350Prime PVR. However, unfortunately, it was probably not planned out to the end to be as user-friendly as possible. It can't be used for the PVR recording, only for software updates and plugin installation. There is one nice fea-

ture, however, that a lot of users would enjoy - take your USB dongle, copy your favorite music in MP3 format, and go to File Mode - usb-disk menu. When the channel you watch starts with a commercial break, you can listen to couple of your favorite tunes. However, to do this, first the USB dongle has to be formatted in Ext3 file system by the receiver (Setup - System Settings - Usbdisk Setup). Then, either you have to copy the files from the computer with a Linux OS, either use a program like LTOOLS by Werner Zimmermann for Windows machines. Unfortunately, it's not possible to access a USB-dongle formatted by the AB IP Box 350Prime PVR directly from Windows.

And while the USB part still needs some work to be done on, the LAN part is as good as it used to be. And even better. We connected the receiver to the WiFi router we have here in the test lab, then used Setup - Expert Setup - Communication Setup to configure it. According to the type of your network, you can choose the DHCP mode to get all the needed parameters auto-



Teletext!



DVB-T Channel Search!



DVB-T reception in Budapest, Hungary!



matically, or to manually enter the IP address of the receiver, net mask, name server and the gateway.

Once all the settings have been cared about, just open your favorite web browser, and enter the IP address of the receiver. Once prompted for the UserID/password, enter "root" for the first and "ipbox" for the latter. Right after that you'll see a feature-loaded page of the receivers web "server". The variety of supported functions is amazing. You can edit channel lists, check EPG, read teletext right on your computer, start/stop the PVR recording. You're just clicks away from changing various settings, without the need to endlessly browse through the OSD menu with the remote control. Parameters of the currently selected channel are displayed in the upper part of the page. You can see the current and next program names, current channel's SNR, AGC and BER, as well as it's Video and Audio PIDs.

Downloading the PVR recordings from AB IP Box 350Prime PVR to your computer is also perfectly simple. In the web interface, use the "Movies" menu, then select the program you'd like to download and click the "Download" button. And if you prefer the FTP, use the same IP address, same UserID and Password, then just go to the hdd\movie directory. Plain and simple!

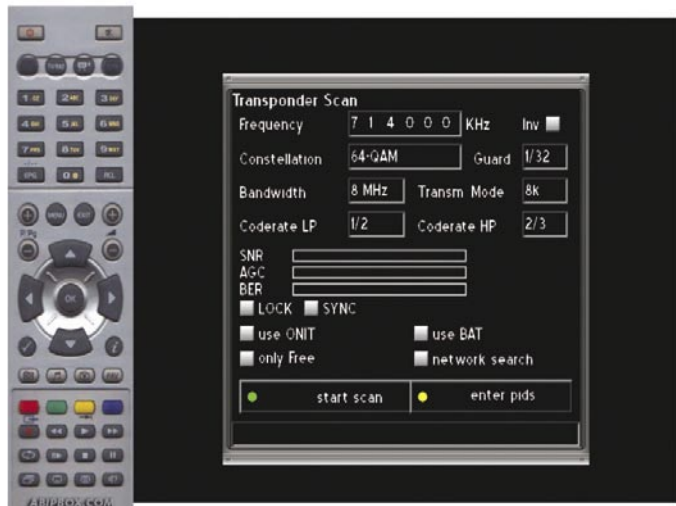
## Terrestrial Reception

As we've already mentioned, besides satellite reception, AB

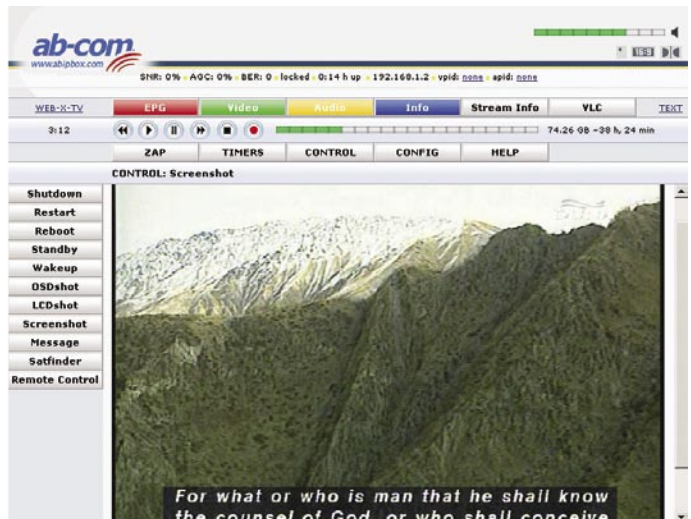
IP Box 350Prime PVR can be used to watch digital terrestrial transmissions in DVB-T. "Plug-and-play" tuners, offered by the manufacturer, are very easy to install – just like replacing a regular network card with another. Just open the case, remove one screw and replace the card – that's it!

Enigma software, installed on AB IP Box 350Prime PVR by default, completely supports such "plug and play" technology. It detects the new tuner automatically and changes the menus accordingly. For example, the transponder scan screen no longer expects the frequency in MHz, but in kHz, instead of Symbol Rate and FEC you'll find Constellation and Bandwidth. Unfortunately, it's not possible to enter channel numbers directly. For beginners it might take time to find the proper frequency equivalent for a particular VHF/UHF channel. But other than that, channel scan ends in a flash, and you can already enjoy the programming from the nearby TV tower in perfect digital quality! Zapping is as fast as with satellite reception, EPG, Teletext, and all other features you're used to are also available in DVB-T. For AB IP Box 350Prime PVR it doesn't matter, where the signal comes from. It will process it and produce a crystal clear picture, regardless, if it came from the satellite, or traveled a shorter distance, from your local TV tower.

Certainly, the DVB-C tuner works the same. AB IP Box 350Prime PVR offers you to use all three DVB variants, by satellite, terrestrial, and via cable. A very thought through concept!

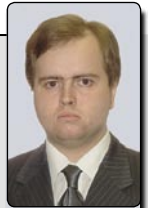


Virtual Remote Control |



Enigma's Web Interface |

## Expert Opinion



Nikolai Ovsyadovskiy  
TELE-satellite  
Test Center  
Hungary

AB Com succeeded to hit the target again! DXers should have nothing more to desire – it's possible to enter all the PIDs, and read such parameters which are hardly shown by any other receivers. At the same time, almost any member of the family would enjoy the super-fast zapping, offered by AB IP Box 350Prime PVR. Web interface of this receiver allows to set almost any parameter with just a couple of clicks via your PC. And not to forget the simplicity of switching from DVB-S to DVB-T, DVB-C and back! Linux-based receivers become powerful as never before!

Unfortunately, still some things need to be improved. USB interface can't be called user-friendly, you can't use a USB device for PVR recording, plus, if Windows is your operation system, there may be problems with accessing your USB dongle formatted in Ext3 by the receiver. It would also be nice to add a possibility to enter VHF/UHF channels in the DVB-T mode to help the beginners.

## TECHNIC DATA

Manufacturer	AB-COM s.r.o. Gogolova 1, 955 01 Topolcany, Slovakia
Homepage	www.abcom.sk
Tel	+421 38 5322 038
E-mail	info@abcom.sk
Model	350Prime PVR
Function	Linux-based digital receiver, suitable for terrestrial, cable and satellite DVB reception
CPU	IBM PowerPC 405
CPU Speed	350 MIPS
Channel Memory	4000
Symbol Rate	1~45 Ms/s
SCPC Compatible	Yes
USALS	Yes
DiSEqC	1.0/1.1/1.2/1.3
Digital Audio Output	Yes
EPG	Yes
C/Ku-band compatible	Yes
Power supply	AC110~220V, 50Hz/60Hz
Power consumption	25W max.

# completing the picture



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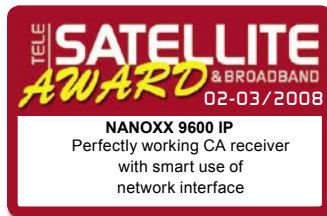




# Nanoxx 9600 IP

## CA Receiver With That Little Extra

CA receivers are ten a penny, but if you're after a really good box you still have to search around. We found such a receiver, the 9600 IP of German distributor Nanoxx. The IP in the model name reveals some great extras – but let's take it one step at a time.



The casing of the box comes in elegant silver with a shiny black front panel where an easy to read segment display indicates the currently selected program number. To the left, Nanoxx has put seven buttons to operate the box without remote control and to the right a flap hides the card reader which is XCrypt compatible.

The back panel is nicely equipped as well, featuring the standard IF input with looped-through output, two scart euroconnectors, RF modulator output, 3 RCA sockets for stereo audio and video, composite video, optical digital audio output, RS-232 interface as well as an RJ45 network socket as an added extra. But more about that a little later.

The included remote control sits well in your hand and sports an ergonomic shape. The buttons on the lower half

of the control could be slightly larger, though.

The multilingual user's manual will answers all questions and has an easy to use layout.

### Everyday use

Turn on the box for the first time and you'll be immediately presented with the main menu which prompts the user to customise some parameters and to define which reception equipment is used in combination with the receiver. The new Nanoxx box turns out to be a true globetrotter, offering the following languages for OSD messages: English, German, French, Italian, Spanish, Turkish, Russian, Arabic, Persian, Croatian and Greek.

Thanks to automatic detection the box can handle PAL and NTSC signals flawlessly and

switching between the 4:3 and 16:9 aspect ratios also went smoothly in our tests. Unfortunately, the Nanoxx receiver has neither S-Video nor component video outputs, which is a drawback considering the large number of flat screen TV and beamers in use these days. On the positive side the OSD can be customised to an extremely high extent so that users can configure the box just the way they prefer.

Once the initial set-up is completed the installation menu comes up to assist in adjusting the receiver's setting to the reception system used. The Nanoxx 9600 IP supports DiSEqC 1.0 to control up to four LNBs as well as DiSEqC protocols 1.2 and 1.3 (USALS) to control motors for rotating dishes.

As an extremely smart feature – especially for newbies

– the relevant DiSEqC protocol is detected automatically and all parameters are set by the receiver accordingly, so that users have one thing less to worry about when installing their equipment.

If you own a multifeed antenna with up to 16 LNBs then this receiver is not for you, however, because unfortunately it does not support DiSEqC protocol 1.1.

Apart from standard universal Ku band LNBs some other types such as C band LNBs can also be used and if required the LOF data can even be entered manually. The manufacturer ships this receiver with a pre-stored satellite list featuring 58 European and Asian orbital positions. Up to 20 additional



Clearly laid out info bar of the 9600 IP |



EPG |



Main menu |





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available channel will be found quickly after only a few clicks.

## Network interface

Now it's time at last to turn to the IP in the Nanoxx 9600 IP's model name. Contrary to most other CA receivers this particular box comes equipped with a fully functional network interface, which the manufacturer has built in with two purposes in mind: One is to facilitate easy and convenient software updates via the Internet, and the other is to transform this CA receiver into a full-flung PVR.

If you decide to use this interface all you have to do is access the Internet main menu on the OSD in order to set the required parameters. If required, all data (i.e. IP address, subnet mask, standard gateway IP) can be entered manually or alternatively DHCP can be activated, prompting the receiver to obtain all settings from the local router.

Smartly enough the 9600 IP can be set up in such a way that it searches for new software on the manufacturer's server every time it is turned on so that users can be sure the box runs the most recent version of the operating system at all times. Of course we tried that out in our test and the receiver reliably detected any updates and started to download and install new software.

The second purpose of the network interface is currently in its trial phase, but we have word from the manufacturer that they are working day and night to make this feature ready for release. Nonetheless, TELE-satellite was authorised by Nanoxx to have a sneak peek. At the start of all planning was

If you have a more pronounced sense of order you can proceed with permanently adjusting the full list to your personal liking. This includes renaming, moving or deleting channels or putting a parental lock on those offerings that are not suitable for children. Only those possessing the correct PIN can then watch these channels.

To make things even easier, all channels of a specific satellite can be deleted or PIN-locked at once.

Complementing various search filters is manual PID input, a feature all DXers will be most thankful for. Eight favourites lists are available and can be filled with the most frequently watched channels at

positions can be added to this list later on. We have found that some transponder data are out of date, so we hope Nanoxx will look at the matter and provide more current data in future.

After the antenna settings are completed the next step is to fill the 6000-plus channel memory (boot loader version 1.33 and higher) of the IP 9600. To this end we can select either a full scan on one or more satellites or a manual scan on specific transponders.

Our test also confirmed that it's always a good thing to be able to restrict a scan to FTA, TV only or radio only. Scanning is speedy and took a little less than seven minutes for performing a full search on an 80-transponder satellite.

After the completion of the first channel scan the receiver leaves the main menu and displays the first available channel together with a highly informative status bar which features the title of the current and next events (if made available by the channel provider) as well as icons for teletext, subtitles or encryption.

Press the Guide button and the EPG appears on screen showing all events of the following three to seven days. Our extensive tests revealed, however, that the EPG window on screen is divided by the 9600 IP in a rather awkward way. On the one hand the area displaying all program and event information is rather tiny and on the other hand the area dedicated to show the currently selected channel is

quite large. We believe it would be wise to reduce this area for the sake of more program information, because that's what an EPG actually is there for in the first place.

Similar to most other receivers the OK button calls up the channel list. The new Nanoxx receiver features a clearly laid out list complete with comprehensive editing and sorting options. This makes sure any

the touch of a button. No more time is wasted any longer looking for those favourite stations.

The overall positive impression of the Nanoxx 9600 IP is rounded off with standard features like selection of audio channel, teletext decoder or multi-picture viewing mode which helps you keep track of up to four channels simultaneously. That's a convenient way of bridging commercial breaks.



While we were at it, we tested the limits of the Nanoxx 9600 IP tuner and were amazed about the good reception it managed to obtain from relatively weak transponders on NILESAT 7° West, BADR 26° East and ASTRA 28.2° East. SSCP reception was no problem either and our test transponder on EUTELSAT SEASAT 36° East with a symbol rate of just 1.628 Ms/s was detected and processed without a glitch.



Channel search |



Multi-picture display |



Network settings |

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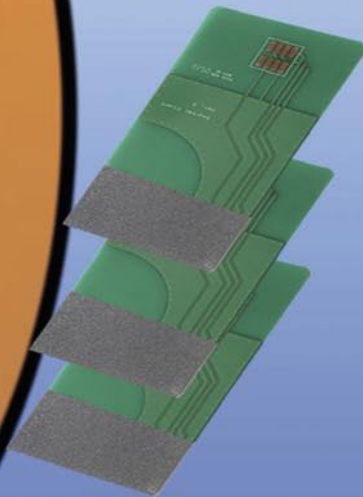
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Nanoxx's assumption that most households these days own high-performance PCs and burning a DVD is as easy today as recording a tape used to be a decade or two ago.

Most PVRs sold today allow transferring recordings from the internal hard disk to the PC, even though this process may be very time consuming, depending on the available connection type.

Now, if you were able to record an event directly on the PC, this would save all this time spent moving huge files from one disk to another.

That's where Nanoxx enters the stage with a small tool that runs on the PC and waits for any incoming recordings from the receiver.

As soon as the Record button

on the remote control is pressed the recording starts and the receiver transmits all data to the PC via the network interface. The PC saves the recordings for playback at a later time or for processing and burning using any standard DVD authoring software.

Even though in beta stage this added feature of the Nanoxx 9600 IP worked flawlessly in

our test. The only thing we were not yet able to test was playing back content that is stored on PC directly on the receiver, since the manufacturer has not yet finished the implementation of this feature in its software.

Considering the perfectly functional recording mode, however, we are confident that this feature will be available in perfect working order shortly.

## Expert Opinion

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The Nanoxx 9600 IP is a fully functional CA receiver sporting all required features with reliability and sophistication. Thanks to its network interface a whole new world of possibilities opens up and the manufacturer uses these in a smart way. The 9600 IP is self-explaining to operate and even beginners will have no difficulty using it.



Thomas Haring  
TELE-satellite  
Test Center  
Austria

-

The satellite and – above all – transponder lists are in need of some fresh air and playing back recordings from the PC is not yet possible. DiSEqC 1.1 would also be a welcome addition.



Recording software on the PC |

## TECHNIC

### DATA

Manufacturer	NanoXX <a href="http://www.nanoxx.info">www.nanoxx.info</a>
Model	9600 IP
Function	Digital CA satellite receiver with PVR functionality via network
Channel memory	6000
Satellites	78
SCPC compatible	yes (1.628 Ms/s and above in our test)
USALS	yes
DiSEqC	1.0 / 1.2 / 1.3
Scart connections	2
Audio/Video outputs	3 x RCA
YUV outputs	no
UHF Modulator	yes
0/12 Volt output	no
Digital audio output	yes (optical)
EPG	yes
C/Ku-Band compatible	yes
Power supply	100-240 VAC, 50/60 Hz



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# DishPointer.com



## Dishpointer

**One of the most critical questions** that come up before the erection of a satellite antenna is how to properly position the antenna so that the desired satellite can be received. In which direction should the dish be pointed? To the east? To the west? This would be its azimuth. And then how far up into the sky should the dish look? This would be its elevation. Actually, it's really not that hard to figure this information out; there are plenty of calculation aides and prepared tables that give you all the data you need. But if you do a little extra work, as Alan did with his Dishpointer software, you'll discover completely new results.

Alan, who lives in England, has been a satellite DXer since the year 2000. His first antenna was a 120 cm model with a rotor. "Back then I used an Echostar box with positioner to turn the motor", explains Alan.

As a student in aerodynamics, writing his thesis, he's completely at home working with PC programming. "I got my first PC when I was 16. It was a C64", remembers Alan about his early software programming days. "It must have been in 2004 when I came across Multimaps; it's a collection of geographic maps."

He came up with the idea to incorporate the display of satellite positions on these maps as a way to help with the set up of satellite dishes. But how was this going to work? These were fixed maps in differing display sizes. Alan could have programmed something but it would have required a lot of time and effort. So he dropped the idea; it would have been too much work.

In 2005 he started a web site ([www.uksatellitehelp.co.uk](http://www.uksatellitehelp.co.uk)) in which he provided helpful tips on how to properly set up a satellite dish.

To get an idea of how successful his website was, he enlisted the aid of Google Analytics, a free service that analyzes in great detail the traffic of a website. TELE-satellite also uses this service.

Google Analytics also contains a tool that graphically displays the geographical location of a website's visitors by displaying

variously sized dots (the larger the dot, the more visitors) on a world map. And, wouldn't you know it, that is exactly the technology that Alan was looking for with his idea to display satellite positions.

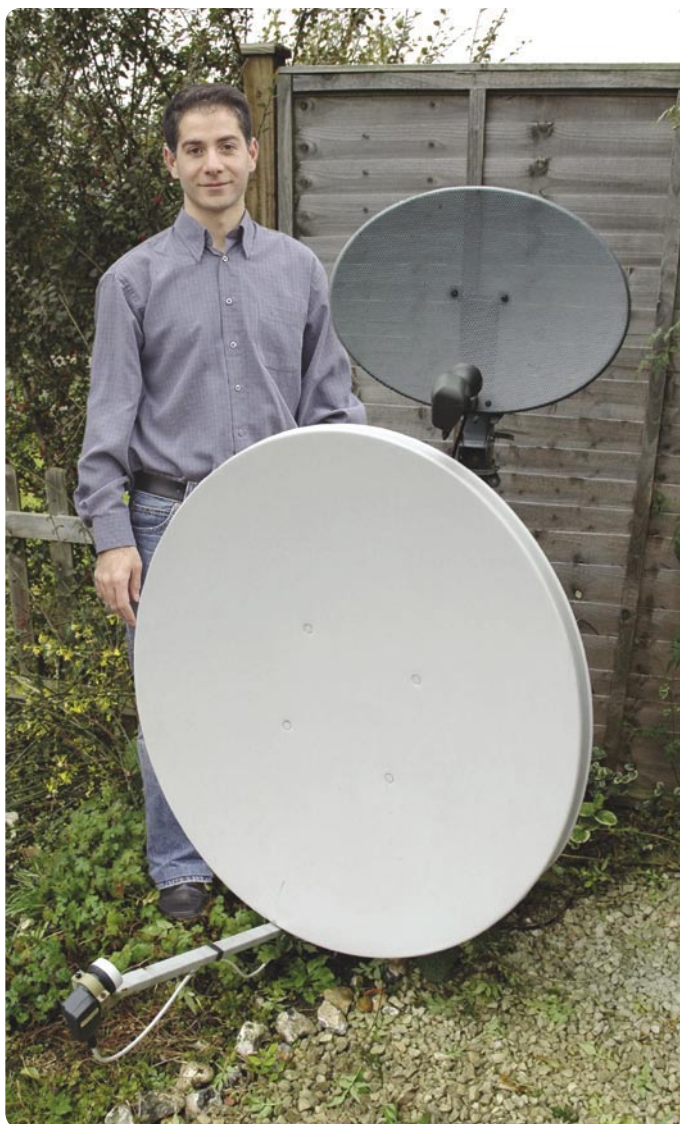
He extracted his old idea from the back of his mind and began with a new sense of purpose to find a solution - and then promptly stumbled onto Google Maps.

Suddenly, everything clicked: in August 2007 he programmed the first version of his Dishpointer. Click on a desired position on the map and the azimuth and elevation of a selected satellite is displayed. "Now it was only a question of programming in order to integrate additional features", explains Alan about his work the last several months.

The first step was: why should a user first have to click on a map or enter an address when the IP number alone identifies the position? There are professional companies that provide exactly this data. Online stores use this information to determine if a buyer really lives where he says he does.

That was the first step. Now Dishpointer "knows" exactly where a user is and automatically sets the reception location to this point. This may not always be very precise; it depends on the accuracy of the virtual IP addresses compared to the real addresses.

Next, Alan analyzed the popularity of satellites so that



▲ Alan at home in front of his reception system. He uses the smaller dish to receive the Sky package and the larger dish for scanning the skies. He programmed Dishpointer; a tool that combines azimuth and elevation with Google Maps for positioning on the Earth and SatcoDX with its global satellite databank.

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Dishpointer, when started, can immediately display those satellites that would likely be of most interest. Lastly, Alan expanded Dishpointer so that a click would display any remaining receivable satellites as well as the receivable channels.

"I get the satellite data from SatcoDX", explains Alan. In a cooperative venture, Alan has linked his Dishpointer live to SatcoDX. "In this way the Dishpointer data is always up to date; changes are immediately incorporated."

With Dishpointer, Alan managed to link two worldwide services that are constantly concerned with being up to date: Google Maps and SatcoDX. He thereby created something new!

What does the future look like for Dishpointer? "Customer-oriented solutions are my business goals", revealed Alan, "One of my customers is a program provider: he wants to show his users (private viewers) as simply as possible how to erect a satellite antenna and what they can receive with it." The Dishpointer version for these customers is reduced to display only the data from that programming provider.

"Another customer operates cruise ships and wants to know what channels he can receive in any port." For this customer Alan developed a Dishpointer version that displays only those

satellites and channels that are receivable with the available satellite system.

"Another customer is an aid organization that wants to set up satellite systems for their employees." Since their operational areas can often be in out-of-the-way places, Dishpointer can tell them in advance what dish size would be needed and what channels could be received.

"This", comments Alan, "might be an interesting tool for satellite receiver manufactur-

ers to integrate in their receivers." This would not only be a helpful tool for the end user, Dishpointer could also be used to preprogram the transponder list into a receiver. "Dishpointer could preprogram the receiver automatically with up-to-date data and at the same time filter this data for a specific target market area", explained Alan his business idea. So far no manufacturers have signed on to this idea.

For the individual satellite installer that doesn't need a specific Dishpointer version,

Alan added a small additional feature to Dishpointer: the installer can use it to determine ahead of time if buildings or other obstacles might interfere with reception. "A potential satellite system can be tested in advance and without any cost." Alan is quite proud of his Dishpointer program.

Dishpointer is a software solution that very simply and precisely can answer all questions regarding the planned erection of a satellite antenna system at a particular location. Well done, Alan!

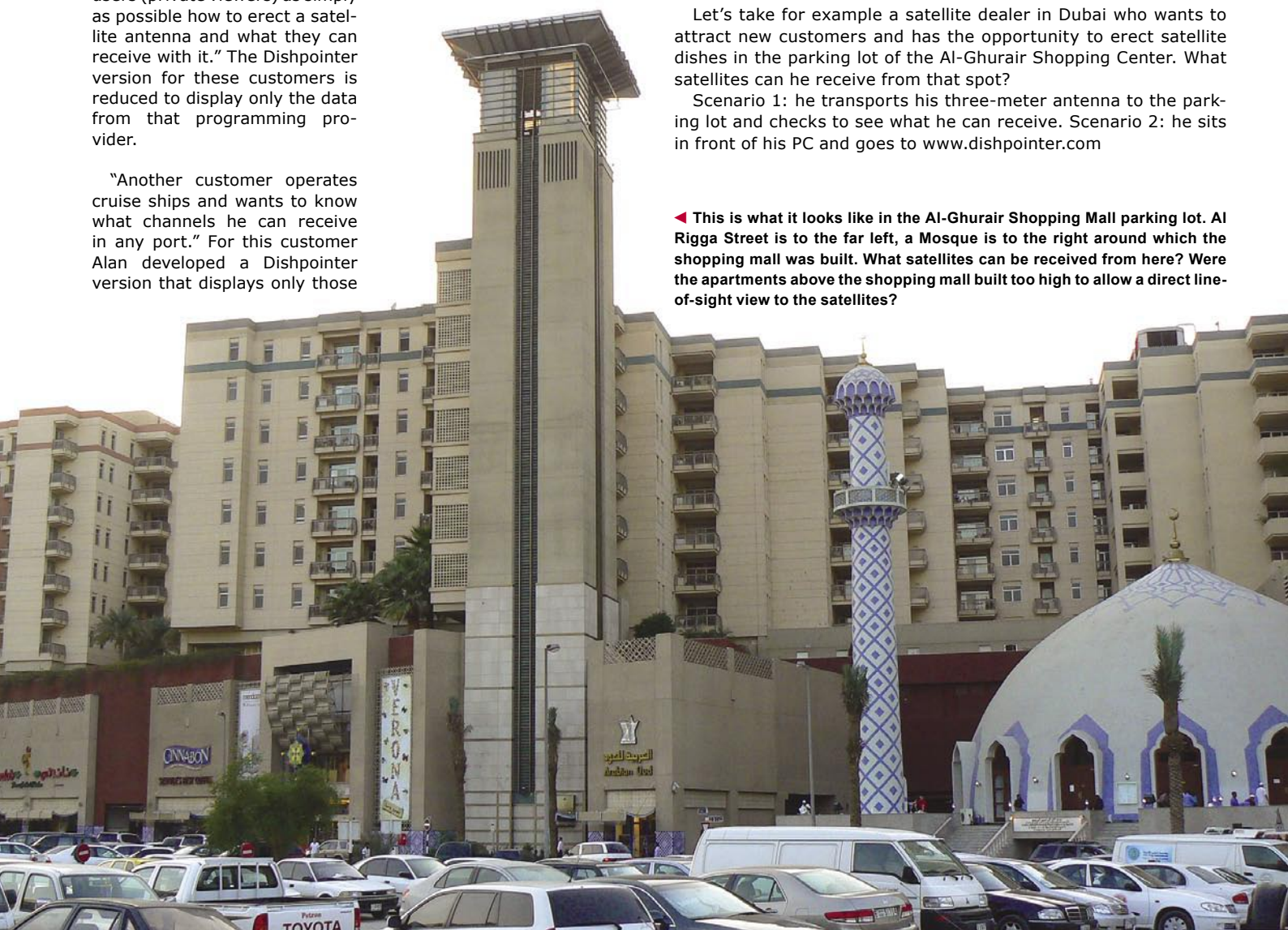
## Dishpointer Application Examples

**Dishpointer is used** to determine ahead of time what satellites are actually receivable, how the antenna needs to be aligned and what channels can be expected on these satellites. Since Google Maps delivers very precise information, an actual site survey may in many cases not even be necessary.

Let's take for example a satellite dealer in Dubai who wants to attract new customers and has the opportunity to erect satellite dishes in the parking lot of the Al-Ghurair Shopping Center. What satellites can he receive from that spot?

Scenario 1: he transports his three-meter antenna to the parking lot and checks to see what he can receive. Scenario 2: he sits in front of his PC and goes to [www.dishpointer.com](http://www.dishpointer.com)

◀ This is what it looks like in the Al-Ghurair Shopping Mall parking lot. Al Rigga Street is to the far left, a Mosque is to the right around which the shopping mall was built. What satellites can be received from here? Were the apartments above the shopping mall built too high to allow a direct line-of-sight view to the satellites?





International location: e.g. streetname, postcode, geocode:

Popular Satellites:

13.0E Hotbird 6,7A,8	93.5E Insat 48
7.0W Nilesat 101,102, Atlantic Bird 4	105.5E Asiasat 3S
105.5E C-Band: Asiasat 3S	83.0E C-Band: Insat 2E,3B,4A
42.0E Turksat 1C, 2A	83.0E Insat3B,4A
62.0E Intelsat 902	95.0E Nss 6

All Satellites & Multi-LNB Setups:

**Your Location**  
 Latitude: 25.230°  
 Longitude: 55.280°

**Satellite Data**  
 Name: 13.0E Hotbird 6,7A,8  
 Distance: 38193km

**Dish Setup Data**  
 Elevation: 34.9°  
 Azimuth (true): 244.9°  
 Azimuth (magn.): 243.1°  
 LNB skew: 55.0°  
 Dish skew: 90.0°

▲ The first step: Click on Dishpointer with Dubai as the selected Location.

International location: e.g. streetname, postcode, geocode:

Popular Satellites:

13.0E Hotbird 6,7A,8	93.5E Insat 48
7.0W Nilesat 101,102, Atlantic Bird 4	105.5E Asiasat 3S
105.5E C-Band: Asiasat 3S	83.0E C-Band: Insat 2E,3B,4A
42.0E Turksat 1C, 2A	83.0E Insat3B,4A
62.0E Intelsat 902	95.0E Nss 6

All Satellites & Multi-LNB Setups:

**Your Location**  
 Latitude: 25.267°  
 Longitude: 55.319°

**Satellite Data**  
 Name: 30.5E Arabsat 2B  
 Distance: 37112km

**Dish Setup Data**  
 Elevation: 49.5°  
 Azimuth (true): 227.3°  
 Azimuth (magn.): 225.5°  
 LNB skew: 41.6°  
 Dish skew: 90.0°

▲ An overlaid display of multiple satellites that are located "behind" the apartments on top of the Al-Ghurair Shopping Center. The question then becomes, should the location of the planned satellite dishes be changed? Our satellite dealer in Dubai now has to make a choice as to what satellites he wants to receive and then find an appropriate erection site. He can take care of this online and spare himself the extra work of setting up a reception test system at the planned site.

International location: e.g. streetname, postcode, geocode:

Popular Satellites:

13.0E Hotbird 6,7A,8	93.5E Insat 48
7.0W Nilesat 101,102, Atlantic Bird 4	105.5E Asiasat 3S
105.5E C-Band: Asiasat 3S	83.0E C-Band: Insat 2E,3B,4A
42.0E Turksat 1C, 2A	83.0E Insat3B,4A
62.0E Intelsat 902	95.0E Nss 6

All Satellites & Multi-LNB Setups:

**Your Location**  
 Latitude: 25.267°  
 Longitude: 55.319°

**Satellite Data**  
 Name: 26.0E Badr-2,3,4/Eurobird 2  
 Distance: 37345km

**Dish Setup Data**  
 Elevation: 46.0°  
 Azimuth (true): 232.7°  
 Azimuth (magn.): 231.0°  
 LNB skew: 46.1°  
 Dish skew: 90.0°

▲ The second step: Zooming in on the desired erection site in the Al-Ghurair Shopping Center parking lot. The Mosque is recognizable by its round shape. Al Rigga Street is to the lower left with its characteristically round-cut trees in the center of the roadway. From the desired position, BADR at 26 east appears to be right at the edge of the apartment building. The green arrow that can be repositioned by the user shows that the apartment building is 122.2 meters distant. If the apartment building is more than 126.5 meters in height, reception would not be possible. But since the actual height is far less than 126.5 meters, the building is not an obstacle.

DishPointer | Satellites | Channels

Elevation is measured from the horizon upwards. If it gives a negative value then the satellite is below the horizon, i.e. it's physically not possible to receive that satellite.  
 Azimuth (true) is positive clockwise and measured from True North. When using an uncorrected compass (and not the pointing line) you will need to use the Azimuth (magnetic) value.  
 LNB skew is positive anti-clockwise when facing the dish and is a theoretical value, in practice it may differ.  
 Dish skew is for multi-lnb setups. 90° means the dish is horizontal. The rotation direction for values smaller or greater than 90° depends on the embossed scale of the particular dish but as a general rule, the rotation is always in the direction of the pointing line.

▲ Dishpointer can do even more: with the push of a button the receivable satellites can be displayed with information on recommended dish size.

DishPointer | Satellites | Channels

Available Satellites for Selected Location						
SATELLITE	BEAM/EIRP (DBW)	DISH SIZE (CM)	TV	RADIO	DATA	
5.0E SIRIUS 2.3	SIR002KC	outside footprint	17	6	0	
5.0E SIRIUS 2.3	SIR002KE	outside footprint	203	44	22	
5.0E SIRIUS 2.3	SIR002KN	outside footprint	19	0	8	
5.0E SIRIUS 2.3	SIR003KN	outside footprint	43	12	27	
7.0E EUTELSAT W3A		N/A	1	0	0	
7.0E EUTELSAT W3A	EUTW3AAB	outside footprint	23	9	13	
7.0E EUTELSAT W3A	EUTW3ABA 40	120	62	81	31	
7.0E EUTELSAT W3A	EUTW3ABB 40	120	113	4	17	
9.0E EUROIRD 9	EUB009KW 40	120	30	1	2	
10.0E EUTELSAT W1	EUTW01KE 39	135	21	0	0	
13.0E HOTBIRD 6,7A,8		N/A	28	12	1	
13.0E HOTBIRD 6,7A,8	HOT006KB	outside footprint	396	149	126	



# digipower™ motor

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### SG-2100A

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- 60 Memories
- Controlled by Receiver
- Powerful, Fast and Low Noise
- Manual E / W Button
- Goto X.X° Function
- Indicating LED for Easy Trouble Shooting

### DiSeq Positioner

#### V-Box II

- 99 Memories
- Controlled by Receiver
- 3 Digit LED Display
- Full Protective Design
- Optional Remote Control
- Software Limit Protection



### Stand Alone Positioner

#### EZ-2200

#### MP880

- 99 Memories
- IR Remote Control
- 3 Digit LED Display
- Software Limit Protection



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MOTORIZE YOUR ANTENNA  
actuator, control, polarmount, cable

FREQ.	TYPE	BEAM/EIRP (DBW)	DISH SIZE (CM)	CHANNEL	CRYPT	SR	PACKAGE
10.971 H	TV-DIG	EUB002KB 40	120	JSC		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC Mubasher		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC International		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC Sports		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC Children		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC Documentary		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	Qatar TV 1		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	Alkass		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	Test		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	Test		27500	Al Jazeera
11.014 H	TV-DIG	EUB002KB 40	120	KTV CH1		27500	KTV
11.014 H	TV-DIG	EUB002KB 40	120	YOUTH & SPORT		27500	KTV
11.014 H	TV-DIG	EUB002KB 40	120	KUWAIT CH2		27500	KTV
11.014 H	TV-DIG	EUB002KB 40	120	SPORT PLUS		27500	KUWAIT_MOI
11.014 H	TV-DIG	EUB002KB 40	120	KUWAIT TV		27500	KUWAIT_MOI
11.014 H	TV-DIG	EUB002KB 40	120	Alhur		27500	JMC
11.014 H	TV-DIG	EUB002KB 40	120	Siraj Alaqa TV		27500	DEFAULT PROVIDER
11.014 H	TV-DIG	EUB002KB 40	120	AlHekmah TV		27500	DEFAULT PROVIDER
11.014 H	TV-DIG	EUB002KB 40	120	Algaeza		27500	DEFAULT PROVIDER
11.014 H	TV-DIG	EUB002KB 40	120	Shababiyah		27500	NILESAT
11.014 H	TV-DIG-CRYPT	EUB002KB 40	120	SPACE TOON		27500	Orbit
11.014 H	TV-DIG	EUB002KB 40	120	Dardachat		27500	Orbit
11.014 H	TV-DIG-CRYPT	EUB002KB 40	120	MGM		27500	Orbit

▲ Even the receivable channels are shown...

FREQ.	TYPE	BEAM/EIRP (DBW)	DISH SIZE (CM)	CHANNEL	CRYPT	SR	PACKAGE
10.971 H	TV-DIG	EUB002KB 40	120	JSC		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC Mubasher		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC International		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC Sports		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC Children		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	JSC Documentary		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	Qatar TV 1		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	Alkass		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	Test		27500	Al Jazeera
10.971 H	TV-DIG	EUB002KB 40	120	Test		27500	Al Jazeera
11.014 H	TV-DIG	EUB002KB 40	120	KTV CH1		27500	KTV
11.014 H	TV-DIG	EUB002KB 40	120	YOUTH & SPORT		27500	KTV
11.014 H	TV-DIG	EUB002KB 40	120	KUWAIT CH2		27500	KTV
11.014 H	TV-DIG	EUB002KB 40	120	SPORT PLUS		27500	KUWAIT_MOI
11.014 H	TV-DIG	EUB002KB 40	120	KUWAIT TV		27500	KUWAIT_MOI
11.014 H	TV-DIG	EUB002KB 40	120	Alhur		27500	JMC
11.014 H	TV-DIG	EUB002KB 40	120	Siraj Alaqa TV		27500	DEFAULT PROVIDER
11.014 H	TV-DIG	EUB002KB 40	120	AlHekmah TV		27500	DEFAULT PROVIDER
11.014 H	TV-DIG	EUB002KB 40	120	Algaeza		27500	DEFAULT PROVIDER
11.014 H	TV-DIG	EUB002KB 40	120	Shababiyah		27500	NILESAT
11.014 H	TV-DIG-CRYPT	EUB002KB 40	120	SPACE TOON		27500	Orbit
11.014 H	TV-DIG	EUB002KB 40	120	Dardachat		27500	Orbit
11.014 H	TV-DIG-CRYPT	EUB002KB 40	120	MGM		27500	Orbit

▲ ...and with one click a satellite's footprint is blended onto the channel table.





# DVBShop TV Player

Alternative software solution for all TechnoTrend receivers

Anybody who purchases an internal PC card or external USB box of German manufacturer TechnoTrend is also provided with the software required to use the device. This TechnoTrend Media Center works well in principle, even though it lacks the finishing touches in some areas and – especially for beginners – a more intuitive interface would be helpful.

DVBShop is TechnoTrend's distribution partner in Germany and based on feedback from its customers it has decided to commission the development of its own TV player software. The project is carried out under the supervision of Bernd Hackbart, who also developed the DVBViewer Pro software, which is distributed via a website by the same name and has gained huge popularity among insiders, and who in the past has uncovered the wide world of possibilities hidden in TechnoTrend hardware.

In future, DVBShop customers will receive the in-house TV player bundled with appropriate hardware.

## Everyday use

The DVBShop TV player is compatible with all TechnoTrend PC products of the Connect and Budget series, no matter whether it's an internal PC card or external USB box, as well as with the TechnoTrend TV stick. Reception of HDTV is possible and if the hardware is equipped with a CI slot, a DVB-S2 tuner or a TechnoTrend remote control you'll be able to use these features as before. We experienced no difficulties whatsoever when installing the software on our lab PC and as far as hardware was concerned we used the TechnoTrend S2-3650CI receiver which was presented in TELE-satellite only recently.

Before we could begin our in-depth test of the software capabilities we first had to run a signal scan. Of course there is a pre-programmed satellite list comprising 160 European, Asian and American satellites, but the default version is not really up to date. Thankfully, however, it can easily be updated via the Internet, for example at <http://joshfun.peque.org/transponders/index.html>.

Just like the TechnoTrend Media Center the DVBShop TV player is compatible with DiSEqC 1.0 and – apart from the standard Ku band – supports C band reception. Even if you use a more exotic LNB you'll be fine using the manual LOF input.

Apart from satellite reception this software is also perfectly suitable for DVB-T and DVB-C with the scanning menu featuring the required options for all three modes.

Signal scans can be performed manually on a selected transponder or on the entire satellite based on the pre-stored

transponder list and can be restricted to FTA only, if required. Instead of a full signal scan overriding the existing list it is also possible to perform an update scan only.

The swiftness of the scanning process was impressive, as it took only slightly more than four minutes to do a full scan on a 90-transponder satellite, even though not all active channels could be found due to the somewhat out-of-date transponder lists.

Once the signal scan is finished the first active channel comes up on screen and with it a clearly arranged info bar is inserted in the lower part of the TV window. The bar displays the name of the current and next events (if provided by the channel operator) as well as the channel number.

The EPG is just as easy to use and – what's even more – it is of the very speedy kind. Simply click on the EPG button in the upper area of the video window and all the information you could ever want becomes available. It's another good thing that events can be selected directly in the EPG for recording – it doesn't get much better than this.

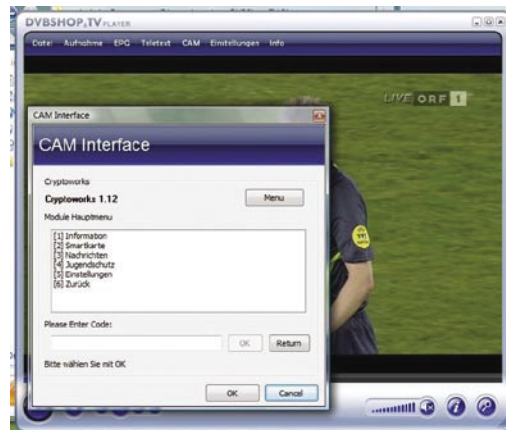
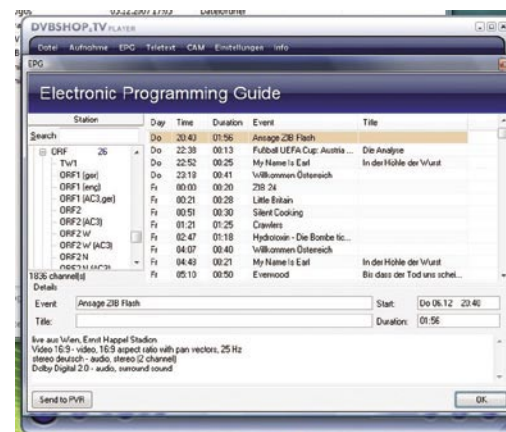
We were also delighted with the time shift mode which allows freezing the currently watched program at any time and continuing playback again at a later time. This is very handy if the phone rings while you're watching your favourite show, for example.

We also tested all the little features that we have come to expect from modern receivers, such as teletext, subtitles (teletext and DVB) as well as CI management. All of these worked flawlessly.

Apart from watching television the software can also be used as media player for all conventional video formats like DivX, MPEG, video CD, ASF, WMV, WMA, OGG and OGM, which makes it an ideal replacement not only for TechnoTrend's own Media Center but for virtually any media player you may have been using so far.

In future the tool is expected to support NVOD services as offered by some pay TV operators like Premiere in Germany and Austria. For the time being, the appropriate on-demand channel has to be looked for manually in the overall channel list, whereas with future NVOD support there will be a dedicated menu item for that.

The DVBShop TV player is available from the DVBShop website at [www.dvbshop.net](http://www.dvbshop.net).





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# Innovation + Communication = INVACOM GLOBAL

Alexander Wiese



**It's not exactly** grammatically correct, but INVACOM's name is derived from those two words: Innovation and Communication. The second word is directly connected with satellite communication and the first word, well, that's actually what we wanted to find out. What is so innovative with INVACOM? To learn more, we took a trip to Stevenage in England north of London. Stevenage was at one time the location of England's largest aircraft manufacturer; today you will find a large shopping center much like those you'd find in the USA. In the same area it is also where you will find INVACOM.

The company has been around since the year 2000. It was founded by two Microwave Engineers, Gary Stafford and Dave Smith, who previously worked for Marconi, where they developed LNBs. They recognized the large Direct Broadcast Satellite (DBS) market and decided to take their ideas and further develop them on their own. They picked up a significant investor in Roger Pannell, who, in 1984, literally founded the

company GLOBAL COMMUNICATIONS in his garage; a company, which specializes in the manufacture of satellite accessories. GLOBAL's first successful product in 1984 was a Magic switch that back then was used to switch between polarizations; DiSEQC switches and other products, such as the tvLINK, came later on.

Roger certainly had the ability to look ahead; in the year 2000 he recognized that

▲ **INVACOM** recently moved into this office complex that from the outside looks unremarkable - their previous location, not far from here, had become too small. Jerry Vaughan's Mitsubishi pickup truck sits here in a visitor's parking space. He's a fisherman and often travels to the country with this truck.

the future of individual components would become very critical. The start of a new LNB manufacturer such as INVACOM opened a completely new perspective for him. Roger Pannell has now taken a five year sabbatical, leaving his position in the capable hands of Tony Taylor, the new Managing Director of Global Communications. Roger



▲ A look at the courtyard. The door to the right leads to INVACOM's warehouse. After the merger between INVACOM and GLOBAL COMMUNICATIONS in early 2007, all of their products reach their customers from this warehouse, previously operated by another company.





# Technomate

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## TM-5000 Series

with USB PVR & Component Output

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Blind Search &  
Sensitive Tuner



- 10,000 Channels • Component (YPbPr) Output
- USB 2.0 for MP3 & JPEG Playback and for Data/Software Transfer\*
- Record to a USB Flash Drive or to an external USB Hard Disc

### TM-5200 D USB

Free-To-Air Satellite Receiver

### TM-5400 CI+ USB

with Card Reader + Common Interface

### TM-5300 D+ USB

with Built-in Smart Card Reader

### TM-5600 CI USB

with Common Interface

**The New**

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- HDMI & Component (YPbPr) Outputs: 1080i, 720p, 576p & 576i
- USB 2.0 for MP3 & JPEG Playback and for Data/Software Transfer
- Record to a USB Flash Drive or to an external USB Hard Disc\*
- Built-in Upscaler to improve standard picture quality
- 1 Smart Card Reader & 2 Common Interface (CI)

### TM-6800 HD

DVB-S/S2 Satellite

### TM-6900 HD COMBO

DVB-S/S2 Satellite & DVB-T Terrestrial

\*may need to be powered





▲ One of the success products from GLOBAL COMMUNICATIONS, originally an INVACOM partner, and now melded into INVACOM: a DiSEqC switch for a US PayTV provider. 10 million of these components were produced and shipped by June 2005. It is, however, a product without much future: today DiSEqC switches are integrated in combination LNBs.

removed himself from active participation in the company and is currently expending his time and energy with aid projects in Africa. It is an extraordinary gesture from a man who never took his personal success for granted and gives some back in an effort to make the world a better place.

After GLOBAL COMMUNICATIONS entered the picture financially as a part owner of INVACOM, the first product appeared on the market: an LNB especially designed for Channel Master UK.

In 2003 the ownership team expanded even more: Jerry Vaughan took over the

Sales and Marketing Department while John Parfitt manages production.

Jerry Vaughan gave us a few more details: "Today INVACOM has 23 employees of which four are Directors, 10 are Design Engineers, five are in production, two are in the warehouse and logistics and two more in sales and management."

Jerry told us even more, namely the unusual but gratifying increase in sales figures: "In the fiscal year from April 2005 to March 2006 we had sales of 2.1 million Pounds, a year later, that is, up to March 2007 it was 7 million Pounds, by the end of March 2008 we expect it to be 11 million Pounds."

Sales figures that double every year? Can that be? We were skeptical, and this is where Jerry introduced us the innovations at INVACOM: INVACOM developed special LNBs with or without transceiver and also for Ku-band or Ka-band for leading VSAT Network operators world wide.

One model in addition to the LNB, also includes an OMT and wave guide. These systems are proprietary and are only offered by providers in connection with a service package. For INVACOM they are products that significantly increased sales.

On closer inspection we noticed that much of their sales goes to the USA. Jerry analyzed it for us geographically: "In 2007 55% of our sales went to the USA, 30% ended up in Europe and 15% went to Asia."

For 2008 these numbers will spread even further apart: "65% to the USA", Jerry is confident since the majority of the orders are already in place, "15% to Europe and 20% to Asia."

The management at INVACOM is well aware of the dependency on a few large customers and the negative effects this can

have. And that's when the bundled fibre optic cable appeared from behind Jerry's back. Now what could this be all about?

In fact, Jerry next showed us an LNB with a fibre optic connection. Excuse me? A what? Did I wake up in a space ship? Am I still on Earth? Jerry laughed. "One of our founders, Gary Stafford, came up with this idea in early 2007."

The question of whether this is even technically possible was in the meantime answered; the first prototypes already exist. More development work needs to be done but the system should be on the market by the Spring of 2008.

The most significant advantage of a fibre optic system is the extremely small signal loss. At this point in its development, the signal can be split up to 32 times allowing up to 32 users to be connected without the need for any intermediate signal amplification. Even the question 'how long a cable run can you have?' really no longer comes into play: because of the negligible signal loss, cable runs can be quite long.

Andrew, INVACOM's fibre Project Manager, explains the technology: "The two polarization levels are stacked on top of each other, that is, we use a bandwidth of 1 to 5 GHz in the transmission laser in the LNB."

Two-way and four-way splitters are used to distribute the fibre optic signal and special wall plates are used to link the fibre optic cable to a standard satellite receiver. These wall plates convert the receiver's control signals for use in the fibre optic cable.

"Why does this LNB still have an 'F' connector?" we asked innocently enough. "The LNB gets its power through this connector," explains Andrew, "because power can't be delivered via a fibre optic cable." But, of course.

The use of fibre optic cables to carry satellite signals is so new that we never even considered the consequences.

This technology is highly interesting and was conceived with the future in mind. No longer any attenuation: extremely long distances can now be spanned! Star distribution systems are a thing of the past! Fibre optic cables are much thinner than coax cables! If you bundle a number of fiber optic cables together, a large number of satellite signals can thus be accessed.

Much of this is still in the future. One advantage is that pre prepared fibre optic cables can be used. Regardless of how long



▲ Tony Taylor is Managing Director. Tony, who lived for many years in France and Germany and who speaks both languages fluently, is showing us here the Award INVACOM received from ASTRA for the development of the fibre optic technology.



Arabic	العربية	www.TELE-satellite.com/TELE-satellite-0803/ara/invacom.pdf
Indonesian	Indonesia	www.TELE-satellite.com/TELE-satellite-0803/bid/invacom.pdf
Bulgarian	Български	www.TELE-satellite.com/TELE-satellite-0803/bul/invacom.pdf
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Italian	Italiano	www.TELE-satellite.com/TELE-satellite-0803/ita/invacom.pdf
Hungarian	Magyar	www.TELE-satellite.com/TELE-satellite-0803/mag/invacom.pdf
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Turkish	Türkçe	www.TELE-satellite.com/TELE-satellite-0803/tur/invacom.pdf

of a cable run is to be the losses are insignificant (0.3db per km), the installer uses cables that already have connectors mounted on each end. Should surplus fibre be left over during installation it can be left coiled in cavity walls floor or roof spaces. Other advantages are that fibre is cheaper than coax, easier to store and lighter to transport.

If this technology catches on, and there's no reason why it shouldn't, then it won't take long before receivers will come with the necessary fibre optic connection for the LNB.

This should all be very thoroughly thought out; what could the consequences of this technology be? What, for example, will become of the looped-through output? And what about two, three, four, five or six receiver systems when it will be so easy for the satellite signal to be multiplied?

TELE-satellite will be reporting on this system in their upcoming 04/2008 issue. Until then, ready-to-use components from the regular manufacturing line will be available. If you want to get a look at this new technology yourself, simply pay a visit to ANGA 2008 -

Jerry Vaughan will be introducing these fibre optic LNBs at the *NEW GLOBAL INVACOM* booth.

Despite this exceptionally new technology, there are still more innovations with Invacom. A high-performance switch will be introduced in an upcoming issue of TELE-satellite and in a subsequent issue a stacker will be highlighted: it will take a polarization level and give it a frequency shift resulting in some interesting possibilities.

INVACOM: this company certainly lives up to its name!



▲ Jerry in his Command Central. The in-house safety people were undoubtedly right in insisting that the laptop be mounted on a pedestal so that the display would be at eye-level for the user. Sue Twomey, in the background, works with Jerry handling marketing and management affairs.



▲ Even the electronics in the LNB is simulated. Adrian Brixton is seen here with a PCB simulator. He designs the circuit concept and then uses the PC to determine if it will function as planned in the real world.



▲ How do you test the concept of your LNB? Today, this is also handled electronically. Chris Timmins demonstrates the "HF Structure Simulator" software: it simulates the behavior of an LNB and its feed. Here, Chris is in the process of optimizing the polarizer of an LNB model. He adjusts a few parameters, simulates a satellite signal and checks for any improvement.



▲ INVACOM products are manufactured in China under constant supervision. Thanks to Skype, this is today no longer a cost issue: INVACOM telephones the manufacturer every morning to discuss the day's production. One Internet server is constantly fed with live production data that INVACOM permanently has at their fingertips. But virtual values must also be checked in the real world. Here we see Andy Bolt checking out the LOF of a recently delivered LNB: everything looks OK, the spektrum analyzer shows a spike at 9.75 GHz; a push of a switch and the spike now sits at 10.6 GHz. Perfect!





Dave Smith is Technical Director and one of the three founders of INVACOM



Gary Stafford, a.k.a. 'the crazy professor', is Managing Director and another founder of INVACOM



John Parfitt is Operating Officer and joined INVACOM in 2003 as a partner. He previously worked for Marconi and Channel Master.



Roger Pannell made their success possible: he invested in INVACOM and later merged his company GLOBAL COMMUNICATIONS with INVACOM. GLOBAL COMMUNICATIONS operates from another location and deals with accessories such as DiSEqC switches. GLOBAL COMMUNICATIONS lists 45 employees, but the warehouse and shipping are managed centrally by INVACOM.



Jerry Vaughan has been an INVACOM partner since 2003. He is a marketing oldtimer with 30 years of experience of which 15 years were with SIS, Hughes Network Systems and Red Wing Satellite Solutions, an uplink provider.

## Here INVACOM is constructing the future



Andrew is INVACOM's Fibre Project Manager. He has the stressful job of building a new future: linking the LNB with fibre optic cables.



Mike checks out the prototypes. Here we see a sample product: an artificially produced satellite signal is sent over a 30-meter long fibre optic cable to a converter. He uses a test probe to determine if the original signals arrive at the analyzers within tolerance.



This is what the wall plate prototype looks like: the fibre optic input is on the front while the standard connection for a receiver coax cable is on the back. As you can see, the wall plate needs power. In actual use later, the wall plate will get its power from the satellite receiver's LNB input.



The future has already started and TELE-satellite readers already know more: here is the first prototype of an LNB with a fibre optic connection. The "F" connector is only used to supply the LNB with power.





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IP PVR means: Record Video in MPEG format directly over your LAN Home Network to the hard disk of your Personal Computer (Windows). You can download the needed Software Tool from <http://www.nanoxx.info>.

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# NANOXX



# Jiuzhou turns 50

## Alexander Wiese

**Jiuzhou was founded in 1958** and at that time was a manufacturer of communications components. Their headquarters was and still is in Mianyang City in the Sichuan province, one of the high-tech industrial centers of China. Today this company is made up of a conglomerate of 48 different firms that are all connected with the communications industry. Because of its size, Jiuzhou belongs to the top 500 Chinese companies. Last year they were ranked 264 in this list that is updated yearly. Their 50th anniversary was reason enough for us to pay a visit to Jiuzhou's Shenzhen Branch, which relates to satellite receiver products.

We already reported on Jiuzhou back in our 03/2007 issue and mentioned among other things that they were the only satellite company with a Metro station located in their facility. But in the meantime, Jiuzhou moved to a much larger office complex. And wouldn't you know it, the Metro station is not on their grounds but a few 100 meters away: shortly after the publication of this issue the Ke Ji Yuan station on the prolongation of Shenzhen's #1 Metro line will be opened. That's a nice birthday present for Jiuzhou!

Mr. Nung Yue, in charge of Jiuzhou's building operations, explained to us, "Construction began in 2003 and was completed in 2007. We now have a total of 36,000 Sq-m of office space at our disposal." At the moment, not all of this space is in use. There are currently 2000 employees working in the nine-story building. "The building can actually handle up to 4000 employees", revealed Nung Yue. Obviously, Jiuzhou's management has quite an optimistic outlook for the future.

Now, what does management have to say? We asked Shenzhen Jiuzhou Electric Co., Ltd. General Manager York Xie about the situation at Jiuzhou. He told us, "In 2007 we realized sales of US\$ 120 million. In 2008 we are expecting an increase of about 60%." Wow, that's the kind of increase that most other companies can only dream about. We wanted to know how these sales are distributed. York

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▲ On the roof of the Jiuzhou Electric building: seven dishes, naturally from their own production line, were professional erected so that the development engineers can receive all of the receivable satellites with maximum signal strength. Nung Yue, responsible for building operations, can be seen here with a developmental engineer.



▲ Jiuzhou's General Manager in Shenzhen/China is York Xie

Xie explains: "50% of our production goes to the local Chinese market and the other 50% is exported." He also gave us a look at their business politics: "40% of our sales are related to production for dealers while 60% is geared towards programming providers." The latter is quite noteworthy because these providers are actually quite picky about who supplies their receivers. Their business model is based on the receivers not only providing perfect reception but also that they function reliably and that customer support is guaranteed even after years. "These requirements can be fulfilled by only a few manufacturers", explains York Xie, "In China there are only two such qualified manufacturers, and one of them is Jiuzhou."

10% to Eastern Europe and 10% to North Africa." Most of the dishes are OEM, that is, they are delivered from the factory with the customer's logo already stamped on the antenna.

Professional headends are also produced by Jiuzhou. We spoke with Yonchin Shou, Sichuan Jiuzhou Electronic Technology Co., Ltd. Export Department Director, about this side of their business. He explained, "Our customers are naturally local distributors and even a few cable companies." Yonchin Shou explained the geographical distribution and surprised us by revealing

But Jiuzhou isn't just a receiver manufacturer (not only DVB STB but also ATSC STB and IP STB), they also manufacture dishes. Daisy Liu from Sichuan Jiuzhou Electronic Technology Co., Ltd. is the Project Manager of Dish Antennas, and told us, "Jiuzhou manufactures Ku-band antennas such as 45, 60, 75, 90 and 92.5 cm dishes." Dishes are also manufactured for the C-band in 1.2, 1.5, 1.8 and 2.4-meters.

"The 60 and 75 cm sizes are our best sellers", she reveals, "60% of our production is exported, of that 60% goes to the Middle East, 20% to South America,

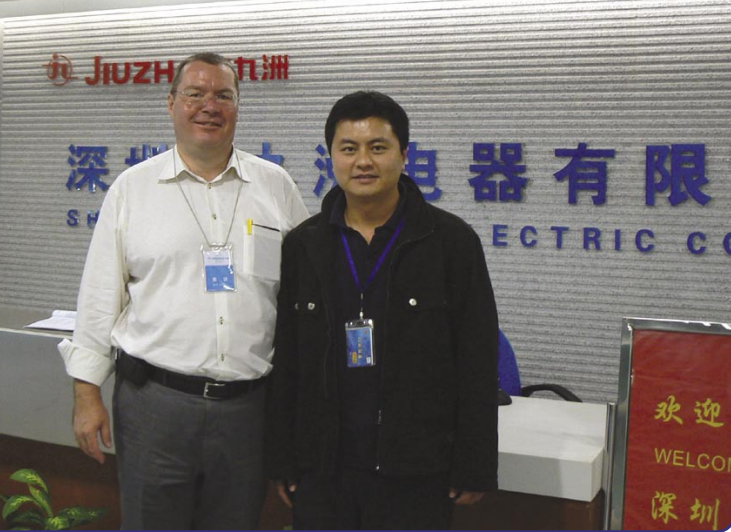
◀ Jiuzhou's imposing new office building in Nanshan's southern technology park, a part of Shenzhen city. The nine-story building houses the offices, the building to the right houses the reception hall as well as a café and recreation room. The building doesn't have nine stories arbitrarily: "Jiu" in Chinese means "nine". Since this is the last and highest number, "Jiu" also means "long life".



▲ Who wouldn't want to buy a dish from Daisy Liu? She is Project Manager in the Dish Antennas Business field.







that 40% of these products go to Latin America. "30% goes to Eastern Europe including Russia, 20% to the Middle East and 10% to Southeast Asia." This distribution, which we did not expect, explained Yonchin Shou with a

◀ **David Xia, right, is the Overseas Sales Manager and is explaining to Alexander Wiese the sales success of Jiuzhou's satellite receivers.**

wink of his eye, "It's the price – our products are roughly half of other overseas manufacturers, but mostly higher than other Chinese manufacturers" In this way Jiuzhou can get a high market share in Latin America, because in those countries quality is the most important criteria. 20% of their professional production is geared towards analog technology, 30% to digital and 50% is for fiber optic networks.

Jiuzhou is also a source for

◀ **Components are checked before and during production. Here we see two technicians working in the test lab.**



LNBs. We spoke with Jerry Chu, Vice President of Shenzhen Xiang-Cheng Electronic Technology Co., Ltd, a sister company of Jiuzhou and also headquartered in the new Jiuzhou office building. He told us, "In China we are the first to release a monoblock LNB for an offset of 4.3° to the marketplace." It's meant for the European arena for reception of ASTRA at 19.2° and 23.5°, or also 23.5° and 28.2°. It's an excellent solution if the HDTV channels are to be

◀ **Even the software has to be tested. Here a technician is checking the software functions of a Jiuzhou receiver.**



received at the same time. "We offer the monoblock LNB in all the different variations: single, twin and even quad." Jiuzhou

◀ **12:00 noon is lunchtime. Jiuzhou's canteen offers their employees a large variety of lunch dishes. Jiuzhou takes care of its employees. They work from 8:30AM to 6PM and on Saturdays to 12PM. Their lunch hour is actually one and a half hours during which many employees take advantage of an afternoon nap, a common practice in China.**



also offers monoblock LNBS with 3° and 6° offsets. And beyond all of that, C-band LNBS are also manufactured, "but they only make up about 5% of our sales and those numbers continue to decrease", revealed Jerry Chu, "Multiswitches are doing quite well for us; we've been making them since 2007 and offer them as OEM products." They are also planning for the future: "An engineering team is busy working on developing LNBS for the Ka-band but they will only reach the market in a few years", at a point in time when Jerry Chu expects that demand will be there for them. He can increase LNB production to a maximum of 1,000,000 pieces per month.

Now we wanted to know what their satellite receiver sales looked like. The best person for this question is David Xia,

**This is Linda Lee. She is the Assistant Director in the Overseas Marketing Department and handles Jiuzhou's marketing in the media and at trade shows. She travels quite a bit, "I was recently at a trade show in France", she tells us of her travels. She always puts her heart and soul into her work. "I am proud of this company; we are all like one big family." Company events, such as sports, involving all of their employees regularly take place at Jiuzhou. The idea is that all their employees should feel a connection with their company. It's no surprise that it's fun to work at Jiuzhou; the successes of this company make every employee happy.**





Shenzhen Jiuzhou Electric Co., Ltd Overseas Sales Manager. He leads 19 employees in export sales team. He took a look at his statistics and explained, "45% of our receivers go to Europe and 50% end up in the Middle East including Turkey and North Africa with the remaining going everywhere else."

David Xia is looking at a new market in North America. "In 2008 we want to expand our exports to that region", he explained, and it will mostly involve receivers for the American terrestrial HDTV ATSC market. "At maximum capacity we can produce 900,000 boxes a month", comments David Xia, "and thus far we have managed to increase overseas sales 30% every year."

We also spoke with him about

Jiuzhou's market politics: "In some markets we use our own brand name that we want to position in the high-end sector."

**"In peace lies strength" says Buddha. Thus, Jerry Chu, Vice President of Jiuzhou's sister company that produces LNBs and multi-switches, also cannot be perturbed.**

Jiuzhou also works with some key distributors in different markets for OEM/ODM business. "We have already successfully introduced our brand names in countries such as Thailand and Indonesia", reveals David Xia, "These countries are fairly close to us but we want to expand to other countries in small steps, in particular Asia and Australia." Another large target market for 2008 is Latin America.

Last, but not least, Shenzhen Jiuzhou Electric Co., Ltd. Gen-

**Yonchin Shou is Director Export Department and responsible for the professional products.**

eral Manager York Xie revealed to us some new products, that will be launched soon:

- HD DVB-S2 CI (Jan/2008)
- HD DVB-T CI (Feb/2008)
- ATSC-T HD STB (Jan/2008)
- ISDB-T STB (Jun/2008)
- HD Viaccess DVB-S2

(July/2008).

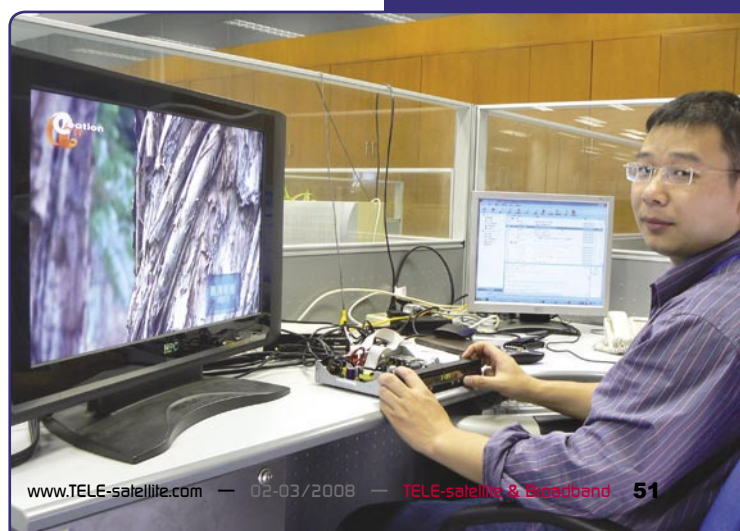
Jiuzhou is a large series manufacturer that, with excellent technicians and engineers, develops and produces products that are sophisticated yet economical. Sure enough, this strategy as a large manufac-

**Here the engineers are working on the further development of DVB-S boxes.**

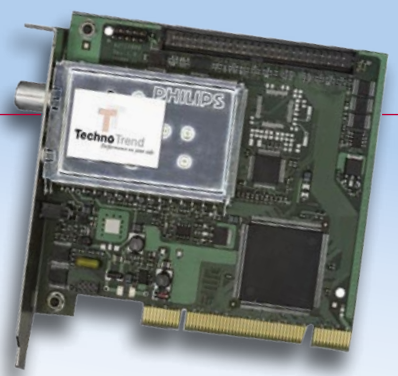
turer in a globalized world with its stiff competition has definitely proven itself. Jiuzhou has developed this strategy so much and achieved corresponding growth rates with concentration on one goal: that is high quality with high production capacity.

Jiuzhou can proudly celebrate their 50th birthday in 2008!

**An engineer is working on the software for an HDTV box.**







# DVBShop Worldwide

There aren't too many satellite dealers that can say they are active worldwide. Most of them concentrate on their own country and maybe a few neighboring countries. One of the few active worldwide dealers is DVBShop in Germany. We wanted to know how DVBShop became one of the pioneering worldwide satellite dealers and decided to pay a visit to Axel Hundt, a majority owner in DVBShop, at the Munich Airport. We really didn't have to travel far; Munich is also home to TELE-satellite.

Of course, there's a story behind why DVBShop developed itself into a worldwide company and how a number of coincidences played a roll in that development. But first we wanted to find out from Axel Hundt how it all started. He explained to us, "I started working back in 1987 as a Project Manager

and later on as a Purchasing Manager for a company in the computer field."

In 1994 he switched from being an employee to being an owner: he founded the company "Columbus Computer" and distributed PC components. That worked out so well that he ended up with 28 employees. IAT Multimedia, a big name in the industry, found out about Axel Hundt's young company and

bought it from him in 1998. "It turned out to be a good move: half of the purchase price I received as cash and the other half was in the form of stock", he remembers. He also had no problems giving nearly half of the cash away as capital gains taxes – he still had the stock. The purchase contract saw to it that he remained in charge of the company for another three years.

At the end of his three-year contract, Axel Hundt backed away from the IT industry and worked as an independent management consultant for various medium-sized firms in the controlling, finance, accounting and logistics department. During this time he was able to find time again for his hobby: satellite reception with PC cards, something he had already occupied himself with since 1998: early on he constructed a PVR with which he simply recorded MPG2 streams.

**DVBShop has its headquarters in this modern office complex near the Munich Airport.**

In 2001, mostly out of boredom, he decided to pay a visit to the CeBIT computer trade show in Hannover, Germany. While stopping by the TechnoTrend booth, he discovered a PC card that could do everything

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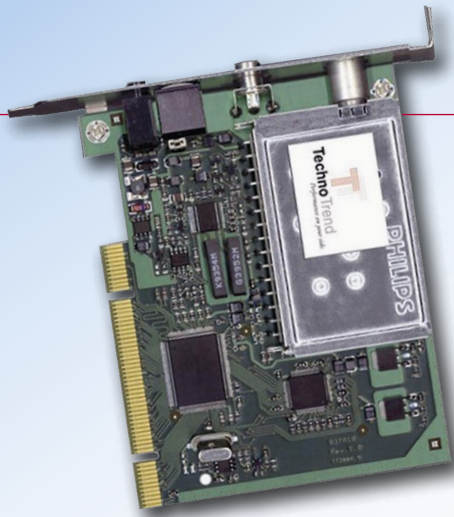
d=48.8m  
 h=26.3m

### References



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to do with them. Axel Hundt saw his chance but there was a catch: "I was not allowed to sell these cards in Germany."

This restriction would have scared others away but Axel Hundt saw this as a golden opportunity and focused himself on selling these cards internationally. This turned out to be the cornerstone of his new company that he founded in 2001 and named DVBS-Shop: an appropriate name – his company was a shop and he sold DVB components.

you could possibly want a PC card to do. He asked what 500 of these model S1600 PC cards would cost and immediately placed an order. Not one week later a truck pulled up to his garage and unloaded a palette.

Now he had to get rid of these PC cards. He started by contacting a DXer friend and offering these cards on various satellite forums in the Internet. He couldn't believe it: in just two months he sold all of his PC cards!

"I ordered a second shipment right away and found out that there was a 2-3 month backorder." What to do now?

"Then I remembered a friend I had at Siemens; I knew that they also bought these cards." Then came the surprise: Siemens had 6,500 of the previous model S1300 cards in stock and didn't exactly know what

Since he was compelled to focus his efforts internationally, he dedicated himself intensely to this theme: "I set up my website first in English and learned how to fill out customs paperwork for shipments all over the world," he explained, "Today, DVBS-Shop delivers to every country in the world; we know the shipping costs and customs formalities for each country."

By the end of 2001, he had three employees; the business flourished to the point that his garage was no longer big enough no matter how hard he tried to squeeze everything in it. "The company that supplied my packing materials became my fulfillment center in early 2004." This finally gave him some time to expand on his website by adding additional languages, a download section, a forum and a currency calculator. He also expanded his product range by adding DVB-C and DVB-T.

Another development that helped bring DVBS-Shop to its current position was shipping costs. While in the beginning it was a lucky coincidence that Axel Hundt was close to the Munich Airport and thus had a short trip to deliver his products all over the world, globalization set up new hurdles for him: DHL opened a freight hub in Leipzig in eastern Germany and started by offering very inexpensive shipping rates. For a global company such as DVBS-Shop that in 2005 had 80% of its sales ship internationally, freight charges were a very high cost factor.

What did Axel Hundt do about this? As in the past where he was compelled to focus on international sales, he came up with something good out of necessity: "One of my biggest customers in Germany was Mario Giebler who happened to be near Leipzig. He sold almost exclusively within Germany."

It didn't take long for things to click. "We mutually decided to form a corporation." Axel Hundt dealt with all the international customers while Mario Giebler focused on the domestic clientele with its much cheaper shipping costs.

We asked Mario Giebler how he ended up selling satellite components: "Actually I am an electrical installer", he explained. He worked with a small installation company with 7-8 employees.

"In 1995 my boss at that time decided to also offer satellite antenna installations", he remembers, "I installed my first antenna in 1995; a simple 60 cm ASTRA system."

In the year 2000, he decided to start selling satellite components on the side. He founded his own website through which he sold PC cards. Back then an Internet-via-Satellite service started that financially supported the necessary PC cards for data reception. Clever handymen quickly discovered how to convert these data cards so that they could also receive TV and radio. These subsidized cards became popular overnight. Mario had the right product at the right time.

In 2003 he gave up on his original job and focused himself fulltime on his website. He soon found a new supplier for the PC cards that he sold: DVBS-Shop.

DVBS-Shop became a corporation in March 2005; Axel Hundt had 80% ownership and Mario Giebler had 20%. In 2007, DVBS-Shop sold more than 30,000 PC cards around the world, although, Axel Hundt is not sure if these numbers will increase appreciably in 2008.

"It depends on whether or not we will find

◀ Orders are handled the very same day. No problem since the warehouse is nicely stocked. Even larger orders can be taken care of immediately.







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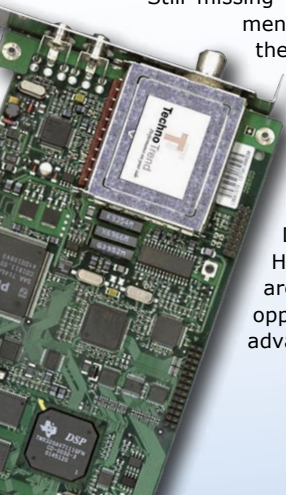
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additional distributors", he said revealing his strategy. "The PC card business looks good in the Middle East, North America, South America and the CIS countries", expects Axel Hundt. He is inviting wholesalers and retailers in these areas to work together with DVBSHOP. He knows what cards are needed in each of these countries and also how to ship them.

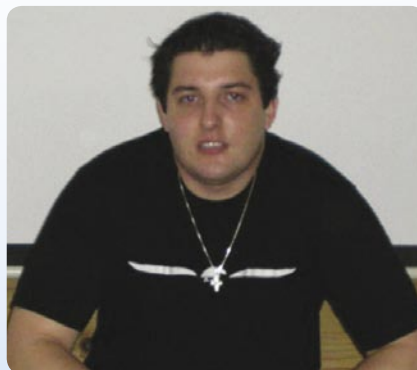
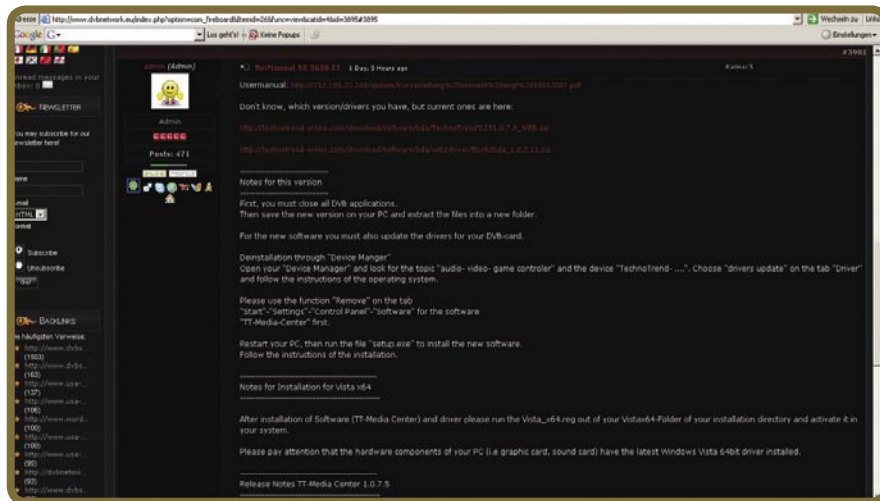
On the subject of HDTV, Axel Hundt told us that in 2007 40% of the PC cards that were sold were equipped with DVB-S2 tuners. "For 2008 we expect an increase to 60% and in 2009 100% of the PC cards sold should be the DVB-S2 version." An interesting note: if you are still buying DVB-S cards in large quantities, you should get rid of them as soon as possible – just another argument that you should work with a professional who knows his way around in the market.

"Still missing is a card with a CAM", comments Axel Hundt who regrets that the PC card manufacturers often still think nationally and don't pay much attention to the global market.

And that's just the kind of chance for a company such as DVBSHOP. In conclusion Axel Hundt stated that, "Obstacles are not a problem, they are an opportunity that you must take advantage of!"



## DVBSHOP Customer Service



▲ Customer questions are answered in the www.dvbnetwork.eu forum. The installation of a PC card can sometimes be complicated since every PC is configured differently. Fortunately, most of the problems have been seen before. The forum's search function finds the answers.

◀ Daniel Bechter moderates the DVBNETWORK forum. He is a computer specialist and explained to us, "I bought my first PC card in 2000; it was a premium card from TechnoTrend." His primary interest is in Home Theater. He tests every new PC card that becomes part of DVBSHOP's program.



# Infosat goes Quality

In TELE-satellite 03/2007 we ran a story about satellite wholesaler INFOSAT from Bangkok, Thailand, followed in the next issue by a report covering the manufacturing of dishes at INFOSAT. Now it was time to check how things have progressed in the meantime. So off we went, to Bangkok. The first surprise met our eyes even before we entered the premises: it was a huge poster on the facade of the INFOSAT office complex.

Niran Tangpiroontham is the owner and managing director of INFOSAT and he insisted on this visual presentation of his company's successes over the last twelve years. Even from far away the huge poster draws attention to the company. It shows two of the dishes that are manufactured by INFOSAT, one being black and the other one being a white model. "Did you know that our range now includes coloured dishes as well?" Niran asks and puzzles us to some extent. Coloured mesh dishes? Now that's something we haven't seen before. Here's Niran's account of what led to this decision: "One of our clients is AMATA, a company in Cambodia. Their corporate identity is based on the colour purple and that's why

we started to manufacture purple dishes for this particular client." Other large customers in Thailand get their INFOSAT dishes also in red and pink. These are unusual colours that create a lot of attention. "Silver coloured dishes have been on offer for about a year, these new colours have only complemented our range for a few months," explains Niran.

When asked by us how his company has performed Niran quickly provides some impressive hard facts: the staff count was 60 last year and has meanwhile increased to 70. The annual sales volume increased from 7.5 million USD in 2006 to 9 million USD this year, and he expects another 20% rise for 2008. "While last year some 40%

of sales were generated in the professional segments, mainly for cable reception, the TVRO segment has increased to 75%. This can be attributed to our focus on improving the quality of our products." The ZIMPLE Box 3 satellite receiver offered by INFOSAT which was tested by TELE-satellite only recently, was audited by the Thai Institute for Electrical Equipment and was awarded a seal of approval. "Even the production process for our dishes has been audited," says Niran and proudly shows us a sticker which can be found on the packaging of every single dish leaving the factory. "This certificate was awarded to INFOSAT by the Thai Export Department and means that INFOSAT is a state-certified company fulfilling all quality norms and export regulations." The certificate is examined on an annual basis and re-issued if all criteria are met. This way the Thai government makes sure that its quality standards are met.

Drivers on this expressway in Bangkok's north are greeted by the huge INFOSAT poster. Four blocks of this complex belong to INFOSAT and house administrative offices as well as the warehouse for small parts such as receivers, cables and LNBS.



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▲ Each INFOSAT package leaving the factory bears a quality seal awarded by the Thai government and being re-audited on an annual basis.



▲ Niran's latest marketing idea: mesh dishes in various colours. From left to right: silver, pink, purple, red and good old black. "Blue dishes are also in the pipeline," says Niran. And that's a bit of relief, as the current range of colours is... well... unusual, to say the least.



▲ Niran Tangpiroontham, INFOSAT owner and managing director in the Quality Control Room: it is here that the features of ZIMPLE Box 3 receivers are checked. Not a real problem, as almost 40 permanently installed dishes are installed on the roof.

Niran has also invested heavily in quality improvements for the dish manufacturing workshop. Professional machinery is now being used in the production process. According to Niran "the quality of our dishes

has improved to such an extent that a 1.3 m dish we produce today has the same reception capacity as a 1.6 m dish that we used to manufacture before." Niran has put the enormous improvements to use by extend-

ing the range of products on offer. "Today we can offer dishes with diameters of 1.3, 1.5, 1.6, 1.8, 2.1 and 3.0 metres." The best selling product for the local market is the 1.3 m dish which 60% of our customers go for, followed by the 1.5 m dish requested by 20 of our customers, and the 1.6 m dish. Larger versions with 1.8 m or more are mostly exported. "Just recently we received a request for a large dish, this time for Nigeria," Niran reveals his company's order status. We're talking about a complete container filled with dishes, because everything less wouldn't justify the considerable transport costs.



◀ New at INFOSAT: this new punching machine is used in-house to punch the meshes into the aluminium sheet. This way the quality can be checked first-hand.



▲ The pressing machine visible in the background is one of the reasons for improved quality: it presses the cut and formed components into the right parabolic shape. Previously, the formed components were put on a mirror frame and clamped in. Thanks to shaping before assembly, the measuredness of the parabolic shape is now increased.



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<b>Channel Name</b> (wildcard ? or * are allowed)	<b>Provider Name</b> (wildcard ? or * are allowed)	<b>Main Languages</b> (wildcard ? or * are allowed)	
<b>Frequency</b> (range in MHz) 000000 — 999999	<b>Polarization</b> (choice which types you want) <input checked="" type="checkbox"/> Horizontal <input checked="" type="checkbox"/> Vertical <input checked="" type="checkbox"/> Left <input checked="" type="checkbox"/> Right	<b>Channel List - Export Format</b> <input type="radio"/> SDX (SatcoDX) <input type="radio"/> CSV (ASCII) <input type="radio"/> DVB (DVSO) <input type="radio"/> DAT (ProgDVB)	
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▲ Finished dishes waiting for dispatch.

What is a plot of unused land today will house Niran's new manufacturing plant in two years' time – offering three times the space of the current factory.

Finally, Niran draws our attention to an empty plot of land. "This is where I will build a new factory – three times the size of the current complex and ready for use by 2010." Niran is an ambitious man and apparently he has a nose for detecting new market niches. A noteworthy success story in the satellite business!



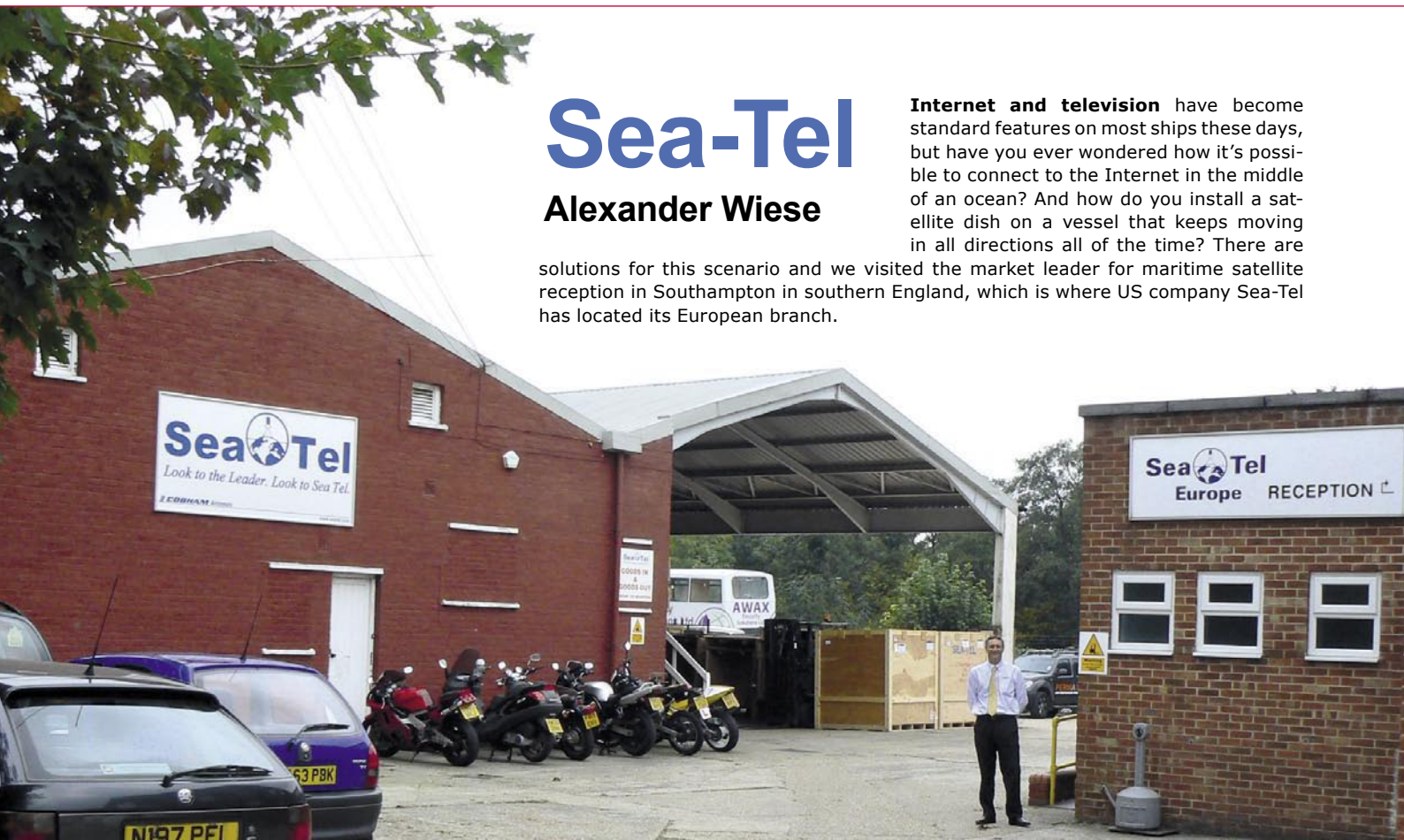


# Sea-Tel

Alexander Wiese

solutions for this scenario and we visited the market leader for maritime satellite reception in Southampton in southern England, which is where US company Sea-Tel has located its European branch.

**Internet and television** have become standard features on most ships these days, but have you ever wondered how it's possible to connect to the Internet in the middle of an ocean? And how do you install a satellite dish on a vessel that keeps moving in all directions all of the time? There are



▲ Right next to the railway line to London and very close to Southampton airport is where Sea-Tel has established its European branch. The warehouse is to the left and the office building with Peter Broadhurst, Sea-Tel Vice President, in front is to the right.

Sea-Tel was founded in 1978 by design engineer Robert J. Matthews. Before becoming an entrepreneur, he had worked for COMSAT und was in charge of developing the first maritime stabilized satellite reception system in the world.

The specifications were based on current military designs which meant that the specifications were very sophisticated, which

is usually the case for military jobs. One day Robert J. Matthews thought to himself that there must be a less expensive way to achieve the same goal and decided to found his own company, Sea-Tel.

He literally started out in his garage, and since both his house and his garage are in Concord, some 100 km east of San Francisco, Sea-Tel still has its headquarters far



inland rather than on the coast.

Meanwhile Sea-Tel has changed owners and now belongs to the Cobham corporation, which possesses a number of companies in the military and technical fields. Sea-Tel Vice President Peter Broadhurst



◀ Stuart Broadfield, Training/Services, shows us the inside of an antenna of the Coastal range: the parabolic antenna is very deep and rotates in relation to elevation and azimuth. Since all Sea-Tel systems are based on the cassegrain concept the LNB is located on the back, as can be seen on this picture, and a motor keeps moving the LNB in place for the correct reception position. "All control signals are transmitted via the coax cable," explains Stuart, "in order to minimise the number of connections and facilitate installation." The rotation range of the antenna comprises 680° which means the antenna can complete almost two full rotations before reaching a dead stop.





off," according to Peter and he goes on to explain why. "Our growth has continued with over 20% growth year on year and now accounts for a \$100 Million + turnover .

It's interesting to observe how this business changes over time and even re-invents itself again and again. According to Peter "we have only begun to offer VSAT systems in 2003 and today VSAT generates 65% of our turnover." The remaining 35% are generated with TVRO equipment.

Since ships are hardly ever stationary it is difficult to geographically define where most customers come from. Peter estimates that some 45% are European customers, 40% Americans and 15% Asians.

This distribution explains why Sea-Tel has established a European branch in Southampton. "We have 35 staff members here in Southampton," says Peter "and in the headquarters in the US we employ 215 persons, as this is where the antennas are actually manufactured."

Other support offices are located in Norway, Florida and possibly soon also in Singapore. "We are currently in the process of setting up an office in Asia to establish closer ties with our Asian customers," Peter hints at his future expansion plans.

So who is actually looking for self-guiding 3-axis satellite reception units? "The majority of customers come from oil and natural gas companies which equip both their drilling platforms and their service vessels with our antenna systems," elaborates Peter and produces a big smile before continuing that "the Norwegian authorities have passed regulations that require all ships to be equipped with a TV reception system for the entertainment of the crew onboard." Talk about good intentions! If similar regulations are passed in other countries that would please Sea-Tel no end, for sure.

Another important customer segment with a 25% share are yachts and pleasure ships, meaning privately owned ships. Some 10% of Sea-Tel systems go to commercial shipping, i.e. freight ships. All of these segments show an upward trend, while the cruise ship business is steady at 10% and the OEM segment at 5%. The remaining 10% go to fishery ships, but this segment is shrinking in volume.

For those of us not too familiar with the business Peter sheds some light on the way the ship-building business works. "If you order a ship today, it will be finished by 2010 or 2011." Will requirements and demands have changed by then? Will the oil price have risen further? Or perhaps eased again? Will all ships on order now really be required and will all of these new ships need

▲ The intermediate '04' range features more sophisticated technology: it creates an artificial horizon by always keeping the dish mount in a level position. The box to the left on the right arm contains the control unit for this system and the box to the right of the arm contains a GPS receiver. In this setup, the LNB is only rotated for fine-tuning the skew. The rotating unit is connected electronically via a slider, so that it can rotate endlessly without reaching a dead stop.

explains us why Matthews sold his company to Cobham: "He was in his 70s already, the company was expanding fast, and it was only the next logical step to sell the com-

pany to sustain the level of growth." The price that was paid then for Sea-Tel was approximately equivalent to the annual turnover. "For Cobham the investment paid



▲ This is the control unit on the 19" rack. The display shows the degree value – here you can see 013 E for the HOTBIRD satellite – and the threshold setting as well as the NID (network identification) PID for detecting HOTBIRD.



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View of the warehouse: "You're looking at items worth 2 million US\$," says Peter Broadhurst. It takes six weeks for the equipment to reach the warehouse in Southampton from the US. "Our top selling system is the 100cm VSAT antenna," according to Peter, and he adds that "we have sold more than 2000 of these so far."

Sea-Tel offers three production series: the Coastal series with dish sizes between 30 and 80 cm, the '04' series from 80 to 150 cm and the '97' series from 200 to 360 cm, which is also suitable for C band reception. Sea-Tel only delivers to specialised dealers and the prices range from 4,400 US\$ for a simple 30 cm system all the way up to 90,000 US\$ for the 360 cm variant. "Cruise ships mostly use the 200 cm type, and usually they install two systems per ship for operational reliability," explains Peter.



◀ Amy Bishop in the spare parts warehouse. Sea-Tel can supply spare parts for products that were produced ten years ago. And since all products are manufactured by Sea-Tel itself and all production documentation is readily available spare parts can even be reproduced in special cases. This way Sea-Tel can guarantee its customers extremely long periods of operation and a high level of operational reliability.

satellite reception? For Sea-Tel the answer not only lies in excellent manufacturing standards but also in excellent after sales service.

And of course in tapping into new markets like the Internet. "After all, guests on a cruise ship expect a working Internet connection these days," explains Peter – or more than that. "We even offer solutions which allow using ones own mobile phone via so-called pico spots."

Another business for the future is mobile reception systems for trains. "Railway companies are increasingly competing against airlines and therefore are upgrading the services they offer," explains Peter.

The first client is Thales, which will offer Internet in their trains from 2008 through a company called 21net. Ku band capacity of HISPASAT will be used to this end and inside the trains customers will be able to access an Internet server via WiFi.

Sea-Tel will provide the mobile VSAT equipment which will be specially adapted to fit this new field of application: the antennas will have a limited elevation range because it is known beforehand, in which latitudes the trains will run. This way the antenna can be kept very compact in order to minimise aerodynamic drag.

Sea-Tel is operating in a fascinating niche market. And it can be expected that this





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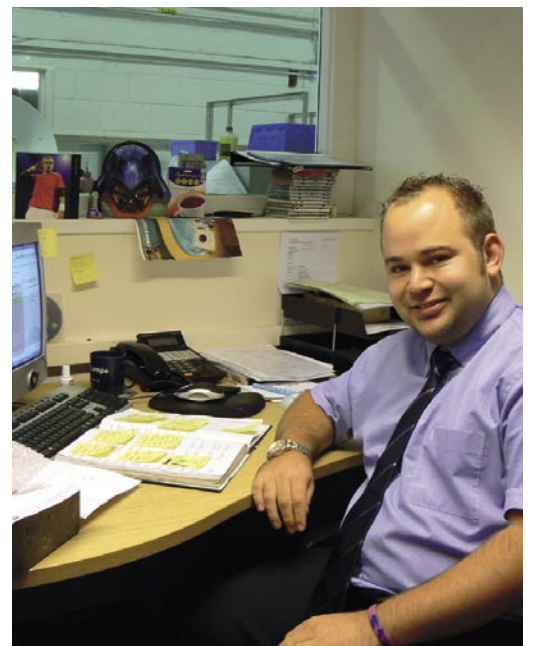
◀ View of the sales team office: Vice President Peter Broadhurst to the left and Sales Coordinator Samantha Whittlesey to the right.



▲ Sea-Tel places great importance on its technical customer service. Jake Barrow-Sutton is one of the service technicians.

niche will keep growing because the world is getting more mobile and satellite reception on ships and in trains as well as in planes and in passenger cars has become technically feasible.

So the prospects for the future look very promising.



▲ Aaron Peach is the production scheduler and responsible for making sure all required items are available on time and fully tested for delivery to the customers.



# SatExpo



For many years **SatExpo in Vicenza/Italy** was the annual get-together of the satellite industry in southern Europe. But after pay TV provider Sky Italia had established almost a monopoly for satellite reception, FTA reception in Italy has become an ever smaller segment.

Most traditional satellite companies in Italy saw their revenue

shrink and thus couldn't afford a presence at the exhibition.

Now SatExpo is back and has moved to Rome. We asked Ilaria Pivato of exhibition organiser Promospace why the event venue is now Rome.

"Well, in the past many foreign visitors and participators had no idea where Vicenza was. Some even confused Vicenza with Venice." Actually, Venice is not far away, but getting to Vicenza was a bit difficult and visitors from abroad often complained that Vicenza didn't have its own airport.

"Rome is an ideal location," explains Ilaria Pivato and continues that "the fairground of 'Roma Fair' is located close to Rome's Fiumicino international airport which all major airlines fly to."

And there's another important reason for choosing Rome for this exhibition, as Paolo Dalla Chiara, President of SatExpo explains: "Space Technology is the new topic of the exhibition, and many leading Italian companies such as ESRIN (European Space Research Institute) and ASI (Italian Space Industry Association) are headquartered in Rome. So it was a logical step to make a decision in favour of Rome."



▲ Paolo Dalla Chiara, President of SatExpo.

## TELE-satellite World

[www.TELE-satellite.com/...](http://www.TELE-satellite.com/)

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HDTV is a dominant theme at SatExpo, but mobile TV over the S band or satellite IPTV also play important roles. EUTELSAT's new orbital position at 9° East is spearheading these new technologies with new offers that are presented at SatExpo.

Ilaria Pivato reveals some exhibitors which have already confirmed their presence when this report was filed: Telespazio,

Thales Alenia, ESA, Eutelsat, Skylogic, Telemar, Viasat, Telesystem, Auriga, Unahm, RAI, Thuraya, Inmarsat, Hellasat, Telesve, HD Forum, Ariane-space, EADS and many more can be found on that list.

Visiting Rome for SatExpo will certainly be time well spent.

For more information go to [www.satexpo.it](http://www.satexpo.it).



▲ SatExpo is held on the Fiera Roma fairground close to Rome international airport.



▲ One of the fair halls.





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- DiSEqC switch commands (available from sub menu)
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● **4 - 6 March 2008: CABSAT 2008**  
Electronic Media and Satellite Communications Event  
Dubai International Convention and Exhibition Centre  
www.cabsat.com



● **14 March 2008: Satellite 2.0**  
Next Generation Satellite TV  
Olympia, London, UK  
www.iptv-forum.com



● **21 - 23 March 2008: CCBN 2008**  
China Content Broadcasting Network annual Conference  
China International Exhibition Centre, Beijing, China  
www.ccbn.tv

● **27 - 29 March 2008: SATEXPO EUROPE 2008**  
Space and Advanced Telecommunications  
Fiera Roma, Rome, Italy  
www.satexpo.it



● **27 - 29 May 2008: ANGA Cable**  
Trade Fair for Cable, Broadband & Satellite  
KoelnMesse, Cologne, Germany  
www.angacable.de



● **17 - 20 June 2008: CommunicAsia 2008**  
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Online Readers **Indonesian** Edition

Source: Google Analytics

Geographical Distribution of TELE-satellite Readership



Readership in descending order:

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- Banjarmasin
- Pekanbaru
- Tegal
- Palembang
- George Town
- Cirebon
- Manado
- Samarinda
- Hong Kong
- Denpasar
- Singapore



TELE-satellite Bahasa Indonesia Edition  
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**Subscription information see page 66 in this edition.**

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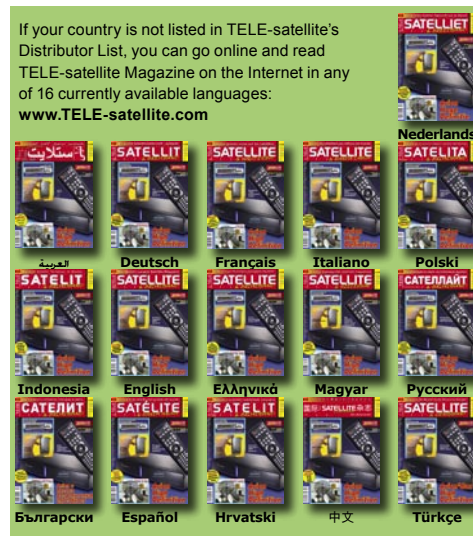
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Iwan Tanudibroto (left) is the owner of P.T. Indoprom Indonesia, and holds up a copy of TELE-satellite magazine, which Indoprom distributes to bookshops around Indonesia. Alexander Wiese (right) is happy about the increase in magazine sales in Indonesia.





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