



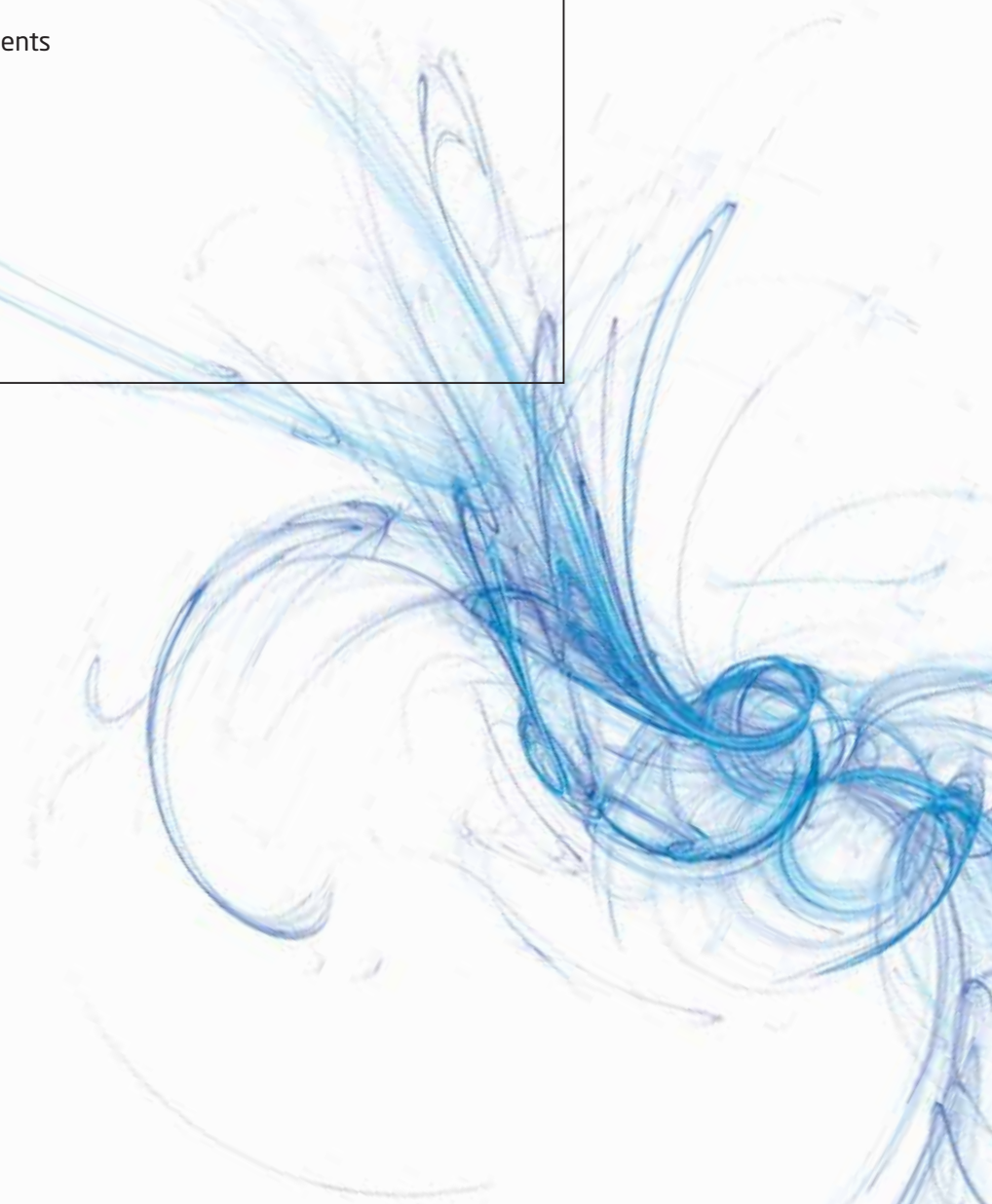
indra

SECURITY AND DEFENSE

DATA LINKS FOR UAS AND OTHER AIRBORNE PLATFORMS

Security and defense in five continents

indracompany.com



DATA LINKS FOR UAS AND OTHER AIRBORNE PLATFORMS



Airborne Data Link Terminal

More control and secure communications to share critical information

Data Links background & Product

For more than 20 years, Indra is one of the leader companies in the international market of data links.

As part of the EuroMIDS consortium, Indra is one of the few world providers of MIDS-LVT Link-16 Terminals.

Indra has an important presence in the market segment of LOS (Line Of Sight) Data Links for UAS (Unmanned Aerial Systems) and other airborne platforms.

Indra owns the **State-of-the-Art** technology which allows optimized **SWaP** (Size, Weight and Power Consumption), longer **range** and lower **cost** and **risk** than similar systems from other competitors.

Indra's digital data links for UAS incorporate advanced digital transmission techniques for improved communication range and spectrum utilization, enabling the use of both point to point communication and TDMA architecture for control of multiple airborne platforms.

Different levels of Jam-Resistant and Low Probability of Intercept and Detection (LPI/LPD) links are provided by use of the most advanced technologies.

These include Spread Spectrum Techniques, Frequency Hopping, Error Detection and Correction, Data Interleaving, and robust Synchronization Techniques.

These LOS Data Links allow sharing information between users, Near Real-time Exploitation and Dissemination of Tactical Reconnaissance Imagery and other data.

Configurations

High Speed Data Link

- High speed and secure transmission/reception of data for multiple applications, including Remote Video Terminal.
- High rate imagery downlink capability for Near Real-Time Exploitation and Dissemination of Tactical Reconnaissance Imagery.

The equipment allows performing a **secure Transmission/Reception**.

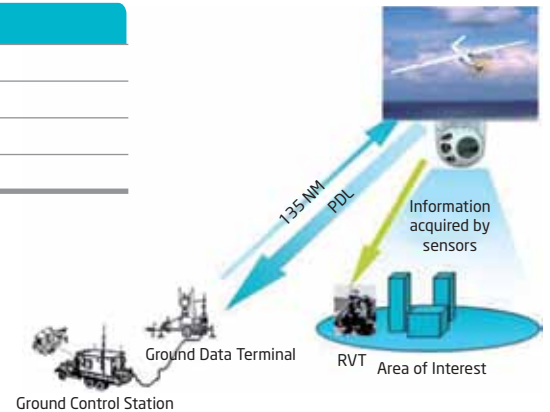
Technical Data

Range: 135 NM (250 Km)

Ku band.

Downlink Bit Rate: up to 10 Mbps

Waveform based on STANAG 7085



High Integrity Data Link

- Lower speed data link for robust and secure transmission / reception of data and control of UAS.
- TDMA architecture allowing one ground segment to communicate with several airborne platforms simultaneously without interference.

The equipment allows performing a **secure Transmission/Reception**.

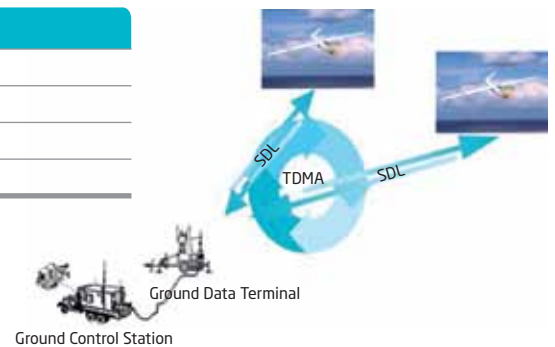
Technical Data

Range: 80 NM (150 Km)

C band.

Bit Rate: 100 kbps

Waveform based on STANAG 4660



System Architecture

Indra's data link solution is based on a dual architecture including a high speed imagery link in Ku band and a high integrity (command and control link for UAS) in C band.

Both data links include ground and airborne equipments with their complete antenna solution.

The ground station is able to operate simultaneously several airborne segments.

Both Directional and Omni-directional antenna for Airborne System and Ground Station, including ACU (Antenna Control Unit) system stabilized in two axes of movement.

This antenna can be integrated in a control vehicle, allowing easy transportation and quick start up.

The system support extreme conditions, like sand and dust particles of desert areas, as well as temperature and solar radiation.

Additionally, the system keeps the pointing performance under strong wind conditions.

The communications processor performs data modulation/demodulation to/from the air link. It is based on **Software Defined Radio architecture**. The processor is capable to establish a high data rate link according to the STANAG 7085 and a high integrity link based on STANAG 4660.

Main Features

- LOS Digital Data Link
- Rugged equipments
- High data rate up to 10 Mbps
- Secure data transmission / reception
- DO-178B
- Multiple UAS control allowed
- Software Defined Radio (SDR) architecture
- Multiple waveforms supported
- Multiple access capability
- Built in Test capability
- Airborne & Ground modular antenna with ACU system
- Relay capability
- Capability to operate with or without crypto
- QoS capability

Data Link Interfaces

- Data interface: Gigabit Ethernet
- User Data Flow Channelization
- RF digital monitoring and control interface
- Control interface
- Digital Audio interface



Atlante UAS (example of UAS fitting Indra's Data Link)



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Indra reserves the right to modify these specifications without prior notice.