

Messenger Digital Transmitter- ASI Version (MDT-A)

COBHAM

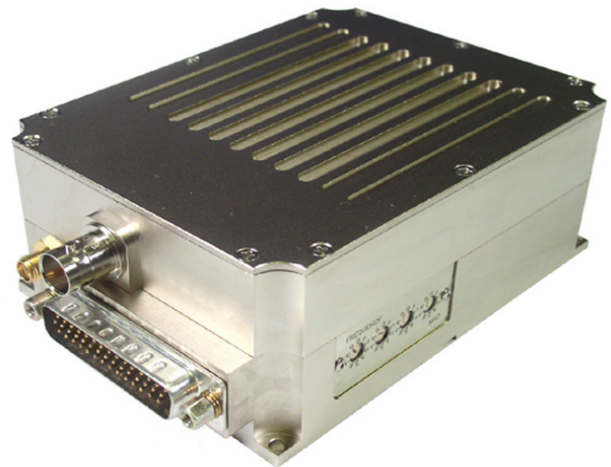
The most important thing we build is trust.

Applications

- High-Security Surveillance Applications
- Helicopter Links
- Electronic News Gathering (ENG)
- Repeaters
- UAV/UGV Applications
- Mobile and Portable AV Applications

Key System Features

- ASI Input Interface
- C-OFDM Modulation
- Local & Remote Control
- Output Frequency: 0.36 to 6 GHz (In-Bands)
- Low Power Consumption
- Rugged and Compact Portable Design



GMS' Messenger Digital Transmitter with ASI Option (MDT-A) accepts DVB compliant MPEG-2 Transport Streams (TSs) via an Asynchronous Serial Interface (ASI). The stream can be scrambled with an AES scrambling algorithm to provide protection in sensitive applications prior to the final step of DVB-T compliant FEC coding and C-OFDM Modulation. The transmitter provides automatic zero stuffing when the TS rate is less than the channel rate. Data rates from 100 Kbps to 30 Mbps can be supported. However, the system is optimized for high rate transmission above 5 Mbps. This transmitter is compatible with GMS' MSR receiver which outputs the recovered ASI stream. When the AES scrambling option is chosen, the MSR must be configured with the Digital Data Processing Card (DDPC). The DDPC accepts the ASI signal from the MSR and performs the de-scrambling operation and then outputs the transport stream to an ASI output port.

GMS offers several companion receivers and ancillary equipment required to cover a wide variety of applications and budgets. The MDT-A will transmit any data that is formatted into a DVB compliant MPEG-2 TS per ETSI TBD for Audio/Video (A/V) data and ETSI EN 301 192 for generic digital data transmission. Other A/V compression formats such as H.264, MPEG-4 and WM-9 can be transmitted provided that they TS structure follows the TS specification.

The MDT-A can be used as part of a cost effective repeater system by combining it with an MSR, antennas, down-converters, and optional Power Amplifiers (PAs). The ASI output of the MSR can be fed directly into the MDT-A's ASI input port.

GMS' C-OFDM equipment uses a robust digital modulation system known as Coded Orthogonal Frequency Division Multiplexed (COFDM) that provides frequency diversity and powerful Forward Error Correction (FEC) algorithms. The Messenger Receivers include an option for Spatial Maximal Ratio Pre-Detect Diversity Combining to combat short delay spread multipath reflections found in indoor environments. The MDL provides a robust wireless link that

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is effective against the multipath interference experienced by analog systems and provides reliable data transmission in the most difficult of terrains.

MDT-A Special Option AES Scrambling

The AES Scrambling option can be used to add security to your data transmission. The system scrambles most of the TS packets. Only the TS header remains unscrambled to enable operation with standard DVB-T receivers. The 128 bit scrambling key is entered through the MDT-A's control interface. The user can enable or disable the scrambling as well as choosing if the key is stored or not via GMS' Microsoft Windows control program.

Specifications:

COFDM RF Output

Output Frequency: 0.36 to 6 GHz (In-Bands)
Frequency Accuracy: +/- 10 ppm
Frequency Tuning Resolution: 500 KHz,
(except S2 band which has 250 KHz)
Bandwidth: Selectable 6, 7, 8 MHz
RF Output Power: Up to 100mW or 200 mW
[200mW on most models]
RF Output Power Adjustment: 0 to -5 dB
in one dB steps

Connector: SMA-F

Modulation

Modulation Type: COFDM w/QPSK or
16 QAM or 64 QAM
FEC: 1/2, 2/3, 3/4, 7/8
Guard Intervals: 1/32, 1/16, 1/8, 1/4
Spurious: <50 dBc
COFDM Carriers: 2k Carriers

ASI Input

Per EN 300 744,
Digital broadcasting systems for Television,
sound and data services; Framing structure,
channel coding and Modulation for digital
terrestrial television.
Per ISO/IEC 13818-1
GENERIC CODING OF MOVING PICTURES
AND ASSOCIATED AUDIO: SYSTEMS

Connector: BNC-F

Security Option

The MDT-A can optionally be provided with an Advanced Encryption System (AES) for protecting the signal in sensitive applications.

Physical (without mating connectors)

Dimensions: 3.25" (W) x 4.5" (D) x 1.76" (H)
8.26 cm x 11.43 cm x 4.47 cm
Weight: 11.82 oz (335.1 grams)
Environmental:
Operational Temperature: -10 to 70 deg C
Humidity: Up to 100% non-condensing

DC Power

DC Voltage Range: 9 - 15V
Power Consumption: < 7.5 Watts

Control

MDT-A is designed to be controlled through its USB-1 or RS-232 control port (on a DB-44F connector) via the supplied MS Windows based control application. A remote control unit (RCU) is available. Local control of the operating frequency is provided on the side of the housing.

