

STINGER – Mini TCDL Surface Terminal Equipment



STINGER is a low-SWaP, network-ready, fully-capable Tactical Common Data Link (TCDL) terminal. It is the first Mini TCDL data link product to allow the antenna to be placed more than 1 km from the local equipment group while still permitting Type 1 encryption. This unique configuration is extremely versatile, allowing new deployment options for all types of battle situations.

Key Features

- Symmetric and asymmetric data rates up to 45 Mbps
- Integrated omni and directional antennas for ranges up to 150 nautical miles
- CDL Specification Annex A and B compliant
- Supports both Type 1 and AES encryption
- Software
 - Control GUI including router configuration
 - Pre-mission configuration
 - Video compression: MPEG-2
- Interface
 - Dual 10/100 Base-T Ethernet
 - RS-422 clock and data
 - RS-170 NTSC and PAL
 - Wideband network router
- Power: 110/220 VAC

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Product Description

The STINGER provides lower cost, lightweight, wideband data link capability adaptable to a wide variety of applications. It delivers real-time, full-motion video for situational awareness, targeting, battle damage assessment, surveillance, convoy operations and other situations where eyes-on-target are required. With standard network interfaces and a built-in wideband router, STINGER is fully network-ready and is a

powerful gateway into the net-centric battlespace. STINGER provides enhanced air and ground coordination, which shortens talk-on-target for time-critical operations. It has proven interoperability with thousands of fielded CDL and TCDL data links, along with the popular ROVER products. STINGER is small, lightweight and rugged.

Specifications

Performance Characteristics

RF

- Integrated 48" omni and directional antenna
- Transmit and receive floppable/switchable
- Ku-band frequency ranges:
 - Uplink: 15.15–15.35 GHz
 - Downlink: 14.40–14.83 GHz
 - Tuning: 5 MHz steps across band
- X-band frequency ranges:
 - Uplink: 10.14–10.44 GHz
 - Downlink: 9.75–9.95 GHz
- Power amplifier: 8 watt SSPA

Programmable Data Rates

- Full-duplex 200 and 400 kbps; 2.0, 10.71, 21.42 and 44.73 Mbps both symmetric and asymmetric
- Other non-CDL data rates available

Bit Error Rate (at range limit)

- 10^{-9} without encryption

Range at 45 Mbps

- Up to 150 nmi depending on weather conditions, relative altitudes, airborne terminal and antenna configuration

Sensor Interface Options

- RS-170 NTSC and PAL
- MPEG-2 compression and decompression

User Interface Options

- 10/100 Base-T Ethernet (2 ports)
- Serial RS-232
- RS-422 clock and data
- Wideband network router
 - Supports OSPF, RIP and others
 - Supports multi-cast
 - IPv4, upgradable to IPv6

MTBF

- Exceeds 3,300 hours at 50°C in a ground fixed environment and 11,900 hours at 30°C in a ground benign environment per MIL-HDBK-217F

Performance Characteristics (continued)

Audio

- Full-duplex CDL voice

Encryption

- Type 1 encryption available
- AES encryption available

Physical Characteristics

Split Modem – Local Equipment Group

- Size: Approx. 6.5" x 2.75" x 13"
- Weight: Approx. 10 lbs
- Input Power: 70 watts maximum

Split Modem – Remote Equipment Group

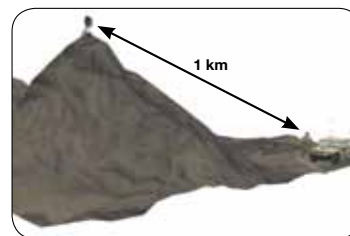
- Size: Approx. 6.5" x 2.75" x 13"
- Weight: Approx. 10 lbs
- Input Power: 70 watts maximum

Front End Assembly – Antennas and RFE

- Size: 48" (diameter) x 60" (height)
- Weight: Approx. 70 lbs
- Input Power: RFE: 140 watts maximum
Antenna: 300 watts maximum

Environmental

- Humidity: 0–100%, condensing
- Vibration: Per MIL-STD-810F
- Shock: Per MIL-STD-810F
- Temperature: -30°C to +49°C (forced convection)
- Settling dust: Per 810F, Method 510.4, Procedure III
- EMI: MIL-STD-461E compliant



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