

LINK 16 NETWORKING FOR AIRCRAFT AND SHIPBOARD CONNECTIVITY TO SUPPORT US AND COALITION OPERATIONS



Viasat’s team led the transformation in Link 16 technology by being the first to upgrade the design of many components of the terminal to provide greater flexibility, enhanced technological capabilities, decreased cost, and improved reliability. Embedded modules provide COMSEC and TACAN functionality.

Through extensive use of reprogrammable components and a modular architecture, we’ve provided a lower cost design while also allowing for future growth requirements.

The Viasat terminal provides all operational modes of the Link 16 waveform, and implements all required Multifunctional Information Distribution System (MIDS) host interfaces for both US and coalition integration.

With Block Upgrade 2 (BU2), Viasat hardware implements the advanced Link 16 functions of Enhanced Throughput (ET), Cryptographic Modernization Initiative (CMI), and Frequency Remapping (FR). ET is a new capability that can increase the network coded data throughput for MIDS-LVT terminals from its current maximum of 115.2 kbps to over 1,100 kbps. Host interfaces and operational employment of this capability are still emerging (such as imagery or Situational Awareness file transfer). CMI provides improved cryptographic security, growth, and flexibility. FR allows for much easier US training and testing without the need for extensive frequency authorization activity. These improvements come with better External Time Reference stability and modernized Ethernet interfaces.

Together with Harris and Hensoldt, Viasat is delivering a family of combat-proven, fully qualified, and Electromagnetic Compatibility-Certified Link 16 MIDS terminals to US forces and coalition partners under contracts with the US Navy MIDS International Program Office (IPO) and other commercial customers.

SUPPORTED PLATFORMS

Viasat has developed the MIDS Low Volume Terminal (LVT) to meet the Link 16 requirements of all US forces and coalition partners. MIDS-LVT(1) is designed for installation in fighter aircraft, including F-16s, F/A-18s, and many international platforms. It is also being employed for EA-6B, P-3, B-2, and other critical platforms.

AIRBORNE TERMINAL AT-A-GLANCE

- » High capacity
- » Anti-jam
- » Highly secure
- » Situational awareness
- » Voice at 2.4 and/or 16 kbps
- » Embedded TACAN
- » Modern crypto
- » Enhanced Throughput
- » Frequency Remapping

Ordering Information

PN: VA-218100-0050	LVT(1) AN/ USQ-140A(V)1(C) RT-1840A
PN: VA-218300-0050	LVT(4) AN/ USQ-140A(V)4(C) RT-1841A
PN: VA-218200-0050	LVT(6) AN/ USQ-140A(V)6(C) RT-1842A
PN: VA-218400-0050	LVT(7) AN/ USQ-140A(V)7(C) RT-1843A



NEW APPLICATIONS OF LINK 16

Viasat is a leader in the transformation of MIDS to Joint Tactical Radio System (JTRS) compliance. Through this and other key efforts such as IP over Link 16 demonstrations, enhanced Link 16 voice demonstrations, Low Earth Orbit satellite Link 16 and other Bandwidth-on-Demand developments, we are contributing to the successful implementation of global Network Centric Communications. We are expanding the Link 16 user set through development of Non-Developmental Items (NDI), such as Small Tactical Terminals for helicopters, UAVs, deployable gateways and weapons along with handheld Link 16 radios for ground tactical air controllers.

SPECIFICATIONS

PERFORMANCE CHARACTERISTICS

- » **Link 16 Messaging** TADIL J and IJMS
- » **Receive Sensitivity** Meets spec with 2 to 3 dB margin
- » **Transmit Spectral Performance** Greater than -60 dBc in 1030/1090 MHz Bands
- » **Output Transmit Power** 1, 25, or 200 W + HPA interface
- » **Host Interfaces** MIL-STD 1553, X.25, Ethernet, and STANAG 3910
- » **Data Throughput** 26.8 through 1102 kbps
TADIL J Coded
- » **Keyfill** DS 101 SKL modern crypto

- » **Voice Capability** 2.4 kbps LPC-10, and 16 kbps CVSD
- » **TACAN Capability** Air-to-Ground, Air-to-Air

PHYSICAL CHARACTERISTICS

- » **Main Terminal and RFA** 7.62 x 7.5 x 13.5 in.;
19.35 x 19.05 x 34.29 cm
- » **Power Supply (PS)** 7.62 x 2.252 x 13.46 in.;
19.35 x 5.72 x 34.19 cm
- » **Volume** 1000 in.³; 16,300 cc
- » **Weight**
 - **MIDS-LVT RT LRU** 42.5 lb; 19.28 kg
 - **MIDS-LVT RPS LRU** 9.0 lb; 4.08 kg

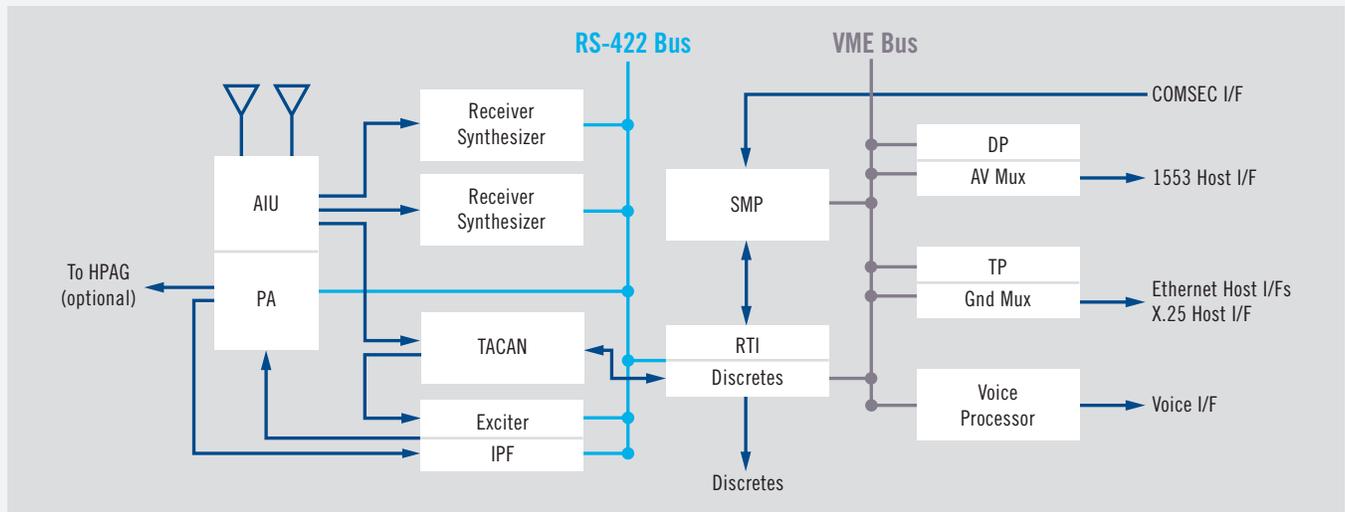
POWER AND COOLING

- » **Power Source Alternatives** 115 VAC; 400 Hz
3 Phase or ± 140 VDC
- » **Power Consumption** 0% TSDF 150 W,
70% TSDF 350 W
- » **Cooling** External Conductive Air

OTHER CONFIGURATIONS

- » **MIDS-LVT(4)** Link-16 Data and Voice Capable
- » **MIDS-LVT(6)** Link-16 Data Capable with Embedded TACAN
- » **MIDS-LVT(7)** Link-16 Data Capable

MIDS-LVT(1) CONFIGURATION



AIU	Antenna Interface Unit	RTI	Receiver Transmitter Interface	TP	Tailored Processor
PA	Power Amplifier	SMP	Signal Message Processor	Av Mux	Avionics Multiplexer
IPF	Interface Protection Feature	DP	Data Processor	Gnd Mux	Ground Multiplexer
HPAG	High-Power Amplifier Group				

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