Viasat™

ELMA

Enhanced L-band Maritime Antenna

The next evolution of small-size, high-throughput terminals operable in harsh see conditions

The small-size Enhanced L-band Maritime Antenna (ELMA) provides maritime vessels and land expeditionary uses with worldwide connectivity at data rates of up to 3 Mbps, operating on the global ELERA network, i.e., I-4 and I-6 satellite constellations.

A variant of our award-winning LAISR service, the ELMA solution is a small-size, high-throughput terminal suitable for communications on the move (COTM) applications. The terminal enables vessels access to dedicated data services without contention from other users. The ELMA system was designed to work as a standalone solution or in conjunction with Global Xpress maritime terminals to provide a highly available secondary communications path.

Lightweight, Easily Integrated Terminal

The ELMA terminal's height of 12 inches and width of 14 inches, combined with a low weight of 12 lbs. allow for quick and easy installation and offers near limitless possibilities for installation options. The antenna hosts an internal Global Positioning System (GPS) for full operations without additional inputs from the platform. A single RF cable delivers power and data connectivity between the Above Decks Equipment (ADE) and Below Deck Units (BDU) systems with a maximum cable run of 100 meters.

High Data Rate On-demand Capability, Globally

The ELMA terminal pairs with a subscription-based LAISR service model with multiple service commitment options, service levels and geographic coverage options. The LAISR service provides global access to the ELERA network with on-demand dedicated spectrum. Operating on a Segmented FlexLDPC ACM waveform, the ELMA terminal can achieve data rates between 512 kbps - 3 Mbps based on a subscription plan.

The pole is not part of the ELMA terminal, but is showing how the ADE could be mounted on a ship.

Below Deck Connectivity

User networks will interface directly with the below deck unit via a 10/100 Ethernet connection. Additional interfaces are available for redundancy control and M&C access.

End-to-end Solution

- Secure, diverse terrestrial network
- Tested with Type 1 encrypted payloads
- Supports multicast (or unicast) delivery of encrypted payload data
- Terrestrial and/or forward-deployed VSAT options for backhaul of customer traffic

Features and Benefits

- Data rate up to 3 Mbps both directions from the platform in L-band
- Dedicated bandwidth not contended
- L-band weather resilience for highest link availability
- Optional Global Xpress Ka-band secondary communications path
- SAS in only NATO/5 Eyes countries
- Satellite and SAS diversity options for highly resilient operations
- IA approved network

Specifications

Dimensions

ADE (LxWxH)	12 x 12 x 14 inches
BDU (LxWxH)	19 x 1.69 x 8.66 inches

Weight

ADE	12 lbs
BDU	8 lbs

Power

ADE	32 VDC @ 175 W
BDU	32 VDC @ 220 W
TX Gain	12 dbi
EIRP	22 dBW
RX Gain	12 dbi
G/T	-13 dB/K

Operating Frequency

Receive band	1,518 to 1,559 GHz
Transmit band	1,626 to 1,675 GHz

Data Rate

Standard	512 kbps Duplex
Maximum	3 Mbps Duplex

ADE Environmental

Temperature

Operating	-40 to +60°C
Storage	-55 to +85°C
Operating Humidity	>95% at +40°C

IP class

ADE	IP56
BDU	IP31

Operational Vibration

Random spectrum	1.05 g rms x 3 axes:
5 to 20 Hz	0.02 g 2 /Hz
20 to 150 Hz	-3 dB/octave
Shock	Half sine, 20 g/11 ms
Turn Rate	6 deg/second
Roll	+/-30 deg/8 seconds
Pitch	+/-10 deg/6 seconds
Yaw	+/-8 deg/50 seconds

Interface

1 x COAX N-Type ADU / TNC BDU, 50 OHm
1 x Data (Ethernet)
1 x Redundancy Controller (Ethernet)
1 x M&C (Ethernet)