Viasat

L-MAX
Massive bandwidth
uplift for ISR operations

Massive bandwidth uplift for ISR operations

L-MAX: the high-bandwidth leasing solution that bridges the gap between SwiftBroadband and Global Xpress, providing high bandwidth for even the smallest of reconnaissance platforms.

L-MAX reserves bandwidth and power over a geographic region for a specified duration, using higher order modulation and coding (MODCOD) to deliver Internet Protocol (IP) data efficiently. This provides a high data-rate, cost-effective, end-to-end communication solution over a secure, highly resilient, and reliable private network using the SWAP features of ELERA terminals.

Features

L-MAX is a standardised end-to-end solution:

- Highly reliant terrestrial network.
- Network infrastructure diversity.
- Government-specific, dedicated SCPC modems (Q-Flex and ULW) at EMEA, APAC & AMER Satellite Access Stations (SAS).
- Viasat Network Management System (NMS).
- In conjunction with Viasat aviation partner specialists, remote terminal integration with a certified SCPC modem.
- Multiple standard narrow spot beams (NSB) can be connected to create a contiguous highly customized area of coverage.
- Allows user terminals to move through the Viasat network, i.e. beam to beam and satellite to satellite.
- Leases are typically allotted in 200 kHz blocks of frequencies, but can be dropped to 100 kHz for forward link.
- Minimal aircraft modification while achieving significant throughputs.

Flexible terms that meet operational requirements

The duration of L-MAX leases is adaptable and can be tailored to specific mission requirements, guaranteeing* bandwidth and flexibility for better decision-making.

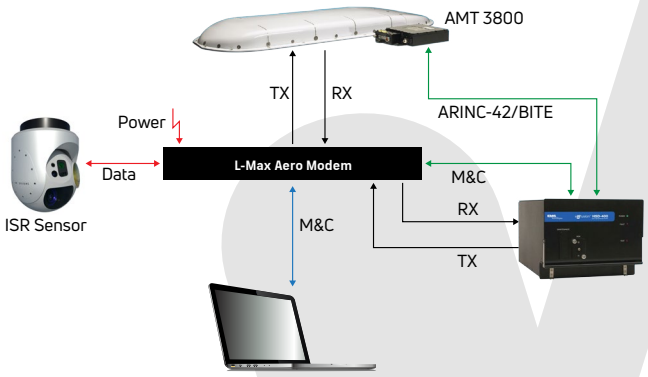
Low-risk, easy upgrade path

L-MAX requires minimal aircraft modification to achieve these significant throughputs, ensuring not only more effective sorties, but also much less downtime.

Available with existing hardware

Aero platforms already equipped with a Honeywell HSD-4xx system are positioned perfectly to take up L-MAX capability in the initial launch stage, with Viasat working to introduce additional non-high-speed-data-based SwiftBroadband platforms.

L-MAX takes advantage of Viasat's ELERA capacity, integrating the configuration of both airborne and ground network components.



* Based on contractual SLAs.

HSD-400 specifications

Communication services

SwiftBroadband	Standard IP (up to 432kbps, nominally 300-150kbps)
	Streaming IP (QoS service) 128kbps 64kbps 32kbps
	Voice (4.0kbps AMBE™+2 codec)
	ISDN (64kbps Data or 3.1khz Audio)
Swift 64	Circuit switched ISDN (Voice or Data)
	MPDS via PPPoE
	Voice (4.8kbps AMBE™ codec)
Data interfaces	Two (2) 10-Base-T ethernet One (1) ISDN BRI
Voice interfaces	Two (2) two-wire POTS Two (2) Euro-ISDN BRI
Control interfaces	ARINC 429 high-speed serial bus interface to ARINC 741/781

Certification and approvals

ARINC standards	ARINC 429, ARINC 739, ARINC 600, ARINC 741/781
Military standards	MIL-STD-704E(power/irreg. power)
	MIL-STD-810F(shock, acceleration)

Operation

Receive band	1525.0 - 1559.0 MHz
Transmit band	1626.5 - 1660.0 MHz
Power requirement	Dual mode power, 460W maximum
AC mode	115 VAC 300-800 Hz 1-Phase pwr
DC mode	28V DC
High power amplifier	Integrated, 60W
Monitoring	Continuous HPA/Input status Detailed status/fault reporting

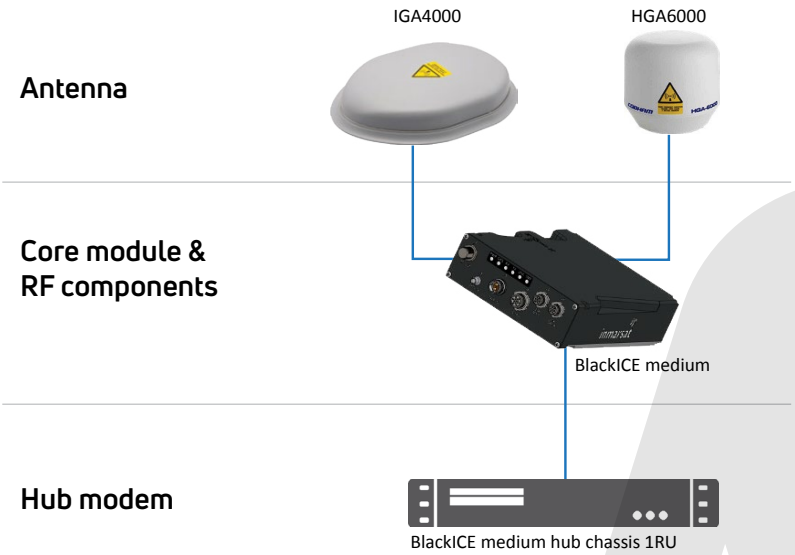
Environmental conditions

Operating temperatures	Section 4, Cat F2, -55°C to +70°C
Maximum altitude	55,000 ft
Humidity	Section 6, Cat B
Crash safety	Section 7, Cat B
Vibration	Section 8, Cat S, U (Helicopter)
Explosion proofness	Section 9, Cat E
RF emissions	Section 21, Cat B
Cooling	Forced air cooled

Dimensions

ARINC 600	Standard 8-MCU
Length	14.58" 36.45 cm
Height	7.90" 20.10 cm
Width	10.20" 25.91 cm
Weight	34.70 lbs 15.74 kg

ULW-based remote terminal



L-MAX ULW specs

Terminal model		ULW4035	ULW4040
Antenna	**Model**	IGA4000	HGA6000
	Dimension	Length: 12.9” (328mm) Width: 9.33” (237mm) Height: 2.0” (51mm)	Diameter: 10.08“ (256mm) Height: 9.7“ (246mm)
	Weight	1.54 lbs (0.7kg)	3.96 lbs (1.8kg)
Core module	**Model**	BlackICE medium (ULW)	
	Inclusion	• DVBS2/S2X satellite modem • Radio Frequency Front End (RFFE) with integrated transmit SSPA, low-noise LNA, and duplexer • **SASU embedded**	
	Dimensions	Length: 8.57“ (218mm) / Width: 5.34“ (136mm) / Height: 1.77“ (45mm) / Weight: 3.9 lbs (1.8kg)	
SASU		Not required	
Total weight		5.44 lbs (2.5kg)	7.9 lbs (3.6kg)
UAV class		3	3
External GPS input		Required (mandatory)	
Secondary SBB		No	
Beam switching (Freq re-use)		Yes	
Hub modem compatibility		Full compatibility with BlackICE hub system	
Extended L-band		Yes