

Ultra ORION X500-S

Secure High-Capacity Over-Water Network



Features & Benefits

- 3 channel software-defined radio system
- Ship-to-ship and ship-to-shore communications
- PTP, PMP, mesh and AN/GRC-245 HCLOS interoperable waveforms
- Enables incremental growth using SDR and modular architecture
- 4G LTE enabler
- Military & public safety bands all in one radio (L/S/C-Band and ISM)
- Up to 500 Mbps system
- Embedded crypto (FIPS 140-2 Level 2, AES-256)
- External crypto compatible
- Secure and intuitive graphical user interface
- MIMO technology
- Fully ruggedized system
- Optional ECCM frequency hopping and LTE access

The Ultra ORION X500-S is a multichannel, multiband, point-to-point (PTP), point-to-multipoint (PMP) and mesh radio system. It provides broadband, MIMO-capable over-water communications to medium and large ships. This software-defined radio (SDR) system offers up to 500 Mbps throughput and operational flexibility within a small form factor.

More Missions & Situational Awareness

The X500-S can be used for multiple maritime applications such as coastal surveillance, maritime interdiction and force protection operations. It greatly enhances situational awareness by providing secure and reliable over-water, on-the-move ship-to-ship and ship-to-shore communications. It easily supports broadband IP services such as live video feeds, high resolution pictures and radar & sonar imaging.

The X500-S is the ideal solution for amphibious operations, maintaining secure high capacity connectivity between floating operation centers, landing crafts and land-based command

posts. It offers long range communications of over 30 nautical miles in ship-to-shore applications.

This flexible system can be used stand-alone or adjunct to navigation or naval combat systems. The radio does not require GPS and its ECCM waveforms enable it to operate in a high-threat environment.

IP Connectivity

The radio can converge, cross-connect and relay 3 channels of IP communication by supporting up to 2 PTP, PMP and/or mesh long range links together with 802.11 access or LTE user equipment (UE) mode. Each channel can use the radio's embedded AES-256 encryption capability or external crypto devices.



Interoperability

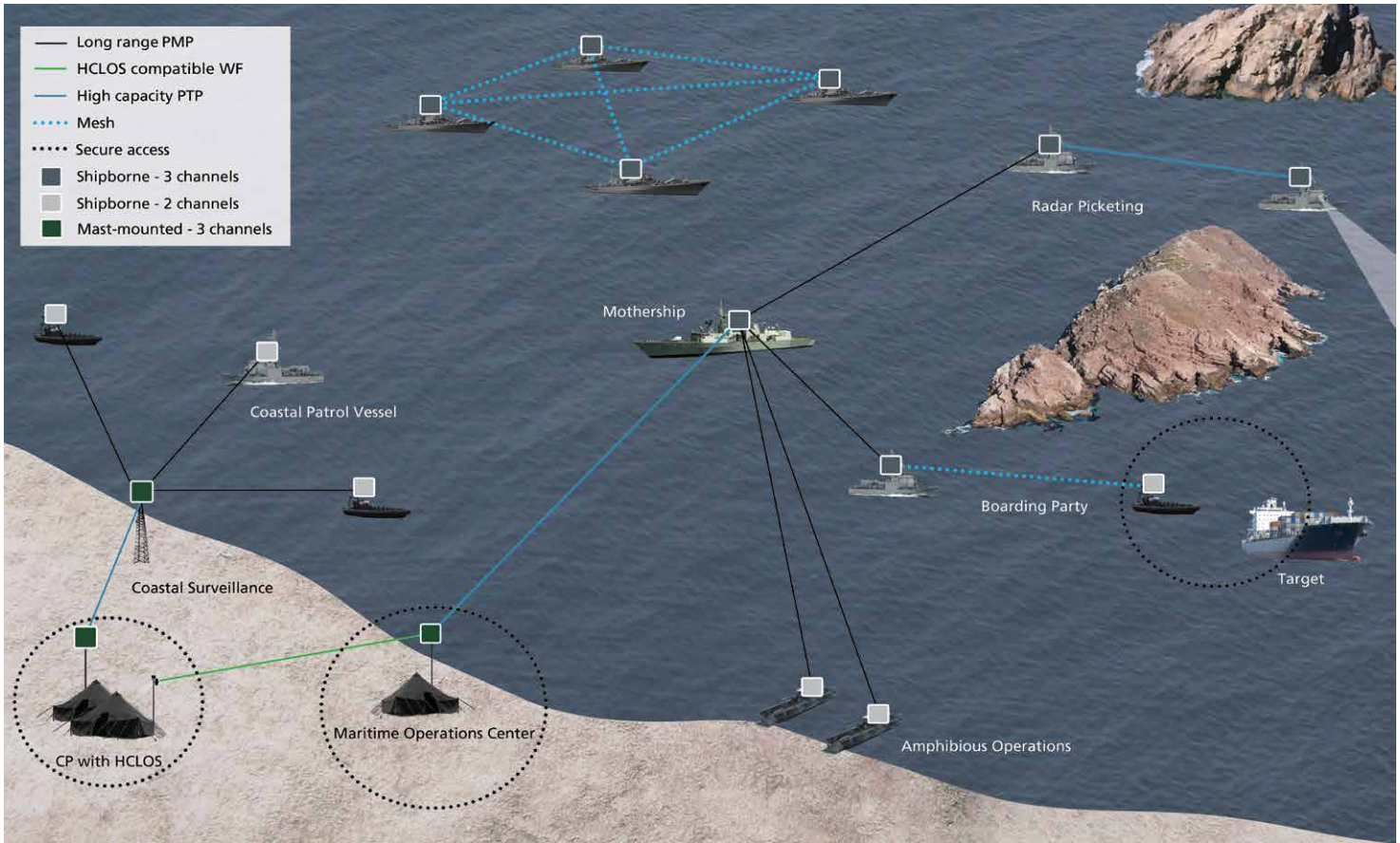
The X500-S is interoperable with the AN/GRC-245 HCLOS and the X500-G radio over multiple bands. This allows communication to existing ground-based systems.

Wide Band Operation

The radio operates in the L-Band, S-Band, C-Band and ISM frequency bands, giving it spectrum flexibility and a cross-band capability. The radio's high performance RF filters facilitate co-site coordination.

Device Access

X500-S connects with smartphones and tablets to push down broadband connectivity to the edge of the network. The radio's 802.11 connectivity permits the user to securely manage the radio with a smart device.



Specifications

Parameter	Specification
Frequency	Band 3 (L-Band, 1350-1850 MHz), Band 3+ (L/S-Band, 1350-2690 MHz), Band 4 (C-Band, 4400-5000 MHz), 2.4 GHz ISM, 5.2/5.8 GHz NII/ISM, LTE (700 MHz)
Throughput	Up to 500 Mbps for system
Number of Channels	3 (2 SDR + 1 secure access channel)
Radio Access Method	TDD/FDD
Modulation & Coding	BPSK up to 128QAM with Automatic Modulation & Coding (AMC)
RF Techniques	Adaptive MIMO 2x2 (Transmit Diversity, Spatial Multiplexing, MRC)
Transmit Power	Max. +36 dBm
Channel Size	From 2.5 to 40 MHz
Waveforms	Library of LOS and NLOS waveforms including over-water, PTP, PMP and OTM. Optional mesh and frequency hopping waveforms. Interoperability with AN/GRC-245 A/B HCLOS & X500-G.
Traffic Security	AES-256 - FIPS 140-2 Level 2, optional ECCM features
Antennas	Flat panel, omnidirectional, sectorial, directional and tracking
User Interface	100/1000 BaseT Ethernet
Network Management	Intuitive User Interface (HTTPS, SNMPv3)
Size (HxWxD)	4 x 11.8 x 12" (102 x 304 x 300 mm)
Weight	Up to 21 lbs (9.5 kg)
Power	28 VDC, optional 115/220 VAC using network interface unit
Temperature	-40 to +60°C (operating), -40 to +70°C (storage)
Environmental	MIL-STD-810G & 461F, IP67



making a difference

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