Ultra ORION X510-S

Compact Shipborne System

Features & Benefits

- 2 channel software-defined radio system
- Ship-to-ship and ship-to-shore communications
- PMP & mesh waveforms
- Software-defined radio
- NATO Band 3, 3+ or 4 (L, S or C-Band)
- High power ISM bands
- Embedded crypto (FIPS 140-2 Level 2, AES-256)
- Easy to use graphical user interface
- MIMO technology
- LTE UE mode
- MIL-STD-810G & 461F, IP67

The Ultra ORION X510-S is a dual channel, mesh, point-to-multipoint and point-to-point radio system available in multiple bands. Its extremely small form factor and high performance makes it the ideal solution for small, fast moving boats. It allows real-time video, data and voice exchange between crafts, while being interoperable with motherships and coastal systems using other Ultra ORION variants.

Mobile Maritime Networks

The X510-S can be used for multiple maritime applications, such as maritime interdiction operations, force protection, unmanned surveillance and radar picketing. The radio supports over-water C3 exchange, radar & sonar imaging and live HD video streaming.

This compact radio system allows the creation of a large-scale mesh ship-to-ship network, while giving access to multiple wireless devices through its second channel. It can also be used as a base or remote station in point-to-multipoint configurations or provide point-to-point connectivity. It offers long range communications of over 30 nautical miles in ship-to-shore applications.

The X510-S operates as a stand-alone system or adjunct to navigation or naval combat systems. Additional software-defined waveforms allow the radio to operate in high-threat environments without the need of a GPS.

IP Connectivity

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

Interoperability

The X510-S is interoperable with the Ultra ORION tri-channel shipborne and land radios over multiple bands. This allows communications to medium and large ships and mast-mounted land-based systems.

Wide Band Operation

The radio's software-defined radio (SDR) channel operates in L-Band, S-Band or C-Band. The second channel supports optional high power ISM (HPI) to allow secure local access or long range high power point-to-point (PTP) links in unlicensed bands. The 2 channel X510-S provides spectrum flexibility and cross-banding capability.

Device Access

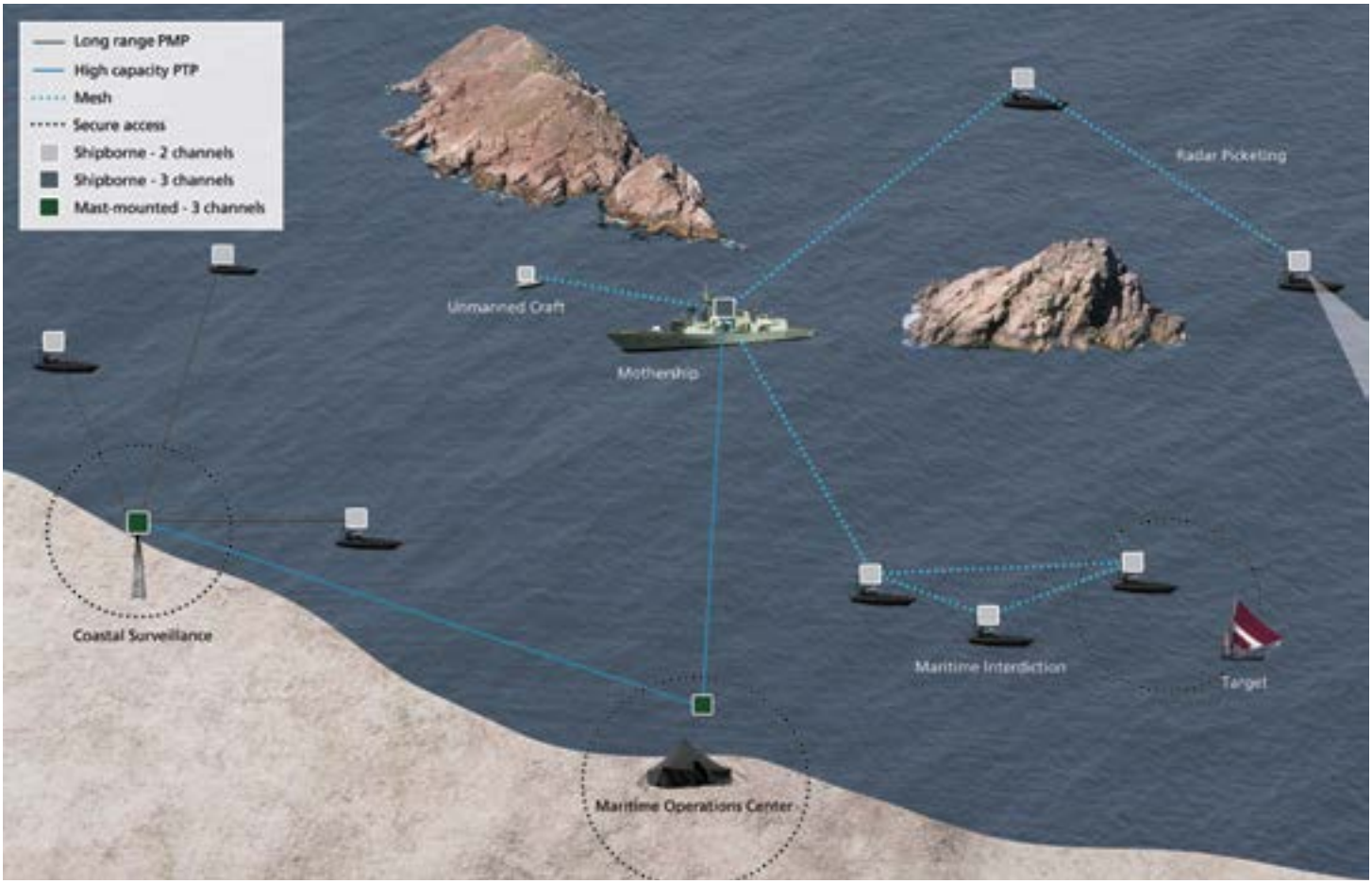
The X510-S connects with smartphones and tablets to push down broadband connectivity to the edge of the network. The radio's ISM connectivity also permits the user to securely manage the radio with a smart device.

Packaging and Antennas

The radio reduces the size, weight and power (SWaP) requirements of a system by supporting multiple channels and frequency bands in a single-box. It can be deployed with various combinations of omnidirectional, sectorial or directional antennas.

making a difference

Ultra ELECTRONICS



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), HPI (2.4, 5.2 & 5.8 GHz), LTE (700 MHz)
Throughput	Up to 200 Mbps for SDR channel, 350 Mbps for system
Number of Channels	2 (1 SDR + 1 HPI or LTE user equipment)
Radio Access Method	TDD
Modulation & Coding	BPSK up to 64QAM with Automatic Modulation & Coding (AMC)
RF Techniques	Adaptive MIMO 2x2 (Transmit Diversity, Spatial Multiplexing, MRC)
Transmit Power	Max. +36 dBm
Channel Size	From 3.5 to 40 MHz
Waveforms	Library of NLOS waveforms including PTP, PMP and mesh
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)	6.4 x 11.8 x 11.3'' (163 x 300 x 287 mm) (total system dimensions)
Weight	17.8 lbs (8.1 kg) (incl. radio, shock mount & power adapter)
Temperature	-40 to +55°C (operating), -40 to +70°C (storage)
Environmental	MIL-STD-810G & 461F, IP67, MIL-STD-1275 power supply

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