

Ultra ORION X500-G

Ultimate IP Network in a Single Enclosure

Features & Benefits

- 3 channel software-defined radio system
- Library of LOS & NLOS waveforms suitable for land, sea and air applications
- MIMO technology
- Empowers soldiers at the tactical edge
- 4G LTE enabler and edge device integration
- Military & public safety bands all in one radio (NATO Band 3, 3+ & 4, 4.9 GHz and NII/ISM bands)
- Option for Band X
- Up to 1 Gbps system
- Embedded crypto (FIPS 140-2 Level 2, AES-256)
- Compatible with external cryptos
- 100/1000BaseT
- Secure and intuitive graphical user interface
- MIL-STD-810G & 461F, IP67
- Optional UltraHop frequency hopping ECCM

The Ultra ORION X500-G is a multiband, point-to-point (PTP), point-to-multipoint (PMP) and mesh radio system. It provides at-the-quick-halt communications across multiple echelons and on-the-move (OTM) access capability. The system offers up to 1 Gbps throughput and operational flexibility within a small mast-mounted form factor.

Multiple Missions

The same radio serves as a high-capacity backhaul, backhaul repeater, range extension node, aggregation/distribution and access point, WLAN or remote station at the network's edge. This versatile radio system maximizes flexibility to support different missions while reducing training costs and supporting logistics. It can operate in a high-threat environment with the UltraHop frequency hopping waveform.

IP Connectivity

The radio has the capability to converge, cross-connect and relay 3 channels of IP communication. It supports 2 PTP links or a mix of PTP, PMP and mesh for a total of 2 SDR channels. The third channel offers secure 802.11 access or LTE user equipment (UE) mode. The PMP and mesh waveforms use MIMO to provide excellent performance with multipath or increased throughput. Each channel can be encrypted internally or use an external encryption device.

Wide Band Operation

The radio operates in the NATO Band 3, 3+ & 4, 4.9 GHz and NII/ISM frequency bands, giving it spectrum flexibility and a cross-band capability. It supports waveforms using both time division and frequency division duplexing.

Interoperability

The ORION X500-G is interoperable with the AN/GRC-245 HCLOS radio over multiple bands. This capability allows the extension of the IP network to the lower echelons and to ISR assets.



Device Access

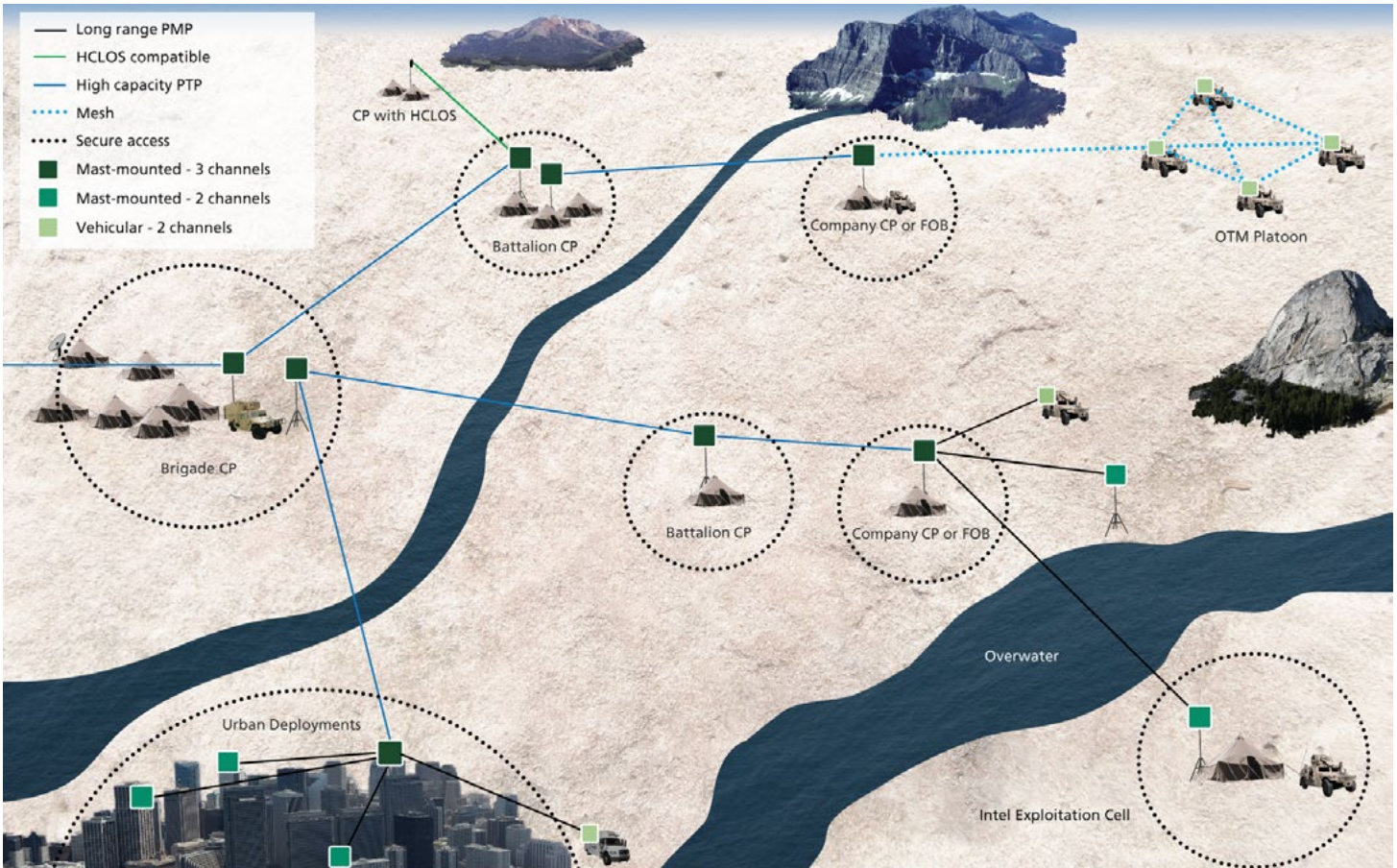
X500-G allows connection of smartphones and tablets to push down broadband connectivity to the tactical edge. The radio's 802.11 connectivity also permits the user to securely manage the radio with a user friendly COTS device such as a smartphone, tablet or laptop.

System

The radio reduces the size, weight and power (SWaP) requirements of a system by supporting multiple channels and frequency bands in a single-box radio. An optional network interface unit provides additional Ethernet connections and a fiber optic interface to the radio. The unit also provides an AC power capability. Various antennas and masts are available to meet the operational needs and leverage the radio's multi-mission capability. Dual RF heads in both Band 3+ and 4 provide internal spare radio capability.

Ultra
ELECTRONICS

making a difference



Specifications

Parameter	Specification
Frequency	Band 3 (1350-1850 MHz), Band 3+ (1350-2690 MHz), Band 4 (4400-5000 MHz), 2.4 GHz ISM, 5.2/5.8 GHz NII/ISM, LTE (700 MHz)
Throughput	Up to 400 Mbps per SDR channel, 1 Gbps 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 0.75 to 40 MHz
Waveforms	Library of LOS and NLOS waveforms including PTP, PMP and OTM. Optional mesh and frequency hopping waveforms. Interoperability with AN/GRC-245 A/B HCLOS & Air Defense Networks.
Traffic Security	AES-256 - FIPS 140-2 Level 2, optional ECCM features
Antennas	Omnidirectional, sectorial, flat panel and directional
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



Ultra Electronics
 TCS
 5990 chemin Côte-de-Liesse
 Montréal, Québec
 H4T 1V7
 Canada
 tel: +1 514 855 6363
 fax: +1 514 855 6357
 email: info@ultra-tcs.com
 www.ultra-tcs.com
 www.ultra-electronics.com

USA
 Tel: +1 844 889 6363 (toll-free)

Ultra Electronics reserves the right to vary these specifications without notice.
 © Ultra Electronics, TCS, Inc. 2015
 Printed in Canada
 6095-1101 2015-07-01