

Ultra ORION X500-G

Broadband Connectivity Across Echelons

The Ultra ORION X500-G is a multichannel, 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. The system's multiple electronic counter-countermeasures (ECCM) capabilities allow operation in high-threat environments.

IP Connectivity

The radio has the capability to converge, cross-connect and relay three channels of IP communication. Its two software defined radio (SDR) channels support a mix of PTP, PMP and mesh waveforms. The third channel offers secure 802.11 or LTE user equipment (UE) mode access. The X500-G uses multiple-input multiple-output (MIMO) technology to provide additional capacity and robustness on any of its three channels. Traffic can be encrypted using the embedded FIPS 140-2 Level 2 compliant AES-256 crypto and/or with an external encryption device.

Wide Band Operation

The radio operates in the NATO Band 3, 3+ & 4 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.



Device Access

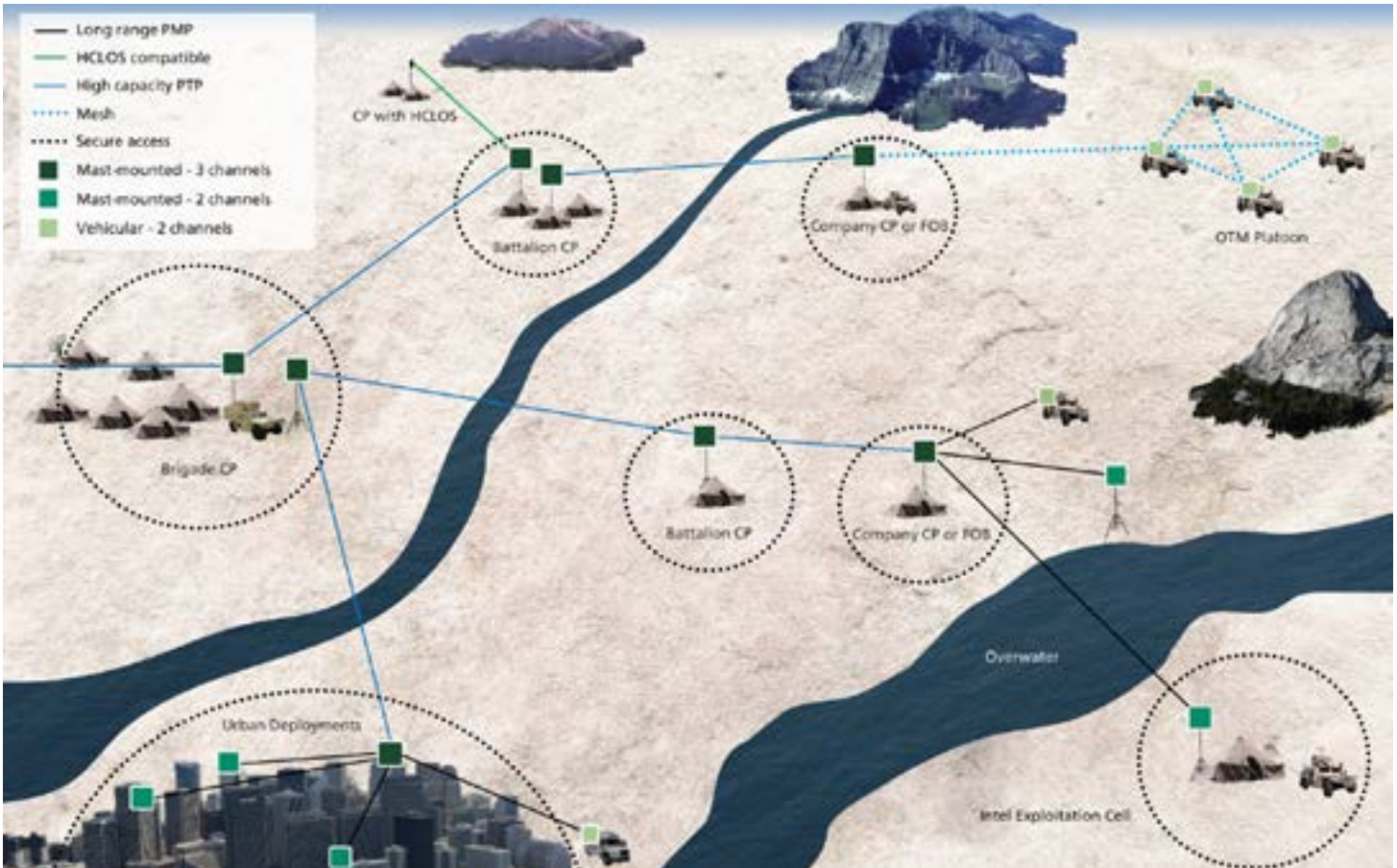
X500-G allows connection of smartphones and tablets to push down broadband connectivity to the tactical edge. The radio's 802.11 connectivity also permits the user to securely manage the radio with a user friendly COTS device such as a smartphone, tablet or laptop.

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. 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 inherent RF redundancy which further increases system reliability.

Features & Benefits

- Compact 3 channel software-defined radio system
- Library of LOS & NLOS waveforms suitable for land, sea and air applications
- MIMO technology
- Up to 1 Gbps system throughput
- Military & public safety bands all in one radio (NATO Band 3, 3+ & 4, 4.9 GHz and NII/ISM bands)
- Interoperable with AN/GRC -245 HCLOS radios
- 4G LTE enabler and edge device integration
- UltraHop frequency hopping ECCM
- 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
- US DoD Nomenclature AN/GRC-262(V)1



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 with Automatic Power Control (APC)
Channel Size	From 0.75 to 38 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 encryption, 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	18.2 to 70VDC, 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



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