

One unified network, powered by Ultra.



ORION Tactical Communications Systems

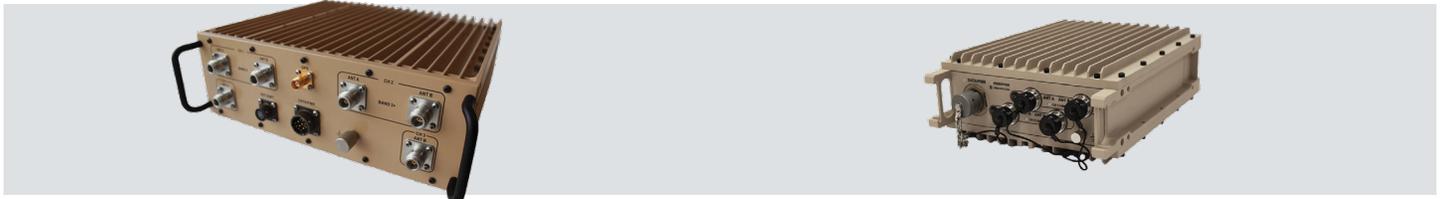
Next-generation tactical wireless communications from the market leader.

The ORION radio system is a software-defined, multi-channel, multi-band, MIMO radio platform that provides a unified network capable of supporting a diversity of user requirements and resilient network operations in contested and congested environments. Providing fixed and mobile communications across multiple echelons, the ORION combines exceptional operational flexibility and interoperability in a small form factor.

Ultra's ORION radio system enhances the communications capabilities of military units by providing higher levels of data throughput at extended ranges, including critical areas at the tactical edge. With increased deployment of advanced sensors, voice, data and video applications within the armed forces, on-demand access to a secure and resilient communications network is a critical operational requirement.



Voice, data, video to the tactical edge.



ORION Backhaul X500

Highest throughput transportable tactical radio.

Mast-mounted 3-channel MIMO radio with transit case

2 tactical SDR channels + 1 optional WiFi/LTE access channel

Up to 400 Mbps throughput per tactical SDR radio channel

Up to 800 Mbps total tactical throughput per radio

Simultaneous support of multiple frequency bands (NATO Bands 3, 3+, 4, ISM)

Simultaneous support of multiple topologies (PTP, PMP, Mesh)

Extremely low-latency mode for air defense applications

Advanced LPI/LPD and anti-jam mechanisms

Advanced interference mitigation via dual TDD/FDD support

ORION Mobile X510

Lower SWAP, same resiliency.

Vehicular/UxV 2-channel MIMO radio with transit case

1 tactical SDR channel + 1 optional Trellisware TSM/WiFi/LTE channel

Up to 200 Mbps throughput (tactical SDR channel)

Up to 350 Mbps total radio throughput with optional channel

Support of multiple frequency bands (NATO Bands 1, 2, 3, 3+, 4, ISM)

Support of multiple topologies (PTP, PMP, Mesh)

Advanced LPI/LPD and anti-jam mechanisms



The most technologically advanced MIMO mil-spec radio capability.

FLEXIBLE & VERSATILE

Supports any combination of network topology simultaneously: PTP, PMP or MESH. Ideal for satellite-denied environments.

VERY HIGH THROUGHPUT

Highest tactical radio throughput on the market – up to 800 Mbps per radio.

MOBILE & SMALL SWAP

MESH mode technology supports mobile ground & air platforms and remote sensors. Supports NLOS environments and auto-discovery.

MIL-SPEC

Tested under the most extreme conditions from -40° C to 60° C. Ultra has decades of experience fielding proven military equipment.

INTEROPERABLE

Modular architecture supports legacy HCLOS radios natively and third-party waveforms (Wi-Fi, LTE, Trellisware TSM).

RESILIENT

Adaptive fast frequency hopping ECCM. MIMO. Embedded AES-256 Layer 2 crypto for TRANSEC. LPI/LPD and AI/ML ready.



Supports many diverse tactical communications applications.



Multi-echelon communications from brigade to edge

NLOS environments including heavily congested and contested urban environments

High bandwidth across all echelons



Ship-to-ship, ship-to-landing craft and ship-to-shore communications

Quickly deployed land bases and command posts

Natural disaster recovery missions

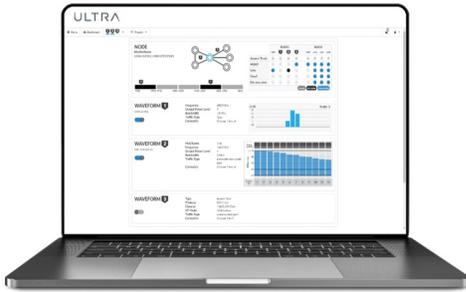


Incumbent on existing air-defense platforms including THAAD and Patriot

Supports ultra low-latency requirements

Multi-band redundancy and adaptive ECCM

A modern and intuitive user interface.



With a standard browser, operators can easily configure waveforms, set up links and monitor connectivity.

Key Features:

Waveforms	The GUI provides easy and intuitive screens to configure and monitor the waveforms used on the ORION radio.
Security	The embedded encryption capabilities allow for up to three different encryption keys for independent data streams. The frequency hopping capability can also be configured to use up to eight hopping channels to be used by the ORION radio.
Monitoring	The dashboard captures the waveforms and network configurations in a single view. The GUI displays alarms triggered by the different ORION radio internal modules and external interfaces.
Spectrum Scan	The multi-mode Spectrum Scan feature turns the ORION radio into a spectrum analyzer. This troubleshooting feature allows the operator to identify neighboring signals and potential interferers as seen from the antenna in its operating position at the top of the mast.
Chat	The chat feature allows an operator to send messages to one or all operators within the same network. It can be used to coordinate deployment and operations throughout the ORION radio network.
Management	The Network Connectivity Tracker (NCT) tool is used to display the complete end-to-end topology of the network with overlaid performance data such as RSL, SNR, etc. The GUI also allows management IP address configuration, backup and restore configurations, and ORION radio software upgrade.
Diagnostics	Diagnostic tools are available from the ORION radio GUI, including a Radio Unit Test, an Antenna Test, Network Counters and System Logs.



Supplied by a trusted partner with decades of experience in tactical communications.

The ORION provides broadband networking and line-of-sight backhaul capability for the US Army TRILOS Program of Record.

Ultra has supplied multiple generations of innovative radio communications products and services to the U.S. Department of Defense (DoD), Canadian Department of National Defence (DND), UK Ministry of Defence (MOD), major prime contractors and the defence and security agencies of allied nations around the globe. The company has fielded over 50,000 radios to date and has been a trusted broadband connectivity solution partner for the US Army for over thirty years.

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