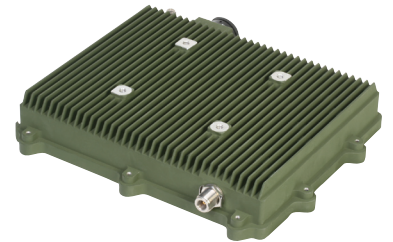# HARRIS®

RF-7800W-OU440

BROADBAND ETHERNET RADIO

Long-range, high-capacity wireless IP

NATO Band IV (4.4-5.0 GHz)

*Support for Point-to-Point and Point-to-Multipoint Applications*

Lightweight and easy to deploy

The RF-7800W Broadband Ethernet Radio leverages proven OFDM technology to deliver high-speed Ethernet throughput over wireless links. Under clear line-of-sight conditions, the RF-7800W can provide robust, long-range connectivity at distances beyond 50 km. The all-Internet Protocol (IP) design of the RF-7800W delivers a seamless extension of Ethernet LANs and WANs, at proven Ethernet data rates greater than 80 Mbps. The RF-7800W provides unmatched spectral flexibility with support for up to three different channel sizes (10, 20, 40 MHz) in Point-to-Point (PTP) mode and two different channel sizes (10 and 20 MHz) in Point-to-Multipoint (PMP) mode, and center frequency specification in 1 MHz increments. Extremely low latency in PTP (less than 4 ms), and PMP (less than 10 ms) ensures the successful delivery of bandwidth-intensive applications such as VoIP, real time video, teleconferencing, and C4I. Designed for the harshest outdoor conditions, the radio receives DC power over Ethernet from the indoor unit via standard CAT-5 Ethernet cable.

Operating over the 4.4–5.0 GHz frequency band, the RF-7800W can be considered for wireless networking solutions such as public safety, first responders, training and simulation networks, and long/short-haul battlefield communications connectivity. Transmissions can be secured via the embedded encryption capability or via external Ethernet Inline Network Encryption (INE) devices.

The lightweight RF-7800W is easy to configure and deploy. Using a standard Web browser, an operator has access to all required configuration items and statistics necessary to configure and monitor the operation of the radio. Third-party network management applications can also be utilized via the standard SNMP interface.

The RF-7800W — dependable wireless broadband communications for commercial and military applications.
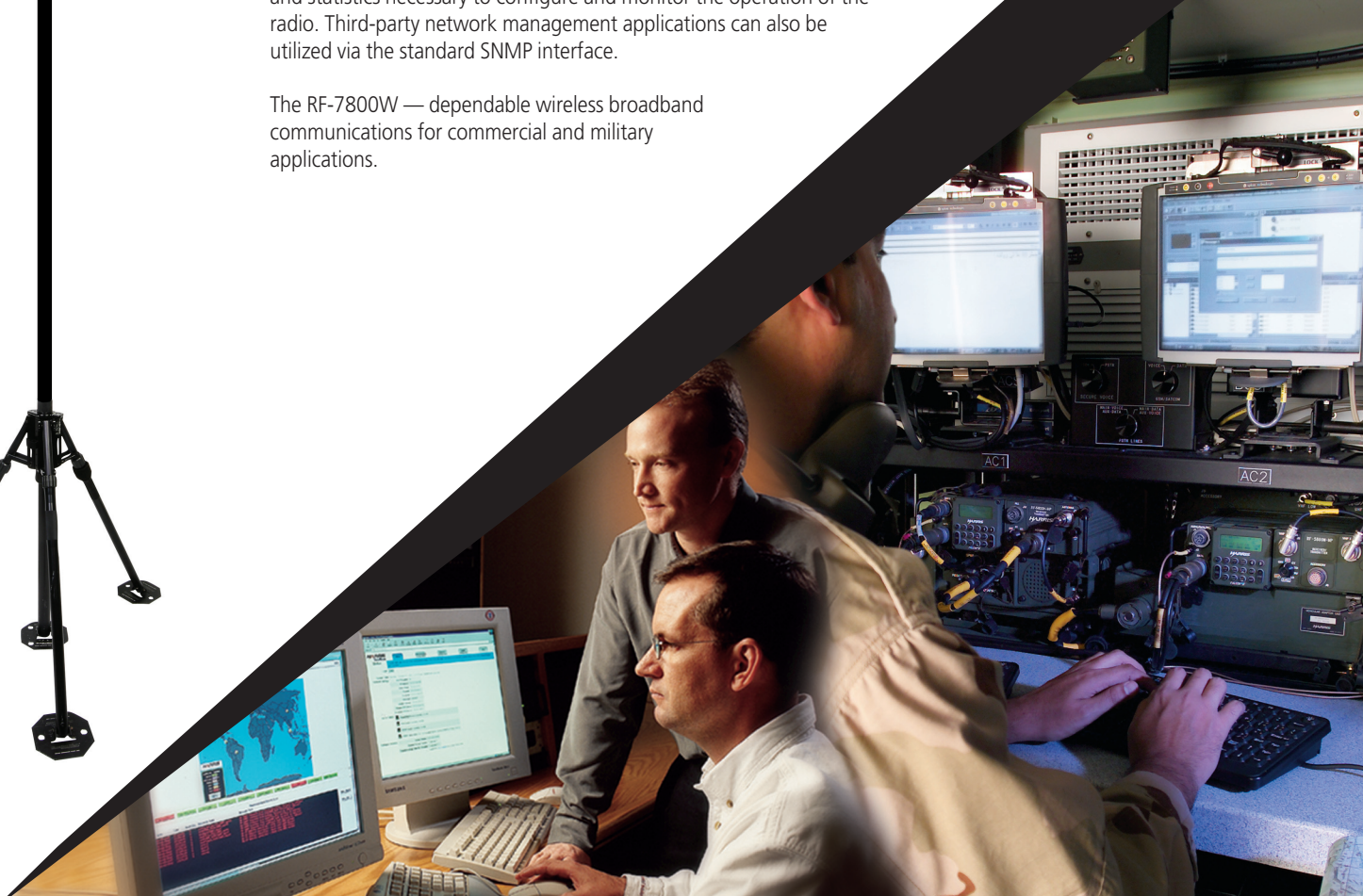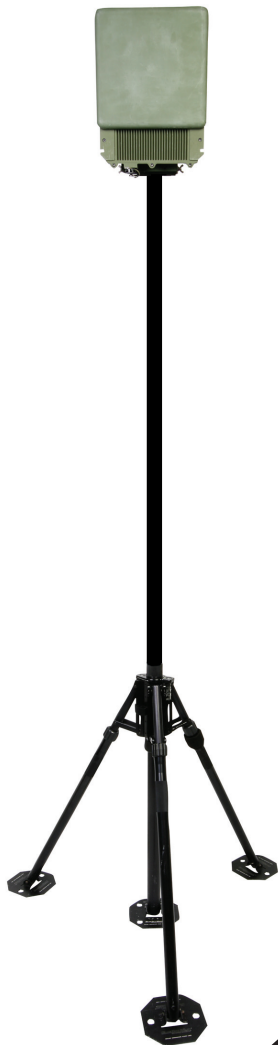
General

System Capability	LOS, optical-LOS, and non-LOS (OFDM)
Operating Modes	Point-to-Point (PTP), Point-to-Multipoint (PMP)
Power Cable	Ethernet, up to 91m (299 ft.)
Software Architecture	Upgradeable via HTTP interface
Power Consumption	22W Max
Power Requirements	110/220/240 VAC 50/60 Hz (with PoE block or NIU) 10.5 to 34.5 VDC (with NIU)

Wireless

Wireless Transmission	OFDM, Time Division Duplex (TDD) and Time Division Multiple Access (TDMA)
Frequency Range	4.4-5.0 GHz
Channel Size	10, 20, 40 MHz (PTP), 10, 20 MHz (PMP)
Channel Spacing	1 MHz
TX Power	Up to 20 dBm adjustable (automatic/manual)
Rx Sensitivity	-88 dBm @ 6 Mbps max. (BER of 1×10^{-9})
Modulation	8 levels from BPSK to 64 QAM
Encryption	FIPS 197 256 bit AES (PTP), 64 bit private key (PMP) Harris Traffic Flow Security (TFS), (PTP)
Interference Control	Dynamic Frequency Selection Automatic Transmit Power Control (PTP) Adaptive Modulation (PTP)

Performance

Data Rate	Up to 108 Mbps (Uncoded Burst Rate) PTP Up to 54 Mbps (Uncoded Burst Rate) PMP
Ethernet Rate	Greater than 80 Mbps PTP Greater than 40 Mbps PMP
Range	Greater than 50 km clear LOS PTP Greater than 20 km clear LOS PMP

Accessories

RF-7800W-PA440	Bidirectional Power Amplifier
RF-7800W-IU100	Nework Interface Unit (NIU)
RF-7800W-AA001	Closed Loop Antenna Alignment System (CLAAS)

Antennas:

RF-7800W-AT001	One Foot Panel
RF-7800W-AT012	Rugged Two Foot Panel
RF-7800W-AT013	Three Foot Grid Parabolic
RF-7800W-AT005	60° Sector
RF-7800W-AT006	Omni

Masts

RF-5941-PM150	15 meter Pushup with ground kit
RF-5941-PM155	15 meter Pushup w/manual winch & ground kit

Networking

Attributes	IPv4, Transparent bridge, Automatic link distance ranging (PTP), DHCP pass-through
Latency	PTP: Less than 4 ms, PMP: Less than 10 ms
Ethernet	802.3x (PTP)
QOS	802.1p (PTP)
VLAN	802.1Q (PMP)

Interfaces

Network Connection	10/100 Ethernet
System Configuration	HTTP Internet browser interface, SNMP, Telnet, SSH, HTTPS
Network Management	SNMP

Environmental

Temperature	-40°C to +60°C operational
Ingress Protection	IP67
Humidity	0 - 95%
Altitude	15,000 ft. operational (40,000 ft. storage)
Weight	5.5 lbs. (2.5 kg)

Tactical Area Communications System Utilizing the RF-7800W-OU440