FALCON III® RF-7800W

High Capacity LOS radios with up to 430 Mbps of throughput

Ruggedized for harsh conditions, the L3Harris RF-7800W provides robust wireless broadband connectivity for fixed, at the halt, and on the move operations in vehicular, maritime and airborne environments. This lightweight, rapid-deployment solution is available as either a standalone radio or with an integrated 5-watt power amplifier.

The system’s simultaneous roaming and multi-hop relay technologies allow the sharing of near real-time, high-definition ISR video and data between mobile commanders and tactical edge forces. This solution intelligently detects weak signal strength and dynamically switches to the strongest available, providing operators constant connectivity without monitoring or intervention.

The RF-7800W delivers best-in-class data throughput and spectrum efficiency, providing coverage throughout the entire 4.4 to 5.875 GHz frequency band. It supports up to four different channel sizes in both Point-To-Point and Point-To-Multipoint modes. The system provides both high throughput and extremely low latency, ensuring rapid delivery of high-bandwidth applications, including VoIP, teleconferencing and C4I data.

Security of data and management traffic is supported through embedded or external device encryption. The HCLOS radio system is also equipped with a GPS module for up-to-the-moment Position Location Information.
GENERAL

Frequency Range
- RF-7800W-OU47x/RP47x: 4.4-5.0 GHz
- RF-7800W-OU50x/RP50x: 4.4-5.875 GHz

System Capability
- LOS, optical-LOS, and non-LOS (OFDM)

Operating Modes
- Fixed Frequency (PTP and PMP)

Software Architecture
- Upgradable via HTTP/HTTPS interface

Max Ethernet Rate
- 430 Mbps

Range
- Up to 255 km clear LOS

POWER

Power Consumption
- RF-7800W-OU50x/OU47x: 25.5 W max, 802.3at PoE compliant
- RF-7800W-RP47x/RP50x: DC input: 100W, PoE 30W, maximum of 130W

Power Requirements
- RF-7800W-OU50x/OU47x: 110-240 VAC 50/60 Hz (with PoE block or NIU)
- RF-7800W-RP47x/RP50x: 110-240 VAC, 50/60 Hz, 10.5-34.5 VDC, powered by RF-7800W-PS104

Power Cables
- RF-7800W-OU50x/OU47x: Ethernet, up to 300 ft (91m)
- RF-7800W-RP47x/RP50x: Ethernet, up to 300 ft (91m) and 12069-3950-Axxx (PA DC Power cable)

SECURITY

Encryption
- FIPS 140-2 Level 2 with 256-bit AES data encryption, Traffic Flow Security (TFS)

Interference Control
- Enhanced Interference Mitigation (EIM), Automatic Transmit Power Control, Adaptive Modulation

PHYSICAL

Dimensions
- RF-7800W-OU50x/OU47x: 9.91 H x 10.23 W x 2.53 D in (251 H x 259 W x 6.4 D cm)
- RF-7800W-RP47x/RP50x: 9.31 H x 11.45 W x 5 D in (237. H x 291 W x 12.7 D cm)

Weight
- RF-7800W-OU50x/OU47x: 5.5 lbs (2.5 kg)
- RF-7800W-RP47x/RP50x: 14 lbs (6.35 kg)

ENVIRONMENTAL

Temperature
- -40°F to +140°F (-40°C to +60°C) operational MIL-STD-810G

Vibration/Shock
- MIL-STD-810G

Immersion
- MIL-STD-810G Method 512.5 Procedure 1

Humidity
- 0-95% MIL-STD-810G

Altitude
- 15,000 ft operational (40,000 ft storage)

NETWORK

QoS
- 802.1p, DiffServ

VLAN
- 802.1Q

Network Connection
- 10/100/1000 BaseT Ethernet

System Configuration
- HTTP/HTTPS internet browser interface, SNMP, Telnet, SSH, Isolated Serial Management Interface

Network Management
- SNMP v2/v3, auto crossover (Ethernet), improved diagnostics (BIT), RADIUS, SNTP, Syslog

WIRELESS

Wireless Transmission
- OFDM, Time Division Duplex (TDD) and Time Division Multiple Access (TDMA), Multiple Input Multiple Output (MIMO)

Channel Size
- 5, 10, 20, 40 MHz

Channel Spacing
- 0.5 MHz

Max TX Power
- RF-7800W-OU50x/OU47x: 22 dBm
- RF-7800W-RP47x/RP50x: 37 dBm

Rx Sensitivity
- >-98 to -67 dBm

Modulation
- BPSK to 256 QAM

ACCESSORIES

12069-0030-Axxx
- Rugged PoE Cat5e Cable; various lengths

12069-0031-Axxx
- Rugged PoE Cat5e Cable; various lengths

12069-3950-Axxx
- PA DC power cable

RF-7800W-IU-20x
- Network Interface Unit

RF-7800W-AAxxx
- Antenna Alignment System

RF-7800W-PS104
- Rugged Power Supply

RF-7800W-TKxxx
- Tracking Systems

MASTS

RF-5941-PM155
- 15-meter Winch Mast

RF-5945-TM150
- 15-meter Telescopic Mast

RF-5945-TM180
- 18-meter Telescopic Mast

RF-5945-LM155
- 15-meter Lift Mast includes Winch

RF-5945-LM210
- 21-meter Telescopic Mast

ANTENNA

RF-7800W-AT2X1
- 1-ft Panel MIMO Antenna, 4.4-5.875 GHz

RF-7800W-AT2X2
- 2-ft Panel MIMO Antenna, 4.4-5.875 GHz

RF-7800W-AT2X3
- 3-ft Dish MIMO Antenna, 4.4-5.875 GHz

RF-7800W-AT2X5
- 120° Sector Antenna, 4.4-5.875 GHz

RF-7800W-AT2X6
- Omni-directional MIMO Antenna, 4.4-5.875 GHz

RF-7800W-AT2X7
- 90° Sector MIMO Antenna, 4.4-5.875 GHz

RF-7800W-AT246
- On-The-Move Omni-Directional Antenna 4.4-5.875 GHz

See Product Catalog for additional accessories