L3HARRIS FALCON III® RF-7850W

High-Capacity Line-Of-Sight Radio with frequency hopping up to 180 Mbps

Ruggedized for harsh conditions, the L3Harris RF-7850W provides robust wireless broadband connectivity for on-the-move operations in vehicular, maritime and airborne environments. Leading-edge frequency hopping technologies provide resilient communications in hostile RF 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-7850W 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.

UNRIVALED DATA RATES ON THE MOVE

KEY BENEFITS

> Ethernet data rates up to 430 Mbps (fixed frequency) and to up to 180 Mbps (frequency hopping)
> Capable of communication at distances up to 255 kilometers
> High-bandwidth connectivity at the halt or on the move across a resilient waveform
> Best-in-class spectrum efficiency and coverage
> Lightweight, quick to deploy
> Fully secured data and management traffic

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**GENERAL**

- **Frequency Range**
  - RF-7850W-OU47x/RP47x: 4.4-5.0 GHz
  - RF-7850W-OU50x/RP50x: 4.4-5.875 GHz

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

- **Operating Modes**
  - Fixed Frequency (PTP and PMP)
  - Frequency Hopping (PTP and PMP)

- **Software Architecture**
  - Upgradeable via HTTP/HTTPS interface

- **Max Ethernet Rate**
  - 430 Mbps (Fixed Frequency)
  - 180 Mbps (Frequency Hopping)

- **Range**
  - 255 km clear LOS

**POWER**

- **Power Consumption**
  - RF-7850W-OU50x/OU47x: 25.5 W max, 802.3at PoE compliant
  - DC input: 100W, PoE 30W, maximum of 130W

- **Power Requirements**
  - RF-7850W-OU50x/OU47x: 110-240 VAC 50/60 Hz (with PoE block or NIU)
  - 10-34.5 VDC with NIU
  - RF-7850W-RP47x/RP50x: DC input: 100W, PoE 30W, maximum of 130W

- **Power Cables**
  - RF-7850W-OU50x/OU47x: Ethernet, up to 300 ft (91m)
  - RF-7850W-RP47x/RP50x: Ethernet, up to 300 ft (91m) and 12069-3950-Axxx (PA DC Power cable)

**SECURITY**

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

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

**PHYSICAL**

- **Dimensions**
  - RF-7850W-OU50x/OU47x: 10.23 W x 9.91 H x 2.53 D in (25.9 W x 25.1 H x 6.4 D cm)
  - RF-7850W-RP47x/RP50x: 11.45 W x 9.31 H x 5 D in (29.1 W x 23.7 H x 12.7 D cm)

- **Weight**
  - RF-7850W-OU50x/OU47x: 5.5 lbs (2.5 kg)
  - RF-7850W-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

- **Humidity**
  - 0-95% MIL-STD-810G Method 512.5 Procedure 1

- **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 (Fixed Frequency)
  - 5, 10, and 20 MHz in (Frequency Hopping)

- **Channel Spacing**
  - 0.5 MHz

- **Max TX Power**
  - RF-7850W-OU50x/OU47x: 22 dBm
  - RF-7850W-RP47x/RP50x: 37 dBm

- **Rx Sensitivity**
  - >-98 to -58 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

**ANTENNA**

- RF-7800W-AT2X1: 1-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.