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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.

RF-7850W-RPXXX
HIGH-CAPACITY LINE-OF-SIGHT RADIO WITH INTEGRATED POWER AMPLIFIER AND FREQUENCY HOPPING

RF-7850W-OUXXX
HIGH-CAPACITY LINE-OF-SIGHT RADIO WITH FREQUENCY HOPPING

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 **RF-7850W-RP47x/RP50x:** 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:** 110-240 VAC, 50/60 Hz, 10.5-34.5 VDC, powered by RF-7800W-PS104
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:** 10.94 H x 11.13 W x 4.53 D in (27.79 H x 28.26 W x 11.50 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
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 (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

L3Harris Falcon III® RF-7850W

Non-Export Controlled Information

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

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