

L3HARRIS FALCON III® RF-7800H-MP

Wideband HF/VHF Tactical Radio System

The L3Harris Falcon III RF-7800H-MP is the smallest, lightest and fastest Type 3 wideband HF manpack available today. Engineered for advanced security and performance, the Wideband HF/VHF Tactical Radio System leverages Falcon II® interoperability along with breakthrough high-speed data.



This SWaP-optimized manpack provides continuous coverage from 1.5 to 60 MHz, 20 watts HF and 10 watts VHF on the power of a single battery. The system's wideband waveform supports data transmission at rates up to 120 kbps in bandwidths from 3 to 24 kHz. Wideband capabilities can also be employed for synchronous and IP applications including

L3Harris Wireless Messaging Terminal, Tactical Chat IP® and hC2™ Patrol.

Embedded Citadel® and AES encryption ensure secure communications. High-performance Automatic Link Establishment and data link protocols support fast, reliable and error-free data transfer—even under the most challenging channel conditions. This tactical system also extends range by operating over degraded communication channels. Ultra-robust 3G waveforms support Last Ditch Voice and SMS messaging in channels where legacy waveforms are inoperable.



BREAKTHROUGH WIDEBAND NETWORKING PERFORMANCE

KEY BENEFITS

- > Smallest, lightest, fastest Type 3 wideband HF manpack radio
- > Supports high-speed communications with data rates up to 120 kbps
- > Software-defined architecture supports in-field upgrades to future capabilities
- > Interoperable with Falcon II radios and accessories

GENERAL	
RT Nomenclature	RF-7800H-MP
Frequency Range	1.5-59.999 MHz
Channel Spacing/ Bandwidth	10 Hz HF: up to 24 KHz VHF: 25 KHz
Net Presets	75
GPS	Commercial
Management Tool	Communications Programming Application (CPA)
Frequency Stability	±1x10-6

TRANSMITTER	
Power Output	HF:1, 5, 20 watts PEP, -1/+1 dB VHF: 1, 5, 10 watts FM
Carrier Suppression	> 60 dB below PEP (J3E mode)
Undesired Sideband Suppression	> 60 dB below PEP output
Audio Output	12 mW at 1000 Ohms to external handset 0 dBm into 600 Ohms balanced

RECEIVER	
Sensitivity	SSB: -113 dBm (0.5 µV) for 10 dB SINAD
Squelch	Front panel adjustable, active squelch selectable
Audio Input	1.5 mV at 150 Ohms or 0 dBm at 600 Ohms for full rated output
IF Rejection	> 80 dB
Image Rejection	> 80 dB (1st IF Image)
AGC	Mode dependent, automatically selected

POWER	
Power Input	26 VDC (21.5 - 32 VDC)
Battery Types	BA-5590B/U Non-rechargeable LiSO2 battery BA-5390/U Non-rechargeable LiMnO2 battery BB-390B/U Rechargeable NiMH battery BB-2590/U Rechargeable Li Ion battery

SECURITY	
Encryption	Citadel, CAM (Customer Algorithm Modification), AES, AVS (Analog Voice Security)
Key Lengths	Citadel: 128 AES: 128/256 bit
Key Fill Device	Windows-based programming application

MODES AND WAVEFORMS	
Narrowband Waveforms	Fix Frequency, 2G ALE (MIL-STD-188-141A), 3G ALE (STANAG 4538 FLSU, MIL-STD-188-141B App A, App B Linking Protection AL-1), Serial Tone ECCM Falcon II Interoperable, VHF FM
Wideband Waveforms	MIL-STD-188-110C Appendix D, DTE synchronous data and IP data
Voice Modes	HF: CLR, LPC-10-52E (600/2400), MELP 600/1200/2400, Last Ditch Voice (LDV), VHF: CVSD
Telephony	Embedded SIP (Session Initiation Protocol, VoIP)

PHYSICAL	
Dimensions	3.3 H x 7.9 W x 9.2 D in (8.3 H x 20 W x 23.4 D cm)
Volume	239.8 in ³ (3884 cm ³)
Weight	8.7 lbs (3.9 kg) without batteries
Color/Finish	CARC Green, tan and black

ENVIRONMENTAL	
Temperature	-40° F to +159.8° F (-40° C to +71° C)
Immersion	1 meter of water (3 ft)
Shock and Vibration/Sand/ Dust/Salt/Fog/Rain	Per MIL-STD-810G

INTERFACES	
Data	RS-232 Serial, USB, Ethernet with adapter
Audio	Microphone and balanced
Antenna Port	BNC connector and whip antenna base
Programming	Front panel, fill loader or Communications Programming Application (CPA)
Function Knob	OFF, PT (Plain Text), CT (Cypher Text), LD (Load), Z (Zeroize) and CLR Clear
Remote Control	ASCII, SNMP

STANDARD ACCESSORIES	
10515-0413-6000	RF-7800H e-Pub CD documentation 10515-0413-4200 Operator's Manual 10515-0413-4000 Operator's Card 10515-0413-4100 Field Reference Guide 10515-6648 Instruction Sheet, Dismount Dipole Adapter
RF-7800H-SW001	Communications Programming Application
RF-6551H	Tactical Chat Communications Software
12006-0017-02	GPS Antenna
10372-0240-02	OE-505 Manpack Antenna Kit
10372-1260-01	Dismount Dipole Adapter
10075-1399	H-250/U Lightweight Handset (Modified)
12043-4800-01	Battery Box
10303-1008-01	Ground Stake Kit
12043-2850-A006	Cable Assembly Program/Data (USB)

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