

FALCON III® RF-7850M-HH

Multiband Networking Handheld

The L3Harris RF-7850M-HH combines the small-profile portability of a handheld with the power and long-range performance of a manpack. Equipped with enhanced Falcon III wideband and narrowband capabilities, the multiband networking handheld is also interoperable with the L3Harris Falcon II® radio family.



The RF-7850M-HH is ideal for traditional Combat Net Radio missions, ground-to-air and Company and Below voice and data communications. When used with the optional 50 W Power Amplifier, the RF-7850M-HH plays a key role at the mid-tier level of any tactical network.

The RF-7850M-HH leverages the TDMA Networking Waveform family for true simultaneous voice and data services over wideband, narrowband and ECCM channels. This waveform family is also available in the Falcon III VHF, airborne and soldier radios supporting seamless communications across the battlefield.

The large multilingual display and built-in WebUI applications deliver maximum mission flexibility. Now, capabilities such as text and file transfer can be accessed directly from the radio, further reducing soldier payload. The optional WebUI provides additional applications including Friendly Force Tracking, video streaming, remote control and others for use at all levels of the battlefield.



LONG-RANGE WIDEBAND NETWORKING

KEY BENEFITS

- > High-speed wideband and narrowband networking
- > Secured with L3Harris Citadel® and AES encryption
- > Manpack performance in a handheld
- > High-rate ECCM and Free Channel Search
- > L3Harris Falcon II and Falcon III interoperability
- > Software Defined Radio architecture

GENERAL	
RT Nomenclature	RF-7850M-HH
Frequency Range	Narrowband: 30 - 512 MHz Wideband: 225 - 512 MHz AM: 108 - 512 MHz
Channel Spacing/Bandwidth	8.33 kHz (AM only), 12.5 kHz (AM only), 25 kHz, 75 kHz*, 1.2 MHz*
Net Presets	25 total/13 selectable from switch
GPS	Internal GPS Accepts external GPS input
Software Environment	Software Defined Radio

TRANSMITTER	
Power Output	Selectable .25, 1, 2, 5 watts High + Power-out mode 10 watts +1/-2db
Audio Output	Variable and fixed level
Frequency Stability	+/- 1 parts per million

RECEIVER	
Sensitivity	FM -116dBm at a 12dBm SINAD AM -103.5dBm at a 10dBm SINAD
Squelch	Selectable: off, noise, tone, CTCSS, digital
IF Rejection	> 70 dB

POWER	
Power Input	10V to 13V
Power Consumption	35 watts

SECURITY	
Encryption	128 & 256 bit L3Harris proprietary and AES Customer Algorithm Modification (CAM)

MODES AND WAVEFORMS	
Voice and Data Modes	AM/FM Analog Voice FSK/TCM Data FSK/ASK MELP Voice GMSK/QPSK Data* FSK/ASK CVSD Voice ECCM
ECCM	Quicklook 1A, 2, 3 and Quicklook-Wide*
Narrowband Networking	TDMA Networking Waveform (TNW) 25K* and 75K*
Wideband Networking	M-TNW*, ANW2°C
Optional Waveforms	SINGGARS with Pavilion encryption Satellite Tactical Communications HaveQuick I/II APCO P25 Phase 1 conventional mode

PHYSICAL	
Dimensions	9.71 H [10.6 with GPS] x 2.94 W x 2.77 D in (24.7 H [26.9 with GPS] x 7.5 W x 7 D cm)

PHYSICAL	
Weight	2.4 lbs (<1.09 kg) with battery
Color/Finish	Green (RF-7850M-HH001) Black (RF-7850M-HH002) Tan (RF-7850M-HH003)

ENVIRONMENTAL	
Temperature	Operation: -30°C to +60°C (-22°F to +140°F) Storage: -40°C to +85°C (-40°F to +185°F)
Immersion	5 meters
MIL-STD 810G	Altitude storage Altitude operation Rapid decompression Thermal shock Solar radiation Blowing rain Humidity Salt fog Sand and dust Explosive atmosphere Vibration Functional shock Transit drop Icing/freezing rain Fungus

INTERFACES	
Data	IP, USB RNDIS and Serial
Audio	Standard 6-Pin, IP
Antenna Port	TNC; 50 Ohms
Programming	USB, Ethernet
Remote Control	IP, Serial
Web UI	IP, Web Browser(Chrome, FireFox)

STANDARD KIT INCLUDES	
Part Number	Description
12011-2710-03	Whip Antenna
12011-2730-01	Tape Antenna
12041-2400-XX	High-Capacity Li-Ion Rechargeable Battery
10515-0461-4100	Quick Reference Guide

*Indicates RF-7850M-SW002 software option
See L3Harris Product Catalog for accessories

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