# L3HARRIS®
## FAST. FORWARD.

# 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

> Available ARROW™ waveform enables resilient interoperability with L3Harris RF-7800V, RF-7850A/D, AN/PRC-158, AN/PRC-163 and AN/PRC-167 radios

## GENERAL

| | |
|---|---|
| RT Nomenclature | RF-7850M-HH |
| Frequency Range | Narrowband: 30 - 512 MHz<br>Wideband: 225 - 512 MHz<br>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<br>Accepts external GPS input |
| Software Environment | Software Defined Radio |

## TRANSMITTER

| | |
|---|---|
| Power Output | Selectable .25, 1, 2, 5 watts<br>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<br>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<br>Customer Algorithm Modification (CAM) |

## MODES AND WAVEFORMS

| | |
|---|---|
| Voice and Data Modes | AM/FM Analog Voice  FSK/TCM Data<br>FSK/ASK MELP Voice  GMSK/QPSK Data*<br>FSK/ASK CVSD Voice  ECCM |
| ECCM | Quicklook 1A, 2, 3 and Quicklook-Wide* |
| Narrowband Networking | TDMA Networking Waveform (TNW) 25K*<br>and 75K* |
| Wideband Networking | M-TNW*, ANW2®C |
| Optional Waveforms | SINCGARS with Pavilion encryption<br>Satellite Tactical Communications<br>HAVEQUICK I/II<br>APCO P25 Phase 1 conventional mode<br>ARROW<br>SATURN |

## PHYSICAL

| | |
|---|---|
| Dimensions | 9.71 H [10.6 with GPS] x 2.94 W x 2.77 D in<br>(24.7 H [26.9 with GPS] x 7.5 W x 7 D cm) |
| Weight | 2.4 lbs (<1.09 kg) with battery |
| Color/Finish | Green (RF-7850M-HH001)<br>Black (RF-7850M-HH002)<br>Tan (RF-7850M-HH003) |

## ENVIRONMENTAL

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

## INTERFACES

| | |
|---|---|
| Data | IP, USB RNDIS, Serial and WPAN |
| 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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**Non-Export Controlled Information**

L3Harris Technologies is the Trusted Disruptor in the defense industry. With customers' mission-critical needs always in mind, our 50,000 employees deliver end-to-end technology solutions connecting the space, air, land, sea and cyber domains in the interest of national security.

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