



HARRIS FALCON III[®] RF-7850S SPR[™]

**POWERFUL
CONNECTIVITY FOR
EVERY SOLDIER**

**ADVANCED WIDEBAND SECURE
PERSONAL RADIO (SPR)**

KEY BENEFITS

- Ultimate integration of radio, edge device, GPS and application software in a single platform
- Every soldier stays connected with unique soldier-specific waveform delivering wideband and narrowband operation
- Enhanced sharing of intelligence with multiple talk groups, ad-hoc mesh networking and multi-hop forwarding
- Battle-management systems capability brought to soldier level through Harris Ground Force Tracker

The Harris Falcon III RF-7850S SPR provides the ultimate integration of radio, edge device, GPS and application software in a single, compact and lightweight platform.

Equipped with the unique, Harris Soldier-TDMA Networking Waveform (S-TNW), the radio delivers team-based voice, fully networked platoon-wide communication and reliable position reports, ensuring every soldier stays connected. It provides both wideband and narrowband operation modes and meets specific needs of soldier-level communications with multiple talk groups, ad-hoc mesh networking and multi-hop forwarding.

Engineered to meet the challenges of today's digital battlefield, the RF-7850S SPR's simple, robust web-based user interface can be viewed with a

supported web browser on any edge device. Because it comes with the easy-to-use Harris Ground Force Tracker, it puts battle-management systems capability into the hands of every soldier, whatever device is used. This allows soldiers to download maps and see the location of all on the network.

The RF-7850S SPR is interoperable with legacy Harris SPR and Falcon III radio families. Plus, its Software Defined Radio architecture supports simplified in-field configuration and upgrades to new capabilities.

SPECIFICATIONS FOR: **HARRIS FALCON III® RF-7850S SPR™ ADVANCED WIDEBAND SECURE PERSONAL RADIO (SPR)**

GENERAL	
RT Nomenclature	RF-7850S
Frequency Range	225 MHz to 2500 MHz
Channel Spacing/Bandwidth	Wideband modes: 1.2 MHz, 5.0 MHz Narrowband mode: 25 kHz Channel spacing: 25 kHz
Net Presets	13
GPS	Built-in GPS with automatic position reporting
Management Tool	Communication Planning Application (RF-7850SH-CD001)
Frequency Tuning	10 Hz
Frequency Stability	± 1.0 ppm
Alerts	Audible status, optional foreign language prompts
Voice Operations	Full duplex audio Multiple, concurrent talk-groups with multiple Push-To-Talk (PTT) operation Stereo audio capable Selectable PTT activation

TRANSMITTER	
Power Output	3.2 W
Audio output	Stereo and mono audio output

RECEIVER	
Sensitivity	-116 dBm @ 12 dB SINAD
Adjacent Channel Rejection	1.2 MHz (HB) +/- 2.4 MHz 40 dB 5 MHz (HB) +/- 10 MHz 50 dB
Squelch	Noise or Tone
Noise Floor (NF)	≤ -148 dBc/Hz
Audio input	1k Ohms +/- 10%

POWER	
Power Input	8.5 V to 16.9 VDC
Battery Types	Rechargeable Hi-Cap Lithium-Ion HH Battery

SECURITY	
Encryption	256-bit Advanced Encryption Standard (AES) 256-bit Citadel® encryption algorithm

About Harris Corporation

Harris Corporation is a leading technology innovator, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world.

Learn more at harris.com

MODES AND WAVEFORMS	
Narrowband Waveforms	TDMA Networking Waveform: <ul style="list-style-type: none"> • Narrowband communication mode • Optimized voice and guaranteed GPS reporting • Frequency hopping (ECCM) operation VHF-UHF Line-Of-Sight: <ul style="list-style-type: none"> • Narrowband communication mode • Interoperable with Harris radio systems
Wideband Waveforms	Soldier-TDMA Networking Waveform: <ul style="list-style-type: none"> • Advanced wideband communication for team, squad or platoon-level deployments • Simultaneous voice and data • IP data up to 1.5 Mbps • Multiple talk groups • Guaranteed position reports from every soldier • Ad-hoc mesh networking protocols
Voice and Data Modes	MELPe and CVSD Voice
Telephony	Embedded SIP

PHYSICAL	
Dimensions	~ 8.3 H x 3.1 W x 2 D in (21.0 H x 8.0 W x 5.0 D cm) with standard battery
Weight	~ 1.71 lbs (775 g) with standard battery
Volume	Approx. 475 cc
Color	Green/Black/Tan CARC Paint

ENVIRONMENTAL	
Temperature	-22° F to +131° F (-30° C to +55° C)
Immersion	2 meters for 30 minutes
Shock and Vibration	Ground portable
Sand/Dust/Salt Fog/Rain	MIL-STD-810G, Test Methods 510.5, 509.5 and 506.5
Humidity	MIL-STD-810G, Test Method 507.5

INTERFACES	
Data	USB 2.0, IP over USB, RS232
Audio	9-pin SPR Fischer connector for stereo audio and multiple PTT control
Antenna Port	TNC connector
Function Knob	16-position knob
Remote Control	ASCII and Web API optional
Wireless Personal Area Network (WPAN optional)	Embedded Wi-Fi, Bluetooth, Bluetooth Low Energy
Embedded Applications	Web User Interface with built-in Ground Force Tracker, compatible with standard internet browsers
GPS Antenna Port	SMA female connector

STANDARD KIT	
12121-2730-01 (225-450 MHz, 1250-1390 MHz, and 1755-1850 MHz)	Tri-Band Antenna
12041-2400-0X	Rechargeable Battery
RF-7850SH-CD001	Communications Programming Application
10515-0474-4100	Field Reference Guide

See Harris Product Catalog for accessories

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