AVAILABLE TODAY!

Transforming HF communications for today's demanding digital battlefield

WIDEBAND HF/VHF TACTICAL RADIO SYSTEM

RF-7800H-MP

FEATURES

> **Smallest, lightest, fastest wideband HF manpack radio**

> **Wideband data up to 120 kbps**

> **Fully interoperable with Falcon II® HF radio and accessories**

The Falcon III® RF-7800H-MP is the evolution of HF technology providing crucial capabilities such as breakthrough wideband data performance and interoperability with fielded Falcon II HF radios allowing for information superiority in today's battlefield.

The RF-7800H provides continuous coverage from 1.5 to 60 MHz in a small and compact package. The radio operates from a single battery, reducing the weight while providing 20 watts HF and 10 watts VHF. The RF-7800H incorporates the latest development in high speed wideband HF waveform technology. This advanced waveform allows data transmission in bandwidths from 3 to 24 kHz achieving data rates of up to 120 kbps.

The RF-7800H-MP features a Software Communications Architecture (SCA) based operating environment providing an optimal platform for hosting future capabilities. Embedded Citadel® and AES encryption provides military grade security for all voice and data transmissions.

The RF-7800H-MP manpack radio interoperates with Falcon II HF radios through an enhanced secure voice and data performance and networking. The combined robust digital voice and serial tone data modem operate over degraded communication channels. The RF-7800H-MP includes a last ditch voice mode and SMS messaging that transmit digitally, using ultra robust 3G waveforms for operation in channels where legacy waveforms do not work.

A serial-tone ECCM Hopping waveform with DSP-based excision filtering combined with robust vocoder provide reliable, secure HF communications in the presence of jamming. Embedded third generation link automation (ALE) per STANAG 4538 provides high-performance link establishment and data link protocols to deliver faster and more reliable linking together with error-free data transfer under the most challenging channel conditions.

An enhanced internal Global Positioning System (GPS) receiver provides local position information and Automatic Position Reporting (APR). This feature allows the radio to be used in situational awareness systems without PCs attached to the outstation radios.

Integrated telephony capability allows the radio operator to place and receive telephone calls using the radio keypad when used with the Tactical Network Access Hub. With a significant increase in processing power, the RF-7800H-MP represents state of the art radio technology to ensure software upgradeability well into the future.

The RF-7800H-MP is the next generation wideband tactical HF manpack enabling today's war-fighter to take on tomorrow's mission.

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SPECIFICATIONS FOR: RF-7800H-MP

GENERAL

Frequency Range	1.5-59.999 MHz
Net Presets	75, fully programmable
Frequency Stability	$\pm 1 \times 10^{-6}$
Emission Modes	J3E (single sideband, upper or lower, suppressed carrier telephony) H3E (compatible AM single sideband plus full carrier) A1A, J2A (compatible CW), selectable; F3E (FM)
RF Input/Output Impedance	50 ohm nominal, unbalanced
Power Input	26 VDC (21.5-32 VDC)
Data Interfaces	USB, Synchronous or asynchronous (RS-232C)

SPECIFICATIONS

Dimensions	3.3 H x 7.9 W x 9.2 D in. (8.3 H x 20 W x 23.4 D cm)
Weight	8.7 lbs (3.9 kg) without batteries

RECEIVER

Sensitivity	SSB: −113 dBm (0.5 µV) for 10 dB SINAD
Audio Output	12 mW at 1000 ohm to external handset
Squelch	Front panel adjustable, active squelch selectable
IF Rejection	Greater than 80 dB
Image Rejection	Greater than 80 dB (1st IF image)
AGC	Mode dependent, automatically selected
Intermodulation Distortion	−80 dB or better for two −30 dBm signals separated 30 kHz or more
Overload Protection	Receiver protected to 32 VRMS

TRANSMITTER

Power Output	HF: 1, 5, 20 watts PEP, -1/+1 dB VHF: 1, 5, 10 watts FM
Audio Input	1.5 mV at 150 ohm or 0 dBm at 600 ohm for full rated output
Carrier Suppression	Greater than 60 dB below PEP output (J3E mode)
Undesired Sideband Suppression	Greater than 60 dB below PEP output
Antenna Tuning Capability	OE-505 10-foot (3 m) whip (1.6-60 MHz), RF-1940-AT001/RF-1941 dipole

HARRIS®

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ENVIRONMENTAL

Test Method	Per MIL-STD-810G
Vibration	Ground tactical
Immersion	1 meter of water (3 ft.)
Temperature	−40° to +71°C

SECURITY

Encryption Modes	AES, Citadel I
Key Length	Citadel: 128, AES: 128/256 bit
Key Fill Device	Windows-based programming application

FEATURES

Wide Band HF Data	MIL-STD-188-110C Appendix D
Automatic Link Establishment (ALE)	STANAG 4538 FLSU, MIL-STD-188-141B Appendix A, Appendix B (Linking Protection, AL-1)
Frequency Hopping	Serial Tone ECCM Falcon II Interoperable
Encrypted Data	HF: US MIL-STD-188-110C App. D, App. C, and Main Body Serial-tone Waveforms, STANAG 4285, STANAG 4415, STANAG 4539 VHF: WBFSK (16 kbps)
Vocoder	HF: LPC-10-52E (600/2400), MELP (600/1200/2400), VHF: CVSD

ADAPTERS

RF-7800H-AD020	Adapter for the RF-5800H-V006 20W Vehicular System
RF-7800H-AD125	Adapter for the RF-5832H 125W Power Amplifier
RF-7800H-AD150	Adapter for the RF-5833H 150W Power Amplifier
RF-7800H-AD400	Adapter for the RF-5834H 400W Power Amplifier

SUPPORTED BATTERIES

BA-5590B/U	Non-rechargeable LiSO$_2$ battery
BA-5390/U	Non-rechargeable LiMnO$_2$ battery
BB-390B/U	Rechargeable NiMH battery
BB-2590/U	Rechargeable Li Ion battery

RF-7800H ANCILLARY KIT

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
10515-0143-4000	Operator's Card
10515-0413-4100	Field Reference Guide
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	Antenna Assembly Adapter
10372-1270-01	Dismount Dipole Adapter
10075-1399	H-250/U Lightweight Handset (Modified)
12043-4800-01	Battery Box
10303-1008-01	Ground Stake Kit
12043-2750-A006	Cable Assembly Program (USB)
10535-0775-A006	Cable Assembly, Async/Data, 6 ft. (~1.8 m)
10511-0701-01	Strain Relief, Cable

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