



Tactical Radio Products

RF-5800H-MP **ADVANCED HF/VHF** **TACTICAL RADIO** **SYSTEM**



*a fully integrated, compact
communications system,
offering the security and
performance features your
missions demand*

The RF-5800H-MP is a member of the FALCON® II family of multiband tactical radio systems. It is an advanced HF-SSB/VHF-FM manpack radio that provides reliable tactical communications through enhanced secure voice and data performance, networking, and extended battery life. The transceiver's extended frequency range (to 60 MHz) provides secure FSK 16 kbps CVSD voice and data in the VHF band in addition to the HF capability. It is like having two radios in one compact package.

High speed data rates, up to 9600 bps (HF), and selectable ARQ mode reduce on-the-air transmission time and enhance secure data transmissions for improved communications reliability and throughput. The combined robust digital voice (MELP, LPC-10-52E) and serial tone data modem operate over poor communication channels.

A serial-tone ECCM waveform with DSP-based excision filtering and a 600 bps vocoder are combined to provide reliable, secure HF communications in the presence of jamming. Secure digital voice, 75 to 2400 bps data, and ARQ mode are supported in the ECCM mode.

The latest third generation HF Link Automation, STANAG 4538, is included and provides high performance ALE and data link protocols, providing superior linking and error free data transfer.

The Harris Citadel® ASIC provides high speed data and digital voice encryption using either a Harris-standard or a customer-unique algorithm.

An internal Global Positioning System (GPS) receiver option provides local position information and automatic position reporting. The accurate GPS timing data can be used for ECCM and advanced ALE synchronization.

The data capability and optional network management features of the RF-5800H-MP utilize industry standard IP-based protocols to provide fast, simple, and direct communications, and permit easy setup and maintenance of tactical networks.

The removable Keypad/Display Unit provides easy access to controls, for on-the-move operation.



General

Frequency Range	1.6 to 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 telephone)
RF Input/Output Impedance	50 ohm nominal, unbalanced
Power Input	26 VDC (20.5 to 32 VDC)
Data Interface	Synchronous or asynchronous (RS-232C; MIL-188-114A)
Dimensions (with battery case)	10.5W x 3.5H x 13.2D inches (26.7W x 8.1H x 34.3D cm)
Radio Weight	<10 lb (4.5 kg) without batteries

Receiver

Sensitivity	SSB: -113 dBm (0.5 μ V) for 10 dB SINAD
Audio Output	15 mW at 1000 ohm to external handset
Squelch	Front panel adjustable, active squelch selectable
Image and IF Rejection	Greater than 80 dB
AGC	Mode dependent, automatically selected
Intermodulation Distortion	-80 dB or better for two -30 dBm signals separated 110 kHz or more
Overload Protection	Receiver protected to 32 VRMS

Transmitter

Power Output	1, 5, 20 watts PEP/Average ± 1 dB (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
Spurious Outputs (Greater than 20 kHz from Fc)	-50 dB relative to rated output, except harmonics which are -45 dB Minimum for f _o = 1.6-30 MHz
Antenna Tuning Capability	OE-505 10-foot (3 m) whip (1.6 to 60 MHz) RF-1936P (AS-2259) NVIS (3.5 to 10 MHz) RF-1940-BNC dipole (3 to 60 MHz)

Environmental

Test Method	Per MIL-STD-810E
Vibration	Ground Tactical
Immersion	3 ft. (.9m) of water
Operating Temperature	-40°C to +70°C

Features

Encrypted Data (maximum data rate)	HF: MIL-STD-188-110B App. C (9600 bps), App. B 39-tone (2400 bps), Serial Tone (2400 bps), STANAG 4285 (2400 bps), STANAG 4415 (75 bps), STANAG 4539 (9600bps), FSK (600 bps)
Automatic Link Establishment (ALE)	VHF: FSK (16 Kbps)
Frequency Hopping	STANAG 4538, MIL-STD-188-141B Appendix A
Vocoder	Serial Tone ECCM
Data Link Layer Protocol (ARQ)	HF: LPC-10-52E (600/2400), MELP (600/2400), VHF: CVSD pFED-STD-1052

System Configuration

	Digital Encryption	GPS
RF-5800H-MP023	—	—
RF-5800H-MP024	—	Internal
RF-5800H-MP025	Citadel™	—
RF-5800H-MP026	Citadel™	Internal

Accessories

RF-5800H-V001	150 Watt Vehicular Adapter
RF-5800H-B003	400 Watt Base Station Adapter
BB-590/U	Ni-Cd Battery (Rechargeable)
BB-390A/U	Nickel Metal Hydride Battery (Rechargeable)
10512-0465-01	FALCON II Backpack Carrying Bag
RF-1936P	NVIS Antenna
RF-1940-BNC	BNC Dipole Antenna

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