HARRIS®

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RF-7800M-MP

MULTIBAND HIGH CAPACITY DATA RADIO

A revolutionary CNR-sized radio that provides secure wideband voice and data on the move

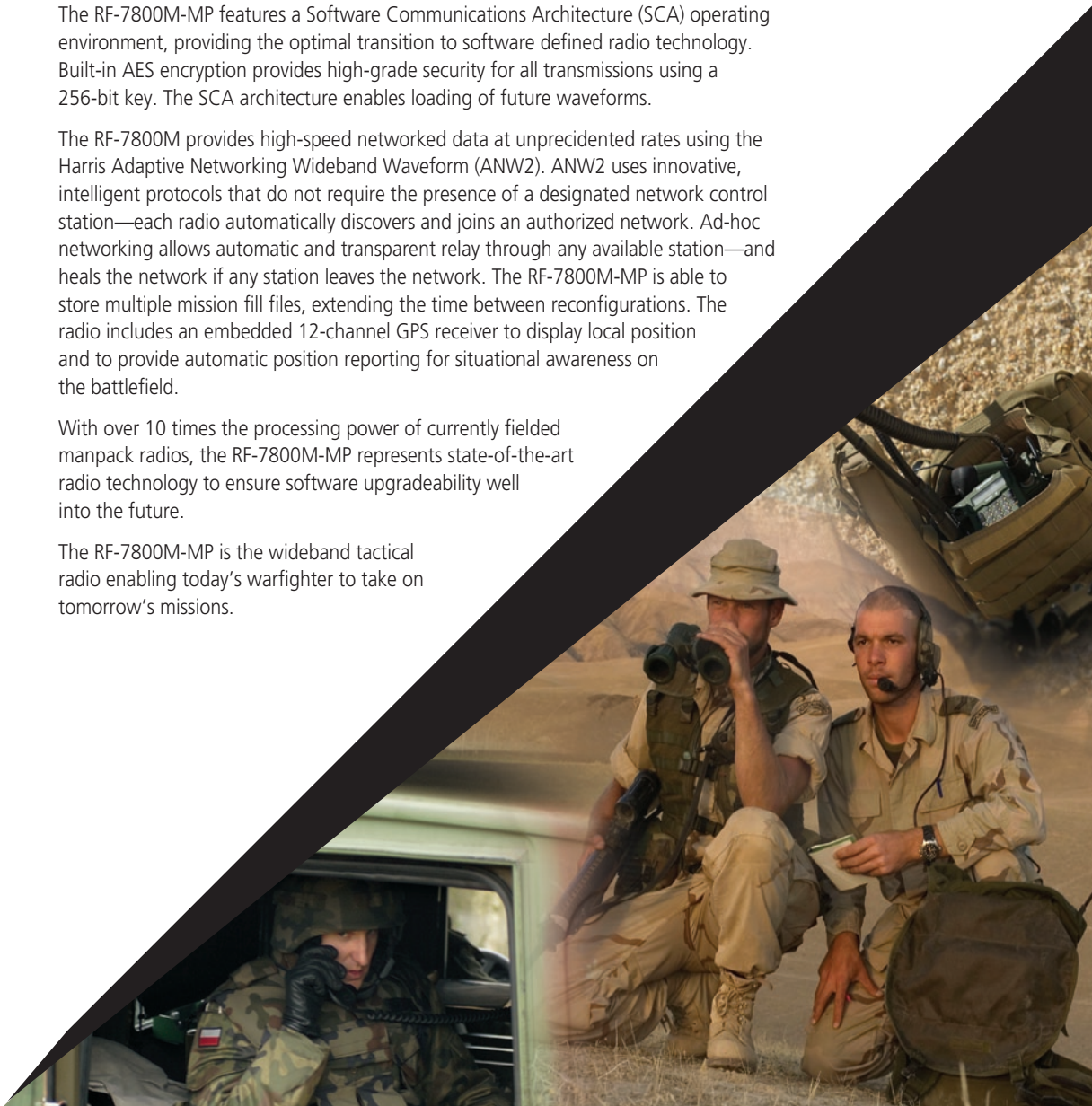
The Falcon® RF-7800M-MP Multiband High Capacity Data Radio (HCDR) provides secure voice and high-speed networked data services on the move. This single channel radio covers 30 MHz to 2 GHz and provides 20 watts of transmit power in a compact package. Capable of fixed-site, vehicular, or manportable battery-powered operation, it has the ability to run both narrowband and wideband waveforms, operating off a single standard battery, reducing the weight of a dismounted radio. The radio provides the hardware for narrowband (25 kHz or less) waveforms from 30 MHz to 512 MHz and for wideband (greater than 25 kHz) waveforms from 225 MHz to 2000 MHz. The narrowband waveform software will be available in a future software release.

The RF-7800M-MP features a Software Communications Architecture (SCA) operating environment, providing the optimal transition to software defined radio technology. Built-in AES encryption provides high-grade security for all transmissions using a 256-bit key. The SCA architecture enables loading of future waveforms.

The RF-7800M provides high-speed networked data at unprecidented rates using the Harris Adaptive Networking Wideband Waveform (ANW2). ANW2 uses innovative, intelligent protocols that do not require the presence of a designated network control station—each radio automatically discovers and joins an authorized network. Ad-hoc networking allows automatic and transparent relay through any available station—and heals the network if any station leaves the network. The RF-7800M-MP is able to store multiple mission fill files, extending the time between reconfigurations. The radio includes an embedded 12-channel GPS receiver to display local position and to provide automatic position reporting for situational awareness on the battlefield.

With over 10 times the processing power of currently fielded manpack radios, the RF-7800M-MP represents state-of-the-art radio technology to ensure software upgradeability well into the future.

The RF-7800M-MP is the wideband tactical radio enabling today's warfighter to take on tomorrow's missions.



Specifications for the RF-7800M-MP

General

Frequency Range	30 MHz to 2 GHz Narrowband (NB)*: VHF low: 30 to 90 MHz VHF high: 90 to 225 MHz UHF low: 225 to 512 MHz Wideband (WB): UHF 225 MHz to 2 GHz
Channel Spacing	NB*: 5 kHz, 6.25 kHz, 8.33 kHz, 12.5 kHz, 25 kHz WB: 500 kHz, 1.2 MHz, 5 MHz
Net Presets	100
Data Interfaces	Ethernet, RS-232/RS-422 Synchronous and Asynchronous
Control Interfaces	Ethernet, RS-232, RS-422, USB
Management Tool	Windows-based radio programming application
Software Environment	SCA v2.2
Internal GPS	12 channel receiver
Frequency Stability	0.5 ppm
Frequency Tuning	10 Hz from 30 MHz to 512 MHz 100 Hz from 513 MHz to 2 GHz
Remote Control	RS-232 ASCII based

Voice & Data Mode

Voice Mode	2400 bps MELPe
Data Modes	64 kbps to 3 mbps GMSK 1 mbps to 5 mbps QAM
Mac	TDMA based
Ad-Hoc Networking Protocols	Self-forming and self-healing using OLSR

Security

Encryption Modes	AES
Key Length	256 bit
Key Fill Device	Windows-based radio programming application
Key Storage	180 total keys
Mission Fill Device	Windows-based radio programming application

Transmitter

Power Output	NB*: 10 watts WB: 20 watts peak/1-5 watt average
Antenna Outputs	NB*: 30 MHz to 512 MHz WB: 225 MHz to 2 GHz
Harmonic Suppression	Greater than 50 dBc

Receiver

Narrowband Sensitivity* (for 10 dB SINAD)	LOS FM 50-512 MHz: -118 dBm LOS AM 90-512 MHz: -110 dBm with 70% Modulation
Adjacent Channel Rejection	60 dB referenced to 10 dB SINAD (50 kHz channel) VHF: 60 dB (50 kHz off channel) UHF: 50 dB (50 kHz off channel)

Power

Power Input	19 VDC to 34 VDC
Power Consumption	65 watts max
Battery Types	BA-5590/U, BA-5390/U, BB-590/U, BB-390/U, BB-2590/U

Physical and Environmental

Size (no handles)	7.4 W x 3.4 H x 8.8 D inches (no battery) 18.8 W x 8.5 H x 22.4 D cm (no battery) 7.4 W x 3.4 H x 13.5 D inches (w/ battery) 18.8 W x 8.5 H x 34.3 D cm (w/ battery)
Weight	3.6 kg without battery
Shock/Vibration	MIL-STD-810F for tracked and wheeled vehicles
Immersion	1 meter
EMI/RFI	MIL-STD-461E
Color	CARC Green 383

Accessories

12043-4800-01	Battery Box
RF-3150-AT152	VHF, 30 MHz – 108 MHz Blade Antenna
RF-3151-AT152	UHF, 100 MHz – 512 MHz Monopole Blade Antenna
RF-3164-AT122	UHF, 225 MHz – 450 MHz Dipole Blade Antenna
RF-3165-AT122	225 MHz – 2000 MHz Wideband Antenna
10511-0400-01	GPS Antenna Kit (L1 Band)
10372-0349-01	Antenna Bag
12043-0710-A006	PPP Data Cable
12043-0730-A006	Data and Remote Control Cable
12043-0740	Digital Retransmission Cable
12043-0760-A006	Ethernet Cable

*Narrowband waveform software will be available in a future software release.

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