



## Tactical Radio Products

### **RF-300M-MP001** **WIDEBAND MULTIBAND** **MULTIMISSION RADIO**



*a revolutionary CNR-sized  
radio with US/NATO  
standardized waveforms and  
wideband data capabilities*

The RF-300M-MP FALCON® III manpack is a new generation of tactical radios that are designed to provide both interoperability with fielded waveforms and breakthrough wideband data performance in the same package. This single-channel radio covers 30 MHz to 2 GHz and is 50% smaller and 40% lighter than the currently fielded radios, while still transmitting at up to 10W VHF and 20W UHF. The radio operates off a single standard battery, further reducing the weight of a dismounted radio.

The RF-300M-MP features a JTRS architecture and an SCA Operating Environment to provide the optimal transition to JTRS technology. The RF-300M-MP supports SINCGARS, Havequick II, VHF/UHF AM and FM, High Performance Waveform (HPW), and MIL-STD-188-181B SATCOM. Wideband waveforms, using up to a 5 MHz bandwidth in the 225 MHz to 2 GHz range, can be added subject to NSA certification. Future software upgrades will include the DAMA, IW, Harris wideband data waveform, SATURN, COBRA, and APCO P25 waveforms.

The RF-300M-MP uses the Harris Sierra™ II software programmable encryption module. This programmable encryption device has been designed to maximize battery life in battery-powered radios. Sierra II supports all JTRS COMSEC and TRANSEC requirements. The FALCON III manpack radio supports numerous legacy encryption modes: KY-57/INSON, ANDVT/KYV-5, KG-84C, and keyfill modes of DS-101 and DS-102.

The RF-300M-MP is able to store multiple mission fill files, extending the time between reconfigurations. The radio includes an embedded GRAM SAASM GPS receiver to display local position and to provide automatic position reporting for situational awareness on the battlefield. It also features three separate antenna connections to allow efficient and flexible use of antennas.

With over 10 times the processing power of currently fielded Type 1 manpack radios, the RF-300M-MP represents state-of-the-art radio technology to ensure software upgradeability well into the future. The RF-300M-MP is the wideband tactical radio enabling today's warfighter to take on tomorrow's missions.



# Specifications for the RF-300M-MP001

## 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                                    |
|                           | Satcom: UHF low:   |
|                           | 243 to 270 MHz and 292 to 318 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 and 30 kHz |
|                           | SATCOM: 5 kHz, 25 kHz                                      |
|                           | WB: 500 kHz, 1.2 MHz, 2.5 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 2.2  |
| Integral GPS.....         | GRAM SAASM   |
| 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   |

## Narrowband Modes

|                           |  |
|---------------------------|--|
| Narrowband Waveforms..... | Narrowband AM/FM<br>SINCGARS<br>Havequick I and II   |
| Satcom Waveforms.....     | UHF SATCOM<br>HPW<br>MIL-STD-188-181B Dedicated Channel  |
| Voice and Data Modes..... | Simplex or Half-duplex<br>MIL-STD-188-113 CVSD<br>STANAG 4198 LPC-10e<br>STANAG 4591 MELPe   |
| Data Modes.....           | Synchronous data<br>(300, 600, 1200, 2400, 12k, 16k bps)<br>SINCGARS ECCM<br>(VHF LOW band/1200, 2400, 4800, 9600)<br>Wideband FSK Cipher Text Digital Data<br>(16 kbps; KY-57)<br>Narrowband Cipher Text Digital Data<br>(2.4 kbps; ANDVT/KYV-5)<br>KG-84C<br>Havequick I/II ECCM<br>(16 kbps; KY-57 UHF band only) |

## Security

|                       |  |
|-----------------------|--|
| Encryption.....       | Sierra® II Type 1                                  |
| Encryption Modes..... | KY-57, KYV-5, KG-84,                               |
| Key Fill Device       |  |
| Compatibility.....    | AN/CYZ-10 DTD, KOI-18, KYK-13,<br>KYX-15, MX-18290 |
| Key Storage.....      | 180 black keys                                     |
| Mission Fill Device   |  |
| Compatibility.....    | Windows-based Radio Programming Application        |

## Power

|                        |  |
|------------------------|--|
| Power Input.....       | 18 VDC to 34 VDC                                       |
| Power Consumption..... | 65W max  |
| Battery Types.....     | BA-5590/U, BA-5390/U, BB-590/U, BB-390/U,<br>BB-2590/U |

## Physical and Environmental

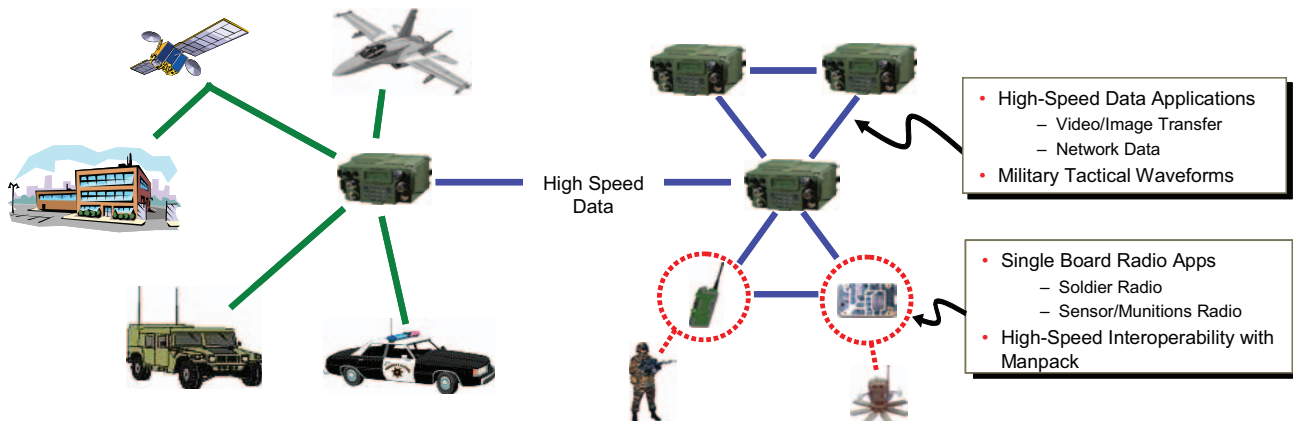
|                      |  |
|----------------------|--|
| Size.....            | 5.8W x 3.2H x 8.2D inches (no battery)                         |
|                      | 5.8W x 3.2H x 12.5D inches (with battery)                      |
| Weight.....          | 7.5 pounds (without battery)                                   |
| Shock/Vibration..... | MIL-STD-810F for tracked vehicles, wheeled vehicles, shipboard |
| Immersion.....       | 1 meter  |
| Color.....           | 34094 Green per FED-STD-595B                                   |
| EMI/RFI.....         | MIL-STD-461F   |

## Transmitter

|                           |   |
|---------------------------|---|
| Power Output.....         | NB: 10W<br>Satcom: 20W<br>WB: 20W peak/1-5W average                         |
| Antenna Outputs.....      | NB: 30 MHz to 512 MHz<br>Satcom: 243 MHz to 318 MHz<br>WB: 225 MHz to 2 GHz |
| Harmonic Suppression..... | Greater than 50 dBc   |

## Receiver

|                        |   |
|------------------------|---|
| Narrowband Sensitivity |   |
| (for 10 dB SINAD)..... | LOS FM 30-512 MHz: -118 dBm<br>LOS AM 90-512 MHz: -110 dBm with<br>70% Modulation<br>TACSAT FM 243-270 MHz: -120 dBm    |
| Adjacent Channel       |   |
| Rejection.....         | 60 dB referenced to 10 dB SINAD<br>(50 kHz channel)<br>VHF: 60dB (50 kHz off channel)<br>UHF: 50dB (50 kHz off channel) |



Specifications are subject to change without notice.



RF Communications Division | 1680 University Avenue | Rochester, NY USA 14610  
www.harris.com 1-585-244-5830