

RF4



RADIO SYSTEM

with True MANET Bandwidth Saving VHF/UHF Waveform

THOROUGHbred



MESIT
defence

Handheld Transceiver



System Highlights

- multi-channel radio system
- simultaneous voice and IP data transmissions including video support
- decentralized, auto-forming, true multi-hop MANET network for voice and data
- multiple voice streams in one channel (virtual channels)
- bandwidth saving 250 kHz channel with up to 270 kbit/s data rate in low VHF
- highly secure AES based COMSEC
- native position reporting system (GPS, Galileo, Glonass)
- up to 10 W RF power output (handheld)
- 50 W vehicular amplifier with jerk-and-run support

The RF40 Thoroughbred Radio System is a versatile system for secure tactical radio data and voice communication in VHF and UHF bands. Its main features are excellent RF parameters, efficient utilization of the available frequency spectrum, high data rate throughput even in low VHF band, voice and data true MANET capabilities, dual voice stream with data in one channel, second physical radio channel with tactical Ethernet broadband data/voice Mission Module, optional SATCOM-on-the-move communication module and vehicular amplifier with jerk-and-run capability of the handheld radio.

Handheld Technical Specification

General

Frequency range	30 - 512 MHz
Modulation	FM, AM, CPM
Transmitting power	5 W / 10 W burst
Channel bandwidth	25 kHz, 250 kHz
Waveforms	LOS FM/AM (STANAG 4204/4205) WF40 (V/UHF MANET WF, natively IP capable) HW20 (VHF EPM WF, IP capable via MIL-STD-188-220)
Encryption	AES based, key length up to 384 bits
GNSS receiver	built-in (GPS/Glonass/Galileo)
Data interfaces	Ethernet, USB, Serial

Mechanical, Climatic and EMC

Dimension incl. battery	(74 x 202 x 41) mm
Weight incl. battery	0.9 kg
Temperature range	-40 °C to +70 °C
MIL-STD-810G	low/high temperature, humidity, low pressure, 1 m immersion, icing / freezing rain, salt fog, sand and dust, vibration, shock, bench handling
MIL-STD-461G	CE102, CS101, CS114, RE102, RS103

Vehicular Transceiver



- 50 W RF power output
- compact and robust design suitable for wheeled and tracked vehicles
- jerk-and-run support
- vehicle intercom interface
- 12 VDC or 24 VDC power supply
- optionally up to two co-site filters
- optional WaveRelay power amplifier module

For vehicular situations, the RF40 is included in the RF40V, a fully integrated, high-performance system featuring the VA40 vehicular amplifier with built-in co-site filters and an additional slot and optional amplifier for the MM40WR Mission Module. To maintain communications in dismount operations, the system's "jerk-and-run" capability allows the handheld radio to be quickly removed.

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Mission Module



Expansion module easily attachable to the RF40 transceiver or to the VA40 vehicular amplifier (forming one mechanical unit) contains a separate transceiver using WaveRelay technology. Offered in several frequency band variants, primarily in the L-band and S-band. In addition to the transceiver/amplifier connectors it has a standard TNC antenna connector and U-229/U-type connector for audio accessories. With Mission Module attached, the RF40 handheld transforms into fully-fledged two channel transceiver.

- simultaneous transmission of voice, data and video
- true MANET network with unlimited number of participants
- tactical Ethernet
- 5 MHz to 40 MHz channel bandwidth
- 37 Mbps UDP/27 Mbps TCP transmission capacity (20 MHz channel)
- PLI information in real time

Fillgun



Designed to upload operating data to the RF40 transceiver. The fillgun is designed as a small compact unit equipped with all necessary interfaces to the radio and a PC. Fully secure data storage with encrypted file system and emergency key erasure with a press of a button or voltage drop.

- easy connection to the transceiver via the U-229/U connector
- connection to a PC via USB
- emergency data erasure

System Accessories

To cover operational requirements of modern battlefield a wide range of accessories is available providing the users with variety of configuration options. The RF40 is supplied with advanced Li-Ion batteries, vehicle, stationary and personal chargers for quick and reliable charging, efficient narrowband and broadband antennas as well as different types of audio accessories.

