



Q-MAC Electronics

VHF-90M Low Band VHF Transceiver

Tactical Communications



Tactical VHF Radio

VHF-90M

30-88MHz

Voice Encryption

Frequency Hopping



Secure, Simple to Use and Versatile

The VHF-90M Military transceiver is a state of the art communication device specifically designed for tactical military applications. It is an extremely compact and light weight unit, featuring only essential controls to ensure ease of operation.



The radio is available with three modes of communication:

- Analog Fixed Frequency (F3E Stanag 4204 ANPRC 77 Compatible)
- Secure Digital Fixed Frequency
- Secure Digital Frequency Hopping

Designed for Tactical Use

The VHF-90M addresses two roles. When used with a short antenna, it is an ideal squad/platoon level communicator which is light and simple to operate.

When fitted with a full length tactical whip antenna, it becomes capable of use at company/battalion/brigade level where longer ranges are required.

In both roles, the ECCM capability ensures low probability of intercept. The dual role capability simplifies equipment logistics and renders the VHF-90M a capable replacement of the PRC-77 and equivalents.

The VHF-90M has a simple user interface which provides infantrymen sure and dependable communication in tactical conditions. Only essential controls are included on the front panel for simple operation in battlefield conditions. Advanced programming functionality is available in sub-menus. The VHF-90M can be either field or PC programmed.

The VHF-90M is solidly constructed and designed to withstand rigorous military use. Emphasis in the design of the VHF-90M has been placed on value engineering to ensure low cost of ownership over a long service life. This is achieved by utilising SMD components from generic, multi-sourced families.

In short, this revolutionary new transceiver incorporates the very latest in RF and DSP design technology. The VHF-90M is the most cost effective, compact, versatile, high performance VHF transceiver available in the tactical military market today.

Features

- Manpack Performance in Holster Size
- ECCM Capability
- Low Cost
- Light Weight - 1Kg complete with battery
- Immersible, Vibration & Temperature rated to Mil-Std 810F
- 5 Watt
- 2320 Channels
- 10 Programmable Channels
- Selective/Group & Broadcast Calling
- Low Current Consumption
- 10 Minute MTTR
- 8000 Hours MTBF



LIGHT WEIGHT • HIGH POWER • FREQUENCY HOPPING • DIGITAL ENCRYPTION • LOW POWER CONSUMPTION



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Specifications



Actual Size



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GENERAL

Frequency Range	30-88MHz
Modes of Operation	F3E (Stanag 4204 AN PRC-77 Compliant) Digital Voice, Free Channel Search, Frequency Hopping, Data Transmission, Selcall and Group Call
Number of Channels	2320 (10 Pre-programmable)
Channel Resolution	25kHz
Supply Voltage	12V DC
Power Consumption	
- Transmit	5W 1.5A (subject to pre-set power output)
- Receive	Less than 150mA
- Standby	Less than 20mA
Antenna Connector	5/16" 25 TPI Screw Thread (Compatible with AN PRC-77)
Handsets and Headset	DTMF and Non DTMF Handset and Headset Options
Programming	Via Front Panel & DTMF Microphone/Handset or IBM PC 57600,8,1,N
BITE	Micro, Rx, Tx Tests
MTTR	10 Minutes
MTBF	8000 Hours

PHYSICAL CHARACTERISTICS

Weight	1kg with Battery Pack
Construction	
- Radio Body	- Aluminium Extrusion
- Front Panel	- Pressure Diecast Aluminium
- Battery	- High Density Injection Moulded Plastic
Dimensions	82 x 223 x 54mm (With Battery Compartment)

TRANSMITTER

Power Output	5W / 500mW / 50mW (selectable)
Frequency Stability	±2.5ppm
Deviation	Factory Selectable ± 3kHz to ± 7kHz
Modulation	FM (F3E) in Legacy Mode
Harmonic Radiation	-40dB
Spurious Emission	-50dB

RECEIVER

Sensitivity	-116dB for 12dB SINAD
Blocking	>85dB
Adjacent Channel Selectivity	>70dB
Image Suppression	80dB
Intermediate Frequencies	130.050MHz and 455kHz
Spurious Suppression	>50dB
AF Output	250mW @ 2% Distortion
Squelch	150Hz Tone and Signal Level

ECCM PARAMETERS (Optional)

Mode	Comsec - Encrypted Fixed Frequency Transec - Digital Encryption Frequency Hopping Free Channel Search
Hop Rate	100 Hops per Second
Hop Sequence	Pseudo-random
Hop Algorithm	DES Engine

ENVIRONMENTAL

Operating Temperature	-30°C to +65°C
Storage Temperature	-30°C to +80°C
Environmental Rating	Complies with MIL-STD 810F Immersion, Drop, Temperature, Shock & Vibration



Optional Accessories

Hand Crank Generator, Solar Panel Charger, Antennas,
AC/DC Chargers, Headsets, Amplifiers, Vehicular Docking Unit



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Specifications are subject to change without notice.
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