Data Sheet

Barrett PRC-4080

VHF SDR Tactical Transceiver



MOTOROLA SOLUTIONS

Designed for multi-role tactical military and security applications.



The PRC-4080 30-175 MHz VHF transceiver is a Combat Net Radio (CNR) software-defined radio, designed for multi-role tactical military and security applications. It is compact, lightweight and simple to operate in demanding, mission critical conditions.

The PRC-4080 is part of the Barrett family of transceivers that are field proven in over 150 countries, on every continent and in a variety of environments.

Key features

- 30-175 MHz Software Defined Radio transceiver
- P25 interoperability (conventional)
- Dual Network Receive (DNR)
- Digital Signal Processing (DSP)
- Intelligent Noise Reduction
- Selective and group calling
- Frequency hopping (300 hops per second)
- Secure Digital Voice and messaging
- AES-256 and DES-56 encryption levels
- Low and high data rate modem options
- Lightweight, compact modular design
- MIL-STD-810H
- IP67, fully submersible to 1m
- 5W, 20W and 50W configurations

Options

- High-speed data capability
- GPS location messaging and Blue Force tracking

A variety of configurations

No two missions are the same. That's why our Barrett PRC-4080 transceiver can be configured in a number of different ways: from a portable, lightweight handheld to a stationary, high-power transmitter protected against vibrations.

5W VHF Tactical handheld package



- PRC-4080 VHF tactical transceiver
- H-250 tactical handset
- Tape whip antenna, 1.2 m with gooseneck
- Molle pouch with quick release - Multicam
- Rechargeable 6.8 Ah Li-Ion battery pack
- Battery charger

20W VHF Tactical manpack package



- PRC-4080 VHF tactical transceiver
- 20W amplifier
- H-250 tactical handset
- Tape whip antenna, 1.2 m with gooseneck
- Daypack - colour Multicam
- Li-ion Battery Pack 16Ah

50W VHF Tactical mobile package



- PRC-4080 VHF tactical transceiver
- 50W Amplifier
- H-250 Tactical handset
- Docking station
- Anti-vibration mount
- Rugged external mount speaker
- Installation kit

50W VHF Tactical base package



- PRC-4080 VHF tactical transceiver
- 50W Amplifier
- H-250 Tactical handset
- Docking station
- AC power supply module
- Rugged external mount speaker

Docking station option

- Allows for installation flexibility in mobile and base configurations
- Remote connection to amplifier
- PRC-4080 VHF tactical transceiver
- H-250 tactical handset
- Rugged external mount speaker







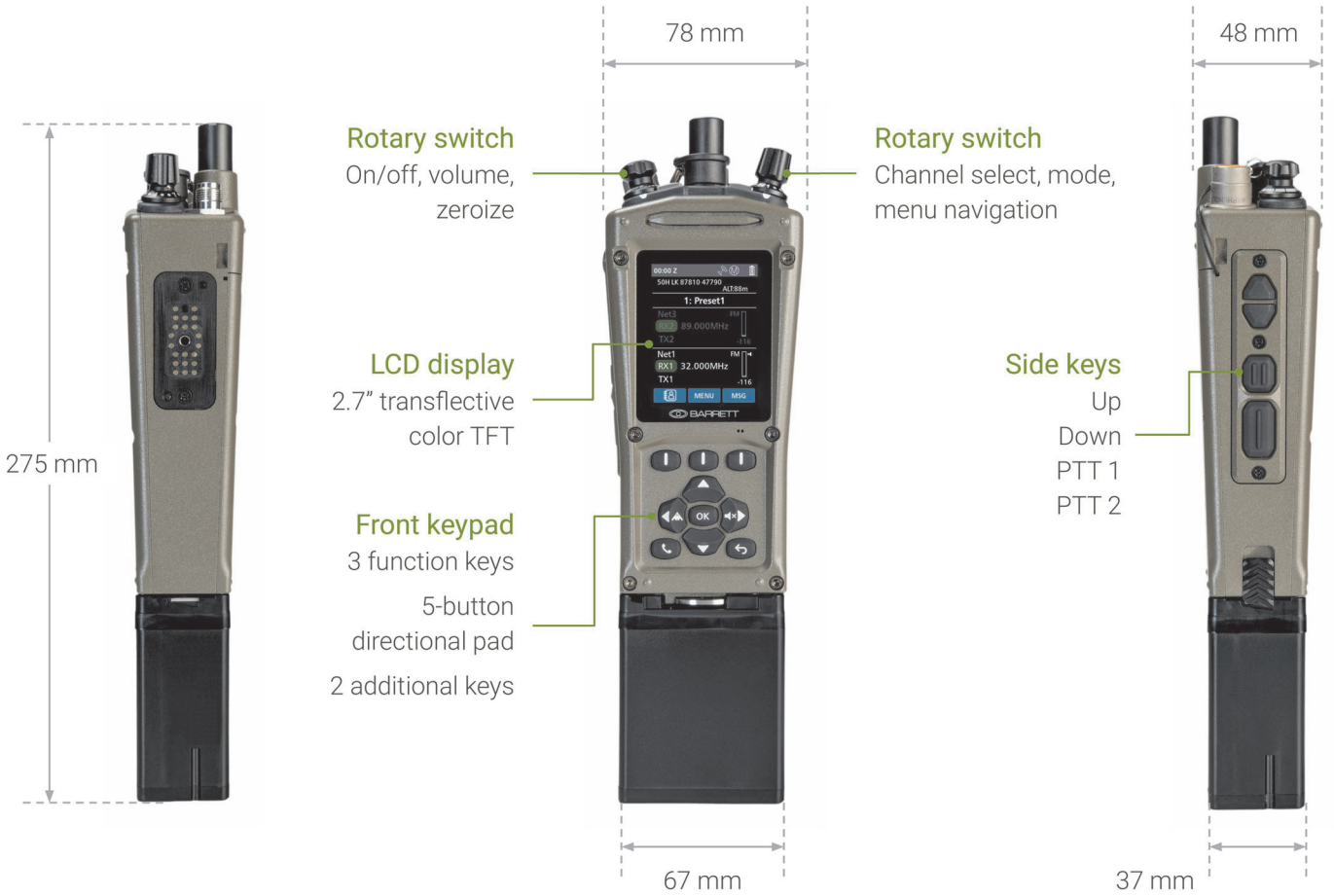
SPECIFICATIONS

MECHANICAL

Weight	1.0 kg (including battery)
Material	Diecast aluminum plastic (PC/ABS)
Operating temp.	–30°C to +60°C
Radio storage temp.	–40°C to +85°C
Battery storage temp. (recommended)	–40°C to +40°C

USER INTERFACES

User input	Two rotary switches 10-button front keypad Four side keys
LCD display	2.7” Transflective color TFT
Audio	Internal speaker and internal microphone
Color/styling	NATO Green body with black battery



SPECIFICATIONS

RF CHANNELS AND FREQUENCIES	
Frequency range	VHF: 30-175 MHz standard
Supported modulations	FM (12.5 kHz, 25 kHz) NATO FM (STANAG 4204) AM (8.33 kHz, 25 kHz) Digital (6.25 kHz, 12.5 kHz, 25 kHz) P25 Conventional
Channel spacing	6.25 kHz, 12.5 kHz, 25 kHz
Frequency stability	± 0.1 PPM with GPS sync ± 0.3 PPM unsynced
Frequency hopping	300 hops per second
RF RECEIVER	
Sensitivity	−116 dBm for 12 dB SINAD (FM Mode) −103 dBm for 20 dB SINAD (AM Mode)
RF TRANSMITTER	
Power output	Hand portable: 5 W / 2.5 W / 1 W / 0.5 W PEP ± 1 dB Manpack: 20 W fixed Mobile / base station: 50 W fixed
Duty cycle	Continuous service, all modes
Audio response	+1 dB to −3 dB (TIA-603D)
Harmonic suppression	> 73 dBc (typical)
Spurious emission	> 73 dBc (typical)
Adjacent channel power ratio	> 60 dBc
Deviation	± 3 KHz ~ ± 7 kHz factory set

POWER SUPPLY	
Supply voltage (handheld)	9.6-12.6 V (battery voltage range)
Power consumption	Receive: 300 mA typical Transmit at 5 W: 1.2 A typical
Supply endurance	> 16 hours (9:1 receive/transmit ratio)
AUDIO	
Noise cancellation	Intelligent Noise Reduction (AI-trained)
Digital voice	600-2400 bps TWELP/MELPe
Speaker	Internal
Microphone	Internal
Whisper mode	Selectable through radio menu
Mute squelch	150 Hz tone or noise-activated CTCSS and RF level
EXTERNAL INTERFACES	
Handset / headset connector	U-283/U 6-pin military connector for H250 handset or headset
Data interfaces	USB and Ethernet via cable adapters
VHF antenna port	TNC antenna mounting connector
GPS antenna port	SMA connector to suit radio-mounted antenna or external SMA cabled antenna
Fill device connector	ODU connector
Side hot-shoe connector	21-pin hot-shoe connector for: • High Assurance Module • Re-bro system • HF cross-gate • Other accessories



ADDITIONAL RADIO FEATURES	
GPS functions	• Built-in GPS with external SMA antenna position distribution waveform • Position distribution simultaneously and transparently together with digital voice
Selective calling	• Simple mode for a single radio ID • Expanded mode to allow for multiple Selcall IDs
COMMUNICATION SECURITY	
Encryption options	• AES-256 voice and data • DES-56 voice and data
Remote disable	• Multiple levels of erase, lock and zeroize • Transceiver lock and transceiver kill
DATA COMMUNICATIONS	
Modem data rates	• 44.1 kbps at 12.5 kHz • 128 kbps at 25 kHz

Secure communications

AES-256 and DES-56 encryption options help make sure that your voice and data communications stay secure.

Frequency hopping capabilities

Part of its Electronic Counter-Countermeasures (ECCM) capabilities, the PRC-4080 can change frequencies up to 300 times a second.

IP data modem options

A choice of built-in or external data modems enables secure data communications, with speeds ranging from 16 kbps to 128 kbps.

RUGGEDNESS STANDARDS AND TESTING	
ENVIRONMENT	**TEST PROCEDURE**
High temperature	MIL-STD-810H 501.7 High Temperature
Low temperature	MIL-STD-810H 502.7 Low Temperature
Humidity	MIL-STD-810H 507.6 Humidity
Immersion	IEC60529 IP67 (dust-tight, submersible in 1 m of water for up to 30 minutes)
Salt fog	MIL-STD-810H 509.7 Salt Fog
Rain	MIL-STD-810H 506.6 Rain
Vibration	MIL-STD-810G 514.6 Vibration
Shock	MIL-STD-810G 516.6 Shock



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