



## MORCOM PRC-178A Tactical VHF Transceiver



The VHF low band between 30-88 MHz facilitates one of the most effective wireless communications available to defense forces, tactical teams, or special law enforcement teams for medium distances (2-10 miles). Due to its longer wavelength, this frequency band can reach considerably longer distances than the conventional VHF band of 150-174 MHz. Because of its longer range and ability to go around obstacles, low band is routinely used by armies around the world.

The PRC-178A portable hand-held transceiver utilizes leading edge technology to package advanced features like Full-range Scan, Programmed Scan, and Selected Frequency Scan in a rugged but yet affordable unit. This radio is fully compliant with military specifications including full immersion in water. MIL-STD810 E and F are the highest standard for rugged testing for mobile-communications equipment.

### Interoperability

This unit is compatible with the standard issue tactical military radios like the PRC-77 and the SINC-GARS. It generates the standard 150Hz CTCSS sub-audible tone required for "squellch ON" operation. This allows the user full interoperability with existing units already in its inventory and also when operating alongside other services or other forces.

### In addition, the PRC-178A has the following features:

- Operation over the full VHF Military Band
- Up to 10 Programmable Channels
- CTSS and DCS Tone Signaling
- Whisper Function
- Functional Keypad
- PC Connection
- Full-range Scan, Programmed Scan, and Selected Frequency Scan
- Built-in Dynamic Antenna Matching Circuit
- Retransmission Mode Available
- PC Programming (Optional)
- LCD Backlight
- Passed MIL-STD-810E for Harsh Field Environments
- Passed MIL-STD-461C for EMI/EMC



*(see specs on reverse side)*

## Specifications:

### General

Measurements method .....	TIA/EIA-603
Frequency coverage .....	30.000-88.000MHz
Type of emission .....	16K0F3E
Channel spacing .....	25KHz
Number of channels .....	2321
Number of preset channels.....	10
Power supply requirements ....	7.4V DC (supplied battery pack)
Current drain (approx.):	
Standby .....	Less than 60mA (Power save mode)
.....	Less than 140mA (Normal mode)
Rx (middle volume).....	Less than 250mA
Tx (More than 1 Watt .....	Less than 800mA

### Services:

Selective call .....	CTCSS, DCS or 150Hz tone
Squelch .....	Noise, CTCSS, DCS or 150Hz tone
Built in modem ....	1200/2400 bps MSK modem with FEC
Frequency error.....	± 3ppm
Interface .....	RS232C/E
Antenna .....	Built in antenna matching network. (An extra 50Ω output provided (For booster or testing use.))
Protection against .....	Over heat/current of PA

### Mechanical Characteristics and Environment

Tested according to .....	MIL-STD-810C/D/E
Usable temperature range .....	-25 °C to +70 °C
Dimensions .....	173x63x42.5mm
Weight .....	under 480g (with lithium pack without antenna)
Water tightness:	
Radio set is immersion-proof under 1M of water	
during 2 hours	
EMI/EMC.....	RE02, RS03 according to MIL-STD-461C
MTTR (Mean Time to Repair).....	10 minutes
MTBF (Mean Time Between Failure).....	5500 hours

### Transmitter

RF output power .....	0.5-1.5 Watt. with APC
Modulation system....	Variable reactance frequency modulation
Max. permissible deviation.....	± 5KHz
Spurious emissions .....	63 dBc (70 dBc typical)
Harmonic Radiations .....	Better than 40 dBc (2nd)
.....	Better than 55 dBc (4th and above)
Adjacent channel power .....	65dBc
Audio frequency response:	
a. +2.5 dB/-3dB range from 300Hz to 3000Hz	
(Factory default)	
b. +2dB to -8dB of 6dB/octave from 300Hz to 3000Hz	
(programmable)	
Audio distortion .....	Less than 5% (3% typical)

### Receiver

Receive system .....	Double-conversion superheterodyne system
Sensitivity .....	Less than 0.45uV at 12dB SINAD(0.3uV typical)
Squelch sensitivity .....	Less than 0.45uV(0.3uV typical)
IF Rejection.....	Better than 63dB (70dB typical)
Image Rejection .....	Better than 63dB (70dB typical)
Adjacent channel selectivity .....	60dB (typical)
Inter-modulation .....	60dB(typical)
Audio frequency response .....	Within +3dB/-3dB from 300Hz to 3000 Hz
Audio output power.....	50mW typical at 5% distortion with an 16Ω load

### Battery Pack

BP-5AA .....	Waterproof battery case for 5xAA(R6) alkaline cells
BP-18L .....	Li-ion battery pack, 7.4V/1850mAh
Usable duration .....	12.5 hours
Rx.....	1.25 hours
Tx(1W).....	1.25 hours
Standby .....	10 hours
Cycling life .....	More than 300 times
BP-21L .....	Li-ion battery pack, 7.4V/2150mAh
Usable duration .....	14.5 hours
Rx.....	1.45 hours
TX(1W) .....	1.45 hours
Standby .....	11.6 hours
Cycling life .....	More than 300 times

### Charger

BC-200 (Desktop charger):	
a. Fast charge current .....	1.5A
b. Standard charge current .....	0.6A
c. Suitable for BP-21L pack, 4.5 hours for standard charge. 1.8 hours for fast charge	
BC-150 (Desktop charger):	
a. Fast charge current .....	1.2A
b. Standard charge current .....	0.48mA
c. Suitable for BP-18L pack, 4.5 hours for standard charge, 1.8 hours for fast charge	
BA-15 (AC to DC adaptor for BC-200/150):	
Input voltage .....	110V, AC
BAP-15 Power supply for BC-200/150:	
Input voltage .....	100 to 240V, AC
Output voltage .....	10.8V (DC), 1.5A
BCBA-15.....	Combine BA15 + BC150 without separable plug

