



**MOTOROLA**  
intelligence everywhere™

Commercial Series  
Two-Way Radios and Accessories

# CP100 Single Channel

## CP100 Single Channel Radio: Solid Performance at an Affordable Price

The single channel CP100 two-way radio is the perfect choice for businesses seeking clear, reliable performance at a very economical price. Its rugged, ergonomic design makes the CP100 durable enough to withstand harsh conditions and easy to hold and carry, even while wearing gloves. An extended life NiMH battery helps maximize talk time, and backup AA battery capacity gives users valuable power source flexibility. The radio's built-in scrambling feature and 121 private lines provide plenty of options to ensure interference-free communication. Easy to use and cost-efficient, the CP100 single channel radio delivers the capabilities you need to maximize effectiveness and maintain competitive advantage.



- **Non-Detachable Antenna**
- **On/Off/Volume Control**
- **Indicator Light** Indicates radio status
- **Battery Gauge** For at-a-glance battery life levels
- **121 Private Line Codes** Allows interference-free communication with 83 digital (DPL) and 38 analog private lines (PL)
- **RSSI Indicator** Displays radio signal strength level
- **Voice Scramble Mode** Provides greater privacy
- **Accessory Connector** Enables users to customize their radios with audio accessories
- **Large LCD Display** Information is clear and easy to read
- **Monitor** Allows user to monitor transmissions to ensure there is a clear channel, or use to adjust radio volume level
- **Menu/Menu Select** Changes radio channels/scrolls through menu choices
- **Call Tone** Alerts users when others are trying to reach them
- **Push-to-Talk Button**
- **Microphone** Allows clear transmission of user's voice
- **Rugged, Durable Design** Meets or exceeds Mil Spec 810 C, D, E, F and IP54 testing standards

## GENERAL SPECIFICATIONS

### Model series CP100

Operating frequency range	VHF (151 to 159 MHz)/UHF (461 to 470 MHz)
Channel bandwidth	12.5/25 kHz
Channel capacity	1
Subaudible signaling system	PL, DPL
Mode of operation	Simplex
Talk range*	Up to 6 miles
Power supply voltage	4.8 volts DC (4 AA batteries or NiMH Pack )
Temperature range	-30 to +60 C
High humidity	Satisfies TIA/EIA 603 specification
Vibration stability	Satisfies TIA/EIA 603 specification
Shock stability	Satisfies TIA/EIA 603 specification
Battery life (5/5/90 duty cycle)	13 hours with NiMH Pack, 22 hours w/4 AA batteries
Dimensions (H x W x D)	5.28 x 2.52 x 1.49
Weight	5.8 oz (radio alone), 9.8 oz w/NiMH battery, 9.2 oz w/4 AA batteries
Seal integrity	IP54 (with battery door installed), Mil Spec 810 C, D, E, F
Emission, modulation, and transmission designation	11K0F3E/16K0F3E

\* Talk range may vary depending on terrain and conditions.

## RECEIVER SPECIFICATIONS

Radiated spurious emissions	-57 dBm
Reference sensitivity (12 dB SINAD)	-121 dBm (0.2 uV)
Adjacent channel rejection	55 dB
Spurious response rejection	55 dB
Intermodulation rejection	55 dB
Audio frequency response (variance from a true 6 dB per octave de-emphasis curve referenced to 1 kHz, from 300 Hz to 3 kHz)	+1 to -3 dB
Hum and noise ratio (non-companded)	50 dB
Audio distortion @ 500 mW	10%
Audio squelch sensitivity	8-12 dB SINAD
Acoustic audio output (max.)	90 dB SPL

## SUMMARY OF CP100 SERIES MIL SPEC RESULTS

Test	Mil Spec 810 C, D, E, F Test Conditions
Shock	Section 516.5, Procedures 1, 2, 4
Rain	Section 506.4, Procedure 1
Temperature Shock	Section 503.4, Procedure 2
Sand and Dust	Section 510.4, Procedure 3
High Temperature	Section 501.4, Procedure 2
Low Temperature	Section 502.4, Procedure 2
Humidity	Section 507.4
Salt Fog	Section 509.4

## TRANSMITTER SPECIFICATIONS

Specification	VHF/UHF
Carrier output power rating	2W
Carrier frequency stability	2.5 ppm
Modulation limiting	+/- 2.5 & 5 kHz
Audio sensitivity	8 mV
Audio distortion	5%
Audio frequency response (variance from a true 6 dB per octave pre-emphasis curve referenced to 1 kHz, from 300 Hz to 3 kHz)	+1 to -3 dB
FM hum and noise ratio (non-companded)	45 dB
Radiated spurious emissions	-20 dBm (10 uW)
Adjustable channel power ratio	60 dBc

## SUMMARY OF CP100 SERIES IP54 TEST RESULTS

IP54 Standard	Testing Requirements	Passing Requirements	Comments
Rain	Spray nozzle that rotates +/- 180 degrees over the turntable. The unit is placed on the turntable for 10 minutes	If any water has penetrated, it cannot interfere with radio operation or impair safety	None
Dust	Units exposed to Talcum powder in a contained chamber	The dust cannot interfere with the correct operation of the equipment or impair safety	Silica powder is used in the dust chamber



MOTOROLA and the Stylized M Logo are registered in the US Patent and Trademark Office. All other product or service names are the property of their respective owners.

© Motorola, Inc. 2002.

[www.motorola.com/cgiss](http://www.motorola.com/cgiss)

RD-CP100-01