MOTOTRBO™ CP100d SERIES PORTABLE RADIOS

EASY TO USE, EASY TO MIGRATE

Simple and effective for the light user who values ease and efficiency.

When choosing cost-effective two-way portable radios, you do not have to compromise features. The MOTOTRBO CP100d Series is a range of practical, entry-level digital radios for professionals wanting to communicate with greater ease and efficiency.

The affordable CP100d radios offer all the benefits of digital technology – up to 35% longer talk-time, twice the voice capacity in a 12.5 kHz licensed channel, wider radio coverage, and superior audio. In digital mode, your MOTOTRBO radio provides clearer voice communications throughout the coverage area than analog radios, rejecting static and background noise.

Digital radios outperform analog radios for demanding or extended work shifts, and ensure voice communications are easily and clearly understood. The CP100d is a versatile option for those requiring additional radio features to meet increasing communication needs, while lowering operating costs.

The CP100d Series is easy to use and makes it easy to migrate from analog to digital. Your radio users can operate and communicate on their new digital radios on the job, as your business transitions to digital technology. Accessory compatibility ensures you can reuse your inventory of battery, antennas, and chargers, further protecting your investments.

Experience MOTOTRBO digital voice communications, trusted by millions of users for exceptional voice quality and exceptional performance — meaning a more productive workforce and lower operating costs for your business.

FEATURES

- Analog / Digital Voice Communications
- Dual Capacity Direct Mode
- Transmit Interrupt (Decode Only)
- Pre-Programmed Text Messaging
- Voice Announcement
- Digital Mobile Radio (DMR) Standards Compliant[1]
- IP54 Rated

[1] Features only available in Digital mode

MOTOROLA SOLUTIONS

VERSATILE SOLUTION FOR TODAY AND TOMORROW

The CP100d Series includes a non display version with no keypad and 16 channels, and monochrome display versions with both full and limited keypads and 160 channels. The ability to operate in both analog and digital modes also makes it easy and affordable to adapt your new digital radios to work along with your existing analog radios, allowing you to migrate to a digital two-way radio platform at your own pace.

INCREASED EFFICIENCY WITHOUT INCREASED COSTS

Powered by the Time Division Multiple Access (TDMA) digital technology, your CP100d radios provide twice the calling capacity as analog for the price of one frequency license.

The CP100d Series features the Dual Capacity Direct Mode that unlocks the full capacity of your digital radio system by doubling your channels without the cost of a repeater and its associated infrastructure. In order for both time slots of a 12.5kHz DMR channel to carry simultaneous and independent traffic, you usually need a repeater to provide the timing reference. With Dual Capacity Direct Mode, your radios are able to synchronize automatically and collaboratively, eliminating the requirement for a timing reference.

Pre-Programmed Text Messaging enables fast and flexible communication in high noise environments where voice is difficult to hear, or when communicating sensitive information.

CLEARER AUDIO, BETTER PERFORMANCE

When it comes to exceptional audio clarity, the quality of digital cannot be denied. The CP100d Series radios give you digital audio performance throughout your coverage area. The digital voice processing with enhanced call signalling ensures faster and more reliable calls.

When your workers cannot be distracted, voice announcement provides audible confirmation of channel changes, as well as programmable buttons that eliminate the need to view the radio display. This customizable feature uses default audio files for easy operation.

VERSATILE FOR MANY ENVIRONMENTS

From the guest rooms to light manufacturing premises, and moving across event locations, you can connect more people effortlessly — wherever they work.

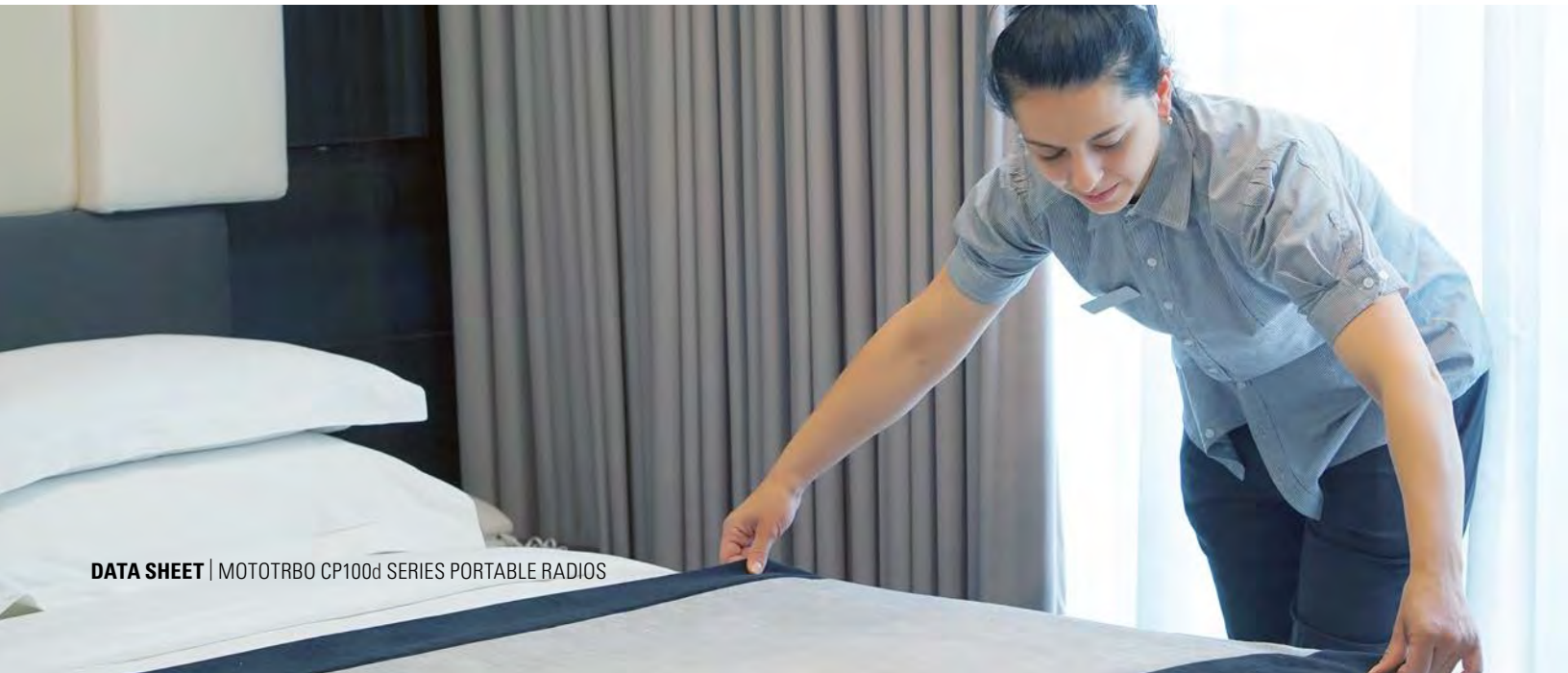
Easy to carry and operate, housekeepers can quickly update the supervisors from inside guest rooms or on the hotel floors. Their CP100d radios deliver voice throughout the entire coverage area of your sprawling resort or high-rise hotel buildings.

With CP100d radios, your on-site event staff runs on double call capacity on the same radio spectrum, giving them more open lines for instant updates, as they run more events with greater efficiency. When there is an emergency, you can send the closest security employee to any part of the venue and speed up response time.

Your assembly line workers can rely on the clear digital audio of their CP100d radios to filter out background noise, so they can hear clearly anywhere in a busy factory, or use one of the programmable buttons to send Pre-Programmed Text Messages.

MADE FOR LIFE, MADE TO LAST

The CP100d Series radios meet demanding specifications, including IP54 for dust and water and U.S Military Standard 810C, D, E, F and G for exceptional durability. They also surpassed the Accelerated Life Testing (ALT) where they were subjected to simulation of 5 years of hard use in real life. These tests included drop, temperature shock, vibration, dust, ESD and humidity.



GENERAL SPECIFICATIONS

	NON KEYPAD CP100d		LIMITED KEYPAD CP100d		FULL KEYPAD CP100d	
	VHF	UHF BAND 1	VHF	UHF BAND 1	VHF	UFH BAND 1
Channel Capacity	16		160		160	
Typical RF Output Low Power High Power	 1 W 5 W	 1 W 4 W	 1 W 5 W	 1 W 4 W	 1W 5W	 1W 4W
Frequency	136-174 MHz	403-480 MHz	136-174 MHz	403-480 MHz	136-174 MHz	403-480 MHz
Radio Dimensions (H x W x D) with battery: Li-Ion 1700 mAh High Cap Li-Ion 2250 mAh	 4.7 x 2.2 x 1.4 in (120.0 x 55.0 x 34.7 mm) 4.7 x 2.2 x 1.6 in (120.0 x 55.0 x 39.9 mm)		 4.7 x 2.2 x 1.4 in (120.0 x 55.0 x 36.5 mm) 4.7 x 2.2 x 1.4 in (120.0 x 55.0 x 41.7 mm)		 4.7 x 2.2 x 1.4 in (120.0 x 55.0 x 36.5 mm) 4.7 x 2.2 x 1.4 in (120.0 x 55.0 x 41.7 mm)	
Weight with battery: Li-Ion 1700 mAh High Cap Li-Ion 2250 mAh	 9.7 oz (276 g) 9.9 oz (281 g)		 10.4 oz (295 g) 10.6 oz (300 g)		 10.4 oz (295 g) 10.6 oz (300 g)	
Power Supply	7.5V (Nominal)					

BATTERY

Average battery life at 5/5/90 duty cycle with carrier squelch and transmitter in high power.[2]	
Li-Ion 1700 mAh	Analog: 10.7 hrs / Digital: 14.4 hrs
High Cap Li-Ion 2250 mAh	Analog: 15.0 hrs / Digital: 20.0 hrs

RECEIVER

Frequency	136-174 MHz	403-480 MHz	136-174 MHz	403-480 MHz	136-174 MHz	403-480 MHz
Channel Spacing	12.5 kHz / 25 kHz[3]					
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 0.5 ppm					
Analog Sensitivity (12 dB SINAD)	0.3 uV / 0.22 uV (typical)					
Digital Sensitivity (5% BER)	0.25 uV / 0.19 uV (typical)					
Intermodulation (TIA603D)	70 dB					
Adjacent Channel Selectivity (TIA603D)	45 dB @ 12.5 kHz / 70 dB @ 25 kHz					
Spurious Rejection (TIA603D)	70 dB					
Rated Audio	0.5 W (Internal)					
Audio Distortion @ Rated Audio	5% (3% typical)					
Hum and Noise	-40 dB @ 12.5 kHz / -45 dB @ 25 kHz					
Audio Response	TIA603D					
Conducted Spurious Emissions (TIA603D)	-57 dBm					

TRANSMITTER

Frequency	136-174 MHz	403-480 MHz	136-174 MHz	403-480 MHz	136-174 MHz	403-480 MHz
Channel Spacing	12.5 kHz / 25 kHz[3]					
Frequency Stability (-30°C, +60°C, +25°C Ref)	± 1.5 ppm					
Low Power Output High Power	1W 5W	1W 4W	1W 5W	1W 4W	1W 5W	1W 4W
Modulation Limiting	± 2.5 kHz @ 12.5 kHz / ± 5.0 kHz @ 25 kHz					
FM Hum and Noise	-40 dB @ 12.5 kHz / -45 dB @ 25 kHz					
Conducted / Radiated Emission	-36 dBm < 1 GHz / -30 dBm > 1 GHz					
Adjacent Channel Power	60 dB @ 12.5 kHz / 70 dB @ 25 kHz					
Audio Response	TIA603D					
Audio Distortion	3% (typical)					
4FSK Digital Modulation	12.5 kHz Data: 7K60F1D and 7K60FXD 12.5 kHz Voice: 7K60F1E and 7K60FXE Combination of 12.5 kHz Voice and Data: 7K60F1W					
Digital Vocoder Type	AMBE +2™					
Digital Protocol	ETSI TS 102 361-1, -2, -3					

[2] Actual battery runtime observed may vary.

[3] 25 kHz may not be available in the U.S. for Part 90 operation due to the FCC's Narrowbanding requirements.

Specifications subject to change without notice. All specifications shown are typical.

MILITARY STANDARDS

	810C		810D		810E		810F		810G	
Applicable MIL-STD	Method	Procedures	Method	Procedures	Method	Procedures	Method	Procedures	Method	Procedures
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	II	500.5	I, II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.5	I/A1, II/A2
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I /C3, II/C1	502.5	I/C3, II-C1
Temperature Shock	503.1	I	503.2	I/A1/C3	503.3	I/A1/C3	503.4	I	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.5	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	–	507.5	II - Aggravated
Salt fog	509.1	I	509.2	I	509.3	I	509.4	–	509.5	–
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand	–	–	510.2	II	510.3	II	510.4	II	510.5	II
Vibration	514.2	VIII/W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.6	I/24
Shock	516.2	I, III, V	516.3	I, IV, VI	516.4	I, IV, VI	516.5	I, IV, VI	516.6	I, IV, VI
Shock (Drop)	516.2	II	516.3	IV	516.4	IV	516.5	IV	516.6	IV

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30°C[4] / +60°C
Storage Temperature	-40°C[4] / +85°C
Thermal Shock	Per MIL-STD
Humidity	Per MIL-STD
ESD	IEC 61000-4-2 Level 3
Dust and Water Intrusion	IP54, MIL-STD
Packaging Test	MIL-STD 810D and E

[4] Radio only - Li-Ion battery -10°C

Specifications subject to change without notice. All specifications shown are typical.

For more information on the MOTOTRBO™ CP100d, visit motorolasolutions.com/mototrbo

To find your nearest Motorola Channel Partner, go to motorolasolutions.com/contactus

MOTOROLA SOLUTIONS

Motorola Solutions, Inc. 500 West Monroe Street, Chicago, Il 60661 U.S.A. **motorolasolutions.com**

MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners. © 2021 Motorola Solutions, Inc. All rights reserved. 02-2021