

## *Commercial Portable Two-Way Radio*

# Motorola CP1660

*Enhanced functionality and easy to use—reliable communication for a higher level of productivity*



## ***CP1660***



## ***Reliable and easy to use communication with enhanced functionality— making it easier to get the job done.***

In today's business environment, easy and prompt communication with your workforce is vital to improving response time, empowering employees to accomplish more in less time and increasing customer satisfaction. Motorola's two-way radios provide a durable, high-quality voice communication solution that helps your business increase productivity and serve your customers in the best manner possible.

Ideal for light manufacturing, retail, hospitality services, property and real estate management, the Motorola CP1660 commercial portable radio brings you the quality features you need at a competitive price. With its full keypad for increased ease of use, extensive feature set, and ergonomic shape for comfortable handling in a durable, lightweight, compact design, you get just what it takes to enhance communication while increasing efficiency and productivity.



## CP1660 Enhanced Functionality Benefits

The strong performance and extensive features, including a full keypad for added convenience, of the CP1660 Commercial Portable Radio provide simple, intuitive operation and help ensure clear, dependable communication.

- **Full keypad** provides easy accessibility to change channels or place a selective call (DTMF signaling).
- Built-in simple voice scrambling for **increased privacy**.
- Built-in DTMF signaling provides **caller identification** and **private communication**.
- VOX ready for **hands-free communication**—users can focus on the job at hand.
- **Tighter specifications** provide enhanced rejection of interference so you can get your message through clearly.
- **X-pand technology** provides crisp, clear and strong audio quality in noisy environments.
- **Multi-channel capability**—99 channels to support communication amongst all your employees.
- User programmable feature—allows **customization of radio profiles** while on the go.
- Lilon battery provides **up to 11 hours (5/5/90 duty cycle) of battery life at high power** to meet the demands of your employee's work shift. A high-capacity battery option is available for those with longer shift requirements or increased communication needs.
- **High power**—5 watt (VHF) / 4 watt (UHF)—adjustable power levels help extend battery life.
- 5 programmable buttons—enabling easy, **one-touch access for up to 10 user-selectable features**.
- **Talkaround capability** enabling communication even when a repeater is not being used.
- **Rapid-rate drop-in charging**—charges standard capacity batteries in less than 3 hours with the included drop-in charger.
- **Easy-to-handle, lightweight, compact design**.

# CP1660 Radio Components and Benefits



## CP1660 Portable Radio

- ① Large ON/OFF/Volume control makes adjusting volume quick and easy.
- ② LED indicator indicates channel, scan and monitor status.
- ③ Large, textured PTT button—easy to find and use without looking.
- ④ Side programmable buttons enable instant access to up to four user-determined functions.
- ⑤ Accessory connector provides convenient access for audio accessories.
- ⑥ Connecting port enables radio programming by computer.
- ⑦ Front left/right buttons for channel change, navigating menus or parameter selections in front panel programming mode.
- ⑧ Front programmable buttons enable instant access up to six user-determined functions.
- ⑨ Large 8-digit alphanumeric LCD with user friendly icons.
- ⑩ Full keypad provides easy accessibility to change channels or place a selective call (DTMF signaling).



## More Features

- **Battery Saver Mode** extends the life of the battery, providing longer talk time.
- **Keypad Lock** prevents accidental press of the buttons.
- **Channel Alias** provides easy identification of a channel.
- **Prime Channel** allows a quick and easy move to a selected prime channel.
- **Scan** allows users to monitor activity on different communication channels, so that important messages are not missed. **Priority Scan** is available for those who constantly monitor a particular channel.
- **Nuisance Channel Delete** removes unwanted channels temporarily from the scan list during scan.
- **Volume Set** allows the user to check the audio and alert tone volume at the press of the button.
- **Sticky Monitor** allows users to stay on monitor mode without constantly pressing the monitor button.



## CP1660 Radio Accessories

The CP1660 offers a full range of Motorola Original® audio, energy and carrying accessories to customize a radio solution specific to your needs. Headsets offer a comfortable, easy communication option when you need your hands free to focus on your operations. A high capacity battery is available to support long shifts common in the manufacturing and hospitality businesses and a soft leather carry case is available as a lightweight and comfortable carrying solution.

This radio also supports Mag One™ audio accessories, which provide an affordable option for light-duty radio users.

Part #	Description
<b>Audio</b>	
Remote Speaker Microphones	
PMMN4029	Remote Speaker Microphone, Submersible (IP57)
PMMN4013	Remote Speaker Microphone with 3.5mm Audio Jack (IP54)
PMMN4008	Remote Speaker Microphone (Mag One)
Remote Speaker Microphone Accessories	
AARLN4885	Receive-Only Covered Earbud with Coiled Cord
PMLN4620	Receive-Only D-Shell Earpiece
RLN4941	Receive-Only Earpiece with Translucent Tube and Rubber Eartip
WADN4190	Receive-Only Flexible Earpiece
Headsets	
HMN9013	Lightweight Headset, Over-the-head, Adjustable, Single-Muff with Swivel Boom Microphone and In-line PTT
PMLN5003	Lightweight Temple Transducer with In-line PTT button and Microphone
PMLN4445	Ultra Lightweight Headset with Boom Microphone and In-line PTT/VOX Switch (Mag One)
Earsets	
PMLN5001	D-Style Earpiece with In-line Microphone and PTT
PMLN4443	Ear Receiver with In-line Microphone and PTT/VOX Switch (Mag One)
PMLN4442	Earbud with In-line Microphone and PTT/VOX Switch (Mag One)
PMLN4444	Earset with Boom Microphone and In-line PTT/VOX switch (Mag One)
Surveillance Kits and Associated Accessories	
HMN9754	2-Wire Surveillance Kit, Beige
RLN6232	Low Noise Kit (Includes Rubber Tips with Acoustic Tube), black
RLN6231	Low Noise Kit (Includes Rubber Tips with Acoustic Tube), beige
RLN6230	Extreme Noise Kit (Includes Foam Earplugs with Acoustic Tube), black
RLN6241	Extreme Noise Kit (Includes Foam Earplugs with Acoustic Tube), beige
RLN6242	Quick Disconnect Acoustic Tube

Part #	Description
<b>Energy</b>	
PMNN4082	Battery, NiMH 1300 mAh min, 1400 mAh typ
PMNN4081	Battery, Lilon 1500 mAh min, 1700 mAh typ
PMNN4080	Battery, High Capacity Lilon 2150 mAh min, 2250 mAh typ
PMLN5406	Single Unit Rapid Charger, 110V with US cord
PMLN5396	Single Unit Rapid Charger, 230V with Euro cord
PMLN5394	Single Unit Rapid Charger, 230V with UK cord
PMLN5400	Single Unit Rapid Charger, 230V with China cord
PMLN5393	Single Unit Rapid Charger, 230V with Korea cord
PMLN5395	Single Unit Rapid Charger, 240V with ANZ cord, SMPS
PMLN5397	Single Unit Rapid Charger, 230V with Euro cord, SMPS
<b>Carry Devices</b>	
HLN9844	Spring Action Belt Clip for 1.5" belt width
PMLN5333	Soft Leather Case with D-ring
<b>Antennas</b>	
PMAD4012	VHF Stubby, 136-155 MHz, 9 cm
PMAD4013	VHF Stubby, 155-174 MHz, 9 cm
HAD9742	VHF Stubby, 146-162 MHz, 9 cm
HAD9743	VHF Stubby, 162-174 MHz, 9 cm
PMAD4014	VHF Whip, 136-155 MHz, 14 cm
PMAD4015	VHF Whip, 155-174 MHz, 14 cm
NAD6579	VHF Whip, 148-161 MHz
HAD9338	VHF Heliflex, 136-162 MHz, 15.5 cm
PMAD4049	VHF Heliflex, 146-174 MHz, 14 cm
PMAE4016	UHF Whip, 403-520 MHz, 16.5 cm
PMAE4014	UHF Whip, 403-425 MHz, 19 cm
PMAE4008	UHF Whip, 470-530 MHz, 13 cm
PMAE4003	UHF Stubby, 430-470 MHz, 9 cm
PMAE4006	UHF Stubby, 465-495 MHz, 9 cm
PMAE4007	UHF Stubby, 490-527 MHz, 9 cm
PMAE4002	UHF Stubby, 403-433 MHz, 9 cm



PMLN5228



PMLN5333



PMMN4013



HMN9013



HMN9754



PMLN5001

# CP1660 Radio Specifications\*

General Specifications		CP1660	
	VHF	UHF	
Frequency Range*	136-174MHz	403-446MHz 435-480MHz	
Memory Channels	99 CH		
Channel Spacing	12.5/25 kHz switchable		
Operating Temperature Range	-30°C to +60°C (Radio)		
Dimensions (H X W X D) with Lilon battery NiMH battery High Capacity Lilon battery	120 x 55 x 35.5 mm 120 x 55 x 36.5 mm 120 x 55 x 40.7 mm		
Weight with Lilon battery NiMH battery High Capacity Lilon battery	335.0 gm 394.5 gm 342.0 gm		
Average Battery Life @5-5-90% Duty Cycle, with Lilon battery NiMH battery High Capacity Lilon battery	High Power up to 11 hrs up to 9 hrs up to 16 hrs		
Sealing	Passes rain testing per IP54		
Shock & Vibration	Diecast with impact resistance polycarbonate housing, Meets MIL-STD810C/D/E/F		
Dust & Humidity	Weather resistant housing Meets MIL-STD810C/D/E/F		

Transmitter		CP1660			
	VHF		UHF		
	High Power 5W	Low Power 1W	High Power 4W	Low Power 1W	
RF Output					
Spurs and Harmonics	9kHz - 1GHz < -36dBm > 1GHz < -30dBm				
Frequency Stability (-30°C to +60°C)	+/- 2.5ppm				
FM Hum & Noise	> 40dB				
Modulation Limiting	≤ 5kHz (25kHz) ≤ 2.5kHz (12.5kHz)				
Audio Response (from 6dB/oct pre-emphasis, 300-3000Hz)	≤ +1/-3dB				
Audio Distortion @ 1kHz tone, 60% rated max dev.	<5%				

Receiver		CP1660	
	VHF	UHF	
Sensitivity (12dB SINAD)	<-119 dBm (0.25uV)		
Adjacent Channel Selectivity	> 70dB (25kHz), >65dB (12.5kHz)		
Intermodulation	>70dB		
Spurious Rejection	>70dB		
Audio Distortion	<5%		
Hum and Noise	>40dB		
Conducted Emission	< -57dBm for below 1GHz < -47dBm for above 1GHz		
Audio Output @ <5% Distortion	500mW (at 24 ohm)		

Military Standards		810C		810D		810E		810F	
Applicable MIL-STD	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	
Temperature Shock	503.1	-	503.2	I/A1C3	503.3	I/A1C3	503.4	I	
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	
Salt Fog	509.1	-	509.2	-	509.3	-	509.4	-	
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	
Vibration	514.2	VII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	

\*Availability subject to country's laws and regulations. Radios meet applicable regulatory requirements. All specifications subject to change without notice.  
 Specifications are not representative of all radios and may vary in different radios.  
 \*Radio frequencies subject to availability.

Version 1 12/08



Stringent Motorola Accelerated Life Testing simulates five years of hard use in real life. EIA RS-3168 on Shock, Vibration, Dust, Humidity, IP54 for Sealing.



Compliance with ISO 9001 Standard on international quality system assurance on design, development, production, installation and servicing of a product.



Stamp of Approval from the U.S. Military for use in rough environments.



To ensure compliance with RF energy exposure standards and regulations, use only Motorola-approved batteries and accessories. Use of non-Motorola-approved batteries and accessories may result in RF energy exposure standards being exceeded.



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

MOTOROLA and the Stylized M Logo are registered in the U.S. Patent and Trademark Office. All other product or service names are the property of their registered owners.  
© Motorola, Inc. 2008

AC4-04-002