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COMMERCIAL SERIES

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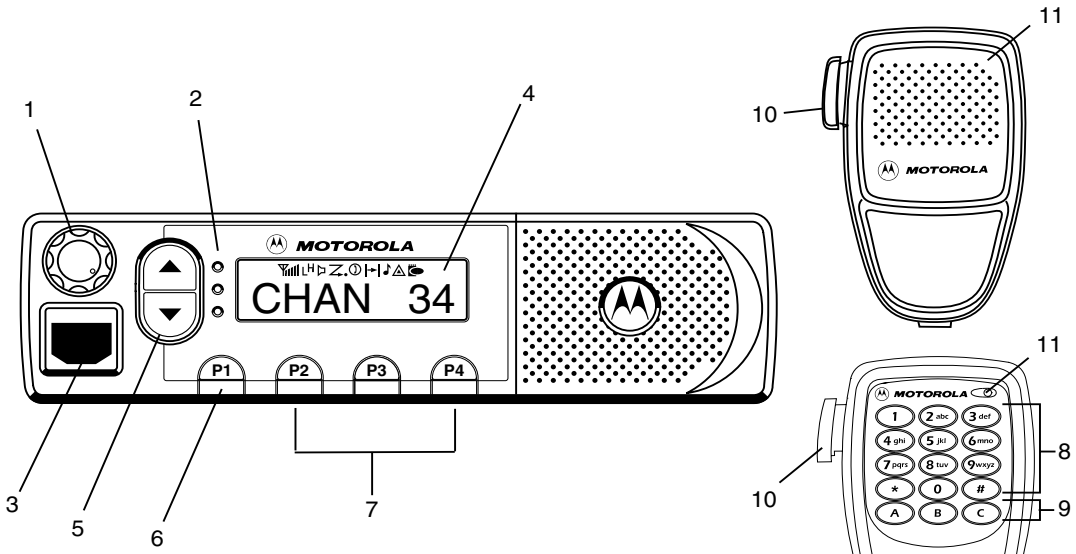
BASIC USER GUIDE
CM140 & CM160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BASIC USER GUIDE

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SAFETY INFORMATION

This user guide covers the operation of the CM160 and CM140 Mobile Radios.

Caution Before using this product, read the operating instructions for safe usage contained in the Product Safety and RF Exposure booklet 6866537D37_ enclosed with your radio.

ATTENTION!

This radio is restricted to occupational use only to satisfy ICNIRP RF energy exposure requirements. Before using this product, read the RF energy awareness information and operating instructions in the Product Safety and RF Exposure booklet (Motorola Publication part number 6866537D37_) to ensure compliance with RF energy exposure limits.

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RADIO OVERVIEW

Radio Controls

The numbers below refer to the illustrations on the inside front and rear covers.

1. **On-Off / Volume Knob**
   Used to turn the radio on or off, and to adjust the radio's volume.
2. **LED Indicators**
   Indicate radio status:
   Green: Solid during power up routine; off after successful power up; flashing when scanning.
   Red: Solid when transmitting: flashing - channel is busy receiving.
   Yellow: Solid when radio is in monitor mode,or is sending a selective call or call alert;
   Flashing - receiving a selective call or call alert.
3. **Mic Jack**

CM160 Radios

4. **LCD Display**
   An 8 character single line display with up to 9 radio status icons.
5. **Navigation up or down**
   Used for channel scrolling, menu navigation and scrolling menu lists.

6. **Menu Buttons** (P1) (P2)
   (P2) used to access the menu and select the menu options, (P1) to exit menu.
7. **Programmable Buttons** (P1) (P2) (P3) (P4)
   Dual function buttons. Short press selects function 1; long press selects function 2.

CM140 Radios

4. **LCD Display**
   A single digit (0 to 9) display, shows the Channel number. The display also shows a dot to indicate High power selected.
5. **Up/Down key**
   Used for channel scrolling.

6. **Programmable Button 1** (P1)
7. **Programmable Button 2** (P2)

Microphone Controls

(Keypad Microphone)

Hold the microphone 2.5 to 5 cm (1-2 inches) from your mouth, and speak clearly into it.

8. **Keypad**
9. **Programmable Keys** (A) (B) (C)
10. **Push-to-talk (PTT)**
    Press and hold down this button to talk; release it to listen.
11. **Microphone**

Audio Signal Tones

High pitched tone ☐ Low pitched tone ■

Signal	Description
	Self Test Pass Tone.
	Self Test Fail Tone.
	Positive Indicator Tone.
	Negative Indicator Tone.
	Good key press.
	Bad key press.

Programmable Buttons

Several of your radios keys and buttons can be programmed, by Customer Programming Software (CPS), as short-cut buttons for many of the radio's features. Programmable buttons include:

CM160 P1 P2 P3 P4

CM140 P1 P2

Keypad microphone A B C

Each button is dual function; a short press may select one function, a long press may select the second.

Check with your dealer for a complete list of the functions your radio supports.

Menu Buttons (CM160)

Menu Select Button P2

The P2 button is dedicated to Menu access and menu option selections.

Menu Exit Button P1

In Menu Mode, this button is automatically assigned to exit the menu. A long press exits the menu immediately, while short presses are used to move up to the next higher Menu level. When the top level menu is selected, a short press will exit the Menu Mode.

The radio also exits the Menu Mode after an “Inactivity Time” timeout

Once the menu mode is exited, both P1 and P2 buttons return to their normal programmable condition.

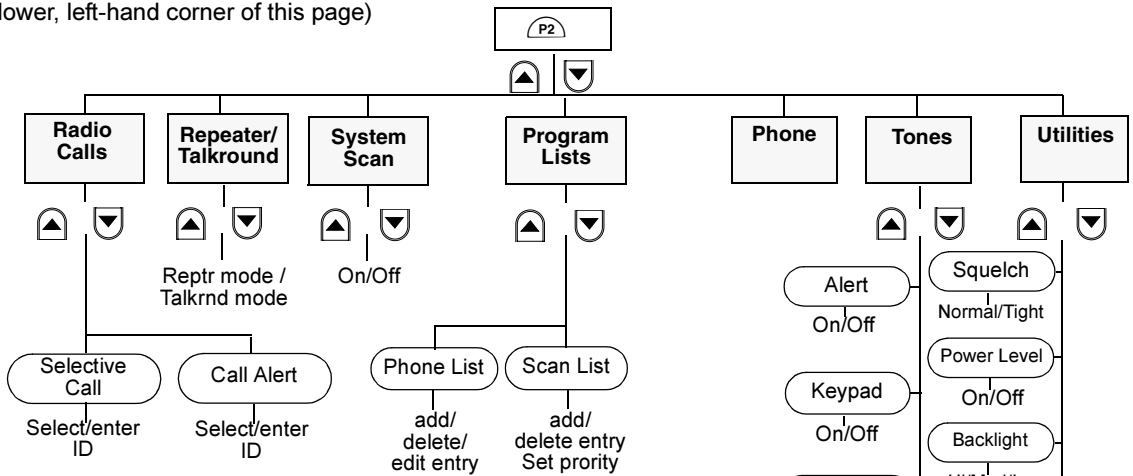
Up /Down Navigation Keys ▲/▼

Used to navigate when in Menu Mode. Increment/decrement channel number or scroll through menu list options. If you scroll past the last option the selection wraps around and starts again. On reaching the required option, a short press of P2 selects the option.

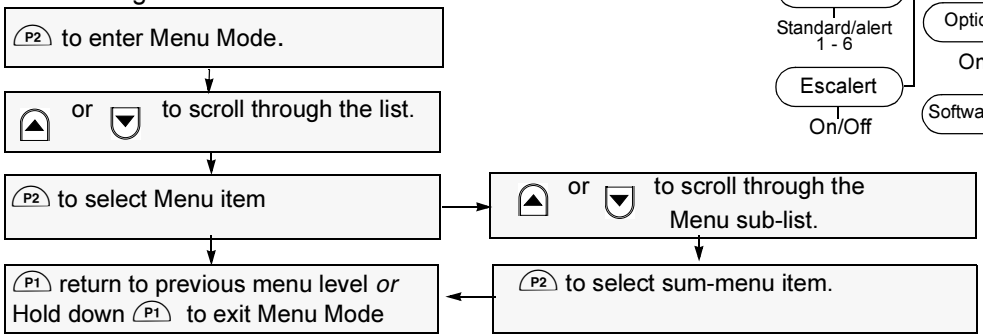
Refer to the menu navigation chart for menu selectable features.

MENU NAVIGATION CHART (CM160)

(Refer to Menu Navigation guidelines—
lower, left-hand corner of this page)



Menu Navigation Guidelines



LCD DISPLAY AND ICONS (CM160)

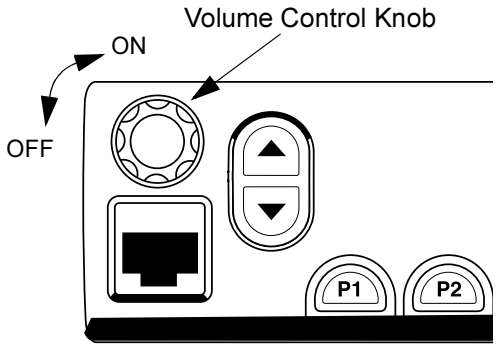
Displays radio Status, Addresses or Channel, on one line of 8 characters. The top line of the display shows radio status icons, explained in the table below:

Symbol	Name and Description
	Option Board Indicator Indicates that an option board is activated in the radio.
	Signal Strength Indicator The more bars, the stronger the signal being received by your radio.
L H	**Power Level Indicator** "**L**" lights when your radio is configured to transmit in Low Power. "**H**" lights when your radio is configured to transmit in High Power.
	Monitor Indicator The selected channel is being monitored.
	Scan Indicator Indicates that the scan feature is activated.
	Priority Scan Indicator Indicates that the scan feature is activated. The dot is flashing during priority scan mode when scan has landed on a Priority 1 channel. The dot is steady during priority scan mode when scan has landed on a Priority 2 channel.
	Phone Indicator Phone mode is selected.
	Call Received Indicator A Selective Call or Call Alert has been received.
	Talkaround Indicator You are transmitting directly to another radio, not via a repeater.
	Emergency Indicator An Emergency Alarm is being sent.

Note: At extremely low temperatures, you may experience a slight delay in displaying new information. This is normal and does not affect the function of your radio.

GETTING STARTED

Turning the Radio On/Off



ON	OFF
Rotate the **On/Off/ Volume Control** knob clockwise until you hear a click.	Rotate the **On/Off/ Volume Control** knob counterclockwise until you hear a click. The display clears and the LED indicators turn off .

Adjusting the Volume

Turn the **On/Off/Volume Control** knob clockwise to increase the volume, or counterclockwise to decrease the volume.

–or– use the pre-programmed **Volume Set** button:

1. Hold down the **Volume Set** button. You will hear a continuous tone.
2. Turn the **On/Off/Volume Control** knob to the desired volume level.
3. Release the **Volume Set** button.

Radio On Message (CM160)

At power up the radio may display a message customised by your dealer, e.g.:

RADIO ON

After this text has been displayed, the radio performs a self test routine. During the routine the Green LED lights. On completion of a successful self test the radio produces the Self-Test pass Tone, the Green LED indicator goes out and the display shows the channel that was in use at power down, typically:

CHAN 35

This may be a number or an alias and will be the current channel.

Radio On Indication (CM140)

At power up the radio performs a self test routine. During the routine the Green LED lights. On completion of a successful self test the radio produces the Self-Test pass Tone, the Green LED indicator goes out and the display shows the Channel that was in use at power down, typically:

If the radio fails the power up routine the power up fail tone sounds and the error number is displayed.

Note: If your radio fails the self test routine, record the error number and consult your dealer.

Selecting a Radio Channel

Your radio offers up to 64 channels (CM160), or 8 channels (CM140), however some may not be programmed. Check with your dealer for more information.
Press ⏶ to increment the Channel number or ⏷ to decrement it.

Using Home Revert Memory Channels (1&2)

Two of the programmable buttons may be pre-programmed by your dealer as Memory Channel buttons, allowing you quick access to frequently used channels. A press of the button will take you to the assigned channel.

Using the Microphone Keypad (If programmed)

Enter the desired channel number on the keypad. Press **#** on the keypad to select the channel.

Receiving a Call

1. Turn your radio on.
2. Adjust the radio's volume.
3. Select the desired channel.
4. To respond, hold the microphone vertically 2.5 to 5 cm (1 to 2 inches) from your mouth. Press the **PTT** to talk; release it to listen

Note: The system may have a limited call time and the call may be terminated automatically if this call time is exceeded.

Sending a Call

1. Turn your radio on.
2. Select the desired channel.
3. Hold the microphone vertically 2.5 to 5 cm (1 to 2 inches) from your mouth. Press the **PTT** to talk; release it to listen.

If your system uses the request-to-talk feature, use the following method to send a call:

1. Turn your radio on.
2. Select the desired channel.
3. Press the **PTT** (for priority requests to talk, the **PRTT** button) and wait for the talk permit tone.
4. Hold the microphone vertically 2.5 to 5 cm (1 to 2 inches) from your mouth. Press the **PTT** to talk; release it to listen.

Your radio may be configured for 'Transmit Inhibit' under certain conditions (e.g. when the channel is in use by others) in which case, the channel busy tone will sound when you press the PTT or call button to indicate that transmission is inhibited.

Making a Selective Call

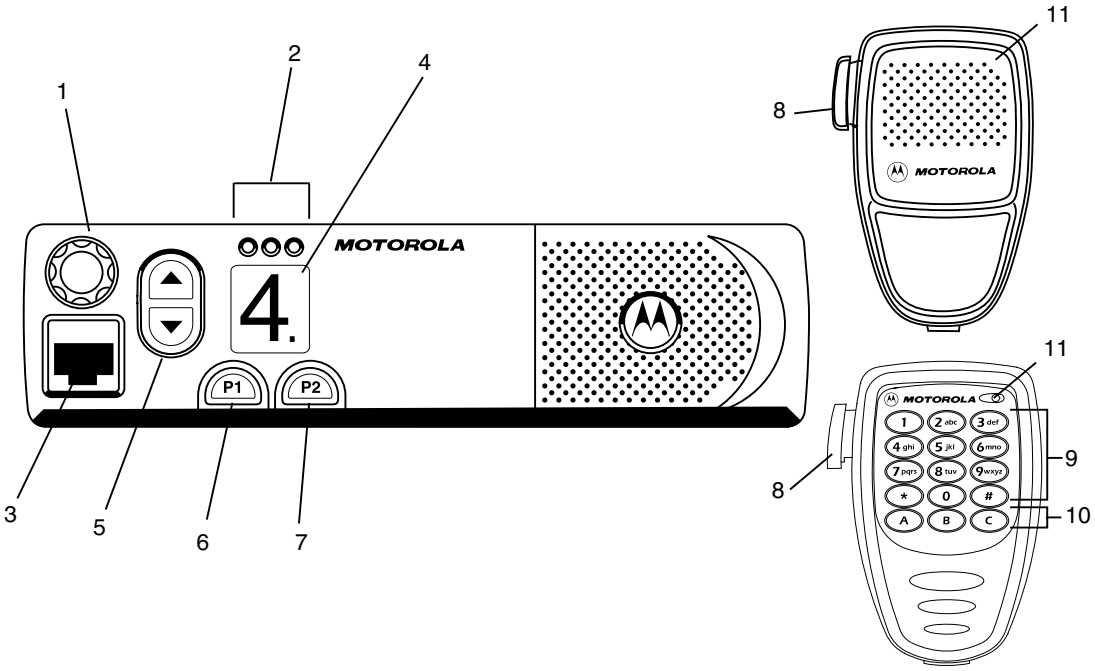
You can make a selective call to a particular radio, known as an individual call, or a group of radios, known as a group call.
You can make calls by using the **Menu** (CM160), the pre-programmed **Radio Call** button or **Manual Dialling** (using the keypad microphone).

Cancelling a Call

At any time while setting up a call, it may be cancelled by pressing the Monitor button, or replacing the microphone in its holder (referred to as going “on hook”) .
The call timer can also cancel a call.

Ending a Call

A call should always be ended by pressing the Monitor button, or replacing the microphone in its holder.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