

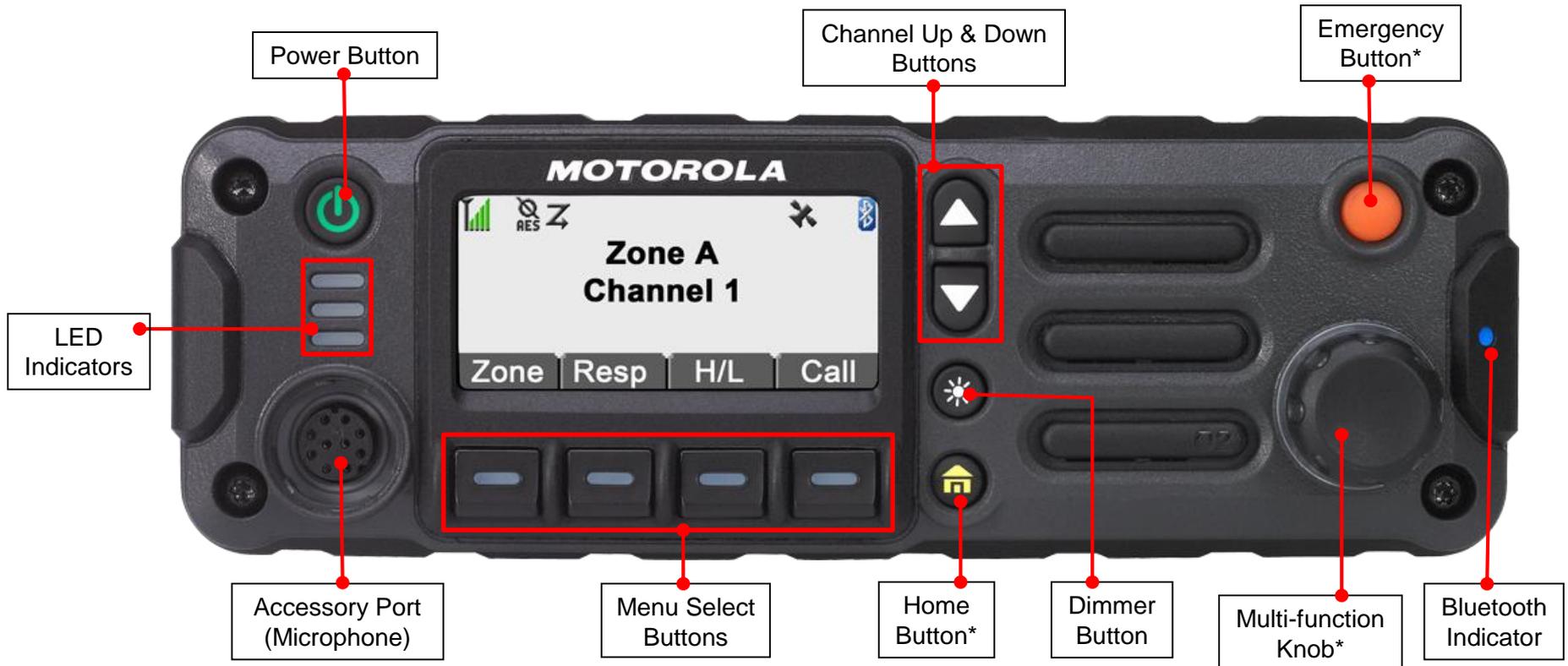
APX™ TWO-WAY RADIOS

APX 4500 O2 CONTROL HEAD

INTERACTIVE END USER TOOLKIT (IEUTK)



❑ O2 Control Head



** These radio controls/buttons are programmable.*

□ Keypad Microphone



Note: The microphone is not part of a radio. It is an optional accessory.

* **These radio controls/buttons are programmable.**

❑ Turning on/off the Radio

Press the **Power Button** briefly to power on the radio.

After a short time, the red, yellow and green LEDs light up. The display then shows Zone and channel text, and menu items display on the screen.

The backlight will turn on to the last selected dim level.

Note:

Pressing the Power Button before the LED lights up will be ignored.

If your radio does not power up, contact your dealer.

To turn off the radio, press the **Power Button** after the LEDs light up.



❑ Adjusting the Volume

To increase the volume, rotate the **Multi-function Knob (MFK)** clockwise.

The display shows volume bars and volume level when you change the volume.

To **decrease** the volume, rotate the **Multi-function Knob (MFK)** counterclockwise.



❑ Accessing the Preprogrammed Functions

You can access various radio functions through one of the following ways:

- A short or long press of the relevant programmable buttons.

OR

- Use the **Menu Select Buttons** ().

Using the Menu Select Buttons

The **Menu Select Buttons** allow to access the menu entries of features.

Note: Check with your dealer or system administrator for the list of features activated in your radio.

Your radio may be preprogrammed differently from the following example, but the steps for selecting a zone may appear as shown below:

- Press the **Menu Select** button () directly below **Zone**.

Using the Navigation Buttons

Home Button

The  button returns you to the Home (default) screen. In most cases, this is the current mode. For selected radio features, the  button is also used to save user-edited radio settings or information before returning you to the Home screen.

Note: Some features do not require you to press  to go to the Home screen. Refer to the individual feature sections in this manual for further details on saving user-edited radio settings or information.

Dimmer Button

Use this button to adjust the brightness of the display.
Long press to toggle between day and night mode.

Up and Down Buttons

By default, the  and  buttons are used as up and down arrow input. These buttons are programmable. They can be programmed to navigate through zones, channels and to increase and decrease the volume of the radio.

4-Way Navigation Button (on keypad mic)

Use this button to scroll up , down , left  or right .

Press and release one of the button to scroll from one entry to the next one.

Press and hold one of the button to have the radio toggles through the list automatically (release the button to stop).

Multi-function Knob (MFK)

The **MFK** button on your radio is programmable to the following features :

Mode Change  – Press the **MFK** once and turn clockwise to scroll the channel list.

Volume Change  – Turn the **MFK** clockwise or counterclockwise to adjust the volume level of the speaker.

The volume level can be adjusted in 16 steps or 32 steps. A fast turn of the **MFK** adjusts the volume level in 16 steps with large increments in volume level. A slow turn of the **MFK** adjusts the volume level in 32 steps with small increments in volume level.

The display shows the volume level and bars to indicate the current level. The level of last selected volume when your radio powers down remains the same when the radio powers up.

The main display shows the icon of the secondary feature. The main display does not show the icon of primary feature.

Your radio by default is set to use the primary feature. Short press the **MFK** to toggle it to work on either the secondary or primary feature.

The concentric ring LED on the multi-function knob will blink in green when the knob is set to secondary feature.

The secondary feature has an inactivity timer. This timer starts when the secondary feature is idle. The radio returns to primary feature when the timer expires.

If the **MFK** is set to operate only one feature, it is recommended that it be set to Volume Change.

Consult your dealer or system administrator for the best option available for **MFK**.



❑ Push-To-Talk (PTT) Button

The **PTT** button on the side of the radio serves two basic purposes:

- While a call is in progress, the **PTT** button allows the radio to transmit to other radios in the call. Press and hold down **PTT** button to talk. Release the **PTT** button to listen. The microphone is activated when the **PTT** button is pressed.
- While a call is not in progress, the **PTT** button is used to make a new call.



❑ LED Indicator



The LED indicator shows the operational status of your radio.

Solid red – Radio is transmitting.

Blinking red – Radio is transmitting at low battery condition.

Rapidly blinking red – Radio has failed the self test upon powering up or encountered a fatal error.

Solid yellow (Conventional Only) – Channel is busy.

Blinking yellow – Radio is receiving a secured transmission.

Solid green – Radio is powering up, or is on a non-priority channel while in the Scan List Programming mode.

Blinking green – Radio is receiving an individual or telephone call, or is on a Priority-Two channel while in the Scan List Programming mode.

Rapidly blinking green – Radio is on a Priority-One channel while in the Scan List Programming mode.

Orange

Emergency Alerts



Red

Critical Alerts



Green

Call Alerts



❑ Multi-function Knob - Concentric Ring LED

The concentric ring LED blinks green when the **MFK** is using the secondary feature. See [Multi-function Knob \(MFK\)](#) to understand the functionality of **MFK**.

If Intelligent Lighting is activated, the concentric ring LED will not blink green when the **MFK** is in the secondary mode. The LED turns into solid color of orange, red or green depending on the status of Intelligent Lighting.



❑ Selecting a Zone

A zone is a group of channels.

Procedure:

[Multi-Function Knob]

If zone is set as the primary mode,

- 1 Turn the **MFK** until the display shows the desired zone.
- 2 Press the **PTT** button to transmit on the displayed zone.

If zone is not set as the primary mode, press the **MFK** once and repeat step 1.

OR

[Menu]

- 1 ◀ Or ▶ to **Zone**.

- 2 Press the **Menu Select** button directly below **Zone**.

- 3 ▲ Or ▼ to the required zone.

OR

Rotate the **MFK** to the desired zone.

- 4 Press the **Menu Select** button directly below **Sel** to confirm the displayed zone.
- 5 Press the **PTT** button to transmit on the displayed zone.

❑ Selecting a Radio Channel

A channel is a group of radio characteristics, such as transmit/receive frequency pairs.

Procedure:

[Multi-Function Knob]

If channel is set as the primary mode,

- 1 Turn the **MFK** until the display shows the desired channel.
- 2 Press the **PTT** button to transmit on the displayed channel.

If channel is not set as the primary mode, press the **MFK** once and repeat step 1.

OR

[Menu]

- 1 ◀ OR ▶ to **Chan.**
 - 2 Press the **Menu Select** button directly below **Chan.**
 - 3 ▲ OR ▼ to the required channel.
- ### OR
- Rotate the **MFK** to the desired channel.
- 4 Press the **Menu Select** button directly below **Sel** to confirm the selected channel.
 - 5 Press the **PTT** button to transmit on the displayed channel.

☐ Scan Lists

Scan lists are created and assigned to individual channels/groups.

Your radio scans for voice activity by cycling through the channel/group sequence specified in the scan list for the current channel/group.

Your radio supports different types of Scan Lists:

- Trunking Priority Monitor Scan List
- Conventional Scan List
- Talkgroup Scan List



❑ Scan Lists

Viewing a Scan List

Procedure:

- 1 ◀ or ▶ to **Scan**.
- 2 Press/Hold the **Menu Select** button directly below **SCAN**.
- 3 ◀ or ▶ to **Switch Zones**
- 4 ▲ Or ▼ to view the members on the list.
- 5 Press 🏠 to exit the current display and return to the Home screen.



☐ Scan Lists

Editing the Scan List

This feature lets you change scan list members and priorities.

Procedure:

DEMO

- 1 ◀ or ▶ to **Scan**.
- 2 Press the **Menu Select** button directly below **ScnL**.
The display shows the lists that can be changed.
- 3 ▲ or ▼ to the entry you want to edit.
- 4 Press the **Menu Select** button directly below **Sel** to add and/ or change the priority of the currently displayed channel in the scan list.
OR
Press the **Menu Select** button directly below **Del** to delete the currently displayed channel from the scan list.
OR
Press the **Menu Select** button directly below **Rcl** to view the next member of the scan list.

- 5 ▲ OR ▼ to select more channels to be added or deleted.
OR
Use the **MFK** to select additional channels to be added or deleted.
OR
Use the keypad to go directly to additional channels to be added or deleted.
- 6 Press  to exit scan list programming and return to the Home screen.

☐ Scan Lists

Changing the Scan List Status

Procedure:

- 1 Long press the preprogrammed Scan side button.
- 2 ◀ or ▶ to the member you want to edit.
- 3 Press the ✓ button or press the **Menu Select** button directly below **Sel** once to add the currently displayed channel to the scan list.
OR
Press the ✓ button or press the **Menu Select** button directly below **Sel**, one or more times to change the scan list status icon of the currently displayed channel.
- 4 ▲ or ▼ to select more channels to be added or deleted.
OR
Use the **MFK** to select additional channels to be added or deleted.
OR
Use the keypad to go directly to additional channels to be added or deleted.

- 5 Press  to exit scan list programming and return to the Home screen.

☐ Scan Lists

Viewing and Changing the Priority Status

Procedure

1 Below the **Sel**, **Del**, and **Rcl** screen, press the **Menu Select** button directly below **Sel** to view and/or change the priority status of the currently displayed channel.

OR

Below the **Sel**, **Del**, and **Rcl** screen, press the  button or press the **Menu Select** button directly below **Sel**, one or more times to view and/or change the scan list status icon of the currently displayed channel.

A Scan icon indicates that the current channel is in the scan list as a non-priority channel.

The LED lights up solid green.

OR

A Priority-Two Channel Scan icon indicates that the current channel is in the scan list as the Priority-Two channel.

The LED blinks green.

OR

A Priority-One Channel Scan icon indicates that the current channel is in the scan list as the Priority-One channel.

The LED rapidly blinks green.

You hear all traffic on the Priority- One channel, regardless of traffic on non-priority channels.

OR

No icon indicates that the current channel is deleted from the scan list.

❑ Scan

Turning Scan On or Off

This feature allows you to monitor traffic on different channels by scanning a preprogrammed list of channels.

Procedure:

OR

[Menu]

1 ◀ Or ▶ to **Scan**.

2 Press the **Menu Select** button directly below **Scan**.

*The display shows **Scan off** if scan is disabled.*

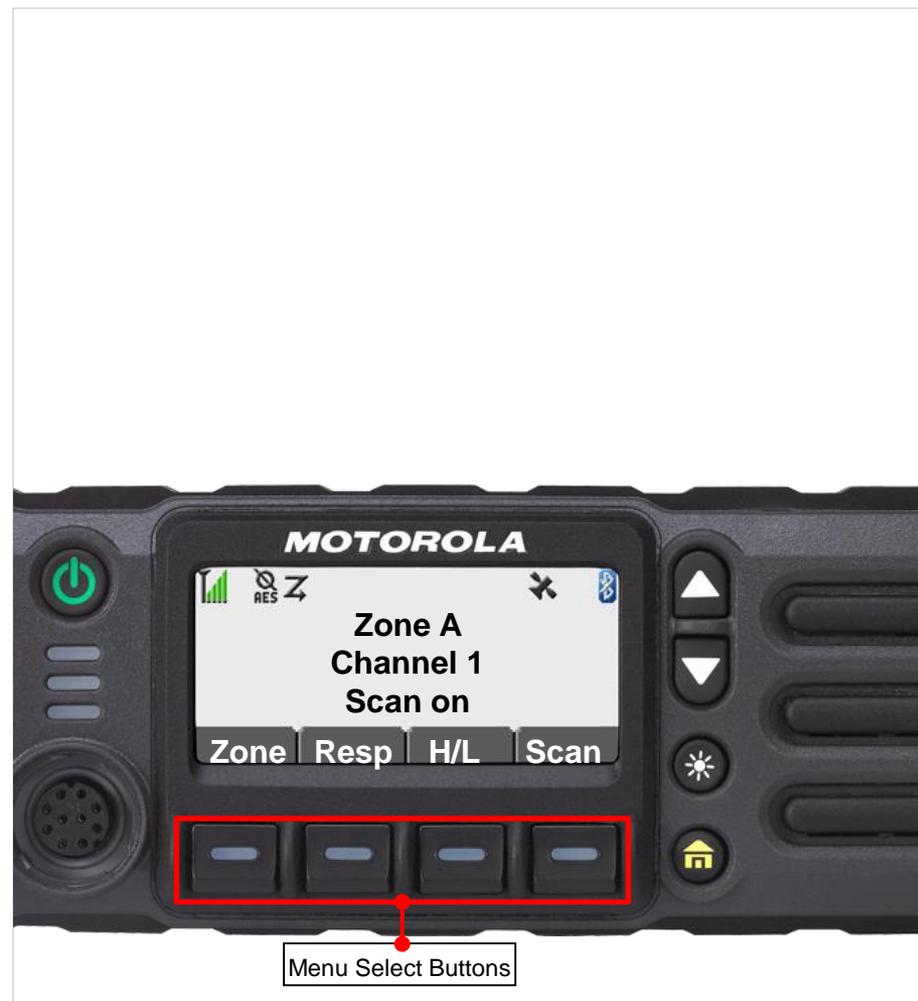
Press the **Menu Select** button directly below **Scan** to enable scan.

OR

*The display shows **Scan on** and the scan status icon if scan is enabled.*

Press the **Menu Select** button directly below **Scan** to disable scan.

The radio returns to the Home screen.



❑ Pre-Programmed Buttons

The keypad Microphone can have the number keys programmed to quickly access a **ZONE** or **TALKGROUP** within a **ZONE**

Use the **MENU** and **MFK** to navigate to the Talkgroup you wish to pre-program

PRESS and **HOLD** the keypad number that you want to preset.

Release the key when the radio beeps (About 2 seconds)

To quickly move to the pre programmed Talkgroup, quickly press and release the number associated with your choice.

SUGGESTION:

Devise a plan for each apparatus and place a Quick Reference Card with the vehicle so personnel know what the Pre Programmed buttons are assigned



❑ Emergency Operation

The Emergency feature is used to indicate a critical situation.

If the **Orange** button is preprogrammed to send an emergency signal, this signal overrides any other communication over the selected channel.

Your radio supports the following Emergency modes:

- Emergency Alarm
- Emergency Call (Trunking Only)

Note: To exit emergency at any time, press and hold the preprogrammed **Emergency** button for about a second.



❑ Emergency Operation

Sending an Emergency Alarm

This feature allows you to send a data transmission, which identifies the radio sending the emergency, to the dispatcher.

Procedure:

- 1 Press the preprogrammed **Emergency** button.
*A tone sounds and the display alternates **Emergency** and the home display.*

*A dispatcher acknowledgment **Ack received** display follows.*

AND, Trunking Only:

A high-pitched tone indicates that the alarm has been received by the trunked system's central controller.

- 2 Press and hold the emergency button or the **PTT** button to return to normal operation.



❑ Emergency Operation

Special Considerations for Emergencies

- If you press the emergency button while in a channel that has no emergency capability, a low-pitched tone sounds.
- If the unit is out of the range of the system and/or the emergency alarm is not acknowledged, a tone sounds and the display shows **No acknowledge**.
- If you press the emergency button, then change to a mode that has no emergency capability, the display shows **No emergency** and a continuous low-pitched tone sounds until a valid emergency mode is selected or until the emergency is cancelled.
- **When an emergency is active, changing to another mode where emergency is enabled (trunked or conventional) causes an emergency alarm and/or emergency call to be active on the new mode.**



❑ The Global Positioning System (GPS)

This feature uses information from the Global Positioning System (GPS) satellites orbiting the Earth to determine the approximate geographical location of your radio, expressed as latitude and longitude. The availability and accuracy of this location information (and the amount of time that it takes to calculate it) varies depending on the environment in which you are using the GPS feature.

For example, GPS location fixes are very difficult to obtain indoors, in covered locations, between high buildings, or in situations where you have not established a clear broad view of the sky.

Understanding the GPS Feature

The GPS technology uses radio signals from earth orbiting satellites, to establish the location coordinates, maximizing your view of clear unobstructed sky is essential for optimum performance.

Where adequate signals from multiple satellites are not available (usually because you cannot establish a view of a wide area of the sky), the GPS feature of your radio will not work. Such situations include but are not limited to:

- In underground locations
- Inside of buildings, trains, or other covered vehicles
- Under any other metal or concrete roof or structure
- Between tall buildings or under dense tree-cover
- In temperature extremes outside the operating limits of your radio

Even where location information can be calculated in such situations, it may take longer to do so, and your location estimate may not be as accurate. Therefore, in any emergency situation, always report your location to your dispatcher.

❑ The Global Positioning System (GPS)

Current GPS Location

Procedure:

While in the current location display:

- 1 Press the **Menu Select** button directly below **Loc**.
- 2 Press the button under **Rfsh** to **display coordinates**.
- 3 Press  button to return to the Home screen.



❑ Trunking System Controls

Going Out of Range

Out of range when your radio goes out of the range of the system, it can no longer lock onto a control channel.

Procedure:

DEMO

- 1 You hear a low-pitched tone.

AND/OR

The display shows the currently selected zone/channel combination and **Out of range**.

Your radio remains in this out-of-range condition until:

It locks onto a control channel.

OR

It locks onto a fail-soft channel.

OR

It is turned off.



❑ Controlling the Display Backlight

You can enable or disable the radio's display backlight as needed, if poor light conditions make the display difficult to read.

Depending on how your radio is preprogrammed, you can also maintain a minimum backlight level on the radio's display.

Procedure:

- 1 Press the **Dimmer** button to adjust the brightness of the display.
Long press to toggle between day and night mode.

