

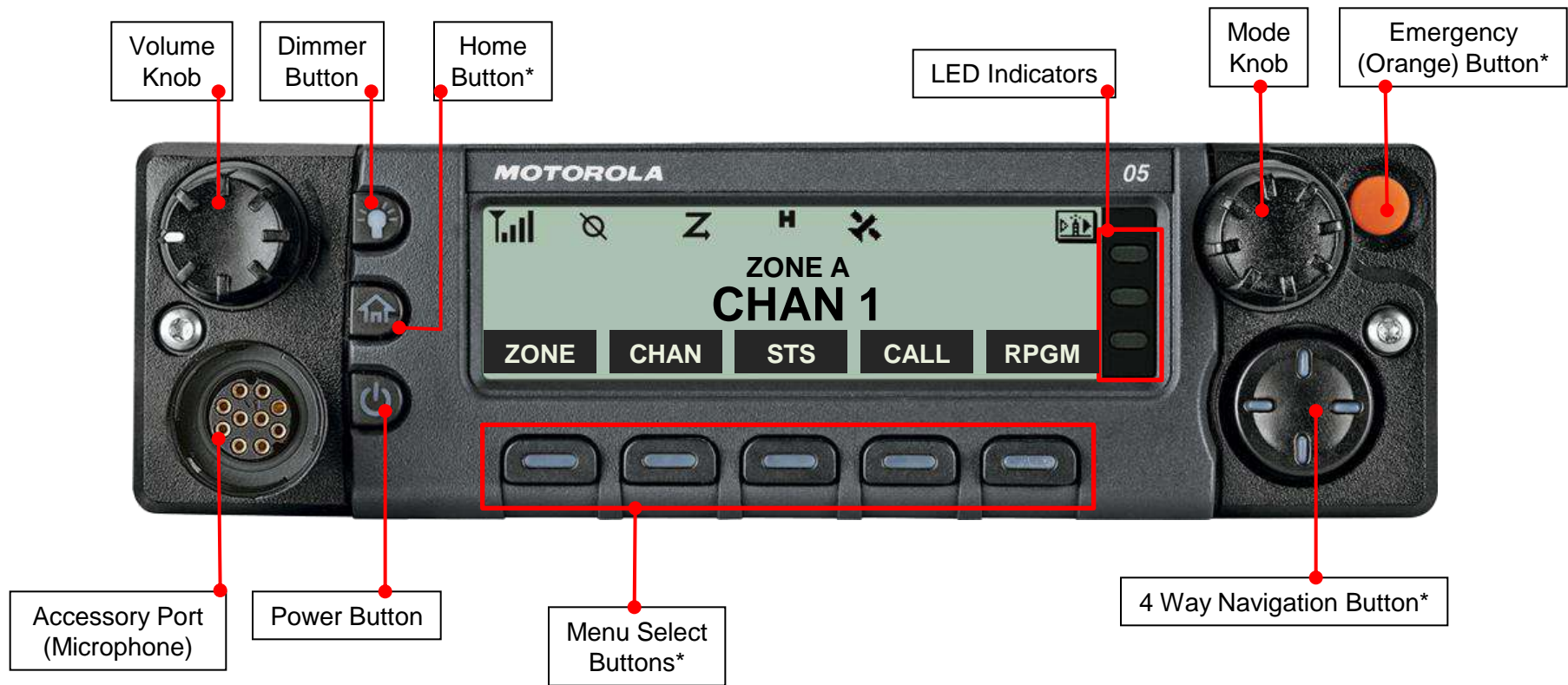
APX™ TWO-WAY RADIOS

APX 6500 O5 CONTROL HEAD

INTERACTIVE END USER TOOLKIT (IEUTK)



❑ O5 Control Head



** 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 **FAIL ###/##** appears in the display, the radio will not function until the condition has been corrected.

If **ERROR ###/##** appears, some non-critical data has been changed.

If the power-up test is unsuccessful, you see **Error XX/YY** (**XX/YY** is an alphanumeric code).

Turn off the radio, check the battery, and turn the radio back on. If the radio fails the power-up test again, record the **Error XX/YY** code and contact your dealer.

If **CH MISMATCH** appears, means that either the Control Head has been connected to an incompatible transceiver, or vice versa.

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

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



Power Button

❑ Adjusting the Volume

To increase the volume, rotate the **Volume Knob** clockwise.

To decrease the volume, rotate the **Volume Knob** counterclockwise.



Emergency – Depending on the programming, initiates or cancels an emergency alarm or call.

Ext PA On/Off – Toggles the audio routing between the connected public address (PA) loudspeaker amplifier and the radio's internal public address (PA) system.

Information – Displays the basic radio information, IP-related information, and buttons or switches control mapping.

Intercom – Enables users of multiple control heads to talk to each other via the control heads in a multi-control head setup.

Internet Protocol Address – Displays the Internet Protocol (IP) address, device name and status of the radio.

Location – Determines the current location (latitude, longitude, time and date), and also the distance and bearing to another location. Or, turns the GPS functionality on or off for all location.

Message – Enters the current message list.

Monitor (Conventional Only) – Monitors a selected channel for all radio traffic until function is disabled.

Multiple Private Line (Conventional Only) – Selects the Multiple Private Line lists.

Nuisance Delete – Temporarily removes an unwanted channel, except for priority channels or the designated transmit channel, from the scan list.

One Touch 1 – 4 – Launches a specific feature with one single button-press. You can setup as many as four separately programmed buttons for four different features.

Phone – Allows you to make and receive calls similar to standard phone calls.

Private Call (Trunking Only) – Allows a call from an individual radio to another individual radio.

Private Line Defeat (Conventional Only) – Overrides any coded squelch (DPL or PL) that is preprogrammed to a channel.

Radio Profiles – Allows for easy access to a set of preprogrammed visual and audio settings of the radio.

Recent Calls – Allows for easy access to the list of calls recently received or made.

Rekey Request – Notifies the dispatcher you want a new encryption keys.

Repeater Access Button (RAB) (Conventional Only) –

Allows to manually send a repeater access codeword.

Reprogram Request (Trunking Only) – Notifies the dispatcher you want a new dynamic regrouping assignment.

Request-To-Talk (Conventional Only) – Notifies the dispatcher you want to send a voice call.

Scan – Toggles scan on or off.

Scan List Programming – Selects the scan list for editing.

Secure/Clear – Toggles secure transmission on or off.

Select – Selects the assigned list for editing.

Selective Call (Conventional Only) – Calls an assigned radio.

Site Display (Trunking Only) – Views the current site or enable a site search for SmartZone operation.

Site Lock/Unlock (Trunking Only) – Locks onto a specific site.

Status (Astro 25 Trunking Only) – Sends data calls to the dispatcher about a predefined status.

Talkaround/Direct (Conventional Only) – Toggles between using a repeater and communicating directly with another radio.

Talkgroup (Conventional Only) – Allows a call from an individual radio to a group of radios.

Text Messaging Service (TMS) – Selects the text messaging menu.

TMS Quick Text – Selects a predefined message.

User Login – Automatically registers with the server.

Zone Down – Toggles downward through the zones in the radio.

Zone Select – Allows selection from a list of zones.

Zone Up – Toggles upward through the zones in the radio.

Assignable Settings or Utility Functions

Dimmer — Changes the display brightness.

Front/Rear — Switches one of two control heads to be active at one time.

TX Power Level — Toggles transmit power level between high and low.

Voice Announcement — Audibly indicates the current feature mode, Zone or Channel the user has just assigned.

Voice Mute — Toggles voice mute on or off for the channels which have enabled In-Call User Alert. When Voice Mute is active, the radio remains muted to all conventional dispatch calls and affiliated trunking group calls.

❑ 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.

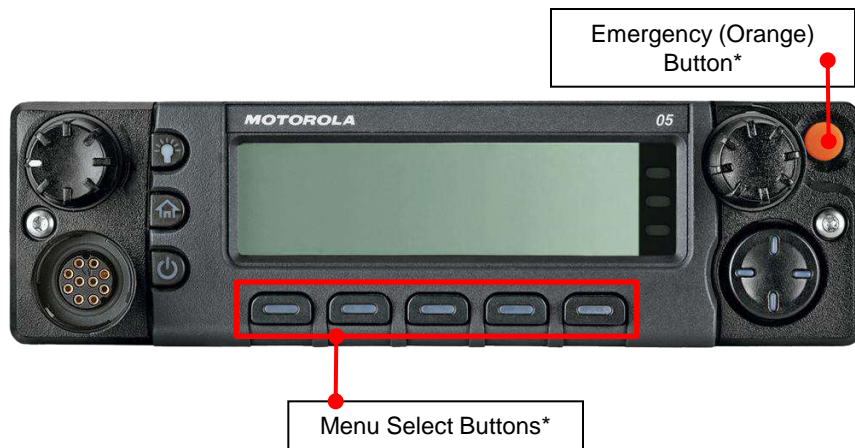
Your radio may be preprogrammed differently from the following example, but the steps for selecting a zone may appear as shown below:

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

Using the Advance Programmable Buttons

This feature is to help you to shorten the process of applying certain common features.



(Quick Access) One Touch Button – Enters a menu with a short press on the preprogrammed One Touch button. Features assigned to these buttons are Call, Call Alert, Phone, Repeater Access, MDC RTT Button Access, Status and Message.




* These programmable buttons support the **One Touch Button** feature.

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.

Volume Knob

Use this Volume Knob to adjust the volume of the speakers by turning it clockwise or counterclockwise.

Mode Knob

Use this Mode Knob to scroll through the channels by turning it clockwise or counterclockwise.

4-Way Navigation Button

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).

❑ Status Icons

The liquid crystal display (LCD) of your radio shows the radio status, text entries, and menu entries.

The following are the icons that appear on the radio's display.



Receiving

Radio is receiving a call or data.



Transmitting

Radio is transmitting a call or data.



Call Received

Radio has received an Individual Call.



Received Signal Strength Indicator (RSSI)

The number of bars displayed represents the received signal strength for the current site, for trunking only. The more stripes in the icon, the stronger the signal.



Direct

- **On** = Radio is currently configured for direct radio to radio communication (during conventional operation only).
- **Off** = Radio is connected with other radios through a repeater.



Monitor (Carrier Squelch)

Selected channel is being monitored (during conventional operation only).



In-Call User Alert

- **On** = The feature is enabled. Voice muting of the affiliated trunking talkgroup or selected conventional channel is activated.
- **Off** = The feature is disabled. Voice muting of the affiliated trunking talkgroup or selected conventional channel is deactivated.



Power Level

- **L** = Radio is set at Low power.
- **H** = Radio is set at High power.



Scan

Radio is scanning a scan list.



Priority-One Channel Scan

- **Blinking dot** = Radio detects activity on channel designated as Priority-One.
- **Steady dot** = Radio detects activity on channel designated as Priority-Two.

**Vote Scan Enabled**

The vote scan feature is enabled.

**Secure Operation**

- **On** = Secure operation.
- **Off** = Clear operation.
- **Blinking** = Receiving an encrypted voice call.

**AES Secure Operation**

- **On** = AES Secure operation.
- **Off** = Clear operation.
- **Blinking** = Receiving an encrypted voice call.

**Location Signal**

- **On** = Location feature is enabled, and location signal is available.
- **Off** = Location feature is disabled.
- **Blinking** = Location feature is enabled, but no location signal is available.

**User Login Indicator (IP Packet Data)**

- **On** = User is currently associated with the radio.
- **Off** = User is currently not associated with the radio.
- **Blinking** = Device registration or user registration with the server failed due to an invalid username or pin.

**Data Activity**

Data activity is present.

**Hexadecimal**

Indicates that the text entry is currently in hexadecimal mode.

❑ Text Messaging Service (TMS) Icons

Status Icons

The following icons appear on the radio's display for TMS features:



Inbox Full

The Inbox is full.



Message Sent

The text message is sent successfully.



Message Unsent

The text message cannot be sent.



Unread Message

- User receives a new message.
- The selected text message in the Inbox has not been read.



Read Message

The selected text message in the Inbox has been read.



Normal Message

User is composing a message with normal priority and without a request for a reply.

3/6

Message Index

Indicates the index of the current message the user is viewing.

Example: If the user is looking at the third message out of a total of 6 messages in the Inbox folder, the icon is displayed as the icon on the left column.



Priority Status

- The "Priority" feature is toggled on before the message is sent.
- Messages in the Inbox folder are flagged with "Priority".



Request Reply

- The "Request Reply" feature is toggled on before the message is sent.
- Messages in the Inbox folder are flagged with "Request Reply".



Priority Status and Request Reply

- User is composing a message with a priority status and a request for a reply.
- Messages in the Inbox folder are flagged with "Priority" and "Request Reply".

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Numeric

Indicates that the text entry is currently in numeric mode.

**Mixed Case**

Indicates that the text entry is currently in normal text mode.

**Uppercase**

Indicates that the text entry is currently in uppercase mode.

**Lowercase**

Indicates that the text entry is currently in lowercase mode.

❑ LED Indicator



The LED indicator shows the operational status of your radio.

Solid red — Radio is transmitting.

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.

❑ Intelligent Lighting Indicators

This feature temporarily changes the radio's display backlight color and the alert text background color to help signal that a radio event has occurred.

Note: This feature must be preprogrammed by a qualified radio technician.

Backlight and Bar Color	Notification	When
Orange	Emergency Alerts	The radio initiates an emergency alarm or call.
		The radio receives an emergency alarm or call.
Red	Critical Alerts	The radio is out of range.
		The radio enters fail-soft mode.
		The radio is unable to establish a full connection with the system.
		The radio is unable to authenticate or register with the system.
Green	Call Alerts	The radio receives a private call.
		The radio receives a phone call.
		The radio receives a call alert.
		The radio receives a selective call.

IDENTIFYING STATUS INDICATORS

Orange

Emergency Alerts



Red

Critical Alerts






Green

Call Alerts








☐ Alert Tones

An alert tone is a sound or group of sounds. Your radio uses alert tones to inform you of your radio's conditions. The following table lists these tones and when they occur.

You Hear	Tone Name	Heard
Short, Low-Pitched Tone  Play	Radio Self Test Fail	When radio fails its power-up self test.
	Reject	When unauthorized request is made.
	Time-Out Timer Warning	Four seconds before time out.
	No ACK Received	When radio fails to receive an acknowledgment.
	Individual Call Warning Tone	When radio is in an individual call for greater than 6 seconds without any activity.
	Talk Prohibit/ PTT Inhibit	(When PTT button is pressed) transmissions are not allowed.
Long, Low-Pitched Tone  Play	Time-Out Timer Timed Out	After time out.
	Out of Range	(When PTT button is pressed) the radio is out of range of the system.
	Invalid Mode	When radio is on an unpreprogrammed channel.
A Group of Low-Pitched Tones  Play	Busy	When system is busy.

IDENTIFYING STATUS INDICATORS

You Hear	Tone Name	Heard
Short, Medium-Pitched Tone  Play	Valid Key-Press	When correct key is pressed.
	Radio Self Test Pass	When radio passes its power-up self test.
	Clear Voice	At beginning of a non-coded communication.
	Priority Channel Received	When activity on a priority channel is received.
	Emergency Alarm Entry	When entering the emergency state.
	Central Echo	When central controller has received a request from a radio.
Long, Medium-Pitched Tone  Play	Volume Set	When volume is changed on a quiet channel.
	Emergency Exit	When exiting the emergency state.
A Group of Medium-Pitched Tones  Play	Fail-soft	When the trunking system fails.
	Automatic Call Back	When voice channel is available from previous request.
	Keyfail	When encryption key has been lost.
	Console Acknowledge	When status, emergency alarm, or reprogram request ACK is received.
	Received Individual Call	When Call Alert or Private Call is received.
	Site Trunking	When a SmartZone trunking system fails.
	Call Alert Sent	When Call Alert is received by the target radio.


You Hear	Tone Name	Heard
Ringing  Play	Fast Ringing	When system is searching for target of Private Call.
	Enhanced Call Sent	When waiting for target of Private Call to answer the call.
	Phone Call Received	When a land-to-mobile phone call is received.
Gurgle  Play	Dynamic Regrouping	(When the PTT button is pressed) a dynamic ID has been received.
	Talk Permit	(When PTT button is pressed) verifying system accepting transmissions.
Unique, Low-Pitched Chirp	New Message	When a new message is received.
Unique, High-Pitched Chirp	Priority Status	When a priority message is received.

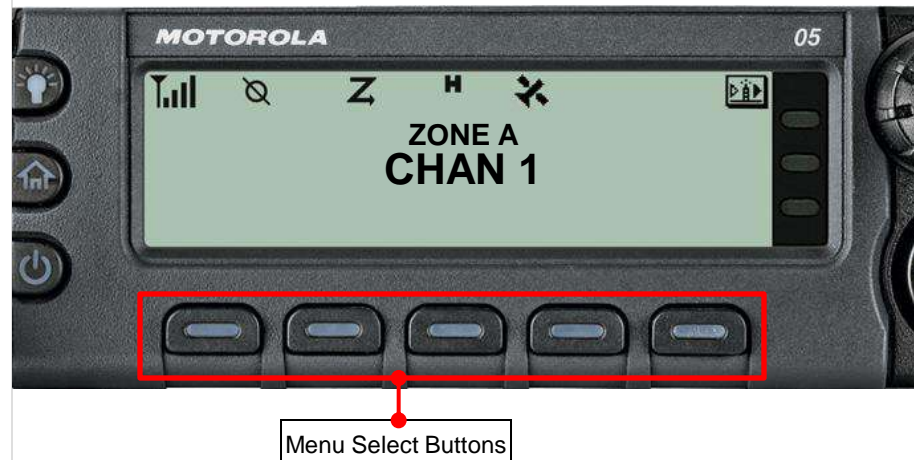
❑ Selecting a Zone

A zone is a group of channels.

DEMO

Procedure:

- 1 ◀ or ▶ to **ZONE**.
- 2 Press the **Menu Select** button directly below **ZONE**.
- 3 ◀ or ▶ to the required zone.
- 4 Press  or the **PTT** button to confirm the selected 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:

[Mode knob]

- 1 Rotate the **Mode knob** until the display shows the desired channel.
- 2 Press the **PTT** button to transmit on the displayed channel.

◀ or ▶

DEMO

◀ or ▶

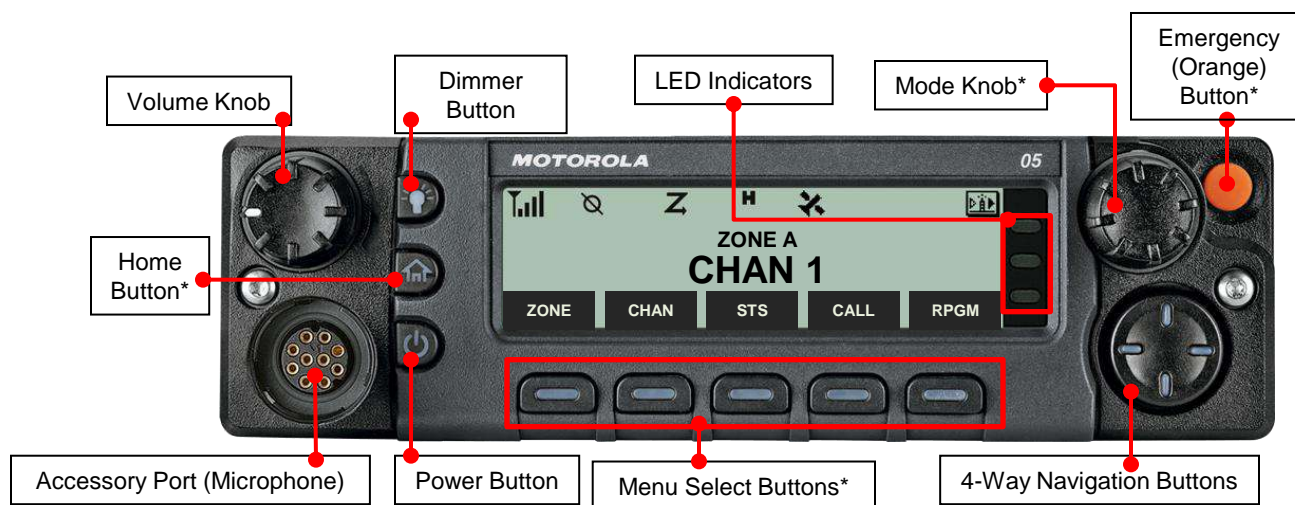


❑ Making a Radio Call

You can select a zone, channel, subscriber ID, or talkgroup by using:

- The preprogrammed Zone menu
- The Mode Knob
- A preprogrammed **One Touch Call** button
- The Contacts list

Note: If the feature inactivity timer is enabled, your radio automatically exits the feature when your radio is left idle long enough for the time to expire. You will hear the Menu Inactive Exit Tone upon feature exit.



❏ Making a Radio Call

Making a Talkgroup Call

To make a call to a group of users, your radio must be configured as part of that talkgroup.

Procedure:

A green rectangular button with the word "DEMO" in white capital letters.

1 ◀ or ▶ to **TGRP**.

2 Press the **Menu Select** button directly below **TGRP**.
The display shows the last-selected talkgroup.

3 ◀ or ▶ to the required talkgroup.

OR

Turn the **Mode Knob** to select the channel with the desired talkgroup.

4 Press the **Menu Select** button directly below **SEL**.

5 Press the **PTT** button to make the call.

ASTRO Conventional Only:

The LED lights up solid red.

The display shows the talkgroup alias or ID.

OR

Trunking Only:

The LED lights up solid red.

Speak clearly into the microphone.

Release the **PTT** button to listen.

❑ Multiple Control Head Features

This feature allows a transceiver to control a combination of up to four O5 control heads on APX Mobile (depending on the model).

You can use the CAN cables to connect in any configuration that does not exceed 131 feet (40 meters) in combined length.

Refer the O5 Control Head Installation Manual (HLN6947) for further information.

The Multiple Control Head (MCH) feature consists of 2 modes that can be programmed via Customer Programming Software (CPS):

- All Active mode
- One Active mode

Note: If two or more control heads are connected to the system before enabling the MCH feature in the CPS, the radio will display **EXTRA CH** or **CH ID # ERR**. Both errors are **FATAL**.

❑ Multiple Control Head Features

All Active Mode

The All Active mode enables all connected control heads attached to the radio to operate concurrently with each other.

When you activate a feature on one control head, the rest of the control heads will have the same activated features and indicators on their respective display.


Note: The multiple control head feature allows only control heads of the same type to be connected. Upon power up, if a control head of a different type is connected to the radio, the radio reports the **FATAL** error **CH MISMATCH** on the display of all attached control heads.

Intercom Feature in All Active Mode

The intercom feature allows one control head user to talk to another control head user in a Multiple Control Head configuration. At any given time, when a control head being operated has priority for the intercom call, all other control heads are blocked until the active control head releases **PTT** button.

This can be made on any attached control head.
This feature only applies to control heads in the All Active mode.

Procedure:

- 1 Press the **Menu Select** button directly below **INTC** to activate the intercom feature of any of the control heads.
- 2 Press the **PTT** button to initiate an intercom transmission.
All control heads that are attached will receive the same intercom call.
The display of the control heads receiving the intercom call shows the alias/ID number of the transmitting control head.
- 3 Press the Menu Select button directly below **EXIT** to deactivate the intercom feature.
OR
Press  to deactivate the intercom feature.

The intercom feature also deactivates when user initiates a mode change.

If the radio is on an emergency channel, pressing of the **Emergency** button or the **emergency footswitch** button on any control head also deactivates the intercom feature.

❑ Scan Lists

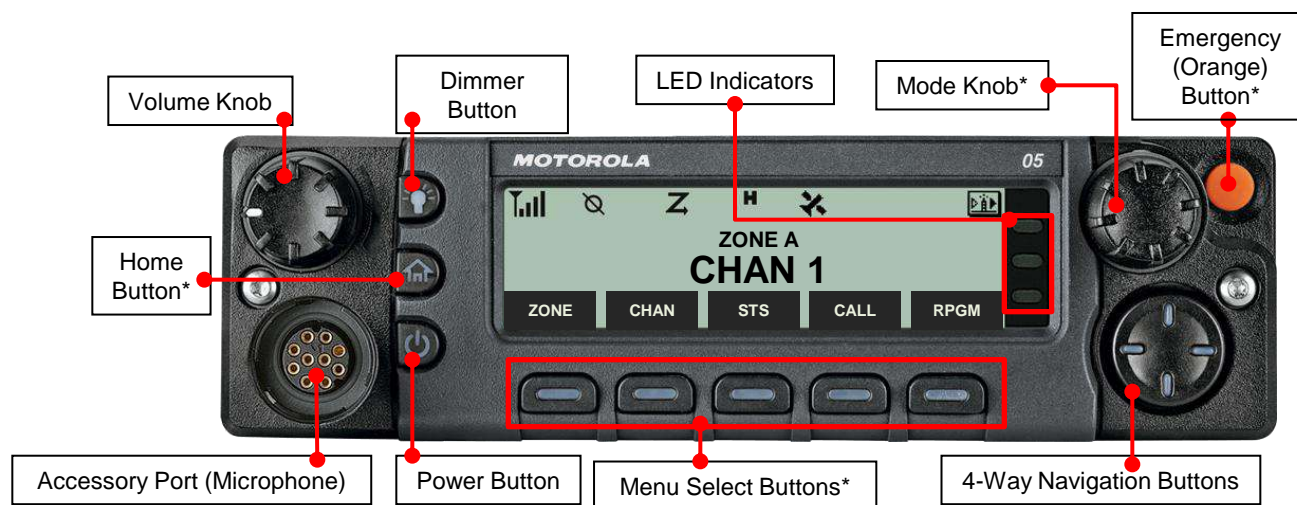
Scan lists are created and assigned to individual channels/groups.

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


A maximum of 200 Scan Lists can be programmed in your radio.
These lists must be preprogrammed by a qualified radio technician.

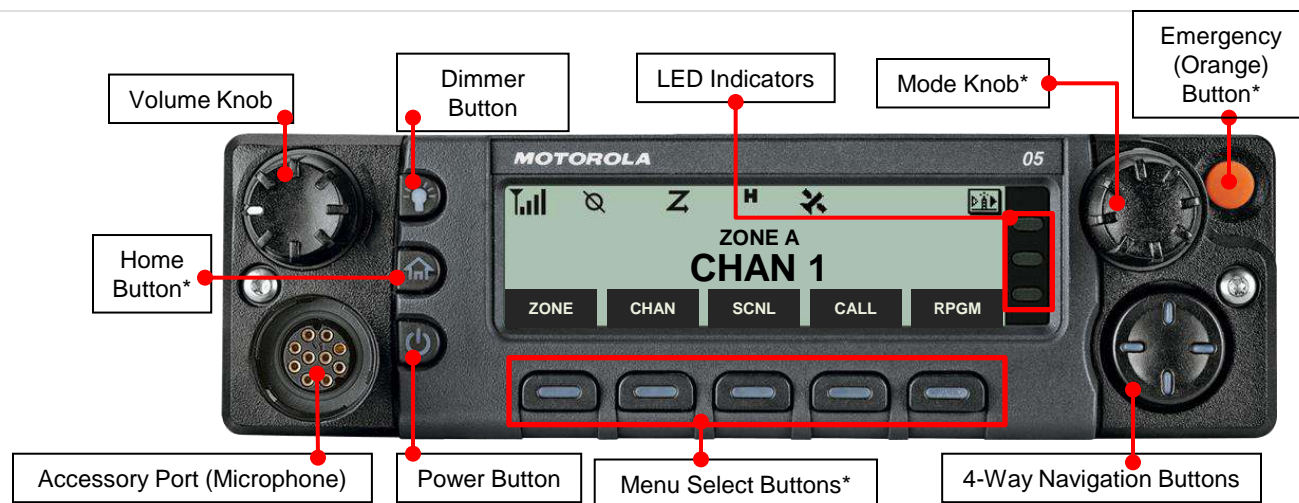


❑ Scan Lists

Viewing a Scan List

Procedure:

- 1 ◀ or ▶ to **SCNL**.
- 2 Press the **Menu Select** button directly below **SCNL**.
- 3 ◀ or ▶ to view the members on the list.
- 4 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 **SCNL**.
- 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 **Mode Knob** 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

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

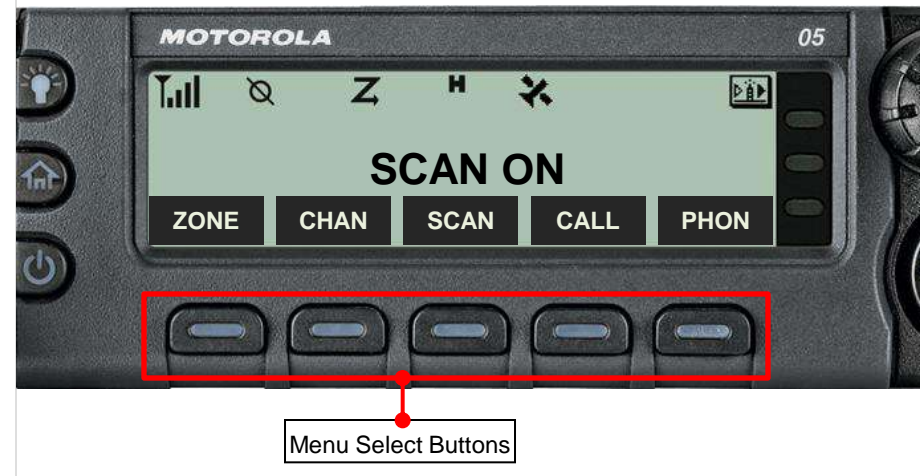
This feature allows you to monitor traffic on different channels by scanning a preprogrammed list of channels.

Procedure:

[Preprogrammed Button]

- 1 Press the preprogrammed **Scan** button.

◀ or ▶



❑ Scan

Transmitting While the Scan is On

Radio Programmed for Talkback Scan

Procedure:

- 1 Press the **PTT** button to transmit on the channel indicated by the display.

The radio does not begin scanning again for a predetermined hang time after you release the **PTT** button, allowing the other party to respond.

If the other party responds within the hang time, scanning does not resume until the full hang time expires after they have finished speaking, allowing the conversation to be completed.


To transmit on the selected channel if another channel is active, first turn scan off by pressing the **Menu Select** button below **Scan** momentarily.

Radio Programmed for Non-Talkback Scan

Procedure:

- 1 Press the **PTT** button at any time to transmit on the selected channel or fixed channel.

To make a Call Alert page, or Private Conversation call while scanning, press either the **Menu Select** button directly below **PAGE** or **CALL**.

The call is entered on the selected channel and scanning is halted until the call is exited by pressing  or pressing the **Menu Select** button below either **PAGE** or **CALL**.

❑ Scan

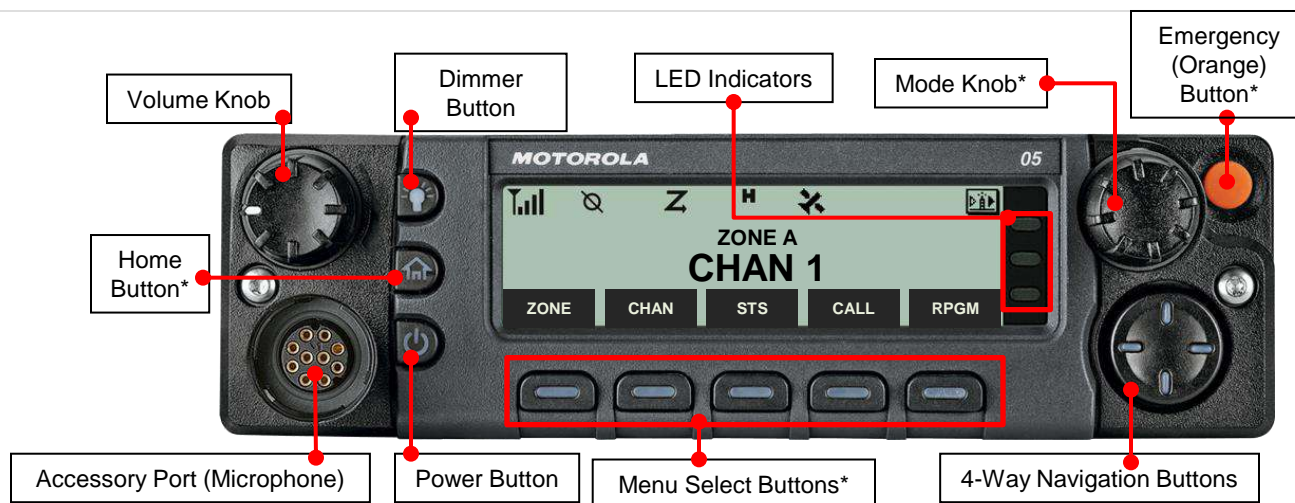
Deleting a Nuisance Channel

If a channel continually generates unwanted calls or noise (termed a “nuisance” channel), you can temporarily remove the unwanted channel from the scan list.

This capability does not apply to priority channels or the designated transmit channel.

Procedure:

- 1 When the radio is locked onto the channel to be deleted, ◀ or ▶ to **NUIS**.
- 2 Press the **Menu Select** button directly below **NUIS**.
The radio continues scanning the remaining channels in the list.



Scan

Restoring a Nuisance Channel

Procedure:

To restore the deleted nuisance channel, do one of the following:

- Turn scan off, then on.

OR

- Change channel.

OR

- Turn off the radio, and then turn it back on.

Nuisance mode delete can be disabled by the system administrator.

❑ Scan

Hang Up Box (HUB)

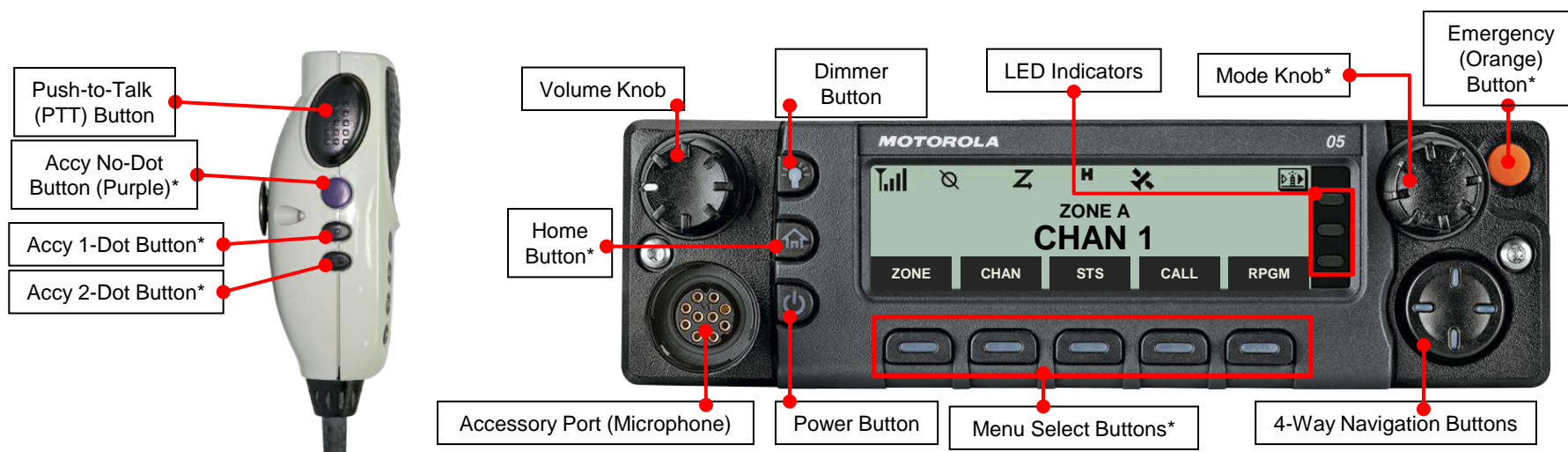
To temporarily suspend Scan Mode operation, remove the control head from the Hang Up Box (HUB). You are allowed to use the control head while scan is suspended.

However, Priority Member scanning is not suspended.

This feature applies to all Scan Lists and Scan Types.

Scan is resumed once the control head is returned to the holding clip and the preprogrammed hang time has elapsed.

Note: Priority Scan List members are continuously scanned only when the Scan List, Designated Tx Member field is set to "Talkback" in the radio programming. Otherwise, all scan mode operation is suspended.



❑ 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)
- Emergency Alarm with Emergency Call
- Silent Emergency Alarm
- Special Considerations for Emergencies

Check with your dealer or system administrator for more information on the programming of this feature.

Only **one** of the Emergency modes above can be assigned to the preprogrammed **Emergency** button or the **Emergency** footswitch.

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:

DEMO

- 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

Sending an Emergency Call (Trunking Only)

Procedure:

DEMO

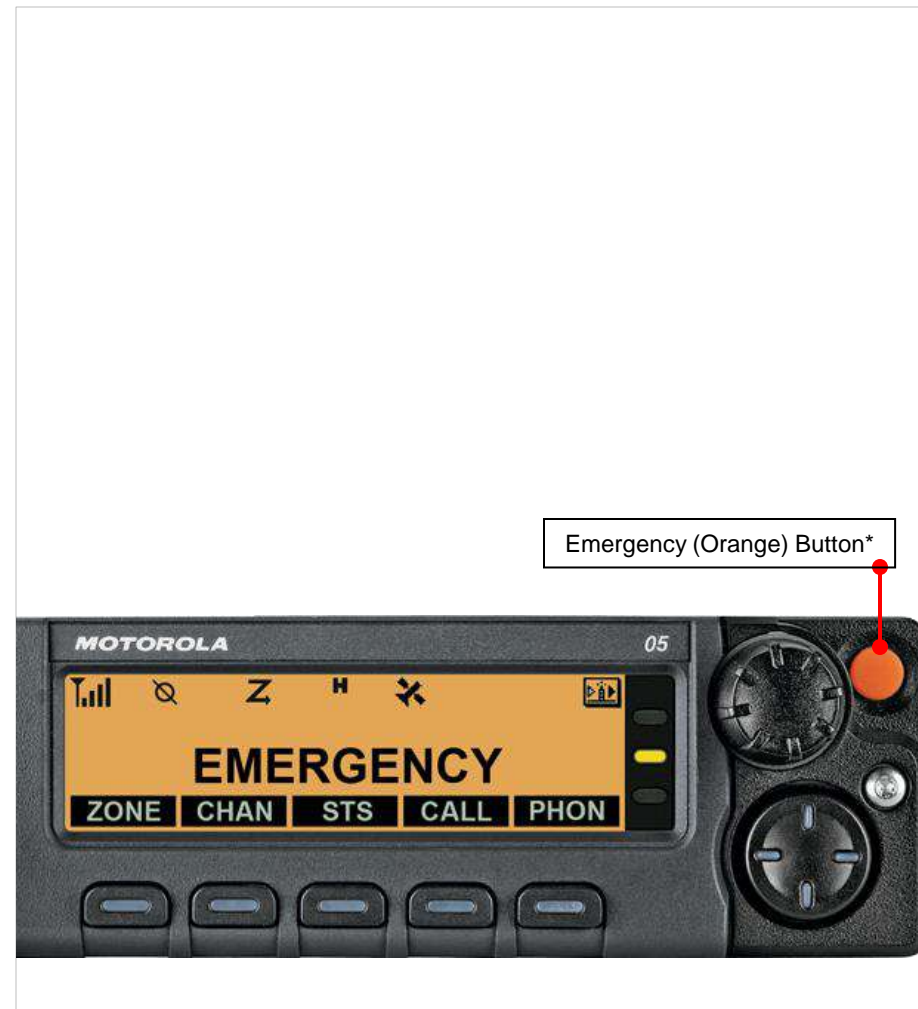
- 1 Press the preprogrammed **Emergency** button.

*A tone sounds and the display alternates **EMERGENCY** and the home display.*

OR

A short low-pitched tone sounds when the selected channel does not support emergency.

- 2 Press and hold the **PTT** button.
Speak clearly into the microphone.
- 3 Release the **PTT** button to end the transmission and wait for a response from the dispatcher.
- 4 Press and hold the emergency button or the **PTT** button to return to normal operation.



❑ Emergency Operation

Sending an Emergency Alarm with Emergency Call

This feature gives your radio priority access on a channel for conventional system, and to a talkgroup for trunking system.

If the radio has both emergency call and alarm features enabled, it automatically proceeds to the call mode after the alarm is acknowledged.

Procedure:

A green rectangular button with the word "DEMO" in white capital letters.

- 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:

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

- 2 Press and hold the **PTT** button.
Speak clearly into the microphone.
- 3 Release the **PTT** button to end the transmission and wait for a response from the dispatcher.
- 4 Press and hold the emergency button or the **PTT** button to return to normal operation.

Turning the radio off also cancels the emergency state.

❑ 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.



❑ Trunking System Controls

Using the Fail-soft System

The fail-soft system ensures continuous radio communications during a trunked system failure.

If a trunking system fails completely, the radio goes into fail-soft operation and automatically switches to its fail-soft channel.

The fail-soft condition is indicated by a faint beeping tone every nine seconds (radio un-squelched) until the trunking system returns to normal operation.

To continue, in Fail-soft, to communicate with other talkgroup, refer to the following procedure.

Procedure:

- 1 Rotate the **Mode Knob** to change to a different repeater frequency.
- 2 Press the **PTT** button to talk, and release the button to listen.

When the trunking system returns to normal operation, your radio automatically leaves fail-soft operation and returns to trunked operation.

❑ 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.



❑ Trunking System Controls

Trunked Announcement

The announcement capability allows you to make announcements to the entire user group, as well as monitor talkgroup calls and other announcements.

Announcement calls are handled in two different ways, depending on the trunked central controller configuration.

The two types are called ruthless and non-ruthless preemption.

- **Ruthless Preemption:**

When a ruthless preemption announcement call is initiated, the requesting radio begins transmitting immediately. All associated talkgroup calls taking place on other channels are immediately halted, and the radios are steered to the announcement call.

Transmitting radios continue to transmit until the **PTT** button is released, at which time they also unmute for the announcement call. Individual calls (Private Conversation and telephone interconnect) are not affected.

- **Non-Ruthless Preemption:**

When a non-ruthless preemption announcement is initiated, the initiating unit receives a telephone-type busy tone, followed by a call back when all associated talkgroup conversations end.

Once an announcement call is pending, any attempts by other users to initiate a talkgroup call will result in a telephone-type busy tone. These users will not receive a call back until the announcement call is complete.

Initiating an Announcement

If your radio has been programmed to allow announcement calls:

Procedure:

- 1 If channel is set as the primary mode, turn the **Mode Knob** to locate the announcement-group mode.
- 2 Press the microphone **PTT** button to initiate the announcement.

❑ Ignition Switch Options

This feature allows the user to select the radio's functionality based on the Ignition State of the radio user's vehicle. The available options are as follows.

Blank

This option allows the user to power on and power off the radio through the Power button regardless of the Ignition's current state.

Tx Inhibit

This option allows the user to power on and power off the radio through the Power button regardless of the Ignition's current state. In addition, if the Ignition is not present, then all transmissions are inhibited. This includes receiving any Trunking dispatch communications since the radio will not affiliate with the Trunking systems.

PTT Tx Inhibit

This option allows the user to power on and power off the radio through the Power button regardless of the Ignition's current state. In addition, if the Ignition is not present, then all **PTT** button transmissions are inhibited. However, the radio is able to affiliate with the Trunking systems.

Required

This option allows the user to power on the radio only if the Ignition is present. The radio can be powered off either through Power button press or when Ignition is lost. In addition, the radio automatically powers on when the Ignition is present only if the radio was turned off due to the ignition being removed.

This option allows the radio to power off when Inactivity Auto Power Off Timer expires, or, when Ignition Auto Power Off Timer expires.

Soft Power Off

This option allows the user to power on the radio either through Power button presses or when the Ignition is detected.

Meanwhile, if the Power button was pressed or the Ignition was removed, the radio will be turned off.

This option allows the radio to power off when Inactivity Auto Power Off Timer expires, or, when Ignition Auto Power Off Timer expires.

Ignition Only Power Up

This option allows the user to power on the radio only when Ignition is detected and will power off when it is removed. The radio does not power on or off with the Power button press.

This option allows the radio to power off when Inactivity Auto Power Off Timer expires, or, when Ignition Auto Power Off Timer expires.

Note: While "Ignition" is not present, the radio powers-off with a radio-user Power Off button / knob selection if the radio was powered-up with an Emergency Power Up footswitch-press or Ignition Auto Power Off timer is running.

While "Ignition" is present, the radio powers-on with a radio user Power On button / knob selection only if the radio was powered-down with Inactivity Auto Power Off timer.

Emergency Power Up

This feature allows the user to power on the radio and automatically transmits an emergency mode transmission on personalities with emergency enabled, with the use of a footswitch. In addition, when the Ignition Switch option is set to either Tx Inhibit or PTT Tx Inhibit, this feature will not be available to the users.

Press the footswitch to turn on the radio and launch Emergency.

A tone sounds and the display shows **Emergency**.

❑ Voice Announcement

This feature enables the radio to audibly indicate the current feature mode, Zone or Channel the user has just assigned.

This audio indicator can be customized per customer requirements.

This is typically useful when the user is in a difficult condition to read the content shown on the display.

Each voice announcement is within a limit of three seconds maximum. The sum total duration for all voice announcements in a radio shall be no more than 1000 seconds.

Note: This feature must be preprogrammed by a qualified radio technician.

The features which Voice Announcement supports are:

- Zone
- Channel
- Scan
- PL Disabled
- Talkaround/Direct
- Tx Inhibit

Note: Voice announcements support certain number of zone-channel, but not all.

Seek advice from your dealer or qualified technician for the best selection of this feature.

The two options of priority for the Voice Announcement available are:

- **High** — enables the voice of the feature to announce even when the radio is receiving calls.
- **Low** — disables the voice of the feature from announcing when the radio is receiving calls.

Procedure:

You hear a voice announcement when the features below are preprogrammed in the radio.

- The radio powers up.
The radio announces the current zone and channel it is transmitting.
- Press the preprogrammed **voice announcement** button (which specifically programmed to playback the current zone and channel).
The radio announces the current zone and channel it is transmitting.

Note: Pressing this preprogrammed **playback** button will always enable the voice feature to announce in High priority.

- Change to a new zone.
The radio announces the current zone and channel it is transmitting.
- Change to a new channel remaining within the current zone.
The radio announces the current channel.

- Press either the **Menu Select** button or preprogrammed button of the radio to launch or terminate Scan, PL Disabled, Talkaround/Direct or Transmit Inhibit.
The radio announces the corresponding feature activation or deactivation.

❑ Selecting a Radio Profile

This feature allows you to manually switch the visual and audio settings of the radio. The display, backlight, alert tones, and audio settings are defined according to the preprogrammed radio settings of each radio profile.

Please refer to a qualified technician for more information.

Note: The radio automatically exits the feature, if the feature inactivity timer is enabled, when the radio is left idle and the timer expires. You will hear the Menu Inactive Exit Tone upon feature exit.

Procedure:

[Preprogrammed Button]

- 1 Use the preprogrammed **Profile** button.
- 2 ◀ or ▶ to scroll through the menu selections.
- 3 Press the **Menu Select** button directly below **SEL** to select the required radio profile.
The radio returns to the Home screen.
The profile name on the Home screen indicates the current selected radio profile.

OR

Press the **Menu Select** button directly below **EXIT** to exit the screen without making any changes.

OR

[Menu]

- 1 ◀ or ▶ to **PRFL**.
 - 2 Press the **Menu Select** button directly below **PRFL** to access the Profiles feature screen.
 - 3 ◀ or ▶ to scroll through the menu selections.
 - 4 Press the **Menu Select** button directly below **SEL** to select the required radio profile.
The radio returns to the Home screen.
The profile name on the Home screen indicates the current selected radio profile.
- OR**
- Press the **Menu Select** button directly below **EXIT** to exit the screen without making any changes.

❑ 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.

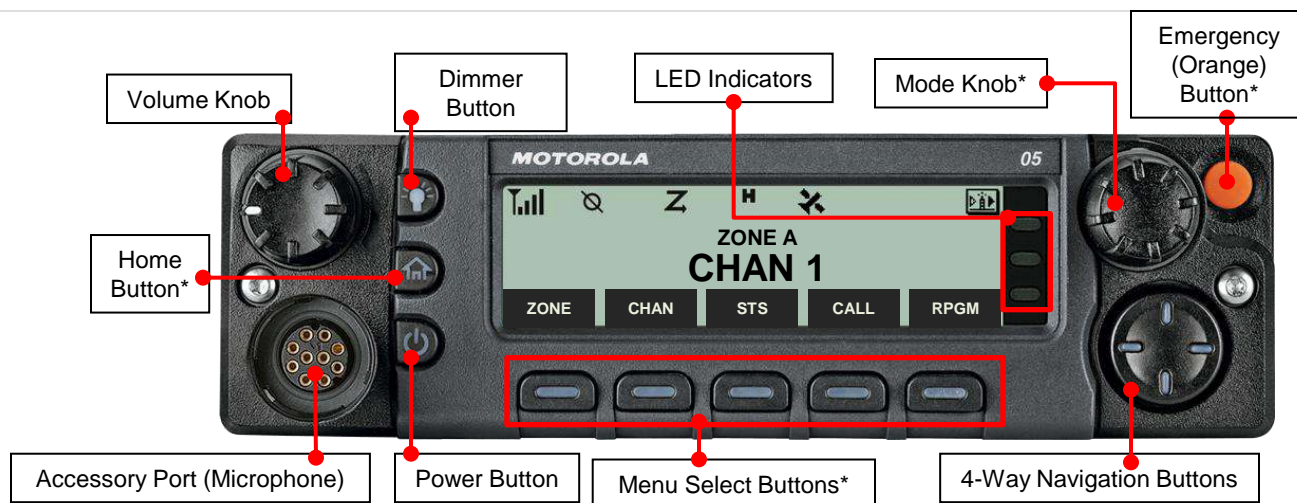
Depending on how your radio is preprogrammed, you can also maintain a minimum backlight level on the radio's display.

Procedure:

- 1 Press the **Dimmer** button to adjust the brightness of the display.

OR

Press any key of the keypad, the **Menu Select** or Menu Navigation buttons, or any programmable radio controls or buttons to turn the backlight on.



❑ Using the Time-Out Timer

This feature turns off your radio's transmitter. You cannot transmit longer than the preset timer setting.

If you attempt to do so, the radio automatically stops your transmission, and you hear a talk-prohibit tone.

The timer is defaulted at 60 seconds, but it can be preprogrammed from 3 to 120 seconds, in 15-second intervals, or it can be disabled entirely for each radio mode, by a qualified radio technician.

Note: You will hear a brief, low-pitched, warning tone four seconds before the transmission times out.

Procedure:

- 1 Hold down the **PTT** button longer than the preprogrammed time.
*You hear a short, low-pitched warning tone, the transmission is cut-off, and the LED goes out until you release the **PTT** button.*
- 2 Release the **PTT** button.
The LEDs relight and the timer resets.
- 3 Press the **PTT** button to re-transmit.
The time-out timer restarts and the LED lights up solid red.

❑ Using the Digital PTT ID Feature

This feature allows you to see the radio ID (number) of the radio from whom you are currently receiving a transmission. This ID, consisting up to a maximum of eight characters, can be viewed by both the receiving radio and the dispatcher.

Your radio's ID number is also automatically sent every time the **PTT** button is pressed. This is a per-channel feature. For digital voice transmissions, your radio's ID is sent continuously during the voice message.