

PROFESSIONAL DIGITAL TWO-WAY RADIO SYSTEM

MOTOTRBO™ DM 3400/DM 3401 MPT1327 FOR MOBILE RADIOS USER GUIDE



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Notes



Important Safety Information

Product Safety and RF Exposure Compliance



Caution

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

ATTENTION!

This radio is restricted to occupational use only to satisfy FCC/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 enclosed with your radio (Motorola Publication part number 6866537D37) to ensure compliance with RF energy exposure limits.

For a list of Motorola-approved antennas and other accessories, visit the following website:

<http://www.motorola.com/governmentandenterprise>

Software Version

All the features described in the following sections are supported by the radio's software version **R01.07.00** or later.

Please check with your dealer or system administrator for more details of all the features supported.

Option Board Part Number

All the features described in the following sections are supported by the radio's MPT1327 Generic Option Board (GOB) kit number **PMLN5743_S**.

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U.S. Pat. Nos. #5,870,405, #5,826,222, #5,754,974, #5,701,390, #5,715,365, #5,649,050, #5,630,011, #5,581,656, #5,517,511, #5,491,772, #5,247,579, #5,226,084 and #5,195,166.

Getting Started

Take a moment to review the following:

How to Use This User Guide	page 1
What Your Dealer/System Administrator Can Tell You	page 1
Powering Up the Radio	page 2
Adjusting the Volume	page 2

■ How to Use This User Guide

This User Guide covers only the functional operation of the **MPT1327 Generic Option Board (GOB)** installed in MOTOTRBO Mobiles with Numeric Display.

For complete operation of the MOTOTRBO Mobiles with Numeric Display, refer to the specific User Guides for each radio.

■ What Your Dealer/System Administrator Can Tell You

You can consult your dealer or system administrator about the following:

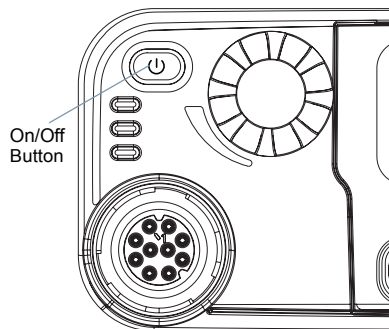
- Is your radio programmed with any preset conventional channels?
- Which buttons have been programmed to access other features?
- What optional accessories may suit your needs?

■ Powering Up the Radio

Press the **On/Off Button** briefly.

The green LED blinks and the numeric display screen lights up.

A brief tone sounds, indicating that the power up test is successful.

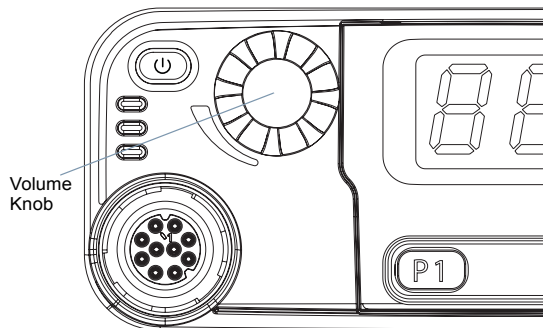


If your radio does not power up, contact your dealer.

To turn off the radio, press and hold the On/Off Button.

■ Adjusting the Volume

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



To decrease the volume, turn this knob counterclockwise.

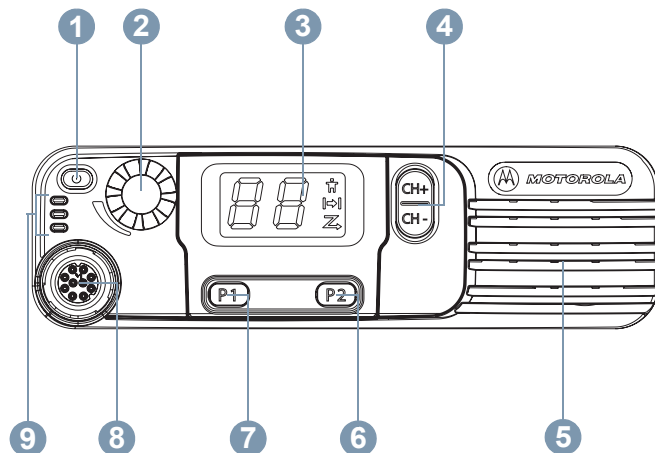
NOTE: Your radio can be programmed to have a minimum volume offset where the volume level cannot be turned down fully. Check with your dealer or system administrator for more information.

Identifying Radio Controls

Take a moment to review the following:

Radio Controls.	page 3
Programmable Buttons	page 4
Using the Keypad	page 5

■ Radio Controls



- 1 On/Off Button
- 2 Volume Knob
- 3 Display
- 4 Channel Rocker
- 5 Speaker
- 6 Front Button P2*
- 7 Front Button P1*
- 8 Accessory Connector
- 9 LED Indicators

* These buttons are programmable.

■ Programmable Buttons

Your dealer can program the programmable buttons as shortcuts to **radio functions** or up to a maximum of six (6) **preset channels/groups** depending on the duration of a button press:

- Short press – Pressing and releasing rapidly (0.05 seconds).
- Long press – Pressing and holding for the programmed duration (between 1.00 second and 3.75 seconds).
- Hold down – Keeping the button pressed.

Assignable Radio Functions

Clear – Allows cancelling an incoming or outgoing call (Only available on Front Button P1).

Dedicated Call/Emergency/Help – To make a call to a pre-determined number, effectively activating an Emergency, Priority, Speech, Status, Data, or a normal call.

Personality – Shortcut to the personality menu option to select one of four MPT personalities (provided by MPT1327) or Conventional Zones (provided by TRBO radio).

Help Call – Call the Help number as predefined via the CPS.

SFD/Talkgroup Toggling – Press to toggle between SFD and Talkgroup mode.

Missed Calls – Shortcut to the Missed Call menu.

External Alarm – Press to enable/disable. Alerts of an incoming speech call when user is away from the vehicle.

Car Radio Mute – Press to enable/disable. When enabled, assert selected pin during an incoming or outgoing call. Use mute external car audio devices.

You can use the 3 x 4 alphanumeric keypad on the keypad microphone (Motorola part number: RMN5065_) to access your radio's features. You can use the keypad to enter subscriber aliases or IDs, and text messages. Many characters require that you press a key multiple times. The table below shows the number of times a key needs to be pressed to generate the required character.

English

This table is only applicable for a radio that supports Simplified Chinese.

[illegible]

Identifying Status Indicators

Your radio indicates its operational status through the following:

Display Icons	page 7
LED Indicators	page 7
Audio Tones	page 8
Indicator Tones	page 8

Display Icons

The seven-segment display shows radio channel and status.

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



Repeater/Talkaround

Indicates that background hunt is running.

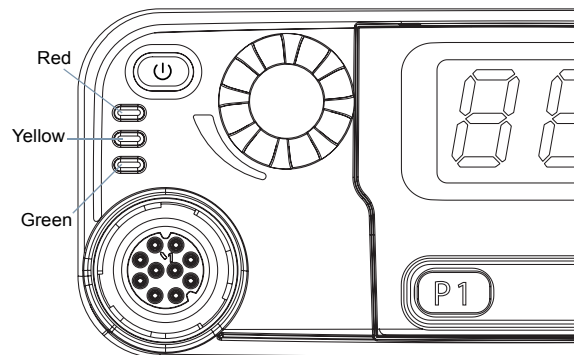


Scan

Indicates that scanning for a control channel is in progress.

LED Indicators

LED indicators show the operational status of your radio.



Solid red – Radio is transmitting.

Blinking red – Channels are currently busy.

Blinking green – No service.

NOTE: The **yellow LED** is automatically disabled and not used during the MPT1327 mode of operation.

■ Audio Tones

Alert tones provide you with audible indications of the radio's status or the radio's response to data received.

- Continuous Tone**  A monotone sound. Sounds continuously until termination.
- Periodic Tone**  Sounds periodically depending on the duration set by the radio. Tone starts, stops, and repeats itself.
- Repetitive Tone**  A single tone that repeats itself until it is terminated by the user.
- Momentary Tone**  Sounds only once for a short period of time defined by the radio.

■ Indicator Tones

High pitched tone  Low pitched tone 

-  Positive Indicator Tone
-  Negative Indicator Tone

MPT Personalities and Radio Zones

Use this guide to understand the personalities programmed into your radio:

MPT	page 9
Talkgroup	page 9
Personality Selection	page 10
Zone Selection	page 11

The personalities described below are programmed into your radio by your dealer and are accessible either via the personality button or via the menu.

An MPT personality contains data such as frequencies, display text, alert tones, permitted calls etc. which determines the mode of operation of your radio. Your radio may be programmed with up to 4 different MPT personalities.

MPT

This personality permits the radio to operate in a trunked mode. Incoming and outgoing calls are set up using a defined set of rules or protocol between your radio and a controller in a similar manner to your home telephone.

Talkgroup

Talkgroup is an MPT personality following the same rules or protocol, but is primarily for talkgroup calls. In talkgroup personality, talkgroups are contained in a Talkgroup list, similar to the Contact list, which is scrolled and selected using the Channel Rocker. On selection of a talkgroup, you may send and receive calls as described below.

Fixed and Dynamic Groups

These groups form part of the **Talkgroup Personality**, such that when this personality is selected your talkgroup list shows only these groups.

A **fixed** group is a group of users, the address (number) of which is preprogrammed into your radio by your dealer.

A **dynamic** group is a group of users, the address (number) of which is sent to your radio 'over air' at any time via the system controller.

Therefore at any time you may become a member of a dynamic group, able to receive calls and (depending on how your radio is programmed) send calls to that group.

Incoming calls to fixed and dynamic group numbers are detailed in Receiving a Call and displayed under Receiving a Call.

To make an outgoing call to a selected talkgroup, press the **PTT** and speak after the Talk Permit Tone.

Calls are cleared in the normal manner.

If the system is busy, an engaged tone will be heard, release the **PTT** and wait for the Talk Permit Tone. You may then proceed with the call by pressing the **PTT**.

When in Talkgroup personality, you can still make an individual or status call using the keypad or entering the Contact List via the menu. See "Receiving a Call" on page 14.

■ Personality Selection

The Personality menu provides access to all MPT personalities and radio defined zones. To scroll through the menu, use the **Channel Rocker**.

Use the following procedure below to select a personality.

Procedure:

- 1 Ensure radio is in IDLE STATE.
- 2 Press the preprogrammed Personality button.
- 3 Press the Channel Rocker to select desired personality e.g. 2.

You hear a positive indicator tone, indicating the radio has switched from non-MPT mode to MPT mode.

OR

You hear a negative indicator tone, indicating the radio has switched from MPT mode to non-MPT mode.

■ Zone Selection

A zone is a group of channels. Your radio supports up to 250 zones, with a maximum of 16 channels and Capacity Plus personalities per zone.

Use the following procedure to select a zone.

- 1 Ensure radio is in IDLE STATE.
- 2 Press the preprogrammed Zone button.

You hear a positive indicator tone, indicating the radio has switched from Zone 1 to Zone 2.

OR

You hear a negative indicator tone, indicating the radio has switched from Zone 2 to Zone 1.

Radio Calls

Once you understand how your MOTOTRBO Mobile is configured, you are ready to use your radio.

Use this navigation guide to familiarize yourself with the basic Call features:

Making a Call	page 12
Receiving a Call	page 14
Cancelling a Call	page 14
Ending a Call	page 14
Missed Calls	page 15
Call Diversion	page 16
Emergency Calls	page 16

■ Making a Call

The radio is capable of making a variety of calls, including calls to individual radios, groups of radios and calls to private and public telephone systems.

Before you can make a call the radio must be in IDLE STATE, i.e. a personality has been selected and no call is in progress.

The radio can make calls by using the **Dedicated Calls, Manual Dialing or Contact List**.

Dedicated Calls

Dedicated calls can be made from either a preprogrammed button or using the speed-dial feature from the keypad.

Press the Dedicated Call button to make a call to the most commonly used preprogrammed number. The green LED lights up.

To use the speed-dial feature, hold down one of the keypad keys (0 to 9) for a preset period to make a call to one of ten (1 of 10) preprogrammed numbers which are the first ten entries (1 to 9, 0= 10) in the contact list. The selected number and alias is displayed and the conversation can go ahead.

Manual Dialing

To make a call from the keypad:

- 1 Enter Telephone Number (PSTN calls always start with 0, PABX calls start with 6, 7, or 8)

OR

Radio ID

OR

Group ID

- 2 Press the **PTT** button or  to make radio call. The green LED lights up.
-

Contact List

The contact list allows access to up to 100 preprogrammed numbers using the Channel Rocker.

Procedure:

To make a call from the contact list:

- 1 Ensure the radio is in IDLE STATE.

- 2 Press the Channel Rocker to select the required contact.

- 3 Press the **PTT** button to initiate the call. The radio sends out its ID and sounds a tone.

- 4 Hold the microphone vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.

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

- 6 Speak clearly into the microphone.

- 7 Release the **PTT** button to listen.

- 8 If there is no voice activity for a predetermined period of time, the call ends.
OR
Press preprogrammed Clear button (P1) to end a call. A momentary tone sounds.

If a contact list number is selected but no call request is sent, the display is held until a momentary tone sounds and then reverts to the IDLE STATE.

Last Number Redial

The last number dialed by the radio is stored in the memory of the radio. To redial last number:

Procedure:

- 1 Ensure radio is in IDLE STATE.

- 1 Press the preprogrammed button (for redial) to redial. The display shows last called ID e.g. 12 and sounds a tone.

- 2 Press the **PTT** button or  to make the call. The green LED lights up.

- 3 Hold the microphone vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.

- 4 Speak clearly into the microphone.

- 5 If there is no voice activity for a predetermined period of time, the call ends.
OR
Press preprogrammed Clear button (P1) to end a call. A momentary tone sounds.

Last number redial does not function when Talkgroup personality is selected. See "Talkgroup" on page 9.

■ Receiving a Call

There are two types of systems on which the radio may be used, Off Air Call Set Up (OACSU) and Full Off Air Call Set Up (FOACSU).

If you are in doubt about which system you are operating on, please consult your dealer.

Receiving a Call on an OACSU System

- 1 A repetitive tone sounds. The red LED blinks. Call is being set up.
- 2 A momentary tone sounds to indicate the end of the call.

Receiving a Call on a FOACSU System

- 1 The ring tone sounds. The red LED lights up.
- 2 Press the **PTT** button to accept call (unless in talkgroup personality, when radio unmutes automatically for fixed and dynamic group calls).
- 3 A repetitive tone sounds. The red LED blinks. Call is being set up.
- 4 A momentary tone sounds to indicate the end of the call.

■ Cancelling a Call

At any time while setting up a call, it may be cancelled.

To cancel a call:

- 1 Press preprogrammed Clear button (P1). A repetitive tone sounds.

■ Ending a Call

At any time while a call is in progress it may be ended.

To end a call:

- 1 Press preprogrammed Clear button (P1). A repetitive tone sounds.

■ Missed Calls

If a call remains unanswered, the call is stored by the radio, provided that missed calls have been programmed into your radio.

Only one call can be stored. If the same radio calls more than once the call is only stored once. When the calls have been stored by the radio, any further calls received may overwrite the stored call.

When a call has been stored by the radio, a momentary tone sounds every ten seconds.

The Missed Call List can also be entered directly by pressing the Missed Call button (if programmed) when the radio is in IDLE STATE.

Calling Missed Call List

To make a call back to the number in the Missed Call list:

- 1 Ensure radio is in IDLE STATE.
- 2 Press the **PTT** button to make the call. The radio sends out its ID and sounds a tone.
- 3 Hold the microphone vertically 1 to 2 inches (2.5 to 5.0 cm) from your mouth.
- 4 Speak clearly into the microphone.
- 5 Release the **PTT** button to listen.

- 6 If there is no voice activity for a predetermined period of time, the call ends.

OR

Press preprogrammed Clear button (P1) to end a call. A momentary tone sounds.

Deleting Missed Call List

On a successful call setup, the entry is automatically deleted from the stack and the radio returns to the IDLE STATE.

An unanswered call may be deleted from the Missed Call list at any time.

To delete a number in the Missed Call List:

- 1 Ensure radio is in IDLE STATE.
- 2 Press preprogrammed button (for Missed Calls).
- 3 Press preprogrammed Clear button (P1).

NOTE: The calls in the stack are not deleted when the radio is turned off. It is not possible to redial status calls.

■ Call Diversion

Incoming speech calls or status calls can be diverted **from** your radio or **to** your radio.

Call diversion and cancellation may be programmed into the Contact List. Please contact your administrator or dealer for further information.

■ Emergency Calls

An emergency call allows you the highest form of priority calling and normally takes precedence above all other calls.

Your radio can be programmed to give you a one-button quick access to call a particular radio or centre (predefined by your dealer) in emergency situations.

To initiate an emergency call:

Procedure:

- 1 Press the **Emergency** button. A repetitive tone sounds.
-

Emergency can be stopped by one of the following:

- Switching the radio **Off** and **On** again.
- The emergency time duration is reached.

NOTE: The emergency time duration is programmed into your radio by your dealer. Your radio may receive an emergency call when a repetitive tone sounds.



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