



PROFESSIONAL DIGITAL TWO-WAY RADIO

**MOTOTRBO™  
XPR™ 3500**

**LIMITED KEYPAD PORTABLE  
USER GUIDE**



## Declaration of Conformity

This declaration is applicable to your radio **only** if your radio is labeled with the FCC logo shown below.

### DECLARATION OF CONFORMITY

Per FCC CFR 47 Part 2 Section 2.1077(a)



#### Responsible Party

Name: Motorola Solutions, Inc.

Address: 1301 East Algonquin Road, Schaumburg, IL 60196-1078, U.S.A.

Phone Number: 1-800-927-2744

Hereby declares that the product:

Model Name: **XPR 3500** conforms to the following regulations:

FCC Part 15, subpart B, section 15.107(a), 15.107(d) and section 15.109(a)

#### **Class B Digital Device**

As a personal computer peripheral, this device complies with Part 15 of the FCC Rules. This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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This User Guide contains all information you need to use the MOTOTRBO XPR 3500 Digital Portable Radio.

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## 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 RF energy exposure requirements.**

Before using this product, read the RF energy awareness information and operating instructions in the XPR 3000 Series Portable Radio Regulatory Compliance and Product Safety / Quick Reference Guide booklet enclosed with your radio (Motorola Publication part number 68009511001) to ensure compliance with RF energy exposure limits.

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

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

*Any modification to this device, not expressly authorized by Motorola, may void the user's authority to operate this device.*

*Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.*

### Firmware Version

All the features described in the following sections are supported by the radio's software version **R02.04.00**.

See ***Checking the Firmware Version and Codeplug Version and Codeplug Version*** on page 70 to determine your radio's software version.

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

## Computer Software Copyrights

The Motorola products described in this manual may include copyrighted Motorola computer programs stored in semiconductor memories or other media. Laws in the United States and other countries preserve for Motorola certain exclusive rights for copyrighted computer programs including, but not limited to, the exclusive right to copy or reproduce in any form the copyrighted computer program. Accordingly, any copyrighted Motorola computer programs contained in the Motorola products described in this manual may not be copied, reproduced, modified, reverse-engineered, or distributed in any manner without the express written permission of Motorola. Furthermore, the purchase of Motorola products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license under the copyrights, patents or patent applications of Motorola, except for the normal non-exclusive license to use that arises by operation of law in the sale of a product.

The AMBE+2™ voice coding Technology embodied in this product is protected by intellectual property rights including patent rights, copyrights and trade secrets of Digital Voice Systems, Inc.

This voice coding Technology is licensed solely for use within this Communications Equipment. The user of this Technology is explicitly prohibited from attempting to decompile, reverse engineer, or disassemble the Object Code, or in any other way convert the Object Code into a human-readable form.

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.

## Handling Precautions

The MOTOTRBO XP3500 Portable Radio meets IP55 specifications with antenna attached, allowing the radio to withstand adverse field conditions such as being used in rain or dusty environment.

- If the radio has been exposed to water or rain, shake the radio well to remove any water that may be trapped inside the speaker grille, microphone port and aesthetic cover (if applicable). Trapped water in speaker grille and microphone port could cause decreased audio performance. If aesthetic cover is attached onto radio, trapped water in aesthetic cover could cause corrosion on the slim connector interface gold contacts.
- If the radio's battery contact area has been exposed to water, clean and dry battery contacts on both the radio and the battery before attaching the battery to the radio. The residual water could short-circuit the radio.
- If the radio has been exposed to corrosive substance (e.g. saltwater), rinse the radio and battery in fresh water then dry the radio and battery.
- To clean the exterior surfaces of the radio, use a diluted solution of mild dishwashing detergent and fresh water (i.e. one teaspoon of detergent to one gallon of water).
- The radio with antenna attached properly is designed to be protected against dust and low pressure jets of water projected with nozzle 6.3mm diameter at flow rate of 12.5 l/min, with water pressure at 30 kN/m<sup>2</sup> and from a distance of

2.5m to 3m for at least 3 min. Exceeding either maximum limit or use without antenna may result in damage to the radio.

- When cleaning the radio, do not use a high pressure jet spray on the radio as this may cause to leak.



Caution

Do not disassemble the radio. This could damage radio seals and result in leak paths into the radio. Radio maintenance should only be done in service depot that is equipped to test and replace the seal on the radio.

## ■ How to Use This Guide

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This User Guide covers the basic operation of the MOTOTRBO Portables.

However, your dealer or system administrator may have customized your radio for your specific needs. Check with your dealer or system administrator for more information.

Throughout this publication, the icons below are used to indicate features supported in either the conventional Analog mode or conventional Digital mode:



Indicates a conventional Analog Mode-Only feature.



Indicates a conventional Digital Mode-Only feature.

For features that are available in **both** conventional Analog and Digital modes, **no** icon is shown.

For features that are available in a conventional multi-site mode, see **IP Site Connect** on page 12 for more information.

Selected features are **also** available on the single-site trunking mode, Capacity Plus. See **Capacity Plus** on page 12 for more information.

Selected features are **also** available in the multi-site trunking mode, Linked Capacity Plus. See **Linked Capacity Plus** on page 13 for more information.

## ■ What Your Dealer/System Administrator Can Tell You

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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?
- What are the best radio usage practices for effective communication?
- What maintenance procedures will help promote longer radio life?

## ■ Charging the Battery

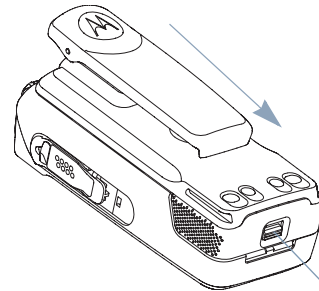
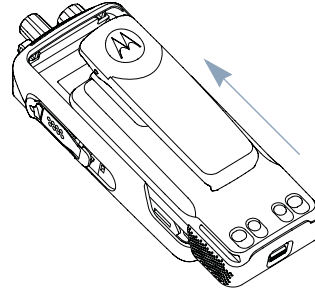
Your radio is powered by a Lithium-Ion (Li-Ion) battery. To avoid damage and comply with warranty terms, charge the battery using a Motorola charger *exactly* as described in the charger user guide.

Charge a new battery 14 to 16 hours before initial use for best performance.

**IMPORTANT:** **ALWAYS** charge your IMPRES battery with an IMPRES charger for optimized battery life and valuable battery data. IMPRES batteries charged exclusively with IMPRES chargers receive a 6-month capacity warranty extension over the standard Motorola Premium battery warranty duration.

## ■ Attaching the Battery

Align the battery with the rails on the back of the radio. Press the battery firmly, and slide upward until the latch snaps into place.

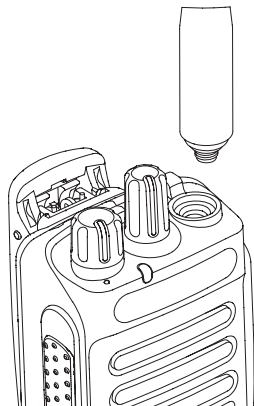


Battery Latch

*To remove the battery, turn the radio off. Move the battery latch into unlock position and hold, and slide the battery down and off the rails.*

## ■ Attaching the Antenna

With the radio turned off, set the antenna in its receptacle and turn clockwise.



*To remove the antenna, turn the antenna counterclockwise.*



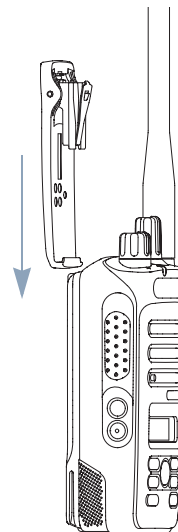
**Caution**

If antenna needs to be replaced, ensure that only MOTOTRBO antennas are used. Neglecting this will damage your radio. See *Antennas* on page 71 for a list of available antennas.

## ■ Attaching the Belt Clip

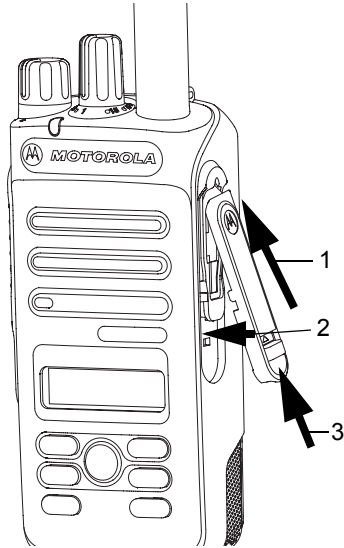
Align the grooves on the clip with those on the battery and press downward until you hear a click.

*To remove the clip, press the belt clip tab away from the battery using a key. Then slide the clip upward and away from the radio.*



## ■ Attaching the Universal Connector Cover (Dust Cover)

The universal connector is located on the antenna side of the radio. It is used to connect MOTOTRBO accessories to the radio.



Insert the slanted end of the cover into the slots above the universal connector. Press downward on the cover to seat the dust cover properly on the Universal Connector.

Secure the dust cover to the radio by pushing the latch upwards.

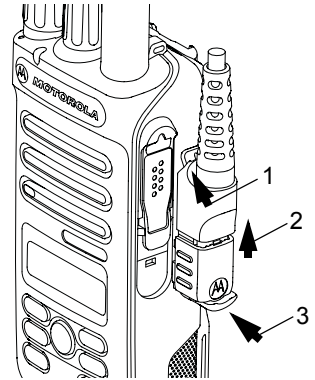
*To remove the dust cover, push the latch downwards. Lift the cover up and slide down the dust cover from the universal connector to remove it.*

*Replace the dust cover when the universal connector is not in use.*

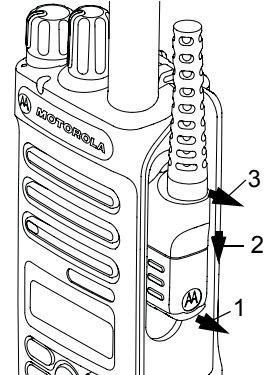
## ■ Attaching the Accessory Connector

The accessory connector is to be secured to the universal connector on the antenna side of the radio.

To attach the accessory connector, refer to the steps shown in the diagram.



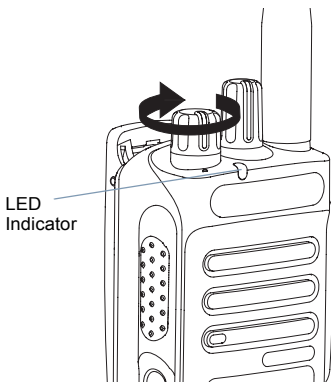
*To remove the accessory connector, refer to the steps shown in the diagram.*



## ■ Powering Up the Radio

Rotate the **On/Off/Volume Control Knob** clockwise until you hear a click. You see **MOTOTRBO (TM)** on the radio's display momentarily, followed by a welcome message.

The LED lights up solid green and the Home screen lights up if the backlight setting is set to turn on automatically.



**NOTE:** The Home screen does not light up during a power up if the LED indicator is disabled (see Turning the LED Indicator On or Off on page 64).

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

**NOTE:** There is no power up tone if the radio tones/alerts function is disabled (see Turning the Radio Tones/ Alerts On or Off on page 60).

If your radio does not power up, check your battery. Make sure that it is charged and properly attached. If your radio still does not power up, contact your dealer.

*To turn off the radio, rotate this knob counterclockwise until you hear a click. You see a brief *Powering Down* on the radio's display.*



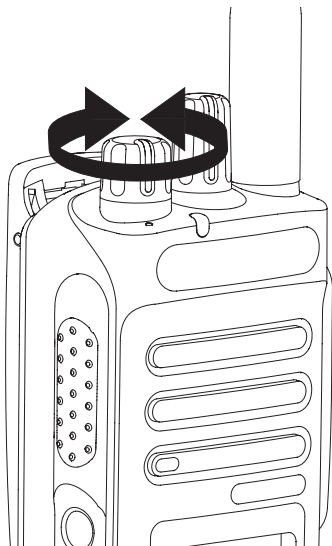
## ■ Adjusting the Volume

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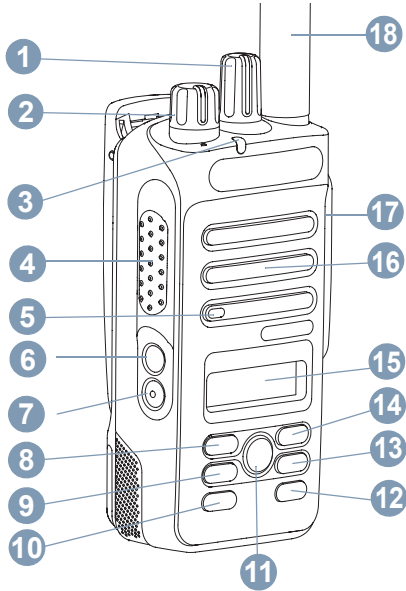
To increase the volume, turn the **On/Off/Volume Control Knob** clockwise.

*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.



## Radio Controls



- 1 Channel Selector Knob
- 2 On/Off/Volume Control Knob
- 3 LED Indicator

- 4 Push-to-Talk (PTT) Button
- 5 Microphone
- 6 Side Button 1\*
- 7 Side Button 2\*
- 8 Left Navigation Button
- 9 Menu Button
- 10 Front Button P1\*
- 11 OK Button
- 12 Front Button P2\*
- 13 Back/Home Button
- 14 Right Navigation Button
- 15 Display
- 16 Speaker
- 17 Universal Connector for Accessories
- 18 Antenna

\* These buttons are programmable.

## ■ Programmable Buttons

---

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

- Short press – Pressing and releasing rapidly.
- Long press – Pressing and holding for the programmed duration.
- Hold down – Keeping the button pressed.

**NOTE:** The programmed duration of a button press is applicable for all assignable radio/utility functions or settings. See *Emergency Operation* on page 43 for more information on the programmed duration of the Emergency button.

## 📄 Assignable Radio Functions

**Contacts** – Provides direct access to the Contacts list.

**Call Alert** – Direct access to the radio contacts list to select a radio contact to send a call alert to.

**Call Forwarding** – Toggles Call Forwarding on or off.

**Call Log** – Selects the call log list.

**Channel Announcement** – Plays zone and channel announcement voice messages for the current channel.

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

**Intelligent Audio On/Off** – Toggles intelligent Audio on or off.

**Manual Site Roam**<sup>\*‡</sup>  – Starts the manual site search.


**Mic AGC On/Off** – Toggles the internal microphone automatic gain control (AGC) on or off.

**Monitor** – Monitors a selected channel for activity.

**Nuisance Channel Delete**<sup>\*‡</sup> – Temporarily removes an unwanted channel, except for the Selected Channel, from the scan list. The Selected Channel refers to the user's selected zone/channel combination from which scan is initiated.

<sup>\*</sup> Not applicable in Capacity Plus


<sup>‡</sup> Not applicable in Linked Capacity Plus


**One Touch Access**  – Directly initiates a predefined Private or Group Call or a Call Alert **Permanent Monitor**\*\* – Monitors a selected channel for all radio traffic until function is disabled.

**Privacy**  – Toggles privacy on or off.

**Radio Alias and ID** – Provides radio alias and ID.


**Radio Check**  – Determines if a radio is active in a system.

**Radio Enable**  – Allows a target radio to be remotely enabled.

**Radio Disable**  – Allows a target radio to be remotely disabled.


**Repeater/Talkaround**\*\* – Toggles between using a repeater and communicating directly with another radio.

**Scan**\*\* – Toggles scan on or off.

**Site Lock On/Off**\*\*  – Toggles the automatic site roam on or off.

*\* Not applicable in Capacity Plus*

*‡ Not applicable in Linked Capacity Plus*

**Transmit Interrupt Remote Dekey**  – Stops the transmission of a remote monitored radio without giving any indicators, or an ongoing interruptible call to free the channel. (A Software License Key sold separately is required to use this feature.)

**Voice Announcement On/Off** – Toggles Voice Announcement on or off.

**Voice Operating Transmission (VOX)** – Toggles VOX on or off.

**Zone** – Allows selection from a list of zones.


## Assignable Settings or Utility Functions

**All Tones/Alerts** – Toggles all tones and alerts on or off.

**Backlight** – Toggles display backlight on or off.

**Backlight brightness** – Adjusts the brightness level.

**Power Level** – Toggles transmit power level between high and low.

**Squelch**  – Toggles squelch level between tight and normal.