

TP3300/TP3350 DMR Conventional Portable Radios User's Guide

MPE-00001-03 · Issue 3 · August 2019



User Guide Cross Reference

T03-00302-HAAA/HBAA/HCAA : Analog and DMR
Tier 2 portable radios are elsewhere in this manual
referred to as TP3300

T03-00303-HAAA/HBAA/HCAA : Analog and DMR
Tier 2 portable radios, with added GPS and BT
functionality, are elsewhere in this manual referred to
as TP3350

Contents

	For your safety.....	7
	Menu map.....	19
1	About this guide	20
	Safety warnings used in this guide	20
	Related documentation.....	21
2	Before using your radio	22
	Package Contents	23
	For your safety—battery warning.....	24
	Attaching labels to the radio or battery	24
	Charging the battery before first use	25
	Attaching the battery.....	26
	Removing the battery	26
	Attaching the antenna.....	27
	Removing the antenna	27
	Replacing the belt clip	27
	Attaching an audio accessory.....	28
3	Getting started	29
	About your DMR digital radio.....	30
	About the radio controls.....	32
	Understanding the radio display	34
	Understanding the radio indicators.....	36
	Using function keys to access frequently used features.....	38
	Navigating the radio's menus	39
4	Operation.....	40
	Turning the radio on and off	41
	Adjusting the speaker volume	42
	Connecting to a Bluetooth® device (TP3350 only)	42
	Selecting a zone	45
	Selecting a channel	45
	Making a group call	46
	Making a private call.....	47
	Turning scanning on and off	47
	Making a call alert.....	48
	Sending a quick text message.....	49
	Sending an emergency alarm.....	51
	Turning location information on and off (TP3350 only).....	52
5	Charging and caring for batteries	53
	About the chargers	54

Before using the charger	54
Charging temperatures.....	55
Leaving the battery on charge	56
Receiving calls while charging.....	56
Low battery warning	56
Charging a battery for the first time	57
Charging a battery	57
LED behavior.....	58
Removing the battery from the charger	59
Maintaining battery life and performance	59
Storing batteries	59
Disposing of batteries	60
6 Troubleshooting	61
About troubleshooting.....	62
When your radio won't turn on.....	62
Identifying the radio's audible tones	62
Viewing radio information	62
General care.....	63
Tait Software Licence Agreement.....	64
Simplified Declaration of Conformity	71

Copyright and trademarks

All information contained in this document is the property of Tait International Limited. All rights reserved. This document may not, in whole or in part, be copied, photocopied, reproduced, translated, stored, or reduced to any electronic medium or machine-readable form, without prior written permission from Tait International Limited.

The word TAIT and the TAIT logo are trademarks of Tait International Limited.

All trade names referenced are the service mark, trademark or registered trademark of the respective manufacturers.

Disclaimer

There are no warranties extended or granted by this document. Tait International Limited accepts no responsibility for damage arising from use of the information contained in the document or of the equipment and software it describes. It is the responsibility of the user to ensure that use of such information, equipment and software complies with the laws, rules and regulations of the applicable jurisdictions.

Enquiries and comments

If you have any enquiries regarding this document, or any comments, suggestions and notifications of errors, please contact your regional Tait office.

Updates of manual and equipment

In the interests of improving the performance, reliability or servicing of the equipment, Tait International Limited reserves the right to update the equipment or this document or both without prior notice.

Intellectual property rights

This product may be protected by one or more patents or designs of Tait International Limited together with their international equivalents, pending patent or design applications, and registered trade marks.

This product may also be made under license under one or more of the following patents:

- US7203207, AU2004246135, CA2527142, GB2418107, HK1082608, MY134526, US8306071
- US7339917, AU2004246136, CA2526926, GB2418812, MY134217
- US7499441, AU2005262626, CA2570441, GB2430333, JP4690397, NZ551231, KR100869043, RU2351080,

BRP10512052, MXPA06015241
- US 7200129, AU2005226531, CA2558551, CN1930809,
GB2429378, JP4351720, BRP10508671, NZ549124,
KR848483, RU2321952

The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc, and any use of such marks by Tait International Limited is under licence. Other trademarks and trade names are those of their respective owners.

Environmental responsibilities



Tait International Limited is an environmentally responsible company which supports waste minimization, material recovery and restrictions in the use of hazardous materials.

The European Union's Waste Electrical and Electronic Equipment (WEEE) Directive requires that this product be disposed of separately from the general waste stream when its service life is over. For more information about how to dispose of your unwanted Tait product, visit the Tait WEEE website at www.taitradio.com/weee. Please be environmentally responsible and dispose through the original supplier, or contact Tait International Limited.

Tait International Limited also complies with the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive in the European Union.

In China, we comply with the Measures for Administration of the Pollution Control of Electronic Information Products. We will comply with environmental requirements in other markets as they are introduced.

For your safety

Before using your radio, please read the following important safety and compliance information.

Radio frequency exposure information



For your own safety and to ensure you comply with the radio frequency (RF) exposure guidelines of the United States Federal Communication Commission's (FCC), Industry Canada, and those from other administrations, please read the following information before using this radio.

Using this radio

You should use this radio only for work-related purposes (it is not authorized for any other use) and if you are fully aware of, and can exercise control over, your exposure to RF energy. To prevent exceeding FCC RF exposure limits, you must control the amount and duration of RF that you and other people are exposed to.

It is also important that you:

- Do not remove the RF Exposure label from the radio.
- Ensure this RF exposure information accompanies the radio when it is transferred to other users.
- Do not use the radio if you do not adhere to the guidelines on controlling your exposure to RF.

Controlling your exposure to RF energy

This radio emits radio frequency (RF) energy or radio waves primarily when calls are made. RF is a form of electromagnetic energy (as is sunlight), and there are recommended levels of maximum RF exposure.

To control your exposure to RF and comply with the maximum exposure limits for occupational/controlled environments, follow these guidelines:

- Do not talk (transmit) on the radio more than the rated transmit duty cycle. This is important because the radio radiates more energy when it is transmitting than when it is receiving.
- When listening and talking on the radio, hold it upright in front of your face so that it is at least one inch (2.5 cm) away from any part of your face. Keeping the radio at the recommended distance is important because exposure to RF decreases rapidly the further away the antenna is from your body.
- Keep the antenna at least one inch (2.5 cm) from your face at all times.
- If you wear your radio, you must always put it in a carrying accessory that has been specifically approved by Tait for this radio. Using non-approved body-worn accessories may mean you expose yourself to higher levels of RF than recommended by the FCC's occupational/controlled environment RF exposure limits.
- Ensure you only use Tait-approved antennas, batteries, and accessories.

For more information on what RF energy is and how to control your exposure to it, visit the FCC website at www.fcc.gov/oet/rfsafety/rf-faqs.html.

Compliance with RF energy exposure standards

This two-way radio complies with these RF energy exposure standards and guidelines:

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR §§ 1.1307, 1.1310, and 2.1093.
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95.1-2005.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-2005 Edition.

- European Directive 2013/35/EU on minimum health and safety requirements regarding the exposure of workers to the risks arising from physical agents (electromagnetic fields).

This radio complies with the IEEE and ICNIRP exposure limits for occupational/controlled RF exposure environments at operating duty factors of up to 50% talk to 50% listen.

Conformité aux normes d'exposition à l'énergie RF

Cette radio émetteur-récepteur se conforme aux normes et aux règlements d'exposition à l'énergie RF :

- La Commission fédérale de la communication des Etats-Unis, Code de règlements fédéraux (CFR) Titre 47 Sections 1.1307, 1.1310 et 2.1091 (radios mobiles) ou 2.1093 (radios portatives).
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1-2005.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-2005 Edition.
- La directive européenne 2013/35/EU concernant les prescriptions minimales de sécurité et de santé relatives à l'exposition des travailleurs aux risques dus aux agents physiques (champs électromagnétiques).

Cette radio se conforme aux limites d'exposition de l'IEEE (FCC) et ICNIRP pour les environnements d'exposition au rayonnement RF professionnel et contrôlé aux cycles de marche de 50% en mode transmission et 50% en mode réception.

Radio frequency emissions limits in the USA

CFR Title 47 Part 15.19 (a) (1) - Receivers

Part 15 of the FCC Rules imposes RF emission limits on receivers. This radio complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

CFR Title 47 Part 15.19 (a) (3) - All other devices

This device complies with Part 15 of the FCC Rules. 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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Radio frequency emissions limits in Canada

ISED RSS warning

This device complies with Innovation, Science and Economic Development Canada Compliance licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Under Innovation, Science and Economic Development Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Innovation, Science and Economic Development 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.

Conformément à la réglementation d'Innovation, Sciences et Développement économique Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

EMC regulatory compliance in Australia



This product meets all ACMA regulatory requirements for electromagnetic compatibility (EMC). For more information about EMC compliance, visit the ACMA website at <https://www.acma.gov.au/Industry/Suppliers/Product-supply-and-compliance>.

Australia and New Zealand citizens band (476.4 to 477.4MHz)

AS/NZS 4365 deals with the use of frequencies in the 476.425 to 477.400 MHz band. Products capable of operating in this band have been approved for operation in the UHF Citizens Band Radio Service which is licensed in Australia by the ACMA Radiocommunications (Citizens Band Radio Stations) Class Licence and in New Zealand by the MED General User Radio Licence for Citizens Band Radio. Operation is subject to conditions contained within those licences.

Repeaters operate by receiving a transmission on one channel and re-transmitting it on another. Operators are required to avoid using local repeater input channels, which will be in the range of 31 to 38, unless it is intended to use the repeater facility, and to avoid using local repeater output channels, which will be in the range 1 to 8, at any time.

No voice transmissions are permitted on data channels 22 and 23. Equipment meeting this standard will inhibit voice operation on channels 22 and 23.

In Australia:

- Except in an emergency, a CB transmitter must not be operated on UHF channels 5 and 35.
- Channel 11 is the customary calling channel for establishing communications.

- Channel 40 is the customary road vehicle channel.

Health, safety and electromagnetic compatibility in Europe

In the European Community, radio and telecommunications equipment is regulated by the Radio Equipment Directive (2014/52/EU). The requirements of this directive include protection of health and safety of users, as well as electromagnetic compatibility.

Intended purpose of product

This product is an FM radio transceiver. It is intended for radiocommunication in the Private Mobile Radio (PMR) or Public Access Mobile Radio (PAMR) services, to be used in all member states of the European Union (EU) and states within the European Economic Area (EEA).

Restrictions

This product can be programmed to transmit on frequencies that are not harmonized throughout the EU/EEA, and will require a licence to operate in each member state.

This product can be programmed for frequencies or emissions that may make its use illegal. Where applicable, a license must be obtained before this product is used. All license requirements must be observed. Limitations may apply to transmitter power, operating frequency, channel spacing, and emission.

Declaration of conformity

Simplified declarations of conformity appear on [page 71](#) of this document. To download the formal declaration of conformity, go to www.taitradio.com/eudoc.

Interference with electronic devices



Warning Some electronic devices may be prone to malfunction due to the lack of protection from RF energy that is present when your radio is transmitting.

Examples of electronic devices that may be affected by RF energy are:

- aircraft electronic systems
- vehicular electronic systems such as fuel injection, anti-skid brakes, and cruise control
- medical devices such as pacemakers and hearing aids
- medical equipment in hospitals or health care facilities.

Switch off the radio before boarding an aircraft. Using your radio while in the air is not permitted.

Consult the manufacturer (or its representative) of any such electronic devices to determine whether electronic circuits in those devices will perform normally when the radio is transmitting.



Warning If you have a pacemaker:

- immediately turn off the radio if you suspect it is interfering with the pacemaker
- keep the radio at least 6 inches (15cm) from the pacemaker while the radio is on
- use the radio on the side opposite to the pacemaker to minimize interference
- never carry the radio in a breast pocket.

If there is interference between your hearing aid and the radio, please discuss an alternative solution with the hearing aid manufacturer.

Potentially explosive atmospheres and blasting areas



Warning Unless the radio is specifically certified for use in a potentially explosive atmosphere, do not take the radio into such an atmosphere. An explosion could cause serious injury or death. Examples of potentially explosive atmospheres include any environment where there are flammable liquids, gases, or dusts.



Warning Turn off the radio before approaching any area where you are instructed to turn off a two-way radio.

Radio installation and operation in vehicles



Warning Keep the radio away from airbags and airbag deployment areas. Do not install, charge, or place a radio near such areas. An activated airbag can propel a portable radio with sufficient force to cause serious injury to vehicle occupants. An airbag may not perform to specification if obstructed by a radio.



Warning To avoid damage to existing wiring, airbags, fuel tanks, fuel and brake lines, or battery cables, refer to the installation guide for the radio, and to the vehicle manufacturer's manual, before installing electronic equipment in the vehicle.

Using a handheld microphone or a radio while driving a vehicle may violate the laws and legislation that apply in your country or state. Please check the vehicle regulations in your area.

Electromagnetic compatibility in European vehicles

In the European Community, radio equipment fitted to automotive vehicles is regulated by UNECE Regulation 10 Revision 5. The requirements of this regulation cover the electromagnetic compatibility of electrical or electronic equipment fitted to automotive vehicles.

Unapproved modifications or changes to radio

The radio is designed to satisfy the applicable compliance regulations. Do not make modifications or changes to the radio that are not expressly approved by Tait. Failure to do so could invalidate compliance requirements and void the user's authority to operate the radio.

Attaching of labels



Warning Do not obstruct the vent hole on the battery or the vent hole on the radio chassis label. If the vent on the battery is obstructed, the battery may explode, causing personal injury and/or damage to property. If the vent on the radio is obstructed, audio quality and/or key function may deteriorate and radio seals may be damaged.



Caution Tait recommends that you do not affix additional labels to the surfaces between the radio chassis and the battery. The fit between these surfaces is intentionally firm and any added thickness will damage the points of attachment between radio and battery. Do not obstruct the vent holes (see Warning above). Do not allow the paper label to extend beyond the recessed label area or to conceal relevant product information.

Use of lithium-ion batteries



Warning A damaged battery can cause an explosion or fire, and can result in personal injury and/or property damage. To prevent personal injury and/or damage to property, read the important safety information supplied with the battery.

Short-circuiting battery contacts



Warning Do not short-circuit the battery contacts, neither intentionally nor accidentally, e.g. by placing the battery with conductive materials such as keys or jewelry inside a pocket or container. Short-circuiting the battery contacts can heat up the conductive material and cause personal injury and/or damage to property.

Menu map

This section shows the menus and submenus that may be programmed for your radio (for radios with display only).

Contact

Favorite contact list

Contact list

- Edit contact
- Delete contact
- View contact

New contact

Manual dial

Ctrl services

Alert call

Radio check

Radio disable

Radio enable

Remote monitor

Message

New message

Quick text

Status message

Inbox

- Forward
- Reply

Outbox

Drafts

Call logs

Outgoing

Incoming

Missed

Zone

Scan

Scan on/off

Scan list

Programming

Channel

- Frequency
- Slot
- Color code
- Tx contact
- Rx group list
- CTCSS

Radio

- Radio alias
- Radio ID

Settings

Radio settings

- Talk around
- Power level
- Squelch level
- Lone worker
- Backlight
- Day/night mode
- Brightness
- Keypad lock
- LED
- Tones
- Man down¹
- Encrypt
- Channel display mode
- Language
- Radio password
- Optional key
- VOX
- Keypad mode
- Vibration

Radio information

Accessories

GPS¹

Position view

Time zone

BT¹

Work order

1. TP3350 only

1 About this guide

This user's guide provides information about the T03-00302 (TP3300) and T03-00303 (TP3350) DMR conventional and analog portable radios.

Both models are available with the following front panels:

- display and 16 keys
- display and 4 keys
- no display and no keys

These front panels are interchangeable. Contact your radio provider for more information.

 Bluetooth®(page 42), GPS (page 52), and man-down features are only available in TP3350 portables.

The radio behavior described in this guide applies to radios with firmware version v1.01. If your radio does not operate as you expect, contact your radio provider for assistance.

Safety warnings used in this guide

Please follow exactly any instruction that appears in the text as an 'alert'. An alert provides necessary safety information as well as instruction in the proper use of the product. This user's guide uses the following types of alert:



Warning This alert is used when there is a hazardous situation which, if not avoided, could result in death or serious injury.



Caution This alert is used when there is a hazardous situation which, if not avoided, could result in minor or moderate injury.

Notice This alert is used to highlight information that is required to ensure procedures are performed correctly. Incorrectly performed procedures could result in equipment damage or malfunction.



This icon is used to draw your attention to information that may improve your understanding of the equipment or procedure.

Related documentation

The following documentation is also available for your Tait radio, which you can access from the Tait Technical Support website (<http://support.taitradio.com>):

- *Safety and Compliance Information*—supplied with each radio. (The same information is included in this user's guide.)
- *Li-ion Battery Safety Information*—supplied with each Li-ion battery.

2 Before using your radio

Once you have unpacked your radio, there are a few tasks you must do before you can use it. The most important of these is to charge your battery for the first time—allow 2.5 hours for this.



Warning Do not charge the battery or change the antenna in a hazardous location. An explosion could cause serious injury or death.

This section covers:

- [Package Contents](#)
- [For your safety—battery warning](#)
- [Attaching labels to the radio or battery](#)
- [Charging the battery before first use](#)
- [Attaching the battery](#)
- [Removing the battery](#)
- [Attaching the antenna](#)
- [Removing the antenna](#)
- [Replacing the belt clip](#)
- [Attaching an audio accessory](#)

Package Contents

Your TP3 package contains the following items:

- Radio
- Antenna(s)
- Battery(s)
- Battery Charger
- Multi-National Plug Pack
- Belt Clip
- Safety and Compliance documents

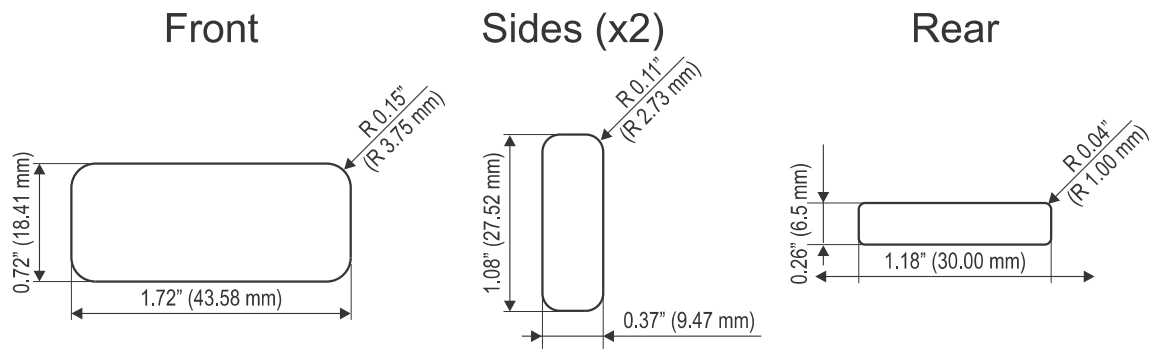
For your safety—battery warning



Warning This radio uses a Lithium-ion battery. If the battery is damaged or handled in an unsafe manner, it can cause personal injury and/or damage to property. Read the important safety information included with your battery.

Attaching labels to the radio or battery

The radio has recesses to attach labels to the front (not for 16-key radio), both sides and the rear.



Please contact your Tait dealer for pre-printed, customized labels.



Warning Do not cover the battery vent hole or the vent hole on the radio chassis. If the vent on the battery is obstructed, the battery may explode, causing personal injury and/or damage to property. If the vent on the radio is obstructed, audio quality and/or key function may deteriorate and radio seals may be damaged.

Notice Tait recommends that you do not affix additional labels to the surfaces between the radio chassis and the battery. The fit between these surfaces is intentionally firm and any added thickness will damage the points of attachment between radio and battery.

Charging the battery before first use

Before using your battery for the first time, you must charge it. Follow the instructions included with your Tait charger. This information is repeated in the section "[Charging and caring for batteries](#)" on [page 53](#).



For best charging performance, switch off the radio before placing it in the charger.

Attaching the battery

- 1 Rotate the power/volume control switch counterclockwise to turn off the radio.



If the battery has been attached while the radio is turned on, turn the radio off and then on again before use.

- 2 Insert the top of the battery into the recess at the back of the chassis.
- 3 Lightly press the bottom of the battery towards the radio until the battery catch clicks.
- 4 Make sure that the battery is firmly in position.



Removing the battery

The battery is secured to the radio by a battery catch in the radio's rear panel.

To remove the battery from the radio, so that the battery can be charged or replaced:

- 1 Rotate the power/volume control switch counterclockwise to turn off the radio.



If the battery has been removed while the radio is turned on, turn the radio off and then on again before use.

- 2 Push the **PRESS** button at the bottom of the radio to release the battery catch, and pull the battery away from the radio.

Attaching the antenna

Before using the radio, screw the antenna clockwise into the antenna connector. The antenna should be screwed sufficiently tight so that it doesn't unscrew easily. This is important as it creates a seal.

Removing the antenna

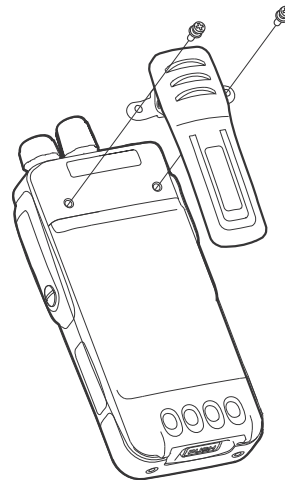


Warning Do not change the antenna in a hazardous location. An explosion could cause serious injury or death.

Use a firm grip and turn the antenna counterclockwise half a turn. Use a lighter grip to fully unscrew the antenna, and carefully remove it.

Replacing the belt clip

- 1 To remove the belt clip, use a Pozidrive screwdriver to undo the two belt clip screws.
- 2 To attach the belt clip, use a Pozidrive screwdriver to fasten the two belt clip screws.



Attaching an audio accessory

Audio accessories plug into the radio's accessory connector. The accessory connector is protected by a cover, which needs to be removed before an accessory can be installed.

Notice The accessory cover protects the accessory connector from electrostatic discharge. Keep the cover in place unless the connector is in use.

To remove the accessory cover and install an audio accessory:

- 1 Use a coin or other blunt object to loosen the screw that secures the accessory cover to the radio.
- 2 Remove the accessory cover and store it in a safe place.
- 3 Plug the accessory into the accessory connector.
- 4 Tighten the screw.
- 5 Once the radio has recognized the accessory, the accessory icon  will appear.

3 Getting started

This section gives an overview of your DMR radio, describes the radio's controls and indicators, and explains how the radio menus are organized.

This section covers:

- [About your DMR digital radio](#)
- [About the radio controls](#)
- [Understanding the radio display](#)
- [Understanding the radio indicators](#)
- [Using function keys to access frequently used features](#)
- [Navigating the radio's menus](#)

About your DMR digital radio

Your DMR digital radio can be programmed for DMR conventional. Analog conventional operation is also available.

You may notice differences between digital and analog calls in terms of:

- static noise in low signal areas, and
- radio coverage in marginal reception areas.

Lack of static noise

On digital networks there is no static noise, even in low signal areas. This lack of static is because your digital radio removes the 'noise' from the call, so that you hear only clear voice.

Coverage

With digital networks, a call remains clear and then drops off quickly at the border of a coverage area. The reason for this is that a digital call is either received or it isn't. With analog networks, the background noise in a call gets progressively worse when you are in fringe areas or even slightly outside normal coverage areas.

What you hear on an analog channel

On analog channels, your radio may be programmed so that you hear all conversations on a channel, or your user group may be segregated from other user groups by using special signaling. The special signaling is used to control the muting and unmuting of your radio, so that your radio is muted when other user groups are talking and unmuted for members of your user group.

There are two muting controls that operate in your radio:

- signaling mute
- squelch

Signaling mute

The radio's signaling mute only allows the radio to unmute if the incoming call carries the tones specific to your user group. Your user group may use tones that are either audible, subaudible or both.

Squelch

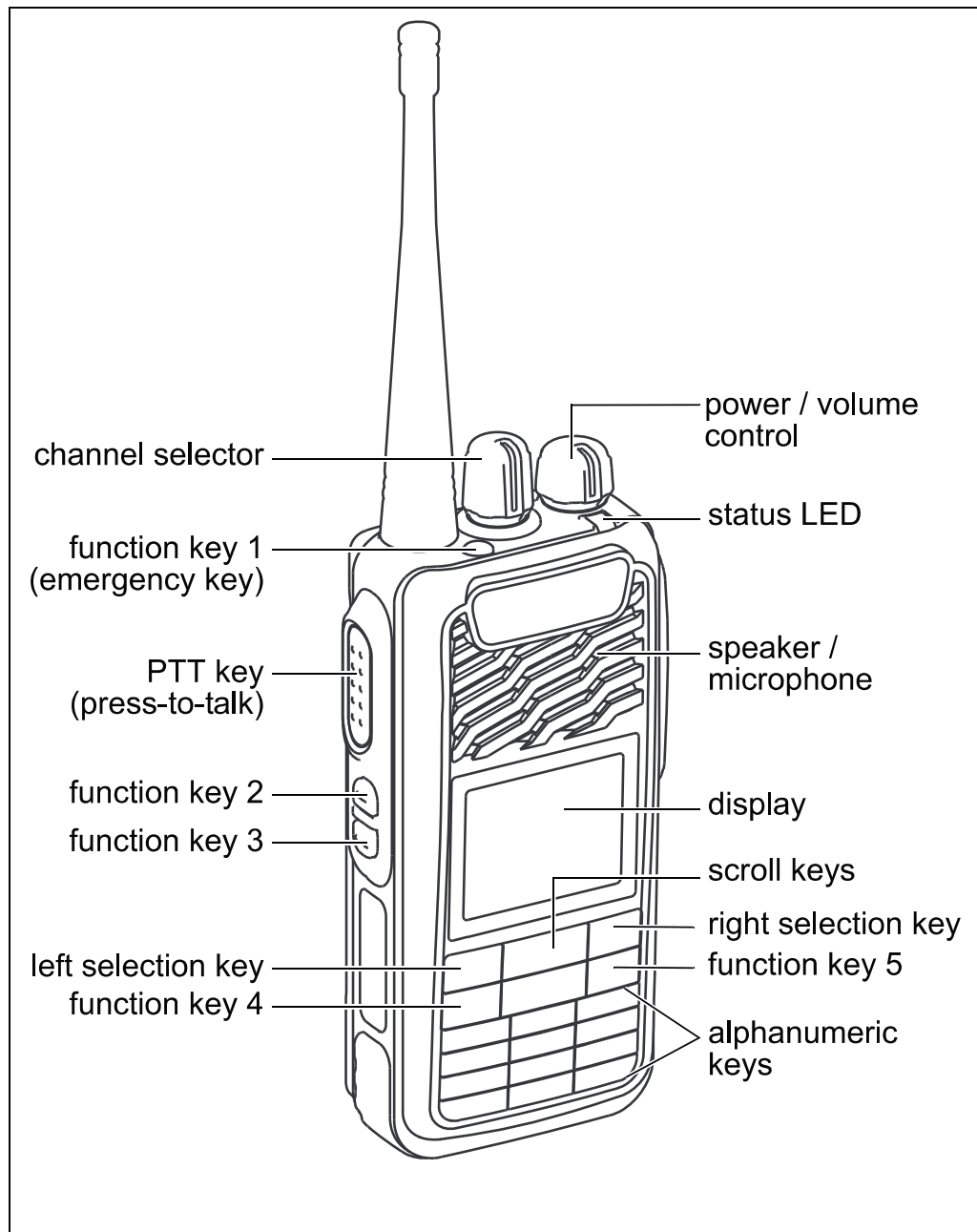
The radio's squelch allows the radio to unmute only when the strength of the incoming signal is above a predetermined threshold. This means that only signals of reasonable intelligibility are made audible.

About the radio controls

The radio controls are the PTT key, power/volume control, channel selector, scroll keys, selection keys, and function keys. Some keys have functions assigned to both short and long key presses:

- a short key press is less than one second, and
- a long key press is more than one second.

The radio controls and their functions are described in the following sections.



Name	Function
PTT key	Press and hold to transmit and release to listen
Power/volume control	Rotate to turn the radio on and change the speaker volume
Channel selector	Select and change channels
Left and right selection keys	Action determined by the text above the selection key
Scroll keys	Scroll up and down through a list of menu options, scroll left and right in messages, or access a pre-programmed menu
Function keys	Programmed for frequently used options
Alphanumeric keys	Used to enter letters and numbers

Understanding the radio display

The messages and icons you see on your radio display depend on the mode in which your radio is operating and the way it is programmed.

Radio display icons

These are some of the icons you may see on your radio display:

Icon	Meaning
	No signal.
	Signal strength indicator: the more bars, the stronger the signal being received by the radio
	Battery indicator: shows how much charge is available in the battery.
	Bluetooth: The Bluetooth feature is enabled but there is no remote Bluetooth device connected.
	Bluetooth connected: The Bluetooth feature is enabled. The icon stays lit when one or more remote Bluetooth devices are connected.
	Scanning: your radio is monitoring a group of channels or workgroups for activity.
	Scan land on: Scan feature is enabled.
	Encryption: Encryption is turned on.
	GPS available: GPS is turned on. The icon stays lit when a position fix is available.
	GPS not available/out of range: GPS is turned on. The icon stays lit when a position fix is available.
	Accessories connected.
	High-power transmit: Your radio is set to transmit on high power.
	Low-power transmit: Your radio is set to transmit on low power.
	Direct mode (talkaround mode). In repeater mode no icon is shown.

Icon	Meaning
	Unread message.
	VOX enabled.
	Speaker open.
	Private Call Indicates a Private Call in progress. In the Contacts list, it indicates a subscriber alias (name) or ID (number).
	Bluetooth Audio Device Bluetooth-enabled audio device, such as a headset.
	Item sent successfully.

Switch Input Method

Long-press the # key to switch input method between:

-  lowercase
-  uppercase
-  numeric

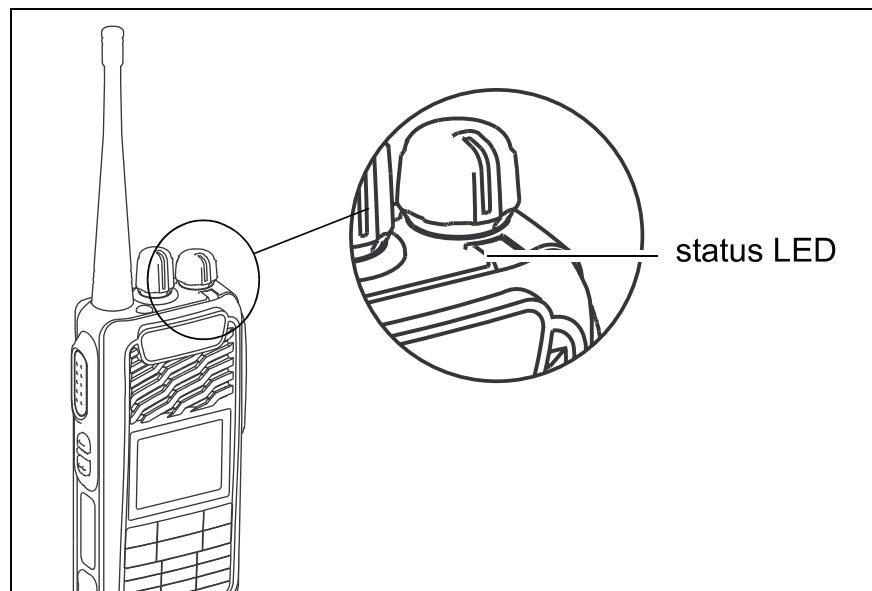
Understanding the radio indicators

The status LED indicator and the radio's audible tones—together with the radio display—all combine to give you information about the state of your radio.

The most common way the indicators work is described in the following sections.

 The way these indicators behave may be affected by the way your radio is programmed.

Status indicators



Color	Meaning	
Red		On: The radio is transmitting.
		Flashing: The battery is low.
Green		On: The radio is receiving, or detecting activity over the air.
Orange		On: The radio is powering up.
		Flashing: The Radio is scanning, or in selective call, or emergency state.

Audible tones



Warning Your radio may be programmed to be silent, which means you may not hear any alerts.

The radio uses audible tones to alert you to its status:

- Radio controls and keypress tones—the tones and beeps you hear when you press your radio's keys or use the controls.
- Incoming call tone—when the radio is receiving a call.
- Warning tones—when there is an error, or the battery is low, for example.

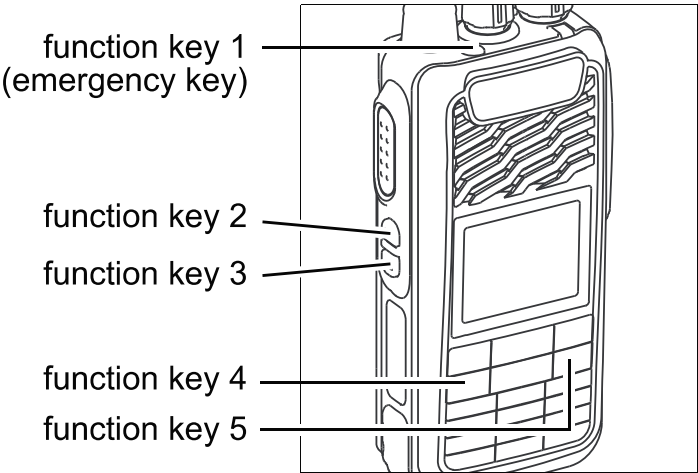
Voice annunciation

Your radio may be programmed to play a pre-recorded message

- for start-up channel
- when changing the channel
- for the battery condition

Using function keys to access frequently used features

The function keys provide access to some of the features you will use most often. These features are assigned to the function keys when the radio is programmed. Some keys may have a feature associated with both a short key press and a long key press.



Use the following table to record the function keys programmed for your radio:

	Short key press	Long key press
F1		
F2		
F3		
F4		
F5		

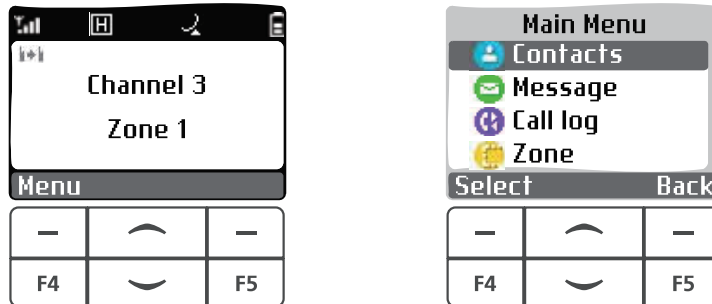
For more information about the function keys that can be programmed on your radio, contact your radio provider.

Navigating the radio's menus

Radios with display have a number of menus, each containing lists or submenus. The menus available depend on the way your radio is programmed.

See also ["Menu map" on page 19](#).

To access the menu, press the left selection key whenever **Menu** appears above it.



Use the scroll keys to move through the menu list.

When the menu you want is highlighted, press **Select** (left selection key).

To go back one level, press **Back** (right selection key).

4 Operation

This section describes the basic operation of your radio.

This section covers:

- Turning the radio on and off
- Adjusting the speaker volume
- Connecting to a Bluetooth® device (TP3350 only)
- Selecting a zone
- Selecting a channel
- Making a group call
- Making a private call
- Turning scanning on and off
- Making a call alert
- Sending a quick text message
- Sending an emergency alarm
- Turning location information on and off (TP3350 only)