TP9500 DMR Portable Radio

User Manual

MPG-00001 - Issue 02 - September 2025

Contents

Contact Information

Tait Communications Corporate Head Office

Tait International Limited
P.O. Box 1645
Christchurch
New Zealand

Imported into the EU by:
Tait Communications GmbH
Strozzigasse 10/14
Vienna 1080
Austria

Imported into the UK by:
Tait Europe Limited
Unit A, Buckingway Business Park
Anderson Road
Swavesey
Cambridge, CB24 4UQ
United Kingdom

For the address and telephone number of regional offices, refer to our website: www.taitcommunications.com

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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 and UK WEEE Regulation 2013 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.taitcommunications.com/our-resources/compliance#WEEE. Please be environmentally responsible and dispose through the original supplier, or contact Tait International Limited.

Tait will comply with environmental requirements in other markets as they are introduced.

Preface

Scope of Manual

This manual provides information about all TP9500 DMR Portable Radios.

To check the radio's firmware version, see Viewing Radio Information on page 113. If the radio does not operate as expected, please contact the radio provider for assistance.

Alerts

Please follow exactly any instruction that appears in the text as an ‘alert’. An alert provides necessary safety information as well as instructions about the proper use of the product. This manual 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.

This alert is used to highlight significant information that may be required to ensure that you perform procedures correctly, or to draw your attention to ways of doing things that can improve your efficiency or effectiveness.

Associated Documentation

The following associated documentation for this product is available on the Tait Partner Portal.

- MPD-00002-xx TP8000/TP9000 Battery Charging Guide
- MPD-00031-xx TP9000 Quick Start Guide
- MPG-00003-xx TP9500 Specifications Manual
- MPG-00006-xx Safety and Compliance Information for Intrinsically Safe Portable Radios with Division 1 and Non-Incendive Certification
- MPG-00007-xx TP9500/TP9600 Div 1 Quick Start Guide
- MTA-00011-xx Portable and Mobile Radio Safety and Compliance Information

The characters **xx** represent the issue number of the documentation.

Technical notes are published from time to time to describe applications for Tait products, to provide technical details not included in manuals, and to offer solutions to any problems that arise. Look for new or updated technical notes on the Tait Partner Portal.

Acronyms

Acronym	Definition
RF	Radio Frequency
Li-ion	Lithium-ion
RSM	Remote Speaker Microphone
SFE	Software Feature License
PTT	Push-To-Talk
HSP	Headset Profile
HFP	Handsfree Profile
PABX	Private Automatic Branch Exchange
PSTN	Public Switched Telephone Network

Publication Record

Issue	Publication Date	Description
02	September 2025	Updated scanning icon Added information around colored radios Added Remote Speaker Microphone function on Active Noise Cancellation Added analog mode operations Added TP9500 Div 1 content
01	December 2019	First release

1 For Your Safety

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

1.1 Intrinsically Safe and Non-Incendive Portable Radios and Accessories

Intrinsically Safe (IS) and Non-Incendive (NI) products are certified by a third party to be in compliance with the published and relevant standards for equipment meant for use in particular hazardous locations, or in potentially explosive atmospheres.

Warning Explosion Hazard! IS/NI certification applies only while the product is used in accordance with these instructions.

Warning Explosion hazard! Ensure that the ratings printed on a label on the equipment will permit your IS/NI radio and accessories to be used in your hazardous location. See MPG-00006-xx Safety and Compliance Information for Intrinsically Safe Portable Radios with Division 1 and Non-Incendive Certification for more information.

Warning Explosion hazard! Use only a Tait-supplied, IS/NI-approved battery, charger, antenna, or audio accessory with an IS/NI radio. Fitting a battery or accessory that is not IS/NI-approved, or using a charger that is not IS/NI-approved creates a risk of explosion which could cause serious injury or death. For an up-to-date list of approved accessories, contact your regional Tait office.

Warning Explosion hazard! Do not charge the battery, change the antenna, battery or audio accessory, or allow any other antenna port connection in a hazardous location. An explosion could cause serious injury or death.

Warning Substitution of components may impair intrinsic safety.

For Intrinsically Safe and Non-Incendive Portable Radios and Accessories, please refer to MPG-00006-xx Safety and Compliance Information for Intrinsically Safe Portable Radios with Division 1 and Non-Incendive Certification, supplied with the radio and available on the Tait Partner Portal, https://partnerinfo.taitradio.com/.

1.2 Radio Frequency Exposure Information

For individual safety and to ensure compliance 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.

1.2.1 Using this radio

This radio should only be used for work-related purposes (it is not authorized for any other use) and when the user is fully aware of, and can exercise control over, exposure to RF energy. To prevent exceeding FCC RF exposure limits, the user must control the amount and duration of RF that they 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.

1.2.2 Controlling 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 (2.5cm) 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 (2.5cm) from your face at all times.
- If you wear the 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.

1.2.3 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) C95.1-1992.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition.
- European Directive 2004/40/EC 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.

1.2.4 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 et 2.1093 (radios portatives).
- American National Standards Institute (ANSI) / Institute of Electrical and Electronic Engineers (IEEE) C95. 1-1992.
- Institute of Electrical and Electronic Engineers (IEEE) C95.1-1999 Edition.
- La directive européenne 2004/40/EC 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.

1.3 Radio Frequency Emissions Limits in the USA

1.3.1 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.

1.3.2 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.

1.4 Radio Frequency Emissions Limits in Canada

This device complies with Industry Canada license 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'Industrie Canada applicables aux appareils radio exempts de license. 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.

1.5 USA Public Safety Bands (764–776MHz and 794–806MHz)

The Code of Federal Regulations (CFR) Title 47 Subpart R deals with the use of frequencies in the 764 to 776MHz and 794 to 806MHz bands.

1.5.1 Low-power channels

This radio complies with §90.531 (b) (3) and §90.531 (b) (4) of 47 CFR. These sections state that only low-power transmission is permitted on the following channels:

- Regional Planning channels, as defined in §90.531 (b) (3).
- Itinerant channels, as defined in §90.531 (b) (4).

1.5.2 Use of encryption

This radio complies with §90.553 (a) of 47 CFR. This states that:

- encryption is not permitted on the nationwide Interoperability calling channels. These channels are defined in §90.531 (b) (1) (ii)
- radios using encryption must have a readily accessible switch or control to allow the radio user to disable encryption.

1.6 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 www.acma.gov.au.

1.7 Frequency Band Reserved for Distress Beacons

Frequency band 406 to 406.1 MHz is reserved for use by distress beacons. Transmissions should not be made within this frequency band.

1.8 Health, Safety and Electromagnetic Compatibility in Europe

In the European Community, radio and telecommunications equipment is regulated by Directive 2014/53/EU. The requirements of this directive include protection of health and safety of users, as well as electromagnetic compatibility.

1.8.1 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).

1.8.2 Restrictions

This product can be programmed to transmit on frequencies that are not harmonized throughout the EU/EEA, and will require a license 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.

1.8.3 Declaration of conformity

Brief Declarations of Conformity appear under Simplified Declaration of Conformity on page 116 of this document. To download the formal declaration of conformity, go to https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity.

1.9 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 the 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 the 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.

1.10 Potentially Explosive Atmospheres and Blasting Areas

Warning Unless the radio is specifically certified for use in a potentially explosive atmosphere, turn off the radio before entering such an atmosphere. An explosion could cause serious injury or death. Examples of potentially explosive atmospheres include filling stations, and any environment where there are flammable liquids, gases, or dusts.

Warning Turn off the radio before approaching blasting caps, a blasting area, or any area where you are instructed to turn off a two-way radio. Obey all signs and instructions. Interference with blasting operations could cause serious injury or death.

1.11 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.

1.12 Vehicle Charger Installation and Operation

For detailed instructions necessary to the safe installation and operation of the vehicle charger, please refer to the documentation supplied with the vehicle charger.

1.13 Multicharger Safety Information

Warning This device must be connected to an earthed mains socket-outlet.

1.14 Electromagnetic Compatibility in European Vehicles

In the European Community, radio equipment fitted to automotive vehicles is regulated by UNECE Regulation R10 Revision 5 and its amendments. The requirements of this regulation cover the electromagnetic compatibility of electrical or electronic equipment fitted to automotive vehicles.

1.15 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.

1.15.1 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. If you must attach a customized label, use only a thin gummed paper label applied to the bottom 25% of the radio chassis label and/or to the top 25% of the battery label. 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.

1.15.2 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.

1.15.3 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.

2 Before Using the Radio

2.1 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 the battery.

2.2 Attaching Labels to the Radio or Battery

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.

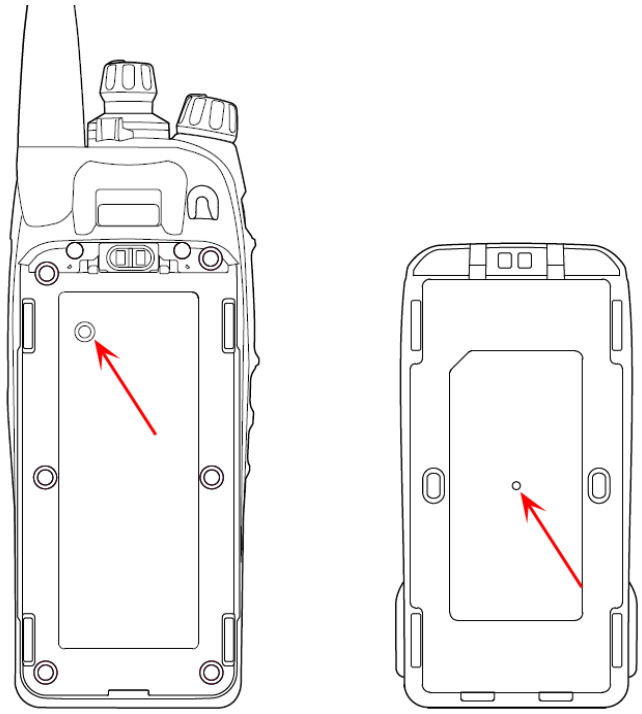


Figure 2.1 Radio chassis and battery vent holes

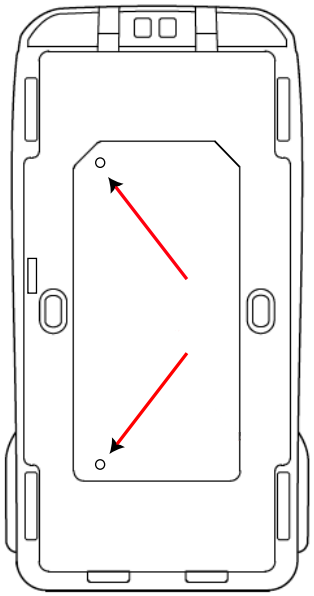


Figure 2.2 Vent holes in TP9500 Div 1 battery

Tait recommends that additional labels are not applied 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.

2.3 Attaching a Label to the Front Panel

If a customer requires an additional label, attach the label in the spare label recess in the bottom surface of the radio front panel. In this position, the label is still visible while the battery is attached to the radio.

Figure 2.3 Spare label recess

Figure 2.4 below shows the specified dimensions of the label.

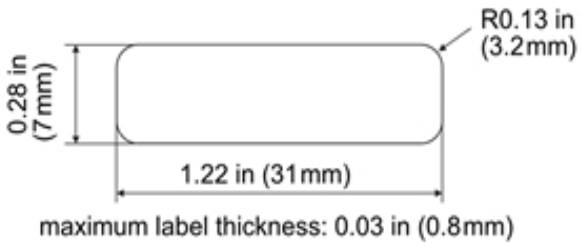


Figure 2.4 Spare label dimensions

4-key models have a specially designed recess for custom labels.

You can also stick labels over the top of the model label. This recess will accommodate 1/4" label maker labels. Please ensure the labels have a suitable adhesive surface before application.

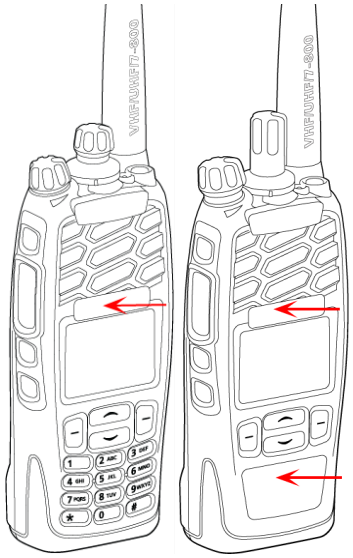


Figure 2.5 Location of model and custom labels

Tait offers custom labelling for TP9500 DMR Portable Radios. Contact your Tait representative for more information.

No additional labels can be used on TP9500 Div 1 radios.

2.4 Charging the Battery before First Use

Before using the battery for the first time, it must be charged. Follow the instructions included with your Tait charger.

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

2.4.1 Lithium-ion batteries

Fully charge a Li-ion battery before using it for the first time. This will take up to 3 hours. It is not necessary to prime a Li-ion battery.

2.5 Attaching the Battery

Warning Use only genuine Tait-manufactured batteries with Tait radios. Fitting a battery that is not Tait-approved may damage the radio or cause harm.

1. Rotate the power/volume control switch counterclockwise to turn off the radio.
2. Holding the radio firmly, align the back of the battery with the back of the chassis.
3. Place the two lugs at the bottom edge of the battery into the two slots in the bottom of the front panel.
4. Lightly press the top of the battery towards the radio until the battery catch clicks.
5. Make sure that the battery is firmly in position.

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

2.6 Removing the Battery

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

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.
2. Slide the battery catch up.
3. From the sides, pull (tilt) the top end of the battery away from the radio.
4. Lift the lugs at the bottom of the battery upwards out of the mating features at the bottom of the radio body.

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

2.7 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.

2.8 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.

2.9 Attaching a Belt Clip

Take the following steps to attach a belt clip to the radio:

1. Slide the belt clip into the two grooves at the top of the battery.
2. Press down on the belt clip until it snaps into place.

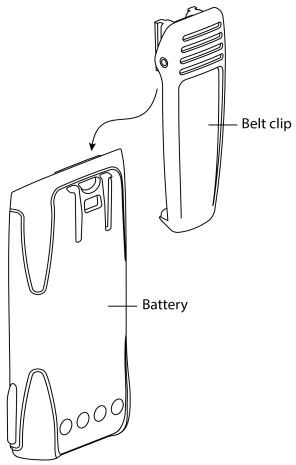


Figure 2.6 Attaching a belt clip

2.10 Removing a Belt Clip

The belt clip has been designed to prevent accidental removal, but it can be removed, if required.

Take the following steps to remove a belt clip from a battery:

1. Insert a flat screwdriver blade or similar flat object under the lip of the release lock (that is, between it and the metal slider).
2. Lift the release lock up (away from the metal slider) and hold it in position.
3. Slide the belt clip out.

2.11 Installing an Audio Accessory

Warning Use only Tait-supplied, or Tait-approved audio accessories with Tait radios. Fitting an audio accessory that is not Tait-approved may result in a poor user experience. For an up-to-date list of approved audio accessories, contact your regional Tait office.

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.

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

2.11.1 Removing the accessory cover

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.

2.11.2 Installing an accessory connector

1. Insert the top part of the connector (①) into its designated groove (see Figure 2.7 below).
2. Press the bottom part of the connector (②) into the pins.
3. Tighten the screw (it only needs to be finger-tight).

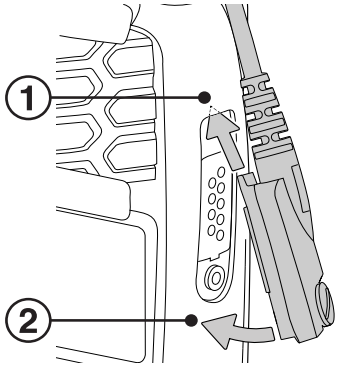


Figure 2.7 Accessory connection instructions

Caution Do not slide the accessory's connector along the radio connector's pins; doing so will damage the radio's connector and may prevent a reliable connection to the accessory.

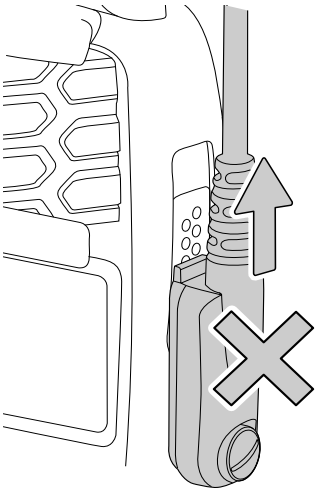


Figure 2.8 Improper connection method

3 Getting Started

This section provides an overview of the TP9500 DMR Portable Radio. It describes the radio's controls and indicators, and explains how the radio menus are organized.

3.1 Setting and Viewing the Radio's Time and Date

The radio may be programmed to use its internal real-time clock. It may be possible to view the time and date via a function key or via the radio menu. Other features may also make use of the radio's time and date by showing entries based on the current clock setting.

3.1.1 Setting the time, date, and time format

> The radio may be programmed to allow you to set time and date manually, or time and date can be updated using a GPS source.

1. Press **Menu** and select **Time and Date** and the corresponding option.
2. Follow the prompts on the display.

3.1.2 Viewing the time and date

1. Press **Menu** and select **Time and Date** > **View clock**

> Depending on how the radio is programmed, it may be possible to press a function key to view the time and date.

3.2 About the Radio

TP9500 DMR Portable Radios are available in multiple colors. Radio color does not affect functionality.

TP9500 radios support both digital and analog modes. Differences between digital and analog calls can be noticed in terms of static noise in low signal areas and radio coverage in marginal reception areas.

3.2.1 DMR programming modes

DMR digital radios can be programmed for DMR conventional or DMR trunked operation. Analog conventional and MPT operation is also available.

> DMR and MPT trunking operation is controlled by a software feature license (SFE) and may not be available with the radio.

3.2.2 Lack of static noise

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

3.2.3 Active noise cancellation

Active noise cancellation (ANC) uses a secondary microphone to actively filter out background noise in loud and noisy environments. This feature is available in both analog and digital modes. When the radio's internal speaker is being used, a microphone on the back of the radio is utilized as the secondary microphone.

When a wired accessory such as a Remote Speaker Microphone (RSM) is being used, the radio's internal front speaker is utilized as the secondary microphone.

When using a Bluetooth® audio device, active noise cancellation (secondary microphone) is not enabled. To optimize its performance, Tait recommends positioning the microphone 1 - 2 inches (2.5 - 5cm) from the mouth and speaking directly into it.

For better performance when using ANC, Tait recommends not covering the rear microphone (on the radio) and the wired accessory (RSM) by your hand or any other accessory.

Active noise cancellation can be left on regardless of environment. However, for better audio performance, Tait recommends turning it off in quiet areas.

3.2.4 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.

3.2.5 What is audible on an analog channel

On analog channels, the radio may be programmed so that all conversations on a channel can be heard, or one user group may be segregated from other user groups through special signaling. The special signaling is used to control the muting and unmuting of radios, so that the 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 the radio:

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 function 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.

3.3 About the Radio Controls

The radio controls and their functions are described in subsequent sections.

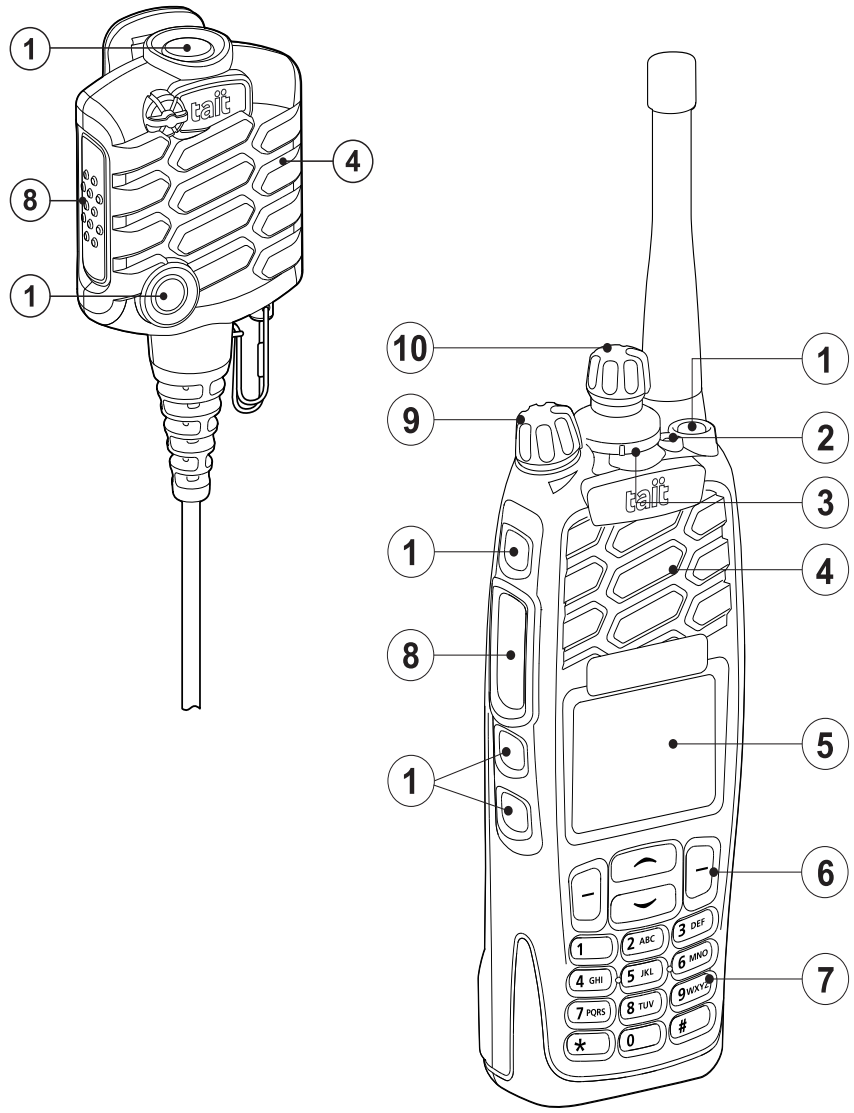


Figure 3.1 Radio control functions in TP9500 radios

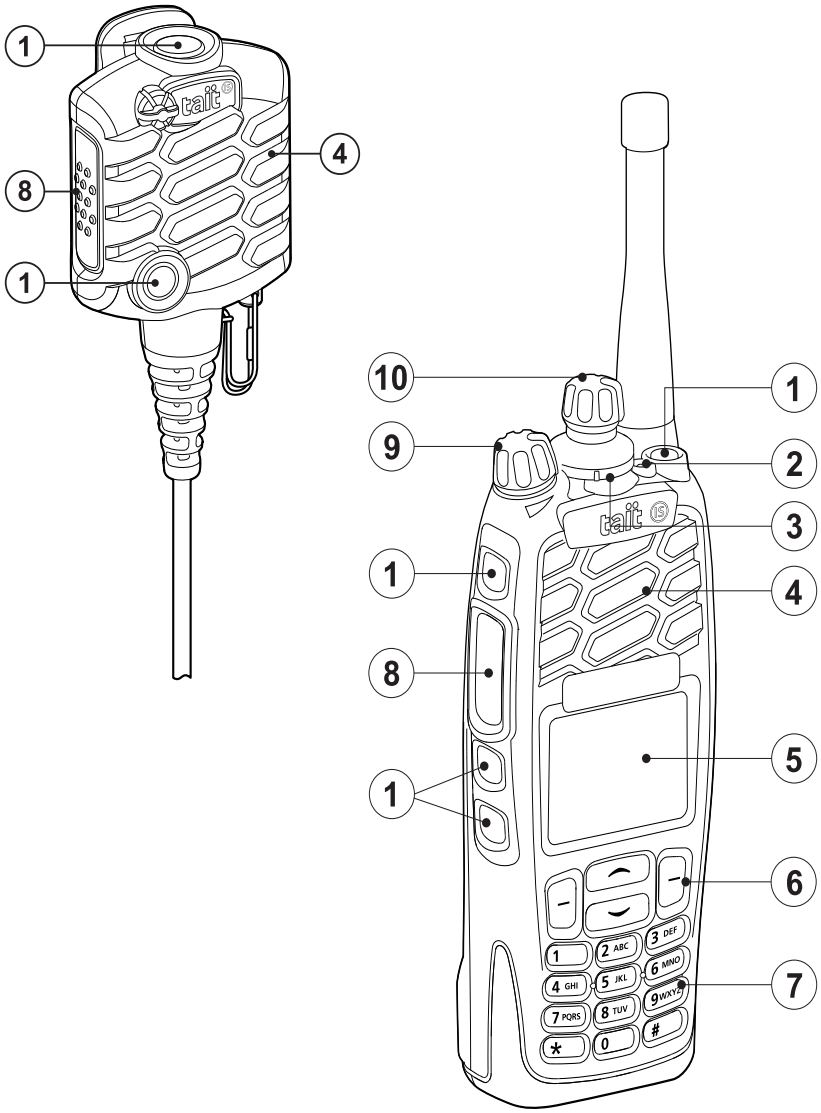


Figure 3.2 Radio control functions in TP9500 Div 1 radios

Table 3.1 Radio controls

	Name	Function
1	Function keys	As programmed.
2	Status LED	To provide information about the state of the radio.
3	3 way selector	To select frequent functions.
4	Speaker/microphone	Where audio signals are played.
5	Display	Screen that shows menus and messages.
6	Scroll and selection keys	To select a menu option or scroll.
7	Alphanumeric keys	To enter numbers and letters.
8	Push-To-Talk (PTT button)	Press and hold to speak, release to listen.
9	Power/volume control	Turn to the right to switch on or increase the volume. Turn to the left to switch off or decrease the volume.
10	16 way selector	Turn to select channels.

3.4 Understanding the Radio Display

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

3.4.1 Radio display icons

Table 3.2 below lists some of the icons you may see on the radio display:

Table 3.2 Icon descriptions

Icon	Meaning
	Battery indicator: shows how much charge is available in the battery.
	Scanning: the radio is monitoring a group of channels or workgroupsfor activity.
	Silent operation: the radio's audible tones have been turned off.
L or L 	Low-power transmit: the radio is set to transmit on low power. When the radio is not transmitting, the letter 'L' is displayed. When the radio is transmitting, a single arrow appears beside the 'L'.
	Transmit: the radio is transmitting.
	Automatic/Manual mode: automatic channel or zone selection has been turned on/off.
	Bluetooth Audio Device Connected: there is a Bluetooth audio device connected to the radio. Flashing: the radio is attempting to connect to a Bluetooth audio device, or the device connection has been lost.
	Scrambler: the voice-inversion scrambler is turned on (analog channels only)
	Signal strength indicator: the more bars, the stronger the signal being received by the radio.
	Scrolling: you can use  or  to move through a list, or access a pre-programmed menu.
	Queuing: there are calls or messages in the queue.
Trunked mode icons	
	Scanning: scanning has been turned off.

Icon	Meaning
	Homegroup: the radio has been returned to the homegroup using the homegroup toggle function key.
	Network (steady): the radio is registered on a DMR or MPT trunked network Network (flashing): the radio is hunting for a trunked network.
	‘Full’ queuing activated: all calls and messages are sent directly to the queue
	Trunking: the radio has established a call and you are now able to speak to the other radio user.
Conventional mode icons	
	Monitor or squelch override: monitor or squelch override is turned on.
	Scanning: the radio is monitoring a group of channels for activity, and the currently selected channel is a member of the scanning group.
	Repeater talkaround: the radio is operating in repeater talkaround mode, or you are on a simplex channel.
	Zone: this letter represents the zone in which the radio is operating, where A is zone 1, Z is zone 26.

3.5 Understanding the Radio Indicators

The status LED indicator and the radio’s audible tones - together with the radio display - all combine to provide information about the state of the 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 the radio is programmed.

3.5.1 Status indicators

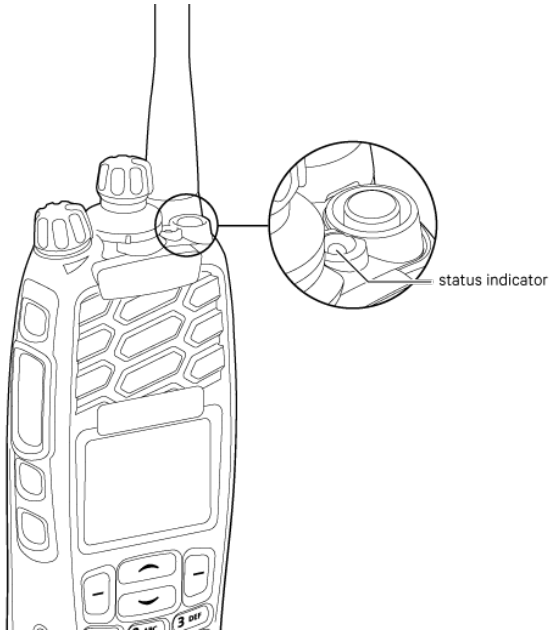


Figure 3.3 Location of LED status indicator

Table 3.3 LED indicator types

Color		Meaning
Red (transmit)		Glowing: the radio is transmitting. Flashing: the transmit timer is about to expire.
Green (receive)		Glowing: the current channel is busy. Flashing: the radio has received a call (analog channel only).
Orange (network)		Flashing: the radio is registered on a trunked network.
LED off		Trunked: the radio has no service and is hunting for network to register on. Conventional: receive is idle.

3.5.2 Audible tones

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

- Radio controls and keypress tones—the tones and beeps that are audible when the radio's keys are pressed or the controls are used.
- Incoming call tone—when the radio is receiving a call.
- Warning tones—for example, when there is an error, or the battery is low.

If quiet or silent mode is turned on, you will not hear any alert tones.

Some of the more common audible tones are described in Table 3.4 below.

Table 3.4 Tones

Tone	Meaning
One short beep	Valid keypress: the action you have attempted is permitted. Function activated: a function has been turned on (using a function key).
One short, low-pitched beep	Function deactivated: a function has been turned off (using a function key).
One long, low-pitched beep	Invalid keypress: the action you have attempted is not permitted. Transmission inhibited: you have attempted to transmit, but for some reason you cannot make a call at this time.
Two short beeps	Radio turned on: the radio is powered on and ready to use. Radio is revived: the radio has been made operable by your service provider.
One short, high-pitched beep	Radio is stunned: the radio has been made inoperable by your service provider.
Two low-pitched beeps	Radio's temperature is high: the radio's temperature is in the high-temperature range, but the radio will continue to operate.
Two high-pitched beeps	Radio's temperature is very high: the radio's temperature is in the very high temperature range and all transmissions will now be at low power; if the radio's temperature rises outside this range, transmissions will be inhibited. Turn off the radio and allow it to cool down.
Continuous low-pitched tone	Radio system error: a system error has occurred and the radio may be inoperable. Contact the radio provider.
Two long high-low pitched tone pairs	Synthesizer out-of-lock: the radio's synthesizer is unstable, causing frequency drift and signal issues, preventing operation on the current channel (display shows "Out of lock"). Contact the radio provider.

3.5.3 Voice annunciation

In conventional mode, your radio may be programmed to play a pre-recorded message for the start-up zone and channel, and when changing the zone or channel.

In trunked mode, the radio may be programmed to play a pre-recorded message for the start-up zone, workgroup or preset, and when changing the zone, workgroup or preset.

In both modes, the radio may be programmed to play a pre-recorded message for the battery condition or when loneworker monitoring has been turned on or off.

3.6 Using Function Keys to Access Frequently Used Features

Some keys have functions assigned to both short and long key presses: a short key press is shorter than 1 second, while a long key press is longer than 1 second.

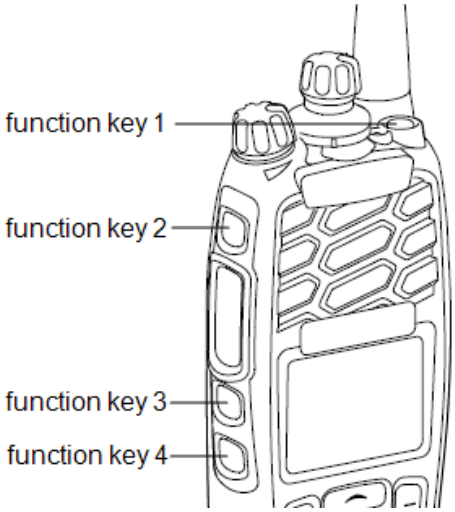


Figure 3.4 Function keys

3.6.1 Viewing the function key settings

Use the Main menu to check the features assigned to the radio's function keys:

1. Press **Menu** and select **Radio settings** > **Radio info** > **Key settings**.
2. In the **Key Settings** menu, scroll through the list of function keys.
3. Press **Select** to view details of the function associated with a particular function key.
4. Press **Back** to return to the **Key Settings** menu.

Use Table 3.5 below to record the function keys programmed for the radio:

Table 3.5 Programmed function keys

	Short key press	Long key press
F1		
F2		
F3		
F4		
F5[a]		
F6[a]		

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

[a]On speaker microphone (if fitted)

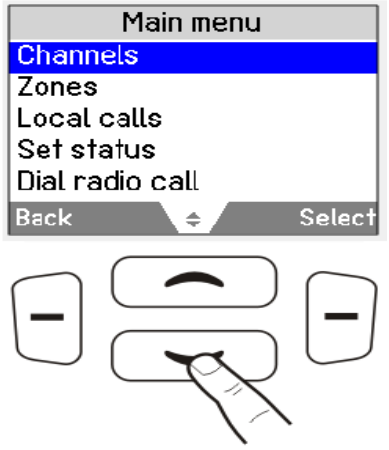
3.7 Navigating the Radio's Menus

The radio has a number of menus, each containing lists or sub-menus. The menus available depend on the way the radio is programmed.

3.7.1 Using the main menu

1. To access the Main menu, press the right selection key whenever **Menu** appears above it.

2. Use the scroll keys to move through the menu list.



3. When the desired menu item is highlighted, press **Select** to open.

> The radio may be programmed to use the scroll keys or the left selection key to directly access a menu.

To quickly exit the menu system, press and hold the left selection key when the word **Cancel** or **Back** appears above it.

3.8 Using the Alphanumeric Keys to Search a List

If a blinking cursor appears when you select a list, you are able to search for the menu item you want using the alphanumeric keys. This is of particular benefit if you have a large number of items in a list.

Lists that you may be able to search are channels, zones, workgroups, and preset calls.

To search a list, type the entire name using the keypad.

3.9 Accessing Frequently Used Menus

Depending on how the radio is programmed, there may be two different Quick Access menus. One Quick Access menu is displayed when a scroll key is pressed, and the other when the left selection key is pressed. These allow easy access to the menus used most often.

3.9.1 Using the scroll key quick access menu

There are two ways to use this Quick Access menu:

- use the scroll keys to scroll through a list of zones or channels
- press the scroll keys and the Quick Access menu appears

3.9.2 Using the left selection key quick access menu

The text above the left selection key corresponds to the Quick Access menu, for example, **Zones**.

To use this Quick Access menu, press the left selection key and the associated menu appears.

4 Basic Operation

This section describes the basic operations of the radio.

4.1 Turning the Radio On and Off

Rotate the power/volume control switch clockwise to turn the radio on. Rotate the switch counterclockwise to turn the radio off.

When the radio is first turned on, the status LED briefly glows red, and the radio gives two short beeps.

> The radio may not turn on if its battery voltage is too low.

4.1.1 Security lock on power-up feature

The radio may be automatically locked each time it is powered-up. If the message **Enter PIN** appears on the display, enter your assigned PIN (personal identification number) to unlock the radio.

Locking the radio

1. Press **Menu** and select **Radio settings** > **Functions** > **Lock radio**
2. Scroll to either **On** or **Off** and press **Select** (the current setting is highlighted). The radio is now locked, and the message **Enter PIN** appears on the display. The radio remains locked until the correct sequence of keys is pressed. If you forget the unlock sequence or you do not know it, contact the radio provider for assistance.

   > Depending on how the radio is programmed, you may be able to press a function key to turn radio lock on and off.

4.2 Adjusting the Speaker Volume

Rotate the power/volume control clockwise to increase the speaker volume and counterclockwise to decrease the volume.

> The volume control also changes the volume level of the radio's audible indicators.

4.3 Securing the Keypad

The keypad lock feature prevents keys being pressed accidentally. The number of keys that are locked depends on the way the radio is programmed.

4.3.1 Locking or unlocking the keypad

1. Press and hold the right selection key for about one second.

> Depending on the radio model and the way it is programmed, the radio may have a 3-way selector that can be used to lock the keypad, or the left selection key can be configured to lock the keypad.

The message **Keypad locked** briefly appears on the display, and **Unlock** appears above the right selection key, in place of **Menu**. When any of the locked keys are pressed, the message **Keypad lock active** appears.

4.4 Holding the Radio

To ensure that effective communication is not hindered:

1. Grip the radio with your hand so that your thumb is on one side, and your fingers are on the other side.
2. Hold the radio vertically in front of your face, angled slightly away, about 1 - 2 inches (2.5 - 5cm) from your mouth.

   In this position, the mic and speaker are at the correct distance, and the antenna is facing straight up to maximize range.

> **Caution** Do not hold the radio speaker directly against your ear. This can damage your ear.

> **Caution** Do not pick up or hold a radio by the antenna. This can damage the antenna.

4.5 Speaking into the Radio

Press and hold the PTT button, wait a few seconds, then speak slowly and clearly. Some radios will have a beep, so wait for the beep before you begin speaking.

> Push and hold the PTT button throughout transmission. Avoid speaking before pressing the PTT button to prevent cutting off the start of your sentence. Refrain from shouting for clear transmission. Speaking near an active noise-canceling microphone may cancel ambient noise and voice. See Turning On Active Noise Cancellation on page 45 for more details.

4.6 Using a Bluetooth Audio Device

A Bluetooth audio device may be connected to a radio using the **Bluetooth audio device** menu or a function key.

> This feature, controlled by a SFE, may not be available with the radio. Active noise cancellation (secondary microphone) is disabled when using a Bluetooth audio device (see About the Radio on page 28 for details). When a menu option is selected in the Bluetooth audio device menu, calls can still be received and replied to without interrupting the selected operation.

4.6.1 Bluetooth audio compatibility with Tait radios

Bluetooth audio devices may operate with Tait radios, provided the accessory is compatible with the Bluetooth Specification Version 2.0 or higher. Tait recommends Bluetooth Specification Version 2.1 or higher. Additionally, the accessory must include Bluetooth Headset Profile (HSP) version 1.1 or 1.2, or Bluetooth Handsfree Profile (HFP) version 1.5 or 1.6.

4.6.2 Wearing the Bluetooth audio device

With a device worn over the head, place it on the ear. Depending on which ear the device is worn, simply adjust the ear hook accordingly.

> Ensure that the rear microphone is not covered by your hand or clothing when making a call. This does not apply when using Bluetooth.

4.6.3 Pairing and disconnecting a Bluetooth audio device with the radio

> Before attempting to connect a Bluetooth audio device, Tait recommends that the device be fully charged. Refer to the Bluetooth Audio Device installation instructions for charging instructions.

Pairing creates a unique and encrypted wireless link between the Bluetooth-capable radio and the Bluetooth audio device. To use a Bluetooth audio device with a radio, the devices must first be paired.

4.6.4 Pairing a Bluetooth audio device with the radio for the first time

1. Turn on the radio.
2. Put the Bluetooth audio device into pairing mode.
3. Press **Menu** and select **Bluetooth audio device** > **Find new devices**.

   The **New devices** menu opens, and while the radio searches for the new device, the message **Searching ...** appears.
4. Select **Connect** when the required accessory appears in the list of new devices, then click **Yes** to add the Bluetooth audio device to **My Headsets**.

   The message **Connecting** appears, while the radio attempts to pair with the device.
5. When the message **Calling. Answer on headset** appears, press the **Answer** button on the Bluetooth audio device to confirm the connection.
6. Repeat the previous steps to add other Bluetooth audio devices.

   While the Bluetooth audio device is connected, the Bluetooth audio device icon appears on the display.

4.6.5 Managing your Bluetooth audio devices

Once a Bluetooth audio device has been added to **My Headsets**, the **Manage headsets** menu item appears under the **Bluetooth audio device** menu. The **Manage Bluetooth audio devices** menu shows the devices currently in **My Headsets**, along with the following information:

- **+** this device is currently connected.
- **a** this device will be automatically connected.
- **c** the radio will ask for confirmation before connecting this accessory.

Press **Options** to disconnect or connect a Bluetooth audio device (**Disconnect**, **Connect**), change the priority order of the devices (**Move down**), or remove a device from **My Headsets** (**Remove**, **Remove all**).

4.6.6 Disconnecting the Bluetooth audio device

To disconnect the device from the radio:

- Press **Menu** and select **Bluetooth audio device** > **Disconnect**.
- Alternatively, in the **My headsets** menu select **Options** > **Disconnect**.

4.6.7 Reconnecting the Bluetooth audio device

The radio may be programmed so that each time the device is turned on, it will automatically reconnect to the radio. If the radio does not automatically reconnect to the device:

1. On the radio, press **Menu** and select **Bluetooth audio device** > **Reconnect last**.

   The radio then prompts to connect to the devices in **My Headsets**, in priority order.
2. Select **Yes** to connect, or **No** to choose another device.

4.6.8 Changing the way the Bluetooth audio device reconnects

The **Power-on option** in the menu can be used to change the way the radio reconnects with a device when the radio is first turned on. The choices are:

- None: The radio does not connect to any devices, and will need to be manually connected or reconnected to the device.
- Reconnect last: The radio connects to the previously connected device.
- Connect: The radio will attempt to connect to the devices in **My Headsets**, in priority order.

To change the power-on option:

1. Press **Menu** and select **Bluetooth audio device**.
2. Select **Options** > **Power-on option**.
3. Change to the required setting.

4.6.9 Getting the best performance from the Bluetooth audio device

- Do not block the device’s internal antenna (see the device’s user documentation). The human body can interfere with a Bluetooth signal.
- If the radio is used with the right hand, wear the over-the-head device on the right ear.
- Avoid coming in contact with the internal antenna of a device or radio.

4.7 Turning On Active Noise Cancellation

Active noise cancellation uses a secondary microphone on the back of the radio to actively filter noise in loud environments, making it easier for recipients to discern the speech of a radio user who is in a noisy environment.

Active noise cancellation can be left on regardless of environment. However, when safety features such as Loneworker Monitoring or Radio Monitor are activated, the listener may lose awareness of the noisy environment. Tait recommends that you implement supplementary procedures to account for this.

The complementary feature of microphone sensitivity allows the internal and external microphones to be configured to suit the type of environment you are in, further improving audio quality. When active noise cancellation is enabled, sensitivity should be decreased. In a quiet environment, increasing the sensitivity is suggested.

Speaking to the side (nearest the noise canceling microphone) could result in both ambient noise and voice being canceled. To use the radio correctly and achieve the best results, Tait recommends holding the radio 1 - 2 inches (2.5 - 5cm) from the mouth and speaking directly into the front of the radio speaker/microphone.

4.7.1 Turning active noise cancellation on or off

1. Press **Menu** and select **Radio settings** > **Functions** > **Noise cancellation**.
2. Scroll to either **On** or **Off** and press **Select**.

Ensure that the rear microphone is not covered by your hand or clothing when making a call.

Depending on how the radio is programmed, you may be able to press a function key to toggle active noise cancellation on and off.

4.8 Changing the Radio's Operating Mode

The way the radio performs basic functions, such as sending and receiving calls, depends on the network operating mode. The two operating modes that may be available on the radio are:

- conventional mode (see Operating on Conventional Channels on page 47) and
- trunked mode (see Operating on DMR or MPT Trunked Networks on page 73).

To change the operating mode:

1. Press **Menu** and select **Change mode**.

   Depending on how the radio is programmed, the function key may be pressed to change mode.

2. Select **Yes** to confirm selection, and the radio now shows the default display for either trunked or conventional.

5 Operating on Conventional Channels

This section covers operations on conventional channels, beginning with analog functions, followed by DMR operations before concluding with an explanation on how the radio functions in different repeater areas.

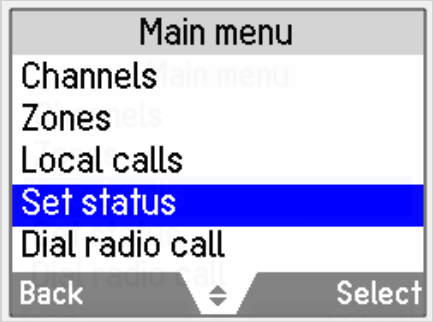
5.1 Analog Channel Operation Only

5.1.1 Setting your status

The radio may be able to maintain a record of its current status. This status may be sent with outgoing calls programmed to contain status information. If the radio receiving the call has been programmed with the same status messages, it will decode and display its status. The status indicates the current activity or location, such as “en route” or “at lunch”.

Changing the current status

1. Press **Menu** and select **Set status**.



2. In **Set status** menu, scroll through the list of status messages until the desired message appears.
3. Press **Select**. The message **Status updated** appears on the display.

5.1.2 Resending calls automatically

On an analog channel that is configured for SelCall/5-Tone operations, the radio may have been programmed to resend individual and group calls when transmission is refused because the channel is busy.

There are two automatic callback features: 'Deferred calling' and 'No acknowledgment retries'.

Deferred calling

On an analog channel that is configured for SelCall/5-Tone operations, when attempting to make a call on a channel that is busy, the radio can store and send the call once the channel is free. The radio gives a low-pitched beep if the channel is busy, and then waits until the channel is free to retry the call.

> A deferred calling time limit may have been configured. Once the time limit has expired the radio will no longer attempt to retry the call. Any user interaction (such as pressing the PTT button) will cancel a deferred call.

No acknowledgment retries

On an analog channel that is configured for SelCall/5-Tone operations, when you send a call and there is no reply, the call is resent.

Any user interaction (such as pressing the PTT button) will cancel a call that is being resent.

5.1.3 Using monitor and squelch override

The monitor function allows you to override some or all of the radios' mutes and hear if there is any traffic on a channel before making a call.

The squelch override function allows you to override the squelch (carrier) mute and hear all noise on a channel, including weak signals that are below the programmed squelch threshold.

Turning monitor on and off

1. Press **Menu** and select **Radio settings** > **Functions** > **Monitor**.
2. Scroll to **On** (or **Off**) and press **Select**.

While monitor is on, the LED slowly flashes green and the monitor icon appears in the display.

> The radio may be programmed so that monitor turns off automatically after a short time.

Turning squelch on and off

1. Press **Menu** and select **Radio settings** > **Functions** > **Squelch o'ride**.
2. Scroll to **On** (or **Off**) and press **Select**.

> Squelch is often programmed as a long keypress of the same function key that turns monitor on and off.

This allows even faint and noisy signals to be heard.

While squelch override is on, the LED flashes green, and the squelch override icon appears on the display.

> Press the monitor function key again to return the radio to a quiet state.

Squelch cannot be overridden when the radio is scanning.

5.1.4 Bypassing the repeater and communicating directly with other radios

For analog channels, you can bypass the radio repeater and communicate directly with another radio. This feature is known as repeater talkaround. This can be done, for example, when you are out of range of the repeater, or if the repeater is busy or stops working. While repeater talkaround is active, all transmissions are made on the receive frequency of the channel you are on.

There are two ways to activate repeater talkaround:

- using the main menu
- using a programmed function key

Using the main menu

1. Select the required channel.
2. Press **Menu** and select **Radio settings** > **Functions** > **Talkaround**.
3. In the **Talkaround** menu, choose **On**.
4. Press **Select**. The message **Talkaround activated** appears briefly, and the repeater talkaround icon appears on the display.
5. Proceed with the call.
6. To turn repeater talkaround off, either change the channel, or choose **Off** in the **Talkaround** menu.

Using a programmed function key

1. Select the required channel.
2. Press the programmed function key to turn repeater talkaround on. The message **Talkaround activated** appears briefly, and the repeater talkaround icon appears on the display.
3. Proceed with the call.
4. To turn repeater talkaround off, either change the channel, or press the function key again.

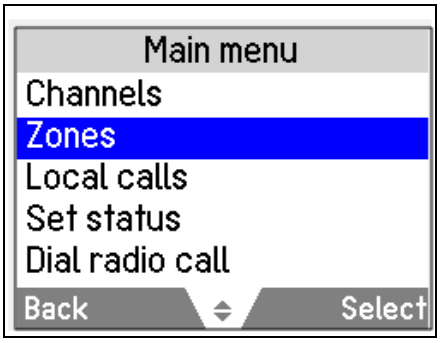
5.2 DMR Channel Operations

5.2.1 Selecting a zone

The radio may be programmed to use zones, which are collections of channels and groups. When a zone is selected, only the channels and groups assigned to that zone are available.

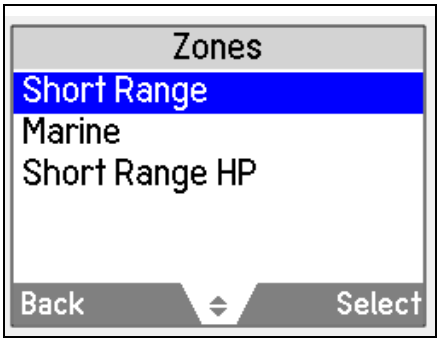
Using the main menu

1. Press **Menu** and select **Zones**.



> Depending on how the radio is programmed, scroll keys or left selection keys may be used to select the **Zones** menu.

2. In the **Zones** menu, scroll through the list of zones until the desired one appears.



3. Press **Select**, and the zone indication appears either below the channel information, beside the RSSI icon, or in both positions. These can also be set to not be displayed.

The following controls may also be used to select a zone:

- left selection key
- scroll keys
- function keys to scroll through zones
- 3-way selector

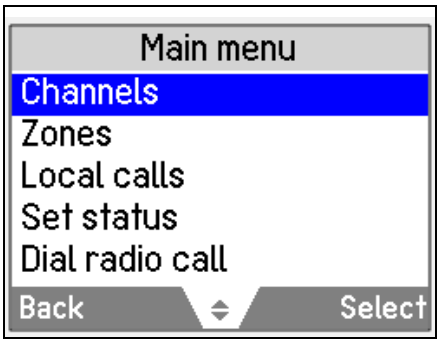
> If the 3-way selector is turned while pressing the PTT button, the zone will change after the PTT button is released.

5.2.2 Selecting a channel

For DMR digital channels, a workgroup will be assigned to a channel. For more information, see Understanding workgroups on page 53.

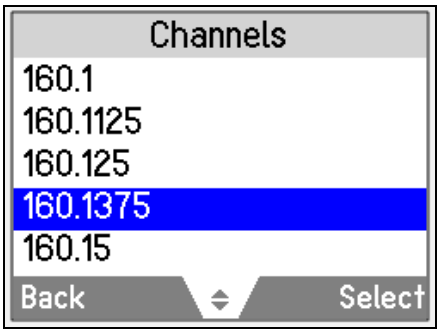
Using the main menu

1. Press **Menu** and select **Channels**.



   Depending on how the radio is programmed, the scroll keys, the left selection key, or a function key may be used to select the **Channels** menu.

2. In the **Channels** menu, scroll through the list of channels until the desired channel appears.



3. Press **Select**, and the programmed channel is now shown on the display.

Using the scroll keys

The radio may be programmed to use the scroll keys to scroll through the channels.

Using the channel selector

The channel selector can be used to either select 16 channels, or continuously scroll through all available channels if the continuous selector model has been purchased.

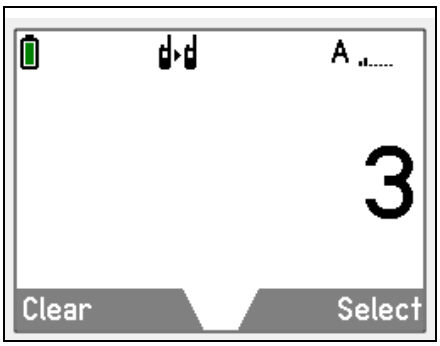
If the channel selector is turned while pressing the PTT button, the channel will change after the PTT button is released.

Using the keypad

This feature is only available for radios with alphanumeric keys.

Dialing a channel may be available from the radio's idle display but is always available while in the **Channels** menu.

1. Dial the number associated with the channel using the alphanumeric keys.



   To delete a digit that you have dialed incorrectly, press **Clear**.

2. Press **Select** or **#**, and the programmed channel is now shown on the display.

Automatic channel selection

The radio may be configured to change channels automatically based on current location. The automatic mode icon A will be visible on the display.

Selecting a channel manually as described above will end automatic mode, and the manual mode icon M will appear on the display.

The radio may be configured to use a timer or a function key to return to automatic mode.

The following controls may also be used to select a channel:

- function key
- left selection key
- scroll keys

5.2.3 Understanding workgroups

A workgroup is a collection of radio users who can have private conversations. For example, a state's public safety agencies could have the following workgroups:

- Local workgroups: used by a specific agency to communicate within their own local agency. It may even be made up of a county of public safety officers.
- Regional workgroups: used by large state agencies that have regional divisions.
- Statewide workgroups: used by an agency to communicate with public safety members in other regions (such as counterparts across entire states).
- Special event workgroups: may be used to manage emergencies encompassing a large area, or even events such as visits by heads of state.

  You can not create Workgroups, they are configured during set up.

Workgroups can be assigned to each channel to allow you to:

- initiate a call to a workgroup by pressing the PTT button
- listen and respond to conversations on none, one or multiple workgroups.

The channel may be named to reflect its workgroup association. When making a call, the workgroup name will appear.

The radio may also be programmed to show the **workgroups** menu which allows you to change the workgroup you want to call and listen to on the current channel.

Making a workgroup call

1. Select the correct workgroup.
2. Press the PTT button.
3. Wait for the channel to clear.
4. Speak clearly.
5. Release PTT button when done.
6. Optional: End the call.

Changing a workgroup

1. Press **Menu** and select **workgroup**.
2. Scroll through the list of workgroups to the desired one and press **Select**.
3. Press the PTT button to make a call to the currently selected workgroup.

Depending on how the radio is programmed, it may be possible to use a Quick Access menu to go to the workgroup menu.

5.2.4 Making a call

The radio's behavior when making a call changes depending on the type of channel selected.

Channels can be programmed for:

- DMR calls over a DMR network
- DMR calls between radios.

If the selected programmed channel is for calls over a network, the green LED indicates whether the network is active. By default, the network is inactive (green LED is off).

Initiating a call will activate the network which will remain active for a programmed time. While the network is active (green LED is on), the call can be completed, and a new call can begin.

If the current channel is programmed for DMR calls between radios (without a radio network), the green LED indicates activity on the channel, i.e. whether someone is talking.

For all DMR calls (over the network or radio to radio), a go-ahead double-beep may sound after pressing the PTT button (if programmed).

The radio may be programmed to ring or beep when a new DMR call is received.

DMR calls have an inactivity timeout. If a pause in the conversation exceeds the timeout, the next press of the PTT button will establish a new call.

Making a call using the address book

The Address book menu has a programmed list of calls.

When on a DMR conventional channel, the address book will show the DMR entries available on the current channel as well as all analog entries. When on an analog channel, the address book will show all analog entries. When selecting an analog entry, the radio will change channel if necessary.

Address book calls may also be used to send status information, such as "at lunch" or "on site", or to change to a channel or group. For more information, see Using the Address Book on page 96.

1. Press **Menu** and select **Address book**.

   Depending on how the radio is programmed, the scroll keys, left selection key or a function key may be used to select the **Address book** menu.

2. In the **Address book** menu, scroll through the list of calls until the desired call appears.
3. Press **Options** and **Call**, or press the PTT button.

   The call details appear on the display, the LED glows red, and appears on the display.

Making a preset call

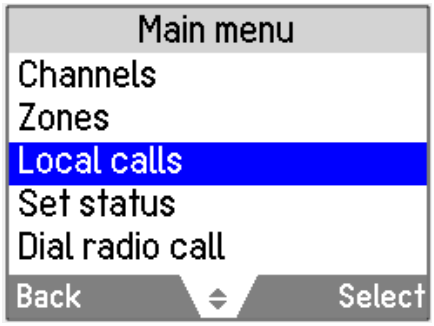
The radio may be programmed to use a function key to initiate a call to an individual or group that may or may not be part of the current workgroup(e.g. the dispatcher).

Making a local call

For analog channels, each channel on the radio may have one or more local calls programmed.

Making a call using the main menu

1. Select the required channel.
2. Press **Menu** and select **Local calls**.



3. In the **Local calls** menu, scroll through the list of local calls until the desired call appears.
4. Press **Send**.

> The call details appear on the display, the LED glows red, and the transmit , or low power transmit , icon appears on the display.

Dialing a local call

1. Select the required channel.
2. Press **Menu** and select **Dial radio call**.
3. Dial the number using the alphanumeric keys.
4. Press **Send** (if the Send option appears).

   The radio may be programmed so a local call can be dialed directly from the default display. In this case, the call can be dialed without selecting the menu option.

   The radio may be programmed so group tones can be dialed using the ***** and **#** keys. Dial ***** to fill one **X**. Dial **#** to fill the current **X** and all subsequent **X** characters in the current burst.

   When you receive a call, the LED glows red and the call details plus appears on the display. The message **Ack received** may also appear.

Dialing a radio call

To dial a call to another radio, or group of radios:

1. Select the required channel.
2. Press **Menu** and select **Dial radio call**.
3. Dial the number using the alphanumeric keys. For analog calls, press **Send**.
4. For DMR conventional calls, press the PTT button to make the call immediately. Alternatively, press **Call** and then the PTT button.

   The call details appear on the display, the LED glows red, and appears on the display.

   The radio may be programmed so a call can be dialed directly from the default display. In this case, it's possible to start dialing the call without selecting the menu option.

On an analog channel using SelCall/5-Tone Network setup, you may encounter **X** and **S** characters, prompting you to dial over them. When the called party responds to the call, the message **Ack received** may display. Additionally, on the same analog channel, the radio can be programmed to utilize group tones by pressing the asterisk (*) or hash (#) keys. Dialing asterisk (*) fills one **X**, while hash (#) fills the current **X** and all subsequent **X** characters in the current burst.

Making an emergency call

You may be able to activate emergency mode by using a programmed function key.

During emergency mode, the radio automatically cycles between receive and transmit for dispatcher monitoring. It deactivates after a set duration, or can be instantly canceled by pressing the function key again if it is enabled as a toggle.

1. Press the function key programmed for Emergency Mode and an emergency call is sent to the dispatcher, or some other predetermined location.
2. Reset the radio to normal operation at any time by turning the radio off and then on.

5.2.5 Ending active calls

For analog channels, a function key may be programmed to either end the current call, or end the current call and all other active calls in your group. This can be done either by:

- using the function key programmed for reset monitor to end the current call, or
- using the function key programmed for call cleardown to end the current call and all other calls in the group, or
- using the function key programmed for both reset monitor and call cleardown.

Using a function key to end your current call

- Press the function key programmed for reset monitor. The radio’s monitor is turned off, ending the current call.

  The LED stops flashing green, and the monitor icon disappears from the display.

Using a function key to end all active calls

- Press the function key programmed for call cleardown and monitor is turned off for all radios in the radio group.

  The LED stops flashing green, and the monitor icon disappears from the display.

Using the function key programmed for reset monitor/call cleardown to end active calls

The function key programmed for reset monitor may be programmed so that a short key press ends the current call, and a long key press ends all active calls in the group.

5.2.6 Making a phone call or DTMF patch call

A telephone network can be directly connected to by manually dialing the number or using preset dialing sequences if the network is configured to support phone calls.

1. Select the required channel.
2. Press **Menu** and select **Phone call**.
3. If an address book is configured, the options shown are to either dial a number or show the address book. Otherwise, the only option is to dial a number.
4. Press **Call**.

   The call details appear on the display, the LED glows red, and appears on the display.

Using a function key

Depending on how DTMF patch calls are programmed, some of the following steps may not be necessary.

1. Select the required channel.
2. Press the function key programmed for DTMF patch call (the radio may send tones to capture the line).
3. Press **Send**, or press the function key a second time, to send the preset number (there may be telephone dialing and ringing tones).
4. Proceed with the call.
5. Press **End**, or give a long press on the function key, to end the call (the radio may send tones to release the line).

Using the main menu

1. Select the required channel.
2. Press **Menu** and select **Dial patch call**.
3. Dial the required number using the alphanumeric keys.
4. Press **Send** (the radio may send tones to capture the line).
5. Press **Send** to send the number dialed in step 3 (there may be telephone dialing and ringing tones).
6. Once the call has finished, press **End** (the radio may send tones to release the line).

Dialing DTMF tones (overdialing)

The radio may be programmed to allow dialing of DTMF tones using the numeric keypad while on a channel or in a call. The dialing may be either sent out immediately (as it's typed) or sent after pressing **Send**.

5.2.7 Call alert

You can let other radio users know that you wish to communicate by sending them a call alert page. When the other radio user receives the call alert page, they can call back when it is convenient.

If on a DMR conventional channel, you can send a call alert to any other radio on the same DMR conventional channel.

Sending a call alert page

1. Press **Menu** and select **Services** > **Call alert**.

   > You can also send a call alert from the **Options** > **Services** menu of an address book entry.

   If an address book is configured, it's possible to select to either dial a number or show the address book. Otherwise a preset list of radios will appear.
2. Select the desired radio to page.
3. Press **Send to**.

   A message showing the radio destination appears on the display. The LED glows red, and a notification indicates whether the message was sent successfully.

   If an acknowledgment is not received from the recipient’s radio, you will have the option of either canceling or resending the request.

Answering a call alert page

If a call alert page is received from another radio user, **Call alert** and the caller name appears onscreen.

Select **Call** to return the page or **Clear** to delete it. If the call alert page is missed, a call alert entry is added to the queue. See Checking the queue on the next page.

5.2.8 Checking the queue

If an incoming call or call alert has been missed, or if a status message or text message has been received, it may be stored in the queue. The queue icon appears and information about the missed call or message may be shown on the display.

The queue can be programmed to store multiple calls or messages, or just the last call or message.

Press **Options** to either view, reply, call back, look at the entry details, or delete the entry.

The radio may also be programmed to automatically view the full status update or text message on receipt.

If there are calls or messages in the queue, the radio may emit a warble tone for a period of time. The notification starts again when the radio is restarted or another call is received.

Accessing the queue

1. If the call or message information is not shown already, press **Menu** > **Call queue**.
2. Use the scroll keys to move through the calls or messages in the queue until the desired item appears.
3. Press **Options**.

   Depending on how the radio is programmed, a function key may be used to access the queue.

The available options depends on the call type. For voice calls, select **Call** to return the call. For status or text messages, select **View** to read, **Reply** to respond, or **Call** to return the call. The radio may automatically display full messages. You can delete selected or all calls and messages.

5.2.9 Sending and receiving messages

A status message is sent to another party to indicate current activity or location, such as “en route” or “at lunch”. If the radio receiving the message has been programmed with the same status messages, it will decode and display the message. If a status message is received, the message is automatically queued, since a response is not expected. Status messages can also be used to control external devices.

Sending a status message

1. Press **Menu** and select **Services** > **Status update**.
2. In the **Status update** menu, scroll through the list of status messages until the desired message appears.
3. When a message has been chosen, press **Select**.

   Depending on how radio is programmed, the message may be sent directly to a pre-configured radio or group, or you will be presented with options to select a destination.

   The call details appear on the display.

Receiving a status message

1. Press **Options** and select whether to reply, call or delete.

If the radio is programmed for call queuing, incoming status messages are added to the queue. For more information, see Checking the queue on the previous page.

The radio may be programmed to automatically view status messages on receipt.

If the radio is not programmed for call queuing, incoming status messages are displayed briefly.

Sending and receiving text messages

The radio may be programmed to send text messages by selecting a preset text message, editing a draft text message, or creating a new text message.

Using the alphanumeric keys to enter text

When the alphanumeric keys are used to enter a text message, they have special functions.

- Use the **#** key to select the type of text entry: upper and lower case characters (**ABC**, **abc**), initial capitals (**Abc**), or numbers (**123**).
- Use the left selection key (**Clear**) to delete a character from the display.
- Use the scroll keys to move through a message.

Repeated presses of these keys will provide the characters shown in Table 5.1 below:

Table 5.1 Alphanumeric keys with corresponding characters

Key	Characters						
1	.	,	?	!	-	/	1
2 ABC	A	B	C				2
3 DEF	D	E	F				3
4 GHI	G	H	I				4
5 JKL	J	K	L				5
6 MNO	M	N	O				6
7 PQRS	P	Q	R	S			7
8 TUV	T	U	V				8
9 WXYZ	W	X	Y	Z			9
0	space						0

In the example below, a preset text message has been selected and is being edited:

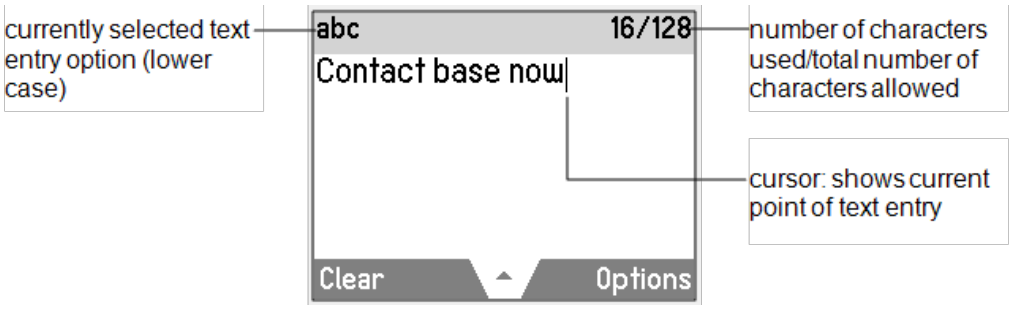


Figure 5.1 Editing a preset text message

Sending a preset text message

1. Press **Menu** and select **Services** > **Text message** > **Preset message**.

   In the **Preset message** menu, a short label representing each message is displayed.
2. Scroll through the list of preset message labels until the desired one appears.
3. Press **Select**, and the chosen text message is now displayed.
4. Press **Send** to send the message, or **Edit** to change the message.

   Pressing ⌒ will place the cursor at the start of the message. Pressing ⌣ will place the cursor at the end of the message.
5. When the message is complete, press **Options** > **Send**.

Creating a new text message

1. Press **Menu** and select **Services** > **Text message** > **New message**.
2. Use the alphanumeric keys to add characters and the **Clear** key to delete them. Use the scroll keys to move through the characters.
3. When the message is complete, press **Options** > **Send**.

   If canceling out of editing a text message or receiving a call while editing, the current draft will be saved and is available for editing later.

Editing a draft text message

1. Press **Menu** and select **Services** > **Text message** > **Edit message**.

   The last sent or edited text message will appear.
2. Use the scroll keys to move through the characters. Use the alphanumeric keys to add characters and the **Clear** key to delete them.
3. When the message is complete, press **Options** > **Send**.

Sending a text message

1. When a message has been chosen or entered, press **Options**. The **Text options** menu opens.
2. In the **Text options** menu, scroll through the list of options until the desired one appears.
3. Select **Send** and press **Select**.
4. If an address book is configured, it's possible to either dial a number or show the address book. Otherwise a preset list of radios will appear.

   The call details appear on the display.

Receiving a text message

If the radio is programmed for call queuing, incoming text messages are added to the queue. For more information, see Checking the queue on page 59.

1. Press **Options** and select whether to reply, call or delete.

   The radio may be programmed to automatically view text messages on receipt.

   If the radio is not programmed for call queuing, incoming text messages will not be stored or displayed.

5.2.10 Radio inhibit and uninhibit

When a radio is immobilized (‘inhibited’), the encryption keys may be automatically deleted from the radio.

If another radio needs to be uninhibited on the same DMR conventional channel, use the radio inhibit feature. This feature is also known as ‘stun’.

On the inhibited radio, **Radio stunned** will appear briefly on the display, and the radio will return to the idle display. The radio remains inoperable even if it is turned off and then on again.

The radio cannot return to normal operation until it receives an uninhibit request. This is also known as ‘revive’.

Sending a radio inhibit request

1. Press **Menu** and select **Services** > **Radio inhibit**.

   Another radio can also be inhibited from the **Options** menu of its address book entry.

2. If an address book is configured, a number can be dialed, or the address book can be shown. Otherwise a preset list of radios will appear.
3. Scroll to the desired radio to make it inoperable.
4. Press **Send to**.

The LED glows red, and a message appears on the display indicating the radio has been successfully immobilized.

Sending a radio uninhibit request

1. Press **Menu** and select **Services** > **Radio uninhibit**.

   Another radio can also be inhibited from the **Options** menu of its address book entry.

2. If an address book is configured, select to either dial a number or show the address book. Otherwise a preset list of radios will appear.
3. Scroll to the radio you want to be operable.
4. Press **Send to**.

   If the radio has been successfully returned to operation, the uninhibited radio will briefly display **Radio revived**.

   If an acknowledgment is not received from the recipient's radio, you will have the option of either canceling or resending the request.

5.2.11 Radio check

If you want to find out whether a particular radio is available on the same DMR conventional channel, you can use the radio check feature. This sends a radio check message to the selected radio.

1. Press **Menu** and select **Services** > **Radio check**.
2. If an address book is configured, you can select to either dial a number or show the address book. Otherwise a preset list of radios will appear.
3. Scroll to the radio that needs checking.
4. Press **Send to**.

   Radios can also be checked from the **Options** menu of its address book entry.

   If the radio is available on the system, an acknowledgment message is displayed.

   If an acknowledgment is not received from the recipient's radio, you will have the option to either cancel or resend the request.

5.2.12 Radio monitor

The radio unit monitor feature can be used when concerned about the safety of a radio user on the same DMR Tier 2 conventional channel. When sending a radio-unit monitor request to a radio, it calls the user back without giving any indication that it is making a call. You can hear any activity near the radio for up to 120 seconds.

Sending a radio unit monitor request

1. Press **Menu** and select **Services** > **Radio monitor**.

   You can also send a radio unit monitor request from the **Options** menu of an address book entry.
2. If an address book is configured, it is possible to select to either dial a number or show the address book. Otherwise a preset list of radios will appear.
3. Scroll to the radio to be monitored.
4. Press **Send to**.

   A message showing the radio destination appears on the display. The LED glows red, and a notification indicates whether the message was sent successfully.

   If the other radio has received your request, it will now call you, so that you can monitor activity near the radio.

   If an acknowledgment is not received from the recipient's radio, you will have the option of either canceling or resending the request.

   > If Active Noise Cancellation is turned on, you may not be able to hear any background noise.

5.2.13 Transmitting at low power

When low power transmit is turned on, a notification appears on the display and calls are made at low power rather than at the programmed power setting.

Some channels may always transmit at low power.

Using the main menu

To turn low power transmit on or off for all channels, see the following:

1. Press **Menu** and select **Radio settings** > **Functions** > **Low power tx**.
2. Scroll to **On** (or **Off**) and press **Select**.

   The current setting is highlighted.

   The message **Low power tx activated** (or **deactivated**) appears on the display.

Using a function key

1. Press the function key programmed for low-power transmit to transmit at low power on your current channel and any channels subsequently used.

The message **Low power tx activated** appears briefly, and the low-power transmit icon **L** or **L** appears on the display.

When the radio is not transmitting, the letter 'L' is displayed. When the radio is transmitting, a single arrow appears beside the 'L'.

2. Press the low-power transmit function key again to turn low-power transmit off, and the message **Low power tx deactivated** appears on the display.

5.3 Using the Radio in Different Repeater Areas

The radio may have a group of channels programmed as a voting group. The channels in the voting group all carry the same traffic, but from different repeaters. As the radio moves in and out of different repeater coverage areas, the best communication channel is automatically selected for use.

This channel is known as the 'home' channel, and will be the channel used to make and receive calls. While voting is active, the scanning icon appears on the display.

5.3.1 Selecting a voting group

Using the channel selector

You can use the channel selector to select a preset voting group. If the radio is programmed in this way:

- rotate the channel selector to the group you want.

Using a function key

To use a function key to select a voting group:

- press the function key to select and activate a preset voting or scanning group.

Using the main menu

To select a voting group using the Main menu:

1. Press **Menu** and select **Channels**.
2. Scroll to the group you want and press **Select**.

5.3.2 Suspending a channel from a voting group

You may be able to use the function key programmed for nuisance delete to temporarily delete one of the channels from the voting group.

When that voting group is next selected, or after the radio has been turned off and then on, the deleted channel is again part of the voting group.

Alternatively, the function key programmed for voting may be programmed so that a short key press turns on voting, and a long key press activates nuisance delete.

- Press and hold the function key programmed for voting to remove the current channel from the voting group.

If the operation has been successful, the message **Channel nuisance deleted** appears on the display.

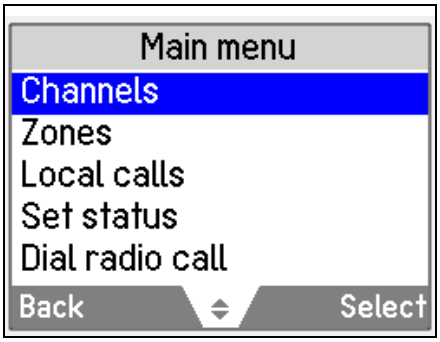
5.3.3 Selecting a scanning or voting group

A scan or voting group is a collection of channels that are grouped together for either scanning or voting. In the **Channels** menu, the scan or voting group is shown as being a single channel item, for example, “Scan1”.

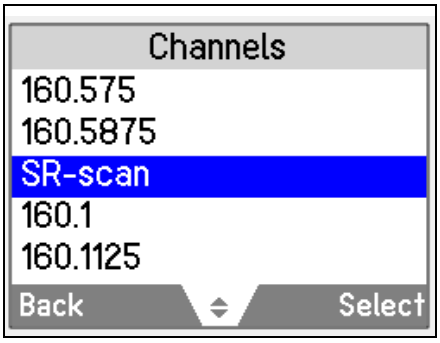
The sections Using the Radio in Different Repeater Areas on the previous page and Scanning a group of channels on page 68 explain how the radio operates once a scan or voting group has been selected.

Using the main menu

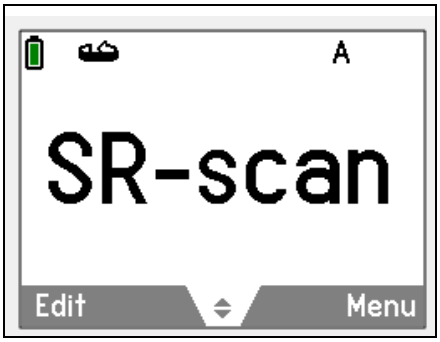
1. Press **Menu** and select **Channels**.



2. In the **Channels** menu, scroll through the list of channels and groups until the desired group appears.



3. Press **Select**, and the programmed scan or voting group is now shown on the display. The scanning icon appears on the display.



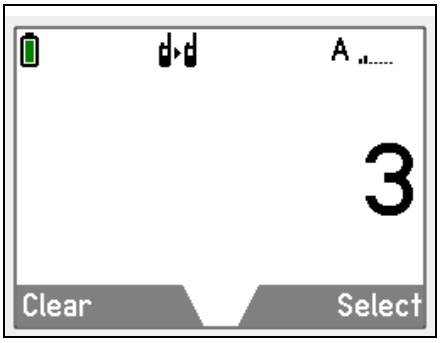
Depending on how the radio is programmed, a function key, the scroll keys or left selection key may be used to select a group.

Dialing a scan or voting group

Dialing a scan or voting group may be available from the radio's idle display and is always available while in the **Channels** menu.

To dial the group number from the default display:

1. Dial the number associated with the scan or voting group using the alphanumeric keys.



2. Press **Select**, and the programmed scan or voting group is now shown on the display. The scanning icon appears on the display.

5.3.4 Scanning a group of channels

The scan function is used to monitor a programmed group of channels, looking for activity. While the radio is scanning for activity, the scanning icon appears on the display. When activity is detected on a channel in the scanning group, the radio stops on that channel. The radio unmutes and the call can be heard. Scanning resumes once the channel is no longer busy.

The section Selecting a scanning or voting group on page 66 explains how to activate scanning.

Standard and background scanning

The two types of scanning available in the radio are standard scanning and background scanning. Background scanning can only be activated by using a function key programmed for background scanning. It differs from standard scanning where the channel that was selected when background scanning was activated is also included as a scanning group member.

Making a call while scanning

To make a call while the radio is scanning:

1. Press the PTT button to transmit. If background scanning is active, the radio will now call the currently selected channel.
2. If standard scanning is actived and there has been no recent activity on the channel, then the channel that is called depends on the way the radio has been programmed. The possible options are that:
    - the radio calls a predetermined channel, for example, the dispatcher,
    - the radio calls the channel where an activity was last detected, or
    - the radio calls the last free channel.
3. When the called party responds, proceed with the conversation.

Suspending a channel from a scanning group

If a member channel of a scanning group is busy for a long time and you don't wish to hear the conversation, you may be able to use the function key programmed for nuisance delete to temporarily delete it from the scanning group.

When the scanning group is next selected, or after the radio has been turned off and then on, the deleted channel is again part of the scanning group.

Alternatively, the function key programmed for scanning may be programmed so that a short key press turns on scanning, and a long key press activates nuisance delete.

- Press and hold the function key programmed for scanning to remove the current channel from the scanning group.

If the operation has been successful, the message **Channel deleted from group** appears on the display.

Adding or deleting member channels of a group

The radio can be programmed for you to add or delete channels in a voting or scanning group. Changes made are permanent, and will remain after restarting the radio.

1. Select the group. See Selecting a scanning or voting group on page 66.
2. Press **Edit**.

    Alternatively, you may be able to edit groups by pressing **Menu** and selecting **Advanced** > **Program groups**, then select the group you wish to edit.
3. In the **Edit group** menu, choose **Add channel** or **Delete channel**.
4. Press **Select**.
5. Press the scroll keys to select the desired channel to add or delete.
6. Press **OK**.

    If successful, the message **Channel added** or **Channel deleted** appears.

    To check the new group details, press **Back** and select the **Group members** menu option.

Changing a group's transmit channel

You may be able to change the transmit channel of a standard scanning group. The transmit channel is identified by the **Tx** icon.

1. Select the group. See Selecting a scanning or voting group on page 66.
2. Press **Edit**.

   If there is no edit option for the left selection key, the group cannot be changed.

   Alternatively, you may be able to edit groups by pressing **Menu** and selecting **Advanced** > **Program groups**, then select the group you wish to edit.
3. In the **Edit group** menu, choose **Change tx**.
4. Press **Select**.
5. Press the scroll keys to select the new transmit channel.
6. Press **OK**.

   If successful, the message **Tx channel changed** appears.

   To check the new group details, press **Back** and select the **Group members** menu option. The new transmit channel has the **Tx** icon next to it.

Changing a group's first or second priority channel

You may be able to change the priority channels of a scanning group. Priority channels are scanned more frequently than other channels in the group. If valid activity is found on another channel, the radio continues to scan the priority channel or channels at regular intervals. The first priority channel is identified by the P1 icon, and the second priority channel is identified by the P2 icon.

1. Select the group. See Selecting a scanning or voting group on page 66.
2. Press **Edit**.

   If there is no edit option for the left selection key, the group cannot be changed.

   Alternatively, you may be able to edit groups by pressing **Menu** and selecting **Advanced** > **Program groups**, then select the group you wish to edit.
3. In the **Edit group** menu, choose **Change P1** or **Change P2**.
4. Press **Select**.
5. Press the scroll keys to select the new priority channel.
6. Press **OK**.

   If successful, the message **P1 channel changed** or **P2 channel changed** appears.

   To check the new group details, press **Back** and select the **Group members** menu option. The new priority channel has the P1 or P2 icon next to it.

Icons and messages that may appear when changing group details

Table 5.2 below lists the icons associated with viewing group membership details, adding or deleting channels from a group, or changing a group's transmit or priority channels.

Table 5.2 Icon meanings

Icon	Meaning
T_X	This channel is used to transmit on when there has been no recent activity. You cannot delete this channel (it will not appear under **Delete channel**).
P_1	This channel is the group's first priority channel. You cannot delete this channel (it will not appear under **Delete channel**).
P_2	This channel is the group's second priority channel. Deleting this channel is configurable.
+	There is more than one instance of this channel in the group (the channel will be scanned more often). If this channel is deleted, the radio will attempt to delete all instances of the channel.

Table 5.3 below lists the messages that may appear when using nuisance delete to temporarily remove a channel from a group, adding or deleting channels, or adjusting transmit or priority channels within a group.

Table 5.3 Message meanings

Message	Meaning
Scanning not on	You cannot use nuisance delete to temporarily delete a channel from a group, as there is no group currently selected.
No channel captured	You cannot use nuisance delete to temporarily delete a channel from the group, as there is no channel currently captured.
Not enough channels in group	You cannot use nuisance delete to temporarily delete the channel from the group, as the captured channel is the last remaining group member.
Cannot delete channel	You cannot use nuisance delete to temporarily delete the channel from the group. The captured channel may be the selected channel in a background scanning group.
Cannot delete priority chan	You cannot use nuisance delete to temporarily delete the channel from the group, as the captured channel is a priority channel.
Only two channels in group	You cannot delete a channel from the group, as there would be only one group member left.
No items in list	You cannot perform the action due to: • the group not having preset transmit channel or priority channels programmed. • having added all the channels in the zone to the current group.
Group full	You cannot add any more channels to the group, as the maximum number of members (80) has been reached.

6 Operating on DMR or MPT Trunked Networks

This section explains how the radio operates on a DMR (digital), MPT (analog) or dual-mode trunked network.

> These features are controlled by SFE and may not be available with the radio by default.

> The radio must have trunking functionality programmed before it can operate in DMR or MPT trunked mode.

6.1 Checking that the Network is Available

Check that the orange LED is flashing and the network icon appears on the display. These are the indications that the radio has access to a trunked network. If the network icon:

- is flashing and **No service** appears on the display, the radio is attempting to access the trunked network.
- remains flashing, the radio may be out of the network coverage area.

If **Limited service** appears on the display, one of the network sites or the connection between the network sites has been interrupted. You can still make calls to radios covered by the same site but not to radios on other sites.

6.2 Changing the Network

The radio may be programmed to operate in up to four completely separate trunking networks, either DMR (digital), MPT (analog) or both (dual mode). You may wish to change networks because you are out of the network coverage area, or you need to have access to another trunking network.

To change the radio's operating network, you may be able to either use the main menu or dial the new network using the alphanumeric keys.

> Changing the radio's workgroup may also change the network in which you are operating.

6.2.1 Using the main menu

1. Press **Menu** and select **Change network**.
2. In the **Change network** menu, scroll through the list of networks until the desired network appears.
3. Press **Select**.

> The radio will restart and display the name of the new network.

6.2.2 Dialing a new network

1. Dial ***700#** to display the name of the current trunked network.
2. Dial ***70n#** to change to a new network, where **n** is the number of the new network (1 to 4).

> The radio will switch to, and display, the name of the new network.

6.3 Making a Call Using an Address Book

The **Address book** menu programmed for the radio contains calls to other radios, to PABX extensions or to PSTN numbers.

Address book calls are also used to send status information, such as “at lunch” or “on site”. For more information, see Using the Address Book on page 96.

1. Press **Menu** and select **Address book**.
2. In the **Address book** menu, scroll through the list of calls until the desired call appears.
3. Press **Options** and **Call**, or press the PTT button.

> The call details appear on the display, the LED glows red, and appears on the display.

6.4 Making a Preset Call

The preset calls programmed for the radio may be to other radios, to PABX extensions or to PSTN numbers.

1. Press **Menu** and select **Preset calls**.
2. In the **Preset calls** menu, scroll through the list of calls until the required call appears, then press **Send**.

> While the call is being set up, it can be canceled by pressing **Clear**.

6.4.1 Dialing a preset call

It may be possible to dial preset calls if preset calls are programmed for the radio and you know the number associated with the preset call.

1. Dial **p**, where **p** is the number of the preset call.

   If your preset call number is the same as a call to another radio, then you need to dial a leading **0**. For example, dial **23#** to call radio 23 and dial **023#** for preset call number 23.

2. Press **Send** or **#** or PTT button.

   While the call is being set up, it can be canceled by pressing **Cancel**.

6.5 About Trunked Zones and Workgroups

Trunked zones and workgroups are used to manage the calls on the trunked system. Zones, if used, typically define geographic areas (towns, suburbs or counties), or branches of an organization. Workgroups span multiple zones, and typically define functions, work areas or job roles.

When the radio belongs to a workgroup, it is said to be 'subscribed', and you receive all calls directed to that group of users. The members of a group are dynamic. A workgroup contains only the radios that are currently registered on the system and subscribed to the same group.

> The radio may be programmed to use different names for a 'zone' and 'workgroup'. For example, 'district' or 'area' in place of zone, and 'role' or 'group' in place of workgroup.

6.5.1 Selecting a zone

1. Press **Menu** and select **Set zone**.
2. In the **Set zone** menu, scroll through the list of zones until the desired zone appears.
3. Press **Select**.
4. Check that the network icon appears on the display.

6.5.2 Automatic zone selection

The radio may be configured to change zones automatically based on your location.

Selecting a zone manually as described above will end automatic mode, so the automatic mode icon will disappear and the manual mode icon will appear on the display.

The radio may be configured to use a timer or a function key to return to automatic mode.

6.5.3 Selecting a workgroup

1. Press **Menu** and select **Set workgroup**.
2. In the **Set workgroup** menu, scroll through the list of workgroups until the desired workgroup appears.
3. Press **Select**.
4. Check that the network icon appears on the display.

6.5.4 Making a call to a workgroup

Different types of calls may be associated with your workgroups. These calls can be of any types.

To make a call to a workgroup

1. Select the required zone. See About Trunked Zones and Workgroups on the previous page.
2. Select the required workgroup. See About Trunked Zones and Workgroups on the previous page.
3. Press the PTT button, and a call to that workgroup is made.

Dialing a workgroup call

You can dial workgroup calls if you know the number associated with the workgroup.

1. Dial **w**, where **w** is the number of the workgroup.

   If the workgroup call number is the same as a call to another radio, then you need to dial a leading **0**. For example, dial **23#** to call radio 23 and dial **023#** for workgroup call number 23.
2. Press **Send** or **#** or PTT button.

   While the call is being set up, you can cancel the call by pressing **Cancel**.

6.5.5 Selecting the homegroup

'Homegroup' is the workgroup in which the radio usually operates. To return to the homegroup at any time, you may be able to use the main menu, or an allocated function key.

Using the main menu

1. Press **Menu** and select **Go to homegroup**.
2. Press **Select** and the radio will show the homegroup in the default display.

Using function keys

You may be able to use function keys to go to their homegroup or to toggle between the homegroup, and the currently selected zone and workgroup.

- Press the function key programmed to go to the homegroup.

  The radio now shows the homegroup on the default display.

- Press the function key programmed to toggle between the homegroup and the currently selected zone and workgroup.

  The radio now shows the homegroup on the default display, along with the homegroup icon .

  > The homegroup icon only appears if using a function key to toggle between the homegroup and the currently selected zone and workgroup.

6.5.6 Scanning workgroups

'My Workgroups' list comprises the current workgroup, the homegroup, and other programmed groups. When scanning is active, the radio will receive activity from any subscribed groups in the My Workgroups list.

To activate scanning

1. Press **Menu** and select **Scanning**.
2. Scroll to **On** (or **Off**) and press **Select**.

6.6 About Emergency Operation

In an emergency, you are able to summon help by sending an emergency call. After making the call, the radio is programmed to enter emergency mode. While emergency mode is active, the radio cycles between receive and transmit, so that the dispatcher or the called party can hear any activity near the radio.

In most networks, an emergency call takes precedence over other call types, and existing calls are cleared down so that the emergency call can proceed.

You can place an emergency call using:

- a function key programmed for emergency mode.
- a preset (see Making a Preset Call on page 74).
- the address book (see Making a call using the address book on page 54).
- a workgroup.

6.6.1 Activating emergency mode

You can activate emergency mode using a function key programmed for emergency mode. Once emergency mode is activated, the radio makes an emergency call to a dispatcher or some other predetermined location. The radio then enters emergency mode.

The radio sends an emergency alarm status before and after the call, Any call made during this status will be an emergency call, unless the emergency mode is canceled.

6.6.2 Dialing an emergency call

1. Dial ***9**.
2. Press **Send** or **#** or PTT key.

   An emergency call is now sent to the emergency location that has been programmed for the radio.

   An emergency call to another radio can be placed by dialing ***9*n** followed by **#** or PTT key. In this case, **n** is the radio unit number or group number you wish to send the emergency call to. This can be a two- or three-digit number.

6.6.3 Canceling emergency mode

Reset the radio to normal operation at any time by turning the radio off and then on.

Emergency mode can be canceled without turning the radio off and on:

- It will automatically end after a fixed period.
- Press the function key a second time if it is set as a toggle key.

6.7 Dialing a PABX Number

6.7.1 To dial a PABX extension for MPT1327, MPT1343 and Nokia ANN

1. Dial **n**, where **n** is the PABX extension desired to call.
2. Press **Send** or **#** or PTT button.

> The call details appear on the display. While the call is being set up, you can cancel the call by pressing **Cancel**.

6.7.2 To dial a PABX extension for DMR

1. Dial **02n**, where **n** is the PABX number.
2. Press **Send** or **#** or PTT button.

> The call details appear on the display. While the call is being set up, you can cancel the call by pressing **Cancel**.

6.8 Dialing a PSTN Number

6.8.1 To dial a PSTN number for MPT1327, MPT1343 and Nokia ANN

1. Dial **0n**, where **n** is the PSTN number desired to call.

   > The numbers dialed before **0** depend on the way your network operates.

2. Press **Send** or **#** or PTT button.

   > The call details appear on the display. While the call is being set up, you can cancel the call by pressing **Cancel**.

6.8.2 To dial a PSTN extension for DMR

1. Dial **01n**, where **n** is the PSTN number.
2. Press **Send** or **#** or PTT button.

   > The call details appear on the display. While the call is being set up, you can cancel the call by pressing **Cancel**.

6.9 Receiving a Call

When the radio receives a call:

- it automatically accepts the call. The GO icon appears on the display. The radio may also be programmed to beep or ring. In this case, the caller will usually talk first.
- it rings like a telephone. Press **Answer** or press the PTT button to accept the call. The radio gives a beep and the GO icon appears in the display. In this case, you will usually talk first.

When the GO icon appears, you can proceed with the call as follows:

1. Hold the microphone about 2 inches (5cm) from your mouth.
2. Press and hold the PTT button to transmit.
3. Speak clearly into the microphone and release the PTT button when you have finished talking.

   > While you are transmitting, the LED glows red and appears in the display.

   > Ensure that the rear microphone is not covered by your hand or clothing when making a call.

   End the call by pressing **End**. The network may also end the call if neither you nor the other party transmits for a predetermined time or if your call time limit is exceeded.

6.9.1 Transmit timer

The radio may have a transmit timer that limits the amount of time you can transmit continuously.

When the transmit timer is about to expire, the message **Transmit timeout imminent** appears in the display, the LED flashes red, and the radio gives three beeps.

If the transmit timer times out, the call clears down.

6.9.2 Call time limit

In trunked mode, the length of your call is limited by the network or by the radio. The radio displays the time remaining for your call if programmed.

6.10 Re-establishing a Call

The last number recall, unanswered call and callback functions allow you to re-establish calls using the PTT button.

6.10.1 Last number recall

This function needs to be configured.

When an outgoing call has ended, the message **Last call to** and its caller identity appears on the display.

To make a call to that person again, briefly press the PTT button.

6.10.2 Unanswered call

When an incoming call is missed, the message **Missed call** and the caller's identity may appear in the display.

To return the call, briefly press the PTT button.

6.10.3 Callback

This function needs to be configured.

When an incoming call has been ended, the message **Last call from** and the caller's identity may appear in the display.

To make a call to that person, briefly press the PTT button.

6.11 Checking the Queue

If an incoming call has been missed, or a status message or text message has been received, it is stored in the queue. The queue icon appears and information about the missed call or message is shown on the display.

The queue can be programmed to store multiple calls or messages or just the last call or message.

Figure 6.1 below shows an example of a status message received from a caller (Car 1). In this example, this is the first of three calls or messages stored in the queue.

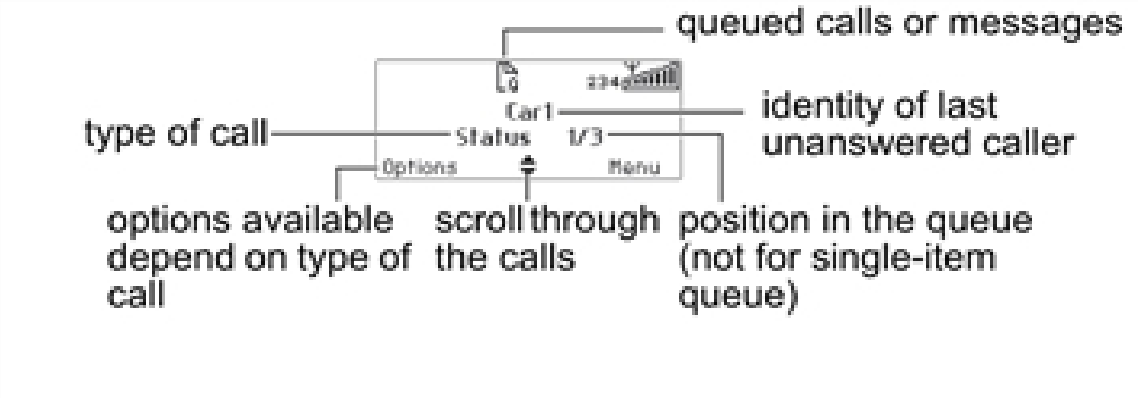


Figure 6.1 The queue

Press **Options** to either view, reply, call back, look at the entry details, or delete the entry.

The radio can be programmed to automatically view the full status message or text message on receipt.

If there are calls or messages in the queue, the radio emits a warble tone for a period of time. The notification starts again when the radio is restarted or another call is received.

6.11.1 Accessing the queue

1. If the call or message information is not shown already, press **Menu > Call queue**.
2. Use the scroll keys to move through the calls or messages in the queue until the desired item appears.
3. Press **Options**.
   - The options available depend on the type of call it is:
     - For a voice call, select **Call** to return the call.
     - For a status message or a text message, select **View** to read the message, **Reply** to reply, or **Call** to return the call.

       The radio can also be programmed to automatically view the full status message or text message on receipt.

       You can delete the selected call or messages, or delete all queued calls and messages.

6.11.2 Changing the queue settings

The radio can be programmed to change queuing between “unanswered” and “full”.

- In “unanswered” queuing, incoming individual voice calls are only queued if unanswered.
- In “full” queuing, incoming individual voice calls are queued immediately and you don’t get an option to answer the call.

In both cases, all status and text messages are queued immediately.

If the radio has alphanumeric keys, you can change the call queuing setting using the keypad.

Activating full queuing

1. Press **Menu** and select **Radio settings** > **Call settings** > **Call queuing** and choose **On**.
2. Press the function key programmed for call queuing, or dial ***48** then press **#** or PTT button.
3. The message **Call queuing activated** appears.

Changing call queuing to “unanswered” queuing

1. Press **Menu** and select **Radio settings** > **Call settings** > **Call queuing** and choose **Off**.
2. Press the function key programmed for call queuing, or dial **#48** then press **#** or PTT button.
3. The message **Call queuing deactivated** appears.

6.12 About Status Messages

A status message is sent to another party to indicate your current activity or location, such as “en route” or “at lunch”. If the radio receiving the message is programmed with the same status messages, it will decode and display the your message. If you receive a status message, the message is automatically queued, since a response is not expected.

6.12.1 Selecting a status message

1. Press **Menu** and select **Send** > **Status**.
2. In the **Status** menu, scroll through the list of status messages until the desired message appears.

6.12.2 Sending a status message

1. Select a message and press **Send**, then the **Send to** menu opens.
2. In the **Send to** menu, scroll through the list of options until the desired choice appears.

   If **Address book** or **Preset** is selected, scroll to the desired entry and press **Select**.
3. Press **Select**.

   The call details appear on the display. While the call is being set up, you can cancel the call by pressing **Cancel**.

6.12.3 Dialing a status message

If the radio has alphanumeric keys, the status messages programmed for the radio can be dialed. To dial the message, you will need to know the number associated with the status message.

To dial a status message

1. Dial ***0s*n**, where **s** is the number of the status message and **n** is the called party's number.
2. Alternatively, dial ***0s*p**, where **p** is the number of a preset call or workgroup. See Making a Preset Call on page 74 or Dialing a workgroup call on page 76.
3. Press **Send** or **#** or PTT key.

   The call details appear on the display. While the call is being set up, you can cancel the call by pressing **Cancel**.

6.12.4 Receiving a status message

If the radio is programmed for call queuing, incoming status messages are added to the queue. For more information, see Checking the Queue on page 82.

Press **Options** and select whether to reply, call or delete.

The radio can be programmed to automatically view status messages on receipt.

If the radio is not programmed for call queuing, incoming status messages will not be stored or displayed.

6.13 About Trunked Text Messages

The radio can be programmed to send text messages. There are three options to create a text message:

- select a preset text message
- edit a draft text message
- create a new text message

6.13.1 Using the alphanumeric keys to enter text

When the alphanumeric keys are used to enter a text message, they have special functions. Use:

- **#** to select the type of text entry, for example, upper and lower case characters (**ABC**, **abc**) or initial capitals (**Abc**) or numbers (**123**).
- left selection key (**Clear**) to delete a character from the display.
- scroll keys to move through a message.

Repeated presses of these keys will give you the characters shown in Table 6.1 below:

Table 6.1 Alphanumeric keys with corresponding characters

Key	Characters						
1	.	,	?	!	-	/	1
2 ABC	A	B	C				2
3 DEF	D	E	F				3
4 GHI	G	H	I				4
5 JKL	J	K	L				5
6 MNO	M	N	O				6
7 PQRS	P	Q	R	S			7
8 TUV	T	U	V				8
9 WXYZ	W	X	Y	Z			9
0	space						0

Figure 6.2 below below shows an example of editing a preset text message:

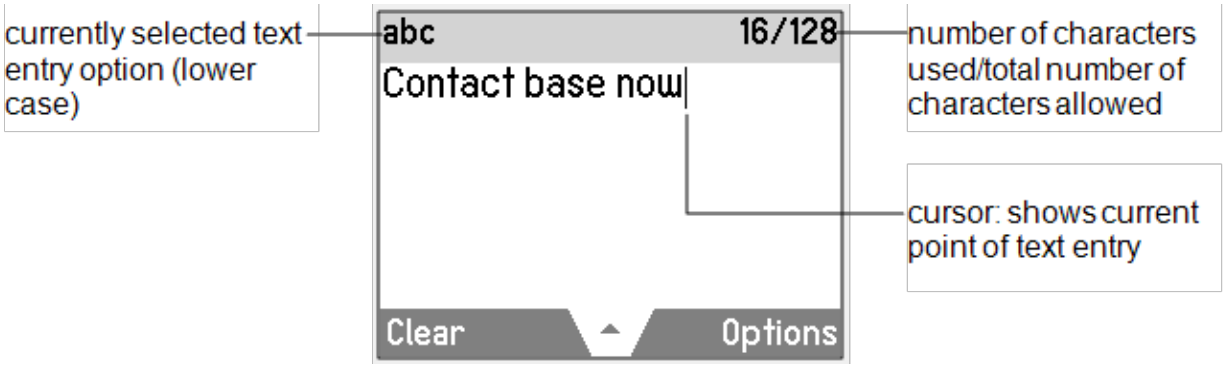


Figure 6.2 Editing a preset text message

6.13.2 Sending a preset text message

1. Press **Menu** and select **Send** > **Text message** > **Preset message**. In the **Preset message** menu, a short label representing each message is displayed.
2. Scroll through the list of preset message labels until the desired one appears.
3. Press **Select**, and the selected text message is displayed.
4. Press **Send** to send the message, or **Edit** to edit the message.

   Pressing ⌒ will place the cursor at the start of the message. Pressing ⌣ will place the cursor at the end of the message. When the message is complete, press **Options** and select **Send**.

6.13.3 Creating a new text message

1. Press **Menu** and select **Send** > **Text message** > **New message**.
2. Use the alphanumeric keys to add characters and the **Clear** key to delete them. Use the scroll keys to move through the characters.
3. When the message is complete, press **Options** and select **Send**.

   If you wish to cancel editing a text message or receive a call while editing, the current draft will be saved and is available for editing later.

6.13.4 Sending a text message

1. After editing the message press **Options** and the **Text options** menu opens.
2. In the **Text options** menu, select **Send**.
3. In the **Send to** menu, scroll through the list of options until the desired choice appears.

   If the radio has alphanumeric keys, you can choose the option **Dialed**, then dial the number of the party you wish to call.

   If **Address book** or **Preset,**is selected, scroll to the desired entry and press **Select**.

4. Press **Select**.

   The call details appear on the display. While the call is being set up, you can cancel the call by pressing **Cancel**.

6.13.5 Editing a draft text message

1. Press **Menu** and select **Send** > **Text message** > **Edit message**.

   The last sent or edited text message will appear.
2. Use the scroll keys to move through the characters. Use the alphanumeric keys to add characters and the **Clear** key to delete them.
3. When the message is complete, press **Options** and select **Send**.

   If you decide to cancel editing a text message or receives a call while editing, the current draft will be saved and is available for editing later.

6.13.6 Receiving a text message

If the radio is programmed for call queuing, incoming text messages are added to the queue. For more information, see Checking the Queue on page 82.

1. Press **Options** and select whether to reply, call or delete.

   The radio can be programmed to automatically view text messages on receipt.

   If the radio is not programmed for call queuing, incoming text messages will not be stored or displayed.

6.14 Placing the Radio in Do-Not-Disturb Mode

If you don't want to accept calls for a while, you can place the radio in 'do-not-disturb mode' to ignore incoming calls. You can still make outgoing calls in the usual way.

While do-not-disturb mode is active, incoming calls cannot be stored in the call queue.

6.14.1 Using a function key

1. To activate the do-not-disturb function, press the function key programmed for 'do not disturb' mode.

   The message **Do not disturb activated** appears on the display. The radio will now ignore all incoming calls.
2. To deactivate the do-not-disturb function, press the do-not-disturb function key again.

   The message **Do not disturb deactivated** appears on the display.

6.14.2 Using the main menu

1. Press **Menu** and select **Radio Settings** > **Call Settings** > **Do not disturb**.
2. In the **Do not disturb** menu, choose **On**.
3. Press **Select**.

   The message **Do not disturb activated** appears on the display. The radio will now ignore all incoming calls.

6.15 Switching to Conventional Channels or Conventional Groups

You may be able to dial conventional channels or groups, using **101** to **110**. The channels or groups called using these numbers are programmed for the radio.

> Only valid for MPT1327, MPT1343, Nokia ANN and Native Addressing dialing schemes. Does not apply to DMR dialing scheme.

To call a conventional channel or group:

1. Dial the number for the channel or group that is being called.
2. Press **Send** or **#** or PTT button.

   The radio switches to the conventional channel programmed for that number.

6.16 Dialing Calls on DMR/MPT Trunked Networks

If the radio has alphanumeric keys, you can make dialed calls from their radio. The numbers dialed and the dialing features available depend on the way the radio is programmed and the way the your network operates. Contact the radio provider for further assistance.

6.16.1 MPT 1343 dialing

If your MPT or DMR trunked network uses the MPT 1343 dialing scheme, the radio's unique number on the network consists of:

- a three-digit prefix,
- a four-digit fleet number, and
- a two- or three-digit radio unit number.

You may also be part of a group, with a two- or three-digit group number.

Finding the radio's MPT number

To find the radio's full MPT number:

1. Dial ***700**.
2. Press **#** or PTT button.

The name associated with your network and the radio's full MPT number appears.

MPT 1343 dialed calls

Table 6.2 below summarizes the way calls are dialed to other radios and groups of radios using the MPT 1343 dialing scheme.

> In the following examples, the final **#** can be replaced by a short press of the PTT button.

Table 6.2 MPT 1343 dialing scheme

Call to	Dialing code and example
Radio **23** in the same fleet as you	23 #
Radio **234** in the same fleet as you	234 #
Radio **23** in fleet **3078** with the same prefix as you	3078 23 #
Radio **234** in fleet **3078** with the same prefix as you	3078 234 #
Radio **234** in fleet **3078** with a different prefix to you (**300**)	300 3078 234 #
Group **92** in the same fleet as you	92 #
Group **923** in the same fleet as you	932 #

6.16.2 DMR dialing

If your trunked network uses the DMR dialing scheme, the radio's unique number on the network consists of:

- a three-digit prefix
- a two-digit fleet number, and
- a three-digit unit number

You may also be part of a group with a three-digit group number.

Finding the radio's DMR number

To find the radio's full DMR number:

1. Dial ***700**.
2. Press **#** or PTT button.

The name associated with your network and the radio's full DMR number appears.

DMR dialed calls

Table 6.3 below summarizes the way you dial calls to other radios and groups of radios using the DMR dialing scheme.

> In the following examples, the final **#** can be replaced by a short press of the PTT button.

Table 6.3 DMR Dialing Scheme

Call to	Dialing code and example
Radio **332** in the same fleet as you	332 #
Radio **521** in the same fleet as you	521 #
Radio **332** in fleet **78** with the same prefix as you	78 332 #
Radio **521** in fleet **78** with the same prefix as you	78 521#
Radio **332** in fleet **78** with a different prefix to you(**350**)	350 78 332 #
Group **990** in the same fleet as you	990 #
Group **923** in the same fleet as you	923 #

6.16.3 Nokia ANN fleet calls

If your trunked network uses Nokia ANN dialing, the numbers you dial will depend on your fleet size. Fleets are defined as either large, small or mini. The radio's unique number on the network consists of:

- a lead number **7**, **8** or **9**, depending on the fleet size,
- a zero-, one-, two- or three-digit prefix,
- a one- or two-digit fleet number, and
- a two- or three-digit radio unit number

See the radio provider or network administrator for Nokia ANN call details.

Finding the radio's Nokia ANN number

To find the radio's full Nokia ANN number:

1. Dial ***700**.
2. Press **#** or PTT button.

   The name associated with your network and their radio's full Nokia ANN number appears.

   The number is in the form: Lead-Prefix-Fleet-Radio Unit Number.

Nokia ANN dialed calls

Table 6.4 below summarizes the way you will dial calls to other radios.

> In the following examples, the final **#** can be replaced by a short press of the PTT button.

Table 6.4 Dialed Call Types

Call to	Dialing code and example
Radio **23** in the same fleet as you	23 #
Group **923** in the same fleet as you	923 #
Large fleet	
Call to radio **234** in fleet **1** with the same prefix as you	7 1 234 #
Call to radio **235** in fleet **2** with a different prefix to you (**32**)	7 32 2 235 #
Call to radio **236** in fleet **2** with the same lead and prefix [a]	2 236 #
Small fleet	
Call to radio **23** in fleet **51** with the same prefix as you	7 51 23 #
Call to radio **24** in fleet **52** with a different prefix to you (**126**)	7 126 52 24 #
Call to radio **25** in fleet **53** with the same lead and prefix. See Nokia ANN fleet calls on the previous page for more information	53 25 #
Mini fleet	
Call to radio **23** in fleet **80** with the same prefix as you	7, 8 or 9 80 23 #
Call to radio **24** in fleet **81** with a different prefix to you (**3**)	7, 8 or 9 3 81 24 #
Call to radio **25** in fleet **81** with the same lead and prefix. See Nokia ANN fleet calls on the previous page for more information	81 25 #

[a] If 4-digit-dialing is configured in the programming application.

6.17 Accessing Common Trunking Functions

The following tables explain how you can access special MPT or DMR trunking functions using the ***** and **#** keys. The availability of these functions is dependent on the way the radio is programmed and the way your network operates.

> In the following examples, the final **#** can be replaced by a short press of the PTT button.

Table 6.5 Accessing Trunking Functions Using * and #

***... # functions**		
Dialing code	**Functions**	**Example**
#	Accept an incoming FOACSU call	
*#	Clear call or displayed item, or decline an incoming FOACSU call	
*0# #0#	Request base dispatcher to call you back Cancel request	
*0*n# #0*n#	Request another dispatcher to call you back Cancel request	*0*234# #0*234#
*0s*n# *0s#	Status call to radio **n** (**s** = status 0 to 31, MPT, or 0 to 99, DMR) Status call to dispatcher	*015*23# *015#
g#	Conference call to group **g**	92#
*11*g#	Broadcast call to group **g**	*11*92#
*41*n# #41#	Divert own calls to radio **n** Cancel divert	*41*23#
*41*0n# #41#	Divert own calls to PSTN **n** Cancel divert	*41*03456798#
*44*n*m# [a]	Divert 3rd party calls **n** to **m**	*44*23*21#
44*n# [a]	Cancel divert of 3rd party calls	#44*23#
*441*m# #441#	Divert of speech calls to **m** Cancel divert of speech calls	*441*21# #441#
*442*m# #442#	Divert of packet data calls to **m** Cancel divert of packet data calls	*442*21# #442#

[a] MPT only

*... # functions		
Dialing code	**Functions**	**Example**
*451#	Cancel incoming call diversions (speech only)	
*452#	Cancel incoming call diversions (packet data only)	
*453# [b]	Cancel incoming call diversions (SDM only)	
*454# [b]	Cancel incoming call diversions (status only)	
*46# [c]	Toggle encryption	
*461# [c]	Turn encryption off	
*462# [c]	Turn encryption on	
*47# [c]	Display the current network and your full radio number	
*48# #48#	Queue incoming calls Cancel queue	
*49# #49#	Do not disturb Cancel do not disturb	
*491# #491#	DMR: Do not disturb (SDM calls) MPT: Do not disturb (voice calls only) DMR: Cancel do not disturb (SDM calls) MPT: Cancel do not disturb (voice calls only)	
*492# #492#	Do not disturb—data calls only Cancel do not disturb—data calls only	
*50*n# [a]	Select channel **n** (site-select diagnostic function, enabled during programming)	
*50*xnnnnn# [b]	Select channel **xnnnn**, where **x** is the logical channel and **nnnn** is the physical channel (site-select diagnostic function, enabled during programming)	
#50#	Resume normal channel hunting (site-select diagnostic function, enabled during programming)	
*700#	Display the current network and your full radio number	
*70n#	Change to network **n** (1 to 4)	*702#

[b]DMR only

[c]DMR dialing scheme only

*... # functions		
Dialing code	**Functions**	**Example**
*8*n# [d]	Priority call (DMR: highest, MPT: high) to radio **n**	*8*23#
*8*g# [d]	Priority conference call (DMR: highest, MPT: high) to group **g**	*8*923#
*81*n# [d]	Priority call (DMR: highest, MPT: high) to radio **n**	*81*23#
*81*g# [d]	Priority conference call (DMR: highest, MPT: high) to group **g**	*81*923#
*82*n# [d]	Priority call (DMR: high) to radio **n**	*82*23#
*82*g# [d]	Priority conference call (DMR: high) to group **g**	*82*923#
*83*n# [d]	Priority call (DMR: medium) to radio **n**	*83*23#
*83*g# [d]	Priority conference call (DMR: medium) to group **g**	*83*923#
*9*n#	Emergency call to radio **n**	*9*23#
*9*g#	Emergency conference call to group **g**	*9*923#
**n# [a]	Abbreviated dialed codes (1-49)	**3#

[d]DMR has three priority levels and MPT has one priority level. *8 and *81 are interchangeable. Dialing *82 or*83 in MPT mode has the same effect as dialing *8 or*81.

[a]MPT only

7 Using the Address Book

The radio may have a standard address book (with pre-programmed entries) and a personal address book which allows you to maintain your own entries.

The address book only shows entries that are relevant to the radio's current mode of operation (conventional or trunked), and network.

The standard address book can be grouped by roles, but it can also be used to display all entries.

The standard address book can also contain entries that are hidden to you. These hidden entries are used to identify incoming calls from known sources.

7.1 Opening the Address Book

To open the address book:

1. Press **Menu** and select **Address book**.

   > This depends on the way the radio is programmed. The radio may be programmed to use the left selection key (**Ad. book**) or a function key to open the address book.

   When opening the address book for the first time after turning on the radio or changing the mode, the default address book must be selected.

   The radio will now have the selected address book as default.

7.2 Changing the Default Address Book

To change the default address book:

1. Press **Menu** and select **Address book**.
   - The standard or personal address book appears.
2. Press **Back**.
   - The default address book can now be selected.

7.3 Navigating the Address Book

In the standard address book, each entry is assigned to a role. Roles are used to categorize entries into logical groups. When opening the standard address book, all entries can be viewed or filtered by a particular role.

The personal address book always lists all entries.

1. Press **Menu** and select **Address book**.
   - The standard address book has two options:
     - view all entries
     - view the entries of a role.
2. Scroll to the desired role, and press **Select**.
   - All entries associated with the selected role will be displayed.
3. Scroll to the desired entry.
4. Press the PTT button to make a call.
5. You can also press **Options** to:
   - call the address or select the channel (same as pressing PTT button).
   - send a status, text message, emergency or priority call (depending on the type of entry).
   - view the entry details.
   - add an entry of the standard address book to your personal address book.

     If the number of an incoming or dialed call occurs in both the standard and the personal address books, the radio will display the name defined in the personal address book.

     When adding an entry from the standard address book to the personal address, the role is added as well.
   - add, edit or delete entries in the personal address book, including adding the last call.

7.4 Filtering Address Book Lists

This method can be used to select a role or entry if its name is known.

- In the roles or entries list, start typing the name (ex: for ‘Jonathan’ press **5** (J) and **6** (o)) until the desired role or entry appears.

7.5 Maintaining Personal Address Book Entries

The personal address book allows you to:

- create, edit and delete entries.
- add the last caller.
- copy entries from the standard address book.

The personal address book can contain up to 100 entries.

New address book entries are only relevant to the radio's current mode of operation (conventional or trunked) and network.

7.5.1 Creating, editing and deleting personal address book entries

To edit or delete entries, select the corresponding option.

To manually create a personal address book entry:

1. Press **Menu** and select **Address book**.

   If the standard address book appears, press **Back** and switch to the personal address book.
2. Press **Options** and select **New entry**.
3. Enter the name:
   - Press **Clear** to correct any mistakes.
   - Press **Options** and select **Next**.
4. In conventional mode, select the **Entry type** > **Select**.
5. Enter the number or channel.
6. Press **Options** and select **Save**.

7.5.2 Adding the last caller to the personal address book

If an individual call or a text message is received, the caller can be added to the personal address book:

1. Press **Menu** and select **Address book**.

   If the standard address book appears, press **Back** and switch to the personal address book.

2. Press **Options** and select **Add last call**.

   Add last call only appears if an individual call or a text message was received (all modes except analog conventional).

3. Enter or edit the name:
   - Press **Clear** to correct any mistakes.
   - Press **Options** and select **Next**.
4. In trunked mode, the number of the last call appears on the display.
   - If the number needs to be edited, press **Change**. Otherwise, press **Options** and select **Save**.
5. In conventional mode, select **Entry details**. The last caller ID will appear on the screen
   - If the details need to be edited, press **Change**. Otherwise, press **Options** and select **Save**.

7.5.3 Copying a standard address book entry to the personal address book

To copy a standard address book entry to the personal address book:

1. Press **Menu** and select **Address book**.

   If the personal address book appears, press **Back** and switch to the standard address book.

2. Select a standard address book entry (from a role or all entries) and press **Select**.

   The entry types workgroup and Status Update cannot be copied to the personal address book.

3. Press **Options** and select **Add to personal**.

   In the personal address book, the new entry can now be changed to make corrections to the name or number.

   If the number of an incoming or dialed call occurs in both the standard and the personal address books, the radio will display the name defined in the personal address book.

   If the entry from the standard address book has a role assigned, the role will also be copied to the personal address book. In this case the personal address book will display the role in a second line.

8 Location Services

This section explains how to use the location services that may be available on the radio.

> This feature is controlled by a SFE and may not be available with the radio by default.

8.1 About Location Information

The radio can display location information such as latitude and longitude, true course, speed, and coordinated universal time. The radio can also display universal transverse mercator (UTM) information such as the UTM zone, and northing and easting coordinates.

The radio can also be set up to send and log location information.

8.2 About Location Statuses

On the **Own location** screen, the following location status information appears on the display:

- **Trk/tracking**: the receiver is displaying up-to-date satellite information.
- **stored**: the receiver is having trouble connecting to satellites and the radio is displaying stored information that may not be current.
- **no cnx:** the radio has lost serial communications with the GNSS receiver.

The information displayed can be sent to other radios on the network by pressing the **Share** selection key.

8.3 Viewing Location Information

The radio can be programmed to show various displays. Initially, location reporting is set to all zeros until the first satellite fix. Latitude and longitude formats depend on the configuration. In certain situations, the radio may automatically exit the location display.

Location information is displayed if it is available and configured to be visible. The images below show some of the available options.

1. Press **Menu** and select **Location Svs** > **Own location**.
2. Use the scroll keys to scroll though the **Own location** displays.

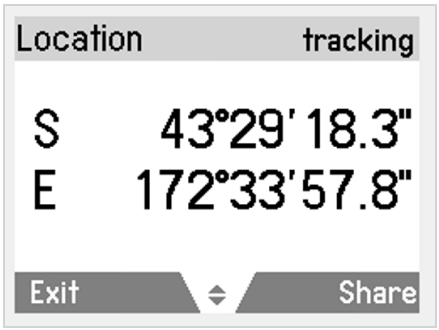


Figure 8.1 Latitude and longitude in degrees, minutes and decimal seconds

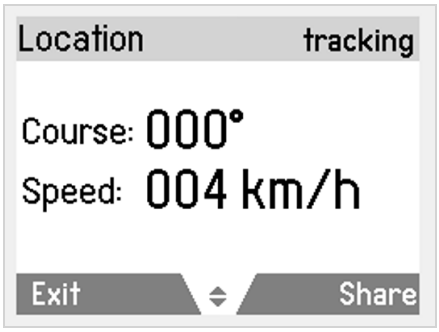


Figure 8.2 The radio's current course and speed

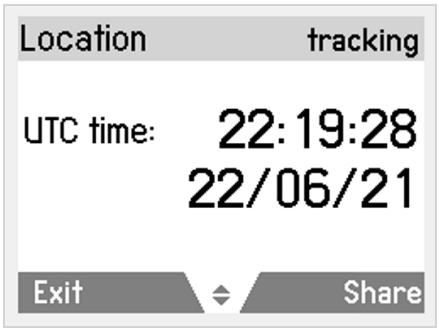


Figure 8.3 UTC: Coordinated Universal Time, 24-hour clock

3. Press **Exit** to exit the location display.

9 Loneworker Monitoring

Loneworker monitoring is a safety feature for people who work alone. Loneworker monitoring can be programmed to be on or off at all times, or you can switch it on and off using a programmed function key or the menu.

A loneworker alarm is activated if, for a set period of time, the radio is tilted beyond a certain angle (man down), remains stationary, or shows no user activity.

The radio may be programmed to respond to a combination of these events.

When the predetermined time has expired, an audible warning is given and you will have a predetermined time to respond to the warning.

If you are unable to respond, the radio either enters emergency mode or (in digital mode) sends a status update to a predetermined person or workgroup.

9.1 Activating Loneworker Monitoring

1. Press **Menu** and select **Radio Settings** > **Extra features** > **Loneworker**.
2. In the **Loneworker** menu, select **On**.

   A vertical scroll bar on the right-hand side of the display indicates the remaining activity timeout. To reset the count-down bar, press any key.

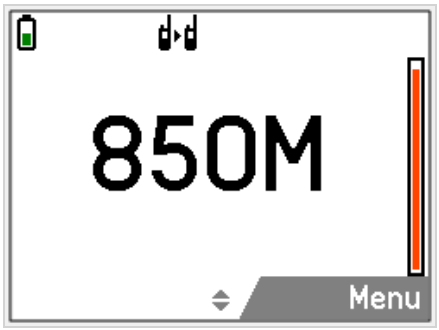


Figure 9.1 Radio display when loneworker is activated

9.2 Responding to a Loneworker Alarm

When the radio beeps, you need to respond to confirm your safety. The message **Loneworker awaiting** and a horizontal scroll bar appear, showing the remaining time until an emergency action is triggered (see Figure 9.2 below).

Figure 9.2 Loneworker awaiting message

There are ways to respond to the Loneworker awaiting message:

- press any key
- move the radio
- if using the man down feature, restore the radio to an upright position

If no action is taken, the radio will activate emergency mode or send a status update in digital mode.

10 Encryption

This section describes how to use encryption to make your communications completely private.

> This feature is controlled by a software license (SFE) and may not be available with your radio.

10.1 About Encryption

The encryption feature is available for digital and dual-mode networks only.

To make communications with other users on your system completely private, your radio may be able to encrypt outgoing calls, using a confidential encryption key. The radio receiving your call must have the same encryption key installed before it can hear your encrypted call.

10.2 Encrypting Calls

Your radio may be able to turn encryption on and off. While encryption is on, your outgoing calls are encrypted on networks programmed for encryption, and the encryption icon remains in the display.

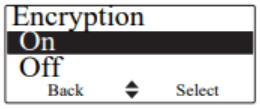
This setting only affects outgoing calls. Incoming calls will still be decoded by your radio so long as the key required to decode the call is stored in your radio.

Turning encryption on or off

1. Press **Menu** and select **Security** > **Encryption**.

   Depending on how your radio is programmed, you may be able to press a function key to turn encryption on and off.

2. Scroll to **On** (or **Off**) and press **Select**.

   The message **Encryption activated** (or **deactivated**) appears in the display.

10.3 Making an Encrypted Call

1. Select the network you wish to operate on.
2. Check that encryption is on (is showing in the display).

3. Press and hold the PTT button to transmit.

   While you are transmitting, the LED glows red and appears in the display.

If you transmit or receive an unencrypted call on an encrypted network, the disappears and your radio may be programmed to issue an audible alert.

10.4 Receiving an Encrypted Call

When you receive an encrypted call, mute is temporarily disabled and you can hear clear speech, so long as the key required to decode the call is stored in your radio.

If the key required to decode the call is not stored in your radio, then your radio remains muted and the message **Key fail** appears.

If you transmit or receive an unencrypted call on an encrypted network, the disappears and your radio may be programmed to issue an audible alert.

10.5 Removing Encryption Keys from the Radio

It may be possible to delete encryption keys from your radio.

Warning When emergency mode is activated, or when your radio is immobilized (inhibited), your encryption keys may be automatically deleted from your radio.

If you attempt to transmit with encryption turned on but don't have any keys loaded, the message **Key fail** appears.

10.5.1 Deleting an encryption key

1. Press **Menu** and select **Security > Zeroize key**.
2. Scroll to the key you want and press **Select**.

   The message **Single key zeroized** briefly appears in the display.

10.5.2 Deleting all encryption keys

1. Press **Menu** and select **Security > Zeroize all**.

   The message **Zeroize all keys?** appears in the display.
2. Press **OK** and the message **All keys zeroized** briefly appears in the display and the encryption icon no longer appears.

11 Customizing Radio Settings

These features are common to radios operating in either trunked or conventional mode.

11.1 Extending Battery Life on Shift

The radio's power consumption can be reduced (thereby extending the life of the battery during a shift) in the following ways:

- transmit at low power (if the radio is not already configured to do this)
- ensure that backlighting automatically turns off when no radio activity is detected (see Turning on Backlighting on page 109)

11.1.1 Turning low power transmit on or off

If the radio is being used in conditions where signal strength is high, the battery's shift life can be extended by transmitting at low power.

When low power transmit is turned on,**L or L** appears in the display and calls are made at low power rather than at the programmed power setting.

Using the main menu

1. Press **Menu** and select **Radio settings** > **Functions** > **Low power tx**.
2. Scroll to **On** (or **Off**) and press **Select**.

   The current setting is highlighted.

   The message **Low power tx activated** (or **deactivated**) appears on the display.

Using a function key

1. Press the function key programmed for low-power transmit to transmit at low power on your current channel and any channels subsequently used.

   The message **Low power tx activated** appears briefly, and the low-power transmit icon **L** or **L** appears on the display.

   When the radio is not transmitting, the letter 'L' is displayed. When the radio is transmitting, a single arrow appears beside the 'L'.
2. Press the low-power transmit function key again to turn low-power transmit off, and the message **Low power tx deactivated** appears on the display.

11.2 Changing the Color Mode

The display colors can be changed to suit the environment. For example, Red/Black is suited for night display while Color - Dark is ideal for bright environments. The default setting is Color - Light.

11.2.1 Changing the color mode:

1. Press **Menu** and select **Radio settings** > **Display settings** > **Color mode**.
2. Scroll to the desired mode and press **Select**.

Table 11.1 below features the available color modes.

Table 11.1 Color modes

Mode	Description
Color - Dark	Dark background, light text
Color - Light	Default setting. Light background, dark text. Best suited for day time display
Black/White	White background, black text
White/Black	Black background, white text
Red/Black	Black background, red text. Best suited for night display

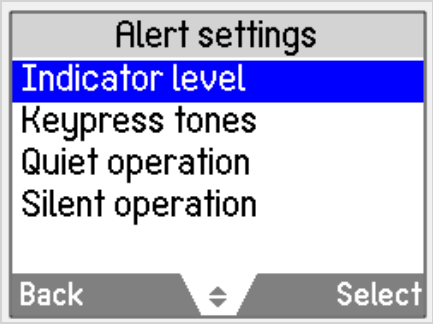
11.3 Changing the Volume of all Audible Indicators

You can set the volume of all the audible indicators to either high or low. Audible tones include incoming call tones, warning tones and confirmation tones.

11.3.1 Changing the volume of the radio's audible tones

Depending on how the radio is programmed, you are able to press a function key to change the level of indicators.

1. Press **Menu** and select **Radio settings > Alert settings > Indicator level**.



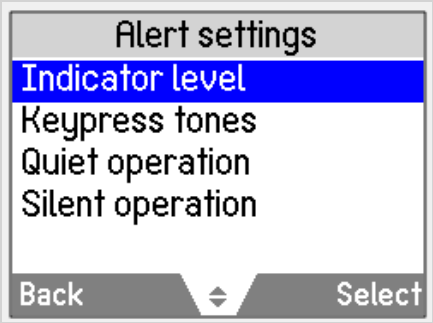
2. Scroll to **High** (or **Low**) and press **Select**.

11.4 Changing the Volume of Keypress Tones

Whenever you press the radio keys, the keypress tones make an audible indication as to whether or not your action is allowed. A short, medium-pitched beep indicates that an action is allowed. A long, low-pitched beep indicates that the action is not allowed.

11.4.1 Changing the volume of the radio's keypress tones

1. Press **Menu** and select **Radio settings> Alert settings > Keypress tones**.



2. Scroll to either **Off**, **Low** or **High** and press **Select**.

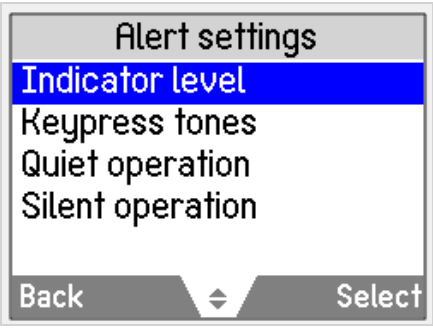
> Depending on how the radio is programmed, you may be able to press a function key to toggle keypress tones on and off, and to change between high and low volume.

11.5 Changing to Quiet Operation

When quiet operation is on, keypress tones and confirmation tones are turned off. Incoming call tones, signaling tones and warning tones all remain audible.

11.5.1 Turning quiet operation on or off

1. Press **Menu** and select **Radio settings > Alert settings > Quiet operation**.



2. Scroll to **On** (or **Off**) and press **Select**.

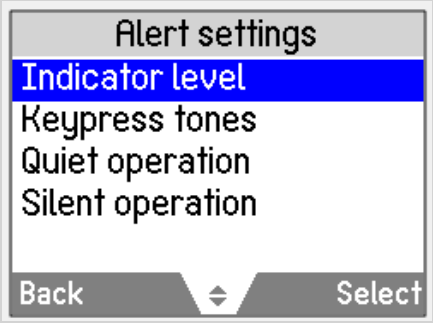
> Depending on how the radio is programmed, you may be able to press a function key to toggle quiet operation on and off.

11.6 Changing to Silent Operation

When silent operation is on, all the radio's audible tones are turned off, and only channel traffic can be heard.

11.6.1 Turning silent operation on or off

1. Press **Menu** and select **Radio settings** > **Alert settings** > **Silent operation**.



2. In the **Silent operation** menu, scroll to either **On** or **Off** and press **Select**.

While silent operation is on, the icon appears in the display.

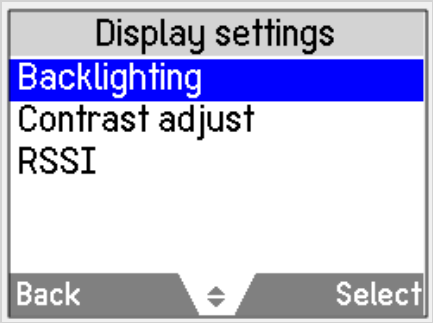
> Depending on how the radio is programmed, you may be able to press a function key to toggle silent operation on and off.

11.7 Turning on Backlighting

If configured, whenever a key is pressed or a call is received, the keypad and display will light up automatically. Backlighting only remains on for a few seconds, unless there is further radio activity. When backlighting is turned on, it remains on until the setting is changed to **Off**, regardless of radio activity.

11.7.1 Turning backlighting on or off

1. Press **Menu** and select **Radio settings > Display settings > Backlighting**.



2. Scroll to either **On** or **Off** and press **Select**.

Depending on how the radio is programmed, you may be able to press a function key to toggle backlighting on and off, or between 'with activity' and 'on'.

11.7.2 Turning backlighting on momentarily

You may be able to use a programmed function key to turn backlighting on momentarily, as long as backlighting has been configured to 'with activity'.

- Press the assigned function key to turn backlighting on. Backlighting remains on for a few seconds, and then turns off.

Alternatively, the function key may be programmed so that:

- a short key press turns backlighting on momentarily, and
- a long key press turns backlighting on, and it remains on until there is a further long key press.

11.8 Adjusting the Display Orientation

11.8.1 Rotating the display

1. Press **Menu** and select **Radio settings > Display settings > Rotate display**.
2. Scroll to **On** (or **Off**) and press **Select**.

Caution When the display is rotated, everything appears upside down.

Depending on how the radio is programmed, you may be able to press a function key to toggle rotate display on and off.

12 Troubleshooting

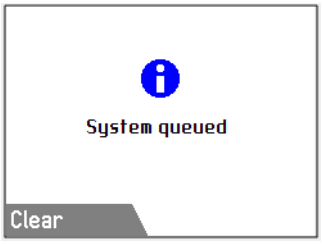
This section describes troubleshooting procedures and basic maintenance.

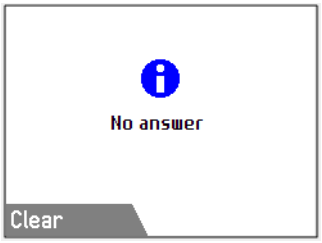
If you are experiencing difficulty operating the radio, you may find the following sections helpful. Consult the radio provider for assistance, if necessary.

12.1 Unconnected Calls

Table 12.1 below explains the way a radio behaves if a call is not connected.

Table 12.1 Radio behavior of unconnected calls

Radio behavior	Explanation
	The system is too busy to process your workgroup or individual call.
 The radio sounds three short beeps	The system is now available to process your workgroup or individual call.
 The radio sounds five beeps, followed by a repeating double beep	You have selected a workgroup that does not currently exist on the system. The display shows that service is lost, and no longer appears.

Radio behavior	Explanation
 The radio sounds two short beeps	You have attempted to make an individual call to a radio that does not currently exist on the system.
 The radio sounds two short beeps	You have attempted to make an individual call to a radio that has never existed on the system.
 The radio sounds two short beeps	You have attempted to make an individual or phone call, but you are not authorized to do this. Your individual or phone call has been rejected or is unanswered.

12.2 The Radio won't Turn On

If the radio LED doesn’t light up red briefly when the radio is turned on, power is likely not reaching the radio. Check one or more of the following:

- Is the battery firmly attached to the radio?
- Is the battery sufficiently charged?
- Is the battery charger working properly?

If all appears to be in order, but the radio still fails to operate properly, contact the radio provider for further assistance.

12.3 Identifying the Radio's Audible Tones

The radio’s audible tones can help you identify a potential problem. See Understanding the Radio Indicators on page 34.

12.4 Viewing Radio Information

Use the **Radio info** menu to view information such as the hardware and firmware version of the radio, function key settings, the radio serial number, and various radio identities.

1. Press **Menu** and select **Radio settings > Radio info**.
2. Scroll to the radio information you want to view and press **Select**.

12.4.1 Checking the version of the radio using the PTT button

1. Turn off the radio.
2. Hold down the PTT button and turn on the radio.

The firmware and hardware versions and the radio's frequency band is briefly displayed.

12.5 General Care

The only radio maintenance required is ensuring the battery has sufficient charge and that the antenna and battery are not damaged or dirty.

To prevent permanent damage to the radio case, do not allow the radio to come into contact with detergents, alcohol, aerosol sprays, or petroleum-based products.

12.5.1 Cleaning the radio

Caution - **Risk of permanent damage to the radio housing!** Do not clean the radio with solvents or alcohol based products. This includes (but is not limited to) ethylene glycol (antifreeze), propanone (acetone), ethanol (methylated spirits), isopropyl alcohol, and pool chlorine (calcium hypochlorite).

1. Use a lint-free, dry cloth to remove surface dirt, oil, or grease.
2. Use an alcohol-free, antibacterial wipe to disinfect the radio.
3. Use a water-dampened, lint-free, microfibre cloth to remove any remaining dirt.
4. If the damp cloth is ineffective, dilute a (5 to 10%) solution of alcohol-free dishwashing liquid in clean water, on a cloth, to remove remaining dirt.
5. If the dish-washing liquid solution is ineffective, use a solution of one part household bleach to two parts clean water, on a cloth, to wipe away remaining dirt.

   Caution Always use protective equipment (gloves, face mask) when handling bleach.

   Caution Risk of internal damage! To avoid damaging the inside of the radio, do not allow excess liquid to enter the radio body (speaker grille, keypad, buttons, and connectors).

12.5.2 Cleaning the contacts of the battery

Do not scratch or scrape the contacts of the battery. If necessary, wipe the contacts of the battery with a dry, lint-free cloth to remove any dirt, oil or grease.

12.6 Changing the Radio ID

The radio ID can be changed if the current ID is not correct.

1. Press **Menu** and select **Radio settings** > **Radio info** > **Radio ID**.
2. Press the right selection key.
3. If **Enter PIN** appears in the display, enter the correct sequence of keys (known as the technician access PIN).
4. Press **Clear** to delete the current ID, and use a combination of the scroll keys and alpha-numeric keys to enter a new ID.
5. Press **Options** > **Store** to save the new ID.

12.7 Running Diagnostic Tests

Diagnostics tests are available via the main menu.

This feature is controlled by a SFE and may not be available with the radio by default.

1. Press **Menu** and select **Diagnostics**.
2. Scroll to the name of the required test and press **Select**.

   The radio may transmit when you select some tests. Make sure you have a suitable load or antenna connected before running diagnostics tests.

Table 12.2 Diagnostic tests

Test	Description
Display freq	Displays the transmit and receive frequencies of the current channel. Also displays the channel status (CNV, TCH, CCH) and the mode (ANA, PH1 or PH2). If the radio is scanning, this information may not be available.
Display test	Displays a test screen of all colors that appear on the screen. Useful for identifying dead pixels.
GPS NMEA data	Displays the last raw data received from the radio's internal GPS. The radio will display all supported sentence formats received (for example $GPRMC and $GPGGA sentences). Note that the display will not automatically refresh when new data is received.
RSSI	Displays the received signal strength (RSSI) of the current channel.
Site display	Shows the channel number, signal strength and system-identity code (SYSCODE) for the currently registered trunked site.
Site measure	Lists the current trunked site (indicated with an asterisk) and up to six detected adjacent sites, with received signal strength (RSSI) information.
Tx Tone Cal	Transmits a 1011Hz or 1031Hz tone on the current channel with a bit error rate (BER) of 5%.

13 Simplified Declaration of Conformity

EN Hereby, Tait International Limited declares that the radio equipment type TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A is in compliance with Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

BG С настоящото Tait International Limited декларира, че този тип радиосъоръжение TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A е в съответствие с Директива 2014/53/ЕС. Цялостният текст на ЕС декларацията за съответствие може да се намери на следния интернет адрес:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

ES Por la presente, Tait International Limited declara que el tipo de equipo radioeléctrico TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A es conforme con la Directiva 2014/53/UE. El texto completo de la declaración UE de conformidad está disponible en la dirección Internet siguiente:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

CS Tímto Tait International Limited prohlašuje, že typ rádiového zařízení TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A je v souladu se směrnicí 2014/53/EU. Úplné znění EU prohlášení o shodě je k dispozici na této internetové adrese:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

DA Hermed erklærer Tait International Limited, at radioudstyrstypen TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A er i overensstemmelse med direktiv 2014/53/EU. EU-overensstemmelses-erklæringens fulde tekst kan findes på følgende internetadresse:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

DE Hiermit erklärt Tait International Limited, dass der Funkanlagentyp TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A der Richtlinie 2014/53/EU entspricht. Der vollständige Text der EU-Konformitätserklärung ist unter der folgenden Internetadresse verfügbar:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

ET Käesolevaga deklareerib Tait TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A vastab direktiivi 2014/53/EL nõuetele. ELi vastavusdeklaratsiooni täielik tekst on kättesaadav järgmisel internetiaadressil:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

EL Με την παρούσα ο/η Tait International Limited, δηλώνει ότι ο ραδιοεξοπλισμός TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A πληροί την οδηγία 2014/53/ΕΕ. Το πλήρες κείμενο της δήλωσης συμμόρφωσης ΕΕ διατίθεται στην ακόλουθη ιστοσελίδα στο διαδίκτυο:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

FR Le soussigné Tait International Limited, déclare que l'équipement radioélectrique du type TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A est conforme à la directive 2014/53/UE. Le texte complet de la déclaration UE de conformité est disponible à l'adresse internet suivante:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

HR Tait International Limited ovime izjavljuje da je radijska oprema tipa TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A u skladu s Direktivom 2014/53/EU. Cjeloviti tekst EU izjave o sukladnosti dostupan je na sljedećoj internetskoj adresi: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

IT Il fabbricante, Tait International Limited, dichiara che il tipo di apparecchiatura radio TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A è conforme alla direttiva 2014/53/UE. Il testo completo della dichiarazione di conformità UE è disponibile al seguente indirizzo Internet:
https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

LV Ar šo Tait International Limited deklarē, ka radioiekārta TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A atbilst Direktīvai 2014/53/ES. Pilns ES atbilstības deklarācijas teksts ir pieejams šādā interneta vietnē:

https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

LT Aš, Tait International Limited, patvirtinu, kad radijo įrenginių tipas TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A atitinka Direktyvą 2014/53/ES. Visas ES atitikties deklaracijos tekstas prieinamas šiuo interneto adresu: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

HU Tait International Limited igazolja, hogy a TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A típusú rádióberendezés megfelel a 2014/53/EU irányelvnek. Az EU-megfelelőségi nyilatkozat teljes szövege elérhető a következő internetes címen: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

MT B'dan, Tait International Limited, niddikjara li dan it-tip ta' tagħmir tar-radju TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A huwa konformi mad-Direttiva 2014/53/UE. It-test kollu tad-dikjarazzjoni ta' konformità tal-UE huwa disponibbli f'dan l-indirizz tal-Internet li ġej: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

NL Hierbij verklaar ik, Tait International Limited, dat het type radioapparatuur TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A conform is met Richtlijn 2014/53/EU. De volledige tekst van de EU-conformiteitsverklaring kan worden geraadpleegd op het volgende internetadres: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

PL Tait International Limited niniejszym oświadcza, że typ urządzenia radiowego TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A jest zgodny z dyrektywą 2014/53/UE. Pełny tekst deklaracji zgodności UE jest dostępny pod następującym adresem internetowym: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

PT O(a) abaixo assinado(a) Tait International Limited declara que o presente tipo de equipamento de rádio TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A está em conformidade com a Diretiva 2014/53/UE. O texto integral da declaração de conformidade está disponível no seguinte endereço de Internet: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

RO Prin prezenta, Tait International Limited declară că tipul de echipamente radio TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A este în conformitate cu Directiva 2014/53/UE. Textul integral al declarației UE de conformitate este disponibil la următoarea adresă internet: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

SK Tait International Limited týmto vyhlasuje, že rádiové zariadenie typu TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A je v súlade so smernicou 2014/53/EÚ. Úplné EÚ vyhlásenie o zhode je k dispozícii na tejto internetovej adrese: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

SL Tait International Limited potrjuje, da je tip radijske opreme TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A skladen z Direktivo 2014/53/EU. Celotno besedilo izjave EU o skladnosti je na voljo na naslednjem spletnem naslovu: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

FI Tait International Limited vakuuttaa, että radiolaitetyyppi TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A on direktiivin 2014/53/EU mukainen. EU-vaatimusten-mukaisuus-vakuutuksen täysimittainen teksti on saatavilla seuraavassa internetosoitteessa: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity

SV Härmed försäkrar Tait International Limited att denna typ av radioutrustning TPAB1A, TPAH5A, TPAH6A, TPCB1A, TPCC0A, TPCH5A, TPCH6A, TPDB1A, TPDB1B, TPDB1C, TPDB1D, TPDC0A, TPDC0D, TPDH5A, TPDH5D, TPDH7A, TPDH7D, TPDHBB, TPDHKC, TPDH7C, TUFM2D, TUFM3A, TPGB1A, TPGHKA, TPGH7A & TPHN0A överensstämmer med direktiv 2014/53/EU. Den fullständiga texten till EU-försäkran om överensstämmelse finns på följande webbadress: https://www.taitcommunications.com/our-resources/compliance/declarations-of-conformity