

TM8235 mobile User's Guide





Directive 1999/5/EC Declaration of Conformity

da Dansk

Undertegnede Tait Electronics Limited erklærer herved, at følgende udstyr TMAA4C, TMAB1C, TMAH5C & TMAC0C overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.

Se endvidere: <http://eudocs.taitworld.com/>

de Deutsch

Hiermit erkläre Tait Electronics Limited die Übereinstimmung der Geräte TMAA4C, TMAB1C, TMAH5C & TMAC0C mit den grundlegenden Anforderungen und den anderen relevanten Festlegungen der Richtlinie 1999/5/EG.

Siehe auch: <http://eudocs.taitworld.com/>

el Ελληνικός

Με την παρουσία Tait Electronics Limited δηλώνει ότι TMAA4C, TMAB1C, TMAH5C & TMAC0C συμμορφώνεται προς τις ουσιαστικές απαιτήσεις και τις λοιπές σχετικές διατάξεις της οδηγίας 1999/5/ΕΚ. βλέπε και: <http://eudocs.taitworld.com/>

en English

Tait Electronics Limited declares that this TMAA4C, TMAB1C, TMAH5C & TMAC0C complies with the essential requirements and other relevant provisions of Directive 1999/5/EC.

See also: <http://eudocs.taitworld.com/>

es Español

Por medio de la presente Tait Electronics Limited declara que el TMAA4C, TMAB1C, TMAH5C & TMAC0C cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.

Vea también: <http://eudocs.taitworld.com/>

fi Suomi

Tait Electronics Limited vakuuttaa täten että TMAA4C, TMAB1C, TMAH5C & TMAC0C

tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

Katso: <http://eudocs.taitworld.com/>

fr Français

Par la présente, Tait Electronics Limited déclare que l'appareil TMAA4C, TMAB1C, TMAH5C & TMAC0C est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.

Voir aussi: <http://eudocs.taitworld.com/>

it Italiano

Con la presente Tait Electronics Limited dichiara che questo TMAA4C, TMAB1C, TMAH5C & TMAC0C è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.

Vedi anche: <http://eudocs.taitworld.com/>

nl Nederlands

Hierbij verklaart Tait Electronics Limited dat het toestel TMAA4C, TMAB1C, TMAH5C & TMAC0C in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Zie ook: <http://eudocs.taitworld.com/>

pt Português

Tait Electronics Limited declara que este TMAA4C, TMAB1C, TMAH5C & TMAC0C está conforme com os requisitos essenciais e outras provisões da Directiva 1999/5/CE.

Veja também: <http://eudocs.taitworld.com/>

sv Svensk

Härmed intygar Tait Electronics Limited att denna TMAA4C, TMAB1C, TMAH5C & TMAC0C står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.

Se även: <http://eudocs.taitworld.com/>

To our European customers:



Tait Electronics Limited is an environmentally responsible company which supports waste minimization and material recovery. The European Union's Waste Electrical and Electronic Equipment Directive requires that this product be disposed of separately from the general waste stream when its service life is over. Please be environmentally responsible and dispose through the original supplier, your local municipal waste "separate collection" service, or contact Tait Electronics Limited.

Safety and compliance warnings

Radio frequency exposure information

For your own safety and to ensure you comply with the Federal Communication Commission's (FCC) radio frequency (RF) exposure guidelines, please read the following information before using this radio.

Using this radio

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

It is also important that you:

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

Controlling your exposure to RF energy

This radio emits 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.

- While you are transmitting (talking or sending data) on the radio, you must ensure that there is always a distance of 0.9m (35 inches) between people and the antenna. This is the minimum safe distance.
- Use the radio only with Tait-approved antennas and attachments, and make only authorized modifications to the antenna otherwise you could damage the radio and violate FCC regulations.



Website: For more information on what RF energy is and how to control your exposure to it, go to <http://www.fcc.gov/oet/rfsafety/rf-faqs.html>.

Compliance with RF energy exposure standards

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

- United States Federal Communications Commission, Code of Federal Regulations; 47 CFR 1.1307, 1.1310 and 2.1091
- 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.

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

Radio frequency emissions limits in the USA

Part 15 of the FCC Rules imposes RF emission limits on electronic equipment to prevent interference to reception of broadcast services.

This device complies with Part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

Note: Changes or modifications to this device that are not expressly approved by Tait Electronics Limited may make its use illegal.

Health, safety and electromagnetic compatibility in Europe

In the European Community, radio and telecommunications equipment is regulated by Directive 1999/5/EC, also known as the Radio and Telecommunications Terminal Equipment (R&TTE) directive. The requirements of this directive include protection of health and safety of users, as well as electromagnetic compatibility.

Intended purpose of product

This product is an FM radio transceiver. Its intended purpose is for radio communication in Private Mobile Radio (PMR) services or Public Access Mobile Radio (PAMR) services.

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

Declaration of conformity

Brief Declarations of Conformity appear on [page 1](#).



Website: To download the formal declaration of conformity, go to <http://eudocs.taitworld.com/>.

A signed and dated paper copy of the declaration of conformity can be obtained from Tait Europe Limited.

Electromagnetic compatibility in European vehicles

In the European Community, radio equipment fitted to automotive vehicles is regulated by Directive 72/245/EEC, as amended by 95/54/EC. The requirements of this directive

cover the electromagnetic compatibility of electrical or electronic equipment fitted to automotive vehicles.

Note: To meet the requirements of Directive 72/245/EEC (as amended by 95/54/EC) installation of this product in a vehicle must be performed according to the instructions provided, and any guidelines of the vehicle manufacturer.

EN 60950 requirements (25 watt radios)

This radio complies with the European Union standard EN 60950 when operated up to the rated 33% duty cycle of two minutes transmit and four minutes receive, and with ambient temperatures of 30°C or lower.



Caution: Operation outside these limits may cause the external temperature of the radio to rise higher than this standard permits.

Safe radio operation



Warning: Observe the following safe operating practices:

- Switch the radio off at petrol filling stations or near flammable liquids or gases.
- Switch the radio off in the vicinity of explosive devices and blasting zones.
- 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 regulations in your area.

High radio surface temperatures

The bottom surface of the radio and the heatsink fins can become hot during prolonged operation. Do not touch these parts of the radio.

Radio protection when charging the vehicle battery

Always remove the fuses from the radio power cable before charging the vehicle battery, connecting a second battery or using power from another vehicle (e.g. when jump-starting the vehicle).

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About this guide

This user's guide provides information about your TM8235 mobile radio. If you need further assistance or your radio does not operate as you expect, contact your radio provider.



Website: For information about how to install your TM8200 radio, go to <http://support.taitworld.com/>.

Safety warnings used in this guide

Within this guide, the following conventions are used to alert you to important safety information:



Warning: There is a potential risk of death or serious injury.



Caution: There is the risk of minor or moderate injury to people.

Caution: "Caution" is used without the safety alert symbol when there is a risk of equipment damage or malfunction.

Feedback about this guide

If you have any enquiries regarding this guide, or any comments, suggestions and notifications of errors, please contact Technical Support at <http://support@taitworld.com>.

Changes to this guide

In the interests of improving the performance, reliability or servicing of the equipment, Tait Electronics Limited reserves the right to update both the equipment or this user's guide, without prior notice.



Website: For contact details and technical assistance, go to <http://www.taitworld.com/>, and <http://support.taitworld.com/>.

Copyright information

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Disclaimer

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

Getting started

This section provides a brief description of your radio's controls and indicators.

The following topics are covered in this section:

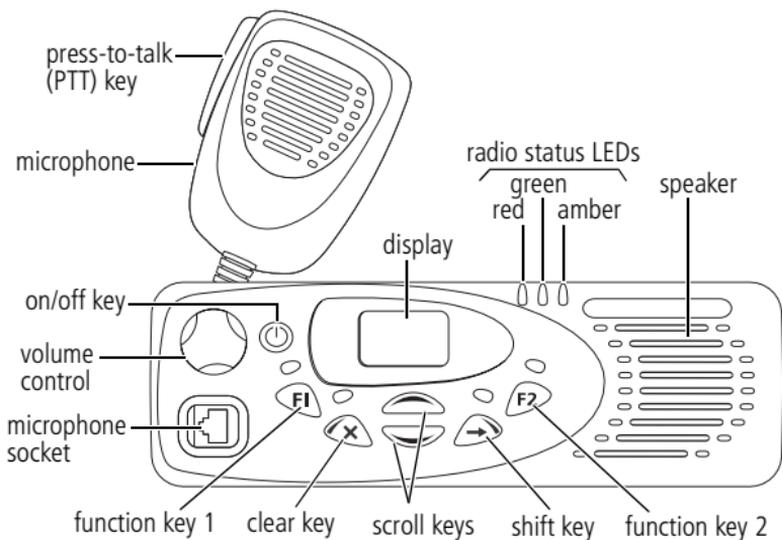
- [about the radio controls](#)
- [understanding the radio indicators](#)
- [about scrolling lists](#).

About the radio controls

The radio controls are the PTT key, volume control, on/off key, scroll keys, clear and shift keys, and function keys. Some keys may have functions assigned to both short and long key presses:

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

The radio controls and their functions are summarized in the following diagram.

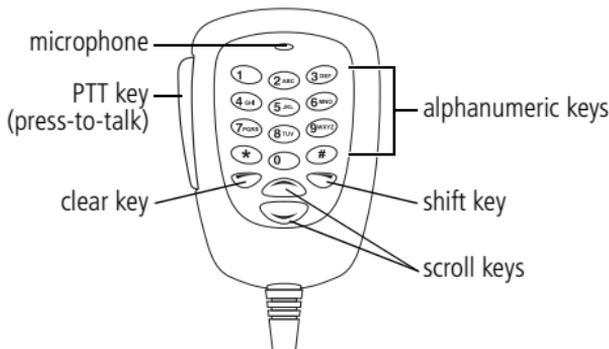


Symbol	Name	Function
	PTT key	Press to call the number on the display, press and hold to transmit, and release to listen
	Volume control	Rotate to change the speaker volume
	On/off key	Turn the radio on or off with a long press
	Scroll keys	Press to scroll up or down numbers on the display
Tip: If you press and hold the scroll keys, the scroll speed increases.		
	Clear key	Press to clear down the currently active call, clear certain numbers on the display, or cancel the current operation
	Shift key	Press to begin dialling a single digit using the scroll keys, press again to select the next digit on the display
	Function keys 1	Function keys with programmed options and 2
	and 2	

About the keypad microphone

Your radio may have a keypad microphone installed. The keypad microphone has a PTT key as well as twelve alphanumeric keys, two scroll keys, and shift and clear keys.

The PTT key, and the scroll, clear and shift keys work in the same way as those on the control head (see ["About the radio controls" on page 13](#)).



The alphanumeric keys can be used in trunked mode to directly dial any number you can dial using the shift key and scroll keys. In addition, the alphanumeric keys can be used to dial special MPT functions as summarized in the following table. The availability of these functions is dependant on the way your radio is programmed and the way your network operates.

Note: In the following examples, the final # may be replaced by a short press of the PTT key.

Dialling code	Call to
#	Accept an incoming call
*#	Clear call or displayed item, or decline an incoming call
*0#	Request base dispatcher to call you back
#0#	Cancel request

Dialling code	Call to
#41#	Cancel call diversion
*49#	Do not disturb
#49#	Cancel do not disturb
#50#	Resume normal channel hunting (site-select diagnostic function, enabled during programming)
**n#	Abbreviated dialled codes (1-9)

Understanding the radio indicators

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

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

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

Clear, Shift, and Function Key LED indicators

LED	Meaning
clear key LED	Glowing: the clear key can be used, for example, to clear down a call, clear the number on the display, or cancel the current operation
shift key LED	Glowing: the shift key can be used to select the next digit while dialling using the shift key and scroll keys
function key 1 and 2 LEDs	Glowing: the function assigned to the function key is currently on

Status LED indicators

LED	Meaning
red status LED (transmit)	Glowing: your radio is transmitting Flashing: your transmit timer is about to expire, or your radio is stunned
green status LED (receive)	Glowing: you are receiving activity (conventional mode) or your radio is actively in a call (MPT trunked mode) Flashing (conventional mode): you have activated monitor
amber status LED (scanning or network)	Glowing: your radio is scanning a group of channels for activity (conventional mode) or network service is available (MPT trunked mode) Flashing: your radio has detected activity on a channel, and has halted on this channel (conventional mode) flashing fast: there is no network service available (MPT trunked mode)

Audible tones

Note: If quiet or silent mode has been turned on, you will not hear any audible tones.

For a description of other tones you may hear, see [“Describing the radio’s audible tones”](#) on page 39.

Tone type	Meaning
one short beep	Valid key press: the action you have attempted is permitted, or Function activated: a function key has been pressed and that function has been activated
one long, low-pitched beep	Invalid key press: the action you have attempted is not permitted, or Transmission inhibited: you have attempted to transmit but for some reason transmission is not permitted at this time
one short, low-pitched beep	Function deactivated: a function key has been pressed and the corresponding function has been turned off

Display messages

Message	Meaning
<i>BSY</i>	Called party busy: the called party is engaged on another call or does not accept your call
<i>CO1</i>	Conventional mode: you are currently operating on a conventional channel (in this example, channel ID 01), or group
<i>CAN</i>	Call cancelled: the call has been cleared down before a traffic channel is assigned
<i>CBR</i>	Callback: your call has reached the other party and they did not answer, but their radio has stored a message to call you back
<i>DATA</i>	Data call: a data call is currently in progress
<i>DI</i>	Call diversion: the call diversion feature is currently activated, or your call has been diverted by the calling party
<i>DND</i>	Do not disturb: the "do not disturb" feature is currently activated
<i>Err 1</i>	System error: your radio has encountered an error (in this example, error 1)
<i>FNRA</i>	Function not available: the function that you requested is not available on this radio
<i>GPS</i>	GPS: your radio is currently sending GPS location information
<i>NET 1</i>	Network: your radio is currently operating on the trunking network indicated (in this example, network 1)
<i>OFFT</i>	Out-of-fleet: you have received a call from another party that is not part of your fleet
<i>OODL</i>	Out-of-lock: the radio's synthesizer is out-of-lock on the current channel and you cannot operate on that channel

Message Meaning

POI Preset call: the current item in the scrolling list is a preset call (in this example, preset call 1)

PAB PABX call: you have received a call from another party via a Private Automatic Branch Exchange

Phn Phone call: you have received a call from another party via the Public Switched Telephone Network (PSTN)

Pin PIN entry: you must enter your PIN number to unlock the radio

SEL Site select: a new control channel has been selected using the site select feature

Stn Stunned: your radio has been made inoperable by your service provider

SYb Call queued by system: your call has been queued by the trunking system

UnA Called party unavailable: the other party's radio is turned off or is out of range of the network

Uob Number unobtainable: the number you called is not recognized by the network. Check you have dialled the correct number

About scrolling lists

The radio contains one scrolling list available in trunked mode, and another list available in conventional mode. Use the scroll keys  and  to scroll through the list until the item you want is displayed.

Whole-number scrolling in trunked mode

The scroll list in trunked mode contains a list of valid MPT numbers. Scroll through the list until the number you want is displayed, then press the PTT to call the number. The list starts from the number that is currently on the display, and contains the following numbers (in order):

Number range	Description
P00-P99	Preset calls as programmed.
20-89 ^a	Two-digit individual calls.
90-99 ^b	Two-digit group calls.
101-110 ^c	Change to a specific channel or group in conventional mode.
200-899 ^a	Three-digit individual calls.
900-998 ^b	Three-digit group calls.

- The radio will list two-digit **or** three-digit individual numbers, depending on the fleet type programmed.
- The radio will list two-digit **or** three-digit group numbers, depending on the fleet type programmed.
- 110 is a network operator service call for the Nokia ANN dialing scheme.

Note: The list may also include network operator service calls such as 100 or 999.

Scrolling in conventional mode

The scroll list in conventional mode contains a list of all conventional channels and groups. Scroll through the list until the number you want is displayed.

Basic operation

This section describes the basic operation of your radio.

The following topics are covered in this section:

- turning the radio on and off
- entering your personal identification number
- checking that your network is available
- adjusting the speaker volume
- making a call
- making a preset call
- receiving a call
- re-establishing a call
- about emergency operation

Turning the radio on and off

Give a long press of the on/off key  to turn the radio either on or off.

When the radio is first turned on, the red, green and amber LEDs flash briefly and the radio gives two short beeps.

Entering your personal identification number

You may need to enter a personal identification number (PIN) before you can use your radio. If the message **Pin** appears, enter your assigned PIN.

Once you have entered your PIN correctly, two short beeps sound and normal operation is now possible.

If you do not know your PIN, consult your radio provider or administrator.

Checking that your network is available

The amber LED glows whenever your radio has access to the MPT trunked network. If the amber LED is flashing, your radio is attempting to access the MPT trunked network. If the LED remains flashing, your radio may be out of the network coverage area.

Adjusting the speaker volume

Rotate the 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.

Note: Your radio may be programmed with a minimum volume level.

Making a call

To make a call from your radio, you may be able to either:

- use whole-number scrolling
- dial the call using the shift key and scroll keys, or
- dial the call using the alphanumeric keys on a keypad microphone.

Making a call by whole-number scrolling

Whole-number scrolling is useful if the number to call is close to the number currently on the display. For more information see [“Whole-number scrolling in trunked mode” on page 20](#).

To make a call by whole-number scrolling:

- 1 Press the scroll keys  and  until the number is showing on the display.



- 2 Press the PTT key.

Dialling a call using the shift key and scroll keys

- 1 Press the shift key  to begin dialling. The first character is selected, and flashes on and off.



- 2 Use the scroll keys  and  to change the first character if required.
 - For three-digit numbers, select a digit between **1** and **9**.
 - For two-digit numbers, select the underscore character **_**.
 - For preset call numbers, select **P**.

- 3 Use a combination of the shift key  and scroll keys  and  to enter the remaining digits.



- 4 Once the number of the call is showing on the display, press the PTT key.

Dialling a call using the alphanumeric keys on a keypad microphone

If your radio has a keypad microphone installed, calls can be dialled using the alphanumeric keys. For information about entering characters using the keypad microphone, see ["About the keypad microphone"](#) on page 15.

To dial a call using the alphanumeric keys on a keypad microphone:

- 1 Dial the number of the call using the keys **0** to **9wxyz**.
If you are dialling a preset call number that 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 the **#** or PTT key.
The call details appear in the display. While the call is being setup, you can cancel the call by pressing the clear key **X**.

Making a preset call

The preset calls programmed for your radio may include in-fleet calls and numbers to change to a conventional channel or group. They can also include out-of-fleet calls, calls to PABX extensions or PSTN numbers, the ability to change the operating network, and MPT functions such as do not disturb and call diversion. There may be up to 100 preset calls programmed. To make a preset call from your radio, you may be able to either:

- use a programmed function key, or
- use one of the methods described in ["Making a call" on page 22](#).

Using a function key to make a preset call

Press the function key programmed to make the preset call you want.

The call details appear in the display. While the call is being setup, you can cancel the call by pressing the clear key **X**.

Making a preset call by whole-number scrolling or dialling

To make a preset call, you can use whole-number scrolling, dial the number using the shift key and scroll keys, or dial the number using the alphanumeric keys on a keypad microphone. For more information on each of these methods, see ["Making a call" on page 22](#).

For example, to dial a preset call using the shift key and scroll keys:

- 1 Press the shift key  to begin dialling. The first character is selected, and flashes on and off.



- 2 Use the scroll keys  or  to change the first character to "P".



- 3 Use a combination of the shift key  and scroll keys  and  to enter the number of the preset call.



- 4 Once the number of the preset call is showing on the display, press the PTT key.

Receiving a call

When you receive a call, your radio may display the caller's number and respond in one of two ways, depending on the way it was programmed and the way your network operates.

- **On-air call setup:** The radio gives a ring and automatically accepts the call. The green LED glows to show that the system has assigned a traffic channel.
- **Full off-air call setup (FOACSU):** When a call is received, the radio rings like a telephone.

To accept the call, briefly press the PTT key or lift the microphone off the microphone clip. The green LED glows to show that the system has assigned a traffic channel.

Once the green LED glows, you can proceed with the call, as follows:

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

While you are transmitting, the red LED glows.

- 4 End the call by placing your microphone back onto its hook or by pressing the clear key . 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.

Transmit timer

Your 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 red LED flashes and the radio gives three beeps.

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

Call time limit

In MPT trunked mode, the length of your call may be limited by the network or by your radio. Your radio may be programmed to display the time remaining for your call, when the time remaining is under 10 minutes.

In this example, there are 9 minutes and 59 seconds remaining.



When your call time is about to expire, the red LED flashes and the radio gives a repeated beep.



Re-establishing a call

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

Last number recall

When an outgoing call has ended, the called unit's identity or preset call number appears on the display.

To make a call to that person again, briefly press the PTT key. This number cannot be cleared.

Unanswered call

When an incoming call is missed, the caller's identity or preset call number appears on the display. This number flashes on and off.

To return the call, briefly press the PTT key.

To remove the number, press the clear key .

Callback

When an incoming call has ended, the caller's identity or preset call number may appear on the display.

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

To remove the number, press the clear key .

About emergency operation

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

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

To make an emergency call from your radio, you may be able to either:

- use a function key programmed for emergency mode, or
- make a preset emergency call. See "Making a preset call" on page 24.

Activating emergency mode

You can activate emergency mode using a function key programmed for emergency mode. Alternatively, you may be able to activate emergency mode using a hidden switch or panic button. Once emergency mode is activated, your radio makes an emergency call to your dispatcher or some other predetermined location. The radio then enters emergency mode.

While emergency mode is active, your radio may cycle between receive and transmit, so that your dispatcher can hear any activity near the radio.

Cancelling emergency mode

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

Note: Emergency mode may be programmed to end after a fixed period of time. In this case, there is no need to turn the radio off and then on in order to return the radio to normal operation.

Operating in conventional mode

The following topics are covered in this section:

- [changing to conventional mode](#)
- [selecting a channel](#)
- [checking that a channel is clear](#)
- [communicating directly with other radios](#)
- [making a call](#)
- [receiving a call](#)
- [scanning](#)
- [voting](#)
- [changing back to trunked mode.](#)

Changing to conventional mode

You may be able to change to conventional mode by accessing conventional channels or groups programmed in the range **101** to **110**. To access a conventional channel or group from trunked mode, you may be able to either:

- use whole-number scrolling
- dial the conventional channel or group using the shift key and scroll keys
- dial the conventional channel or group using the alphanumeric keys on a keypad microphone
- use a programmed function key, or
- make a preset call. See [“Making a preset call” on page 24.](#)

Changing to a conventional channel or group by whole-number scrolling

Whole-number scrolling is useful if the number to call is close to the number currently on the display. For more information see [“Whole-number scrolling in trunked mode” on page 20.](#)

To change to a conventional channel or group by whole-number scrolling:

- 1 Press the scroll keys  and  until the number between 101 and 110 is showing on the display.



- 2 Press the PTT key.

Dialling a conventional channel or group using the shift key and scroll keys

- 1 Press the shift key  to begin dialling. The first character is selected, and flashes on and off.



- 2 Use the scroll keys  or  to change the first character to "1".



- 3 Use a combination of the shift key  and scroll keys  and  to enter the remaining digits.



- 4 Once the number between 101 and 110 is showing on the display, press the PTT key.
Your radio switches to the conventional channel or group programmed for that number.

Dialling a conventional channel or group using the alphanumeric keys on a keypad microphone

If your radio has a keypad microphone installed, you can dial a conventional channel or group using the alphanumeric keys. For information about entering characters using the keypad microphone, see [“About the keypad microphone” on page 15](#).

To dial a conventional channel or group using the alphanumeric keys on a keypad microphone:

- 1 Dial the number of the conventional channel or group using the keys  to . The number will be between 101 and 110.
- 2 Press the  or PTT key.
Your radio switches to the conventional channel or group programmed for that number.

Using a function key to change operating mode

Press the switch mode function key to change your operating mode. If changing to conventional mode, the radio will start on either a pre-programmed channel or group, or the channel or group that was previously selected.

Selecting a channel

Once in conventional mode, use the scroll keys  and  to scroll through the channel list until the channel or group you want is displayed.

Checking that a channel is clear

You or your user group may be segregated from other user groups by special signalling. If an incoming call carries the special signalling tones specific to you or your user group, your radio's signalling mute opens and you can hear the call. The monitor function may allow you to override any special signalling on a channel, so that you can check that the channel is clear before you make a call.

Note: Your radio may be programmed to activate monitor whenever the microphone is off the microphone clip.

To activate monitor you may be able to either:

- remove the microphone from the microphone clip, or
- use a programmed function key.

Activating monitor by using a function key

1 Press the monitor function key to activate monitor and hear any traffic on the channel.

While monitor is on, the green LED flashes slowly.

2 Press the monitor function key again to turn monitor off, or wait for monitor to turn off automatically, after a programmed delay.

When monitor turns off, the green LED stops flashing.

Note: Your radio may be programmed so that monitor turns off automatically after a short time.

Communicating directly with other radios

You can bypass the radio repeater and communicate directly with another radio. This feature is known as repeater talkaround. You can do this, for example, when you are out of range of the repeater, or if the repeater is busy or stops working for whatever reason.

While repeater talkaround is active, all transmissions are made on the receive frequency of the channel you are on.

To activate repeater talkaround:

- 1** Change to the required channel.
- 2** Press the programmed function key to turn repeater talkaround on.
- 3** Proceed with your call.
- 4** To turn repeater talkaround off, either:
 - change the channel, or
 - press the function key again.

Making a call

- 1 Select the required channel or scan group.
- 2 Check that the channel is clear. If the green LED is glowing, the channel is busy and you may not be able to transmit.
- 3 Once the channel is clear (the green LED is off), lift the microphone off the microphone clip.
- 4 Hold the microphone about 5 cm (2 inches) from your mouth.
- 5 Press and hold the PTT key to transmit.
- 6 Speak clearly into the microphone and release the PTT key when you have finished talking.

While you are transmitting, the red LED glows.

Transmit timer

Your 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 red LED flashes and the radio gives three beeps. You must release the PTT before you can transmit again.

Note: Your radio may be unable to transmit for a short time after the transmit timer has expired.

Receiving a call

When there is valid activity on your radio's currently selected channel or group, the radio then unmutes and you can hear the call.

Scanning

The scan function is used to monitor a programmed group of channels, looking for activity. When activity is detected on a scan group channel, the radio stops on that channel. The amber LED flashes and, if the channel signalling is valid, the radio unmutes and you can hear the call. Scanning resumes when the channel is no longer busy or the signalling is no longer valid.

One or two priority scan channels may be set. These channels are scanned more often than other channels and are scanned periodically when a non-priority channel is busy.

Activating scanning

- 1 Place the microphone on the microphone clip.
- 2 Press the function key assigned to scanning or scroll to the scan group. The amber LED glows to show that the radio is scanning.
- 3 Press the scanning function key again to cancel scanning. The amber LED no longer glows.

Nuisance delete

If a member channel of the scan group is busy for a long time and you do not wish to hear the conversation, you can use the function key assigned to nuisance delete to temporarily delete it from the scan group.

Alternatively, press and hold the function key assigned to scanning.

When the scan group is next selected, the deleted channel is again part of the scan group.

Note: Priority channels cannot be removed from the scan group using the nuisance delete function.

Voting

A group of channels carrying the same traffic can be grouped together in a voting group. When you press the function key assigned to voting or scroll to the voting group, the best communication channel is always selected for you to use.

Nuisance delete

If you wish to delete one of the channels from the voting group, you can use the function key assigned to nuisance delete to temporarily delete it from the voting group.

Changing back to trunked mode

To change back to trunked mode, press the shift key  or clear key .

Troubleshooting

The following topics are covered in this section:

- [when your radio won't turn on](#)
- [removing the microphone](#)
- [reinstalling the microphone](#)
- [removing the radio from the vehicle](#)
- [describing the radio's audible tones.](#)

When your radio won't turn on

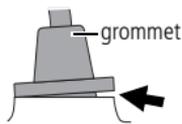
If the red, green and amber LEDs on the control head do not light up when the radio is turned on, it is likely that no power is reaching the radio. Check the following:

- Is the power connector firmly plugged into the rear of the radio?
- Are the in-line fuses in good condition?
- Is the power cable securely connected to the vehicle battery or power supply?

If all appears to be in order, then contact your radio provider for further assistance.

Removing the microphone

- 1 Using your thumb or forefinger, lift up one of the corners of the microphone grommet. Firmly (but gently) pull that corner until the seal comes away from the cavity.
- 2 Repeat to expose another corner.
- 3 Pull the exposed corners back and slide the grommet up the microphone cable to reveal the microphone plug.
- 4 Remove the plug from the microphone socket.



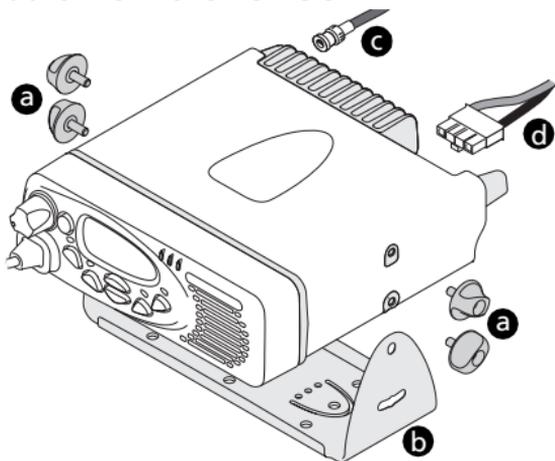
Reinstalling the microphone

Caution: The microphone grommet must be installed whenever the microphone is plugged into the microphone socket.

- 1 Plug the microphone into the microphone socket.
- 2 Slide the microphone grommet along the microphone cord and push two adjacent corners of the grommet into the microphone socket cavity.
- 3 Squeeze the grommet and push the remaining corners into position.
- 4 Check that the grommet is seated correctly in the cavity.



Removing the radio from the vehicle



- 1 Switch off the radio.
- 2 Unscrew the four thumb screws **a** that secure the radio to the U-bracket **b**.
- 3 Carefully lift the radio clear of the U-bracket.
- 4 Disconnect the antenna **c** and power cable **d** from the rear of the radio.

Describing the radio's audible tones

The following table summarizes the radio's audible tones.

Action and tone	Meaning
two short beeps	Radio turned on: the radio is powered on and ready to use
one short beep after the power-up beeps	Radio locked: you need to enter your personal identity number (PIN) before you can use the radio
one long, low-pitched beep	Radio PIN entry unsuccessful: you need to re-enter your PIN
two short beeps	Radio PIN entry successful: the radio is now ready to use
one short beep	Function activated: a function key has been pressed and that function has been initiated
one short, low-pitched beep	Function deactivated: a function key has been pressed and the corresponding function has been turned off
one long, low-pitched beep	Invalid key press: the action you have attempted is not permitted, or Transmission inhibited: you have attempted to transmit but for some reason transmission is not permitted at this time
one short, high-pitched beep	Radio is stunned: the radio has been made inoperable by your service provider
two short beeps	Radio is revived: the radio has made operable by your service provider
three beeps	Transmit timeout imminent: in 10 seconds your transmit timer will expire and your current transmission will be terminated
one high-pitched beep	Call timeout imminent: your call time is about to expire (MPT trunked mode only)
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

Action and tone	Meaning
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
continuous low-pitched tone	Radio system error: a system error has occurred and the radio may be inoperable
two long low-high pitched tone pairs	Synthesizer is out-of-lock: the radio's synthesizer is out-of-lock on the current channel and you cannot operate on that channel

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