

User's Guide



9233159
Issue 1

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Quick guide

These pages give you some tips for using your Nokia THR880 radio. For more detailed information, read through this user's guide.

■ Before using your radio

- Install and charge the battery.
- Switch on the radio by pressing .

For details, see Getting started on page 25.

■ Call functions

Selecting a folder

Talk groups are divided into folders. To select a folder, press , scroll to the desired folder and press [Select](#).

Selecting a talk group

Turn the group selector until you reach the desired group.

Making a group call to your selected group

Once you have set your selected group and its name is displayed in standby mode, press and hold the PTT key.

Responding to a group call

Press and hold the PTT key. You can start speaking when a short tone is played.

Making an express call

Key in a TETRA number and press and hold the PTT key. You can start speaking when a short tone is played.

Responding to an express call

Press and hold the PTT key. You can start speaking when a short tone is played.

Making a phone call

Key in the area code and phone number and press . The area code is not required for TETRA numbers. Scroll to [Private](#), [Abbr.](#)



number, *Phone* or *Office ext.* (see also Making a phone call on page 46) and press .

Answering a phone call

Press  when a ringing tone is played.

■ Direct mode

Activating direct mode

To quickly activate direct mode, press , scroll to *Direct mode* and press *Select*.

Selecting a channel and a group

Turn the group selector until you reach the desired channel. Use the back key to select groups. For details, see Selecting direct mode channels and groups on page 50.

■ Using the keys

Activating and deactivating the loudspeaker

Press . When the loudspeaker is active,  is displayed.

Adjusting the volume

Press the volume key on the right side of the radio to adjust the volume of the activated speaker, either loudspeaker or earphone.

Using the fast menu key

Press  to access the fast menu. In the fast menu, scroll with  and  or by pressing  and select items by pressing and holding  or pressing *Select*. See Fast menu on page 31.

Using the duty key

You can set the duty key  to either make a call to the home group, to start a call to the selected group's dispatcher or to send a callback request to the selected group's address. See Duty key setting on page 75.



■ Phone book functions

Searching for names in the phone book

To find names, press **Names**, select **Search names** and key in the first character or more of the name and scroll with  or  to the name.

■ Basic menu functions

Entering a menu

Press **Menu**, scroll with  or  to the desired menu function and press **Select**.

Exiting a menu

Press  to exit a menu function without changing its settings and return to standby mode. See also Muting the call temporarily on page 39 and page 52.

■ Other functions

Locking and unlocking the keypad

To lock the keypad and the power key, press **Menu** and then . To lock the keypad, group selector, power key,  and , press **Menu** and then press and hold .

To unlock the keys, press **Unlock** and then  quickly.



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FOR YOUR SAFETY

FOR YOUR SAFETY

For your safety, follow these instructions. Exceptions may be made only by trained personnel (police, firefighters and others) who determine that special use is appropriate. Further detailed information is given in this manual.



Do not switch the radio on when wireless phone use is prohibited or when it may cause interference or danger.



ROAD SAFETY COMES FIRST

Don't use a hand-held radio while driving.



INTERFERENCE

All wireless phones may get interference, which could affect performance.



SWITCH OFF IN HOSPITALS

Follow any regulations or rules. Switch the radio off near medical equipment.



SWITCH OFF IN AIRCRAFT

Wireless devices can cause interference in aircraft.



SWITCH OFF WHEN REFUELLING

Don't use the radio at a refuelling point. Don't use near fuel or chemicals.



SWITCH OFF NEAR BLASTING

Don't use the radio where blasting is in progress. Observe restrictions, and follow any regulations or rules.



USE SENSIBLY

Use only in the normal position. Don't touch the antenna unnecessarily.



QUALIFIED SERVICE

Only qualified personnel may install or repair radio equipment.



ACCESSORIES AND BATTERIES

Use only approved accessories and batteries. Do not connect incompatible products.



BACKUP COPIES

Remember to make backup copies of all important data.

FOR YOUR SAFETY



CONNECTING TO OTHER DEVICES

When connecting to any other device, read its user's guide for detailed safety instructions. Do not connect incompatible products.



EMERGENCY CALLS

Ensure the radio is switched on, in service and in network mode. Press  as many times as needed (e.g. to exit a call, to exit a menu, etc.) to clear the display. Enter the emergency number, then press . Give your location. Do not end the call until told to do so.

■ Network services

The radio described in this guide is approved for use on the TETRA network.

A number of features included in this guide are called Network Services. These are special services that you arrange through your wireless service provider. Before you can take advantage of any of these Network Services, you must subscribe to them through your service provider and obtain instructions for their use from your service provider.



Note: Some networks may not support all language-dependent characters and/or services.

■ About accessories

Check the model number of any charger before use with this device. This device is intended for use when supplied with power from ACP-8, ACP-9, ACP-12, LCH-9 and LCH-12.



Warning: Use only batteries, chargers and accessories approved by the manufacturer for use with this particular radio model. The use of any other types may invalidate any approval or warranty applying to the radio, and may be dangerous.

For availability of approved accessories, please check with your dealer.

When you disconnect the power cord of any accessory, grasp and pull the plug, not the cord.



Important: Enhancements to be used with this device do not meet the same durability or water resistance specifications as the device itself. For example, all the chargers are only to be used in dry conditions. They should never be used when damp or wet.

■ Interference filters (for THR-4 only)

To check the type number of your radio, remove the battery. The type

FOR YOUR SAFETY

number (THR-4 or THR-5) is printed on the white label inside your radio.

When charging a THR-4 radio with the charger ACP-8, ACP-9 or ACP-12, you need to use two electromagnetic interference filters. Two filters are supplied in the sales package, and they are also available as separate accessories. See Electromagnetic interference filters (for THR-4 only) on page 25 for how to install the filters to the charger's power cord.

General information

■ Active holder

The wearable active holder CRR-1 offers multiple carrying possibilities and makes the Nokia THR880 radio an integral part of the work outfit.

■ Access codes

PIN code (4 digits)

The factory setting for the PIN code is 1234. To prevent unauthorised use of your radio, change the code in the [Change of access codes](#) submenu of the [Settings](#) menu. Keep the new code secret and in a safe place separate from your radio.

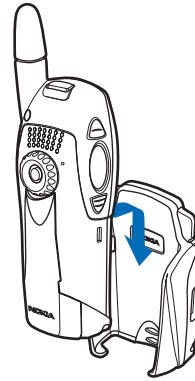
When the PIN code request is enabled (see Security settings on page 79), the code is requested each time the radio is switched on.

Security code (5 digits)

The factory setting for the security code is 12345. To prevent unauthorised use of your radio, change the code in the [Change of access codes](#) submenu of the [Settings](#) menu, see Security settings on page 79. Keep the new code secret and in a safe place separate from your radio.

■ Typography used in this guide

The display texts above the selection keys  and  are indicated in a bold typeface, for example, **Menu**. The other display texts which appear on the radio's display are indicated in italics, for example, *Calling*. All key presses are represented by the graphic of the corresponding key, for example, by  and .



General information

■ Modes of operation

Your radio has two modes of operation: network mode and direct mode. In network mode, the radio operates via the TETRA network. In direct mode, the radio operates without the network, so the radios are communicating directly with each other. In direct mode only some of the radio's functions are available. See Direct mode on page 49 for more information about direct mode.

■ Shared memory

The following features in this radio may share memory: phone book, calendar, and to-do notes. Using any such features may reduce the memory available for any features sharing memory. This is especially true with heavy use of any of the features (although some of the features may have a certain amount of memory specially allotted to them in addition to the amount of memory shared with other features). For example, saving many names or notes may take all of the shared memory and your radio may display a message that the memory is full. In this case, delete some of the information or entries stored in the shared memory features before continuing.

■ Transmission barring

When transmission barring is active, the radio does not send any signals to the network and only limited network services are available. In network mode, the radio can only receive group calls and status and text messages addressed to talk groups, providing that the radio is registered to the network. In direct mode, the radio can receive direct mode calls. Note that when transmission barring is active, the radio cannot re-register to the network, for example, if it is switched off and then on again.



Note: The limited network services in network mode are only available in the coverage area of the network cell where the radio was last registered. The radio cannot register to other network cells while transmission barring is active, and therefore the area of operation may be limited.

When transmission barring is active, in network mode the radio cannot send the necessary information to the network about changes in talk groups. When transmission barring is active, you cannot change the selected group. If you make any other changes that affect talk groups, for example, change the selected folder, home group or the scanning priority of a group, you will not be able to receive further communication from the affected groups. After transmission barring has been deactivated, the radio can attempt to negotiate the changes with the network.

If you start to make a **red key call** or an emergency call to an emergency number programmed into your radio when transmission barring is active, the radio will automatically deactivate transmission barring and attempt to make the call. If the radio is in direct mode, the radio will attempt to switch to network mode, deactivate transmission barring and attempt to make the call.



Warning: If you start to make a **red key call** or an emergency call, transmission barring will be deactivated and you should consider exiting the area where you wanted transmission to be barred.

See Transmission barring on page 73 for how to activate or deactivate transmission barring. Note that transmission barring should be active before you enter the area where you want transmission to be barred. The indicator  or  is displayed in standby mode when transmission barring is active. Depending on predefined radio settings, the radio may send a notification message to the network about the activation. The indicator  is displayed if the message does not need to be sent or message sending failed, and the indicator  is displayed if the message has been sent.

■ Network selection

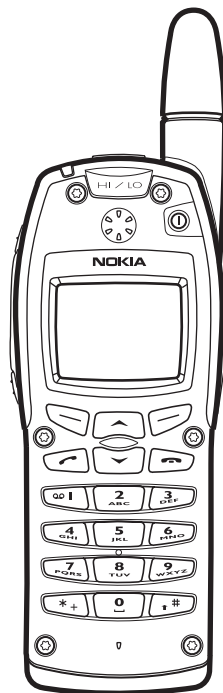
Next to your predefined home network, you may be able to select other networks in which your radio can operate (network service), for example, if you are not in the coverage area of your home network. The network can be changed automatically or manually, see Network selection on page 76.

General information



Note: Some services are network-dependent, so there may be changes in the availability of services when the network is changed. In addition, for example the selected folder, selected group, home group, or availability of groups may change when the network is changed.

1. Your radio



- ① **Power key.** Switches the power on and off.
-  **Selection keys.** The function of the keys depends on the guiding text shown on the display above the keys, for example, **Menu** and **Names** in standby mode.
-  **Scroll keys.** Use these keys to scroll through names, phone numbers and menus. In network mode, pressing  in standby mode enters the list of folders and pressing  enters the list of talk groups in the selected folder.
-  **Dials and answers a phone call.** In standby mode, shows the list of the most recently dialled numbers.
-  **Ends or rejects a phone call or an express call.**
-  **Enter numbers and characters.** Note that pressing and holding  calls your voice mailbox.
-  **Used for various purposes in different functions.**
-  **Red function key** (on top of the radio). Performs a network service.

■ Using your device in wet and damp conditions

- You can use this device in the rain, but do not submerge it in water.
- If the device or the system connector has been exposed to salt water, wash it immediately with freshwater to avoid corrosion. The device must be carefully wiped dry.
- Before opening the back cover, dry the device to prevent water from reaching the interior of the device. The battery is not water resistant.
- Never charge the device when the bottom connector is wet or damp.
- Never use a damp device with enhancements that have an electrical function (such as a desk stand or car kit).

■ Types of calls

- **Group calls** are immediate communication between talk group members. For details, see Group calls on page 33.
- **Express calls** are immediate communication between two people. For details, see Express calls on page 43.
- **Phone calls** are like conventional telephone calls. For details, see Phone calls on page 46.

These call types are available in network mode. Your radio also offers direct mode operation (see Direct mode on page 49).

Red key calls

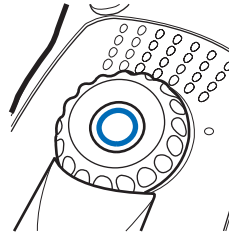
The **red key call** is a network service. Before you can take advantage of this network service, you must subscribe to it through your service provider and obtain instructions for its use from your service provider. The **red key call** is made to a destination that has been defined by your organisation. In network mode, when you press and hold the red function key, the radio will attempt to make a **red key call**. When you press the red function key and then the back key, the radio will attempt to make a silent **red key call**. See also Red key calls in direct mode on page 53.

If the radio receives a **red key call**, or a call made to a destination that is predefined as an emergency number, the radio plays a tone and **Priority call** is displayed with the call information.

■ Group selector and back key

In network mode, turning the group selector is used for selecting groups. The names of the current folder and group are shown on the display.

The back key in the middle of the group selector is used for switching between groups. Pressing the back key switches between groups that have the same index number as the last two selected groups (excluding the home group), and pressing and holding the back key selects the home group (see Home group on page 34).



In direct mode, the group selector is used for selecting channels. The name of the channel is shown on the display. Each channel may have up to three groups. Pressing and holding the back key selects the first group (A) on the channel, and pressing the back key switches between the second and the third group (B and C) on the channel.

If voice feedback is activated, the radio plays the index number of the group or channel when you turn the group selector. When you use the back key, the radio plays the index number or index name (A, B, or C) of the group or "Home" if the home group is selected. See Voice feedback on page 31.

■ PTT (Push-to-talk) key

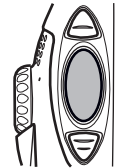
Your radio can make and receive one-way and two-way calls. During a one-way call, only one person can speak at a time and the speaker has to press and hold the PTT key. During a two-way call, the PTT key is not needed and you can speak as in a conventional phone call.

To speak during a one-way call, press and hold the PTT key. You can start speaking after a short tone is played and  (transmitting) appears on the display.

Your radio

Express calls and group calls are one-way calls. Phone calls are normally two-way calls, but your radio is also capable of making and receiving one-way phone calls.

For group calls in network mode, you can set the PTT key to make a call either always to your selected talk group or to the currently active scanned group (if there is no active scanned group, the call is made to the selected group). See PTT key use on page 37.



■ Duty key and fast menu key

The duty key  is located above the PTT key, and the fast menu key  below the PTT key (see the picture in the PTT (Push-to-talk) key section). In network mode, you can set the duty key  to work in one of three ways, see Duty key setting on page 75. In direct mode, pressing and holding  makes a call to the first group on the selected channel.

The fast menu key  is used for accessing the fast menu. For details, see Fast menu on page 31.

■ Loudspeaker

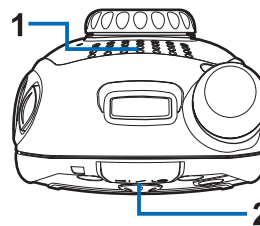
Your radio has a high volume loudspeaker (1) for hands-free use. When the loudspeaker is in use, you can listen and speak to the radio from a short distance. When the loudspeaker is in use,  is displayed.

Important! Do not hold the radio near your ear when the loudspeaker is in use, because the volume may be extremely loud.

When you use the earphone, hold the radio as you would any other telephone, with the antenna pointed up and over your shoulder. When you use the loudspeaker, hold the radio approximately 10 cm (4 inches) away from your mouth with the antenna pointed up and away from your face and eyes.

You can use the  key (2) to activate or deactivate your radio's loudspeaker or both the loudspeaker and earphone.

- To activate or deactivate the loudspeaker, press .



Your radio

- To activate or deactivate both the loudspeaker and earphone, press and hold **[HI/LO]**. If you make or receive a phone call while the earphone is not in use, the earphone is activated when the call is connected.

■ Light indicator

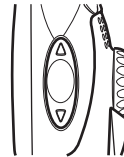
There is a light indicator on top of the radio. A yellow light indicates that you need to wait before you can speak, a green light indicates that the radio is transmitting, and a red light indicates that the call or operation has failed.



The light indicator is not always lit when the radio is transmitting, for example, when the radio is sending information to the network.

■ Volume key

The volume key adjusts the volume of the currently active speaker, either earphone or loudspeaker. Press the upper end of the key to increase the volume and press the lower end of the key to decrease volume.



■ Display indicators

Display indicators inform you about the operation of your radio.

Standby mode

When the radio is switched on and ready for use and no characters have been entered by the user, the radio is in standby mode and the following indicators appear:

xxxxxx

If group calls are switched off, indicates in which network the radio is currently used.

In network mode, when group calls are switched on and there is a selected group, the folder name, the group name and the group status are displayed. In direct mode, the channel name and the group name are displayed.

Your radio

-  In network mode, shows the signal strength of the cellular network at your current location. The higher the bar, the stronger the signal.
If the radio is out of service, there is no bar and *No service* is displayed.
-  The signal strength indicator is replaced with  when data connection is set to *Always online*. See Setting up the radio for a WAP service on page 84.
-  Shows the battery charge level. The higher the bar, the more power there is in the battery.

List of other indicators in standby mode

The following indicators may also be shown when the radio is in standby mode:

-  The loudspeaker is in use. See Loudspeaker on page 20.
-  The loudspeaker and the earphone are not in use. See Loudspeaker on page 20.
-  The top microphone is selected in the profile's audio settings. See Profiles (Menu 5) on page 72.
-  An external speaker and top microphone are selected in the profile's audio settings. See Profiles (Menu 5) on page 72.
-  You have received one or more text messages. See Reading text messages on page 68.
-  You have received one or more status messages. See Reading status messages on page 62.
-  The radio's speakers and tones are muted.
-  The radio's keypad is locked. See Locking the keys (Keyguard) on page 27.
-  You have set the alarm clock. See Alarm clock on page 74.
-  A dial-up connection is established.  is replaced with  when there is an incoming or outgoing phone call during the

connection and data transfer is suspended. See Data communications on page 92.



Scanning is activated. See Switching scanning on and off and setting scanned groups on page 36.



Direct mode is activated. See Direct mode on page 49.



Direct mode is activated and a compatible direct mode gateway is available. See Direct mode gateway and repeater on page 52.



Direct mode is activated and a compatible direct mode repeater is available. See Direct mode gateway and repeater on page 52.



Air interface encryption (network service) is not in use.



Transmission barring is active. See Transmission barring on page 14.



Transmission barring is active and the radio has sent a notification message about the activation to the network. See Transmission barring on page 14.



The radio is in the coverage area of a network cell that has lost the connection to the network, and only limited services are available.

Call indicators



Displayed during one-way calls.



Displayed during two-way calls.



Indicates that your radio is transmitting a call and that it is your turn to speak during a one-way call.



Indicates that your radio is receiving a one-way call.



Displayed during a one-way phone call when neither party is transmitting.



Displayed during an express call when neither party is transmitting.

Your radio



Displayed during a call made to your selected group when nobody is transmitting.



Displayed during a call made to a scanned group when nobody is transmitting.

■ Guide messages

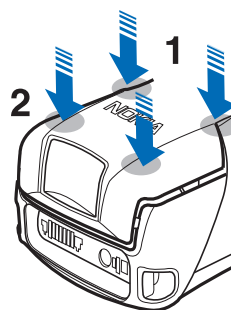
Some guide messages that may appear on the radio's display are explained below.

- *Not allowed for current access level.* You do not have access rights to perform the action. See Security settings on page 79.
- *No network coverage.* The radio cannot perform the operation, because the radio is not in the network coverage area.
- *Group property changed.* There has been a change in the state of a talk group. Press **View** to view the details. See also Group journal on page 42.
- *Unauthorised location req.:* The radio received a location request from an unauthorised number (an information message was not sent). Press **Read** to view the details. See Allow location info sending on page 77.
- *Network not allowed:* The radio cannot register to the selected network. If the network was selected manually, you can attempt to select another network or activate automatic network selection. See Network selection on page 15 and 76.
- *Network changed:* Automatic network selection is on and the radio has selected a new network. Press **OK** to exit the message. See Network selection on page 15 and 76.

2. Getting started

■ Installing the battery

1. To open the battery cover, press the release button upwards, away from the bottom connectors. Note that pressing the release button down makes the opening harder.
 2. Slide the battery under the radio's back cover so that the end with the golden contacts enters first.
 3. To close the battery cover, first pull it back and downwards so that the locking catches near the hinge are directed towards their slots, and press them to make sure that they are locked in place (1). Then press the bottom end of the cover down to lock the cover in place (2).
- Note:** Be careful when closing the battery cover. If the cover is not properly closed or, for example, the locking catches or the seals are damaged, it impairs the radio's durability against shocks and water.



If you need to remove the battery, first make sure that the radio is dry and switched off. Then open the battery cover and pull the battery out.

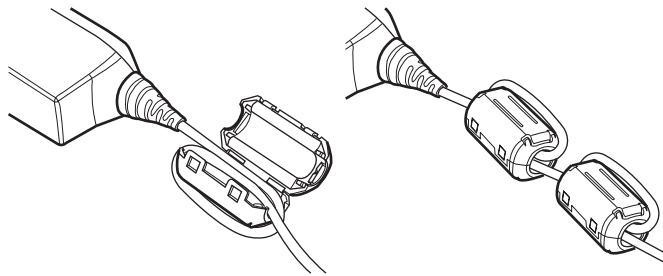
■ Electromagnetic interference filters (for THR-4 only)

To check the type number of your radio, remove the battery. The type number (THR-4 or THR-5) is printed on the white label inside your radio. When charging a THR-4 radio with the charger ACP-8, ACP-9 or ACP-12, you need to use two electromagnetic interference filters. Two filters are supplied in the sales package, and they are also available as separate accessories.

Getting started

Install the filters to the charger's power cord before you connect the charger to the radio or an AC wall outlet.

1. The filters should be placed on the power cord one after the other, within 15 cm (6 inches) of the charger. Place the power cord inside the opened filter and then wrap it in one loop around the filter.
2. Close the filters around the power cord.



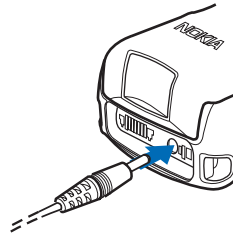
■ Charging the battery

1. Connect the lead from the charger to the bottom of your radio.
2. Connect the charger to an AC wall outlet. The battery indicator bar starts to scroll. The text *Charging* is briefly displayed if the radio is switched on. You can use the radio while charging.

If the battery is completely empty, it may take a few minutes before the charging indication appears on the display or any calls can be made.

3. The battery is fully charged when the battery indicator bar stops scrolling and the text *Battery full* is briefly displayed (if the radio is on).

If the text *Not charging* is displayed, charging has been suspended. Wait for a while, disconnect the charger, plug it in again and retry. If charging still fails, contact your dealer.



■ Switching the radio on and off

1. Press and hold  to switch the radio on and off.
2. If the radio asks for a PIN code, key in the four-digit PIN code (displayed as ****) and press **OK**.
3. If the radio asks for a security code, key in the five-digit security code (displayed as *****) and press **OK**.

For more information on the codes, see Access codes on page 13.



Warning: Do not switch the radio on when wireless phone use is prohibited or when it may cause interference or danger.

NORMAL POSITION: Hold the radio as you would any other telephone with the antenna pointed up and over your shoulder.

TIPS ON EFFICIENT OPERATION: As with any other radio transmitting device, do not touch the antenna unnecessarily when the radio is switched on. Contact with the antenna affects call quality and may cause the radio to operate at a higher power level than otherwise needed.

■ Locking the keys (Keyguard)

Your radio has two levels of keyguard.

- **Keypad** locks the keypad and the power key. To activate this keyguard, press **Menu** and then press  within 1.5 seconds. The note **Keypad locked** is briefly displayed.
- **All keys** locks the keypad, group selector, power key,  and . To activate this keyguard, press **Menu** and then press and hold  within 1.5 seconds. The note **All keys are locked** is briefly displayed.
- To unlock either keyguard, press **Unlock** and then  within 1.5 seconds.

You can answer a phone call and respond to a group call or an express call when either keyguard is on. When the call ends, the keys are automatically locked.

See also Keyguard settings on page 77.



Note: When Keyguard is on, calls may be possible to the emergency number programmed into your radio (e.g. 112 or other official emergency number). Key in the emergency number and press . The number is displayed only after you have keyed in its last digit.

3. Using your radio

■ Accessing a menu function

Several functions can be accessed via the radio's menu.

Accessing a menu function by scrolling

1. To access the menu, press **Menu**.
2. Scroll to the desired menu and select, for example, **Settings**.
3. If the menu contains submenus, select the desired submenu, for example, **Call settings**.
4. If the selected submenu contains further submenus, select the next submenu, for example, **Anykey answer**.
5. Select the setting of your choice.
6. Press **Back** to return to the previous menu level, and **Exit** to exit the menu.



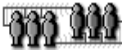
Tip: To exit the menu without changing any settings, press and hold **Back** or . See also Muting the call temporarily on page 39 and page 52.

Accessing a menu function by its shortcut number

The menu items (menus, submenus and setting options) are numbered and can be accessed quickly by using their shortcut number. The shortcut number is shown on the top right corner of the display.

1. To access the menu, press **Menu**.
2. Key in quickly, within two seconds, the index number of the menu function you want to access. For example, to set anykey answer on, press **Menu**, then , ,  and .

■ List of menu functions

1. **Status msgs.** 
 1. Send status message
 1. Status
 2. Callback
 3. Situation
 2. Received
 3. Sent
 4. My folders
 5. Erase messages
 6. Status settings
 1. Max. number of received
 2. Max. number of sent
 3. Delivery reports
 4. Recipient of situations
2. **Messages** 
 1. Write message
 2. Inbox
 3. Outbox
 4. Archive
 5. Templates
 6. My folders
 7. Erase messages
 8. Message settings
 1. Delivery reports
 2. Message centre number¹
3. **Call register** 
 1. Missed calls
 2. Received calls
 3. Dialed numbers
 4. Erase recent call lists
 5. Call duration
6. Data counter
7. Data connection timer
4. **Talk groups** 
 1. Selected folder
 2. Edit folder:
 3. View background folder
 4. Group settings
 1. Scanning
 2. Group calls
 3. Home group priority
 4. View home group
 5. Group journal
5. **Profiles** 
 1. General
 1. Activate
 2. Personalise
 1. Incoming call alert
 2. Ringing tone
 3. Push-to-talk ringing tone
 4. Ringing volume
 5. Message alert tone
 6. Status message alert tone
 7. Keypad tones
 8. Warning tones
 9. Audio setting
 - 10.Alert for
 - 11.Voice feedback
 - 12.Lights
 - 13.Light indicator
 2. Silent
 1. Activate
 2. Personalise

1. This menu is shown only if the network supports it.

Using your radio

- 1.-13. Same submenus as in General.
- 14. Profile name
- 3. Meeting
(same submenus as in Silent)
- 4. Outdoor
(same submenus as in Silent)
- 5. Pager
(same submenus as in Silent)
- 6. Active holder
(same submenus as in Silent)
- 7. Headset
(same submenus as in Silent)
- 6. **Settings** 
 - 1. Transmission barring
 - 2. Alarm clock
 - 3. Clock
 - 1. Show clock/ Hide clock
 - 2. Set the time
 - 3. Time format
 - 4. Call settings
 - 1. Anykey answer
 - 2. Summary after call
 - 3. Push-to-talk setting
 - 4. Duty key setting
 - 5. Phone settings
 - 1. Active mode
 - 2. Language
 - 3. Welcome note
 - 4. Network selection
 - 5. Display brightness
 - 6. Unit alert duration
 - 7. Allow location info sending
 - 6. Direct mode settings
 - 1. Direct mode scanning
 - 2. View active direct mode device
- 7. Keyguard settings
 - 1. Automatic keyguard
 - 2. Keyguard code
- 8. Communication settings
 - 1. Listen to voice messages
 - 2. Voice mailbox number
- 9. Enhancement settings
 - 1. Active holder
 - 2. Headset
 - 3. Handsfree
- 10. Modem settings
 - 1. Active access point
 - 2. Edit active access point
- 11. Security settings
 - 1. PIN code request
 - 2. Configure access levels
 - 3. Access level
 - 4. Change of access codes
- 12. Restore factory settings
- 7. **Calculator** 
- 8. **Calendar** 
- 9. **To-do list** 
- 10. **Services** 
 - 1. Home
 - 2. Bookmarks
 - 3. Service inbox
 - 4. Settings
 - 1. Active service settings
 - 2. Edit active service settings
 - 3. Appearance settings
 - 4. Download settings
 - 5. Authority certificates
 - 6. Service inbox settings
 - 5. Go to address
 - 6. Clear the cache

■ Fast menu

Some of the radio's frequently-used menu functions have been compiled in the fast menu, which is accessed with . The fast menu includes the following items:

- *Scanning on* or *Scanning off* depending on the current setting.
- *Network md.* or *Direct mode* depending on the current setting.
- Profiles *General prof.* and *Silent profile*.
- The first five situation indicators if these have been predefined in your radio's memory (see Status msgs. (Menu 1) on page 62).

Note that some fast menu functions can be successfully activated only when the radio is in network mode and in the network coverage area.

Activating a fast menu item

1. In standby mode, press , and then scroll to the desired item either with  and  or by pressing  quickly.
If voice feedback is activated, the radio plays the pre-recorded names of the items when you scroll with  in the fast menu.
2. To activate the highlighted item, press and hold  or press **Select**.

■ Voice feedback

You can get information about some of the operations in your radio as voice feedback without looking at the display. You can select whether voice feedback is on or off separately for each profile (see Profiles (Menu 5) on page 72).

When voice feedback is activated, the radio plays voice feedback in the following situations:

- When you turn the group selector, the radio plays the index number of the group (network mode) or channel (direct mode).
- When you use the back key, the radio plays the talk group index number or "Home" in network mode and the talk group index name (A, B, C) in direct mode.
- When you scroll in the fast menu with , the radio plays the pre-recorded names of the items.

Using your radio

Note: Voice feedback is primarily intended to be used when the loudspeaker is activated. Do not hold the radio near your ear to hear voice feedback when the loudspeaker is in use. The volume of voice feedback depends on the volume settings of the radio. For details, see Loudspeaker on page 20 and Volume key on page 21.

4. Group calls

■ Group call basics

Group calls are immediate one-way calls within a talk group. They are connected without the recipients answering.

You can select one talk group you primarily wish to communicate with and other talk groups whose calls you wish to scan. You may receive calls made to your selected group even when you are engaged on a call with a scanned group that has a low or medium scanning priority.

Scanning allows you to follow the calls going on in several talk groups. The scanned groups may have different scanning priorities and a group with a high scanning priority can interrupt a call you are having with another scanned group.

You can access the talk groups in the selected folder with the group selector or by pressing .

To communicate with a talk group, you need to have access rights to communicate with it and you must be in the group's area (the geographical area where communication with the group is possible). See Guide messages on page 24.

Group calls and scanning are a network service. For details and availability, contact your service provider.

Folders

The talk groups in your radio are arranged in folders. There can be a maximum of 200 folders, and a folder can have up to 24 static (predefined) talk groups and up to 24 dynamic (over-the-air) talk groups. You can view or change the folders by pressing  or entering the *Selected folder* submenu of the *Talk groups* menu.

Only one folder can be selected at a time, and you can only scan or call those talk groups that are in the selected folder (with the exception of the home group, see Home group on page 34).

In standby mode, the name of the currently selected folder is shown on the display.

Group calls

Home group

It is possible to set one talk group as the home group. The home group is automatically included in scanning when scanning is on. You can make calls to the home group and receive calls from it even when the selected folder is not the home group's folder.

Note: You need to be in the home group's area and have access rights to communicate with it.

Press **Menu** and select *Talk groups* and *Group settings*. To view the folder and group name of the home group, select *View home group*. To change the priority of the home group, select *Home group priority*. For information on how to change the home group, see Accessing the group list in standby mode on page 37 and Options in the group list on page 41.

Making a call to the home group

You can easily select the home group by pressing and holding the back key. If voice feedback is activated, the radio plays "Home". When the home group's name is displayed in standby mode, press and hold the PTT key. You can start speaking after a short tone is played and  (transmitting) appears on the display.

You can also set pressing and holding the duty key  to make a call to the home group (see Duty key setting on page 75). When you talk, press and hold the duty key .

Dynamic talk groups

Dynamic talk groups can be added to and removed from your radio's memory over the air by your service provider. When groups are added or removed, an information note is displayed (e.g., *Group added*) and you can view the changes by pressing **View**. The changes are saved in the *Group journal* submenu, see Group journal on page 42.

The dynamic groups are included at the end of the selected folder, if the folder has been set to show dynamic groups. For details, contact your service provider.

Broadcast calls

Broadcast calls are like group calls (network service). They are used, for example, to make announcements.

You can receive broadcast calls even when scanning or group calls are switched off. Broadcast calls can also interrupt any group calls in progress. You may be able to respond to broadcast calls, but you cannot start them. Broadcast calls come from background groups. See View background folder on page 41 for how to view the background groups.

■ Starting group communication

To start group communication, group calls need to be on. Select a folder and a talk group you primarily wish to communicate with, and then set scanning to on if you wish and select the groups you wish to scan. You may also define how you want the PTT key to function.

Switching group calls on and off

1. Press **Menu** and select *Talk groups*, *Group settings* and *Group calls*.
2. To switch group calls on, scroll to *On* and press **OK**. To switch group calls off, scroll to *Off* and press **OK**.

You can call or receive calls from a talk group if it is a selected or a scanned group and if it is available. These groups have their own indicators in the group list, see Edit folder: on page 40.

If you do not want to receive calls from any talk groups, either switch group calls off or deactivate the loudspeaker and earphone by pressing and holding .

Selecting a folder

To select the folder whose talk groups you want to be available:

- Press  to enter the list of folders, or press **Menu** and select *Talk groups* and *Selected folder*. Key in the first character(s) of the folder's name or scroll to the desired folder, and then press **Select**.

See Edit folder: on page 40 for how to view the list of talk groups that are included in the selected folder.

Group calls

When you change the folder, the new selected group will be the group that has the same index number as the latest selected group in the previous folder. If the new folder has less groups than the previous folder and the group index does not exist, the last group in the new folder will be selected. However, if the home group had been set as the selected group with the back key or the latest selected group was set by the network, the selected group does not change when you change the folder.

Selecting a talk group

To select a group:

- Turn the group selector until you reach the desired group. Wait until *Group selected* is displayed and the radio plays a short tone.

When you turn the group selector, the group name appears on the display and if voice feedback is activated, the radio plays the index number of the current group.

Pressing the back key switches between the groups that have the same index number as the last two selected groups (excluding the home group). Pressing and holding the back key selects the home group.

Or

- Press  to access the list of talk groups, scroll to the desired group, press *Options* and select *Select*. Wait until *Group selected* is displayed and the radio plays a short tone.

Note: If you change your selected group, you cannot receive calls from the group that used to be your selected group unless the group is included in scanning.

Switching scanning on and off and setting scanned groups

1. Press *Menu* and select *Talk groups*, *Group settings* and *Scanning*.
2. To switch scanning on, scroll to *On* and press *OK*. To switch scanning off, scroll to *Off* and press *OK*.

You can also quickly activate and deactivate scanning in the fast menu, see Fast menu on page 31.

The indicator  is displayed when scanning is on.

To set the groups you wish to scan:

- In standby mode, press  to access the list of talk groups in the selected folder. Scroll to the desired group, press **Options** and select **Include** to include the group in scanning or **Exclude** to exclude the group from scanning.
- Or
- Press **Menu** and select **Talk groups**, **Edit folder**: and scroll to the desired group. Press **Options**, select **Scanning state** and select **Included** to include a group in scanning or **Excluded** to exclude a group from scanning.

PTT key use

You may set the PTT key to function in either of the following ways:

- Pressing and holding the PTT key always makes a call to the selected group, even if the radio has just received a call from a scanned group and the name of the scanned group is still on the display.
- Or
- Pressing and holding the PTT key makes a call to the talk group whose name is on the display. If the radio has just received a call from a scanned group and the name of the scanned group is still on the display, the call is made to that scanned group. If there have been no calls from scanned groups and the name of the selected group is on the display, the call is made to the selected group.

For setting the functioning of the PTT key, see Push-to-talk setting on page 75.

■ Accessing the group list in standby mode

In standby mode, press  to access the list of talk groups in the selected folder. Scroll to the desired group and press **Options** for the following options: **Select** to select the talk group, **Set as home** to set the group as the home group, **Send message** to start sending a text message

Group calls

to the group, [Send status](#) to start sending status messages to the group, and either [Include](#) to include the group in scanning or [Exclude](#) to exclude the group from scanning.

■ Receiving a group call

You can receive group calls from your selected talk group, the home group and the scanned groups in the selected folder.

When you receive a group call, the folder's and group's name and the caller's name or number and  (receiving) are displayed in standby mode.

When nobody is speaking during a group call,  is displayed if the call comes from your selected group and  is displayed if the call comes from a scanned group.



Tip: You can use the menu functions and the phone book when you are listening to a group call.

Responding to a group call

Press and hold the PTT key while the group's name is displayed.

Note: If you have set the PTT key to always make a call to the selected group, the call is made to the selected group even if another group's name is displayed (see PTT key use on page 37). To make a call to some other group, first set it as the selected group (see Selecting a talk group on page 36).

If the call indicator has changed to  or , the call has been disconnected and pressing and holding the PTT key will start a new call to the group.

You can queue for your turn to talk during a group call by pressing and holding the PTT key (network service). A queuing tone is played and the text [queued](#) is displayed while you are in the queue. You can start speaking after a short tone is played and  appears on the display. You can stop queuing by releasing the PTT key.



Tip: You can also respond to a group call when you are using the menu.

Voice override

With voice override (network service), you can override the communication in the talk group and avoid the need to queue for your turn to speak. If you have a right to use voice override, the text above  is **Override** when the radio receives group calls.

To request for voice override, press **Override** and then press and hold the PTT key. You can start speaking after a short tone is played and  appears on the display.

Muting the call temporarily

When the radio is receiving a group call, you can mute the call for a predefined time (0-60 seconds) by pressing .

■ Making a group call

Making a call to the selected talk group

Press and hold the PTT key when your selected group's name is displayed in standby mode. You can start speaking after a short tone is played and  appears on the display.

Making a call to a scanned talk group

You can make a call to a scanned group after the conversation has ended in it by pressing and holding the PTT key while the group's name and  are still on the display.

Note: If you have set the PTT key to always make a call to the selected group, you cannot call a scanned group in this way (see PTT key use on page 37). To call the scanned group, first set it as the selected group (see Selecting a talk group on page 36).

Calling a talk group's dispatcher

1. Press  to access the list of talk groups in the selected folder.
2. Scroll to the desired group, press  and confirm by pressing **OK**.

If the group whose dispatcher you are calling is not your selected group or if you are not scanning the group, you may have to wait a few

Group calls

seconds before your call is connected. Note that all talk groups may not have dispatchers.

If the text *Use PTT to speak* is displayed, the call is changed to a one-way call and you have to press and hold the PTT key when you speak.

You can also set pressing the duty key  to start a phone call to the dispatcher of the selected group (see Duty key setting on page 75). If the call is changed into a one-way phone call, press and hold the PTT key when you speak.

Dispatcher call is a network service. For details and availability, contact your service provider.

■ Talk groups (Menu 4)



This menu contains the folders and talk groups that have been stored in your radio's memory.

You can also view and change settings related to groups and view the group journal.

See also Home group on page 34, Switching group calls on and off on page 35, Switching scanning on and off and setting scanned groups on page 36 and Selecting a folder on page 35.

Edit folder:

In this submenu, you can view and change information related to talk groups in the selected folder.

Press **Menu** and select *Talk groups*. When you scroll to the submenu *Edit folder*, you can see how many groups have the scanning state *Included* from all the groups in the folder. Press **Select** to view the list of talk groups in the selected folder.

The indicators in front of group names give you more information about the group:

- Scanning priority is indicated with dots: one dot for low priority (), two dots for medium priority (), and three dots for high priority ().
- If the group is the selected group, the indicator is inside a box ().

- If a group that is included in scanning is not available, there is a backslash (\) across the indicator ().



Tip: When the name of a group is highlighted, press and hold  to view the names of the folder and group and the group's scanning priority.

Options in the group list

In the group list, scroll to the desired group and press **Options**, and the following options become available:

- **Scanning state.** Select *Included* to include a group in scanning, or *Excluded* to exclude a group from scanning.
- **Group status.** Indicates the state of the group (network service):
 - *Active.* The group is the selected group, the home group or scanned and available.
 - *Unavailable.* You are not in the group's area.
 - *Not allowed.* For example, you do not have access rights to communicate with the group.
 - *Unknown.* The network does not recognise the group.
 - *Inactive.* Scanning state is *Excluded* and the group is not the selected group or the home group.
- **Group priority.** You can change the scanning priority of the group to *Low*, *Medium* or *High*.
- **Set as Home group.** You can set the group to be the home group. See Home group on page 34.

View background folder

You can receive broadcast calls from the groups in the background folder (see Broadcast calls on page 35). Press **Menu**, select *Talk groups* and *View background folder* to view the list of groups in the background folder. If there is a backslash (\) across the indicator in front of a group name, then the group is unavailable.

Group calls

Group journal

To view the group journal, press **Menu** and select **Talk groups** and **Group journal**. The group journal tracks certain actions made by the network or by the radio user:

- Adding or deleting dynamic groups over the air ( and ), groups becoming available or unavailable ( and ), groups selected by the network ().
- changes in group scanning priority made by the user ().

The examples in the list are indicators of unread events. For read events, the top right corner of the indicator is turned (for example, ).

The group journal can track 100 events, and the oldest events are automatically deleted when the journal becomes full. You can scroll through the list of events with  or  . To read more information about the event, press **Read**. To erase all events from the group journal, first select an event by pressing **Read**. Then press **Options** and select **Erase all**.



Tip: To select a dynamic group in the group journal, scroll to the event that indicates that the group was added and press **Read**, and then press **Options** and select **Select**. You can select a group if it has not been deleted yet and if it is included in the selected folder.

5. Express calls

Express calls are immediate one-way calls between two people. They are connected without the recipient answering. You can make express calls to TETRA network numbers.

Note: If you receive an express call when you are not using the loudspeaker, your radio alerts you and the call is connected only after you have answered it by pressing .

Express calls are a network service. For details and availability, contact your service provider.

■ Making an express call

1. Key in a TETRA number.
2. Press and hold the PTT key and start speaking after a short tone is played and  appears on the display.
3. Release the PTT key to let the other party speak.  is displayed when you receive a call.

If  is displayed, the loudspeaker is in use. You can activate or deactivate the loudspeaker by pressing . For details, see Loudspeaker on page 20.

If the text *Call type changed* appears, the call is changed to a one-way phone call. You have to wait until the other party has answered it before you can start speaking. Press  to end the call.

For information on how to make an express call using the phone book, see Searching for a name on page 58.

Reusing a number

After an express call has ended, the other party's name and number remain on the display for a short while and the call indicator changes to . You can make a new call to the number by pressing and holding the PTT key while  is displayed. You can also make a phone call to the number by pressing .

Express calls

Making an express call to an abbreviated TETRA number

To make a call to an abbreviated TETRA number, press , key in the number and press and hold the PTT key. For details on abbreviated TETRA numbers, contact your service provider.

Last number redial

1. In standby mode, press  once to access the list of ten last-dialled numbers.
2. Use  or  to reach the desired number or name.
3. To make an express call, press and hold the PTT key. Note that express calls can only be made to TETRA network numbers.

Speed dialling a phone number

If you have assigned a phone number to one of the speed dialling keys  - , you can make an express call to that number by pressing the desired speed dialling key and then pressing and holding the PTT key. Note that express calls can only be made to TETRA network numbers. See Speed dials on page 60.

■ Receiving an express call

When you receive an express call, the caller's name, number or *Call* and  are displayed.

If the loudspeaker is not in use, you need to press  to answer the call. The call is ended by pressing .



Tip: You can use the menu and phone book when you are listening to an express call.

Responding to an express call

Press and hold the PTT key and start speaking after a short tone is played and  appears on the display.

Rejecting an express call

To reject an express call, press .

Express calls

If the loudspeaker is not in use and the radio alerts for an express call, rejecting the call sends a "line busy" tone to the caller. If the call has already been connected when you reject it, the call indicator changes to .

6. Phone calls

Phone calls are like conventional telephone calls. They can be made to TETRA network and public telephone network numbers.

Phone calls are normally two-way calls, but your radio is also capable of making and receiving one-way phone calls in case the other party's terminal cannot make or receive two-way calls.

Note: If you receive an express call when the loudspeaker is off, you will receive the call like a phone call, with the radio alerting you. This is to make sure that you do not miss the call. Use the PTT key when you speak during a one-way call.

One-way and two-way calls have different ringing tones. You can change the tones in the [Profiles](#) menu.

Two-way phone calls are a network service. For details and availability, contact your service provider.

■ Making a phone call

1. Key in the area code and phone number. The area code is not required for TETRA numbers.
2. Press .
3. Scroll to one of the following number types:
 - [Private](#) if the number is a TETRA network number.
 - [Abbr. number](#) if the number is an abbreviated TETRA number.
 - [Phone](#) if the number is a public telephone network number.
 - [Office ext.](#) if the number is an office extension number.For details on the number types, contact your service provider.
4. Press  to dial the call.
5. To end the call, press .

If  is displayed, the loudspeaker is in use. You can activate or deactivate the loudspeaker by pressing . For details, see Loudspeaker on page 20.

If the call is changed to a one-way call, the text *Use PTT to speak* appears on the display. Press and hold the PTT key to speak during a one-way call. You need to press  to end the call.



Tip: You can make a phone call even during an express call or a group call. After you have pressed  to make a call, the other call is disconnected.

For information on how to make a phone call using the phonebook, see Searching for a name on page 58.

Making a phone call to an abbreviated TETRA number

To make a phone call to an abbreviated TETRA number, press , key in the number and press . For details on abbreviated TETRA numbers, contact your service provider.

Last number redial

1. In standby mode, press  once to access the list of ten last-dialled numbers.
2. Use  or  to reach the desired number or name.
3. Press  to make a phone call.

International phone calls

International phone calls are a network service. For details and availability, contact your service provider.

1. Press  twice for the international prefix (the + character replaces the international access code).
2. Enter the country code, area code and the phone number.
3. Press .

In-call options

When you press **Options** during a two-way call, the following options become available:

- **Mute** or **Unmute**. Mutes or unmutes the radio's microphone.

Phone calls

- **Send DTMF.** Allows you to key in and send DTMF tones, for example, passwords or bank account numbers.
- **Menu.** Enters the menu.
- **Phone book.** Allows you to access the phone book.
- **End active call.** Ends the call.

■ Speed dialling a phone number

If you have assigned a phone number to one of the speed dialling keys  - , you can make a phone call to that number by pressing the desired speed dialling key and then pressing . See Speed dials on page 60.

■ Answering a phone call

When a ringing tone is played, press  or .

If  is displayed, the loudspeaker is in use. To deactivate or activate the loudspeaker, press .

If the call is a one-way call, you can also answer it by pressing and holding the PTT key.  is displayed during a one-way call.

Press  or  to end the call.

Muting the ringing tone

Press **Silent** or **Options** to mute the ringing tone. By pressing **Options**, the following options also become available: **Answer** and **Reject**.

Rejecting a phone call

To reject an incoming call and to send the caller the 'line busy' tone, press .

7. Direct mode

■ Direct mode basics

In direct mode, the radio operates without the network, so the radios are communicating directly with each other. Direct mode enables one-way calls both in the network coverage area and outside the network coverage area. For details and availability, contact your service provider.

Note: When direct mode is active, only those radio functions that do not require the use of the network can be used. For example, in direct mode you cannot send or receive status or text messages, make or receive network mode calls, use WAP or the data connection or activate fast menu items that require the use of the network. To use radio functions that require the use of the network, activate network mode and return to the network coverage area.

Your radio has direct mode channels and each channel can have up to three groups. To receive a direct mode call that is made to the selected or a scanned group on the selected channel, the user must be in the coverage area of the transmitting radio. The radio coverage areas of different users can vary; even if you can hear a conversation, not all those speaking can necessarily hear you. For communication to be efficient, all the users should be within each other's radio coverage areas.

■ Using direct mode

Activating direct mode

To activate direct mode, press [Menu](#) and select [Settings](#), [Phone settings](#), [Active mode](#) and [Direct](#). To return to network mode, select [Network](#).

You can also activate direct mode and network mode in the fast menu, see Fast menu on page 31.

When you activate direct mode, the selected channel and group will be those that were last selected in direct mode. When you return to network mode, the selected folder and group will be those that were last selected in network mode.

Direct mode

In standby mode, the indicator  indicates that direct mode is active. The names of the selected channel and group are shown on the display. The bar above  indicates the signal strength of the radio you are receiving communication from. The higher the bar, the stronger the signal and the better you can receive the communication.

If a compatible direct mode gateway is available,  is displayed in standby mode and the bar above  indicates the signal strength of the gateway. If a compatible direct mode repeater is available,  is displayed in standby mode and the bar above  indicates the signal strength of the repeater. See Direct mode gateway and repeater on page 52.

Selecting direct mode channels and groups

Up to 60 direct mode channels can be stored in your radio's memory. Up to three groups can be stored for each channel. To select a channel, turn the group selector until the desired channel is displayed. Wait until *Group selected* is displayed and the radio plays a short tone. If voice feedback is activated, the radio plays the index number of the channel when you turn the group selector.

When you select a channel, the first group (A) is automatically selected. Pressing the back key switches between the second and the third group (B and C) on the same channel, and pressing and holding the back key selects the first group (A) on the channel. If voice feedback is activated, the radio plays the index name (A, B or C) of the group when you use the back key.

You can also select the channel and group with  or . Press  or  to access the list of channels. Scroll to the desired channel, press **Groups** and select the desired group.

If you do not want to receive communication from any direct mode channel, deactivate the loudspeaker and earphone by pressing and holding .

Scanning the groups on a channel

Direct mode scanning allows you to receive calls made to the other groups on the same channel. Press **Menu** and select *Settings, Direct mode settings* and *Direct mode scanning* and select *On* or *Off*.

You can also activate and deactivate direct mode scanning in the fast menu. Press  and select *Scanning on* or *Scanning off* by pressing and holding . See also Fast menu on page 31.

Receiving a direct mode call

You can receive calls from the selected group and the scanned groups in the selected channel. Even if scanning is not on, you can receive calls from groups that are on the same frequency and that have been defined as open groups (network service).

When you receive a direct mode call,  and the speaker's number or name and the name of the channel and group are displayed. If the speaker's number or name is not available, *Call* is displayed.

If the connection to the transmitting radio is lost, the note *Connection lost* is displayed.

Responding to a direct mode call

Press and hold the PTT key while the channel's and group's names are displayed.

You can queue for your turn to talk during a call by pressing and holding the PTT key. A queuing tone is played while you are in the queue. You can start speaking after a short tone is played and  appears on the display. You can stop queuing by releasing the PTT key.

Voice override

With voice override (network service), you can override the communication in the group and avoid the need to queue for your turn to speak. If you have a right to use voice override, the text above  is *Override* when the radio receives a direct mode call.

Direct mode

To request for voice override, press **Override** and then press and hold the PTT key. You can start speaking after a short tone is played and **T** appears on the display.

Muting the call temporarily

When the radio is receiving a direct mode call, you can mute the call for a predefined time (0-60 seconds) by pressing .

■ Making a direct mode call

1. First make sure that the names of the desired channel and group are displayed.
2. Press and hold the PTT key and start speaking after a short tone is played and **T** appears on the display.

Duty key in direct mode

In direct mode, pressing and holding  makes a call to the first group on the selected channel. Press and hold the duty key  when you speak.

■ Direct mode gateway and repeater

Your organisation may have separate direct mode gateway devices or direct mode repeater devices. The devices operate on certain frequencies, and offer an additional service to your radio when the radio is in a compatible device's coverage area and operates in direct mode on the same frequency as the device.

When the radio is on a direct mode channel and group where a compatible direct mode gateway device is available,  is displayed and in standby mode also **Gateway** is displayed. On such a channel and group, direct mode calls will be routed through the gateway device. Besides transmitting calls to the direct mode group, the gateway device may also transmit outgoing calls to a network mode talk group predefined by your service provider and you may also be able to receive group calls from that group. Your radio does not have support for any other services that may be offered by gateway devices.

Direct mode

If the connection to the gateway device is lost, *Gateway connection lost* is displayed and the radio will continue to operate in normal direct mode.



Note: When calls are routed through the direct mode gateway device, they are not connected as fast as normal direct mode calls.

Red key calls are not routed through the gateway device. If you are not in the network coverage area, red key calls cannot be connected.

When the radio is on a direct mode channel and group where a compatible direct mode repeater device is available,  is displayed and in standby mode also *Repeater* is displayed. On such a channel and group, your radios's coverage area in making and receiving direct mode calls may be extended. The calls are routed through the repeater device to those radios in its coverage area that have direct mode active on the same channel and group, and that support that type of repeater device.

If the connection to the repeater device is lost, *Repeater connection lost* is displayed and the radio will continue to operate in normal direct mode.

See also Direct mode settings on page 77.

■ Red key calls in direct mode



Note: If you are not within the network coverage area, you cannot use the red key call network service.

If you press and hold the red function key or press the red function key and then the back key in direct mode, the radio will attempt to switch to network mode and will attempt to make a red key call. For more information, see Red key calls on page 18.

8. Writing text

You can key in text, for example, when writing messages, in two different ways. You can use the method traditionally used in mobile phones or another method called predictive text input.

When you are writing text, predictive text input is indicated by  and traditional text input is indicated by  on the top left of the display. The character case is indicated by **Abc**, **abc**, or **ABC** next to the text input indicator, and you can change the character case by pressing . The number mode is indicated by **123**, and you can change between letter and number modes by pressing and holding .

■ Setting predictive text input on or off

When writing text, press **Options** and select **Dictionary**.

- To set predictive text input to on, select a language from the dictionary options list. Predictive text input is only available for the languages on this list.
- To change back to traditional text input, select **Dictionary off**.



Tip: To quickly set predictive text input on or off when writing text, press  twice, or press and hold **Options**.

■ Using predictive text input

You can key in any letter with a single keypress. Predictive text input is based on a built-in dictionary to which you can also add new words.

1. Start writing a word by using the keys  to . Press each key only once for one letter. The word changes after each keystroke.

For example, to write **Nokia** when the English dictionary is selected, press  once for N,  once for o,  once for k,  once for i and  once for a:



To insert a number while in letter mode, press and hold the desired number key.

For more instructions, see Tips for writing text on page 56.

2. When you have finished writing the word and it is correct, confirm it by pressing  or adding a space with .

If the word is not correct, you have the following options:

- Press  repeatedly until the word you want appears and confirm it.
- Press **Options** and select *Matches*.

If the ? character is displayed after the word, the word you intended to write is not in the dictionary. To add the word to the dictionary, press **Spell**, key in the word (traditional text input is used) and press **Save**. When the dictionary becomes full, the new word replaces the oldest one that was added.

3. Start writing the next word.

Writing compound words

Key in the first part of the word and confirm it by pressing . Write the last part of the word and confirm it by pressing  or .

■ Using traditional text input

Press a number key,  to , repeatedly until the character you want appears. Not all characters available under a number key are printed on the key. The characters available depend on the language selected in the *Language* menu, see Language on page 76.

To insert a number while in letter mode, press and hold the desired number key.

- If the next letter you want is located on the same key as the present one, wait until the cursor appears, or press  or , and then key in the letter.
- The most common punctuation marks and special characters are available under the number key .

For more instructions, see Tips for writing text on page 56.

Writing text

■ Tips for writing text

You can also use the following keys to write text:

- To insert a space, press .
- To move the cursor to the right or left, press  or , respectively.
- To delete a character to the left of the cursor, press **Clear**. Press and hold **Clear** to delete the characters more quickly.
- To insert a special character when using traditional text input, press  or when using the predictive text input, press and hold , or press **Options** and select *Insert symbol*.

Scroll through the list of characters and press **Use** to select a character.

To scroll through the list more quickly, press , ,  or  and press  to select a character.

- To insert # more quickly, change to number mode by pressing and holding , and then press  quickly.
- To insert a number while in letter mode, press **Options** and select *Insert number*. Key in the numbers you want and press **OK**.
- To insert a name or a phone number by searching for it in the phone book, press **Options** and select *Insert name* or *Insert number*.
- To insert a word when using predictive text input, press **Options** and select *Insert word*. Write the word using traditional text input and press **Save**. The word is also added to the dictionary.

9. Phone book

You can use your radio as a contact manager, because you can save multiple phone numbers as well as text, such as an E-mail address, a street address or a note under a name in the phone book.

You can enter the phone book by pressing **Names** when the radio is in standby mode.

■ Saving names and numbers

You can save at least 255 names (each of which can have up to 16 characters) and phone numbers in the phone book and up to 5 numbers and up to 2 text notes under a name. You may be able to save more than 255 names and numbers if your radio has enough memory available for this. The amount of available memory depends on the amount of data (e.g., calendar notes) saved in the radio's memory.

Each number has to be assigned a number type when it is saved in the phone book. The first number saved under a name is automatically set as the name's default number.

When you select a name from the phone book, e.g. to make a call or to send a message, the default number is used unless you select another number. The default number is indicated by a box around the number type indicator (e.g. .



Note: You can call a saved number only if it has been assigned the correct number type.

To save names and numbers:

1. Press **Names** and select **Add name**.
2. Key in the name and press **OK**. See also Writing text on page 54.
3. Key in the area code and the phone number, and press **OK**.
4. Select one of the following number types:
 -  **Private** if the number is a TETRA number other than an abbreviated TETRA number.
 -  **Abbr. number** if the number is an abbreviated TETRA number.

Phone book



Phone if the number is a public telephone network number.



Office ext. if the number is an office extension number.

5. When the name and number are saved, press **Done**.



Tip: Quick save. In standby mode, key in the phone number, press **Options** and select **Save**. Enter the name and press **OK**, approve the phone number with **OK** and then select the correct number type.

■ Searching for a name

1. Press **Names** and select **Search names**.
2. Either press **List** to access the list of names, or key in the first character or more of the name you are searching for and press **Search**.
3. Scroll to the name you want.
4. When the desired name is highlighted, you can call the default number. Pressing  makes a phone call and pressing and holding the PTT key makes an express call. Note that express calls can only be made to TETRA network numbers.

If multiple numbers have been saved for the name and you want to call one of the other numbers, first press **Details** and scroll to the number you want to call.



Tip: To search for a name during a call, press **Options** and select **Phone book** and **Search names**.

■ Organising the phone book

Numbers and text items added to a saved name

To add phone numbers or text items to a name in the phone book, first enter the list of names, scroll to the name to which you want to add a new number or text item and press **Details**. Press **Options**, select **Add number** or **Add text** and select one of the number or text types. Enter the number or enter the text and press **OK** to save it.

To edit a name, a number or a text item, search for the name you want to edit and press **Details**. Scroll to the name, number or text item you

want to edit and press **Options**. Select *Edit name*, *Edit number* or *Edit text* and edit the name, number, or text and press **OK**.

You can also erase a phone number or a text item that has been added to a name. Scroll to the number or text item you want to erase and press **Options**. Select *Erase number* or *Erase text* and press **OK**.



Tip: You can also edit names or add numbers by pressing **Names** and selecting *Edit name* or *Add number*.

Changing the number type

Once you have entered the list of names, scroll to the desired name and press **Details**. Scroll to the number whose type you want to change, press **Options** and select *Change type*.

Changing the default number

Once you have entered the list of names, scroll to the desired name and press **Details**. Scroll to the number you want to set as the default number, press **Options** and select *Set as default*.

■ Erasing phone book entries

To erase a single phone book entry:

- Search for the name and number you want to erase and press **Details**. Then press **Options** and select *Erase*.
- Or
- Press **Names** and select *Erase* and *One by one*. Scroll to the name (and number) you want to delete. Press **Erase** and press **OK** to confirm.

Note: The *Erase* option deletes the name and all the numbers and text notes stored under it.

To erase all names and numbers in the phone book, press **Names**, select *Erase* and *Erase all*. When the text *Are you sure?* is displayed, press **OK** and confirm with the security code.

■ Speed dials

You can set any of the number keys  -  to work as a speed dialling key.

1. Press **Names** and select **Speed dials**. Scroll to the desired speed dialling key (2 to 9), and press **Assign**.
2. Press **Search** and select the desired name and number.

After a number has been assigned for a speed dialling key, press **Options** and you can view, change or delete the assigned phone number.

For how to make call with speed dialling, see Speed dialling a phone number on pages 44 and 48.

■ Caller groups

You can set the radio to play a specific ringing tone and show a graphic on the display when you receive a phone call from a particular name and phone number. Press **Names**, select **Caller groups** and select the caller group you want. Then select:

- **Group title**. You can rename the caller group by keying in a new name and pressing **OK**.
- **Group ringing tone**. You can select the desired ringing tone for the caller group. **Default** is the tone selected for the currently selected profile.
- **Group logo**. You can set whether the radio displays the caller group graphic or not, and view the logo.
- **Group members**. You can view the names included in the caller group, and add or remove members. To add a new name, (press **Options** and) select **Add name**. Scroll to the name you want to add to the group and press **Add**. If you have more than one number saved under the name, scroll to the desired number and press **OK**.



Tip: You can also add a new name to a caller group by searching it from the phone book. At the desired number, first press **Details** and then **Options**. Select **Caller groups** and then select the desired caller group.

To remove a name from a caller group, scroll to the name you want to remove, press **Options** and select **Remove name**.

You can set the radio to ring only upon receiving phone calls from names and numbers that belong to a specific caller group by using the *Alert for* setting, see Customising profiles on page 73.

■ Phone book settings

Press *Names* and select *Settings* to access the following settings:

- *Phone book view*. You can set your radio to show the stored names and numbers in two ways: *Name list* shows three names at a time and *Name & number* shows one name and phone number at a time.
- *Memory status*. You can check what percentage of the radio's internal memory is in use and how much memory is still free.

10. Menu functions

■ Status msgs. (Menu 1)



Press **Menu** and select *Status msgs.*. You can read and send status messages and save them for later use.

There are three types of status messages:

- **Status messages** are predefined messages with varying contents. You can send them to your selected recipient.
- **Situation indicators** are predefined messages with varying contents. You can send them to a predefined recipient.
- **Callback requests** contain the message 'callback'. You can send callback requests to your selected recipient.

Status messaging is a network service. For details and availability, contact your service provider.

Note: Network settings may, for example, affect the recipient of those callback requests and situation indicators that are sent to talk group addresses (the recipient is either the talk group's dispatcher or all talk group members).

Unit alert messages

The unit alert network service is one type of status message. It is used to alert people to the following radio traffic. If you receive a unit alert message, pay special attention to the following calls and messages.

The text of the unit alert message is predefined by your organisation. When you receive a unit alert message, the message is displayed, the radio will play an alarm tone, the lights will flash and the *General* profile will be activated. You can stop the alarm by pressing **Stop**.

A unit alert message is sent like a status message.

Reading status messages

When you receive a status message, the message and  appear in standby mode. The type of the message is identified with either *Status:*

(statuses addressed to an individual), *Group status*: (statuses addressed to a talk group), *Situation*: or *Callback request*:

To confirm that you have read the message: Press **OK**. If you have received another status message, *1 status message received* is displayed. To read the message, press **Read**.

To read the message later: press **Exit**.

After you have pressed **OK** or **Exit**, the message is moved to the *Received* folder.

Reading a status message in the received folder

1. Press **Menu** and select *Status msgs.*
2. Select *Received* to view received messages. In the case of callback messages, the sender's name or number is shown instead of the message. The messages are identified with the following indicators:
 -  an unread status message
 -  a read status message
 -  an unread situation indicator
 -  a read situation indicator
 -  an unread callback request
 -  a read callback request
3. Scroll to the desired message and press **Read**.

Press **Options** for the following options when you are reading a message:

- **Erase** to erase the message.
- **Reply** to reply to a status message with a status message or a callback request. Select either *Status* or *Callback*. If you selected *Status*, scroll to the desired message and press **OK** to send it.
- **Save** to save the status message in a folder in the *My folders* submenu.
- **Use number** to extract numbers from the current message.
- **Group name** to view the name of the talk group to which the message was addressed.

Menu functions

Easy callback

To call the sender of a status message:

1. Once you are reading a status message, press .
2. To make a phone call, press . To make an express call, press and hold the PTT key.

Sending status messages

Sending a status message or a callback request

1. Press **Menu** and select *Status msgs.* and *Send status message*.
2. To send a status message, select *Status*. Scroll to the desired status message and press **OK**. Instead of scrolling, you can also search for a message by keying in its first letter(s).

To send a callback request, select *Callback*.

3. To send the status message or callback request to an individual:

- Key in the number and press **OK**. Select one of the following number types and then press **Send** to send the message:
 - Private* if the number is a TETRA network number.
 - Abbr. number* if the number is an abbreviated TETRA number.
 - Phone* if the number is a public telephone network number.
 - Office ext.* if the number is an office extension number.

Or

- Search the number from the phone book. Press **Search**, select *Names*, scroll to the desired name, press **OK** and then press **OK** again when the phone number is displayed. If multiple numbers have been stored for the name, first select the desired number and then press **OK** to send the message.
4. To send the status message or callback request to a talk group address, press **Search** and select *Talk groups*. Scroll to the desired group name and press **Select**. See also the note on page 62.



Tip: You can set pressing the duty key  to send a callback request to the selected group's address. See Duty key setting on page 75.

Sending a situation indicator

1. Press **Menu** and select *Status msgs.* and *Send status message*.
2. Select *Situation*.
3. Scroll to the desired situation indicator and press **Send**. Instead of scrolling, you can search for a message by keying in its first letter(s).

The first five situation indicators saved in your radio's memory are also included in the fast menu, see Fast menu on page 31.

You can view the recipient of the situation indicator in the *Status settings* submenu (see Status settings on page 66).

Received and sent folders

After you have received a status message, the radio moves it to the *Received* folder. After you have sent a message, the radio moves the message to the *Sent* folder.

Once either of these folders has become full, the oldest read message in the folder is deleted when a new message is moved to the folder. You can create folders under the *My folders* submenu and store messages there for later use.

You can define the maximum number of messages that are kept in the *Received* and *Sent* folders (see Status settings on page 66).

Handling messages in the received and sent folders

1. Press **Menu**, select *Status msgs.* and select either *Received* or *Sent*.
2. Scroll to the desired message and press **Read** to view the message.
3. Press **Options** for the following options: *Erase*, *Reply* (available only for received messages), *Save*, *Use number* and *Group name* (available only for group messages). For more information on the options, see Reading a status message in the received folder on page 63.

User-specified folders

You can create folders under the *My folders* submenu and save received and sent messages there.

1. Press **Menu** and select *Status msgs.* and *My folders*.
2. Scroll to the desired folder. Skip this step if you are adding a folder.

Menu functions

3. Press **Options** for the following options (if you have not yet created any folders, only **Add folder** is available):

- **Open folder**. Opens the selected folder. You can scroll to the desired message and view it by pressing **Read**.

In the message, press **Options** for the following options: **Erase**, **Reply** (available only for received messages), **Move** (moves the message to another folder), **Use number** and **Group name** (available only for group messages).

- **Add folder**. Creates a new folder in the **My folders** submenu. Enter the name of the new folder and press **OK**.
- **Clear folder**. Deletes all the messages in the selected folder.
- **Rename folder**. Renames the folder.
- **Remove folder**. Deletes the selected folder.

Clearing status message folders

1. Press **Menu** and select **Status msgs.** and **Erase messages**.
2. Scroll to the folder whose contents you want to delete and press **OK**.
Or
Scroll to **All** to delete the contents of all the status message folders and press **OK**.

Status settings

Press **Menu** and select **Status msgs.** and **Status settings** to view and modify the following settings:

- **Max. number of received** defines the maximum number of received status messages that are kept in the **Received** folder, and **Max. number of sent** defines the maximum number of sent status messages that are kept in the **Sent** folder. The options are 20, 50 and 100. Note that once either folder has become full and a new message is moved to it, the oldest read message is deleted.
- **Delivery reports** defines if the delivery reports that the network sends on your status messages are shown (network service).

- *Recipient of situations* displays the name or number of the recipient of situation indicators. See also the note on page 62.

■ Messages (Menu 2)



You can read and write text messages and send them to individuals and talk groups. You can also save them in folders for later use. You can send text messages of up to 160 characters to phone and office extension numbers and text messages of up to 140 characters to private numbers. For number types, see Making a phone call on page 46.

Important: Some networks may not support the text message character counts indicated in this user's guide. In such a network, text messages that are too long cannot be delivered but they may be deleted as a whole. Therefore, pay attention to the character count when you write messages to be sent in such a network. Contact your service provider for the details of your network.

Text messaging is a network service. For details and availability, contact your service provider.

Writing and sending text messages

1. Press **Menu** and select *Messages* and *Write message*.
2. Key in a message. For details, see Writing text on page 54. You can also insert a template into the message: press **Options**, select *Use template* and then select the desired template.

The number of characters that is left for the message is shown on the top right corner of the display. If you key in more than 140 characters, which is the maximum length of messages that can be sent to private numbers, the counter starts to count characters from -1 to -20. You can send messages containing the additional 20 characters marked with a minus sign to phone and office extension numbers.

3. To send the message, press **Options** and select *Send*.
4. To send the message to an individual:

Menu functions

- Key in the number and press **OK**. Then select one of the following number types and press **Send**:
 - Private* if the number is a TETRA network number.
 - Abbr. number* if the number is an abbreviated TETRA number.
 - Phone* if the number is a public telephone network number.
 - Office ext.* if the number is an office extension number.
- Or
- Search the number from the phone book. Press **Search**, select *Names*, scroll to the desired number, press **OK** and press **OK** again when the phone number is displayed. If multiple numbers have been stored for the name, first select the desired number and then press **OK** to send the message.

5. To send the message to a talk group, press **Search** and select *Talk groups*. Scroll to the desired group name and press **Select**.



Note: When sending messages via the SDS network service, your radio may display the words "*Message sent*". This is an indication that the message has been sent by your radio. This is not an indication that the message has been received at the intended destination. For more details about SDS services, check with your service provider.

Sending a text message to multiple recipients

1. After you have written the message, press **Options** and select *Send options* and *Send to many*.
2. Scroll to the desired name in the list of names which is displayed and press **OK** to send the message. If you have saved multiple phone numbers for the name, you also need to select the desired phone number.
3. Select the next recipient and press **OK**. When you do not want to send the message to any more recipients, press **Done**.

Reading text messages

When you have received a text message, the indicator  and the number of new messages followed by *messages received* will appear on the display.

Note: The blinking indicator  indicates that the message memory is full. Before you can receive new messages, delete some of your old messages.

1. Press **Show** to read the message or press **Exit** to read it later.

To read the text message later:

Press **Menu** and select **Messages**, **Inbox** and press **Open**. Select the desired message. An unread text message is indicated by the indicator  in front of it.

2. While reading the message, press **Options** for the following options: **Erase**, **Reply**, **Use number**, **Forward**, **Forw. options**, **Edit**, **Move**, **Rename**, **Copy to calend.** and **Font size**.

Easy callback

To call the sender of the text message, proceed as follows:

1. Once you are reading a text message, press .
2. To make a phone call, press . To make an express call, press and hold the PTT key. Note that express calls can only be made to TETRA numbers.

Replying to a message

1. Once in a message you want to reply to, press **Options** and select **Reply**.
2. Select one of the following reply types: **Empty screen**, **Orig. message**, **Template** or one of the standard answers such as **Thank you**.
If you selected **Template**, select the desired template from the displayed list.
3. Key in your reply message, press **Options** and select **Send**. Press **OK** to send the message to the displayed number.
If you want to send a reply message to multiple recipients, use the **Send to many** option under **Forw. options**.

Inbox and Outbox folders

Received messages are saved in the **Inbox** folder. When you save a message you have written and/or sent, the message is saved in the **Outbox** folder.

Menu functions

Templates

The *Templates* submenu includes the templates that you can use when writing or replying to messages. You can edit the templates, but the original templates will be restored when menu *Restore factory settings* is selected.

Archive folder and user-specified folders

You can move some of your text messages to the *Archive* folder or you can add new folders under the *My folders* submenu and save some of your messages there.

While reading a message, press *Options*. Select *Move*, scroll to the folder where you want to move the message and press *OK*.

To add or delete a folder, press *Menu* and select *Messages* and *My folders*.

- To add a folder, press *Options* and select *Add folder*.
- To delete a folder, scroll to the folder you want to delete, press *Options* and select *Remove folder*.

Note: When you delete a folder, all the messages contained in that folder are also deleted.

Erasing text messages

Press *Menu* and select *Messages* and *Erase messages*. To delete all read messages in a certain folder, select the desired folder and press *OK* when *Erase all read messages from folder?* is displayed. To delete all read messages from all folders, select *All read* and press *OK* when *Erase all read messages?* is displayed.

To delete a single message, press *Options* when you are reading the desired message and select *Erase*.

Message settings

The message settings affect the sending of messages. Press *Menu*, select *Messages* and *Message settings*, and select:

- [Delivery reports](#) to ask the network to send delivery reports on your text messages (network service). Delivery reports are not available for messages addressed to talk groups.
- [Message centre number](#)¹ to save the phone number of the message centre (network service). Key in the number and press **OK**. The message centre number is needed for sending text messages. You receive the number from your service provider.

■ Call register (Menu 3)



You can view the phone numbers registered by the radio and view the approximate length of your two-way phone calls (network service). You can also check the amount of data you have sent and received, and the duration of a data connection.

The radio registers missed and received calls only if the network supports Calling Line Identification (CLI), and the radio is switched on and within the network's service area.

When you press **Options** in the [Missed calls](#), [Received calls](#) or [Dialled numbers](#) menus, you can view the date and time of the call, call the number, save the number in the phone book and view, edit or erase the number from the list.

Recent calls lists

Press **Menu**, select [Call register](#) and then select:

- [Missed calls](#) to view the list of the last ten phone numbers from which somebody has tried to make a phone call to you (network service).
- [Received calls](#) to view the list of the last ten phone numbers from which you have most recently accepted a phone call or from which you have received an express call (network service).
- [Dialled numbers](#) to view the list of the ten phone numbers to which you made or tried to make a phone call or an express call by dialling the number.

1. This menu is shown only if the network supports it.

Menu functions



Tip: To quickly access the list of last dialled numbers, press  once when the radio is in standby mode.

- [Erase recent call lists](#) to erase the recent calls lists. Select whether you want to delete all the phone numbers in the recent call lists, or only those numbers in the missed calls, dialled numbers or received calls lists. You cannot undo the operation.

Counters and timers



Note: The actual time invoiced for calls by your service provider may vary, depending upon network features, rounding-off for billing, and so forth.

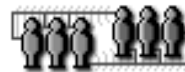
Press [Menu](#), select [Call register](#) and then select:

- [Call duration](#) to view the duration of your incoming and outgoing two-way phone calls in hours, minutes and seconds. Select [Phone calls](#) to view information on public telephone network calls or [Private calls](#) to view information on TETRA network calls.
- [Data counter](#) to check the amount of data you have sent or received during the last data connection or in total. The counter unit is a byte.
- [Data connection timer](#) to check the duration of the last data connection or of all data connections.

You can also clear the timers or the data counter. You need to enter the security code, see Access codes on page 13.

■ Talk groups (Menu 4)

See Talk groups (Menu 4) on page 40.



■ Profiles (Menu 5)

Your radio has various profiles for different events and environments and you can customise the settings related to the profiles. The available profiles are [General](#), [Silent](#), [Meeting](#), [Outdoor](#), [Pager](#), [Active holder](#) and [Headset](#).



To activate a profile:

- Press  quickly in standby mode and select the desired profile.

Or

- Press **Menu** and select **Profiles**. Scroll to the desired profile, press **Options** and select **Activate**.



Tip: You can also activate the profiles **General** and **Silent** in the fast menu.

Customising profiles

1. Press **Menu** and select **Profiles**.
2. Scroll to the desired profile, press **Options** and select **Personalise**.
3. The following settings can be personalised: **Ringling tone** for two-way phone calls, **Push-to-talk ringing tone** for one-way phone calls, **Incoming call alert**, **Ringling volume**, **Message alert tone**, **Status message alert tone**, **Keypad tones**, **Warning tones**, **Lights**, **Light indicator**, **Voice feedback**, **Audio setting** for setting the active speaker and microphone, and **Alert for** for setting the radio to ring only for calls from phone numbers which belong to a selected caller group (see also Caller groups on page 60).

To rename the profile, select **Profile name** and key in the new name. The **General** profile cannot be renamed.



Note: Even if **Top microphone** or **Ext. speaker** is selected in **Audio setting**, to improve the voice quality the bottom microphone is used in two-way calls when the loudspeaker or external speaker is active.

■ Settings (Menu 6)



Transmission barring

Press **Menu** and select **Settings**, **Transmission barring** and you can activate or deactivate transmission barring. You should activate transmission barring before you enter the area where you want transmission to be barred. The indicator  or  is displayed in standby mode when transmission barring is active. See Transmission barring on page 14.

Menu functions

Alarm clock

The alarm clock uses the time format set for the clock. The alarm clock works even when the radio is switched off. When the alarm is on, the indicator  is displayed in standby mode.

To set the alarm, press **Menu** and select **Settings** and **Alarm clock**. Key in the alarm time and press **OK**. To change the time when the alarm time has been set, select **On**. To switch the alarm off, select **Off**.

When the alarm time expires, the radio will play an alert tone, and flash **Alarm!** and the alarm time on the display. (If the **Silent** profile is in use, the alert tone is not played if the radio is switched on when the alarm time expires. However, the alert tone is played if the radio is switched off when the alarm time expires.) Press **Stop** to stop the alarm. If you let the radio continue to alarm for a minute or press **Snooze**, the alarm stops for a few minutes and then resumes.

If the alarm time is reached while the radio is switched off, the radio switches itself on and starts sounding the alarm tone. If you press **Stop**, the radio asks whether you want to activate the radio for calls. Press **No** to switch off the radio or **Yes** to make and receive calls.



Note: Do not press **Yes** to switch the radio on when wireless phone use is prohibited or when it may cause interference or danger.

Clock

Press **Menu** and select **Settings** and **Clock**. Select **Show clock** or **Hide clock** to set whether the clock is shown on the display in standby mode. Select **Set the time** to adjust the clock to the right time, and **Time format** to select the 12-hour or 24-hour time format.

The clock also serves the menus **Status msgs.**, **Messages**, **Call register**, **Alarm clock** and **Calendar**.

If the battery is removed from the radio for a long time, you may need to set the time again.

Call settings

Anykey answer

When this function is activated, you can answer a phone call by pressing any keypad key briefly, except , , , and . To activate or

deactivate the anykey answer function, press **Menu** and select *Settings, Call settings, Anykey answer* and then either *On* or *Off*.

Summary after call

When this function is activated, the radio will briefly display the approximate duration and cost (network service) of the last two-way phone call. Press **Menu** and select *Settings, Call settings, Summary after call* and then either *On* or *Off*.



Note: The actual invoice for calls and services from your service provider may vary, depending upon network features, rounding-off for billing, taxes and so forth.

Push-to-talk setting

You can set how you want the PTT key to function when making group calls in network mode. Press **Menu** and select *Settings, Call settings, Push-to-talk setting*. Then select:

- *Selected group* to set pressing and holding the PTT key to always make a call to the selected talk group.
- *Default* to set pressing and holding the PTT key to make a call to the talk group whose name is on the display (either the selected group or a currently active scanned group).

For details, see PTT key use on page 37.

Duty key setting

Press **Menu** and select *Settings, Call settings, and Duty key setting*.

Select how you want the duty key  to function in network mode:

- *Dispatcher call*. Pressing  starts to make a phone call to the dispatcher of the selected group. If the call is changed into a one-way phone call, press and hold the PTT key when you speak.
- *Dispatcher cbr.*. Pressing  sends a callback request to the selected group's address. See the note on page 62.
- *Home group call*. Pressing and holding  makes a call to the home group. Press and hold the duty key  when you speak.

Menu functions

Phone settings

Active mode

With this submenu, you can set the mode in which your radio operates. Press **Menu** and select *Settings*, *Phone settings* and *Active mode* and select *Network* or *Direct*.

Language

Press **Menu** and select *Settings*, *Phone settings* and *Language* to select the language in which the display texts are shown. This setting also affects the time and date formats of the menus *Alarm clock* and *Calendar*.

Welcome note

Press **Menu** and select *Settings*, *Phone settings* and *Welcome note*. You can save a note that is briefly displayed when the radio is switched on. Key in the note, press **Options** and select *Save* to save the note. If you want to delete the note, select *Erase*.

Network selection

With this submenu, you can select in which network the radio operates (network service). See also Network selection on page 15.

Press **Menu**, and select *Settings*, *Phone settings* and *Network selection* and then select:

- *Automatic*. The radio automatically selects an available network from a predefined list of networks. If connection to the currently used network is lost, the phone automatically selects one of the available networks.
- *Manual*. Enters a predefined list of networks. Scroll to the desired network with  and  and select it by pressing **Select**. If *Network not allowed* is displayed in standby mode, the radio cannot register to that network.

Display brightness

Press **Menu** and select *Settings*, *Phone settings* and *Display brightness* and you can adjust the display brightness. Use  or  to adjust the brightness when the bar is shown on the display.

Unit alert duration

Press **Menu** and select *Settings*, *Phone settings* and *Unit alert duration* and you can set the duration of received unit alert messages to be *Short*, *Medium*, *Long* or *Unlimited*.

Allow location info sending

With this submenu, you can set whether your radio automatically answers to location requests from numbers authorised by your organisation by sending information messages. The messages contain information with which the service provider can calculate the approximate location of the radio (network service). Press **Menu** and select *Settings*, *Phone settings* and *Allow location info sending* and select *Yes* or *No*.

Direct mode settings

Press **Menu** and select *Settings* and *Direct mode settings* and then select:

- *Direct mode scanning* to activate or deactivate direct mode scanning. Direct mode scanning allows you to receive calls made to the other groups on the same channel.
- *View active direct mode device* to view the type and address of the active direct mode device (repeater, gateway or none).

Keyguard settings

Press **Menu** and select *Settings*, *Keyguard settings* and then select:

- *Automatic keyguard* to set the desired level of keyguard (*Keypad* or *All keys*) to be activated automatically after the desired time. Select *Off* to switch the automatic keyguard off. See Locking the keys (Keyguard) on page 27 for more information about the two levels of keyguard.
- *Keyguard code* to set the radio to ask for the PIN code when you unlock the keypad. If you enter an incorrect PIN code five times in succession, the radio asks for the security code.

Menu functions

Communication settings

Press **Menu** and select *Settings* and *Communication settings*.

- To listen to voice messages, press **OK** when *Listen to voice messages* is displayed. Note that the voice mailbox is a network service and you may need to subscribe to it first.



Tip: To quickly call your voice mailbox, press and hold  in standby mode.

- To store or edit your voice mailbox number, select *Voice mailbox number*. Enter your voice mailbox number and press **OK**.

Voice mailbox is a network service. For more information and for the voice mailbox number, contact your service provider.

Enhancement settings

1. Press **Menu** and select *Settings* and *Enhancement settings*.
2. Select either *Active holder*, *Headset* or *Handsfree* and select one of the settings that may be available for the enhancement:
 - *Default profile*. Select the profile you want to have activated with the selected enhancement.
 - *Automatic answer*. Select *On* to set the radio to automatically answer an incoming call in five seconds' time. If the *Incoming call alert* is set to *Beep once* or *Off*, automatic answer will not be in use.
 - *Lights*. Select *On* to set the lights permanently on, *Automatic* to set the lights on for 15 seconds after a keypress, or *Off* to set the lights off.

Modem settings

You can connect your radio via a cable to a compatible PC and use it as a modem to enable connectivity from your PC to a data network. To establish a connection to the data network, you need to activate the access point you wish to use for the connection. For details on the access point, contact your network operator or service provider.

To activate an access point and to change its settings:

1. Press **Menu** and select **Settings** and **Modem settings**.
2. Select **Active access point**, scroll to the access point you want to use and press **Activate**.
3. Select **Edit active access point** to change the access point settings.
 - Scroll to **Alias for access point** and press **Rename**. Key in the name you would like for the activated access point and press **OK**.
 - Scroll to **Access point** and press **Edit**. Key in the Access Point Name (APN) and press **OK**.

Security settings

Press **Menu** and select **Settings**, **Security settings** and then select:

- **PIN code request** to set the radio to ask for your PIN code every time the radio is switched on.

Note: If you enter an incorrect PIN code five times in succession, the code is blocked and you need to enter the security code to unblock the PIN code.

- **Configure access levels** to change what kind of access rights are required for certain functions. You need to enter the configuration code for this function.
- **Access level** to change your user level (**Extended** or **Normal**) which determines what kind of access rights you have. You need to enter the access level code for this function.
- **Change of access codes** to change the PIN code or the security code. See Access codes on page 13.

Note that you should avoid using access codes similar to the emergency numbers, such as 112, to prevent accidental dialling of the emergency number.

Restore factory settings

Press **Menu**, select **Settings** and **Restore factory settings** and you can reset some of the menu settings to their original values. You need to enter the security code for this function.

Menu functions

■ Calculator (Menu 7)



Note: Your radio must be switched on to use this function. Do not switch the radio on when wireless phone use is prohibited or when it may cause interference or danger.

This calculator has a limited accuracy and rounding errors may occur, especially in long divisions.

1. Press **Menu** and select **Calculator**.
2. When '0' is displayed on the display, key in the first number in the calculation.
Press for a decimal point. To change the sign, press **Options** and select **Change sign**. To erase any mistakes, press **Clear**.
3. Press once to add, twice to subtract, three times to multiply and four times to divide. Or, press **Options** and select the desired function.
4. Key in the second number.
5. For a total, press **Options** and select **Equals**. Repeat steps 3 to 5 as many times as is necessary.
6. To start a new calculation, first press and hold **Clear**.

Making a currency conversion

First you need to set the exchange rate. Press **Menu** and select **Calculator**, then press **Options** and select **Exchange rate**. Select either **Foreign unit expressed in domestic units** or **Domestic unit expressed in foreign units**, key in the exchange rate (press for the decimal point) and press **OK**.

To make the conversion, key in the amount you want to convert, press **Options** and select **In domestic** or **In foreign**.

■ Calendar (Menu 8)



The calendar helps you to keep track of reminders, meetings, birthdays and calls that you need to make.



Note: Your radio must be switched on to use this function. Do not switch the radio on when wireless phone use is prohibited or when it may cause interference or danger.

Press **Menu** and select **Calendar**. Scroll to the day you want. If you have set notes for the day, the corresponding note type indicator is shown.

Day view: The day view lists the notes made for the day. Press **Options** and select **View day notes**.

Note view: When in the Day view, scroll to the note you want to view, press **Options** and select **View**.

The other options of calendar views may include:

- Options for making a note and for sending a note as a text message.
- Options for erasing, editing, moving and repeating a note and for copying a note to another day.
- **Settings** to set the date, time, date format and time format. In the **Auto erase** option you can set the radio to delete old notes automatically after a specified time, except for the repeat notes (for example, birthday notes).

Adding a calendar note

1. Press **Menu**, select **Calendar** and scroll to the desired date.
2. Press **Options** and select **Make a note**.
3. Select one of the following note types. For entering letters and numbers, see Writing text on page 54.
 - **Meeting** (📅) Enter the note and press **OK**. Then enter the time and press **OK**.
 - **Call** (☎) Enter the desired phone number and press **OK**, and then enter the desired name and press **OK** (or search them from the phone book). Then key in the time for the call and press **OK**.
 - **Birthday** (🎂) Enter the person's name and press **OK**, then repeat the same with the date of birth and year of birth (optional).
 - **Memo** (📝) Enter the note and press **OK**.

Menu functions

4. For meetings, calls and birthdays you can set an alarm to remind you by selecting **Alarm on** and setting the alarm time for the note. When you view the notes, notes that have an alarm are indicated with .

When the radio alarms for a note:

The radio plays a tone and displays the note. With a **Call** note on the display, you can make a phone call to the displayed number by pressing  or an express call by pressing and holding the PTT key. Note that express calls can only be made to TETRA numbers.

To stop the alarm and to view the note, press **View**. To stop the alarm without viewing the note, press **Exit**.

■ To-do list (Menu 9)



The to-do list allows you to create a list of things you must do and to prioritize them according to their importance. You can also store to-do list notes in the calendar and send them to another radio as a text message. Depending on the size of the notes, you can store up to 30 notes in the list.



Note: Your radio must be switched on to use this function. Do not switch the radio on when wireless phone use is prohibited or when it may cause interference or danger.

Press **Menu** and select **To-do list**. Press **Options** for the following options:

- **Add**. Creates a to-do list note. Key in the note, press **Options** and select **Save**. Select the note's priority, either **High (1)**, **Medium (2)** or **Low (3)**.
- **View**. Displays a to-do list note.
- **Erase**. Erases a to-do list note.
- **Edit**. Allows you to edit a to-do list note. To save the note, press **Options** and select **Save**.
- **Edit priority**. Allows you to change the priority of a to-do list note.
- **Go to priority**. Goes to the first to-do list note with a certain priority.
- **Save to calend..** Saves a to-do list note in the calendar.
- **Send as text**. Sends a note to another radio as a text message.

■ Services (Menu 10)



The Services menu allows you to access WAP (Wireless Application Protocol) services provided by your organisation and various commercial WAP services such as banking, news, weather reports and flight times. These services are specially designed for mobile phones and they are maintained by WAP service providers.

Check the availability of WAP services, pricing and tariffs with your network operator and/or the service provider whose service you want to use. Service providers will also give you instructions on how to use their services.



Note: Your radio must be switched on to use this function. Do not switch the radio on when wireless phone use is prohibited or when it may cause interference or danger.

You must be in network mode and in the network coverage area to use this function.

The WAP services use Wireless Mark-Up Language (WML) on their WAP pages. Web pages using the Hyper Text Mark-Up Language (HTML) cannot be viewed on your radio.

Call functions during a WAP connection

You can make and receive phone calls during a WAP connection. When you make a call, data transfer is suspended. However, you may be able to receive calls only when data transfer is not in progress. After the call is ended, the radio will try to resume the WAP connection.

Group calls and express calls are not possible during a WAP connection. The express calls made to you, however, may be changed to one-way phone calls and you can receive them like phone calls when data transfer is not in progress (network service).

Basic steps for accessing and using WAP services

1. Save the service settings that are needed to access the WAP service that you want to use. See Setting up the radio for a WAP service below and Appearance settings of WAP browser on page 88.

Menu functions

2. Make a connection to the given WAP service. See Making a connection to a WAP service on page 86.
3. Start browsing the pages of the WAP service. See Browsing the pages of a WAP service on page 87.
4. Once you are done with browsing, end the connection to the WAP service. See Ending a WAP connection on page 88.

Setting up the radio for a WAP service

You may receive the service settings as a text message from the network operator or service provider that offers the WAP service that you want to use. For more information, contact your network operator or service provider.

You can also key in the settings manually. For appropriate settings, contact your network operator or service provider. The WAP settings may be available, for example, on the Web site of the network operator or service provider.

Saving the service settings received as a text message

When you receive the service settings as a text message, *Service settings received* is displayed.

- To save and activate the received settings, press **Options** and select **Save**.
If no settings are saved in *Active service settings*, the settings are saved under the first free connection set and also activated.
- To discard the received settings, press **Options** and select **Discard**.
- To view the received settings first, press **Options** and select **View**. To save the settings, press **Save**.

Keying in the service settings manually

1. Press **Menu** and select *Services* and *Settings*.
2. Select *Active service settings*.

You need to activate the set where you want to save the service settings. A set is a collection of settings needed for making a connection to a WAP service.

3. Scroll to the set you like to activate and press **Activate**.

4. Select *Edit active service settings*.
5. Select each of the settings one by one and key in all the required settings.
 - *Settings name* – Key in the new name for the connection set and press **OK**.
 - *Homepage* – Key in the homepage address of the WAP service that you want to use, press  for a period, and press **OK**.
 - *Session mode* – Select *Permanent* or *Temporary*.
 - *Connection security* – Select *On* or *Off*.
 When the connection security is *On*, the radio tries to use a secure connection with the WAP service. If a secure connection is not available, the connection will not be made. If you wish to connect anyway, with a non-secure connection, you must set the connection security to *Off*.
 - *Data connection* – Select *Always online* or *When needed*.
 If you select *Always online*, the data connection is automatically established when you switch on the radio. The indicator  is shown on the display. The data connection is not closed when you end a WAP connection.
 If you select *When needed*, the data connection is established when you connect to a WAP service and closed when you end the WAP connection.
 - *Access point* – Key in the access point name and press **OK**.
 Access point name is needed to establish a connection to data network. You obtain the access point name from your network operator or service provider.
 - *IP address* – Key in the address, press  for a period, and press **OK**.
 - *Authentication type* – Select *Secure* or *Normal*.
 - *Login type* – Select *Manual* or *Automatic*. If you select *Manual* when the *Data connection* is set to *Always online*, the *Always online* connection will be disabled.
 - *User name* – Key in the user name and press **OK**.

Menu functions

- **Password** – Key in the password and press **OK**.

Making a connection to a WAP service

Firstly, make sure that the service settings of the WAP service you want to use are activated. To activate the settings:

- Press **Menu** and select **Services** and **Settings**. Select **Active service settings** and scroll to the set you want to activate and press **Activate**.

Secondly, make a connection to the WAP service. There are three ways to connect:

- Open the homepage of the WAP service:

Press **Menu** and select **Services** and **Home**.



Tip: To quickly open the homepage of a WAP service: in standby mode, press and hold .

Or

- Select a bookmark of the WAP service:

Press **Menu**, select **Services**, **Bookmarks**, and select a bookmark.

If the bookmark does not work with the current active service settings, activate another set of service settings and try again.

Or

- Key in the address of the WAP service:

Press **Menu** and select **Services** and **Go to address**. Key in the address of the WAP service, press  for special characters, and press **OK**.

Note that it is not necessary to add the prefix `http://` in front of the address since it will be added automatically.

The indicator  is shown on the top left of the display when you are connected to a WAP service. If there is an incoming (or outgoing) phone call during the connection, the connection is suspended and the indicator  is shown on the top right of the display.

Group calls and express calls are not possible when the indicator  is shown. The express calls made to you, however, are changed to one-way phone calls and you can receive them like normal phone calls.

Browsing the pages of a WAP service

After you have made a connection to the WAP service, you can start browsing its WAP pages. The function of the radio keys may vary in different WAP services. Follow the text guides on the radio display. For more information, contact your WAP service provider.

General guidelines for using the radio keys

- Use the scroll keys  or  to browse the WAP page.
- To select a highlighted item, press .
- To enter letters and numbers, press the keys  -  and to enter special characters, press the key .
- Some or all of the following options are available while a WAP connection is in progress. Press **Options** and select the option you want.

Home - to go back to the homepage of the WAP service.

Bookmarks - the list of bookmarks is displayed. For details, see Bookmarks on page 89.

Edit / Open row / Open link / Open list - to key in text or select a highlighted item on the WAP page.

Add bookmark - to add the current WAP page as a bookmark in your bookmarks list.

Go to address - to key in the address of the WAP service you want.

Service inbox - the list of service messages is displayed, see Service inbox on page 89.

Appear. sett. - for details, see Appearance settings of WAP browser on page 88.

Download settings - for details, see Download settings on page 88.

Use number - to copy a number from the current WAP page for saving or calling (and ends the WAP connection). If the WAP page contains several numbers, you may select the desired one.

Reload - to reload and update the current WAP page.

Clear the cache - for details, see The cache memory on page 90.

Menu functions

[Security info](#) - to view security information about the current WAP connection and the server.

[Quit](#) - to quit browsing and end call.

The WAP browser supports functions which you can access while browsing. You can make a phone call while you are on a WAP page and save in the phone book a name and a phone number from a WAP page.

Ending a WAP connection

When you are using a WAP service, press [Options](#) and select [Quit](#). When [Quit browsing?](#) is shown, press [Yes](#). Alternatively, press .

Appearance settings of WAP browser

1. When no WAP connection is in progress

- Press [Menu](#) and select [Services](#), [Settings](#) and [Appearance settings](#).

When a WAP connection is in progress

- Press [Options](#) and select [Appear. sett.](#)

2. Select [Text wrapping](#) or [Show images](#).

3. Select [On](#) or [Off](#) for [Text wrapping](#) and [Yes](#) or [No](#) for [Show images](#).

When [Text wrapping](#) is set to [On](#), the text continues on the next line if it cannot be shown on one line.

When [Show images](#) is set to [No](#), any pictures appearing on the WAP page are not shown. This can speed up the browsing of WAP pages that contain a lot of pictures.

Download settings

You can set the radio to allow or prevent receiving cookies.

A cookie is data that a WAP site saves in your radio's browser cache memory. The data can be, for example, your user information or your browsing preferences. Cookies will be saved until you clear the cache memory, see The cache memory on page 90.

1. When no WAP connection is in progress

- Press [Menu](#) and select [Services](#), [Settings](#) and [Download settings](#).

When a WAP connection is in progress

- Press [Options](#) and select [Download settings](#).
2. Select [Cookies](#) and select [Allow](#) or [Reject](#) to allow or prevent the radio receiving cookies.

Bookmarks

You can save up to 25 WAP page addresses as bookmarks in the radio's memory.

1. When no WAP connection is in progress

- Press [Menu](#) and select [Services](#) and [Bookmarks](#).

When a WAP connection is in progress

- Press [Options](#) and select [Bookmarks](#).
2. Scroll to the bookmark you want to use and press [Options](#).
 3. Select one of the following options:

[Go to](#) to make a connection to the WAP page associated with the bookmark.

[Edit](#) or [Erase](#) to modify or delete the selected bookmark.

[New bookmark](#) to create a new bookmark without connection to a WAP service. Key in the address and the title of the WAP page and press [OK](#).

Note that your radio may have some pre-installed bookmarks for sites not affiliated with Nokia. Nokia does not warrant or endorse these sites. If you choose to access them, you should take the same precautions, for security or content, as you would with any site.

Receiving a bookmark

When you have received a bookmark as an Over The Air (OTA) message, press [Options](#) and select [View](#) to view the bookmark, [Save](#) to save the bookmark, or [Discard](#) to discard it.

Service inbox

The radio is able to receive service messages (pushed messages) sent by your service provider. Service messages are notifications of, for example,

Menu functions

news headlines, and they may contain a text message or address of a WAP service.

1. To access service inbox when no WAP connection is in progress

When you have received a service message, *1 service message received* will be displayed. Press **View** to access *Service inbox*.

If you press **Exit** the message is moved to *Service inbox*. To access *Service inbox* later, press **Menu**, select *Services*, and *Service inbox*.

When a WAP connection is in progress

Press **Options** and select *Service inbox*.

2. Scroll to the message you want and press **Options**.

Select *Retrieve* to activate the WML browser and the retrieving of the indicated content.

Select *Details* to display detailed information on the service notification.

Select *Erase* to delete the selected service notification.

To set the radio to receive service messages

Press **Menu** and select *Services*, *Settings*, *Service inbox settings* and *Service messages*. To set the radio to receive service messages, select *On*. If you select *Off*, the radio will not receive service messages.

The cache memory



Note: The information or services you have accessed are stored in the cache of your radio. A cache is a buffer memory, which is used to store data temporarily. If you have tried to access or have accessed confidential information requiring passwords (for example, your bank account), empty the cache of your radio after each use.

To clear the cache memory when no WAP connection is in progress

- Press **Menu** and select *Services* and *Clear the cache*.

To clear the cache memory when a WAP connection is in progress

- Press **Options** and select *Clear the cache*.

Authority certificates

For using some WAP services, such as banking services, you need an authority certificate. Using the certificate can help you to improve the security of connections between your radio and a WAP gateway or WAP server, if the [Connection security](#) is set [On](#).

You can download the certificate from a WAP page if the WAP service supports the use of authority certificates. After the download, you can view the certificate and then save or delete it. If you save the certificate, it is added to the list of certificates in the radio.

You will see a note on the radio display if the identity of the WAP server or WAP gateway cannot be verified, if the WAP server or WAP gateway certificate is not authentic or if you do not have the right certificate in your radio.

Viewing the list of authority certificates

Press [Menu](#) and select [Services](#) and [Settings](#). Select [Authority certificates](#).

See also [Security info](#) in General guidelines for using the radio keys on page 87.

Security indicator

If the security indicator  is displayed during a WAP connection, the data transmission between the radio and the WAP gateway or WAP server (identified by the [IP address](#) in the [Edit active service settings](#)) is encrypted.

However, the security indicator does not indicate that the data transmission between the gateway and the content server (place where the requested resource is stored) is secure. It is up to the service provider to secure the data transmission between the gateway and the content server.

11. Data communications

You can use your radio as a modem and transfer data to other devices when the radio is connected to a compatible PC via a cable.

To send and receive e-mail and to connect to computers and access the Internet, you also need the appropriate data communications software installed on your computer. You can use your radio with a variety of commercially available data communications applications.

For using your radio as a modem, you first need to install it as a modem.

The data connection is a network service. For details and availability, contact your service provider.

■ Call functions during a data connection

You can make and receive phone calls during a data connection. When you make a call, data transfer is suspended. However, you may be able to receive calls only when data transfer is not in progress. After the call is ended, the radio will try to resume the data connection.

Group calls and express calls are not possible during a data connection. The express calls made to you, however, may be changed to one-way phone calls and you can receive them like phone calls when data transfer is not in progress (network service).

■ Installing communication applications and modem drivers

1. Ensure that a data communication application is correctly installed on your PC. For instructions, see the application's documentation.
2. Install the necessary drivers on your PC. For instructions, see the user's guide of your PC's operating system.

Note that you have to define the DTE (data terminal equipment) rate when you install the drivers. The default DTE rate of your radio is 9600 bps. For example, if you use the Windows NT operating system, select a standard 9600 bps modem.

3. Activate an access point and change its settings in the [Modem settings](#) menu. See Modem settings on page 78.

■ Connecting your radio to a PC

You can connect your radio to a compatible PC using the DLR-3P cable.

1. Connect the DLR-3P cable to the serial port on the back of your PC.
2. Connect the DLR-3P cable to your radio.
3. Start using the communication application on your PC. For information on the use of the application, refer to the documentation for the application.

If you use a PC in a vehicle, you can connect your radio to the PC via the CARK91B car kit and the DLR-3T cable. For details, contact your local dealer.

The indicator  is displayed during a data connection. If there is an incoming or outgoing phone call, data transfer is suspended and  is displayed instead.



Note: Making or answering phone calls during a PC connection is not recommended as it might disrupt the operation.

For better performance during data calls, place the radio on a stationary surface with the keypad facing downward as far from the PC as the cable permits. Do not move the radio by holding it in your hand during a data call.

12. Battery information

■ Charging and Discharging

Your radio is powered by a rechargeable battery.

Note that a new battery's full performance is achieved only after two or three complete charge and discharge cycles!

The battery can be charged and discharged hundreds of times but it will eventually wear out. When the operating time (talk-time and standby time) is noticeably shorter than normal, it is time to buy a new battery.

Use only batteries approved by the manufacturer and recharge your battery only with the chargers approved by the manufacturer. Unplug the charger when not in use. Do not leave the battery connected to a charger for longer than a week, since overcharging may shorten its lifetime. If left unused a fully charged battery will discharge itself over time.

Temperature extremes can affect the ability of your battery to charge.

Use the battery only for its intended purpose.

Never use any charger or battery which is damaged.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes direct connection of the + and - terminals of the battery (metal strips on the battery) for example when you carry a spare battery in your pocket or purse. Short-circuiting the terminals may damage the battery or the connecting object.

Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F). A radio with a hot or cold battery may temporarily not work, even when the battery is fully charged. Batteries' performance is particularly limited in temperatures well below freezing.

Do not dispose of batteries in a fire!

Dispose of batteries according to local regulations (e.g. recycling). Do not dispose as household waste.

CARE AND MAINTENANCE

Your radio is a product of superior design and craftsmanship and should be treated with care. Although it has been designed for use in harsh conditions, the suggestions below will help you to fulfil any warranty obligations and to enjoy this product for many years.

- Keep the radio and all its parts and accessories out of the reach of small children.
- Keep the radio dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the radio in dusty, dirty areas. Its moving parts can be damaged.
- Do not store the radio in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the radio in cold areas. When it warms up (to its normal temperature), moisture can form inside, which may damage electronic circuit boards.
- Do not attempt to open the radio, e.g., remove the front cover. Non-expert handling may damage it.
- Do not drop, knock or shake the radio. Rough handling can break internal circuit boards.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the radio.
- Do not paint the radio. Paint can clog the moving parts and prevent proper operation.
- Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications or attachments could damage the radio and may violate regulations governing radio devices.
- Do not carry the radio from its antenna.

All of the above suggestions apply equally to your radio, battery, charger or any accessory. If any of them is not working properly, take it to your nearest qualified service facility. The personnel there will assist you and, if necessary, arrange for service.

IMPORTANT SAFETY INFORMATION

IMPORTANT SAFETY INFORMATION

■ Traffic Safety

Do not use a hand-held radio while driving a vehicle. Always secure the radio in its holder; do not place the radio on the passenger seat or where it can break loose in a collision or sudden stop.

Remember road safety always comes first!

■ Operating environment

Remember to follow any special regulations in force in any area and always switch off your radio whenever it is forbidden to use it, or when it may cause interference or danger.

Use the radio only in its normal operating positions. When the earphone is used, hold the radio as you would any telephone with the antenna pointed up and over your shoulder. When the loudspeaker is used, hold the radio approximately 10 cm (4 inches) away from the mouth with the antenna pointed up and away from the face and eyes.

Using two TETRA devices closeby may cause them to interfere with each other, for example when two such devices are in the same vehicle. If you experience such interference, separate the two devices until the interference stops.

■ Electronic devices

Most modern electronic equipment is shielded from radio frequency (RF) signals. However, certain electronic equipment may not be shielded against the RF signals from your radio.

Pacemakers

Pacemaker manufacturers recommend that a minimum separation of 20 cm (6 inches) be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research. Persons with pacemakers:

- Should always keep the radio more than 20 cm (6 inches) from their pacemaker when the radio is switched on;
- Should not carry the radio in a breast pocket;
- Should use the ear opposite the pacemaker to minimise the potential for interference.

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- If you have any reason to suspect that interference is taking place, switch off your radio immediately.

Hearing aids

Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider.

Other medical devices

Operation of any radio transmitting equipment, including cellular phones, may interfere with the functionality of inadequately protected medical devices. Consult a physician or the manufacturer of the medical device to determine if they are adequately shielded from external RF energy or if you have any questions. Switch off your radio in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles (e.g. electronic fuel injection systems, electronic anti-skid (anti-lock) braking systems, electronic speed control systems, air bag systems). Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted facilities

Switch your radio off in any facility where posted notices so require.

■ Potentially explosive atmospheres

Switch off your radio when in any area with a potentially explosive atmosphere and obey all signs and instructions. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death.

Users are advised to switch off the radio when at a refuelling point (service station). Users are reminded of the need to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or where blasting operations are in progress.

Areas with a potentially explosive atmosphere are often but not always clearly marked. They include below deck on boats; chemical transfer or storage facilities; vehicles using liquified petroleum gas (such as propane or butane); areas where the air contains chemicals or particles, such as grain, dust or metal powders; and

IMPORTANT SAFETY INFORMATION

any other area where you would normally be advised to turn off your vehicle engine.

■ Vehicles

Only qualified personnel should service the radio, or install the radio in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty which may apply to the unit.

Check regularly that all radio equipment in your vehicle is mounted and operating properly.

Do not store or carry flammable liquids, gases or explosive materials in the same compartment as the radio, its parts or accessories.

For vehicles equipped with an air bag, remember that an air bag inflates with great force. Do not place objects, including both installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

Using your radio while in the air is prohibited. Switch off your radio before boarding an aircraft. The use of wireless telephones in an aircraft may be dangerous to the operation of the aircraft, disrupt the wireless telephone network and may be illegal.

Failure to observe these instructions may lead to suspension or denial of telephone services to the offender, or legal action or both.

■ Emergency calls



Important:

This radio, like any wireless phone, operates using radio signals, wireless and landline networks as well as user-programmed functions. Because of this, connections in all conditions can not be guaranteed. Therefore you should never rely solely upon any wireless phone for essential communications (e.g. medical emergencies).

Emergency calls may not be possible on all wireless phone networks or when certain network services and/or radio features are in use. Check with local service providers.

Emergency calls can only be made in network mode. If the radio is in direct mode, first activate network mode: press **Menu** and select **Settings**, **Phone settings**, **Active mode** and **Network**.

To make an emergency call:

1. If the radio is not on, switch it on. Check for adequate signal strength.

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2. Press  as many times as needed (e.g. to exit a call, to exit a menu, etc.) to clear the display and ready the radio for calls.
3. Key in the emergency number for your present location (e.g. 112 or other official emergency number). Emergency numbers vary by location.
4. Press the  key.

If certain features are in use, you may first need to turn those features off before you can make an emergency call. Consult this guide and your local cellular service provider.

When making an emergency call, remember to give all the necessary information as accurately as possible. Remember that your radio may be the only means of communication at the scene of an accident – do not cut off the call until given permission to do so.

■ THIS MODEL MEETS REQUIREMENTS FOR EXPOSURE TO RADIO WAVES

Your TETRA handset is a radio transmitter and receiver. It is designed and manufactured not to exceed the limits for exposure to radio frequency (RF) recommended by international guidelines (ICNIRP). These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines were developed by independent scientific organisations through periodic and thorough evaluation of scientific studies. The guidelines include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for handsets employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit stated in the international guidelines is 2.0 W/kg*. Tests for SAR are conducted using standard operating positions with the handset transmitting at its highest certified power level in all tested frequency bands.

The highest SAR value for this model handset when tested for use at the ear is 0.52 W/kg. While there may be differences between the SAR levels of various products and at various positions, they all meet the relevant international guidelines for RF exposure.

* The SAR limit for products used by the public is 2.0 watts/kilogram (W/kg) averaged over ten grams of body tissue. The guidelines incorporate a substantial margin of safety to give additional protection for the public and to account for any variations in measurements. SAR values may vary depending on national reporting requirements and the network.