

RM-140 User Guide

Draft

9254161
Issue 1

DECLARATION OF CONFORMITY

Hereby, NOKIA CORPORATION declares that this RM-140 product is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. A copy of the Declaration of Conformity can be found at http://www.nokia.com/phones/declaration_of_conformity/.

CE 0434



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This device may contain commodities, technology or software subject to export laws and regulations from the US and other countries. Diversion contrary to law is prohibited.

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FCC/INDUSTRY CANADA NOTICE

Your device may cause TV or radio interference (for example, when using a telephone in close proximity to receiving equipment). The FCC or Industry Canada can require you to stop using your telephone if such interference cannot be eliminated. If you require assistance, contact your local service facility. This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by Nokia could void the user's authority to operate this equipment.

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For your safety

For your safety

Read these simple guidelines. Not following them may be dangerous or illegal. Read the complete user guide for further information.



SWITCH ON SAFELY

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



ROAD SAFETY COMES FIRST

Obey all local laws. Always keep your hands free to operate the vehicle while driving. Your first consideration while driving should be road safety.



INTERFERENCE

All wireless phones may be susceptible to interference, which could affect performance.



SWITCH OFF IN HOSPITALS

Follow any restrictions. Switch the phone off near medical equipment.



SWITCH OFF IN AIRCRAFT

Follow any restrictions. Wireless devices can cause interference in aircraft.



SWITCH OFF WHEN REFUELLING

Do not use the phone at a refuelling point. Do not use near fuel or chemicals.



SWITCH OFF NEAR BLASTING

Follow any restrictions. Do not use the phone where blasting is in progress.



USE SENSIBLY

Use only in the normal position as explained in the product documentation. Do not touch the antenna unnecessarily.



QUALIFIED SERVICE

Only qualified personnel may install or repair this product.



ENHANCEMENTS AND BATTERIES

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

For your safety



WATER-RESISTANCE

Your phone is not water-resistant. Keep it dry.



BACK-UP COPIES

Remember to make back-up copies or keep a written record of all important information stored in your phone.



CONNECTING TO OTHER DEVICES

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



EMERGENCY CALLS

Ensure the phone is switched on and in service. Press the end key as many times as needed to clear the display and return to the start screen. Enter the emergency number, then press the call key. Give your location. Do not end the call until given permission to do so.

■ About your device

The wireless device described in this guide is approved for use on the WCDMA 2100, EGSM 900, and GSM 1800 and 1900 networks. Contact your service provider for more information about networks.

When using the features in this device, obey all laws and respect the privacy and legitimate rights of others.

When taking and using images or video clips, obey all laws and respect local customs as well as privacy and legitimate rights of others, including copyrights.



Warning: To use any features in this device, other than the alarm clock, the device must be switched on. Do not switch the device on when wireless device use may cause interference or danger.

■ Network services

To use the phone you must have service from a wireless service provider. Many of the features in this device depend on features in the wireless network to function. These network services may not be available on all networks or you may have to make specific arrangements with your service provider before you can utilize network services. Your service provider may need to give you additional instructions for their use and explain what charges will apply. Some networks may have limitations that affect how you can use network

For your safety

services. For instance, some networks may not support all language-dependent characters and services.

Your service provider may have requested that certain features be disabled or not activated in your device. If so, they will not appear on your device menu. Your device may also have been specially configured for your network provider. This configuration may include changes in menu names, menu order and icons. Contact your service provider for more information.

This device supports WAP 2.0 protocols (HTTP and SSL) that run on TCP/IP protocols. Some features of this device, such as multimedia messaging (MMS), browsing, e-mail application, instant messaging, presence enhanced contacts, remote synchronization, and content downloading using the browser or MMS, require network support for these technologies.

■ Shared memory

The following features in this device may share memory: gallery, contacts, text messages, multimedia messages, and instant messages, e-mail, calendar, to-do notes, Java™ games and applications, and note application. Use of one or more of these features may reduce the memory available for the remaining features sharing memory. For example, saving many Java applications may use all of the available memory. Your device may display a message that the memory is full when you try to use a shared memory feature. In this case, delete some of the information or entries stored in the shared memory features before continuing. Some of the features, such as text messages, may have a certain amount of memory specially allotted to them in addition to the memory shared with other features.

■ Enhancements

A few practical rules about accessories and enhancements

- Keep all accessories and enhancements out of the reach of small children.
- When you disconnect the power cord of any accessory or enhancement, grasp and pull the plug, not the cord.
- Check regularly that enhancements installed in a vehicle are mounted and are operating properly.
- Installation of any complex car enhancements must be made by qualified personnel only.

General information

■ Access codes

Security code

The security code (5 to 10 digits) helps to protect your phone against unauthorized use. The preset code is 12345. To change the code, and to set the phone to request the code, see "Security," p. 63.

PIN codes

The personal identification number (PIN) code and the universal personal identification number (UPIN) code (4 to 8 digits) help to protect your SIM card against unauthorized use. See "Security," p. 63.

The PIN2 code (4 to 8 digits) may be supplied with the SIM card and is required for some functions.

The module PIN is required to access the information in the security module. See "Security module," p. 95.

The signing PIN is required for the digital signature. See "Digital signature," p. 96.

PUK codes

The personal unblocking key (PUK) code and the universal personal unblocking key (UPUK) code (8 digits) is required to change a blocked PIN code and UPIN code, respectively. The PUK2 code (8 digits) is required to change a blocked PIN2 code. If the codes are not supplied with the SIM card, contact your local service provider for the codes.

Barring password

The barring password (4 digits) is required when using the *Call barring service*. See "Security," p. 63.

■ Configuration settings service

To use some of the network services, such as mobile Internet services, MMS, Nokia Xpress audio messaging, or remote Internet server synchronization, your phone needs the correct configuration settings. For more information on availability, contact your network operator, service provider, nearest authorized Nokia dealer, or visit the support area on the Nokia Web site, www.nokia.com/support.

When you have received the settings as a configuration message, and the settings are not automatically saved and activated, *Configuration settings received* is displayed.

To save the settings, select Show > Save. If required, enter the PIN code supplied by the service provider.

To discard the received settings, select Exit or Show > Discard.

■ Download content

You may be able to download new content (for example, themes) to the phone (network service).

For the availability of different services, pricing, and tariffs, contact your service provider.



Important: Use only services that you trust and that offer adequate security and protection against harmful software.

■ Nokia support

Check www.nokia.com/support or your local Nokia Web site for the latest version of this guide, additional information, downloads, and services related to your Nokia product.

On the Web site, you can get information on the use of Nokia products and services. If you need to contact customer service, check the list of local Nokia Care contact centers at www.nokia.com/customerservice.

For maintenance services, check your nearest Nokia service center at www.nokia.com/repair.

1. Get started

■ Install SIM card and battery

Always switch the device off and disconnect the charger before removing the battery.

Keep all SIM cards out of the reach of small children.

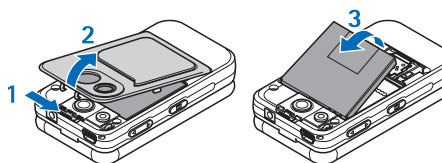
For availability and information on using SIM card services, contact your SIM card vendor. This may be the service provider, network operator, or other vendor.

This device is intended for use with BP-5M battery. Always use original Nokia batteries. See "Nokia battery authentication," p. 100.

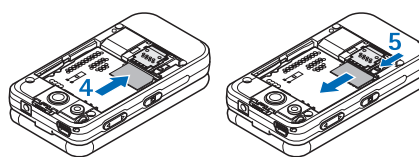
The SIM card and its contacts can easily be damaged by scratches or bending, so be careful when handling, inserting, or removing the card.

To remove the back cover of the phone by pushing the back cover release slide (1), lift the cover (2).

Remove the battery as shown (3).



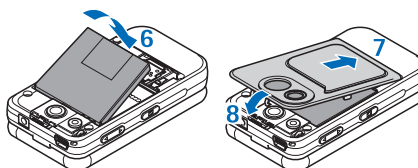
Insert the SIM card with the gold-colored contact area on the card facing downwards, and the cut corner of the SIM card placed in the left lower corner (4).



To release the SIM card push the SIM removal slider in the direction of the arrow (5).

Get started

Replace the battery (6). Place the back cover into its place (7). Make sure it clicks into place, so that the back cover release slide resumes its normal position (8).



■ Insert a microSD card

Keep all microSD memory cards out of the reach of small children.

A microSD card can be loaded with ringing tones, themes, tones, images and videos. If you delete, reload, or replace this card, these functions and features may not function properly.



Use only compatible microSD cards with this device. Other memory cards, such as Reduced Size MultiMedia cards, do not fit in the microSD card slot and are not compatible with this device. Using an incompatible memory card may damage the memory card as well as the device, and data stored on the incompatible card may be corrupted.

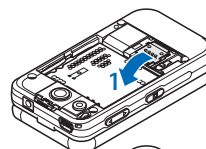
Use only microSD cards approved by Nokia for use with this device. Nokia utilizes the approved industry standards for memory cards but not all other brands may function correctly or be fully compatible with this device.

You can remove or replace a microSD card during phone operation without switching the phone off.

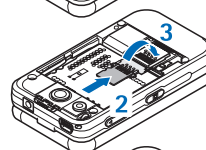


Important: Do not remove a microSD card in the middle of an operation when the card is being accessed. Removing the card in the middle of an operation may damage the memory card as well as the device, and data stored on the card may be corrupted.

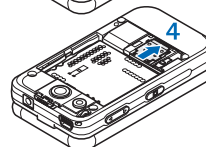
1. Remove the back cover of the phone.
Swing the microSD memory card holder open (1)



2. Insert the card into the memory card holder with the gold-colored contact area facing up (2).



3. Close the card holder (3 and 4) and slide the back cover back in place.



■ Charge the battery

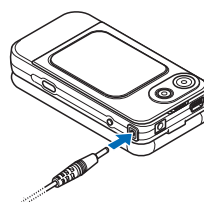
Check the model number of any charger before use with this device. This device is intended for use when supplied with power from an AC-3 or AC-4 charger.



Warning: Use only batteries, chargers, and enhancements approved by Nokia for use with this particular model. The use of any other types may invalidate any approval or warranty, and may be dangerous.

For availability of approved enhancements, please check with your dealer. When you disconnect the power cord of any enhancement, grasp and pull the plug, not the cord.

1. Connect the charger to a wall socket.
2. Connect the lead from the charger to the socket at the side of your phone.
A CA-44 charging adapter can be used with older charger models.



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

Get started

The charging time depends on the charger used. Charging a BP-5M battery with the AC-3 charger takes approximately 2 hours and 20 minutes while the phone is in the standby mode.

■ Open and close the phone

You open and close the phone manually. When you open the fold of the phone, it opens up to approximately 155 degrees. Do not try to force the fold open more.

Depending on the Theme a tone sounds when you open and close the phone.

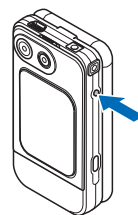
■ Switch the phone on and off



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

To switch the phone on or off, press and hold the power key. See "Keys and parts," p. 16.

If the phone asks for a PIN or a UPIN code, enter the code (displayed as ****), and select OK.



Set the time, time zone, and date

Enter the local time, select the time zone of your location in terms of the time difference with respect to Greenwich Mean Time (GMT), and enter the date. See "Time and date," p. 54.

Plug and play service

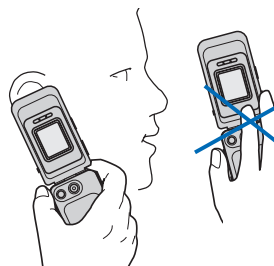
When you switch on your phone for the first time, and the phone is in the standby mode, you are asked to get the configuration settings from your service provider (network service). Confirm or decline the query. See "Configuration settings service," p. 10.

■ Antenna

Your device has an internal antenna.

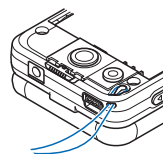


Note: As with any other radio transmitting device, do not touch the antenna unnecessarily when the device is switched on. Contact with the antenna affects call quality and may cause the device to operate at a higher power level than otherwise needed. Avoiding contact with the antenna area when operating the device optimizes the antenna performance and the battery life.



■ Phone strap

Remove the back cover of the phone. Insert a thread through the eyelet. Place the thread around the post of the phone as shown in the picture. Tighten the thread. Put the back cover back in place.

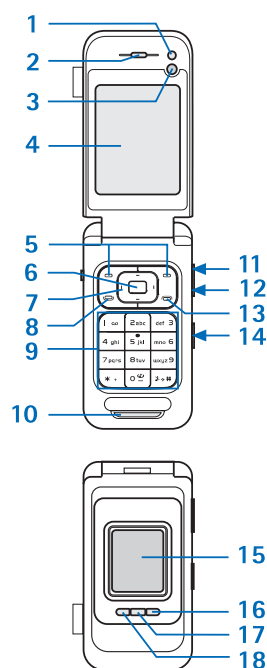


Your phone

2. Your phone

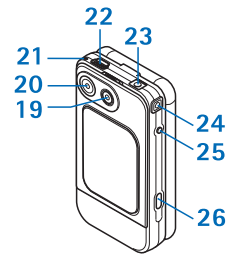
■ Keys and parts

- 1 Light sensor
- 2 Earpiece
- 3 Small camera
- 4 Main display
- 5 Left and right selection keys
- 6 Middle selection key
- 7 4-way scroll key
- 8 Call key
- 9 Keypad
- 10 Loudspeaker
- 11 Volume key (Volume up = PTT key)
- 12 Volume key down
- 13 End key
- 14 Camera key/auto focus
- 15 Mini display
- 16 Media selection key right
- 17 Media selection key
- 18 Media selection key left



- 19 Camera lens
- 20 Camera flash
- 21 Phone strap eyelet
- 22 USB port
- 23 Headset connector
- 24 Charger connector
- 25 Power key
- 26 Infrared port

Your phone



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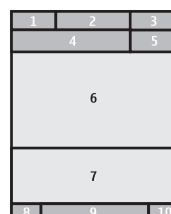
Your phone

■ Standby mode

When the phone is ready for use, and you have not entered any characters, the phone is in the standby mode.

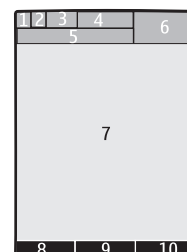
Mini display

- 1 Network mode indicator
- 2 Signal strength of the cellular network
- 3 Battery charge status
- 4 Indicators
- 5 Clock
- 6 Network name or the operator logo and date
- 7 Media menu
- 8 Scroll left in the loop menu with the Left selection key
- 9 Select in the media menu with the Middle selection key
- 10 Scroll right in the loop menu with the Right selection key



Main display

- 1 Network mode indicator
- 2 Signal strength of the cellular network
- 3 Battery charge status
- 4 Indicators
- 5 Network name or the operator logo
- 6 Clock
- 7 Main display
- 8 The left selection key is Go to or a shortcut to another function. See "Left selection key," p. 54.
- 9 The middle selection key mode is Menu.



10 The right selection key may be Names to access the list of contacts in the *Contacts* menu, an operator-specific name to access an operator-specific Web site, or a shortcut to a function that you selected. See "Right selection key," p. 54.

Active standby

In the active standby mode there is a list of selected phone features and information on the screen that you can directly access in the standby mode. To switch on or off the mode, select Menu > Settings > Main display > Active standby > Active standby mode > On or Off.

In the active standby mode, scroll up or down to navigate the list. Left and right arrows at the beginning and end of a line indicate that further information is available by scrolling left or right. To end the active standby navigation mode, select Exit.

To organize and change the active standby mode, activate the navigation mode, and select Options > Personalise.

Indicators

-  You have unread messages.
-  You have unsent, canceled or failed messages.
-  The phone registered a missed call.
-  Your phone is connected to the instant messaging service, and the availability status is online or offline.
-  You received one or several instant messages.
-  The keypad is locked.
-  The phone does not ring for an incoming call or text message.
-  The alarm clock is activated.
-  The countdown timer is running.
-  The stopwatch is running.

Your phone

-  The phone is registered to the GPRS or EGPRS network.
-  A GPRS or EGPRS connection is established.
-  The GPRS or EGPRS connection is suspended (on hold).
-  A Bluetooth connection is active.
-  Push to talk connection is active or suspended.
-  If you have two phone lines, the second phone line is selected.
-  All incoming calls are diverted to another number.
-  The loudspeaker is activated, or the music stand is connected to the phone.
-  Calls are limited to a closed user group.
-  The timed profile is selected.
-  A headset, hands-free, loopset, or music stand enhancement is connected to the phone.

■ Flight mode

You can deactivate all radio frequency functionality and still have access to offline games, calendar, and phone numbers. Use the flight mode in radio sensitive environments—on board aircraft or in hospitals. When the flight mode is active,  is shown.

Select Menu > Settings > Profiles > Flight > Activate or Personalise.

To deactivate the flight mode, select any other profile.

In the flight mode you can make an emergency call. Enter the emergency number, press the call key, and select Yes when asked Exit flight profile? The phone attempts to make an emergency call.

When the emergency call ends, the phone automatically changes to the general profile mode.

■ Keypad lock (keyguard)

Select Menu or Unlock and then press the * key within 1.5 seconds to lock or unlock the keypad.

If the security keyguard is activated, enter the security code if requested.

To answer a call when the keyguard is on, press the call key or open the phone. When you end or reject the call, the keypad automatically locks.

For *Security keyguard*, see "Phone," p. 61.

When the keyguard is on, calls still may be possible to the official emergency number programmed into your device.

■ Functions used without a SIM card

Several functions of your phone may be used without installing a SIM card (for example the data transfer with a compatible PC or another compatible device). Some functions appear dimmed in the menus and cannot be used.

For an emergency call, some networks may require that a valid SIM card is properly inserted in the device.

3. Call functions

■ Make a voice call

1. Enter the phone number, including the area code.

For international calls, press * twice for the international prefix (the + character replaces the international access code), enter the country code, the area code without the leading 0, if necessary, and the phone number.

2. To call the number, press the call key.

To increase the volume in a call, press the volume up key and to decrease press the volume down key.

3. To end the call or to cancel the call attempt, press the end key, or close the phone.

To search for a name or phone number that you have saved in *Contacts*, see "Search for a contact," p. 47. Press the call key to call the number.

To access the list of dialed numbers, press the call key once in the standby mode. To call the number, select a number or name, and press the call key.

Speed dialing

Assign a phone number to one of the speed-dialing keys, 3 to 9. See "Speed dials," p. 50. Call the number in either of the following ways:

- Press a speed-dialing key, then the call key.
- If *Speed dialling* is set to *On*, press and hold a speed-dialing key until the call begins. See *Speed dialling* in "Call," p. 60.

Enhanced voice dialing

You can make a phone call by saying the name that is saved in the contact list of the phone. Voice commands are language-dependent. To set the language, see *Voice playback lang.* in "Phone," p. 61.



Note: Using voice tags may be difficult in a noisy environment or during an emergency, so you should not rely solely upon voice dialing in all circumstances.

1. In the standby mode, press and hold the right selection key or press and hold the volume down key. A short tone is played, and *Speak now* is displayed.
2. Say the voice command clearly. If the voice recognition was successful, a list with matches is shown. The phone plays the voice command of the match on the top of the list. If the result is not the correct one, scroll to another entry.

Using voice commands to carry out a selected phone function is similar to voice dialing. See *Voice commands* in "My shortcuts," p. 55 .

■ Answer or reject a call

To answer an incoming call, press the call key, or open the phone. To end the call, press the end key or close the phone.

To reject an incoming call, press the end key or close the phone.

To reject an incoming call when the phone is closed, press and hold a volume key.

To mute the ringing tone, press a volume key when the phone is closed, or select *Silence* when the phone is open.

Call waiting

To answer the waiting call during an active call, press the call key.

The first call is put on hold. To end the active call, press the end key.

To activate the *Call waiting* function, see "Call," p. 60.

■ Options during a voice call

Many of the options that you can use during a call are network services. For availability, contact your service provider.

During a call, select Options and from the following:

Call functions

Call options are *Mute or Unmute, Contacts, Menu, Lock keypad, Record, Loudspeaker or Handset.*

Network services options are *Answer or Reject, Hold or Unhold, New call, Add to conference, End call, End all calls,* and the following:

Send DTMF — to send tone strings

Swap — to switch between the active call and the call on hold

Transfer — to connect a call on hold to an active call and disconnect yourself

Conference — to make a conference call

Private call —to discuss privately in a conference call



Warning: Do not hold the device near your ear when the loudspeaker is in use, because the volume may be extremely loud.

■ Make a video call

When you make a video call, you send a real-time video to the recipient of the call. The video image captured by the camera on the back of your phone is shown to the video call recipient.

To be able to make a video call, you must have a USIM card and be connected in a WCDMA network. For availability of and subscription to video call services, contact your network operator or service provider. A video call can only be made between two parties. The video call can be made to a compatible phone or an ISDN client. Video calls cannot be made while another voice, video, or data call is active.

1. To start a video call, enter the phone number in the standby mode, or select *Contacts* and a contact.
2. Press and hold the call key, or select *Options > Video call*. Starting a video call may take a while. *Video call* and an outgoing animation is shown. If the call is not successful (for example, video calls are not supported by the network, or the receiving device is not compatible) you are asked if you want to try a normal call or send a message instead.



Tip: To increase or decrease the volume during a call, press the volume keys.

The video call is active when you can see two video images and hear the sound through the loudspeaker. The call recipient may deny the video sending, in which case you may see a still image or a grey background graphic. You will hear the sound.

3. To end the call, press the end key.

■ Answer or reject a video call

When a video call arrives, *Video Call* is displayed.

1. Press the call key to answer the video call. *Allow video image to be sent to caller?* is displayed.

If you select Yes, the image being captured by the camera in your phone is shown to the caller. If you select No, or do nothing, video sending is not activated, and you hear a sound. A graphic is displayed on top of the video, indicating that it is not sent. You can enable or disable video sending at any time during the video call.

2. To end the video call, press the end key.

Even when you deny video sending during a video call, the call is still charged as a video call. Check the pricing with your network operator or service provider.

■ Options during a video call

Select Options during a video call for the following options: *Set contrast*, *Video motion*, *Switch to voice call*, *End call*, *Send DTMF* and *Loudspeaker*.

■ Video sharing

During an ongoing voice call you can share your live camera view with the call recipient. To share a video the recipient must have a compatible mobile device, and a SIP address in your phonebook. If the recipient's SIP address is missing, enter it.

Select Options > *Video sharing*. The phone sends an invitation and the *Sending invitation to* is shown on your display. If the recipient accepts,

Call functions

your display shows *Start sharing video?*, press Yes and the phone starts sending the video. Audio is routed to the loudspeaker.

To pause video sharing press Pause. The middle selection key is changed to Continue.

To resume the video sharing press Continue. The middle selection key is changed to Pause.

To end a video sharing session press Stop, and *Video sharing ended* is shown to both participants.

To check availability and costs, and to subscribe to the service, contact your network operator or service provider.

4. Write text

You can enter text (for example, when writing messages) using traditional or predictive text input. When you write text, press and hold Options to toggle between traditional text input, indicated by , and predictive text input, indicated by . Not all languages are supported by predictive text input.

The character cases are indicated by , , and . To change the character case, press #. To change from the letter to number mode, indicated by , press and hold #, and select *Number mode*. To change from the number to the letter mode, press and hold #.

To set the writing language, select Options > *Writing language*.

■ Traditional text input

Press a number key, 1 to 9, repeatedly until the desired character appears. The characters available depend on the selected writing language. If the next letter you want is located on the same key as the present one, wait until the cursor appears and enter the letter. The most common punctuation marks and special characters are available under the number key 1.

■ Predictive text input

Predictive text input is based on a built-in dictionary to which you can also add new words.

1. Start writing a word using the keys 2 to 9. Press each key only once for one letter. The phone displays * or the letter if it separately has a meaning as a word. The entered letters are displayed underlined.
2. When you finish writing the word and it is correct, confirm it by adding a space, press 0.

If the word is not correct, press * repeatedly, and select the word from the list.

Write text

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, select Spell. Enter the word using traditional text input, and select Save.

To write compound words, enter the first part of the word, and press the scroll key right to confirm it. Write the last part of the word, and confirm the word.

3. Start writing the next word.

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5. Navigate the menus

The phone offers you an extensive range of functions, which are grouped into menus.

1. To access the menu, select Menu.

To change the menu view, select Options > *Main menu view* > *List*, *Grid*, *Grid with labels*, or *Tab*.

To rearrange the menu, scroll to the menu you want to move, and select Options > *Organise* > Move. Scroll to where you want to move the menu, and select OK. To save the change, select Done > Yes.

2. Scroll through the menu, and select an option (for example, *Settings*).
3. If the selected menu contains further submenus, select the one that you want (for example, *Call*).
4. If the selected menu contains further submenus, repeat step 3.
5. Select the setting of your choice.
6. To return to the previous menu level, select Back. To exit the menu, select Exit.

6. Messaging



You can read, write, send, and save text, multimedia, e-mail, audio, flash messages and postcards. All messages are organized into folders.

■ Text message (SMS)

With the short message service (SMS) you can send and receive text messages, and receive messages that can contain pictures (network service).

Before you can send any text or SMS e-mail messages, you must save your message center number. See "Message settings," p. 43.

To check SMS e-mail service availability and to subscribe to the service, contact your service provider. To save an e-mail address in *Contacts*, see "Save details," p. 47.

Your device supports the sending of text messages beyond the character limit for a single message. Longer messages will be sent as a series of two or more messages. Your service provider may charge accordingly. Characters that use accents or other marks, and characters from some language options like Chinese, take up more space limiting the number of characters that can be sent in a single message.

An indicator at the top of the display shows the total number of characters left and the number of messages needed for sending. For example, 673/2 means that there are 673 characters left and that the message will be sent as a series of two messages.

Write and send a message

1. Select Menu > *Messaging* > *Create message* > *Text message*.
2. Enter one or more phone numbers or e-mail addresses in the *To:* field. To retrieve a phone number or e-mail address from a memory, select Add.
3. For an SMS e-mail, enter a subject in the *Subject:* field.
4. Write your message in the *Message:* field.

5. To send the message, select Send. See "Message sending," p. 32.

Read and reply to a message

1. To view a received message, select Show. To view it later, select Exit.
To read the message later, select Menu > *Messaging* > *Inbox*.
2. To reply to a message, select Reply > *Text message*, *Multimedia*, *Flash message*, or *Audio message*. Write the reply message.
3. To send the message, select Send. See "Message sending," p. 32.

■ Multimedia message (MMS)



Note: Only devices that have compatible features can receive and display multimedia messages. The appearance of a message may vary depending on the receiving device.

A multimedia message can contain some attachments.

To check availability and to subscribe to the multimedia messaging network service, contact your service provider.

Write and send a multimedia message

The wireless network may limit the size of MMS messages. If the inserted image exceeds this limit, the device may make it smaller so that it can be sent by MMS.

1. Select Menu > *Messaging* > *Create message* > *Multimedia*.
2. Write your message. To add a file, select Insert and from the options.
3. To view the message before sending it, select Options > *Preview*.
4. To send the message, select Send. See "Message sending," p. 32.
5. Enter one or more phone numbers or e-mail addresses in the *To:* field. To retrieve a phone number or e-mail address from a memory, select Add.
6. To send the message, select Send. See "Message sending," p. 32.

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Write and send a multimedia plus message

The wireless network may limit the size of MMS messages. If the inserted image exceeds this limit, the device may make it smaller so that it can be sent by MMS.

1. Select Menu > Messaging > Create message > Multimedia plus.
2. Enter one or more phone numbers or e-mail addresses in the *To:* field. To retrieve a phone number or e-mail address from a memory, select Add.
3. Enter a subject and write your message.
4. To add a file, select Insert.
5. To view the message before sending it, select Options > Preview.
6. To send the message, select Send. See "Message sending," p. 32.

Message sending

Copyright protections may prevent some images, music (including ringing tones), and other content from being copied, modified, transferred or forwarded.

To send the message, select Send. The phone saves the message in the *Outbox* folder, and the sending starts.



Note: When the phone is sending the message, the animated  is shown. This is an indication that the message has been sent by your device to the message center number programmed into your device. This is not an indication that the message has been received at the intended destination. For more details about messaging services, check with your service provider.

If an interruption occurs while the message is being sent, the phone tries to resend the message a few times. If these attempts fail, the message remains in the *Outbox* folder. To cancel the sending of the messages in the *Outbox* folder, scroll to the desired message, and select Options > *Cancel sending*.

Read and reply to a message

Important: Exercise caution when opening messages. Multimedia message objects may contain malicious software or otherwise be harmful to your device or PC.

1. To view a received message, select **Show**. To view it later, select **Exit**.
2. To view the whole message if the received message contains a presentation, select **Play**.
To view the files in the presentation or the attachments, select **Options > Objects or Attachments**.
3. To reply to the message, select **Options > Reply > Text message, Multimedia, Postcard, Flash message, or Audio message**. Write the reply message.
4. To send the message, select **Send**.

■ Postcards

Note: This feature may not be available in your product due to your subscription (network service).

With the postcard messaging service (network service), create and send postcards that may contain an image and a greeting text. The postcard is sent to the service provider using multimedia messaging. The service provider prints the postcard and sends it to the postal address given with the message. Multimedia messaging service must be activated before this service can be used.

Before you can use the postcard service you must subscribe to the service. To check the availability, and costs, and to subscribe to the service, contact your network operator or service provider.

To send a postcard, select **Menu > Messaging > Create message > Postcard**. Fill in the address, mandatory editor fields are marked by a *. Scroll to the image field, select **Insert** and an image from the *Gallery*, or *New image* to insert a recent image; then write your greeting text. To send the message, select **Send**.

■ Flash messages

Flash messages are text messages that are instantly displayed upon reception. Flash messages are not automatically saved.

Write a message

Select Menu > *Messaging* > *Create message* > *Flash message*. Enter the recipient's phone number and write your message. To insert a blinking text into the message, select Options > *Insert blink charact.* to set a marker. The text behind the marker blinks until a second marker is inserted.

Receive a message

A received flash message is indicated with *Message:* and a few words from the beginning of the message. To read the message, select Read. To extract numbers and addresses from the current message, select Options > *Use detail*. To save the message, select Save and the folder in which you want to save it.

■ Nokia Xpress audio messaging

You can use the multimedia message service to create and send a audio message in a convenient way. Multimedia messaging service must be activated before you can use audio messages.

Create a message

1. Select Menu > *Messaging* > *Create message* > *Audio message*. The recorder opens. To use the recorder, see "Voice recorder," p. 74.
2. Speak your message.
3. Enter one or more phone numbers in the *To:* field, or select Add to retrieve a number.
4. To send the message, select Send.

Listen to a message

To open a received audio message, select Play. If more than one message is received, select Show > Play. To listen to the message later, select Exit.

■ Memory full

When you receive a message, and the memory for the messages is full, *Memory full. Unable to receive messages.* is shown. To first delete old messages, select OK > Yes and the folder. Scroll to the desired message, and select Delete. If more messages are to be deleted, select Mark. Mark all the messages you want to delete, and select Options > *Delete marked.*

■ Folders

The phone saves received messages in the *Inbox* folder.

Messages that have not yet been sent are saved in the *Outbox* folder.

To set the phone to save the sent messages in the *Sent items* folder, see *Save sent messages* in "General settings," p. 43.

To edit and send messages that you have written and saved in the *Drafts* folder, select Menu > *Messaging* > *Drafts*.

You can move your messages to the *Saved items* folder. To organize your *Saved items* subfolders, select Menu > *Messaging* > *Saved items*. To add a folder, select Options > *Add folder*. To delete or rename a folder, scroll to the desired folder, and select Options > *Delete folder* or *Rename folder*.

Your phone has templates. To create a new template, save a message as a template. To access the template list, select Menu > *Messaging* > *Saved items* > *Templates*.

■ E-mail application

The e-mail application uses a packet data connection (network service) to allow you to access your e-mail account. This e-mail

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application is different from the SMS e-mail function. To use the e-mail function on your phone, you need a compatible e-mail system.

You can write, send, and read e-mail with your phone. Your phone supports POP3 and IMAP4 e-mail servers. This application does not support keypad tones.

Before you can send and retrieve any e-mail messages, you must obtain a new e-mail account or use your current account. To check the availability of your e-mail account, contact your e-mail service provider.

Check your e-mail settings with your e-mail service provider. You may receive the e-mail configuration settings as a configuration message. See "Configuration settings service," p. 10.

To activate the e-mail settings, select *Menu > Messaging > Message settings > E-mail messages*. See "E-mail messages," p. 45.

Setting Wizard

The setting wizard will start automatically if no e-mail settings are defined in the phone. To enter the settings manually, select *Menu > Messaging > E-mail > Options > Manage accounts > Options > New*.

The *Manage accounts* options allow you to add, delete, and change the e-mail settings. Make sure that you have defined the correct preferred access point for your operator. See "Configuration," p. 63. The e-mail application requires an Internet access point without a proxy. WAP access points normally include a proxy and do not work with the e-mail application.

Write and send an e-mail

You can write your e-mail message before connecting to the e-mail service; or connect to the service first, then write and send your e-mail.

1. Select *Menu > Messaging > E-mail > Write new e-mail*.
2. If more than one e-mail account is defined, select the account from which you want to send the e-mail.

3. Enter the recipient's e-mail address, write the subject, and enter the e-mail message. To attach a file from *Gallery*, select Options > *Attach file*.
4. To send the e-mail message, select Send > *Send now*.
To save the e-mail in the *Outbox* folder to be sent later, select Send > *Send later*.
To edit or continue writing your e-mail later, select Options > *Save as draft*. The e-mail is saved in *Outboxes > Drafts*.
To send the e-mail later, select Menu > *Messaging > E-mail > Options > Send now or Send/check e-mail*.

Download e-mail

1. To download e-mail messages that have been sent to your e-mail account, select Menu > *Messaging > E-mail > Check new e-mail*.
If more than one e-mail account is defined, select the account from which you want to download the e-mail.
The e-mail application only downloads e-mail headers at first.
 2. Select Back > *Inboxes*, the account name, and the new message, and select Retrieve to download the complete e-mail message.
- To download new e-mail messages and to send e-mail that has been saved in the *Outbox* folder, select Options > *Send/check e-mail*

Read and reply to e-mail



Important: Exercise caution when opening messages. E-mail messages may contain malicious software or otherwise be harmful to your device or PC.

1. Select Menu > *Messaging > E-mail > Inboxes*, the account name, and the desired message.
2. To reply to an e-mail, select Reply > *Original text* or *Empty message*. To reply to many, select Options > *Reply to all*. Confirm or edit the e-mail address and subject, then write your reply.
3. To send the message, select Send > *Send now*.

Messaging

E-mail folders

Your phone saves e-mail that you have downloaded from your e-mail account in the *Inboxes* folder. The *Outboxes* folder contains the following folders: "Account name" for incoming e-mail, *Archive* for archiving e-mail, *Custom 1—Custom 3* for sorting e-mail, *Junk* where all spam e-mail is stored, *Drafts* for saving unfinished e-mail, *Outbox* for saving e-mail that has not been sent, and *Sent items* for saving e-mail that has been sent.

To manage the folders and their e-mail content, select **Options** to view the available options of each folder.

Spam filter

To activate and define a spam filter, select **Options > Spam filter > Settings** in the main e-mail idle screen. The spam filter allows you to put specific senders on a black or white list. Black list sender messages are filtered to the *Junk* folder. Unknown and White list sender messages are downloaded into the account inbox. To blacklist a sender, select the e-mail message in the *Inboxes* folder and **Options > Blacklist sender**.

■ Instant messaging (IM)

With Instant messaging (network service) you can send short, simple text messages to online users. You have to subscribe to a service and register with the IM service you want to use. For more information about signing up for IM services, contact your service provider.

To set the required settings for the IM service, see *Connection settings* in "Access," p. 38. The icons and texts on the display may vary, depending on the IM service.



Note: Depending on your IM service, you may not have access to all of the features described in this guide.

Access

Select **Menu > Messaging > IMs**. *IMs* may be replaced by another term depending on the service provider. If more than one set of

connection settings for IM service is available, select the one you want. Select from the following options:

Login — to connect to the IM service. To set the phone to automatically connect to the IM service when you switch on the phone; in the login session, select *Automatic login*: > *On*, or select *Menu* > *Messaging* > *IMs*, connect to the IM service, and select *Options* > *Settings* > *Automatic login* > *On*.

Saved conversations — to view, erase, or rename the conversations that you saved during an IM session

Connection settings — to edit the settings needed for messaging and presence connection

Connect

To connect to the service, access the instant messages menu, select the IM service, if needed, and select *Login*.

To disconnect from the IM service, select *Options* > *Logout*.

Sessions

When connected to the service your status as seen by others is shown in a status line: *My status: Online*, *My status: Busy* or *Status: Appear off*. — to change own status, select *Change*.

Below the status line there are three folders containing your contacts and showing their status: *Conversations*, *Online* and *Offline*. To expand the folder, scroll to it and select *Expand* (or press scroll right), to collapse the folder select *Collapse* (or press scroll left).

Conversations — shows the list of new and read instant messages or invitations to IM during the active IM session.

 indicates a new group message.

 indicates a read group message.

 indicates a new instant message.

 indicates a read instant message.

 indicates an invitation.

Messaging

The icons and texts on the display depends on the IM service.

Online — shows the number of contacts that are online

Offline — shows the number of contacts that are offline

To start a conversation, expand the *Online* or the *Offline* folder and scroll to the contact with whom you would like to chat and select Chat. To answer an invitation or to reply to a message expand the *Conversations* folder and scroll to the contact to whom you would like to chat and select Open. To add contacts, see "Add IM contacts," p. 41.

Groups > *Public groups* (not visible if groups are not supported by the network) — the list of bookmarks to public groups provided by the service provider is displayed. To start a IM session with a group, scroll to a group, and select Join. Enter the screen name that you want to use as your nickname in the conversation. When you have successfully joined the group conversation, you can start a group conversation. You can create a private group. See "Groups," p. 41.

Search > *Users* or *Groups* — to search for other IM users or public groups on the network by phone number, screen name, e-mail address, or name. If you select *Groups*, you can search for a group by a member in the group, or by group name, topic, or ID.

Options > *Chat* or *Join group* — to start the conversation when you have found the user or the group that you want.

Accept or reject an invitation

If you receive a new invitation, to read it, select Read. If more than one invitation is received, select an invitation and Open. To join the private group conversation, select Accept, and enter the screen name you want to use as your nickname. To reject or delete the invitation, select *Options* > *Reject* or *Delete*.

Read an instant message

If you receive a new message that is not a message associated with an active conversation, *New instant message* is displayed. To read it, select Read. If more than one message is received, select a message, and Open.

New messages received during an active conversation are held in *IMs > Conversations*. If you receive a message from someone who is not in *IM contacts*, the sender ID is displayed. To save a new contact that is not in the phone memory, select *Options > Save contact*.

Participate in a conversation

To join or start an IM session, write your message; and select *Send*.

If you receive a new message during a conversation from a person who is not taking part in the current conversation,  is displayed, and the phone sounds an alert tone.

Write your message; and select *Send*. Your message is displayed, and the reply message is displayed below your message.

Add IM contacts

When connected to the IM service, in the IM main menu select *Options > Add contact > By mobile number, Enter ID manually, Search from server, or Copy from server* (depending on service provider).

Scroll to a contact. To start a conversation, select *Chat*.

Block or unblock messages

When you are in a conversation and want to block messages, select *Options > Block contact*.

To block messages from a specific contact in your contacts list, scroll to the contact in *Conversations, Online* or *Offline* and select *Options > Block contact > OK*.

To unblock a contact, in the IM main menu select *Options > Blocked list*. Scroll to the contact you want to unblock and select *Unblock > OK*.

Groups

You can use the public groups provided by the service provider, or create your own private groups for an IM conversation.

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Public

You can bookmark public groups that your service provider may maintain. Connect to the IM service, and select *Groups > Public groups*. Select a group, and Join. If you are not in the group, enter your screen name as your nickname for the group. To delete a group from your list, select *Options > Delete group*.

To search for a group, select *Groups > Public groups > Search groups*.

Private

Connect to the IM service, and from the main menu select *Options > Create group*. Enter the name for the group and the screen name that you want to use as your nickname. Mark the private group members in the contacts list, and write an invitation.

■ Voice messages

The voice mailbox is a network service and you may need to subscribe to it. For more information contact your service provider.

To call your voice mailbox, select *Menu > Messaging > Voice messages > Listen to voice msgs.*. To enter, search for, or edit your voice mailbox number, select *Voice mailbox no.*

If supported by the network,  indicates new voice messages. To call your voice mailbox number, select Listen.

■ Info messages

You can receive messages on various topics from your service provider (network service). For more information, contact your service provider. Select *Menu > Messaging > Info messages* and from the options available.

■ Service commands

Write and send service requests (also known as USSD commands), such as activation commands for network services, to your service provider. Select *Menu > Messaging > Serv. commands*.

■ Delete messages

To delete messages, select *Menu > Messaging > Delete messages > By message* to delete single messages, *By folder* to delete all messages from a folder, or *All messages*.

■ SIM messages

SIM messages are specific text messages that are saved to your SIM card. You can copy or move those messages to the phone memory, but not vice versa. To read SIM messages, select *Menu > Messaging > Options > SIM messages*.

■ Message settings

General settings

General settings are common for text and multimedia messages.

Select *Menu > Messaging > Message settings > General settings* and from the following options:

Save sent messages > Yes — to set the phone to save the sent messages in the *Sent items* folder

Overwriting in Sent > Allowed — to set the phone to overwrite the old sent messages with the new ones when the message memory is full. This setting is shown only if you set *Save sent messages > Yes*.

Font size — to select the font size used in messages

Graphical smileys > Yes — to set the phone to replace character-based smileys with graphical ones

Text messages

The text message settings affect the sending, receiving, and viewing of text and SMS e-mail messages.

Select *Menu > Messaging > Message settings > Text messages* and from the following options:

Messaging

Delivery reports > *Yes* — to ask the network to send delivery reports about your messages (network service)

Message centres > *Add centre* — to set the phone number and name of the message center that is required for sending text messages. You receive this number from your service provider.

Msg. centre in use — to select the message center in use

E-mail msg. centres > *Add centre* — to set the phone numbers and name of the e-mail center for sending SMS e-mails.

E-mail centre in use — to select the SMS e-mail message center in use

Message validity — to select the length of time for which the network attempts to deliver your message

Messages sent via — to select the format of the messages to be sent: *Text, Paging, or Fax* (network service)

Use packet data > *Yes* — to set GPRS as the preferred SMS bearer

Character support > *Full* — to select all characters in the messages to be sent as viewed. If you select *Reduced*, characters with accents and other marks may be converted to other characters.

Rep. via same centre > *Yes* — to allow the recipient of your message to send you a reply using your message center (network service)

Multimedia messages

The message settings affect the sending, receiving, and viewing of multimedia messages. You may receive the configuration settings for multimedia messaging as a configuration message. See "Configuration settings service," p. 10. You can also enter the settings manually. See "Configuration," p. 63.

Select Menu > *Messaging* > *Message settings* > *Multimedia messages* and from the following options:

Delivery reports > *Yes* — to ask the network to send delivery reports about your messages (network service)

Img. size (MMS plus) — to set the image size in multimedia plus messages.

Image size (MMS) — to set the image size in multimedia messages.

Default slide timing — to define the default time between slides in multimedia messages

Allow MMS receptn. — to receive or block the multimedia message, select *Yes* or *No*. If you select *In home network*, you cannot receive multimedia messages when outside your home network. The default setting of the multimedia message service is generally *In home network*. The availability of this menu depends on your phone.

Incoming MMS msgs. — to allow the reception of multimedia messages automatically, manually after being prompted, or to reject the reception. This setting is not shown if *Allow MMS receptn.* is set to *No*.

Allow adverts — to receive or reject advertisements. This setting is not shown if *Allow MMS receptn.* is set to *No*, or *Incoming MMS msgs.* is set to *Reject*.

Configuration sett. > Configuration — only the configurations that support multimedia messaging are shown. Select a service provider, *Default*, or *Personal config.* for multimedia messaging. Select *Account* and a multimedia messaging service account contained in the active configuration settings.

E-mail messages

The settings affect the sending, receiving, and viewing of e-mail. You may receive the settings as a configuration message. See "Configuration settings service," p. 10. You can also enter the settings manually. See "Configuration," p. 63.

Select Menu > *Messaging* > *Message settings* > *E-mail messages* and from the following options:

Configuration — to select the set that you want to activate

Account — to select an account provided by the service provider

My name — to enter your name or nickname

E-mail address — to enter your e-mail address

M e s s a g i n g

Login information — to enter authentication information used when retrieving incoming e-mail

Incoming mail sett. — to enter the number of mails that shall be retrieved in maximum

Outgoing sett. (SMTP) — to enter SMTP (simple mail transfer protocol) information and setting options used when sending e-mail

Displ. term. window > Yes — to perform manual user authentication for intranet connections

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7. Contacts



You can save names and phone numbers (contacts) in the phone memory and in the SIM card memory.

The phone memory may save contacts with additional details, such as various phone numbers and text items. You can also save an image for a limited number of contacts.

The SIM card memory can save names with one phone number attached to them. The contacts saved in the SIM card memory are indicated by .

■ Search for a contact

Select Menu > *Contacts* > *Names*. Scroll through the list of contacts, or enter the first characters of the name you are searching for.

■ Save names and phone numbers

Names and numbers are saved in the used memory. To save a name and phone number, select Menu > *Contacts* > *Names* > Options > *Add new contact*.

■ Save details

In the phone memory you can save different types of phone numbers, a tone or a video clip, and short text items for a contact.

The first number you save is automatically set as the default number, and it is indicated with a frame around the number type indicator (for example, ). When you select a name from contacts (for example, to make a call), the default number is used unless you select another number.

Make sure that the memory in use is *Phone* or *Phone and SIM*. See "Settings," p. 49.

Search for the contact to which you want to add a detail, and select Details > Options > *Add detail*. Select from the options available.

C o n t a c t s

■ Copy or move contacts

You can move and copy contacts from the phone memory to the SIM card memory, or vice versa. The SIM card can save names with one phone number attached to them.

To move or copy contacts one by one, select Menu > *Contacts* > *Names*. Scroll to the contact, and select Options > *Move contact* or *Copy contact*.

To move or copy marked contacts, select Menu > *Contacts* > *Names*. Scroll to a contact, and select Options > *Mark*. Then mark all other contacts, and select Options > *Move marked* or *Copy marked*.

To move or copy all contacts, select Menu > *Contacts* > *Move contacts* or *Copy contacts*.

■ Edit contact details

Search for the contact, and select Details. To edit a name, number, text item, or to change the image, select Options > *Edit*. To change the number type, scroll to the desired number, and select Options > *Change type*. To set the selected number as the default number, select *Set as default*.

■ Synchronize all

Synchronize your calendar, contacts data, and notes with a remote Internet server (network service). For details see "Synchronize from a server," p. 60.

■ Delete contacts

To delete all the contacts and the details attached to them from the phone or SIM card memory, select Menu > *Contacts* > *Del. all contacts* > *From phone memory* or *From SIM card*.

To delete a contact, search for the desired contact, and select Options > *Delete contact*.

To delete a number, text item, or an image attached to the contact, search for the contact, and select *Details*. Scroll to the desired detail, and select *Options > Delete* and from the options available.

■ Business cards

You can send and receive a person's contact information from a compatible device that supports the vCard standard as a business card.

To send a business card, search for the contact whose information you want to send, and select *Details > Options > Send business card*.

When you have received a business card, select *Show > Save* to save the business card in the phone memory. To discard the business card, select *Exit > Yes*.

■ Settings

Select *Menu > Contacts > Settings* and from the following options:

Memory in use — to select the SIM card or phone memory for your contacts. Select *Phone and SIM* to recall names and numbers from both memories. In that case, when you save names and numbers, they are saved in the phone memory.

Contacts view — to select how the names and numbers in *Contacts* are displayed

Name display — to select whether the contact's first or last name is displayed first

Font size — to set the font size for the list of contacts

Memory status — to view the free and used memory capacity

■ Groups

Select *Menu > Contacts > Groups* to arrange the names and phone numbers saved in the memory into caller groups with different ringing tones and group images.

C o n t a c t s

■ Speed dials

To assign a number to a speed-dialing key, select **Menu > Contacts > Speed dials**, and scroll to the speed-dialing number that you want.

Select **Assign**, or if a number has already been assigned to the key, select **Options > Change**. Select **Search** and the contact you want to assign. If the *Speed dialling* function is off, the phone asks whether you want to activate it. See also *Speed dialling* in "Call," p. 60.

To make a call using the speed-dialing keys, see "Speed dialing," p. 22.

■ Info, service, and my numbers

Select **Menu > Contacts** and from one of these submenus:

Info numbers — to call the information numbers of your service provider if the numbers are included on your SIM card (network service)

Service numbers — to call the service numbers of your service provider if the numbers are included on your SIM card (network service)

My numbers — to view the phone numbers assigned to your SIM card, if the numbers are included on your SIM card

8. Log



The phone registers your missed, received, and dialed calls if the network supports it and the phone is switched on and within the network service area.

To view the information on your calls, select **Menu > Log > Missed calls**, **Received calls**, or **Dialled numbers**. To view your recent missed and received calls and the dialed numbers chronologically, select **Call log**. To view the contacts to whom you most recently sent messages, select **Msg. recipients**.

To view the information on your recent communications, select **Menu > Log > Call duration**, **Data counter**, or **Pack. data timer**.

To view how many text and multimedia messages you have sent and received, select **Menu > Log > Message log**.



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

Some timers may be reset during service or software upgrades.

■ Position information

The network may send you a location request (network service). Contact your service provider to subscribe and to agree upon the delivery of location information.

To accept or reject the location request, select **Accept** or **Reject**. If you miss the request, the phone automatically accepts or rejects it according to what you have agreed with your network operator or service provider. The phone displays *1 missed position request*. To view the missed location request, select **Show**.

To view the information on the 10 most recent privacy notifications and requests or to delete them, select **Menu > Log > Positioning > Position log > Open folder** or **Delete all**.

9. Settings



■ Profiles

Your phone has various settings groups called profiles, for which you can customize the phone tones for different events and environments.

Select Menu > *Settings* > *Profiles*, the desired profile and from the following options:

Activate — to activate the selected profile

Personalise — to personalize the profile. Select the setting you want to change, and make the changes.

Timed — to set the profile to be active until a certain time up to 24 hours, and set the end time. When the time set for the profile expires, the previous profile that was not timed becomes active.

■ Themes

A theme contains elements for personalizing your phone.

Select Menu > *Settings* > *Themes* and from the following options:

Select theme — to set a theme. A list of folders in *Gallery* opens. Open the *Themes* folder, and select a theme.

Theme downloads — to open a list of links to download more themes

■ Tones

You can change the tone settings of the selected active profile.

Select Menu > *Settings* > *Tones*. You can find the same settings in the *Profiles* menu. See *Personalise* in "Profiles," p. 52.

To set the phone to ring only for calls from phone numbers that belong to a selected caller group, select *Alert for*. Scroll to the caller group you want or *All calls*, and select *Mark*.

Select Options > *Save* to save the settings or *Cancel* to leave the settings unchanged.

If you select the highest ringing tone level, the ringing tone reaches its highest level after a few seconds.

■ Main Display

Select Menu > Settings > Main display and from the available options:

Wallpaper — to add the background image in the standby mode

Active standby — to switch the active standby mode on or off and to organize and personalize the active standby mode.

Standby font colour — to select the color for the texts in the standby mode

Navigation key icons — to display the icons of the current navigation key shortcuts in the standby mode when active standby is off

Fold animation — to set your phone to display an animation when you open and close the phone

Font size — to set the font size for messaging, contacts and web pages

Operator logo — to set your phone to display or hide the operator logo

Cell info display > On — to display the cell identity, if available from the network

■ Settings



Note: This feature may not be available in your product due to your subscription (network service).

Service — to switch service on or off

Edit channel list — to modify your channel subscription

News ticker speed — to select how fast the news ticker moves across the phone's display

No. of msgs. shown — to select number of messages shown in news ticker

Use alternat. bearer — to select alternative method of message delivery

Settings

■ Time and date

To change the time, time zone, and date settings, select Menu > Settings > Time and date > Time, Date, or Auto-update of time (network service).

When traveling to a different time zone, select Menu > Settings > Time and date > Time > Time zone and the time zone of your location in terms of the time difference with respect to Greenwich Mean Time (GMT) or Universal Time Coordinated (UTC). The time and date are set according to the time zone and enable your phone to display the correct sending time of received text or multimedia messages. For example, GMT -5 denotes the time zone for New York (USA), 5 hours west of Greenwich/London (UK).

■ My shortcuts

With personal shortcuts you get quick access to often used functions of the phone.

Left selection key

To select a function from the list, select Menu > Settings > My shortcuts > Left selection key.

If the left selection key is Go to to activate a function, in the standby mode, select Go to > Options and from the following options:

Select options — to add a function to the shortcut list or to remove one.

Organise — to rearrange the functions on your personal shortcut list.

Right selection key

To select a function from the list, select Menu > Settings > My shortcuts > Right selection key.

Navigation key

To assign other phone functions from a predefined list to the navigation key (scroll key), select Menu > *Settings* > *My shortcuts* > *Navigation key*.

Voice commands

To call contacts and carry out phone functions, say the voice commands. Voice commands are language-dependent. To set the language, see *Voice playback lang.* in "Phone," p. 61.

To select the phone functions to activate with voice commands, select Menu > *Settings* > *My shortcuts* > *Voice commands* and a folder. Scroll to a function.  indicates that the voice tag is activated. To activate the voice tag, select Add. To play the activated voice command, select Play. To use voice commands, see "Enhanced voice dialing," p. 22.

To manage the voice commands, scroll to a phone function, and select from the following options:

Edit or Remove — to change or deactivate the voice command of the selected function

Add all or Remove all — to activate or deactivate voice commands to all functions in the voice commands list

■ Connectivity

You can connect the phone to a compatible device using a Bluetooth wireless technology or a USB data cable connection. You can also define the settings for EGPRS dial-up connections and set up the phone to send and receive data through its infrared (IR) port to or from a IRDA compatible phone or data device.

Bluetooth wireless technology

This device is compliant with Bluetooth Specification 2.0 + EDR supporting the following profiles: generic access, network access, generic object exchange, hands-free, headset, object push, file transfer, dial-up networking, SIM access, and serial port. To ensure interoperability between other devices

Settings

supporting Bluetooth technology, use Nokia approved enhancements for this model. Check with the manufacturers of other devices to determine their compatibility with this device.

There may be restrictions on using Bluetooth technology in some locations. Check with your local authorities or service provider.

Features using Bluetooth technology or allowing such features to run in the background while using other features, increase the demand on battery power and reduce the battery life.

Bluetooth technology allows you to connect the phone to a compatible Bluetooth device within 10 meters (32 feet). Since devices using Bluetooth technology communicate using radio waves, your phone and the other devices do not need to be in direct line-of-sight, although the connection can be subject to interference from obstructions such as walls or from other electronic devices.

Set up a Bluetooth connection

Select Menu > Settings > Connectivity > Bluetooth and from the following options:

Bluetooth > On or Off — to activate or deactivate the Bluetooth function.  indicates that Bluetooth is activated. When activating Bluetooth technology for the first time, you are asked to give a name for the phone. Use a unique name that is easy for others to identify.

Search audio enhanc. — to search for compatible Bluetooth audio devices. Select the device that you want to connect to the phone.

Paired devices — to search for any Bluetooth device in range. Select New to list any Bluetooth device in range. Select a device, and Pair. Enter an agreed Bluetooth passcode of the device (up to 16 characters) to associate (pair) the device to your phone. You must only give this passcode when you connect to the device for the first time. Your phone connects to the device, and you can start data transfer.

Bluetooth wireless connection

Select Menu > *Settings* > *Connectivity* > *Bluetooth*. To check which Bluetooth connection is currently active, select *Active devices*. To view a list of Bluetooth devices that are currently paired with the phone, select *Paired devices*.

Bluetooth settings

To define how your phone is shown to other Bluetooth devices, select Menu > *Settings* > *Connectivity* > *Bluetooth* > *Bluetooth settings* > *My phone's visibility* or *My phone's name*.

If you are concerned about security, turn off the Bluetooth function, or set *My phone's visibility* to *Hidden*. Always accept only Bluetooth communication from others with whom you agree.

Infrared

You can set up the phone to send and receive data through its infrared (IR) port to or from a IRDA compatible phone or data device.

Do not point the IR beam at anyone's eyes or allow it to interfere with other IR devices. Infrared devices are Class 1 laser products.

When sending or receiving data, ensure that the IR ports of the sending and receiving devices are pointing at each other and that there are no obstructions between the devices.

To activate/deactivate the IR port of your phone, select Menu > *Settings* > *Connectivity* > *Infrared*.

If data transfer is not started within 2 minutes after the activation of the IR port, the connection is cancelled and must be started again.

IR connection indicator

When  is shown continuously, the IR connection is activated, and your phone is ready to send or receive data through its IR port.

When  blinks, your phone is trying to connect to the other device, or a connection has been lost.

Settings

Packet data (GPRS)

General packet radio service (GPRS) is a network service that allows mobile phones to send and receive data over an Internet protocol (IP)-based network.

To define how to use the service, select Menu > Settings > Connectivity > Packet data > Packet data conn. and from the following options:

When needed — to set the packet data connection to established when an application needs it. The connection will be closed when the application is terminated.

Always online — to set the phone to automatically connect to a packet data network when you switch the phone on.

Modem settings

You can connect the phone using Bluetooth wireless technology or USB data cable connection to a compatible PC and use the phone as a modem to enable GPRS connectivity from the PC.

To define the settings for connections from your PC, select Menu > Settings > Connectivity > Packet data > Packet data settings > Active access point, and activate the access point you want to use. Select *Edit active access pt.* > *Packet data acc. pt.*, enter a name to change the access point settings, and select OK. Select *Packet data acc. pt.*, enter the access point name (APN) to establish a connection to an network, and select OK.

You can also set the EGPRS dial-up service settings (access point name) on your PC using the Nokia Modem Options software. See "Nokia PC Suite," p. 97. If you have set the settings both on your PC and on your phone, the PC settings are used.

Data transfer

Synchronize your calendar, contacts data, and notes with another compatible device (for example, a mobile phone), a compatible PC, or a remote Internet server (network service).

Your phone allows data transfer with a compatible PC or another compatible device when using the phone without a SIM card.

Transfer contact list

To copy or synchronize data from your phone, the name of the device and the settings must be in the list of transfer contacts. If you receive data from another device (for example, a compatible mobile phone), the corresponding transfer contact is automatically added to the list, using the contact data from the other device. *Server sync* and *PC synchronisation* are the original items in the list.

To add a new transfer contact to the list (for example a mobile phone), select Menu > Settings > Connectivity > Data transfer > Options > Add transfer contact > Phone synchronisation or Phone copy, and enter the settings according to the transfer type.

To edit the copy and synchronize settings, select a contact from the transfer contact list and Options > Edit.

To delete a transfer contact, select it from the transfer contact list, select Options > Delete.

Data transfer with a compatible device

For synchronization use Bluetooth wireless technology or a cable connection. The other device must be activated for receiving data.

To start data transfer, select Menu > Settings > Connectivity > Data transfer and the transfer contact from the list, other than *Server sync* or *PC synchronisation*. According to the settings, the selected data is copied or synchronized.

Synchronize from a compatible PC

To synchronize data from calendar, notes, and contacts, install the Nokia PC Suite software for your phone on the PC. Use Bluetooth wireless technology or a USB data cable for the synchronization, and start the synchronization from the PC.

Settings

Synchronize from a server

To use a remote Internet server, subscribe to a synchronization service. For more information and the settings required for this service, contact your service provider. You may receive the settings as a configuration message. See "Configuration settings service," p. 10 and "Configuration," p. 63.

To start the synchronization from your phone, select Menu > Settings > Connectivity > Data transfer > Server sync. Depending on the settings, select *Initialising syn-chronisation* or *Initialising copy*.

Synchronizing for the first time or after an interrupted synchronization may take up to 30 minutes to complete.

USB data cable

You can use the USB data cable to transfer data between the phone and a compatible PC or a printer supporting PictBridge. You can also use the USB data cable with Nokia PC Suite.

To activate the phone for data transfer or image printing, connect the data cable. Confirm *USB data cable connected. Select mode.* and select from the following options:

Nokia mode — to use the phone to interact with applications on a PC that has Nokia PC Suite

Printing & Media — to use the phone with a PictBridge compatible printer, or to connect the phone to a PC to synchronize it with Windows Media Player (music, video)

Data storage — to connect to a PC that does not have Nokia software and use the phone as a data storage

To change the USB mode, select Menu > Settings > Connectivity > USB data cable > *Nokia mode*, *Printing & Media*, or *Data storage*.

■ Call

Select Menu > Settings > Call and from the following options:

Call divert — to divert your incoming calls (network service). You may not be able to divert your calls if some call barring functions are active. See *Call barring service* in "Security," p. 63.

Anykey answer > *On* — to answer an incoming call by briefly pressing any key, except the power key, the camera key, the left and right selection keys, or the end key

Automatic redial > *On* — to make a maximum of 10 attempts to connect the call after an unsuccessful call attempt

Video-voice redial — to select whether the phone automatically makes a voice call to the number to which a video call failed.

Voice clarity > *Active* — to enhance speech intelligibility especially in noisy environments

Speed dialling > *On* — to dial the names and phone numbers assigned to the speed-dialling keys 3 to 9 by pressing and holding the corresponding number key

Call waiting > *Activate* — to have the network notify you of an incoming call while you have a call in progress (network service). See "Call waiting," p. 23.

Summary after call > *On* — to briefly display the approximate duration and cost (network service) of the call after each call

Send my caller ID > *Yes* — to show your phone number to the person you are calling (network service). To use the setting agreed upon with your service provider, select *Set by network*.

Answ. if fold opened > *On* — to answer an incoming call by opening the fold

Video sharing > *On* — to share your live camera view with the call recipient during an ongoing voice call. To check availability and costs, and to subscribe to the service, contact your network operator or service provider

■ Phone

Select Menu > Settings > Phone and from the following options:

Settings

Language settings — to set the display language of your phone, select *Phone language*. *Automatic* selects the language according to the information on the SIM card. To select the USIM card language, select *SIM language*. To set a language for the voice playback, select *Voice playback lang..* See "Enhanced voice dialing," p. 22 and *Voice commands* in "My shortcuts," p. 54.

Memory status — to view the amount of used and available phone memory

Automatic keyguard — to set the keypad of your phone to lock automatically after a preset time delay when the phone is in the standby mode and no function of the phone has been used. Select *On*, and set the time.

Security keyguard — to set the phone to ask for the security code when you unlock the keyguard. Enter the security code, and select *On*.

Welcome note — to write the note that is shown when the phone is switched on

Network mode — to select dual mode (UMTS and GSM), UMTS, or GSM. You cannot access this option during an active call.

Operator selection > Automatic — to set the phone to automatically select one of the cellular networks available in your area. With *Manual* you can select a network that has a roaming agreement with your service provider.

Help text activation — to select whether the phone shows help texts

Start-up tone > On — the phone plays a tone when it is switched on

Flight query > On — the phone asks every time when it is switched on whether the flight profile shall be used. With flight profile all radio connections are switched off. The flight profile should be used in areas sensitive to radio emissions.

Confirm SIM actions — See "SIM services," p. 89.

■ Configuration

You can configure your phone with settings that are required for certain services to function correctly. Your service provider may also send you these settings. See "Configuration settings service," p. 10.

Select Menu > Settings > Configuration and from the following options:

Default config. sett. — to view the service providers saved in the phone. To set the configuration settings of the service provider as default settings, select Options > Set as default.

Activ. def. in all apps. — to activate the default configuration settings for supported applications

Preferred access pt. — to view the saved access points. Scroll to an access point, and select Options > Details to view the name of the service provider, data bearer, and packet data access point or GSM dial-up number.

Connect to support — to download the configuration settings from your service provider

Device manager sett. — to allow or prevent the phone from receiving phone software updates. This option may not be available, depending on your phone.

Personal config. sett. — to add new personal accounts for various services manually, and to activate or delete them. To add a new personal account if you have not added any, select Add; otherwise, select Options > Add new. Select the service type, and select and enter each of the required parameters. The parameters differ according to the selected service type. To delete or activate a personal account, scroll to it, and select Options > Delete or Activate.

■ Security

When security features that restrict calls are in use (such as call barring, closed user group, and fixed dialling) calls still may be possible to the official emergency number programmed into your device.

Select Menu > Settings > Security and from the following options:

Settings

PIN code request and *UPIN code request* — to set the phone to ask for your PIN or UPIN code every time the phone is switched on. Some SIM cards do not allow the code request to be turned off.

PIN2 code request — to select whether the PIN2 code is required when using a specific phone feature which is protected by the PIN2 code. Some SIM cards do not allow the code request to be turned off.

Call barring service — to restrict incoming calls to and outgoing calls from your phone (network service). A barring password is required.

Fixed dialling — to restrict your outgoing calls to selected phone numbers if this function is supported by your SIM card. When the fixed dialling is on, GPRS connections are not possible except while sending text messages over a GPRS connection. In this case, the recipient's phone number and the message center number must be included in the fixed dialling list.

Closed user group — to specify a group of people whom you can call and who can call you (network service)

Security level > Phone — to set the phone to ask for the security code whenever a new SIM card is inserted into the phone. If you select *Memory*, the phone asks for the security code when the SIM card memory is selected, and you want to change the memory in use.

Access codes — to change the security code, PIN code, UPIN code, PIN2 code, or barring password

Code in use — to select whether the PIN code or UPIN code should be active

Authority certificates or *User certificates* — to view the list of the authority or user certificates downloaded into your phone. See "Certificates," p. 95.

Security module sett. — to view *Secur. module details*, activate *Module PIN request*, or change the module PIN and signing PIN. See also "Access codes," p. 9.

■ Digital rights management

Digital rights management (DRM) is copyright protection, designed to prevent modification and to limit distribution of protected files. When you download protected files, such as sound, video, themes, or ringing tones to your phone, the files are free, but locked. You pay for the key to activate the file, and the activation key is automatically sent to your phone when you download the file.

To view the permissions for a protected file, scroll to the file, and select **Options** > *Activation keys*. For example, you can see how many times you can view a video or how many days you have left for listening to a song.

To extend the permissions for a file, select **Options** and the corresponding option for the file type, such as *Activate theme*. You can send certain types of protected files to your friends, and they can buy their own activation keys.

Copyright protections may prevent some images, music (including ringing tones), and other content from being copied, modified, transferred or forwarded.

This phone supports OMA DRM 1.0 and 2.0.

■ Restore factory settings

To reset some of the menu settings to their original values, select **Menu** > *Settings* > *Rest. factory sett.*. Enter the security code. The names and phone numbers saved in *Contacts*, are not deleted.

10. Operator menu

This menu lets you access a portal to services provided by your network operator. The name and the icon depend on the operator. For more information contact your network operator. The operator can update this menu with a service message. For more information, see "Service inbox," p. 93.

Draft

11. Gallery



In this menu you can manage images, video clips, music files, themes, graphics, tones, recordings, and received files. These files are stored in the phone memory or an attached microSD memory card and may be arranged in folders.

Your phone supports an activation key system to protect acquired content. Always check the delivery terms of any content and activation key before acquiring them, as they may be subject to a fee.

Copyright protections may prevent some images, music (including ringing tones), and other content from being copied, modified, transferred or forwarded.

To see the list of folders, select Menu > *Gallery*.

To see the available options of a folder, select a folder > Options.

To view the list of files in a folder, select a folder > Open.

To see the available options of a file, select a file > Options.

To view the folders of the memory card when moving a file, scroll to the memory card, and press the scroll key right.

■ Print images

XpressPrint

Your device supports Nokia XPressPrint. To connect it to a compatible printer use a data cable or send the image via Bluetooth to a printer supporting Bluetooth technology. See "Connectivity," p. 55.

You can print images that are in the JPEG format. The images taken with the camera are automatically saved in the JPEG format.

Select the image you want to print and Options > *Print*.

■ Memory card

Keep all memory cards out of the reach of small children.

Gallery

You can use the microSD memory card to store your multimedia files such as video clips, music tracks, and sound files, images, and messaging data, and to back up information from phone memory.

Some of the folders in Gallery with content that the phone use, for example, Themes, may be stored on a memory card.

To insert and remove the microSD memory card see "Insert a microSD card," p. 12.

Format the memory card

When a memory card is formatted, all data on the card is permanently lost. Some memory cards are supplied preformatted and others require formatting. Consult your retailer to find out if you must format the memory card before you can use it.

To format a memory card, select Menu > *Gallery* or *Applications*, the memory card folder , Options > *Format memory card* > Yes.

When formatting is complete, enter a name for the memory card.

Lock the memory card

To set a password to lock your memory card to help prevent unauthorized use, select Options > *Set password*. The password can be up to eight characters long.

The password is stored in your phone and you do not have to enter it again while you are using the memory card on the same phone. If you want to use the memory card on another phone, you are asked for the password. To delete the password, select Options > *Delete password*.

Check memory consumption

To check the memory consumption of different data groups and the available memory for installing new applications or software on your memory card, select Options > *Details*.

12. Media



When taking and using images or video clips, obey all laws and respect local customs as well as privacy and legitimate rights of others, including copyrights.

You can take photos or record live video clips with the built-in 3 megapixel camera with autofocus.

■ Camera

The camera produces pictures in .jpg format, and you can digitally zoom up to eight times.

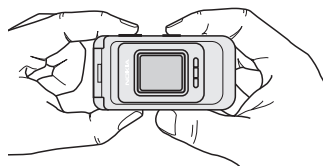
Take a photo

To open the camera viewfinder, select **Menu > Media > Camera**.

You can also take a photo when the phone is folded. Press left or right selection keys and select **Camera**.

To zoom in and out in camera mode, press volume keys up or down.

To take an image, select **Capture**, or press camera key. The phone saves the images on the memory card.



To autofocus, press camera key briefly. A white frame appears in display.

Select **Options** to set *Night mode on* if the lighting is dim, *Self-timer on* to activate the self-timer, *Img. sequence on* to take images in a fast sequence. With the highest image size setting 3 images are taken in a sequence, with other size settings 8 images are taken.

Select **Options > Settings > Image preview time** and a preview time to display the taken images on the display. During the preview time, select **Back** to take another image or **Send** to send the image as a multimedia message.

Media

Your device supports an image capture resolution of 1536 x 2048 pixels.

Camera and video options

To use a filter, select **Options > Effects > Normal, Greyscale, Sepia, Negative**.

To change the camera and video settings, select **Options > Settings**.

■ Video

You can record video clips in .3gp format. Available recording time depends on the video clip length and quality settings.

The length and file size of the clips may vary depending on the selected quality and available memory. To set the quality of your video clips, select **Menu > Media > Video > Options > Settings > Video clip quality > High, Normal or Basic**.

To select the file size limit, select **Menu > Media > Video > Options > Settings > Video clip length**. *Default* means that the file size is limited so that it fits into a multimedia message (multimedia message size can vary among devices). *Maximum* means that all available memory is used. Available memory depends on where the video clip is stored.

Record a video clip

Select **Menu > Media > Video > Record**. You can also press and hold the camera key. To pause the recording, select *Pause*; to resume the recording, select *Continue*. To stop the recording, select *Stop*. The phone saves the recording in **Gallery > Video clips**.

To zoom in or out, press the volume key up or down, or scroll left and right.

■ Media player

With the media player you can view, play, and download files, such as images, audio, video, and animated images. You can also view compatible streaming videos from a network server (network service).

Select Menu > *Media* > *Media player* > *Open gallery, Bookmarks, Go to address*, or *Media downloads* to select or download media.

Select Menu > *Media* > *Media player* > *FF/Rew interval* to set the step width for fast forward or rewind.

Configuration for a streaming service

You may receive the configuration settings required for streaming as a configuration message from the service provider. See "Configuration settings service," p. 10. You can also enter the settings manually. See "Configuration," p. 63. To activate the settings, do the following:

1. Select Menu > *Media* > *Media player* > *Streaming settings* > *Configuration*.
2. Select a service provider, *Default*, or *Personal config.* for streaming.
3. Select *Account* and a streaming service account contained in the active configuration settings.

■ Music player

Your phone includes a music player for listening to music tracks, recordings or other MP3 or AAC sound files that you have transferred to the phone with the Nokia Audio Manager application, which is part of Nokia PC Suite. See "Nokia PC Suite," p. 97.

Music files stored in a folder in the phone memory or in a folder of the memory card, will automatically be detected and added to the default track list.

To open the music player, select Menu > *Media* > *Music player*.

To open the music player when phone is folded, press left or right soft key and select *Music*.

Playing the music tracks



Warning! Listen to music at a moderate level. Continuous exposure to high volume may damage your hearing.

Media

Operate the music player with the keys on the phone or with the virtual keys on the display.

When you open the *Music player* menu, the details of the first track on the default track list are shown. To play, select ►►.

To adjust the volume level, use the volume keys on the side of the phone.

To pause the playing, select ►►.

To stop the playing, press and hold the end key

To skip to the next track, select ►►. To skip to the beginning of the previous track, select ◀◀.

To rewind the current track, select and hold ◀◀. To fast forward the current track, select and hold ►►. Release the key at the position you want.

Settings for the music player

In the *Music player* menu the following options may be available:

Show tracks — View all the tracks available on the track list and play the desired track. To play a track, scroll to the desired track, and select Play.

If you select Options, you can refresh the track list (for example, after adding new tracks to the list) and change the track list that is shown when you open the music player menu if several track lists are available in the phone. You also may send a track to another phone.

Music library — View the database of the available music tracks. You can choose the music to listen to, and create and manage the content of the library.

Play options — Select *Random* to play the tracks on the track list in random order. Select *Repeat* to play the current track or the entire track list repeatedly.

Media equaliser — Select or define an equalizer setting. See "Equalizer," p. 75.

Play via Bluetooth — Connect to a Bluetooth audio accessory.

Use tone — Set the currently played music track, for example, as ringing tone.

Web page — to access a Web page associated with the currently played track. Dimmed if no Web page is available.

Music downloads— to connect to a browser service related to the current track. This function is only available when the address of the service is included in the track.

■ Radio

The FM radio depends on an antenna other than the wireless device's antenna. A compatible headset or enhancement needs to be attached to the device for the FM radio to function properly.



Warning: Listen to music at a moderate level. Continuous exposure to high volume may damage your hearing. Do not hold the device near your ear when the loudspeaker is in use, because the volume may be extremely loud.

Select Menu > *Media* > *Radio*.

To open the music player when phone is folded, press left or right selection key and select *Radio*.

To use the graphical keys ▲, ▼, ◀, or ▶ on the display, scroll left or right to the desired key, and select it.

Save radio frequencies

1. To start the search, select and hold ◀ or ▶. To change the radio frequency in 0.05 MHz steps, briefly press ◀ or ▶.
2. To save a frequency to a memory location, 1 to 9, press and hold the corresponding number key. To save a frequency to a memory location from 10 to 20, press briefly 1 or 2, and press and hold the desired number key, 0 to 9.
3. Enter the name of the radio station.

Listen to the radio

Select Menu > *Media* > *Radio*. To scroll to the desired frequency, select ▲ or ▼, or press the headset key. To select a radio station, briefly press the corresponding number keys. To adjust the volume, press the volume keys.

Select from the following options:

Switch off — to turn off the radio

Save station — to save a new station (shown if a new station is detected)

Loudspeaker or Headset — to listen to the radio using the loudspeaker or headset.

Mono output or Stereo output — to listen to the radio in monophonic sound or in stereo

Stations — to select the list of saved stations. To delete or rename a station, scroll to the desired station, and select Options > *Delete station* or *Rename*. Select *Visual service ID* to enter a service ID given by the visual radio service provider (network service)

Search all stations — to search for new radio stations

Set frequency — to enter the frequency of the desired radio station

Station directory — to activate the station directory to seek available radio stations from the network and save them for later use.

Enable visual service — to allow or deny the viewing of visual content of the current radio station (network service). To check the availability and costs, and to get the necessary settings to your phone, contact your service provider.

When an application using a packet data or HSCSD connection is sending or receiving data, it may interfere with the radio.

■ Voice recorder

You can record pieces of speech, sound, or an active call, and save them in *Gallery*. This is useful when recording a name and phone number to write down later.

The recorder cannot be used when a data call or GPRS connection is active.

Record sound

1. Select Menu > *Media* > *Voice recorder*.

To use the graphical keys , , or  on the display, scroll left or right to the desired key, and select it.

2. To start the recording, select . To start the recording during a call, select Options > *Record*. While recording a call, all parties to the call hear a faint beeping sound. When recording a call, hold the phone in the normal position near to your ear. To pause the recording, select .

3. To end the recording, select . The recording is saved in *Gallery* > *Recordings*.

To listen to the latest recording, select Options > *Play last recorded*.

To send the last recording, select Options > *Send last recorded*.

To see the list of recordings in *Gallery*, select Options > *Recordings list* > *Recordings*.

■ Equalizer

You can control the sound quality when using the music player by amplifying or diminishing frequency bands.

Select Menu > *Media* > *Equaliser*.

To activate a set, scroll to one of the equalizer sets, and select **Activate**.

To view, edit, or rename a selected set, select Options > *View, Edit, or Rename*. Not all sets can be edited or renamed.

13. Organizer



■ Alarm clock

You can set the phone to alarm at a desired time. Select Menu > *Organiser* > *Alarm clock*.

To set the alarm, select *Alarm time*, and enter the alarm time. To change the alarm time when the alarm time is set, select *On*.

To set the phone to alert you on selected days of the week, select *Repeat alarm*.

To select the alarm tone or set the radio as the alarm tone, select *Alarm tone*. If you select the radio as an alarm tone, connect the headset to the phone.

To set a snooze time-out, select *Snooze time-out* and the time.

Stop the alarm

The phone sounds an alert tone even if the phone was switched off. To stop the alarm, select *Stop*. If you let the phone continue to sound the alarm for a minute or select *Snooze*, the alarm stops for the time you set in *Snooze time-out*, then resumes.

If the alarm time is reached while the device is switched off, the device switches itself on and starts sounding the alarm tone. If you select *Stop*, the device asks whether you want to activate the device for calls. Select *No* to switch off the device or *Yes* to make and receive calls. Do not select *Yes* when wireless phone use may cause interference or danger.

■ Calendar

Select Menu > *Organiser* > *Calendar*.

The current day is indicated by a frame. If there are any notes set for the day, the day is in bold type, and the beginning of the note is shown below the calendar. To view the day notes, select *View*. To view a week, select Options > *Week view*. To delete all notes in the

calendar, select the month or week view, and select Options > *Delete all notes*.

In *Settings* you can set the date, time, time zone, date or time format, date separator, default view, or the first day of the week.

In *Auto-delete notes* you can set the phone to delete old notes automatically after a specified time.

Make a calendar note

Select Menu > *Organiser* > *Calendar*. Scroll to the date, and select Options > *Make a note* and one of the following note types:

 *Meeting*,  *Call*,  *Birthday*,  *Memo*, or  *Reminder*. Fill in the fields.

Note alarm

The phone displays the note and if set, sounds a tone. With a call note  on the display, to call the displayed number, press the call key. To stop the alarm and to view the note, select View. To stop the alarm for 10 minutes, select Snooze.

To stop the alarm without viewing the note, select Exit.

■ To-do list

To save a note for a task that you must do, select Menu > *Organiser* > *To-do list*.

To make a note if no note is added, select Add; otherwise, select Options > *Add*. Fill in the fields, and select Save.

To view a note, scroll to it, and select View. While viewing a note, you can also select an option to edit the attributes. You can also select an option to delete the selected note and delete all the notes that you have marked as done.

■ Notes

To write and send notes, select Menu > *Organiser* > *Notes*.

Organizer

To make a note if no note is added, select **Add**; otherwise, select **Options > Make a note**. Write the note, and select **Save**.

■ Calculator

The calculator in your phone provides basic arithmetic and trigonometric functions, calculates the square and the square root, the inverse of a number, and converts currency values.



Note: This calculator has limited accuracy and is designed for simple calculations.

Select **Menu > Organiser > Calculator**. When 0 is displayed on the screen, enter the first number in the calculation. Press **#** for a decimal point. Scroll to the desired operation or function or select it from the **Options**. Enter the second number. Repeat this sequence as many times as it is necessary. To start a new calculation, first select and hold **Clear**.

To perform a currency conversion, select **Menu > Organiser > Calculator**. To save the exchange rate, select **Options > Exchange rate**. Select either of the displayed options. Enter the exchange rate, press **#** for a decimal point, and select **OK**. The exchange rate remains in the memory until you replace it with another one. To perform the currency conversion, enter the amount to be converted, and select **Options > In domestic or In foreign**.



Note: When you change base currency, you must enter new exchange rates because all previously set exchange rates are cleared.

■ Countdown timer

To start the countdown timer, select **Menu > Organiser > Countd. timer > Normal timer**, enter the alarm time, and write a note text that is displayed when the time expires. To start the countdown timer, select **Start**. To change the countdown time, select **Change time**. To stop the timer, select **Stop timer**.

To have an interval timer with up to 10 intervals started, first enter the intervals. Select **Menu > Organiser > Countd. timer > Interval timer**. To start the timer, select **Start timer > Start**.

■ Stopwatch

You can measure time, take intermediate times, or take lap times using the stopwatch. During timing, the other functions of the phone can be used. To set the stopwatch timing in the background, press the end key.

Using the stopwatch or allowing it to run in the background when using other features increases the demand on battery power and reduces the battery life.

Select Menu > *Organiser* > *Stopwatch* and from the following options:

Split timing — to take intermediate times. To start the time observation, select Start. Select Split every time that you want to take an intermediate time. To stop the time observation, select Stop.

To save the measured time, select Save.

To start the time observation again, select Options > *Start*. The new time is added to the previous time. To reset the time without saving it, select *Reset*.

Lap timing — to take lap times

Continue — to view the timing that you have set in the background

Show last — to view the most recently measured time if the stopwatch is not reset

View times or *Delete times* — to view or delete the saved times

14. Push to talk



Select Menu > *Push to talk*.

Push to talk (PTT) over cellular is a two-way radio service available over a GPRS cellular network (network service).

You can use PTT to have a conversation with one person or with a group of people (channel) having compatible devices. While you are connected to the PTT service, you can use the other functions of the phone.

To check availability and costs, and to subscribe to the service, contact your network operator. Roaming services may be more limited than for normal calls.

Before you can use the PTT service, you must define the required PTT service settings. See "PTT settings," p. 85 and "Configuration settings," p. 86.

■ Push to talk channels

A PTT channel comprises a group of people (for example, friends or a workteam) who joined the channel after they were invited to. When you call a channel, all members joined to the channel hear the call simultaneously.

There are different types of PTT channels:

Public channel — Every channel member can invite other persons.

Private channel — Only persons which receive an invitation by the channel creator can join in.

Provisioned channel — A permanent channel is created by the service provider.

You can set the status of each channel to *Active* or *Inactive*.

The number of active channels and the number of members per channel is limited. Contact your service provider for details.

Create a channel

To add a channel, select Menu > *Push to talk* > *Add channel* and enter the settings in the form fields:

Channel name: — Enter a name for the new channel.

Channel status: — Select *Active* to set the channel active, or *Inactive* to disable the channel.

Nickname in channel: — Enter your nick name to be shown the new channel.

Channel security: > *Public channel* or *Private channel*

Image: — Select *Change* and an image from the *Gallery* or the *Default graphic* to set a graphic for the new channel.

To send an invitation to the channel, select *Yes* when the phone requests it. The recipient of the invitation is added to the member list of the channel when the invitation is accepted. To send further invitations select Menu > *Push to talk* > *Channel list*, a channel, and Options > *Send invitation*. To send the invitation use a text message or IR.

To add a provisioned channel, select Menu > *Push to talk* > *Add channel* > Options > *Edit add. manually*. Enter the *Channel address*: provided by your service provider.

Receive an invitation

1. When you receive a text message invitation to a channel, *Channel invitation received:* is displayed.
2. To view the nickname of the person who sent the invitation and the channel address if the channel is not a private channel, select *View*.
3. To add the channel to your phone, select *Save*.
4. To set the status for the channel, select *Active* or *Inactive*.

To reject the invitation, select Exit > *Yes*, or select View > Discard > *Yes*.

Push to talk

■ Switch PTT on and off

To connect to the PTT service, select *Menu > Push to talk > Switch PTT on*, or press and hold the PTT (volume up) key.  indicates the PTT connection.  indicates that the service is temporarily unavailable. If you have added channels to the phone, you are automatically joined to the active channels.

You may assign a default function to the PTT (volume up) key to open the channel list, the contacts list or a single channel or contact. See "PTT settings," p. 85.

To disconnect from the PTT service, select *Switch PTT off*.

■ Make and receive a PTT call



Warning: Do not hold the device near your ear when the loudspeaker is in use, because the volume may be extremely loud.

To make a channel call, a one-to-one call, or a call to multiple recipients, you must hold the PTT (volume up) key as long as you talk. To listen to the response, release the PTT (volume up) key.

You may be able to check the login status of your contacts in *Menu > Push to talk > Contacts list*. This service depends on your network operator and is only available for subscribed contacts. To subscribe a contact, select *Options > Subscribe contact*, or if one or more contacts are already marked *Subscribe marked*.



or  indicate that the person is either available or unknown.

 indicates that the person wants not to be disturbed, but can receive callback requests.  indicates that the person has PTT not switched on.

Make a channel call

To make a call to a channel, select *Channel list* in the PTT menu, scroll to the desired channel, and press and hold the PTT (volume up) key.

Make a one-to-one call

To start a one-to-one call from the list of contacts to which you have added the PTT address, select *Contacts > Names* or *Menu > Push to talk > Contacts list*. Scroll to a contact, and press and hold the PTT (volume up) key.

To start a one-to-one call from the list of PTT channels, select *Channel list*, scroll to the desired channel, and select *Members*. Scroll to the desired contact, and press and hold the PTT (volume up) key.

To start a one-to-one call from the list of callback requests you have received, select *Callback inbox*. Scroll to the desired nickname, and press and hold the PTT (volume up) key.

Make a PTT call to multiple recipients

You can select multiple PTT contacts from the contact list. The recipients receive an incoming call and need to accept the call in order to participate. If supported by your network operator, you also may select contacts with a phone number but without PTT number. For details, contact your network operator.

1. Select *Menu > Push to talk > Contacts list*, and mark the desired contacts.
2. Press and hold the PTT (volume up) key to start the call. The participating contacts are shown on the display, as soon as they join the call.
3. Press and hold the PTT (volume up) key to talk to them. Release the PTT (volume up) key to hear the response.
4. Press the end key to terminate the call.

Receive a PTT call

A short tone notifies you of an incoming PTT call. Informations, such as the channel, the phone number, or the nickname (network service) of the caller are displayed.

You can either accept or reject an incoming one-to-one call if you have set the phone to first notify you of the one-to-one calls.

Push to talk

When you press and hold the PTT (volume up) key while the caller is talking, you hear a queuing tone, and *Queuing* is displayed. Press and hold the PTT (volume up) key, and wait for the other person to finish; then you can talk immediately.

■ Callback requests

If you make a one-to-one call and do not get a response, you can send a request for the person to call you back.

Send a callback request

You can send a callback request in the following ways:

To send a callback request from the contacts list in the *Push to talk* menu, select *Contacts list*. Scroll to a contact, and select Options > *Send PTT callback*.

To send a callback request from *Contacts*, search for the desired contact, and select Details. Scroll to the PTT address, and select Options > *Send PTT callback*.

To send a callback request from the channel list in the PTT menu, select *Channel list*, and scroll to the desired channel. Select Members, scroll to the desired contact, and select Options > *Send PTT callback*.

To send a callback request from the callback request list in the *Push to talk* menu, select *Callback inbox*. Scroll to a contact, and select Options > *Send PTT callback*.

Respond to a callback request

When someone sends you a callback request, *Callback request received* is displayed in the standby mode.

To open the *Callback inbox*, select View. The list of nicknames of the persons who have sent you callback requests is shown.

To make a one-to-one call, select the desired request and press and hold the PTT (volume up) key.

To send a call request back to the sender, select Options > *Send PTT callback*.

To delete the request, select *Delete*.

To save a new contact or to add the PTT address to a contact from a received callback request, select *Options > Save as* or *Add to contact*.

■ Add a one-to-one contact

You can save the names of persons to whom you often make one-to-one calls in the following ways:

To add a PTT address to a name in *Contacts*, search for the desired contact, select *Details > Options > Add detail > PTT address*. A contact will only appear in the PTT contact list, if the PTT address is entered.

To add a contact to the PTT contacts list, select *Menu > Push to talk > Contacts list > Options > Add contact*.

To add a contact from the channel list, connect to the PTT service, select *Channel list*, and scroll to the desired channel. Select *Members*, scroll to the member whose contact information you want to save, and select *Options*. To add a new contact, select *Save as*. To add a PTT address to a name in *Contacts*, select *Add to contact*.

■ PTT settings

Select *Menu > Push to talk > PTT settings*.

1 to 1 calls > On — to select the phone to allow the reception of incoming one-to-one calls. To make but not receive one-to-one calls, select *Off*. The service provider may offer some services that override these settings. To set the phone to first notify you of incoming one-to-one calls with a ringing tone, select *Notify*.

PTT key def. function — to set the PTT (volume up) key to following functions: *Open contact list*, *Open channel list*, *Call contact or group*. Select a contact, a group, or *Call PTT channel* and select a channel. When you press and hold the PTT (volume up) key, the selected function will be performed.

Show my login status — to enable or disable the sending of the login status

Push to talk

PTT status in startup > *Yes* or *Ask first*— to set the phone to automatically connect to the PTT service when you switch the phone on

PTT when abroad — to switch the PTT service on or off when the phone is used outside of the home network

Send my PTT address > *No* — to hide your PTT address from channel and one-to-one calls

■ Configuration settings

You may receive the settings for connecting to the service from your service provider. See "Configuration settings service," p. 10. You can enter the settings manually. See "Configuration," p. 63.

To select the settings for connecting to the service, select Menu > Push to talk > Configuration sett.. Select from the following options:

Configuration — to select a service provider, *Default*, or *Personal config.* for PTT service. Only the configurations that support the PTT service are shown.

Account — to select a PTT service account contained in the active configuration settings

Other parameters are *PTT user name*, *Default nickname*, *PTT password*, *Domain*, and *Server address*.

■ Web

Select Menu > Push to talk > Web to access the Internet site of your PTT provider.

15. Applications



In this menu you can manage applications and games. These files are stored in the phone memory or an attached microSD memory card and may be arranged in folders.

For options to format or lock and unlock the memory card see "Memory card," p. 67.

■ Launch a game

Your phone software includes some games.

Select Menu > *Applications* > *Games*. Scroll to the desired game, and select Open.

To set sounds, lights, and shakes for the game, select Menu > *Applications* > *Options* > *Application settings*. For more options, see "Some application options," p. 87.

■ Launch an application

Your phone software includes some Java applications.

Select Menu > *Applications* > *Collection*. Scroll to an application, and select Open.

■ Some application options

Update version — to check if a new version of the application is available for download from *Web* (network service)

Web page — to provide further information or additional data for the application from an Internet page (network service), if available

Application access — to restrict the application from accessing the network.

■ Download an application

Your phone supports J2ME Java applications. Make sure that the application is compatible with your phone before downloading it.



Important: Only install and use applications and other software from sources that offer adequate security and protection against harmful software.

You can download new Java applications and games in different ways.

Use the Nokia Application Installer from PC Suite to download the applications to your phone, or select Menu > *Applications* > Options > *Downloads* > *App. downloads*; the list of available bookmarks is shown. See "Bookmarks," p. 91.

For the availability of different services, pricing, and tariffs, contact your service provider.

Your device may have some bookmarks loaded 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 Internet site.

16. SIM services



Your SIM card may provide additional services. You can access this menu only if it is supported by your SIM card. The name and contents of the menu depend on the available services.

For availability and information on using SIM card services, contact your SIM card vendor. This may be the service provider, network operator, or other vendor.

To set the phone to show you the confirmation messages sent between your phone and the network when you are using the SIM services, select *Menu > Settings > Phone > Confirm SIM actions > Yes*.

Accessing these services may involve sending messages or making a phone call for which you may be charged.

17. Web



You can access various mobile Internet services with your phone browser.



Important: Use only services that you trust and that offer adequate security and protection against harmful software.

Check the availability of these services, pricing, tariffs, and instructions with your service provider.

With the phone browser you can view the services that use wireless markup language (WML) or extensible hypertext markup language (XHTML) on their pages. Appearance may vary due to screen size. You may not be able to view all details of the Internet pages.

■ Set up browsing

You may receive the configuration settings required for browsing as a configuration message from the service provider that offers the service that you want to use. See "Configuration settings service," p. 10. You can also enter all the configuration settings manually. See "Configuration," p. 63.

■ Connect to a service

Ensure that the correct configuration settings of the service are activated.

1. To select the settings for connecting to the service, select **Menu > Web > Settings > Configuration sett.**
2. Select **Configuration**. Only the configurations that support browsing service are shown. Select a service provider, *Default*, or *Personal config.* for browsing. See "Set up browsing," p. 90.
3. Select **Account** and a browsing service account contained in the active configuration settings.
4. Select **Displ. term. window > Yes** to perform manual user authentication for intranet connections.

Make a connection to the service in one of the following ways:

- Select Menu > *Web* > *Home*; or in the standby mode, press and hold 0.
- To select a bookmark of the service, select Menu > *Web* > *Bookmarks*.
- To select the last URL, select Menu > *Web* > *Last web addr.*
- To enter the address of the service, select Menu > *Web* > *Go to address*. Enter the address of the service, and select OK.

■ Browse pages

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

Browse with phone keys

To browse through the page, scroll in any direction.

To select an item, press the call key, or select Select.

To enter letters and numbers, press the 0 to 9 keys. To enter special characters, press *.

Direct calling

While browsing, you can make a phone call, and save a name and a phone number from a page.

■ Bookmarks

You can save page addresses as bookmarks in the phone memory.

1. While browsing, select Options > *Bookmarks*; or in the standby mode, select Menu > *Web* > *Bookmarks*.
2. Scroll to a bookmark, and select it, or press the call key to make a connection to the page associated with the bookmark.

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3. Select Options to view, edit, delete, or send the bookmark; to create a new bookmark; or to save the bookmark to a folder.

Your device may have some bookmarks loaded 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 Internet site.

Receive a bookmark

When you have received a bookmark that is sent as a bookmark, 1 bookmark received is displayed. To view the bookmark, select Show.

■ Appearance settings

While browsing, select Options > Other options > Appearance settings; or in the standby mode, select Menu > Web > Settings > Appearance settings and from the following options:

Text wrapping — to select how the text shall appear on the display.

Font size — to set the font size

Show images > No — to hide images on the page.

Alerts > *Alert for unsec. conn.* > Yes — to set the phone to alert when a secure connection changes to an unsecure one during browsing

Alerts > *Alert for unsec. items* > Yes — to set the phone to alert when a secure page contains an unsecure item. These alerts do not guarantee a secure connection. For more information, see "Browser security," p. 94.

Character encoding > *Content encoding* — to select the encoding for the browser page content

Character encoding > *Unicode (UTF-8) addr.* > On — to set the phone to send a URL as a UTF-8 encoding.

Screen size > Full or Small — to set the screen layout

JavaScript > Enable — to enable the Java scripts

■ Security settings

Cookies

A cookie is data that a site saves in the cache memory of your phone. Cookies are saved until you clear the cache memory. See "Cache memory," p. 94.

While browsing, select *Options > Other options > Security > Cookie settings*; or in the standby mode, select *Menu > Web > Settings > Security settings > Cookies*. To allow or prevent the phone from receiving cookies, select *Allow* or *Reject*.

Scripts over secure connection

You can select whether to allow the running of scripts from a secure page. The phone supports WML scripts.

While browsing, to allow the scripts, select *Options > Other options > Security > WMLScript settings*; or in the standby mode, select *Menu > Web > Settings > Security settings > WMLScripts in conn. > Allow*.

■ Download settings

To automatically save all downloaded files in *Gallery*, select *Menu > Web > Settings > Downloading sett. > Automatic saving > On*.

■ Service inbox

The phone is able to receive service messages sent by your service provider (network service). Service messages are notifications (for example, news headlines), and they may contain a text message or an address of a service.

To access the *Service inbox* in the standby mode, when you have received a service message, select *Show*. If you select *Exit*, the message is moved to the *Service inbox*. To access the *Service inbox* later, select *Menu > Web > Service inbox*.

To access the *Service inbox* while browsing, select *Options > Other options > Service inbox*. Scroll to the message you want, and to

Web

activate the browser and download the marked content, select **Retrieve**. To display detailed information on the service notification or to delete the message, select **Options > Details** or **Delete**.

Service inbox settings

Select **Menu > Web > Settings > Service inbox sett.**

To set whether you want to receive service messages, select **Service messages > On** or **Off**.

To set the phone to receive service messages only from content authors approved by the service provider, select **Message filter > On**.

To view the list of the approved content authors, select **Trusted channels**.

To set the phone to automatically activate the browser from the standby mode when the phone has received a service message, select **Autom. connection > On**. If you select **Off**, the phone activates the browser only after you select **Retrieve** when the phone has received a service message.

■ Cache memory

A cache is a memory location that is used to store data temporarily. If you have tried to access or have accessed confidential information requiring passwords, empty the cache after each use. The information or services you have accessed is stored in the cache.

To empty the cache while browsing, select **Options > Other options > Clear the cache**; in the standby mode, select **Menu > Web > Clear the cache**.

■ Browser security

Security features may be required for some services, such as online banking or shopping. For such connections you need security certificates and possibly a security module, which may be available on your SIM card. For more information, contact your service provider.

Security module

The security module improves security services for applications requiring a browser connection, and allows you to use a digital signature. The security module may contain certificates as well as private and public keys. The certificates are saved in the security module by the service provider.

To view or change the security module settings, select Menu > Settings > Security > Security module sett..

Certificates



Important: Even if the use of certificates makes the risks involved in remote connections and software installation considerably smaller, they must be used correctly in order to benefit from increased security. The existence of a certificate does not offer any protection by itself; the certificate manager must contain correct, authentic, or trusted certificates for increased security to be available. Certificates have a restricted lifetime. If Expired certificate or Certificate not valid yet is shown even if the certificate should be valid, check that the current date and time in your device are correct.

Before changing any certificate settings, you must make sure that you really trust the owner of the certificate and that the certificate really belongs to the listed owner.

There are three kinds of certificates: server certificates, authority certificates, and user certificates. You may receive these certificates from your service provider. Authority certificates and user certificates may also be saved in the security module by the service provider.

To view the list of the authority or user certificates downloaded into your phone, select Menu > Settings > Security > Authority certificates or User certificates.



is displayed during a connection, if the data transmission between the phone and the content server is encrypted.

The security icon does not indicate that the data transmission between the gateway and the content server (or place where the requested resource is stored) is secure. The service provider secures the data transmission between the gateway and the content server.

W e b

Digital signature

You can make digital signatures with your phone if your SIM card has a security module. Using the digital signature can be the same as signing your name to a paper bill, contract, or other document.

To make a digital signature, select a link on a page, for example, the title of the book you want to buy and its price. The text to sign, which may include the amount and date, is shown.

Check that the header text is *Read* and that the digital signature icon  is shown.

If the digital signature icon does not appear, there is a security breach, and you should not enter any personal data such as your signing PIN.

To sign the text, read all of the text first, and select Sign.

The text may not fit within a single screen. Therefore, make sure to scroll through and read all of the text before signing.

Select the user certificate you want to use. Enter the signing PIN. The digital signature icon disappears, and the service may display a confirmation of your purchase.

18. PC connectivity

You can send and receive e-mail, and access the Internet when your phone is connected to a compatible PC through a Bluetooth or a data cable connection. You can use your phone with a variety of PC connectivity and data communications applications.

■ Nokia PC Suite

With Nokia PC Suite you can synchronize contacts, calendar, notes, and to-do notes between your phone and the compatible PC or a remote Internet server (network service). You may find more information and PC Suite on the Nokia Web site at www.nokia.com/support or your local Nokia Web site.

■ Packet data, HSCSD, and CSD

With your phone you can use the packet data, high-speed circuit switched data (HSCSD), and circuit switched data (CSD, *GSM data*) data services. For availability and subscription to data services, contact your network operator or service provider. See "Modem settings," p. 58.

The use of HSCSD services consumes the phone battery faster than normal voice or data calls.

■ Bluetooth

Use the Bluetooth technology to connect your compatible Laptop to the Internet. Your phone must have activated a service provider that supports Internet access and your PC has to support Bluetooth PAN (Personal Area Network). After connecting to the network access point (NAP) service of the phone and pairing with your PC your phone automatically opens a packet data connection to the Internet. PC Suite software installation is not necessary when using the NAP service of the phone.

See "Bluetooth wireless technology," p. 55.

■ Data communication applications

For information on using a data communication application, refer to the documentation provided with it.

Making or answering phone calls during a computer connection is not recommended, as it might disrupt the operation.

For better performance during data calls, place the phone on a stationary surface with the keypad facing downward. Do not move the phone by holding it in your hand during a data call.

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19. Battery information

■ Charging and discharging

Your device is powered by a rechargeable battery. The full performance of a new battery 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 talk and standby times are noticeably shorter than normal, replace the battery. Use only Nokia approved batteries, and recharge your battery only with Nokia approved chargers designated for this device.

If a replacement battery is being used for the first time or if the battery has not been used for a prolonged period, it may be necessary to connect the charger and then disconnect and reconnect it to start the charging.

Unplug the charger from the electrical plug and the device when not in use. Do not leave fully charged battery connected to a charger, since overcharging may shorten its lifetime. If left unused, a fully charged battery will lose its charge over time.

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

Use the battery only for its intended purpose. Never use any charger or battery that is damaged.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object such as a coin, clip, or pen causes direct connection of the positive (+) and negative (-) terminals of the battery. (These look like metal strips on the battery.) This might happen, 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 device with a hot or cold battery may not work temporarily, even when the battery is fully charged. Battery performance is particularly limited in temperatures well below freezing.

Do not dispose of batteries in a fire as they may explode. Batteries may also explode if damaged. Dispose of batteries according to local regulations. Please recycle when possible. Do not dispose as household waste.

■ Nokia battery authentication

Always use original Nokia batteries for your safety. To check that you are getting an original Nokia battery, purchase it from an authorized Nokia dealer, look for the Nokia Original Enhancements logo on the packaging, and inspect the hologram label using the following steps:

Successful completion of the four steps is not a total assurance of the authenticity of the battery. If you have any reason to believe that your battery is not an authentic original Nokia battery, you should refrain from using it, and take it to the nearest authorized Nokia service point or dealer for assistance. Your authorized Nokia service point or dealer will inspect the battery for authenticity. If authenticity cannot be verified, return the battery to the place of purchase.

Authenticate hologram

1. When looking at the hologram on the label, you should see the Nokia connecting hands symbol from one angle and the Nokia Original Enhancements logo when looking from another angle.
2. When you angle the hologram left, right, down, and up, you should see 1, 2, 3, and 4 dots on each side respectively.
3. Scratch the side of the label to reveal a 20-digit code, for example, 12345678919876543210. Turn the battery so that the numbers are facing upwards. The 20-digit code reads starting from the number at the top row followed by the bottom row.



Battery information

4. Confirm that the 20-digit code is valid by following the instructions at www.nokia.com/batterycheck.



To create a text message enter the 20-digit code, for example, 12345678919876543210, and send to +44 7786 200276.

To create a text message,

- For countries in Asia Pacific, excluding India: Enter the 20-digit code, for example, 12345678919876543210, and send to +61 427151515.
- For India only: Enter Battery followed by the 20-digit battery code, for example, Battery 12345678919876543210, and send to 5555.

National and international operator charges will apply.

You should receive a message indicating whether the code can be authenticated.

What if your battery is not authentic?

If you cannot confirm that your Nokia battery with the hologram on the label is an authentic Nokia battery, please do not use the battery. Take it to the nearest authorized Nokia service point or dealer for assistance. The use of a battery that is not approved by the manufacturer may be dangerous and may result in poor performance and damage to your device and its enhancements. It may also invalidate any approval or warranty applying to the device.

To find out more about original Nokia batteries, visit www.nokia.com/battery.

20. Technical Information

Weight	88 grams (3.1 ounces) incl. BL-5B battery
Battery	760 mAh Li-Ion Battery
Networks	Wireless networks GSM 900, 1800 and 1900
Size	Volume: 4.5 cubic inches (73 ccm) Length: 4.2 in (106 mm) Width: 1.7 in (44 mm) Thickness: 0.8 in (20 mm)
Frequency range (Rx)	GSM 900: 925 - 960 MHz GSM1800: 1805 - 1880 MHz GSM1900: 1930 - 1990 MHz
Frequency range (Tx)	GSM 900: 880 - 915 MHz GSM 1800: 1710 - 1785 MHz GSM1900: 1850 - 1910 MHz
Tx output power	2 W (max)
Battery voltage	3.7 V DC
Number of channels	GSM 900: 174 GSM 1800: 374 GSM1900: 299
Memory size	16 MB flash memory 3 MB RAM
Operating temperature	59 °F to 77 °F (15 °C to 25 °C)

Care and maintenance

Your device is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you protect your warranty coverage.

- Keep the device dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device does get wet, remove the battery and allow the device to dry completely before replacing it.
- Do not use or store the device in dusty, dirty areas. Its moving parts and electronic components can be damaged.
- Do not store the device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.
- Do not attempt to open the device other than as instructed in this guide.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device.
- Do not paint the device. Paint can clog the moving parts and prevent proper operation.
- Do not touch the main display with hard or angular materials. Objects like earrings or jewellery may scratch the display.
- Use a soft, clean, dry cloth to clean any lenses (such as camera, proximity sensor, and light sensor lenses).
- Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the device and may violate regulations governing radio devices.
- Use chargers indoors.
- Always create a backup of data you want to keep (such as contacts and calendar notes) before sending your device to a service facility.

Care and maintenance

All of the above suggestions apply equally to your device, battery, charger, or any enhancement. If any device is not working properly, take it to the nearest authorized service facility for service.

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Additional safety information

Your device and its enhancements may contain small parts. Keep them out of the reach of small children.

■ Operating environment

Remember to follow any special regulations in force in any area, and always switch off your device when its use is prohibited or when it may cause interference or danger. Use the device only in its normal operating positions. This device meets RF exposure guidelines when used either in the normal use position against the ear or when positioned at least 1.5 centimeters (5/8 inch) away from the body. When a carry case, belt clip or holder is used for body-worn operation, it should not contain metal and should position the device the above-stated distance from your body.

To transmit data files or messages, this device requires a quality connection to the network. In some cases, transmission of data files or messages may be delayed until such a connection is available. Ensure that the above separation distance instructions are followed until the transmission is completed.

Parts of the device are magnetic. Metallic materials may be attracted to the device. Do not place credit cards or other magnetic storage media near the device, because information stored on them may be erased.

■ Medical devices

Operation of any radio transmitting equipment, including wireless 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 device 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.

Pacemakers

Pacemaker manufacturers recommend that a minimum separation of 15.3 centimeters (6 inches) be maintained between a wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and

Additional safety information

recommendations of Wireless Technology Research. Persons with pacemakers should do the following:

- Always keep the device more than 15.3 centimeters (6 inches) from the pacemaker
- Not carry the device in a breast pocket
- Hold the device to the ear opposite the pacemaker to minimize the potential for interference.

If you suspect interference, switch off your device, and move the device away.

Hearing aids

Some digital wireless devices may interfere with some hearing aids. If interference occurs, consult your service provider.

■ Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles such as electronic fuel injection systems, electronic antiskid (antilock) braking systems, electronic speed control systems, and air bag systems. For more information, check with the manufacturer or its representative of your vehicle or any equipment that has been added.

Only qualified personnel should service the device, or install the device in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty that may apply to the device. Check regularly that all wireless device 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 device, its parts, or enhancements. For vehicles equipped with an air bag, remember that air bags inflate with great force. Do not place objects, including 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 device while flying in aircraft is prohibited. Switch off your device before boarding an aircraft. The use of wireless teledevices in an aircraft may be dangerous to the operation of the aircraft, disrupt the wireless telephone network, and may be illegal.

■ Potentially explosive environments

Switch off your device when in any area with a potentially explosive atmosphere and obey all signs and instructions. Potentially explosive atmospheres include areas where you would normally be advised to turn off

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your vehicle engine. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Switch off the device at refueling points such as near gas pumps at service stations. Observe restrictions on the use of radio equipment in fuel depots, 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 liquefied petroleum gas (such as propane or butane), and areas where the air contains chemicals or particles such as grain, dust, or metal powders.

■ Emergency calls



Important: Wireless phones, including this device, operate using radio signals, wireless networks, landline networks, and user-programmed functions. Because of this, connections in all conditions cannot be guaranteed. You should never rely solely on any wireless device for essential communications like medical emergencies.

To make an emergency call:

1. If the device is not on, switch it on. Check for adequate signal strength. Some networks may require that a valid SIM card is properly inserted in the device.
2. Press the end key as many times as needed to clear the display and ready the device for calls.
3. Enter the official emergency number for your present location. Emergency numbers vary by location.
4. Press the call key.

If certain features are in use, you may first need to turn those features off before you can make an emergency call. If the device is in the offline or flight mode, you must change the profile to activate the phone function before you can make an emergency call. Consult this guide or your service provider for more information.

When making an emergency call, give all the necessary information as accurately as possible. Your wireless device may be the only means of communication at the scene of an accident. Do not end the call until given permission to do so.

Additional safety information

■ Certification information (SAR)

THIS MOBILE DEVICE MEETS GUIDELINES FOR EXPOSURE TO RADIO WAVES.

Your mobile device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves recommended by international guidelines. These guidelines were developed by the independent scientific organization ICNIRP and include safety margins designed to assure the protection of all persons, regardless of age and health.

The exposure guidelines for mobile devices employ a unit of measurement known as the Specific Absorption Rate or SAR. The SAR limit stated in the ICNIRP guidelines is 2.0 watts/kilogram (W/kg) averaged over 10 grams of tissue. Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands. The actual SAR level of an operating device can be below the maximum value because the device is designed to use only the power required to reach the network. That amount changes depending on a number of factors such as how close you are to a network base station. The highest SAR value under the ICNIRP guidelines for use of the device at the ear is 0.41 W/kg.

Use of device accessories and enhancements may result in different SAR values. SAR values may vary depending on national reporting and testing requirements and the network band. Additional SAR information may be provided under product information at www.nokia.com.

Your mobile device is also designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA) and Industry Canada. These requirements set a SAR limit of 1.6 W/kg averaged over 1 gram of tissue. The highest SAR value reported under this standard during product certification for use at the ear is 0.26 W/kg and when properly worn on the body is 0.29 W/kg. Information about this device model can be found at

<http://www.fcc.gov/oet/fccid> by searching the equipment authorization system using FCC ID: QTKRM-140.

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■ A message from the CTIA

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Safety is the most important call you will ever make.

A Guide to Safe and Responsible Wireless Phone Use

Tens of millions of people in the U.S. today take advantage of the unique combination of convenience, safety and value delivered by the wireless telephone. Quite simply, the wireless phone gives people the powerful ability to communicate by voice--almost anywhere, anytime--with the boss, with a client, with the kids, with emergency personnel or even with the police. Each year, Americans make billions of calls from their wireless phones, and the numbers are rapidly growing.

But an important responsibility accompanies those benefits, one that every wireless phone user must uphold. When driving a car, driving is your first responsibility. A wireless phone can be an invaluable tool, but good judgment must be exercised at all times while driving a motor vehicle--whether on the phone or not.

The basic lessons are ones we all learned as teenagers. Driving requires alertness, caution and courtesy. It requires a heavy dose of basic common sense---keep your head up, keep your eyes on the road, check your mirrors frequently and watch out for other drivers. It requires obeying all traffic signs and signals and staying within the speed limit. It means using seatbelts and requiring other passengers to do the same.

But with wireless phone use, driving safely means a little more. This brochure is a call to wireless phone users everywhere to make safety their first priority when behind the wheel of a car. Wireless telecommunications is keeping us in touch, simplifying our lives, protecting us in emergencies and providing opportunities to help others in need.

When it comes to the use of wireless phones, safety is your most important call.

Wireless phone "Safety Tips"

1. Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage

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of valuable features most phones offer, including automatic redial and memory. Also, work to memorize the phone keypad so you can use the speed dial function without taking your attention off the road.

2. When available, use a hands free device. A number of hands free wireless phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.
3. Position your wireless phone within easy reach. Make sure you place your wireless phone within easy reach and where you can grab it without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voice mail answer it for you.
4. Suspend conversations during hazardous driving conditions or situations. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow and ice can be hazardous, but so is heavy traffic. As a driver, your first responsibility is to pay attention to the road.
5. Do not take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a "to do" list while driving a car, you are not watching where you are going. It's common sense. Don't get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.
6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan your calls before you begin your trip or attempt to coincide your calls with times you may be stopped at a stop sign, red light or otherwise stationary. But if you need to dial while driving, follow this simple tip--dial only a few numbers, check the road and your mirrors, then continue.
7. Do not engage in stressful or emotional conversations that may be distracting. Stressful or emotional conversations and driving do not mix--they are distracting and even dangerous when you are behind the wheel of a car. Make people you are talking with aware you are driving and if necessary, suspend conversations which have the potential to divert your attention from the road.
8. Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity to be a "Good Samaritan" in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other local emergency number, as you would want others to do for you.

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9. Use your wireless phone to call for help. Your wireless phone is one of the greatest tools you can own to protect yourself and your family in dangerous situations--with your phone at your side, help is only three numbers away. Dial 9-1-1 or other local emergency number in the case of fire, traffic accident, road hazard or medical emergency. Remember, it is a free call on your wireless phone!
10. Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity to be a "Good Samaritan" in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other local emergency number, as you would want others to do for you.
11. Call roadside assistance or a special wireless non-emergency assistance number when necessary. Certain situations you encounter while driving may require attention, but are not urgent enough to merit a call for emergency services. But you still can use your wireless phone to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

Careless, distracted individuals and people driving irresponsibly represent a hazard to everyone on the road. Since 1984, the Cellular Telecommunications Industry Association and the wireless industry have conducted educational outreach to inform wireless phone users of their responsibilities as safe drivers and good citizens. As we approach a new century, more and more of us will take advantage of the benefits of wireless telephones. And, as we take to the roads, we all have a responsibility to drive safely.

The wireless industry reminds you to use your phone safely when driving.

For more information, please call 1-888-901-SAFE.

For updates: <http://www.wow-com.com/consumer/issues/driving/articles.cfm?ID=85>

■ Message from the FDA

The U.S. Food and Drug Administration (FDA) provides the following consumer information about wireless phones.

See <http://www.fda.gov/cellphones/> for updated information.

Do wireless phones pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless phones. There is no proof, however, that

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wireless phones are absolutely safe. Wireless phones emit low levels of radiofrequency energy (RF) in the microwave range while being used. They also emit very low levels of RF when in the stand-by mode. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

What is FDA's role concerning the safety of wireless phones?

Under the law, FDA does not review the safety of radiation-emitting consumer products such as wireless phones before they can be sold, as it does with new drugs or medical devices. However, the agency has authority to take action if wireless phones are shown to emit radiofrequency energy (RF) at a level that is hazardous to the user. In such a case, FDA could require the manufacturers of wireless phones to notify users of the health hazard and to repair, replace or recall the phones so that the hazard no longer exists.

Although the existing scientific data do not justify FDA regulatory actions, FDA has urged the wireless phone industry to take a number of steps, including the following:

- Support needed research into possible biological effects of RF of the type emitted by wireless phones;
- Design wireless phones in a way that minimizes any RF exposure to the user that is not necessary for device function; and
- Cooperate in providing users of wireless phones with the best possible information on possible effects of wireless phone use on human health.

FDA belongs to an interagency working group of the federal agencies that have responsibility for different aspects of RF safety to ensure coordinated efforts at the federal level. The following agencies belong to this working group:

- National Institute for Occupational Safety and Health
- Environmental Protection Agency
- Federal Communications Commission
- Occupational Safety and Health Administration
- National Telecommunications and Information Administration

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The National Institutes of Health participates in some interagency working group activities, as well.

FDA shares regulatory responsibilities for wireless phones with the Federal Communications Commission (FCC). All phones that are sold in the United States must comply with FCC safety guidelines that limit RF exposure. FCC relies on FDA and other health agencies for safety questions about wireless phones.

FCC also regulates the base stations that the wireless phone networks rely upon. While these base stations operate at higher power than do the wireless phones themselves, the RF exposures that people get from these base stations are typically thousands of times lower than those they can get from wireless phones. Base stations are thus not the primary subject of the safety questions discussed in this document.

What is FDA doing to find out more about the possible health effects of wireless phone RF?

FDA is working with the U.S. National Toxicology Program and with groups of investigators around the world to ensure that high priority animal studies are conducted to address important questions about the effects of exposure to radiofrequency energy (RF). FDA has been a leading participant in the World Health Organization International Electromagnetic Fields (EMF) Project since its inception in 1996. An influential result of this work has been the development of a detailed agenda of research needs that has driven the establishment of new research programs around the world. The Project has also helped develop a series of public information documents on EMF issues. FDA and the Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research and Development Agreement (CRADA) to do research on wireless phone safety. FDA provides the scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts to independent investigators. The initial research will include both laboratory studies and studies of wireless phone users. The CRADA will also include a broad assessment of additional research needs in the context of the latest research developments around the world.

What steps can I take to reduce my exposure to radiofrequency energy from my wireless phone?

If there is a risk from these products--and at this point we do not know that there is--it is probably very small. But if you are concerned about avoiding even potential risks, you can take a few simple steps to minimize your exposure to radiofrequency energy (RF). Since time is a key factor in how

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much exposure a person receives, reducing the amount of time spent using a wireless phone will reduce RF exposure.

If you must conduct extended conversations by wireless phone every day, you could place more distance between your body and the source of the RF, since the exposure level drops off dramatically with distance. For example, you could use a headset and carry the wireless phone away from your body or use a wireless phone connected to a remote antenna.

Again, the scientific data do not demonstrate that wireless phones are harmful. But if you are concerned about the RF exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless phone use.

What about children using wireless phones?

The scientific evidence does not show a danger to users of wireless phones, including children and teenagers. If you want to take steps to lower exposure to radiofrequency energy (RF), the measures described above would apply to children and teenagers using wireless phones. Reducing the time of wireless phone use and increasing the distance between the user and the RF source will reduce RF exposure. Some groups sponsored by other national governments have advised that children be discouraged from using wireless phones at all. For example, the government in the United Kingdom distributed leaflets containing such a recommendation in December 2000. They noted that no evidence exists that using a wireless phone causes brain tumors or other ill effects. Their recommendation to limit wireless phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

Do hands-free kits for wireless phones reduce risks from exposure to RF emissions?

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that hands-free kits reduce risks. Hands-free kits can be used with wireless phones for convenience and comfort. These systems reduce the absorption of RF energy in the head because the phone, which is the source of the RF emissions, will not be placed against the head. On the other hand, if the phone is mounted against the waist or other part of the body during use, then that part of the body will absorb more RF energy. Wireless phones marketed in the U.S. are required to meet safety requirements regardless of whether they are used against the head or against the body. Either configuration should result in compliance with the safety limit.

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Do wireless phone accessories that claim to shield the head from RF radiation work?

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that accessories that claim to shield the head from those emissions reduce risks. Some products that claim to shield the user from RF absorption use special phone cases, while others involve nothing more than a metallic accessory attached to the phone. Studies have shown that these products generally do not work as advertised. Unlike "hand-free" kits, these so-called "shields" may interfere with proper operation of the phone. The phone may be forced to boost its power to compensate, leading to an increase in RF absorption. In February 2002, the Federal Trade Commission (FTC) charged two companies that sold devices that claimed to protect wireless phone users from radiation with making false and unsubstantiated claims. According to FTC, these defendants lacked a reasonable basis to substantiate their claim.

How does FCC Audit Cell Phone RF?

After FCC grants permission for a particular cellular telephone to be marketed, FCC will occasionally conduct "post-grant" testing to determine whether production versions of the phone are being produced to conform with FCC regulatory requirements. The manufacturer of a cell phone that does not meet FCC's regulatory requirements may be required to remove the cell phone from use and to refund the purchase price or provide a replacement phone, and may be subject to civil or criminal penalties. In addition, if the cell phone presents a risk of injury to the user, FDA may also take regulatory action. The most important post-grant test, from a consumer's perspective, is testing of the RF emissions of the phone. FCC measures the Specific Absorption Rate (SAR) of the phone, following a very rigorous testing protocol. As is true for nearly any scientific measurement, there is a possibility that the test measurement may be less than or greater than the actual RF emitted by the phone. This difference between the RF test measurement and actual RF emission is because test measurements are limited by instrument accuracy, because test measurement and actual use environments are different, and other variable factors. This inherent variability is known as "measurement uncertainty." When FCC conducts post-grant testing of a cell phone, FCC takes into account any measurement uncertainty to determine whether regulatory action is appropriate. This approach ensures that when FCC takes regulatory action, it will have a sound, defensible scientific basis.

FDA scientific staff reviewed the methodology used by FCC to measure cell phone RF, and agreed it is an acceptable approach, given our current

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understanding of the risks presented by cellular phone RF emissions. RF emissions from cellular phones have not been shown to present a risk of injury to the user when the measured SAR is less than the safety limits set by FCC (an SAR of 1.6 w/kg). Even in a case where the maximum measurement uncertainty permitted by current measurement standards was added to the maximum permissible SAR, the resulting SAR value would be well below any level known to produce an acute effect. Consequently, FCC's approach with measurement uncertainty will not result in consumers being exposed to any known risk from the RF emitted by cellular telephones.

FDA will continue to monitor studies and literature reports concerning acute effects of cell phone RF, and concerning chronic effects of long-term exposure to cellular telephone RF (that is, the risks from using a cell phone for many years). If new information leads FDA to believe that a change to FCC's measurement policy may be appropriate, FDA will contact FCC and both agencies will work together to develop a mutually-acceptable approach.

Updated July 29, 2003

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