

User's guide



9355124
Issue 1

The wireless phone described in this guide is approved for use in and EGSM 900, GSM 1800 and GSM 1900 networks.

LEGAL INFORMATION

Part No. XXXX, Issue No. X

Copyright ©2002 Nokia. All rights reserved.

Nokia, Nokia Connecting People, Nokia 5100 and the Nokia Original Accessories logos are trademarks or registered trademarks of Nokia Corporation. All other product and company names mentioned herein may be trademarks or tradenames of their respective owners.

Printed in Canada XX/2002

US Patent No 5818437 and other pending patents.

T9 text input software Copyright ©1999-2002. Tegic Communications, Inc. All rights reserved.



Includes RSA BSAFE cryptographic or security protocol software from RSA Security.



Java is a trademark of Sun Microsystems, Inc.

The information in this user guide was written for the 5100 Nokia phone. Nokia operates a policy of ongoing development. Nokia reserves the right to make changes and improvements to any of the products described in this document without prior notice.

UNDER NO CIRCUMSTANCES SHALL NOKIA BE RESPONSIBLE FOR ANY LOSS OF DATA OR INCOME OR ANY SPECIAL, INCIDENTAL, AND CONSEQUENTIAL OR INDIRECT DAMAGES HOWSOEVER CAUSED.

THE CONTENTS OF THIS DOCUMENT ARE PROVIDED "AS IS." EXCEPT AS REQUIRED BY APPLICABLE LAW, NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE MADE IN RELATION TO THE ACCURACY AND RELIABILITY OR CONTENTS OF THIS DOCUMENT. NOKIA RESERVES THE RIGHT TO REVISE THIS DOCUMENT OR WITHDRAW IT AT ANY TIME WITHOUT PRIOR NOTICE.

EXPORT CONTROLS

This product contains commodities, technology or software exported from the United States in accordance with the Export Administration regulations. Diversion contrary to U.S. law is prohibited.

FCC/INDUSTRY CANADA NOTICE

Your phone 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 condition that this device does not cause harmful interference.

The term "IC:" before the certification/registration number only signifies that Industry Canada technical specifications were met.

Contents

FOR YOUR SAFETY	5	(Add name)	21
General information	7	Saving multiple numbers and text items per name	22
Stickers in the sales package	7	Searching for a name in the phone book	22
Access codes	7	Editing a name, number or text item	23
Special warning	8	Erasing names and numbers	23
Shared memory	8	Copying phone books	23
Typographics used in this guide	8	Sending and receiving a business card	24
1. Your phone	9	Speed dials	24
Improved durability	9	Info and service numbers	25
Using your phone in wet and damp conditions	10	My numbers	25
Keys	11	Caller groups	25
Connectors	12	5. Using the menu	26
Standby mode	12	Accessing a menu function	26
Flashlight	12	By scrolling	26
List of indicators in standby mode	13	By shortcut	26
2. Getting started	14	List of menu functions	27
Installing the SIM card and the battery	14	6. Menu functions	30
Changing the shells	15	Messages (Menu 1)	30
Charging the battery	16	Text messages	30
Switching the phone on and off	16	Multimedia messages	35
Strap for carrying and fastening	17	Erasing messages	38
Keypad lock (Keyguard)	17	Chat	38
3. Call functions	18	Voice messages	38
Making a call	18	Info messages	39
Making a conference call	19	Message settings	39
Answering or rejecting an incoming call	19	Service commands	42
Call waiting	19	Call register (Menu 2)	42
Options during a call	20	Recent calls lists	42
Loudspeaker	20	Call counters and call timers	43
4. Phone book (Names)	21	Profiles (Menu 3)	43
Selecting the phone book settings ..	21	Settings (Menu 4)	44
Saving names and phone numbers ..		Time and date settings	44
		Call settings	45
		Phone settings	47

Display settings	49	Infrared	66
Tone settings	50	GPRS	67
Accessory settings	51	WAP services (Menu 13).....	68
Security settings	52	Basic steps for accessing and using	
Restore factory settings.....	52	WAP services	68
Alarm clock (Menu 5)	53	Setting up the phone for a WAP	
Radio (Menu 6).....	53	service	68
Tuning a radio channel	54	Making a connection to a WAP	
Using the radio	54	service	71
Gallery (Menu 7)	55	Browsing the pages of a WAP	
Organiser (Menu 8).....	56	service	71
Calendar	56	Ending a WAP connection	73
To-do list	57	Appearance settings of WAP	
Games (Menu 9).....	58	browser.....	73
Launching a game	58	Cookie settings	73
Game services	58	Bookmarks	74
Memory status for games	59	Service inbox	74
Game settings	59	The cache memory	75
Applications (Menu 10).....	59	Authority certificates	75
Launching an application	59	SIM services (Menu 14).....	76
Downloading an application	60	7. Battery statements.....	77
Memory status for applications ..	61	Charging and Discharging.....	77
Extras (Menu 11).....	61	CARE AND MAINTENANCE...	78
Calculator	61	IMPORTANT SAFETY	
Countdown timer	62	INFORMATION	79
Stopwatch	63		
Calorie counter	64		
Thermometer.....	65		
Sound meter.....	66		
Connectivity (Menu 12).....	66		

FOR YOUR SAFETY

Read these simple guidelines. Breaking the rules may be dangerous or illegal. Further detailed information is given in this manual.



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



ROAD SAFETY COMES FIRST

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



INTERFERENCE

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



SWITCH OFF IN HOSPITALS

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



SWITCH OFF IN AIRCRAFT

Wireless devices can cause interference in aircraft.



SWITCH OFF WHEN REFUELLING

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



SWITCH OFF NEAR BLASTING

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



USE SENSIBLY

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



QUALIFIED SERVICE

Only qualified personnel may install or repair phone equipment.



ACCESSORIES AND BATTERIES

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



CONNECTING TO OTHER DEVICES

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

FOR YOUR SAFETY



BACKUP COPIES

Remember to make backup copies of all important data.



CALLING

Ensure the phone is switched on and in service. Enter the phone number, including the area code, then press . To end a call, press . To answer a call, press .

■ Network Services

The wireless phone described in this guide is approved for use on the EGSM 900, GSM 1800 and GSM 1900 network.

Triband is a network dependent feature. Check with your local service provider if you can subscribe to and use this feature.

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



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

FOR YOUR SAFETY

■ Accessories

Nokia Approved Accessory	Part Number
Carrying strap	MBA-8
Stereo headset	HDS-3
Boom headset	HDB-4
Headset	HS-5
Camera headset	HS-1C
Loopset	LPS-4

■ About accessories

Check the model number of any charger before use with this device. This device is intended for use when supplied with power from ACP-7, ACP-8, ACP-12, LCH-9 and LCH-12.



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

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

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

General information

■ Stickers in the sales package

The stickers contain important information for services and customer support purposes.

Attach the  sticker to your warranty card.

Attach the  sticker to the Nokia Club Invitation Card if supplied in the sales package.

■ Access codes

For specific settings of Access codes, see Security settings on page 53.

- **Security code (5 to 10 digits):** The security code protects your phone against unauthorised use, and is supplied with the phone. The preset code is 12345. Change the code, and keep the new code secret and in a safe place separate from your phone.
- **PIN code and PIN2 code (4 to 8 digits):** The PIN (Personal Identification Number) code protects your SIM card against unauthorised use. The PIN code is usually supplied with the SIM card.

The PIN2 code may be supplied with the SIM card and is required to access some functions, such as charging unit counters.

If you key in an incorrect PIN code three times in succession, the phone may display *PIN code blocked* and ask you to key in the PUK code. Contact your service provider to get the PUK code.

- **PUK and PUK2 codes (8 digits):** The PUK (Personal Unblocking Key) code is required to change a blocked PIN code. The PUK2 code 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 (4 digits):** The barring password is needed when using the *Call barring service*, see Security settings on page 53. You can obtain the password from your service provider.

General information

■ Shared memory

The following features in your phone use shared memory: phone book, text and multimedia messages, images and ringing tones in gallery, calendar and to-do notes, and Java games and applications. Using any of these features leaves less memory for other features. This is especially true with heavy use of any of the features. For example, saving many images may take all of the shared memory and your phone may display that the memory is full. In this case, delete some of the information or entries reserving the shared memory.

■ Typographics used in this guide

The display texts which appear on the phone's display are indicated in italic typeface, for example *Calling*.

The display texts related to the selection keys  and  are indicated in bold typeface, for example **Menu**.

1. Your phone

■ Improved durability



The Nokia 5100 phone has been designed for an active lifestyle. It is a phone with enduring quality and reliability. It has an improved protection against water, dust, shocks and scratches. The rubbery surface and ergonomic shape provide a firm and reliable grip and convenience.

The top and bottom shells provide protection against water splashes and dust. Also the inner module including the bottom connectors have additional resistance to water and dust when the shells and key mat are mounted. There are membranes and gaskets to give protection for inner parts.

The phone has improved durability to protect against accidental shocks and scratches (e.g. if phone drops from your pocket or desk). The bottom flap

gives extra protection for the connectors against knocks and dirt.

The Nokia 5100 phone also has several features to accompany you in your activities, like:

- Loudspeaker (p. 21), Radio (p. 54), Flashlight (p. 13), Calorie counter (p. 66), Thermometer (p. 67), Countdown timer (p. 64), Stopwatch (p. 65), Automatic volume control (p. 46) and Sound meter (p. 67)

Your phone

- downloadable personal games and applications via Java™ technology (p. 61), Multimedia messages (p. 36), WAP services (p. 70) and Polyphonic (MIDI) tones (p. 36).

■ Using your phone in wet and damp conditions

- You can use your phone in damp environments and outdoors even in the rain.
- Never immerse the phone in water.
- If water gets inside the phone shells, let the inner module and shells dry out or wipe them dry with a lint-free cloth.
- Always be sure that the phone is completely dry when you open the battery cover: SIM card, battery and inner parts are not protected against water.
- Always be sure that the battery cover is dry and clean and that it is properly closed.
- Always remember that the accessories do not meet the same durability or water resistance specifications as the phone itself.
- Never charge the phone when the bottom connectors are wet or damp.
- Never use a damp phone with accessories that have an electrical functionality.
- Always close the bottom flap properly after using any accessories.

Your phone

■ Keys

1. Power key  switches the phone on and off.
With keypad locked, pressing the power key briefly turns the phone's display lights on for a short time.

2. Volume keys , 
Keys for adjusting the earpiece, headset and loudspeaker volume.

3. 4-way scroll keys ,  and  and 
enable scrolling through names, phone numbers, menus or settings.

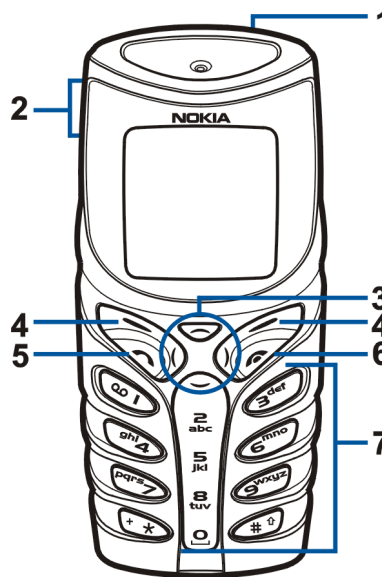
If pressed in the standby mode:

-  activates and deactivates the flashlight.
-  opens the list of phone book names.
-  opens the message creation view.
-  opens the calendar view.

4. Selection keys  and 

Perform the function indicated by the text immediately above them, for example, **Menu** and **Names** in standby mode.

5.  dials a phone number, and answers a call. In standby mode it shows the list of most recently called numbers.
6.  ends an active call. Exits from any function.
7.  -  enter numbers and characters.



Your phone

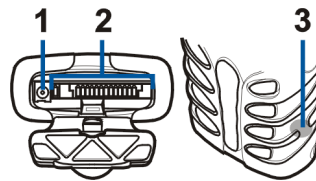
2 - **9** ^{xyz} can be used for speed dialling predefined phone numbers.

001 dials the voice mailbox number

+ ***** and **#** ⁰ are used for various purposes in different functions.

■ Connectors

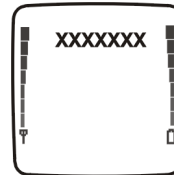
1. Charger connector
2. Pop-Port™ connector for headsets and the data cable, for example.
3. Infrared (IR) port



The bottom connectors are protected with a rubber flap. Keep the rubber flap closed if there are no accessories connected. Never use the rubber flap for carrying your phone.

■ Standby mode

The indicators below are shown when the phone is ready for use, with no characters entered. This screen is called standby mode.



XXXX Indicates in which cellular network the phone is currently used.



Shows the signal strength of the cellular network at your current location. The higher the bar, the stronger the signal.



Shows the battery charge level. The higher the bar, the more power in the battery.

Flashlight

There is a flashlight in your phone. You can activate it in standby mode when the keypad is not locked.

To activate the flashlight

- press and hold . To switch it off, release .
- press  twice quickly. The flashlight is now continuously on. To switch it off again, press  once.

List of indicators in standby mode

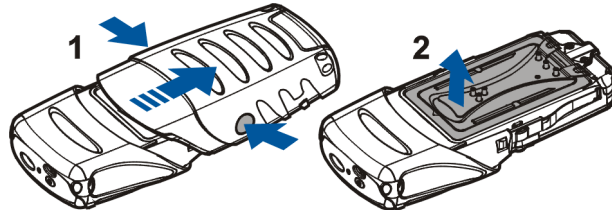
-  You have received one or several text or picture messages. See **Reading and replying to a message or an e-mail** on page 38.
-  You have received one or several multimedia messages. See **Reading and replying to a multimedia message** on page 38.
-  You have received one or several voice messages. See **Voice messages** on page 39.
-  The phone's keypad is locked. See **Automatic keyguard** on page 48.
-  The phone does not ring at an incoming call or text message when *Incoming call alert* is set to *Off* and *Message alert tone* is set to *Off*. See **Tone settings** on page 51.
-  The alarm clock is set to *On*. See **Alarm clock (Menu 5)** on page 54.
-  The countdown timer is running. See **Countdown timer** on page 64.
-  The stopwatch timing is running in the background. See **Stopwatch** on page 65.
-  A GPRS dial-up connection is established, refer to **GPRS modem settings** on page 69.
-  There is an incoming or outgoing call during a GPRS dial-up connection. The GPRS connection is suspended.
-  Infrared connection indicator, see **Infrared** on page 68.
-  All your calls are diverted to another number, *Divert all voice calls*. If you have two phone lines, the divert indicator for the first line is  and for the second line . See **Call divert** on page 47.
-  or  If you have two phone lines, indicates the selected phone line. See **Line for outgoing calls** on page 48.
-  Loudspeaker is active, see **Loudspeaker** on page 21.
-  Calls are limited to a closed user group. See **Security settings** on page 53.
-  The timed profile is selected. See **Profiles (Menu 3)** on page 44.
-  or  Headset or loopset accessory is connected to the phone.

2. Getting started

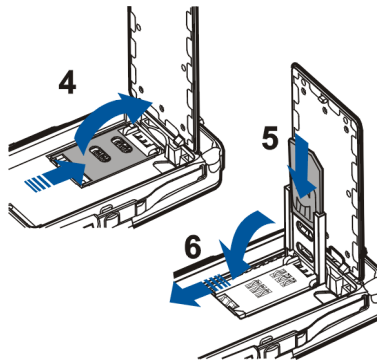
■ Installing the SIM card and the battery

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

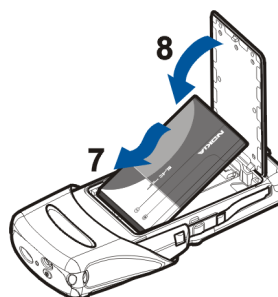
- The SIM card and its contacts can easily be damaged by scratches or bending, so be careful when handling, inserting or removing the card.
- Before installing the SIM card, always make sure that the phone is switched off and then remove the battery.



1. With the back of the phone facing you, press the bottom shell firmly from sides and remove it by sliding it downwards.
2. Lift up the battery cover.
3. Remove the battery if there.
4. Release the SIM card holder by pulling it downwards.
5. Insert your SIM card into the SIM card holder and ensure that the bevelled corner is on the top left and the golden contact area is facing downwards.
6. Close the SIM card holder.



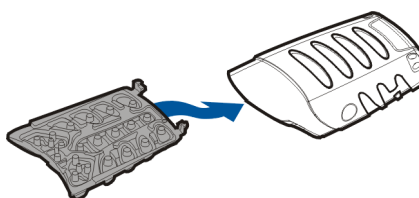
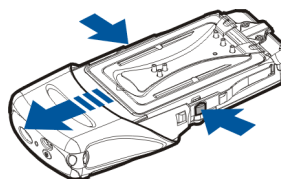
7. Replace the battery.
8. Attach the battery cover back on.
9. Slide the bottom shell back on until it locks into its place. See the step 5 in Changing the shells for reference.



■ Changing the shells

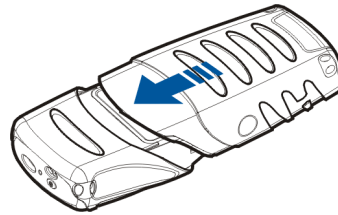
Before changing the cover, always switch off the power and disconnect the phone from the charger or any other device. Always store and use the phone with the covers attached.

1. Remove the bottom shell of the phone, see for details the step 1 in Installing the SIM card and the battery on page 15.
2. Detach the top shell by pressing the locking springs on sides and then sliding the top shell upwards.
3. Replace the new top shell by sliding it over the phone's display.
4. Attach the key mat to the bottom shell.



Getting started

5. With the back of the bottom shell facing you slide the new bottom shell with key mat into its place.



■ Charging the battery

1. Lift up the flap protecting the bottom connectors of your phone and connect the lead from the charger to the socket on the bottom of your phone. See Connectors on page 13.
2. Connect the charger to an AC wall outlet.

The text *Charging* is displayed briefly if the phone is switched on. If the battery is completely flat, it may take a few minutes before the charging indicator appears on the display or any calls can be made.

You can use the phone while the charger is connected. The charging time depends on the charger and the battery used.

■ Switching the phone on and off

Press and hold the power key  on the top of your phone.

If the phone asks for a PIN code or for a security code

- Key in the PIN code or security code, which are displayed as asterisks *****, and press *OK*.

See also Access codes on page 8.

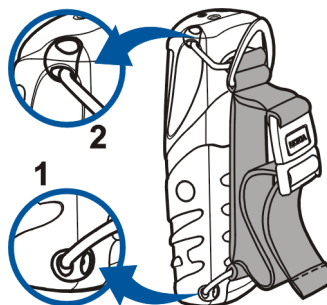


Warning: Do not switch the phone on when wireless phone use is prohibited or when it may cause interference or danger.

TIPS ON EFFICIENT OPERATION: Your phone has a built-in antenna. As with any other radio transmitting device, do not touch the antenna unnecessarily when the phone is switched on. Contact with the antenna affects call quality and may cause the phone to operate at a higher power level than otherwise needed. Not touching the antenna area during a phone call optimises the antenna performance and the talktime of your phone.

■ Strap (MBA-8) for carrying and fastening

1. Insert the narrower plastic strap holders one by one to the strap holes at the bottom of the phone. Make sure the buckle on the strap is on outer side.
2. Insert similarly the other end of the strap by stretching it a bit to the top of the phone.
3. Adjust the strap length to your liking and fasten the buckle.



■ Keypad lock (Keyguard)

You can lock the keypad to avoid accidental keypresses.

Press **Menu** and then **+*** within 1.5 seconds.

See also Automatic keyguard on page 48.

When the keypad is locked,  appears at the top of the display.

Unlocking the keypad

Press **Unlock** and then **+*** within 1.5 seconds.

When the keyguard is on

- To answer a call press . During a call, the phone can be operated in the normal way. When you end or reject the call, the keypad will be locked automatically.

Activation during a call

- To activate keyguard during a call, press **Options** and select **Lock keypad**.



Note: When Keyguard is on, calls may be possible to the emergency number programmed into your phone (e.g. 911 or other official emergency number). Key in the emergency number and press . The number is displayed only after you have keyed in its last digit.

3. Call functions

■ Making a call

1. Key in the phone number, including the area code. If you key in a wrong character, press **Clear** to delete it.

For international calls, press **+*** twice for the international prefix (the + character replaces the international access code) and then key in the country code, area code and the phone number.

2. Press **Call** to call the number.
3. Press **End** to end the call or to cancel the call attempt.

Making a call using the phone book

- See Searching for a name in the phone book on page 23. Press **Call** to call the number on the display.

Last number redialling

- In standby mode, press **Redial** once to access the list of the 20 numbers you last called or attempted to call. Scroll to the number or name you want, and press **Call** to call the number.

Speed dialling a phone number

- Assign a phone number first to one of the speed dialling keys (**2** - **9**). See Speed dialling on page 47. Then call the number in either of the two ways:
 - Press the speed dialling key you want and then press **Call**.
 - If **Speed dialling** is set to on, press and hold a speed dialling key until the call is started.

Calling your voice mailbox

- In standby mode, press and hold **1**, or press **1** and **Call**.
See also Voice messages on page 39.

Making a conference call

Conference calling is a network service that allows up to six persons to take part in a conference call.

1. Make a call to the first participant.
2. To make a call to a new participant, press **Options** and select **New call**.
3. Key in, or retrieve from the memory, the phone number of the new participant and press **Call**. The first call is put on hold.
4. When the new call has been answered, join the first participant in the conference call. Press **Options** and select **Conference**.
5. To add a new participant to the call, repeat steps 2 to 4.
6. To have a private conversation with one of the participants:
Press **Options** and select **Private** and select the desired participant.
Rejoin the conference call as described in step 4.
7. To end the conference call, press .

■ Answering or rejecting an incoming call

Press  to answer the incoming call and press  to end the call.

Press  to reject the incoming call.

If you press **Silence**, only the ringing tone is muted. Then either answer or reject the call.

If the Stereo Headset HDS-3 or some other compatible Nokia headset is connected to the phone, you can answer and end a call by pressing the headset key.



Tip: If the **Divert if busy** function is activated to divert, rejecting an incoming call will also divert the call. See Call divert on page 47.

Call waiting

During a call, press  to answer the waiting call. The first call is put on hold. Press  to end the active call.

To activate the **Call waiting** function, see Call waiting on page 47.

Call functions

■ Options during a call

Many of the options that you can use during a call, are network services. Press **Options** during a call for some of the following options:

Mute or *Unmute*, *End call*, *End all calls*, *Phone book*, *Menu* and *Hold* or *Unhold*, *Newcall*, *Conference*, *Private*, *Answer*, *Reject*, *Loudspeaker* or *Handset* and *Lock keypad*.

Send DTMF to send DTMF tone strings, for example, passwords or bank account numbers. Key in the DTMF string or search for it in the phone book and press **OK**. Note that you can key in the wait character w and the pause character p by repeatedly pressing ***★**.

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 from the calls.

Loudspeaker

You can use your phone as a loudspeaker when making or receiving calls. Do not hold the phone to your ear when using the loudspeaker function.

- By arriving call, press **Options** and select *Loudspeaker*. The call is accepted immediately.
- During a call, press **Options** and select *Loudspeaker* or press **Loudsp.** if visible on the phone's display.
- When making a call, wait until the initialising call alerts and then activate the loudspeaker like during a call.

To stop using the loudspeaker, press **Options** and select *Handset* or press **Handset** if visible on the phone's display.

Using the loudspeaker with the radio, see Using the radio on page 55.

Note: Using the loudspeaker consumes the battery and the phone's operating time will be reduced considerably.

4. Phone book (Names)

You can save names and phone numbers in the phone's memory (internal phone book) and in the SIM card's memory (SIM phone book).

- The internal phone book may save up to 300 names with numbers and textual notes for each name. The number of saved names depends on the length of the names, phone numbers and text items.
- The phone supports SIM cards that can save up to 250 names and phone numbers. Names and numbers saved in the SIM card's memory, are indicated by .

■ Selecting the phone book settings

Press **Names** and select *Settings*. Select

- *Memory in use* to select the phone book you want to use. To recall names and numbers from both phone books, select *Phone and SIM*. The names and numbers will then be saved in the phone's memory.
- *Phone book view* to select how the names (and numbers) in the phone book are displayed.
- *Memory status* to see how many names and phone numbers are currently saved and how many can still be saved in the selected phone book.

■ Saving names and phone numbers (Add name)

Names and numbers will be saved in the used memory, see Selecting the phone book settings above.

1. Press **Names** and select *Add name*.
2. Key in the name and press **OK**. See Using traditional text input on page 31.
3. Key in the phone number, and press **OK**. To key in the numbers, see Making a call on page 19.
4. When the name and number are saved, press **Done**.

Phone book (Names)



Tip: Quick save In standby mode, key in the phone number. Press **Options**, and select **Save**. Key in the name, press **OK** and **Done**.

Saving multiple numbers and text items per name

You can save different types of phone numbers and short text items per name in the phone's internal phone book.

The first number saved 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 the phone book, for example to make a call, the default number is used unless you select another number.

1. Make sure that the memory in use is either **Phone** or **Phone and SIM**. See Selecting the phone book settings on page 22.
2. To access the list of names and phone numbers, press in standby mode.
3. Scroll to the name saved in the phone's internal phone book to which you want to add a new number or text item, and press **Details**.
4. Press **Options** and select **Add number** or **Add detail**.
5. Select one of the following number types **General**, **Mobile**, **Home**, **Office** and **Fax**, or text types **E-mail address**, **Web address**, **Postal address** and **Note**.

To change the number or text type, select **Change type** in the options list.

6. Key in the number or text item and press **OK** to save it.
7. Press **Back** and then **Exit** to return to standby mode.

■ Searching for a name in the phone book

1. Press **Names** and select **Search**.
2. You can key in the first characters of the name you are searching for in the pop-up window.

Press  and  to scroll through the names in the list, press  and  to move the cursor in the pop-up window.

3. Scroll to the name you want, and press **Details**. Scroll to view the details of the selected name.

■ Editing a name, number or text item

Search for the name (and number) you want to edit and press **Details**. Scroll to the name, number or text item you want to edit, and press **Options**. Select *Edit name*, *Edit number*, or *Edit detail*, and edit the name, number, or text and press **OK**.

■ Erasing names and numbers

Press **Names** and select *Delete*.

- Select *One by one* and scroll to the name (and number) you want to delete. Press **Delete** and press **OK** to confirm.
- Select *Delete all* and then scroll to the phone book, *Phone* or *SIM card* and press **Delete**. Press **OK** and confirm with the security code.

■ Copying phone books

You can copy names and phone numbers from the phone's memory to your SIM card's memory and vice versa.

1. Press **Names** and select *Copy*.
2. Select the copying direction, *From phone to SIM card* or *From SIM card to phone*.
3. Select *One by one*, *All* or *Default nos.*.
 - If you select *One by one*, scroll to the name you want to copy and press **Copy**.

Default nos. is shown if you copy from the phone to the SIM card. Only the default numbers will be copied.
4. To choose whether you want to keep or delete the original names and numbers, select *Keep original* or *Move original*.
 - If you select *All* or *Default nos.*, press **OK** when *Start copying?* or *Start moving?* is displayed.

■ Sending and receiving a business card

You can send and receive a person's contact information as a business card either via IR or as an Over The Air (OTA) message if supported by the network.

Receiving a business card

To receive a business card via IR, make sure that your phone is ready to receive data through its IR port, see Infrared on page 68.

When you have received a business card via IR or as an OTA message, press **Show**. Press **Save** to save the business card in the phone's memory. To discard the business card, press **Exit** and then **OK**.

Sending a business card

You can send a business card via IR or as an OTA message to a compatible phone or other handheld device which supports the vCard standard.

1. Search for the name and phone number you want to send from the phone book, press **Details** and **Options** and select *Send bus. card*.
2. To send the business card via IR, make sure that the other phone or the PC is set up to receive data via its IR port and select *Via infrared*.

To send the business card as an OTA message, select *Via text message*.

■ Speed dials

To make a call by using the speed dialling keys, see Speed dialling on page 47.

Assigning a number to a speed dialling key

Press **Names**, select *Speed dials* and scroll to the speed dialling key number you want.

Press **Assign**, press **Search**, and select first the name and then the number you want to assign. If a number is already assigned to the key, press **Options**, and you can view, change or delete the assigned number.

■ Info and service numbers

You can call the information and service numbers of your service provider if the numbers are included in your SIM card.

Press **Names** and select *Info numbers* or select *Service numbers*. Scroll to an information number or to a service number and press  to call the number.

■ My numbers

The phone numbers assigned to your SIM card are saved in *My numbers* if this is allowed by the SIM card. To view the numbers press **Names** and select *My numbers*. Scroll to the desired name or number, and press **View**.

■ Caller groups

You can arrange the names and phone numbers saved in the phone book into caller groups. For each caller group, you can set the phone to sound a specific ringing tone and show a selected graphic on the display when you receive a call from a phone number in the group, see below. To set the phone to ring only upon calls from phone numbers belonging to a selected caller group, see *Alert for* in Tone settings on page 51.

Press **Names**, and select *Caller groups* and select the desired caller group. Select

- *Groupname*, key in a new name for the caller group and press **OK**.
- *Groupringingtone* and select the ringing tone for the group. *Default* is the ringing tone selected for the currently active profile.
- *Grouplogo* and select *On* to set the phone to display the group logo, *Off* not to display it, or *View* to view the logo.
- *Groupmembers* to add a name to the caller group, press **Options** and select *Add name*. Scroll to the name you want to add to the group and press **Add**.

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

5. Using the menu

The phone offers you an extensive range of functions that are arranged in menus and submenus.

Most of the menu functions are provided with a brief help text. Help text activation can be set separately, see the page 50. To view the help text, scroll to the menu function you want and wait for 15 seconds.

■ Accessing a menu function

By scrolling

1. To enter the main menu, press **Menu**, scroll with  or  for example to *Settings* and press **Select**.
2. If the menu contains any submenus, for example *Call settings*, scroll with  or  to the one you want and press **Select**.
If the menu you have selected contains submenus, repeat this step.
3. Scroll with  or  to the setting you want and press **Select**. To return to previous menu level, press **Back**.



Tip: You can exit the menu without changing the menu settings by pressing .

By shortcut

The menus, submenus and setting options are numbered and you can access them by using their shortcut numbers.

1. Press **Menu** in the standby mode.
2. Within two seconds, key in the first digit of the shortcut number. Repeat this for each digit of the shortcut number.

■ List of menu functions

1. Messages



1. Text messages

1. Create message
2. Inbox
3. Create e-mail
4. Sent items
5. Archive
6. Templates
7. My folders
8. Delete messages

2. Multimedia msgs.

1. Create message
2. Inbox
3. Outbox
4. Sent items
5. Saved items
6. Delete messages

3. Chat

4. Voice messages

1. Listen to voice messages
2. Voice mailbox number

5. Info messages

1. Info service
2. Topics
3. Language
4. Info topics saved on SIM card
5. Read

6. Message settings

1. Text messages
2. Multimedia msgs.
3. Other settings

7. Service commands

2. Call register



1. Missed calls
2. Received calls

3. Dialed numbers

4. Delete recent call lists

1. All
2. Missed
3. Received
4. Dialed

5. Call duration

1. Last call duration
2. Received calls' duration
3. Dialed calls' duration
4. All calls' duration
5. Clear timers

6. Call costs

1. Last call units
2. All calls' units
3. Call cost settings

7. GPRS data counter

1. Data sent in last session
2. Data received in last session
3. All sent data
4. All received data
5. Clear counters

8. GPRS connection timer

1. Duration of last session
2. Duration of all sessions
3. Clear timers

3. Profiles



1. General

1. Activate
2. Personalise
3. Timed

2. Silent (same submenus as in General)

3. Meeting (same submenus as in General)

- 4. Outdoor (same submenus as in General)
- 5. Pager (same submenus as in General)
- 4. Settings 
 - 1. Time and date settings
 - 1. Clock
 - 2. Date
 - 3. Auto-update of date & time
 - 2. Call settings
 - 1. Automatic volume control
 - 2. Call divert
 - 3. Anykey answer
 - 4. Automatic redial
 - 5. Speed dialling
 - 6. Call waiting
 - 7. Summary after call
 - 8. Send my caller identity
 - 9. Line for outgoing calls¹
 - 3. Phone settings
 - 1. Language
 - 2. Automatic keyguard
 - 3. Cell info display
 - 4. Welcome note
 - 5. Network selection
 - 6. Confirm SIM service actions
 - 7. Help text activation
 - 8. Start-up tone
 - 4. Display settings
 - 1. Wallpaper
 - 2. Colour schemes
- 3. Operator logo
- 4. Screen saver timeout
- 5. Display brightness
- 5. Tone settings
 - 1. Incoming call alert
 - 2. Ringing tone
 - 3. Ringing volume
 - 4. Vibrating alert
 - 5. Light alert
 - 6. Message alert tone
 - 7. Keypad tones
 - 8. Warning tones
 - 9. Alert for
- 6. Accessory settings²
 - 1. Headset
 - 2. Handsfree
 - 3. Loopset
- 7. Security settings
 - 1. PIN code request
 - 2. Call barring service
 - 3. Fixed dialling
 - 4. Closed user group
 - 5. Security level
 - 6. Access codes
- 8. Restore factory settings
- 5. Alarm clock 
- 6. Radio 
- 7. Gallery 
 - 1. View folders
 - 2. Add folder
 - 3. Delete folder
 - 4. Rename folder

¹ For availability, contact your network operator or service provider.

² This menu is shown only if the phone is or has been connected to a headset, handsfree unit or loopset available for the phone.

Using the menu

- | | | | |
|------------------------------|--|--|---|
| 5. Gallery services | | 6. Sound meter | |
| 8. Organiser |  | 12. Connectivity |  |
| 1. Calendar | | 1. Infrared | |
| 2. To-do list | | 2. GPRS | |
| 9. Games |  | 1. GPRS connection | |
| 1. Select game | | 2. GPRS modem settings | |
| 2. Game services | | 13. Services |  |
| 3. Memory | | 1. Home | |
| 4. Settings | | 2. Bookmarks | |
| 10. Applications |  | 3. Service inbox | |
| 1. Select application | | 4. Settings | |
| 2. Open browser | | 1. Active service settings | |
| 3. Memory | | 2. Edit active service settings | |
| 11. Extras |  | 3. Appearance settings | |
| 1. Calculator | | 4. Cookies | |
| 2. Countdown timer | | 5. Certificates | |
| 3. Stopwatch | | 6. Service inbox settings | |
| 4. Calorie counter | | 5. Go to address | |
| 5. Thermometer | | 6. Clear the cache | |
| | | 14. SIM services¹ |  |

¹ Only shown if supported by your SIM card. The name and contents vary depending on the SIM card

6. Menu functions

■ Messages (Menu 1)

You can read, write, send and save text, multimedia, and e-mail messages. All messages are organised into folders.



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

Before you can send any text, picture, or e-mail message, you need to save your message centre number, see **Message settings** on page 40.



Note: When sending messages, your phone may display the words "Message Sent". This is an indication that the message has been sent by your phone to the message centre number programmed into your phone. 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.

Your phone can send and receive multi-part messages, which consist of several ordinary text messages (network service). Invoicing is based on the number of ordinary messages that are required for a multi-part message.

You can also send and receive text messages that contain pictures. Each picture message is made up of several text messages. Therefore, sending one picture message may cost more than sending one text message.



Note: Picture message function can be used only if it is supported by your network operator or service provider. Only phones that offer picture message features can receive and display picture messages.

Text messages

You can key in text, for example when writing messages, using the traditional or predictive text input.

Using traditional text input

Press a number key, 001 to 9999, repeatedly until the desired character appears. Not all characters available under a number key

are printed on the key. The characters available depend on the language selected in the [Language](#) menu, see [Language](#) on page 48.

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

- If the next letter you want is located on the same key as the present one, wait until the cursor appears, or press any of the scroll keys and then key in the letter.
- The most common punctuation marks and special characters are available under the number key ∞ 1.

Setting predictive text input on or off

When writing text, press [Options](#) and select [Dictionary](#).

- To set the predictive text input on, select a language in the dictionary options list. Predictive text input is only available for the languages on the list.
- To change back to the traditional text input, select [Dictionary off](#).



Tip: To quickly set the predictive text input on or off when writing text, press $\#^{\circ}$ twice, or press and hold [Options](#).

Using predictive text input

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

1. Start writing a word by using the keys $\underline{a}$ to $\underline{z}$. Press each key only once for one letter. The word changes after each keystroke.
To insert a number while in letter mode, press and hold the desired number key.
2. When you have finished writing the word and it is correct, confirm it by adding a space with $\underline{ }_o$ or by pressing any of the scroll keys. Pressing a scroll key also moves the cursor.
If the word is not correct,
press $^+*$ repeatedly or press [Options](#) and select [Matches](#). When the word you want appears, confirm it.
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

Menu functions

dictionary, press **Spell**, key in the word (traditional text input is used) and press **Save**. When the dictionary becomes full, the new word replaces the oldest one that was added.

3. Start writing the next word.

Writing compound words

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

Writing and sending messages

The number of available characters and the current part number of a multi-part message are shown on the top right of the display.

1. Press **Menu**, and select **Messages**, **Text messages** and **Create message**.



Tip: To quickly open the message editor, press **(** in standby mode.

2. Key in a message. To insert text templates or a picture into the message, see Templates on page 35.

3. To send the message, press **Options** and select **Send**.

4. Enter the recipient's phone number or search for the phone number in the phone book.

Press **OK** to send the message.

Options for sending a message

After you have written a message, press **Options** and select **Sending options**.

- To send a message to several recipients, select **Send to many**. When you have sent the message to everyone you want to send it to, press **Done**.
- To send a message using a message profile, select **Sending profile** and then the desired message profile.

To define a message profile, see Message settings on page 40.

Writing and sending e-mail

Before you can send e-mail via SMS, you need to save the settings for sending e-mail, see Message settings on page 40. For availability and

subscription to the e-mail service, contact your network operator or service provider. To save an e-mail address in the phone book, see Saving multiple numbers and text items per name on page 23.

1. Press **Menu**, and select *Messages*, *Text messages* and *Create e-mail*.
2. Key in the recipient's e-mail address or search for it in the phone book and press **OK**.
3. If you wish, you can key in the subject for the e-mail and press **OK**.
4. Key in the e-mail message. The total number of characters that you can key in is shown on the top right of the display. The e-mail address and subject are included in the total number of characters.
See also Inserting a text template into a message or into an e-mail on page 35. Pictures cannot be inserted.
5. To send the e-mail, press **Options** and select *Send e-mail*. If you have not saved the settings for sending e-mails, the phone asks for the number of the e-mail server.

Press **OK** to send the e-mail.

Reading and replying to a message or an e-mail

When you have received a message or an e-mail, the indicator  and the number of new messages followed by *message(s) received* is shown.

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

1. Press **Show** to view the new message, or press **Exit** to view it later.

Reading the message later:

Press **Menu**, and select *Messages*, *Text messages* and *Inbox*.

2. An unread text message is indicated by  in front of it and a picture message that has not been viewed is indicated by .
3. While reading or viewing the message, press **Options**.

You can for example delete, forward or edit the message as a text message or an e-mail, and move or rename the message you are reading.

Menu functions

Select [Copy to calendar](#) to copy text at the beginning of the message to your phone's calendar as a reminder note for the current day.

Select [Message details](#) to view the sender's name and phone number, the message centre used, and the date and time of receipt.

Select [Use detail](#) to extract numbers, e-mail addresses and website addresses from the current message.

When reading a picture message, select [Save picture](#) to save the picture in the [Templates](#) folder.

4. Select [Reply](#) to reply to a message. Select [Original text](#) to include the original message in the reply, or select a standard answer to be included, or select [Empty screen](#).

When replying to an e-mail, confirm or edit the e-mail address and subject first. Then write your reply message.

5. Press [Options](#), select [Send](#), and press [OK](#) to send the message to the displayed number.

Inbox and outbox folders

The phone saves incoming text messages in the [Inbox](#) folder and sent messages in the [Sent items](#) folder of the [Text messages](#) submenu.

Text messages that you wish to send later can be saved in the [Archive](#), [My folders](#) or [Templates](#) folder.

Templates

Your phone includes text templates, indicated by , and picture templates, indicated by .

To access the template list, press [Menu](#), and select [Messages](#), [Text messages](#) and [Templates](#).

Inserting a text template into a message or into an e-mail

- When you are writing a message or an e-mail, press [Options](#). Select [Use template](#) and select the template that you want to insert.

Inserting a picture into a text message

- When you are writing a message, press **Options**. Select *Insert picture* and select a picture to view it. Press **Insert** to insert the picture into your message. The  indicator means that a picture has been attached. The number of characters that you can enter in a message, depends on the size of the picture.

To view the text and the picture together before sending the message, press **Options** and select *Preview*.

Archive folder and my folders

To organise your messages, you can move some of them to the *Archive* folder, or add new folders for your messages.

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

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

- Press **Options** and select *Add folder*.
- Scroll to the folder that you want to delete, press **Options** and select *Delete folder*.

Multimedia messages

Note: This function can be used only if it is supported by your network operator or service provider. Only phones that offer multimedia message features can receive and display multimedia messages.

A multimedia message can contain text, picture and sound. The phone supports multimedia messages that are up to 30 kB in size. If the maximum size is exceeded, the phone may not be able to receive the message. Depending on the network, you may receive a text message that includes an Internet address where you can view the multimedia message.

If the message contains a picture, the phone scales it down to fit the display area.

If the indicator  blinks, the multimedia messages memory is full. To view the waiting message, press **Show**. To save the message, press

Menu functions

Options, select *Save message* and delete old messages by first selecting the folder and then an old message to be deleted.



Note: If *Allow multimedia reception* is set *Yes*, your operator or service provider may charge you for every message you receive.

Multimedia messaging supports the following formats:

- Picture: JPEG, GIF, PNG, and BMP.
- Sound: Scalable Polyphonic MIDI (SP-MIDI) and monophonic ringing tones (RGN).

If a received message contains any unsupported elements, they may be replaced with the file name and the text *Object format not supported*.

Writing and sending a multimedia message

To set the settings for multimedia messaging, see Settings for multimedia messages on page 41. For availability and a subscription to the multimedia messaging service, contact your network operator or service provider.

1. Press **Menu**, and select *Messages*, *Multimedia msgs.* and *Create message*.
2. Key in a message.

You can insert one picture in a multimedia message. To insert a picture, press **Options**, and select *Insert image*. The list of available folders in the *Gallery* is shown. To open a specific folder, select it and then select the desired picture. The  indicator means that a picture has been attached.

To insert a name from the phone book, press **Options**, select *More options* and *Insert name*. Scroll to the desired name, press **Options** and select *Insert name*.

To insert a number, press **Options**, select *More options* and *Insert number*. Key in the number or search it in the phone book, and press **OK**.

3. To view the message before sending it, press **Options** and select *Preview*.
4. To send the message, press **Options** and select *Send to number* (or *Send to e-mail*).

5. Enter the recipient's phone number (or e-mail address) or search for it in the phone book. Press **OK** and the message is moved to the *Outbox* folder for sending.

It takes more time to send a multimedia message than to send a text message. While the multimedia message is being sent, the animated indicator  is displayed and you can use other functions on the phone. If there is an interruption while the message is being sent, the phone tries to resend it a few times. If this fails, the message will remain in the *Outbox* folder and you can try to resend it later.

The messages that you have sent will be saved in the *Sent items* folder if the setting *Save sent messages* is set to *Yes*. See Settings for multimedia messages on page 41.

Reading and replying to a multimedia message

When your phone is receiving a multimedia message, the animated indicator  is displayed. When the message has been received, the indicator  and the text *Multimedia message received* are shown.

1. Press **Show** to view the message, or press **Exit** to view it later.
Reading the message later: Press **Menu**, and select *Messages*, *Multimedia msgs.* and *Inbox*.
2. Scroll to view the message. Press **Options** if you wish to:
 - delete a saved message, reply to the message, forward the message or edit a message.
 - Or select *Message details* to view the subject, size and class of the message, *Play* to listen to the ringing tone that is contained in the message, *Save sound clip* to save the ringing tone in the *Gallery*, *Zoom in* to increase the size of the received picture, *Save image* to save the picture in the *Gallery*.

Inbox, Outbox, Saved and Sent items folders

The phone saves the multimedia messages that have been received in the *Inbox* folder of the *Multimedia msgs.* submenu.

Messages that have not yet been sent are moved to the *Outbox* folder.

Messages that you wish to send later, can be saved in the *Saved items* and messages that have been sent are saved in the *Sent items* folder.

Menu functions

Erasing messages

1. To delete text messages or multimedia messages, press **Menu**, and select *Messages*, *Text messages* or *Multimedia msgs.* and *Delete messages*.
2. To delete all messages in a folder, scroll to the folder and press **Select**. Confirm the deletion by pressing **OK** after the query.
To delete all read messages from all folders, scroll to *All messages* and press **Select**. Confirm the deletion by pressing **OK** after the query.

Chat

You can have a conversation with another person using this faster text messaging application. You cannot save received or sent messages, but you can view them while chatting. Each chat message is priced as a text message.

1. Press **Menu**, select *Messages* and *Chat*. Key in or search the phone book for the phone number of the person with whom to start a chat session and press **OK**.
Another way to start a chat: When you have received a message, press **Show** to read it. To start a chat, press **Options** and select *Chat*.
2. Key in your nickname for the chat and press **OK**.
3. Write your chat message.
4. To send the message, press **Options** and select *Send*.
5. The reply message from the other person is shown above your original message.
To reply to the message, press **OK** and repeat steps 3 and 4.
6. To end the chat session, press **OK**, press **Options** and select *Quit*.

Voice messages

Voice mailbox is a network service and you may need to subscribe to it. For more information and for the voice mailbox number, contact your service provider.

Press **Menu**, and select *Messages* and *Voice messages*. Select

- *Listen to voice messages* to call your voice mailbox at the phone number that you have saved in the *Voice mailbox number* menu.
Each phone line may have its own voice mailbox number, see Line for outgoing calls on page 48.
- *Voice mailbox number* to key in, search for or edit your voice mailbox number and press **OK** to save it.

If supported by the network, the indicator  will show new voice messages. Press **Listen** to call your voice mailbox number.



Tip: Pressing and holding  calls your voice mailbox.

Info messages

With the info message network service you can receive messages on various topics from your service provider, for example weather or traffic conditions. For available topics and the relevant topic numbers, contact your service provider.

If the *GPRS connection* is set to *Always online*, the info messages may not be received. In that case, set the *GPRS connection* to *When needed*, see GPRS connection on page 69.

Message settings

Settings for text and e-mail messages

1. Press **Menu**, and select *Messages*, *Message settings*, *Text messages* and *Sending profile*.
2. If more than one message profile set is supported by your SIM card, select the set you want to change.
 - Select *Message centre number* to save the phone number of the message centre that is required for sending text messages. You will receive this number from your service provider.
 - Select *Messages sent as* to select the message type *Text*, *E-mail*, *Paging* or *Fax*.
 - Select *Message validity* to select the length of time for which the network should attempt to deliver your message.

Menu functions

- For message type *Text*, select *Default recipient number* to save a default number for sending messages for this profile.
For message type *E-mail*, select *E-mail server* to save the e-mail server number.
- Select *Delivery reports* to ask the network to send delivery reports for your messages (network service).
- Select *Use GPRS* to set GPRS as the preferred SMS bearer.
- Select *Reply via same centre* to allow the recipient of your message to send you a reply via your message centre (network service).
- Select *Rename sending profile* to change the name of the selected message profile.

Overwrite settings

When the text message memory is full, the phone cannot receive or send any new messages. However, you can set the phone to automatically replace old text messages with the new ones.

Press **Menu**, and select *Messages*, *Message settings*, *Text messages* and *Overwriting in inbox* or *Overwriting in sent items*. Select *Allowed* to set the phone to replace the old text messages with new ones in the *Inbox* or the *Sent items* folder, respectively.

Settings for multimedia messages

Press **Menu**, and select *Messages*, *Message settings* and *Multimedia msgs.*. Select

- *Save sent messages*. Select *Yes* to set the phone to save sent multimedia messages in the *Sent items* folder.
- *Allow multimedia reception*. Choose *No*, *Yes* or *In home network* to use multimedia service. If you choose *In home network*, you cannot receive multimedia messages when outside your home network.
- *Incoming multimedia messages*. Select *Retrieve* to set the phone to automatically fetch newly received multimedia messages, or select *Reject* if you do not wish to receive them.

Menu functions

- **Connection settings.** Define WAP connection settings for retrieving multimedia messages. Activate the set where you want to save the connection settings and then edit the settings.
 - **Settings' name.** Key in the new name for the connection set and press **OK**.
 - **Homepage.** Key in the homepage address of the WAP service that you want to use, press **.** for a dot, and press **OK**.
 - **Session mode.** Select **Permanent** or **Temporary**.
 - **Data bearer.** Select **GPRS**.
 - **GPRS access point.** Key in the access point name and press **OK**. An access point name is needed to establish a connection to a GPRS network. You obtain the access point name from your network operator or service provider.
 - **IP address.** Key in the address, press **.** for a dot, and press **OK**. You obtain the IP address from your network operator or service provider.
 - **Authentication type.** Select **Secure** or **Normal**.
 - **User name.** Key in the user name and press **OK**.
 - **Password.** Key in the password and press **OK**.
 - **Allow adverts.** You can receive or reject adverts.

To receive the multimedia connection settings as a text message

You may receive the service settings as a text message from the network operator or service provider that offers the WAP service that you want to use. For more information, contact your network operator or service provider, or visit Club Nokia's website (www.club.nokia.com).

Font size setting

To select the font size for reading and writing messages, press **Menu**, and select **Messages**, **Message settings**, **Other settings** and **Font size**.

Menu functions

Service commands

Press **Menu**, and select *Messages* and *Service commands*. Key in and send service requests (also known as USSD commands), such as activation commands for network services, to your service provider.

■ Call register (Menu 2)

The phone registers the phone numbers of dialled calls, and the approximate length and cost of your calls.



The phone registers missed and received calls only if the network supports these functions, the phone is switched on and within the network's service area.

When you press **Options** in the *Missed calls*, *Received calls* and *Dialled numbers* menu, you can, for example, view the date and the time of the call, edit or delete the phone number from the list, save the number in the phone book, or send a message to the number.

Recent calls lists

Press **Menu**, and select *Call register* and then select

- *Missed calls* to view the list of the last ten phone numbers from which somebody has tried to call you (network service).
-  **Tip:** When a note about missed calls is being displayed, press **List** to access the list of phone numbers. Scroll to the number you would like to call back and press **↶**.
- *Received calls* to view the list of the last ten phone numbers from which you have most recently accepted calls (network service).
 - *Dialled numbers* to view the list of the 20 phone numbers that you have most recently called or attempted to call. See also Last number redialling on page 19.
 - *Delete recent call lists* to delete the recent calls lists. Select whether you want to delete all the phone numbers in the recent call lists, or only those numbers in the missed calls, received calls or dialled numbers lists. You cannot undo the operation.

Call counters and call timers



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

Press **Menu**, and select **Call register** and then select

- **Call duration**, scroll to view the approximate duration of your incoming and outgoing calls in hours, minutes and seconds. To clear the timers, the security code is needed.
Each phone line has its own call timers and the timers of the selected line are displayed. See Line for outgoing calls on page 48.
- **Call costs** (network service). Select **Last call units** or **All calls' units** to check the cost of your last call or all calls in terms of units specified within the **Show costs in** function.
Select **Call cost limit** to limit the cost of your calls to a certain amount of charging units or units of currency. The PIN2 code is needed for the call cost settings.



Note: When no more charging units or currency units are left, calls may only be possible to the emergency number programmed into your phone (e.g. 911 or other official emergency number).

- **GPRS data counter**, scroll to check the amounts of sent and received data in last session, data sent and received in total, and to clear the counters. The counters unit is a byte. To clear the counters, the security code is needed.
- **GPRS connection timer**, scroll to check the duration of the last GPRS connection or the total GPRS connection. You can also clear the timers. To clear the timers, the security code is needed.

Profiles (Menu 3)



Your phone has various setting groups, profiles, for which you can customise the phone tones for different events and environments. At first, personalise the profiles to your liking and then you only need to activate a profile to use it. Available profiles are **General**, **Silent**, **Meeting**, **Outdoor**, and **Pager**.

Press **Menu**, and select **Profiles**. Scroll to a profile and press **Select**.

Menu functions

- To activate the selected profile, select [Activate](#).
- To set the profile to be active for a certain amount of time up to 24 hours, select [Timed](#) and set the end time. When the time set for the profile expires, the previous profile that was not timed, activates.
- To personalise the profile, select [Personalise](#). Select the setting you want to change and make the changes.

The settings can also be changed in the [Tone settings](#) menu, see page 51.

In addition you can rename a profile, [Profile name](#). The [General](#) profile can not be renamed.



Tip: To change the profile quickly in standby mode, press the power key , scroll to the profile you want to activate and press [Select](#).

■ Settings (Menu 4)



Time and date settings

Clock

Press [Menu](#), and select [Settings](#), [Time and date settings](#) and [Clock](#).

Select [Show clock](#) to show the time on the top right of the display in standby mode. Select [Set the time](#) to adjust the clock to the correct time, and [Time format](#) to select 12-hour or 24-hour time format.

The clock serves the functions [Messages](#), [Call register](#), [Alarm clock](#), timed [Profiles](#), [Calendar](#) and screen saver, for example.

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

Date

Press [Menu](#), and select [Settings](#), [Time and date settings](#) and [Date](#).

Select [Show date](#) and the date is shown on the display when the phone is in standby mode. Select [Set the date](#) to adjust the date. You can also select the date format.

Auto update of date and time

Press **Menu**, and select *Settings*, *Time and date settings* and *Auto-update of date & time* (network service). To set the phone to automatically update the time and date according to the current time zone, select *On*. To set the phone to ask for a confirmation before the update, select *Confirm first*.

The automatic update of the date and time does not change the time that you have set for the alarm clock, calendar or the alarm notes. They are in local time. Updating may cause some alarms that you have set to expire.

Call settings

Note: The following call settings can all be found by pressing first **Menu**, and selecting *Settings*, *Call settings* and then selecting the needed setting.

Automatic volume control

Automatic volume control controls the earpiece's volume level according to the environment noise level. If the environmental noise and/or level of received speech changes, Automatic volume control changes also the earpiece's volume level accordingly.

Note: Auto volume on or off setting during an active call affects only the current call. The usage of Automatic volume control is possible only in handportable mode.

Activating Automatic volume control via a menu

1. Select *Automatic volume control*.
2. Choose either *Off* or *On*. The default is *Off*.

Activating Automatic volume control during a call

1. Press **Options** during an active call.
2. Select *Auto volume on* if you want to activate the Automatic volume control or select *Auto volume off* if you want to turn it off.

If you increase the volume level during an active call by pressing the volume key $\oplus$, the phone's volume level increases regardless of Automatic volume control being on or off.

Menu functions

When you end the call, the volume level returns to the level previous to Automatic volume control adjustment.

Call divert

Select *Call divert* (network service) and you can divert your incoming calls to another number, for example, to your voice mailbox number. For details, contact your service provider. Divert options not supported by your SIM card or your network operator may not be shown.

Select the divert option you want, for example, select *Divert if busy* to divert the voice calls when your number is busy or when you reject an incoming call.

To set the divert setting to on, select *Activate*, to set the divert setting to off, select *Cancel*, or *Checkstatus* to check whether the divert is activated or not. To change the timeout when the call is diverted, first select *Setdelay* if this is available for the divert option, and then select *Activate* to set the divert setting to on. Several divert options may be active at the same time.

Anykey answer

Select *Anykey answer*. Select *On* and you can answer an incoming call by briefly pressing any key, except , selection keys  and , and .

Automatic redial

Select *Automatic redial*. Select *On* and your phone will make up to ten attempts to connect the call after an unsuccessful call attempt.

Speed dialling

Select *Speed dialling*. Select *On* and the names and phone numbers assigned to the speed dialling keys, from  to , can be dialled by pressing and holding the corresponding number key.

Call waiting

Select *Call waiting* - *Activate* and the network will notify you of an incoming call while you have a call in progress (network service). See Call waiting on page 20.

Summary after call

Select *Summary after call*. Select *On* and the phone will briefly display the duration and cost (network service) of the last call.

Send my caller identity

Select *Send my caller identity*. Select *Yes* and your phone number will be displayed to the person you are calling (network service). Select *Set by network* and the setting agreed upon with your service provider is used.

Line for outgoing calls

Line for outgoing calls is a network service to select the phone line 1 or 2, that is subscriber number, for making calls.

Select *Line for outgoing calls*. If you select *Line 2* and have not subscribed to this network service, you will not be able to make calls. However, calls on both lines can be answered regardless of the selected line.

If supported by your SIM card, you can prevent the line selection by selecting the option *Lock*.

For more information on availability, contact your network operator or service provider.



Tip: In standby mode you can switch from one line to the other by pressing and holding *#*^o.

Phone settings

Note: The following phone settings can all be found by pressing first *Menu*, and selecting *Settings*, *Phone settings*, and then selecting the needed setting.

Language

Select *Language*. Select the language for the display texts. If *Automatic* is selected, the phone selects the language according to the information on the SIM card.

Automatic keyguard

When the keypad is locked,  appears at the top of the display.

Menu functions



Note: When Keyguard is on, calls may be possible to the emergency number programmed into your phone (e.g. 911 or other official emergency number). However, one key emergency dialling ('the 9 key') does not operate. Key in the emergency number and press . The number is displayed only after you have keyed in its last digit.

You can set time delay for your keypad and when that time is up the keypad is locked automatically preventing accidental keypresses.

1. Select [On](#) if you want to set the automatic keypad lock on.
2. Give the time entry in minutes and seconds after [Set delay:](#) appears on the display.
The default is 01:00. The maximum time entry for the delay is 60 minutes and the minimum entry 10 seconds.

The automatic keyguard activates if the phone is in standby mode and a user selectable time delay expires.

Cell info display

Select [Cell info display](#). Select [On](#) to set the phone to indicate when it is used in a cellular network based on Micro Cellular Network (MCN) technology.

If the [GPRS connection](#) is set to [Always online](#), the info messages may not be received. In that case, set the [GPRS connection](#) to [When needed](#), see GPRS connection on page 69.

Welcome note

Select [Welcome note](#). Key in the note you would like to be shown briefly when the phone is switched on. To save the note, press [Options](#), and select [Save](#).

Network selection

Select [Network selection](#). Select [Automatic](#) and the phone automatically selects one of the cellular networks available in your area.

If you select [Manual](#), you can select a network that has a roaming agreement with your home network operator. If [No access](#) is displayed, you must select another network. The phone stays in

manual mode until the automatic mode is selected or another SIM card is inserted.

Confirm SIM service actions

See SIM services (Menu 14) on page 78.

Help text activation

Select *Help text activation* to set the phone to show or hide the help texts. See also Using the menu on page 27.

Start-up tone

Select *Start-up tone* to set the phone to play or not to play a start-up tone when the phone is switched on.

Display settings

Note: The following display settings can all be found by pressing first *Menu*, and selecting *Settings*, *Display settings*, and then selecting the needed setting.

Wallpaper

You can set your phone to display a background picture, wallpaper, when the phone is in standby mode. Some pictures are presaved in the *Gallery* menu. You can also receive pictures via multimedia message, download them from WAP pages or transfer them with PC Suite from your PC and then save them in *Gallery*. Your phone supports JPEG, GIF, BMP and PNG formats.

Selecting a wallpaper picture

1. Select *Wallpaper*.
2. Select *Change image* and the folder list in the *Gallery* menu is shown.
3. Select the folder and scroll to the desired picture.
4. To set the picture as wallpaper, press *Options* and select *Set as wallpaper*.

Note that if you delete the selected wallpaper picture from the gallery, it will still be used as wallpaper until you replace it with another picture.

Menu functions

Note that the wallpaper is not displayed when the phone activates the screen saver.

Activating or deactivating the wallpaper

Select [Wallpaper](#). To activate/deactivate the wallpaper, select [On/Off](#), respectively.

Colour schemes

Select [Colour schemes](#). Select the desired colour scheme e.g. for indicators and signal bars.

Operator logo

To set your phone to display or hide the operator logo, select [Operator logo](#).

Note that the operator logo is not displayed when the phone activates the screen saver.

For more information on availability of an operator logo via SMS, MMS or WAP, contact your network operator or service provider.

Screen saver

Digital clock screen saver is used for power saving in standby mode. It will be activated when no function of the phone is used for a certain time. Press any key to deactivate the screen saver. Screen saver is also deactivated when the phone is out of the network coverage area.

Select [Screen saver timeout](#) and select the timeout when the digital clock display will be activated. The length of the timeout can vary from 5 seconds to 60 minutes.

Note that the screen saver overrides all the graphics and texts on the display in standby mode.

Display brightness

You can change the display brightness. Select [Display brightness](#), scroll with (and) to decrease and increase brightness and press [OK](#) to accept it.

Tone settings

Press [Menu](#), and select [Settings](#) and then [Tone settings](#). You can find the same settings in the [Profiles](#) menu, see Profiles (Menu 3) on page

44. Note that the settings you make, change the settings in the active profile.

- Select [Incoming call alert](#) to select how the phone notifies you of an incoming voice call. The options are [Ringing](#), [Ascending](#), [Ring once](#), [Beep once](#) and [Off](#).
- Select [Ringing tone](#) for incoming voice calls. To select ringing tones that have been saved in the [Gallery](#), select [Open gallery](#) from the ringing tone list.
- Select [Ringing volume](#) and [Vibrating alert](#) for incoming voice calls and messages. The vibrating alert does not work when the phone is connected to a charger, a desktop stand, or a car kit.



Tip: If you receive a ringing tone via OTA or by downloading, you can save the ringing tone in the [Gallery](#).

- Select [Light alert](#) to set the phone to flash the integrated flashlight during an arriving call.

Note: If you have switched the flashlight on before the incoming call, the flashlight will not flash.

- Select [Message alert tone](#) to set the alert tone for the incoming messages, [Keypad tones](#), or [Warning tones](#) to set the phone to sound tones for example, when the battery is running out of power.
- Select [Alert for](#) to set the phone to ring only upon calls from phone numbers that belong to a selected caller group. Scroll to the caller group you want or [All calls](#) and press [Mark](#).

Accessory settings

Accessory settings menu is shown only if the phone is or has been connected to one of the compatible headsets or loopsets.

Press [Menu](#), and select [Settings](#) and [Accessory settings](#). You can select [Headset](#) or [Loopset](#) if the corresponding accessory is or has been connected to the phone.

- Select [Default profile](#) to select the profile you want to be automatically activated when you connect the selected accessory. You can select another profile while the accessory is connected.

Menu functions

- Select *Automatic answer* to set the phone to answer an incoming call automatically after five seconds. If the *Incoming call alert* is set to *Beep once* or *Off*, automatic answer will not be in use.
- Select *Lights* to set the lights permanently *On*. Select *Automatic* to set the lights on for 15 seconds after a keypress. The *Lights* option is available only when *Handsfree* is selected.

Security settings



Note: When security features that restrict calls are in use (call barring, closed user group and fixed dialling), calls may be possible to certain emergency numbers in some networks (e.g. 911 or other official emergency numbers).

Press **Menu**, and select *Settings* and *Security settings*. Select

- *PIN code request* to set the phone to ask for your PIN code every time the phone is switched on. Some SIM cards do not allow the PIN code request to be turned off.
- *Call barring service* (network service) to restrict incoming calls to and outgoing calls from your phone. 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. The PIN2 code is required.
- *Closed user group* is a network service that specifies the group of people whom you can call and who can call you. For more information contact your network operator or service provider.
- *Security level*. Select *Phone* and the phone will ask for the security code whenever a new SIM card is inserted into the phone.
Select *Memory* and the phone will ask for the security code when SIM card's memory is selected and you want to change the memory in use, (see Selecting the phone book settings on page 22) or copy from one memory to another (Copying phone books on page 24).
- *Access codes* to change the security code, PIN code, PIN2 code or barring password. Codes can only include numbers from 0 to 9.

Restore factory settings

To reset some of the menu settings to their original values, press **Menu**, and select *Settings* and *Restore factory settings*. Key in the security code and press **OK**. Note that the data you have keyed in or downloaded, for example, the names and phone numbers saved in the phone book are not deleted.

■ Alarm clock (Menu 5)

The alarm clock uses the time format set for the clock. The alarm clock works even when the phone is switched off.



Press **Menu**, and select *Alarm clock*. Key in the alarm time and press **OK**. To change the time when the alarm time is set, select *On*.

When the alarm time expires

The phone will sound an alert tone, and flash *Alarm!* and the current time on the display.

Press **Stop** to stop the alarm. If you let the phone continue to alarm for a minute or press **Snooze**, the alarm stops for about ten minutes and then resumes.

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

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

■ Radio (Menu 6)

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



To listen to the radio on your phone connect the Stereo Headset HDS-3 or some other compatible Nokia headset connector on the bottom of the phone. The lead of the headset functions as the antenna of the radio, so it should also be used when listening to the radio through the loudspeaker.

Menu functions

Note that the quality of the radio broadcast depends on the radio station's coverage in that particular area.

1. To turn on the radio, press **Menu** and select **Radio**. On the display are
 - Channel location number and the name of the radio channel.
 - Frequency of the radio channel.
2. If you have already saved radio channels, you can scroll to the channel you would like to listen to, or select a radio channel location 1 to 9 by pressing the corresponding number key.

When using the Stereo Headset HDS-3 or some other compatible Nokia headset, press the headset key to scroll to the desired saved radio channel.

3. When the radio is on, press **Options** and select **Switch off** to turn off the radio.



Tip: To quickly turn off the radio, press and hold .

Tuning a radio channel

When the radio is on, press and hold  or  to start the channel search. Searching stops when a channel is found. To save the channel, press **Options** and select **Save channel**. Key in the name of the channel and press **OK**. Select the location where you want to save the channel.

Using the radio

Note: Using the radio consumes the battery and the phone's operating time will be reduced considerably.

When the radio is on, press **Options** and select

- **Switch off** to turn off the radio.
- **Save channel** to save the radio channel you have found. Up to 20 radio channels can be saved.
- **Automatic tuning**. Briefly press either of the scroll keys to start the channel search. The search stops when a channel has been found, press **OK**. To save the channel, see **Save channel** above.

Menu functions

- **Manual tuning.** Briefly press either of the scroll keys to move the channel search 0.1 MHz upwards or downwards or press and hold down the keys to quickly search upwards or downwards for a channel. To save the channel, press **OK** and see *Save channel* above.



Tip: To quickly select *Manual tuning*, press **#** when in the *Radio* menu.

- **Set frequency.** If you know the frequency of the radio channel you would like to listen to (between 87.5 MHz and 108.0 MHz), key it in and press **OK**. To save the channel, see *Save channel* above.



Tip: To quickly select *Set frequency*, press **+*** when in the *Radio* menu.

- **Delete channel.** Scroll to the saved channel, press **Delete**, and **OK**.
- **Rename.** Key in a new name for the saved channel and press **OK**.
- **Loudspeaker (or Headset)** to listen to the radio using the loudspeaker (or headset). Keep the headset connected to the phone. The lead of the headset functions as the antenna of the radio.

Note: Using the loudspeaker consumes the battery and the phone's operating time will be reduced considerably.

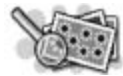
- **Mono output (or Stereo output)** to listen to the radio in mono (or in stereo).

You can normally make a call or answer an incoming call while listening to the radio. The volume of the radio is muted. When you end the call, the radio will automatically be turned on.

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

■ Gallery (Menu 7)

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



You can save images and ringing tones, for example, that have been received in multimedia messages in the folders of the gallery, see *Reading and replying to a multimedia message* on page 38.

Menu functions

1. Press **Menu** and select **Gallery**. The list of options is shown.
2. Select **View folders** to open the list of folders.

Other available options are:

- **Add folder** . Key in a name for the folder and press **OK**.
- **Delete folder** .You cannot delete the original folders on the phone.
- **Rename folder** . You cannot rename the original folders on the phone.
- **Galleryservices** to download more images and tones. Select **Imageservices** or **Tone services**, respectively. The list of available WAP bookmarks is shown. Select **More bookmarks** to access the list of WAP bookmarks in the **Services** menu, see Bookmarks on page 76.

Select the appropriate bookmark to connect to the desired WAP page. If the connection fails, you may not be able to access the WAP page from the WAP service whose connection settings are currently active. In this case, enter the **Services** menu and activate another set of service settings, see Making a connection to a WAP service on page 73. Try again to connect to the WAP page.

For the availability of different WAP services, pricing and tariffs, contact your network operator and/or the WAP service provider.

3. Select the desired folder and the list of files in the folder is shown. **Images** and **Tones** are the original folders in the phone.
4. Scroll to the desired file. Press **Options** to select desired options for the file.

■ Organiser (Menu 8)

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



Calendar

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

Press **Menu**, and select *Organiser* and *Calendar*.

Scroll to the day you want. The current day is indicated with a frame around the day. If there are any notes set for the day, the day is bolded. To view the day notes, press **Options** and select *Day notes*.

To view a single note, scroll to the note you want to view, press **Options** and select *View*. You can scroll through the note.

The other options for the calendar views may include:

- Options for making a note, for sending a note via IR, or as a note directly to another phone's calendar or as a text message.
- Options for deleting, editing, moving and repeating a note and for copying a note to another day.
- *Settings* to set the date, time, date or time format, or the first day of the week. In the *Auto-delete* option you can set the phone to delete old notes automatically after a specified time. However, the repeat notes, for example, birthday notes, will not be deleted.

Making a calendar note

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

-  *Meeting*
-  *Call*
-  *Birthday*
-  *Memo*
-  *Reminder*

To set the alarm for the reminder, select *Alarm on* and then set the alarm time.

To set the alarm for the other calendar notes above (except for *Reminder*), after keying in the information for the note type and pressing **OK**, select *With tone* or *Silent* and then set the alarm time.

Menu functions

When you have set the alarm, the indicator  is displayed when you view the notes.

When the phone alarms for a note

The phone beeps, and displays the note. With a call note  on the display, you can call the displayed number by pressing . To stop the alarm and view the note, press **View**. To stop the alarm without viewing the note, press **Exit**.

To-do list

You can save a note for a task that you have to do, select a priority level for the note and mark it as done when you have completed it. You can sort the notes by priority or by date.

Press **Menu**, and select *Organiser* and *To-do list* and the list of notes is shown. Press **Options**, or scroll to the desired note and press **Options**

- To add a new note, select *Add*. Key in the subject for the note. When you have keyed in the maximum number of characters for a note, no more characters are accepted. Press **Options** and select *Save*. Select the priority for the note, *High*, *Medium*, or *Low*. *Dictionary*, refer to Setting predictive text input on or off on page 32.
- You can set, delete and edit the deadline and an alarm for a note, and you can also view, delete or edit the selected note and delete all the notes that you have marked as done. You can edit the priority of the selected note, send a note to another phone, save a note as a calendar note, or access the calendar.

■ Games (Menu 9)

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



Launching a game

1. Press **Menu**, and select *Games* and *Select game*.
2. Scroll to a game or a game set (name depends on the game).

3. Press **Options** and select **Open**, or press . If the selection is a single game it will be launched.
- Otherwise, a list of games in the selected game set is displayed. To launch a single game, scroll to the desired game and press **Options** and select **Open**, or press .



Tip: If a game uses the whole display area, no selection key names are displayed. Press the selection key  or  to show the options list. Then select one of the options or press **Back** to continue with the game.

Game services

Press **Menu**, and select **Games** and **Game services**. The list of available WAP bookmarks is shown. Select **More bookmarks** to access the list of WAP bookmarks in the **Services** menu, see Bookmarks on page 76.

Select the appropriate bookmark to connect to the desired WAP page. If the connection fails, you may not be able to access the WAP page from the WAP service whose connection settings are currently active. In this case, enter the **Services** menu and activate another set of service settings, see Making a connection to a WAP service on page 73. Try again to connect to the WAP page.

For the availability of different WAP services, pricing and tariffs, contact your network operator and/or the WAP service provider.

Note that when downloading a game, it may be saved in **Applications** menu instead of the **Games** menu.

Memory status for games

To view the size of memory available for game and application installations, press **Menu**, and select **Games** and **Memory**. See also Memory status for applications on page 63.

Game settings

Press **Menu**, and select **Games** and **Settings** to set sounds, lights and shakes for the game. You can save your Club Nokia membership number, **Club Nokia ID**. For more information on Club Nokia and the

Menu functions

game services, visit www.club.nokia.com. Availability may vary by country.

■ Applications (Menu 10)



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

This menu allows the management of Java applications installed on your phone. Your phone software includes some Java applications specially designed for this Nokia phone. Various service providers offer other applications via WAP services. Before you can use one of these applications you have to download it to your phone.

Launching an application

1. Press **Menu**, and select **Applications** and **Select application**.
2. Scroll to an application or an application set (name depends on the application).
3. Press **Options** and select **Open** or press . If the selection is a single application it will be launched.

Otherwise, a list of applications in the selected application set is displayed. To launch a single application, scroll to the desired application and press **Options** and select **Open**, or press .



Tip: If an application uses the whole display area, no selection key names are displayed. Press the selection key or to show the options list. Then select one of the options or press **Back** to continue with the application.

Other options available for an application or application set

- **Delete** to delete the application or application set from the phone.

Note that if you delete a pre-installed application or an application set from your phone, you may download it back to your phone from the Nokia Software Market, www.softwaremarket.nokia.com/wap or www.softwaremarket.nokia.com/???.

- [Web access](#) to restrict the application for accessing the network. Select [Ask first](#) and the phone asks for net access, [Allowed](#) to allow the net access, or [Not allowed](#) not to allow the net access.
- [Check version](#) to check if a new version of the application is available for download from the WAP services.
- [Web page](#) to provide further information or additional data for the application from an Internet page. This feature needs to be supported by the network. It is only shown if an Internet address has been provided with the application.
- [Details](#) to give additional information about the application.

Downloading an application

You can download new Java applications in different ways:

- Press [Menu](#), and select [Applications](#) and [App. services](#) and the list of available WAP bookmarks is shown. Select [More bookmarks](#) to access the list of WAP bookmarks in the [Services](#) menu, see Bookmarks on page 76.
Select the appropriate bookmark to connect to the desired WAP page. If the connection fails, you may not be able to access the WAP page from the WAP service whose connection settings are currently active. In this case, enter the [Services](#) menu and activate another set of service settings, see Making a connection to a WAP service on page 73. Try again to connect to the WAP page.
For the availability of different WAP services, pricing and tariffs, contact your network operator and/or the WAP service provider.
- Press [Menu](#), and select [Services](#) to find a WAP page to download an appropriate Java application. See Browsing the pages of a WAP service on page 74.
- Use the game download functionality, see Game services on page 60.
- Use the Java Application installer from PC Suite to download the applications in your phone.

Menu functions



Note that Nokia does not warrant for applications from non-Nokia sites. If you choose to download Java applications from them, you should take the same precautions, for security or content, as you would with any site.

Note that when downloading an application, it may be saved in [Games](#) menu instead of the [Applications](#) menu.

Memory status for applications

To view the size of memory available for game and application installations, press [Menu](#), and select [Applications](#) and [Memory](#).

■ Extras (Menu 11)

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



Calculator

The calculator in your phone adds, subtracts, multiplies, divides, counts the square and the square root and converts currency values.

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

1. Press [Menu](#), and select [Extras](#) and [Calculator](#).
2. When '0' is displayed on the screen, key in the first number in the calculation, press $\frac{\circ}{\circ}$ for a decimal point.
3. Press [Options](#) and select [Add](#), [Subtract](#), [Multiply](#), [Divide](#), [Square](#), [Square root](#) or [Change sign](#).

By selecting the option [Square](#), [Square root](#) or [Change sign](#) you get the result and to proceed, select a further calculation.



Tip: Alternatively, press $\frac{+}{*}$ once to add, twice to subtract, three times to multiply or four times to divide.

4. Key in the second number.
5. For a total, press [Options](#) and select [Equals](#). Repeat steps 3 to 5 as many times as is necessary.

6. To start a new calculation, just key in new numbers or first press and hold **Clear**.

Making a currency conversion

1. Press **Menu**, and select **Extras** and **Calculator**.
2. To save the exchange rate, press **Options** and select **Exchange rate**. Select either of the displayed options. Key in the exchange rate, press $\frac{\circ}{\circ}$ for a decimal point, and press **OK**. The exchange rate remains in the memory until you replace it with another one.
3. To make the currency conversion, key in the amount to be converted, press **Options** and select **In domestic** or **In foreign**.



Tip: You can also make the currency conversion in standby mode by keying in the digits and then pressing **Options** and selecting either of the conversion types.

Countdown timer

The countdown timer allows you to enter a time value and it notifies you with an alarm when the time is up. There are two different timers in your phone, normal countdown timer and interval timer for counting cyclic time periods that can be useful for example during exercising.

Normal timing

1. Press **Menu**, and select **Extras - Countdown timer**.
2. Select **Normal timer**.
3. Key in the alarm time in format hh:mm:ss and press **OK**. If you wish, write your own note text shown when the time expires, and press **OK** to start the countdown timer.

To activate the timer in the standby mode, key in a number, press **Options** and select **Countdown timer** from the list and set the time.

To change the countdown time, select **Change time**, or to stop the timer, select **Stop timer** in Countdown timer view.

Adding a new interval timer

1. Press **Menu**, and select **Extras - Countdown timer - Interval timer**.
2. Select **Add new timer** if there are no formerly saved timers.

Menu functions

3. Key in the name for the timer.
4. Key in a name for the each period and set the timeframe for alarming.

You can set the progress to the next period to be either manual or automatic by selecting between the two options under [Extras-Countdown timer-Settings-Progress to next timer](#).

Starting interval timer

1. Press [Menu](#), and select [Extras - Countdown timer - Interval timer](#).
2. Select the desired interval timer and select [Start timer](#).
3. Select a stored period and press [Start](#).

The interval timer starts running from the selected period. It continues from one period to another according to your choice in [Settings](#) submenu.

When the normal timer or a period of the interval timer expires, the phone sounds a tone, flashes lights and the note text. Stop the alarm by pressing any key. If no key is pressed, the alarm automatically stops within 30 seconds. To stop the alarm and to delete the note text, press [Quit](#).

Stopwatch

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

Split timing

1. Select [Menu-Extras-Stopwatch-Split timing](#).
2. Press [Start](#) and the clock starts running.

Note: If timing exceeds the value of 99:59:59:9, the time on the display changes to 00:00:00:0 and the clock keeps running.

3. Press [Stop](#) to finish the timing or [Split](#) to take an intermediate time.

Intermediate times can be viewed underneath the running time. When timing is stopped, the result is shown on the display.

Menu functions

If you restart the timing by pressing **Options - Start**, time keeps running cumulatively instead of restarting at zero. You can also save or reset timing using this options list.

Lap timing

1. Select **Menu - Extras - Stopwatch - Lap timing**.
2. Press **Start** and the clock starts running.
3. Press **Lap** when you want to see the lap time.

By pressing **Lap**, timing stops and then restarts immediately at zero. The newest lap time is displayed under the running time.

When you press **Stop** timing stops and the total time is shown.

Viewing times

You can see saved times by selecting **View times**. The named time sets are listed on the display. One time set can have up to 20 intermediate and lap times. To view them select a time set.

In this view to erase times, select **Options - Delete times**.

Deleting times

You can delete times by selecting **Delete times** from the Stopwatch main menu. The options are either erasing times one by one or all times at once. The deletion is confirmed by pressing **OK**.

Calorie counter

The calorie counter gives general estimations of energy costs in various physical activities. The energy cost depends on age, weight and gender. You can save up to 10 activities in your phone.

Saving personal data

1. Select **Extras - Calorie counter - Settings** and type in your weight and age and select your gender.
2. Press **OK** after each entry to save the data.

You can select the weight, calorie and velocity format by scrolling down the Settings menu and selecting the formats one by one.

Selecting an activity

1. Select **Extras - Calorie counter - Activities - Add new**.

Menu functions

2. Select an activity from the list and an intensity level to it, if available.
3. Add the duration of activity in format hh:mm and press **OK**.
The summary data with the energy cost is displayed.
4. Press **OK** to save the activity.

Editing and deleting activities

- To edit activities, press **Options** in *Activities* main view.
You can now add a new activity, edit an existing one, count the total calorie amount or delete an activity.
Tip: After you have made *Total calories* calculation you can make a calendar entry of the calorie consumption by selecting **Options** - *Save to calendar* and entering the date.
- To delete all activities at once, select *Extras-Calorie counter -Delete all* and press **OK**.

Thermometer

The thermometer measures the approximate temperature both in Celsius and Fahrenheit. You can also select whether the temperature value in the standby mode is shown or not.

1. Press **Menu** and select *Extras-Thermometer*.
2. Select either the option of showing or hiding the temperature value.

Note that to receive the best result, place the phone on a flat surface in a windless environment preferably for 5 minutes.

Note: If your phone is being charged or the radio is on, the thermometer shows no temperature.

Sound meter

The Sound meter can only measure the approximate level of the real dB level. The phone displays a vertical meter bar that shows the noise level graphically. There is also a numerical presentation of the sound level. The peak value is shown in a frame on the top and the current value is presented underneath.

Note: It is not possible to measure the estimated noise level of a call in progress. Also, you can not use Sound meter when the FM radio is on.

When you press **Options** you get a list of four choices:

- With **Reset peak** you can reset the peak value.
- With **Hold peak** both values are shown but the peak value is updated only when the current noise level is greater than the peak value.
- With **Dynamic peak** both values are shown but the peak value is valid only for 5 seconds
- With **Noise tuning** you can simulate the sensitivity of hearing mechanism for different frequencies. You can choose between low noise (sounds < 85 dB) and loud noise (sounds > 85 dB).

■ Connectivity (Menu 12)



Infrared

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

You can set up the phone to receive data through its infrared (IR) port. To use an IR connection, the device with which you want to establish a connection must be IrDA compliant. You can send or receive data such as business cards and calendar notes to or from a compatible phone or data device (for example, a computer) via the IR port of your phone.

Do not point the IR (infrared) beam at anyone's eye or allow it to interfere with other IR devices. This device is a Class 1 Laser product.

Sending and receiving data via IR

- 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. The preferable distance between the two devices in an infrared connection is one meter at most.
- To activate the IR port of your phone to receive data via IR, press **Menu** and select **Connectivity** and **Infrared**.

Menu functions

- The user of the sending phone selects the desired IR function to start data transfer.

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

IR connection indicator

- When **IR** is shown continuously, the IR connection is activated and your phone is ready to send or receive data via its IR port.
- When **IR** blinks, your phone is trying to connect to the other device or a connection has been lost.

GPRS

GPRS connection

You can set the phone to automatically register to a GPRS network when you switch the phone on. Press **Menu**, and select **Connectivity**, **GPRS**, **GPRS connection** and **Always online**. Starting a WAP or PC dial-up application, or sending/receiving multimedia messages creates the connection between phone and network and data transfer is possible. When you end the application, GPRS connection is ended but the registration to the GPRS network remains.

If you select **When needed**, the GPRS connection is established when an application needs it and closed when you end the application.

GPRS modem settings

You can connect the phone via infrared or data cable connection to a compatible PC and use the phone as a modem to enable GPRS connectivity from the PC.

Press **Menu**, and select **Connectivity**, **GPRS** and **GPRS modem settings**. Select **Active access point** and activate the access point you want to use. Select **Edit active access point** to change the access point settings.

- Scroll to **Alias for access point** and press **Select**. Key in the name you would like for the activated access point and press **OK**.
- Scroll to **GPRS access point** and press **Select**. Key in the Access Point Name (APN) and press **OK**.

An access point name is needed to establish a connection to a GPRS network. You can obtain the Access Point Name from your network operator or service provider.

You can also set the GPRS dial-up service settings (Access Point Name) on your PC by using the Nokia Modem Options software, see www.nokia.com/phones/productsupport/5100.

If you have set the settings both on your PC and on your phone, note that the settings set on the PC will be used.

■ WAP services (Menu 13)

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



You can access various WAP services such as banking, news, weather reports and flight times. These services are specially designed for mobile phones and they are maintained by WAP service providers. Check the availability of WAP services, pricing and tariffs with your network operator and /or the service provider whose service you wish to use. Service providers will also give you instructions on how to use their services.

The WAP services use Wireless Mark-Up Language (WML) on their WAP pages. Internet web pages cannot be viewed on your phone.

Basic steps for accessing and using WAP services

1. Save the service settings that are needed to access the WAP service that you want to use. See page 75.
2. Make a connection to the given WAP service. See page 73.
3. Start browsing the pages of the WAP service. See page 74.
4. Once you are finished browsing, end the connection to the WAP service. See page 75.

Setting up the phone for a WAP service

You may receive the service settings as a text message from the network operator or service provider that offers the WAP service that

Menu functions

you want to use. For more information, contact your network operator or service provider, or visit Club Nokia's website (www.club.nokia.com).

You can also key in the settings manually or add and edit the settings with PC Suite. For appropriate settings, contact your network operator or service provider. The WAP settings may be available, for example, on their website.

Saving the service settings received as a text message

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

- To save the received settings, press **View** and select **Save**.
If no settings are saved in *Active service settings*, the settings are saved under the first free connection set and also activated.
If there are settings saved in *Active service settings*, *Activate saved service settings?* will be displayed. To activate the saved settings, press **Yes**, or to save them only, press **No**.
- To discard the received settings, press **View** and select **Discard**.
- To view the received settings first, press **View** and select **View**. To save the settings, press **Save**.

Keying in the service settings manually

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

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

3. Scroll to the set you would like to activate and press **Activate**.
4. Select *Edit active service settings*.

Select each of the following service settings one by one and key in all the required settings.

- *Settings' name* - Key in the new name for the connection set and press **OK**.

Menu functions

- *Homepage* - Key in the homepage address of the WAP service that you want to use, press **.** for a dot, and press **OK**.
- *Session mode* - Select *Permanent* or *Temporary*.
- *Connection security* - Select *On* or *Off*.

When the connection security is *On*, the phone tries to use a secure connection with the WAP service. If a secure connection is not available, the connection will not be made. If you wish to connect anyway, with a non-secure connection, you must set the connection security to *Off*.

- *Data bearer* - Select *GSM data* or *GPRS*. Settings for the selected bearer, see Settings when GSM data is the selected data bearer and Settings when GPRS is the selected data bearer below.

For pricing, connection speed and other information, contact your network operator or service provider.

Settings when *GSM data* is the selected data bearer

- *Dial-up number* - Key in the phone number and press **OK**.
- *IP address* - Key in the address, press **+** for a dot, and press **OK**. You obtain the IP address from your network operator or service provider.
- *Authentication type* - Select *Secure* or *Normal*.
- *Data call type* - Select *Analogue* or *ISDN*.
- *Data call speed* - Select the speed you want to use, or select *Automatic*. *Automatic* is available only if the current selected data call type is *Analogue*. The actual data call speed depends on the service provider.
- *Login type* - Select *Manual* or *Automatic*.
- *User name* - Key in the user name and press **OK**.
- *Password* - Key in the password and press **OK**.

Settings when *GPRS* is the selected data bearer

- *GPRS access point* - Key in the access point name and press **OK**.

Menu functions

An access point name is needed to establish a connection to a GPRS network. You obtain the access point name from your network operator or service provider.

- *IP address* - Key in the address, press $^{+}$ for a dot, and press **OK**. You obtain the IP address from your network operator or service provider.
- *Authentication type* - Select *Secure* or *Normal*. If you select *Automatic*, the login type uses the user name and password keyed in the following settings. If you select *Manual*, the login information is required when establishing a connection.
- *Login type* - Select *Manual* or *Automatic*.
- *User name* - Key in the user name and press **OK**.
- *Password* - Key in the password and press **OK**.

Making a connection to a WAP service

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

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

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

1. Open the homepage of the WAP service:

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



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

2. Select a bookmark of the WAP service:

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

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

3. Key in the address of the WAP service:

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

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

Browsing the pages of a WAP service

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

Note that if GPRS is selected as the data bearer, the indicator **G** is shown on the top left of the display during browsing. If you receive or make a call during a GPRS connection, the indicator **G** will be shown on the top right of the display to indicate that the GPRS connection is on hold.

Using the phone keys while browsing

- Use the scroll keys  or  to browse the WAP page.
- To select a highlighted item, press .
- To enter letters and numbers, press the keys  -  and to enter special characters, press the key **+***.

Options while browsing

Press **Options** and select one of the options available. The service provider may also offer other options. Select

- **Home** to go back to the homepage of the WAP service.
- **Bookmarks**. See page 76.
- **Call / Edit / Open row / Open link / Open list** to call, to key in text or to select a highlighted item on the WAP page.
- **Add bookmark** to save the WAP page as a bookmark.
- **View image** to view images and animations from the WAP page.
- **Go to address** to key in the address of the WAP service you want to access.
- **Service inbox**. See page 77.

Menu functions

- [Appear. settings](#). See details on page 75.
- [Cookie settings](#). See page 76.
- [Use number](#) to copy a number from the WAP page for saving or making a call. If the WAP page contains several numbers, you may select the desired one.
- [Reload](#) to reload and update the current WAP page.
- [Clear the cache](#). See The cache memory on page 77.
- [Security info](#) to view security information about the current WAP connection and the server.
- [Quit](#). See Ending a WAP connection on page 75.

Direct calling

The WAP browser supports functions which you can access while browsing. You can make a voice call, send DTMF tones while a voice call is in progress, and save a name and a phone number from a WAP page.

Ending a WAP connection

To quit browsing and to end the connection, press [Options](#) and select [Quit](#). When [Quit browsing?](#) is shown, press [Yes](#).

Alternatively, press . If [GSM data](#) is the selected data bearer, press  twice. The phone ends the connection to the WAP service.

Appearance settings of WAP browser

1. While browsing, press [Options](#) and select [Appear. settings](#), or in standby mode, press [Menu](#), and select [Services](#), [Settings](#) and [Appearance settings](#).
2. Select [Text wrapping](#) or [Show images](#).
3. Select [On](#) or [Off](#) for [Text wrapping](#) and [Yes](#) or [No](#) for [Show images](#).
When [Text wrapping](#) is set to [On](#), the text continues on the next line if it cannot be shown on one line. If you select [Off](#), the text is abbreviated if it is too long to be shown on one line.

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

Cookie settings

You can set the phone to allow or prevent receiving cookies. A cookie is data that a WAP site saves in your phone's browser cache memory. The data can be, for example, your user information or your browsing preferences. Cookies will be saved until you clear the cache memory, see The cache memory on page 77.

1. While browsing, press **Options** and select *Cookie settings*, or in standby mode, press **Menu**, and select *Services* and *Settings*.
2. Select *Cookies* and select *Allow* or *Reject* to allow or prevent the phone receiving cookies.

Bookmarks

You can save up to 50 WAP page addresses as bookmarks in the phone's memory.

1. While browsing, press **Options** and select *Bookmarks*, or in standby mode, press **Menu**, and select *Services* and *Bookmarks*.
2. Scroll to the bookmark you want to use and press **Options**.
3. Select one of the following options:

Go to to make a connection to the WAP page associated with the bookmark.

Edit or *Delete* to modify or delete the selected bookmark.

Send to send the selected bookmark directly to another phone select *As bookmark*, or to send it as a text message, select *As text message*.

New bookmark to create a new bookmark without connection to the WAP service. Key in the address and the title of the WAP page and press **OK**.

Note that your phone may have some pre-installed bookmarks for sites not affiliated with Nokia. Nokia does not warrant or endorse these sites. If you choose to access them, you should take the same

Menu functions

precautions, for security or content, as you would with any Internet site, for example.

Receiving a bookmark

When you have received a bookmark as a text message, press **Options** and select **View**, **Save**, or **Discard**.

Service inbox

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

To access the **Service inbox** in standby mode, when you have received a service message, press **View**.

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

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

- **Retrieve** to activate the WML browser and download the indicated content.
- **Details** to display detailed information on the service notification.
- **Delete** to delete the selected service notification.

To set the phone to receive service messages

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

The cache memory



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

To empty the cache,

- while browsing, press **Options** and select *Clear the cache*, or
- in standby mode, press **Menu**, and select *Services*, and *Clear the cache*.

Authority certificates

For using some WAP services, such as banking services, you need security certificates. Using the certificates can help you improve the security of connections between your phone and a WAP gateway or WAP server, if the *Connection security* is set to *On*.

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

The phone indicates if the identity of the WAP server or WAP gateway cannot be verified, if the WAP server or WAP gateway certificate is not authentic or if you do not have the correct authority certificate in your phone.

Viewing the list of authority certificates

Press **Menu**, select *Services*, and *Settings*. Select *Authority certificates*.

See also *Security info* in Options while browsing on page 74.

Security indicator

The security indicator  is displayed during a WAP connection, if the data transmission between the phone and the WAP gateway or WAP server (identified by the *IP address* in the *Edit active service settings*) is encrypted. It is up to the service provider to secure the data transmission between the gateway and the content server.

■ SIM services (Menu 14)

In addition to the functions available on the phone, your SIM card may provide additional services that you can access in menu 14. Menu 14 is shown only if it is supported by your SIM card. The name and contents of the menu depend entirely on the service available.



Menu functions



Note: For availability, rates and information on using SIM services, contact your SIM card vendor, e.g. network operator, service provider or other vendor.

You can set the phone to show you the confirmation messages sent between your phone and the network when you are using the SIM services by selecting the option *Yes* within the menu *Confirm SIM service actions*, menu 4-3-6.

Note that accessing these services may involve sending a text message (SMS) or making a phone call for which you may be charged.

7. Battery information

■ Charging and Discharging

Your phone is powered by a rechargeable battery.

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

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

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

Temperature extremes can affect the ability of your battery to charge; allow it to cool down or warm up first.

Use the battery only for its intended purpose.

Never use any charger or battery which is damaged or worn out.

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

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

Do not dispose of batteries in a fire!

Dispose of batteries according to applicable local regulations (for example, recycling). Do not dispose of as household waste.

CARE AND MAINTENANCE

Your phone is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfill any warranty obligations and to enjoy this product for many years:

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

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

IMPORTANT SAFETY INFORMATION

■ Traffic Safety

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

Remember road safety always comes first!

■ Operating environment

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

Use the phone only in its normal operating positions.

Parts of the phone are magnetic. Metallic materials may be attracted to the phone, and persons with a hearing aid should not hold the phone to the ear with the hearing aid. Always secure the phone in its holder, because metallic materials may be attracted by the earpiece. Do not place credit cards or other magnetic storage media near the phone, because information stored on them may be erased.

■ Electronic devices

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

Pacemakers

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

Should always keep the phone more than 6 inches (20 cm) from their pacemaker when the phone is switched on

Should not carry the phone in a breast pocket

IMPORTANT SAFETY INFORMATION

Should use the ear opposite the pacemaker to minimize the potential for interference.

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

Hearing aids

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

Other medical devices

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

Vehicles

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

Posted facilities

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

Potentially explosive atmospheres

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

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

IMPORTANT SAFETY INFORMATION

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); areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

Vehicles

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

Check regularly that all wireless phone 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 phone, its parts, or accessories.

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

FCC regulations prohibit using your phone while in the air. Switch off your phone before boarding an aircraft. The use of wireless telephones in an aircraft may be dangerous to the operation of the aircraft, disrupt the wireless telephone network, and may be illegal.

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

■ Emergency Calls



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

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

IMPORTANT SAFETY INFORMATION

To make an emergency call:



If the phone 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 phone.

- 1 Press [handset down] as many times as needed (for example, to exit a call, to exit a menu, etc.) to clear the display and ready the phone for calls.
- 2 Key in the emergency number for your present location (for example, 911 or other official emergency number). Emergency numbers vary by location.
- 3 Press the  key.

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

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

IMPORTANT SAFETY INFORMATION

■ Certification information (SAR)

THIS MODEL PHONE MEETS THE GOVERNMENT'S REQUIREMENTS FOR EXPOSURE TO RADIO WAVES.

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg.* Tests for SAR are conducted using standard operating positions accepted by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (for example, at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model phone as reported to the FCC when tested for use at the ear is 0.24 W/kg, and when worn on the body, as described in this user guide, is 1.20 W/kg. (Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements).

While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement.

IMPORTANT SAFETY INFORMATION

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of <http://www.fcc.gov/oet/fccid> after searching on FCC ID LJPNPM-6.

For body worn operation, this phone has been tested and meets the FCC RF exposure guidelines when used with the Nokia accessories supplied or designated for this product. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

*In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kilogram (W/kg) averaged over one gram of tissue. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurements. SAR values may vary depending on national reporting requirements and the network band. For SAR information in other regions please look under product information at www.nokia.com.

IMPORTANT SAFETY INFORMATION

■ Use accessories safely

A few practical rules for accessory operation:

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

Use only batteries, chargers, and accessories that have been approved by the phone manufacturer. The use of any other types could invalidate any approval or warranty applying to the phone and could be dangerous.

IMPORTANT SAFETY INFORMATION

■ Technical information

Feature	Specification
Weight	104 grams with BL-4C battery
Size	89 cc
Frequency Range (Tx)	GSM 900: 880 - 915 Mhz GSM 1800: 1710 - 1785 Mhz GSM 1900: 1850 - 1910 Mhz
Frequency Range (Rx)	GSM 900: 925 - 960 Mhz GSM 1800: 1805 - 1865 Mhz GSM 1900: 1930 - 1990 Mhz
Tx Output Power	2W (max)
Battery Voltage	3.7 v DC
Number of Channels	299
Memory Locations	Up to 300 in phone memory

IMPORTANT SAFETY INFORMATION

■ **Nokia One-Year Limited Warranty**

Nokia Inc. ("Nokia") warrants that this cellular phone ("Product") is free from defects in material and workmanship that result in Product failure during normal usage, according to the following terms and conditions:

- 1 The limited warranty for the Product extends for ONE (1) year beginning on the date of the purchase of the Product. This one year period is extended by each whole day that the Product is out of your possession for repair under this warranty.
- 2 The limited warranty extends only to the original purchaser ("Consumer") of the Product and is not assignable or transferable to any subsequent purchaser/end-user.
- 3 The limited warranty extends only to Consumers who purchase the Product in the United States of America.
- 4 During the limited warranty period, Nokia will repair, or replace, at Nokia's sole option, any defective parts, or any parts that will not properly operate for their intended use with new or refurbished replacement items if such repair or replacement is needed because of product malfunction or failure during normal usage. No charge will be made to the Consumer for any such parts. Nokia will also pay for the labor charges incurred by Nokia in repairing or replacing the defective parts. The limited warranty does not cover defects in appearance, cosmetic, decorative or structural items, including framing, and any non-operative parts. Nokia's limit of liability under the limited warranty shall be the actual cash value of the Product at the time the Consumer returns the Product for repair, determined by the price paid by the Consumer for the Product less a reasonable amount for usage. Nokia shall not be liable for any other losses or damages. These remedies are the Consumer's exclusive remedies for breach of warranty. Upon request from Nokia, the Consumer must prove the date of the original purchase of the Product by a dated bill of sale or dated itemized receipt.
- 5 The Consumer shall bear the cost of shipping the Product to Nokia in Melbourne, Florida. Nokia shall bear the cost of shipping the Product back to the Consumer after the completion of service under this limited warranty.
- 6 The Consumer shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:

IMPORTANT SAFETY INFORMATION

- a) The Product has been subjected to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connections, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of Nokia, including damage caused by shipping.
 - b) The Product has been damaged from external causes such as collision with an object, or from fire, flooding, sand, dirt, windstorm, lightning, earthquake or damage from exposure to weather conditions, an Act of God, or battery leakage, theft, blown fuse, or improper use of any electrical source, damage caused by computer or internet viruses, bugs, worms, Trojan Horses, cancelbots or damage caused by the connection to other products not recommended for interconnection by Nokia.
 - c) Nokia was not advised in writing by the Consumer of the alleged defect or malfunction of the Product within fourteen (14) days after the expiration of the applicable limited warranty period.
 - d) The Product serial number plate or the accessory data code has been removed, defaced or altered.
 - e) The defect or damage was caused by the defective function of the cellular system or by inadequate signal reception by the external antenna, or viruses or other software problems introduced into the Product.
- 7 Nokia does not warrant uninterrupted or error-free operation of the Product. If a problem develops during the limited warranty period, the Consumer shall take the following step-by-step procedure:
- a) The Consumer shall return the Product to the place of purchase for repair or replacement processing.
 - b) If "a" is not convenient because of distance (more than 50 miles) or for other good cause, the Consumer shall ship the Product prepaid and insured to:
Nokia Inc., Attn: Repair Department
795 West Nasa Blvd.
Melbourne, FL 32901
 - c) The Consumer shall include a return address, daytime phone number and/or fax number, complete description of the problem, proof of purchase and service agreement (if applicable). Expenses related to removing the Product from an installation are not covered under this limited warranty.

IMPORTANT SAFETY INFORMATION

- d) The Consumer will be billed for any parts or labor charges not covered by this limited warranty. The Consumer will be responsible for any expenses related to reinstallation of the Product.
- e) Nokia will repair the Product under the limited warranty within 30 days after receipt of the Product. If Nokia cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, Nokia at its option, will provide a replacement Product or refund the purchase price of the Product less a reasonable amount for usage. In some states the Consumer may have the right to a loaner if the repair of the Product takes more than ten (10) days. Please contact the Customer Service Center at Nokia at the telephone number listed at the end of this warranty if you need a loaner and the repair of the Product has taken or is estimated to take more than ten (10) days.

IMPORTANT SAFETY INFORMATION

- f) If the Product is returned during the limited warranty period, but the problem with the Product is not covered under the terms and conditions of this limited warranty, the Consumer will be notified and given an estimate of the charges the Consumer must pay to have the Product repaired, with all shipping charges billed to the Consumer. If the estimate is refused, the Product will be returned freight collect. If the Product is returned after the expiration of the limited warranty period, Nokia's normal service policies shall apply and the Consumer will be responsible for all shipping charges.
- 8 You (the Consumer) understand that the product may consist of refurbished equipment that contains used components, some of which have been reprocessed. The used components comply with Product performance and reliability specifications.
- 9 ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR USE, SHALL BE LIMITED TO THE DURATION OF THE FOREGOING LIMITED WRITTEN WARRANTY. OTHERWISE, THE FOREGOING LIMITED WARRANTY IS THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. NOKIA SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF ANTICIPATED BENEFITS OR PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF DATA, PUNITIVE DAMAGES, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT OR FACILITIES, DOWNTIME, THE CLAIMS OF ANY THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY, RESULTING FROM THE PURCHASE OR USE OF THE PRODUCT OR ARISING FROM BREACH OF THE WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL OR EQUITABLE THEORY, EVEN IF NOKIA KNEW OF THE LIKELIHOOD OF SUCH DAMAGES. NOKIA SHALL NOT BE LIABLE FOR DELAY IN RENDERING SERVICE UNDER THE LIMITED WARRANTY, OR LOSS OF USE DURING THE PERIOD THAT THE PRODUCT IS BEING REPAIRED.

IMPORTANT SAFETY INFORMATION

- 10 Some states do not allow limitation of how long an implied warranty lasts, so the one year warranty limitation may not apply to you (the Consumer). Some states do not allow the exclusion or limitation of incidental and consequential damages, so certain of the above limitations or exclusions may not apply to you (the Consumer). This limited warranty gives the Consumer specific legal rights and the Consumer may also have other rights which vary from state to state.
- 11 Nokia neither assumes nor authorizes any authorized service center or any other person or entity to assume for it any other obligation or liability beyond that which is expressly provided for in this limited warranty including the provider or seller of any extended warranty or service agreement.
- 12 This is the entire warranty between Nokia and the Consumer, and supersedes all prior and contemporaneous agreements or understandings, oral or written, relating to the Product, and no representation, promise or condition not contained herein shall modify these terms.
- 13 This limited warranty allocates the risk of failure of the Product between the Consumer and Nokia. The allocation is recognized by the Consumer and is reflected in the purchase price.
- 14 Any action or lawsuit for breach of warranty must be commenced within eighteen (18) months following purchase of the Product.
- 15 Questions concerning this limited warranty may be directed to:
Nokia Inc.
Attn: Customer Service
7725 Woodland Center Blvd., Ste. 150
Tampa, FL 33614
Telephone: 1-888-NOKIA-2U (1-888-665-4228)
Facsimile: (813) 287-6612
TTY/TDD Users Only: 1-800-24-NOKIA (1-800-246-6542)
- 16 The limited warranty period for Nokia supplied attachments and accessories is specifically defined within their own warranty cards and packaging.

Nokia is a registered trademark of Nokia Corporation.

Appendix A
Message from the CTIA
(Cellular
Telecommunications &
Internet Association)
to all users of mobile
phones.

© 2001 Cellular Telecommunications & Internet Association. All Rights Reserved. 1250 Connecticut Avenue, NW Suite 800, Washington, DC 20036. Phone: (202) 785-0081

IMPORTANT SAFETY INFORMATION

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"

Below are safety tips to follow while driving and using a wireless phone which should be easy to remember.

- 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 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,

IMPORTANT SAFETY INFORMATION

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 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!
- 9 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.
- 10 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.

IMPORTANT SAFETY INFORMATION

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

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

© 2001 Cellular Telecommunications & Internet Association. All Rights Reserved. 1250 Connecticut Avenue, NW Suite 800, Washington, DC 20036.
Phone: (202) 785-0081

Appendix B Message from the FDA (U.S. Food and Drug Administration) to all users of mobile phones.

July 18, 2001 For updates: <http://www.fda.gov/cdrh/phones>

IMPORTANT SAFETY INFORMATION

Consumer Update on Wireless Phones U.S. Food and Drug Administration

1. 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 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.

2. 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

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

IMPORTANT SAFETY INFORMATION

stations are typically thousands of times lower than those they can get from wireless phones. Base stations are thus not the subject of the safety questions discussed in this document.

3. What kinds of phones are the subject of this update?

The term wireless phone refers here to hand-held wireless phones with built-in antennas, often called cell mobile or PCS phones. These types of wireless phones can expose the user to measurable radiofrequency energy (RF) because of the short distance between the phone and the user's head. These RF exposures are limited by Federal Communications Commission safety guidelines that were developed with the advice of FDA and other federal health and safety agencies. When the phone is located at greater distances from the user, the exposure to RF is drastically lower because a person's RF exposure decreases rapidly with increasing distance from the source. The so-called cordless phones, which have a base unit connected to the telephone wiring in a house, typically operate at far lower power levels, and thus produce RF exposures far below the FCC safety limits.

4. What are the results of the research done already?

The research done thus far has produced conflicting results, and many studies have suffered from flaws in their research methods. Animal experiments investigating the effects of radiofrequency energy (RF) exposures characteristic of wireless phones have yielded conflicting results that often cannot be repeated in other laboratories. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. However, many of the studies that showed increased tumor development used animals that had been genetically engineered or treated with cancer-causing chemicals so as to be pre-disposed to develop cancer in the absence of RF exposure. Other studies exposed the animals to RF for up to 22 hours per day. These conditions are not similar to the conditions under which people use wireless phones, so we don't know with certainty what the results of such studies mean for human health.

Three large epidemiology studies have been published since December 2000. Between them, the studies investigated any possible association between the use of wireless phones and primary brain cancer, glioma, meningioma, or acoustic neuroma, tumors of the brain or salivary gland, leukemia, or other cancers. None of the studies demonstrated the existence of any harmful health effects from wireless phone RF exposures. However, none of the studies can answer questions about long-term exposures, since the average period of phone use in these studies was around three years.

5. What research is needed to decide whether RF exposure from wireless phones poses a health risk?

A combination of laboratory studies and epidemiological studies of people actually using wireless phones would provide some of the data that are needed. Lifetime animal exposure studies could be completed in a few years. However, very large numbers of animals would be needed to provide reliable proof of a cancer promoting effect if one exists. Epidemiological studies can provide data that is directly applicable to human populations, but 10 or more years follow-up may be needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop - if they do - may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless phones. Many factors affect this measurement, such as the angle at which the phone is held, or which model of phone is used.

IMPORTANT SAFETY INFORMATION

6. 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.

7. How can I find out how much radiofrequency energy exposure I can get by using my wireless phone?

All phones sold in the United States must comply with Federal Communications Commission (FCC) guidelines that limit radiofrequency energy (RF) exposures. FCC established these guidelines in consultation with FDA and the other federal health and safety agencies. The FCC limit for RF exposure from wireless telephones is set at a Specific Absorption Rate (SAR) of 1.6 watts per kilogram (1.6 W/kg). The FCC limit is consistent with the safety standards developed by the Institute of Electrical and Electronic Engineers (IEEE) and the National Council on Radiation Protection and Measurement. The exposure limit takes into consideration the body's ability to remove heat from the tissues that absorb energy from the wireless phone and is set well below levels known to have effects.

Manufacturers of wireless phones must report the RF exposure level for each model of phone to the FCC. The FCC website (<http://www.fcc.gov/oet/rfsafety>) gives directions for locating the FCC identification number on your phone so you can find your phone's RF exposure level in the online listing.

8. What has FDA done to measure the radiofrequency energy coming from wireless phones?

The Institute of Electrical and Electronic Engineers (IEEE) is developing a technical standard for measuring the radiofrequency energy (RF) exposure from wireless phones and other wireless handsets with the participation and leadership of FDA scientists and engineers. The standard, Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques, sets forth the first consistent test methodology for measuring the rate at which RF is deposited in the heads of wireless phone users. The test method uses a tissue-simulating model of the human head. Standardized SAR test methodology is expected to greatly improve the consistency of measurements made at different laboratories on the same phone. SAR is the measurement of the amount of energy absorbed in tissue, either by the whole

IMPORTANT SAFETY INFORMATION

body or a small part of the body. It is measured in watts/kg (or milliwatts/g) of matter. This measurement is used to determine whether a wireless phone complies with safety guidelines.

9. 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 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.

10. 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.

11. What about wireless phone interference with medical equipment?

Radiofrequency energy (RF) from wireless phones can interact with some electronic devices. For this reason, FDA helped develop a detailed test method to measure electromagnetic interference (EMI) of implanted cardiac pacemakers and defibrillators from wireless telephones. This test method is now part of a standard sponsored by the Association for the Advancement of Medical Instrumentation (AAMI). The final draft, a joint effort by FDA, medical device manufacturers, and many other groups, was completed in late 2000. This standard will allow manufacturers to ensure that cardiac pacemakers and defibrillators are safe from wireless phone EMI. FDA has tested hearing aids for interference from handheld wireless phones and helped develop a voluntary standard sponsored by the Institute of Electrical and Electronic Engineers (IEEE). This standard specifies test methods and performance requirements for hearing aids and wireless phones so that no interference occurs when a person uses a compatible phone and a accompanied hearing aid at the same time. This standard was approved by the IEEE in 2000.

IMPORTANT SAFETY INFORMATION

FDA continues to monitor the use of wireless phones for possible interactions with other medical devices. Should harmful interference be found to occur, FDA will conduct testing to assess the interference and work to resolve the problem.

12. Where can I find additional information?

For additional information, please refer to the following resources:

- FDA web page on wireless phones
<http://www.fda.gov/cdrh/phones/index.html>
- Federal Communications Commission (FCC) RF Safety Program
<http://www.fcc.gov/oet/rfsafety>
- International Commission on Non-Ionizing Radiation Protection
<http://www.icnirp.de>
- World Health Organization (WHO) International EMF Project
<http://www.who.int/emf>
- National Radiological Protection Board (UK)
<http://www.nrp.org.uk/>

July 18, 2001 For updates: <http://www.fda.gov/cdrh/phones>