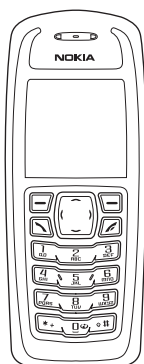


User's Guide



The wireless phone described in this guide is approved for use in CDMA 800 networks.

LEGAL INFORMATION

Part No. 9311244 Issue No. 1

Copyright ©2003 Nokia. All rights reserved.

Nokia is a registered trademark of Nokia Corporation.

Nokia, Nokia Connecting People, Xpress-on, Pop-Port, the Original Accessories logos, Space Impact, Snake II, and Bumper are trademarks of Nokia Corporation and/or its affiliates.

Printed in Canada 06/2003

US Patent No 5818437 and other pending patents.

T9 text input software Copyright ©1999-2003. 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 contained in this user guide was written for the Nokia phone FCC ID QMNRH-48.

Nokia operates a policy of continuous 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.

LEARN ABOUT ACCESSIBILITY SOLUTIONS

Nokia is committed to making mobile phones easy to use for all individuals, including those with disabilities. Nokia maintains a Web site that is dedicated to accessibility solutions. For more information about phone features, accessories, and other Nokia products designed with your needs in mind, please visit the following Web site: www.nokiaaccessibility.com

CONTACT NOKIA

When you need help, the Nokia Care Center can provide information about Nokia products. Please refer to the table on the following page for more information on how to contact Nokia.

Customer Care Center, USA

Nokia Mobile Phones

7725 Woodland Center Blvd., Suite #150

Tampa, Florida 33614

Tel: 1-888-NOKIA-2U

(1-888-665-4228)

Fax: 1-813-249-9619

TTY/TDD Users Only:

1-800-24-NOKIA

(1-800-246-6542)

Customer Interaction Centre, Canada

Nokia Products Ltd.

601 Westney Road South

Ajax, Ontario L1S 4N7

Tel: 1-888-22-NOKIA

(1-888-226-6542)

Fax: 1-905-427-1070

If you ever need to call Nokia Customer Care, Nokia Customer Interaction Center, or your wireless service provider, you will need to provide specific information about your phone. This information is provided on the phone's label.

Your phone's label

The label is inside the back cover of your phone (under the battery). It contains important information about your phone, including the model and electronic serial numbers (ESN). Nokia recommends that you note this information on the title page of this guide. Please do not remove or deface the label.

Contents

FOR YOUR SAFETY.....	7	4. Using the menu.....	22
General information.....	9	List of menu functions	22
Access codes.....	9	Messages (Menu 1)	25
Overview of the functions		Text messages.....	25
in the phone	10	Writing and sending SMS	
Shared memory.....	10	or e-mail messages	25
1. Your phone.....	11	Reading and replying to	
Keys and connectors	11	a message or a SMS e-mail	26
Standby mode	11	Inbox and Sent Items folders....	26
Power saving.....	12	Archive folder and my folders..	26
Essential indicators.....	12	Templates	27
2. Getting started	13	Distribution lists.....	27
Installing the UIM card and		Multimedia messages.....	27
the battery	13	Reading and replying to	
Charging the battery.....	14	a multimedia message.....	28
Switching the phone on and off....	14	Multimedia messages Inbox,	
Normal operating position	15	Outbox and Saved items folders	28
Keypad lock (Keyguard).....	15	Multimedia messages	
Changing the front and back cover	16	memory full.....	28
Charging the glow-in-the-dark		Deleting messages.....	29
cover	17	Message settings.....	29
3. Basic functions	18	Settings for text and	
Making a call	18	e-mail messages.....	29
Speed dialling a phone number...	18	Settings for multimedia	
Answering or rejecting an		messages	29
incoming call.....	18	Voice messages.....	30
Call waiting	19	Minibrowser messages.....	30
Options during a call.....	19	Call register (Menu 2).....	30
Loudspeaker	19	Recent call lists.....	31
Writing text	19	Call timers, Data/fax calls	
Setting predictive text input		and Minibrowser.....	31
on or off	20	Contacts (Menu 3).....	32
Using predictive text input.....	20	Searching for a name in contacts	32
Writing compound words.....	21	Saving multiple numbers,	
Using traditional text input.....	21	text items and an image	
		per contact.....	33
		Voice dialling.....	34
		Assign a voice tag to	
		a phone number	34

Dialling a number using voice dialling.....	35	Voice (Menu 7).....	46
Profiles (Menu 4).....	36	Voice tags.....	46
Settings (Menu 5).....	36	Voice commands.....	46
Personal short-cuts.....	36	Voice recorder.....	46
Call settings.....	37	Organiser (Menu 8).....	47
Anykey answer.....	37	Alarm clock.....	47
Automatic redial.....	37	Calendar.....	47
Speed dialling.....	37	Making a calendar note.....	48
Automatic update of service.....	37	When the phone alarms for a note.....	48
Calling card.....	37	To-do list.....	48
Phone settings.....	38	Calculator.....	49
Phone language.....	38	Making calculations.....	49
Automatic keyguard.....	39	Making a currency conversion..	49
Security keyguard.....	39	Countdown timer.....	49
DTMF tones.....	39	Calorie counter.....	50
Welcome note.....	39	Mobile Web (Menu 9).....	50
Help text activation.....	40	Browsing sessions and indicators	50
Time and date settings.....	40	Launching and terminating the Minibrowser.....	51
Display settings.....	40	Minibrowser menu.....	51
Wallpaper.....	40	Navigate in the minibrowser.....	52
Colour schemes.....	40	Bookmarks.....	52
Banner.....	41	Minibrowser messages.....	53
Display brightness.....	41	Notification of new minibrowser messages.....	53
Tone settings.....	41	Weblinks in minibrowser messages.....	53
Enhancement settings.....	41	Games (Menu 10).....	53
Security settings.....	42	Launching a game.....	54
Call restrictions.....	42	Memory.....	54
Access codes.....	42	Game settings.....	54
Voice Privacy.....	42	Applications (Menu 11).....	54
Network.....	43	Launching an application.....	54
Roaming.....	43	Other options available for an application.....	54
Roaming indicators.....	43	Downloading an application.....	55
Network choice.....	43	Go to (Menu 12).....	56
Network services.....	43	5. PC Connectivity.....	57
Call divert.....	44	PC Suite.....	57
Call waiting.....	44	6. Battery statements.....	58
Send my caller identity.....	44		
Network feature setting.....	45		
Own number selection.....	45		
Restore factory settings.....	45		
Gallery (Menu 6).....	45		

Contents

Charging and Discharging	58	APPENDIX	68
7. Technical Information	59	A message from the CTIA	68
8. Patents	60	A message from the U.S. Food and Drug Administration	71
CARE AND MAINTENANCE...	61		
IMPORTANT SAFETY INFORMATION	62		

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 on the phone when wireless phone use is prohibited or when it may cause interference or danger.



ROAD SAFETY COMES FIRST
Do not 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
Do not use the phone at a refuelling point. Do not use near fuel or chemicals.



SWITCH OFF NEAR BLASTING
Do not use the phone where blasting is in progress. Observe restrictions, and follow any regulations or rules.



USE SENSIBLY
Use only in the normal position. Do not 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.



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



BACKUP COPIES
Remember to make backup copies of all important data.



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



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 .



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

■ Network Services

The wireless phone described in this guide is approved for use on the CDMA network.

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



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

■ About accessories

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

■ Access codes

- **Security code:** This code, supplied with the phone, protects your phone against unauthorised use. The preset code is 12345.

Refer to Security settings on page 42 to see how it works.

- **PIN code:** This code, supplied with the UIM card, protects the card against unauthorised use.

Set on the [PIN code request](#) in the [Security settings](#) menu (see Security settings on page 42), so that the code is requested each time the phone is switched on.

If you key in an incorrect PIN code three times in succession, the UIM card is blocked. You must key in the PUK code to unblock the UIM card and set a new PIN code.

- **PIN2 code:** This code is supplied with some UIM cards and is required to access certain services, such as charging unit counters. If you key in an incorrect PIN2 code three times in succession, [PIN2 code blocked](#) appears on the display, and you will be asked for the PUK2 code.

Change the security code, PIN code and PIN2 code in [Change of access codes](#) in the [Security settings](#) menu (see Security settings on page 42). Keep the new codes secret and in a safe place separate from your phone.

- **PUK and PUK2 code:** These codes may be supplied with the UIM card. If this is not the case, contact your local service provider.

Overview of the functions in the phone

The Nokia 3105 phone provides many functions which are practical for daily use, such as Calendar, Clock, Alarm clock, Profiles, and many more. Some functions are

- MMS – Multimedia Messaging Service, see Multimedia messages on page 27.
- Polyphonic MIDI ringing tones enable richer ringing tones with a wide variety of sounds.
- CDMA – Code Division Multiple Access is used for sending and receiving data over the mobile network.
- MIDP Java™ applications specially designed for mobile phones. See Applications (Menu 11) on page 54.
- Nokia OTA settings service. Several services need proper settings in your phone. You may receive the settings directly as an OTA (Over the Air) message, and you only need to save the settings. Contact your nearest authorised Nokia dealer for more information.

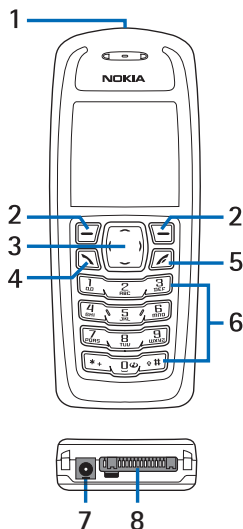
■ Shared memory

The following features in this phone share memory: phone's contacts directory, text and multimedia messages, images and ringing tones in gallery, calendar, bookmarks, and Java™ games and applications. Using any such features may reduce the memory available for any features sharing memory. This is especially true with heavy use of any of the features. For example, saving many images, Java™ applications, etc. may take all of the shared memory and your phone may display a message that the memory is full. In this case, delete some of the information or entries stored in the shared memory features before continuing.

1. Your phone

■ Keys and connectors

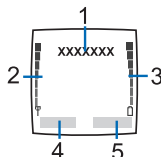
1. Power key 
2. Selection keys  and 
3. 4-way scroll key with , ,  and 
4.  dials a phone number, and answers a call. In standby mode it shows the most recently called number.
5.  ends an active call. Exits from any function.
6.  -  enter numbers and characters.
*+ and # are used for various purposes in different functions.
7. Charger connector
8. Pop-Port™ connector for headset and data cable, for example



■ Standby mode

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

1. Indicates the operator "text".
2. Shows the signal strength of the cellular network at your current location.
3. Shows the battery charge level.
4. The left selection key in standby mode is [Menu](#).
5. The softkey in standby mode is [Contacts](#) or [Go to](#) (personal short-cut). To set the functions for your Personal short-cut, see Personal short-cuts on page 36.



Power saving

For power saving a digital clock view overwrites the display when no function of the phone has been used for a certain period of time.



Essential indicators

-  You have received one or several text or picture messages. See Reading and replying to a message or a SMS e-mail on page 26.
-  You have received one or several minibrowser messages. See Minibrowser messages on page 53.
-  You have received one or several multimedia messages. See Reading and replying to a multimedia message on page 28.
-  The phone's keypad is locked. See Keypad lock (Keyguard) on page 15.
-  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 41.
-  The alarm clock is set to *On*. See Alarm clock on page 47.
-  All your calls are diverted to another number, *Divert all calls*. If you have two phone lines, the diverting indicator for the first line is  and for the second line . See Call divert on page 44.
-  The loudspeaker has been activated. See Loudspeaker on page 19.
-  The phone has registered a missed call. See Call register (Menu 2) on page 30.

2. Getting started

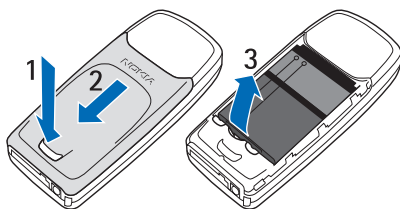
■ Installing the UIM card and the battery

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

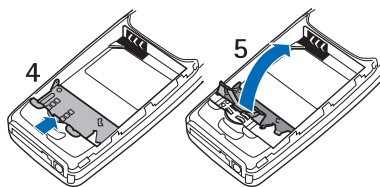
- The UIM card and its contacts can easily be damaged by scratches or bending, so be careful when handling, inserting or removing the card.
- Before installing the UIM card, always make sure that the phone is switched off and disconnected from any enhancement.

1. Remove the back cover from the phone. With the back of the phone facing you, push the back cover release button (1) and slide the back cover off (2).

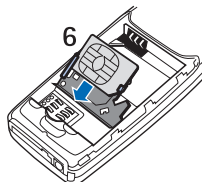
Remove the battery by lifting it with the finger grip (3).



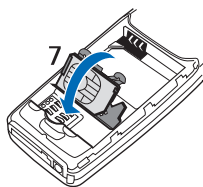
2. Release the UIM card holder. Gently pull the locking clip of the card holder (4) and open it (5).



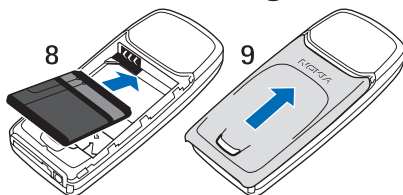
3. Insert the UIM card into the UIM card holder (6). Make sure that the UIM card is properly inserted and that the golden contact area on the card is positioned as shown.



4. Close the UIM card holder (7) and press it until it snaps into position.

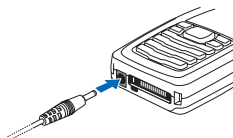


5. Insert the battery (8).
6. Slide the back cover into its place (9).



■ Charging the battery

1. Connect the lead from the charger to the socket on the bottom of your phone.
2. Connect the charger to an AC wall socket.



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

The charging time depends on the charger and the battery used. For example, charging a BL-5C battery with the ACP-7 charger takes up to 3 hours in standby mode.

■ Switching the phone on and off



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

Press and hold the power key .

If the phone asks for a PIN code, key in the PIN code (displayed as ****).



■ Normal operating position

Use the phone only in its normal operating position.

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.



■ Keypad lock (Keyguard)

You can lock the keypad to prevent the keys being accidentally pressed.

Press **—** (**Menu** or **Unlock**) and then ***+** within 1.5 seconds to lock or unlock the keypad.

An incoming call can be handled normally. When you end or reject the call, the keypad will automatically be locked again.

For automatic keypad lock, see Automatic keyguard on page 39.



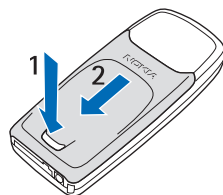
Note: When the keypad is locked, calls may be possible to the emergency number programmed into your phone (e.g. 112, 911 or other official emergency number). Key in the emergency number and press **↵**. The number is displayed only after you have keyed in its last digit.

■ Changing the front and back cover

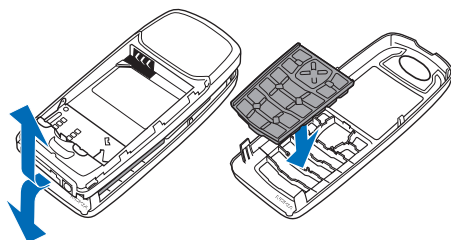
Before changing the covers, always switch off the power and disconnect the phone from the charger or any other device. Always store and use the phone with the covers attached.

1. Remove the back cover of the phone.

With the back of the phone facing you, push the back cover release button (1) and slide the back cover off (2).

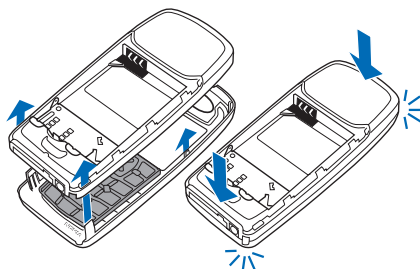


2. To remove the front cover, gently prise the back part of the phone away from the front cover beginning at the bottom of the phone.



3. Insert the key mat on the new front cover.

4. To attach the front cover, first place the phone and the front cover properly together and then gently push on the top and bottom of the phone until the catch is locked properly.



5. Place the back cover and the phone properly together (1) and slide the back cover into its place (2) until the back cover release button is properly locked.



■ Charging the glow-in-the-dark cover

The front cover of your Nokia 3105 phone has a glow-in-the-dark element. To make the cover glow you need to expose it to a bright light source for at least 12 minutes, for full charge 18 minutes.

3. Basic 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.
2. Press  to call the number.
3. Press  to end the call or to cancel the call attempt.

Making a call using the contacts list

In standby mode, press  or  to find the name or key in the first character(s) of the name you are looking for. See also Searching for a name in contacts on page 32. Press  to call the number on the display.

Last number redialling

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

Speed dialling a phone number

Assign a phone number to one of the speed dialling keys, from 2^{ABC} to 9^{WXYZ}, see menu option *Speed dials* in chapter Contacts (Menu 3) on page 32. Call the number in either of the following ways:

- Press the speed dialling key you want and then press .
- If *Speed dialling* is set to on, press and hold a speed dialling key until the call is started. See Speed dialling on page 37.

■ Answering or rejecting an incoming call

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

Press  to reject the incoming call.

Press **Silence**, if available, to mute the ringing tone. Then either answer or reject the call.



Tip: If the *Divert if busy* function is activated to divert the calls, for example to your voice mailbox, rejecting an incoming call will also divert the call. See Call divert on page 44.

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 44.

■ 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:

End call, Mute or Unmute, Loudspeaker or Handset, New call, Save, Add to contact, End all calls, Send DTMF, Contacts, Menu,

Loudspeaker

You can use your phone as a loudspeaker during a call.



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

To activate the loudspeaker, press **Options** and select *Loudspeaker*, or press selection key **Loudsp.**, if available.

To deactivate the loudspeaker during a call, press **Options** and select *Handset*, or press selection key **Handset**, if available.

■ Writing text

You can key in text in two different ways, using the traditional text input, indicated with , or using the predictive text input indicated with  at the top left of the display. The character case is indicated by **Abc**, **abc**, or **ABC** next to the text input indicator. You can change the character case by pressing **##**. The number mode is indicated by **123**, and you can change between the letter and number mode by pressing and holding **##**.

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.
- 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 **#♦** twice, or press and hold **Options**.

Using predictive text input

Predictive text input is an easy way to write text.

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

1. Key in the word you want by pressing each key once for one letter. The word changes after each keystroke. For example, to write 'Nokia' when the English dictionary is selected, press **6**^{mno}, **6**^{mno}, **5**^{jkl}, **4**^{ghi}, **2**^{abc}.
 - To delete the character to the left of the cursor, press **Clear**. Press and hold **Clear** to delete the characters more quickly.
 - To switch between upper and lower cases, or between traditional and predictive text input, press **#♦** repeatedly and check the indicator at the top of the display.
 - To insert a number, press and hold the desired key. To switch between letters and numbers, press and hold **#♦**.
 - To insert a period ".", press **1**^{.,}.
 - To get a list of special characters, press and hold ***+** and select the character you want. Press **Use** to insert the selected special character.
2. If the displayed word is the one you want, press **OK** and start writing the next word.
 - If you want to change the word, press ***+** repeatedly to the word you want.

- If the "?" is displayed after the word, the word is not in the dictionary. To add the word to the dictionary, press **Spell**, key in the word (traditional text input is used) and press **OK**.

Writing compound words

Key in the first half of the word, press **>**, and then key in the second half.

Using traditional text input

Press the key marked with the letter that you want repeatedly until the letter appears.

Use the following functions to edit the text:

- To add a space, press **□** **↵**.
- To add a punctuation mark or special character, press **!@#** repeatedly, or press ***+**, select the desired character, and press **Use**.
- To move the cursor to the left, right, down or up, press the scroll keys **↶**, **↷**, **↵** or **↶**, respectively.
- To delete a character to the left of the cursor, press **Clear**. Press and hold **Clear** to delete the characters more quickly.
- To switch between upper and lower case, press **#** **↕**.
- To add a number, press and hold the desired key. To switch between letters and numbers, press and hold **#** **↕**.
- To key in a letter which is on the same key as the previous one, wait until the cursor appears or, press **↶** or **↷** and key in the new letter.

4. Using the menu

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

To access the menu, press **Menu**. Scroll with **▼** or **▲** through the menus and select the menu by pressing **Select**. Select submenus and settings of your choice in the same way.

Press **Back** to return to the previous menu level, and **Exit** to exit the menu.

■ List of menu functions

1. Messages

1. Text messages
2. Multimedia msgs.
3. Voice messages
4. Minibrowser messages



2. Call register

1. Missed calls
2. Received calls
3. Dialed numbers
4. Delete recent call lists
5. Call duration
6. Data/FAX calls
7. Minibrowser calls



3. Contacts

1. Search
2. Add contact
3. Edit name
4. Delete
5. Add number
6. Settings
7. Speed dials
8. Voice tags



- 9. Own number
- 10. Caller groups
- 4. Profiles 
 - 1. General
 - 2. Silent
 - 3. Meeting
 - 4. Outdoor
 - 5. Pager
- 5. Settings 
 - 1. Right selection key settings
 - 2. Call settings
 - 3. Phone settings
 - 4. Time settings
 - 5. Display settings
 - 6. Tone settings
 - 7. Enhancement settings¹
 - 8. Security settings
 - 9. System
 - 10. Network services
 - 11. Restore factory settings
- 6. Gallery 
 - 1. View folders
 - 2. Add folder
 - 3. Delete folder
 - 4. Rename folder
 - 5. Gallery downloads
- 7. Voice 
 - 1. Voice tags
 - 2. Voice commands
 - 3. Voice Recorder
- 8. Organiser 

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

1. Alarm clock
2. Calendar
3. To-do list
4. Calculator
5. Countdown timer
6. Calorie counter

9. Mobile web

1. Home
2. Back
3. Add bookmark
4. View bookmarks
5. Search
6. Go to URL
7. Show URL
8. Instructions
9. Save items
10. Other options
11. Refresh
12. Exit web



10. Games

1. Select game
2. Memory
3. Settings



11. Applications

1. Select application
2. Browser downloads
3. Memory



12. Go to



■ Messages (Menu 1)



You can read, write, send and save text, multimedia, and e-mail messages.

Text messages

You can also send and receive text messages that contain pictures.



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.

To check e-mail service availability and to subscribe to the service, contact your service provider. To save an e-mail address in the contacts list, see Saving multiple numbers, text items and an image per contact on page 33.

Writing and sending SMS or e-mail messages

The number of available characters for the message are shown on the top right of the display, starting at 160 and decreasing to 0 as characters are entered.

1. Press **Menu**, and select **Messages**, **Text messages**, **Create message**, or press **↵** (short-cut).
2. Select **Text** to create a text message or select **Numeric page** (if supported by your service provider) to send a phone number for example to a pager.
3. You can specify several e-mail or SMS recipients for a text message:
Select **Add e-mail** and key in an e-mail address.
Select **Add number** and key in a phone number.
Select **Add list** to add a predefined distribution list.
You can also **Search** e-mail addresses or numbers in **Contacts** and create and send messages to the selected number.
4. Select **Edit message** and key in a text message or for a **Numeric page** select **Callback number** to enter a phone number. See Writing text on page 19. Following options may be available: **Preview** (if a picture is inserted), **Send**, **List recipients**, **Settings**, **Save message**, **Clear text**, **Exit editor**, **Insert Contact**, **Insert number**, **Use template**, **Insert**

picture, *Delete picture*, *Insert symbol*, *Dictionary*, *Edit word* and *Matches* if predictive text is activated.

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

Reading and replying to a message or a SMS e-mail

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

Received messages are automatically stored in the memory.

1. Press **Show** to view the message, or press **Exit** to view it later.
If more than one message is received, select the message you want to read. An unread text message is indicated by  in front of it.
2. While reading or viewing the message, press **Options**.
You can select, for example, an option to delete, divert or edit the message as a text message or an e-mail, move and rename the message you are reading. Select *Message details* to view the sender's name and phone number, the message centre used, reception date and time. Select *Use number* to extract numbers, *Save address* to extract e-mail addresses and *Use Web link* to save URL's from the current message. When reading a picture message, select *Save picture* to save the picture in the *Templates* folder.
3. Select *Reply* to reply to a message. Select *Empty screen*, *Original text* or select a standard answer to be included in the reply. Write your reply message.

Press **Options**, select *Send*, and press **OK** to send the message.

Inbox and Sent Items folders

The phone saves the incoming text messages in the *Inbox* folder and the sent messages in the *Sent Items* folder of the *Text messages* submenu.

The text messages you want to send later, can be saved in the *Archive*, *Sent Items*, *Templates* folder or in folders, which were added by yourself (see next section).

Archive folder and my folders

You can organise your messages in the *Archive* folder or in new added folders. While reading a message, press **Options**. Select *Save message*, scroll to the folder where you want to save the message and press **OK**.

To add or delete a folder, press **Menu**, and select *Messages*, *Text messages* and *My folders*. Press **Options** and select *Add folder* or *Delete folder*.

Templates

Your phone offers you text templates , and picture templates .

To access the template list, press **Menu**, and select *Messages*, *Text messages* and *Templates*.

Distribution lists

If you often need to send messages to a fixed group of recipients, you can define distribution lists in the phone's directory.

To view the names in the selected distribution list, press **Menu**, and select *Messages*, *Text messages* and *Distribution lists*. Press **Options** and select *View list*. Press **Options** again to edit the content of a distribution list: *Add contact*, *View details* or *Delete contact*.

To edit the distribution lists, press **Menu**, and select *Messages*, *Text messages* and *Distribution lists*. Press **Options** and select *Add list*, *Rename list*, *Clear list* or *Delete list*.

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 of size up to 45 kB.



Note: If *Allow multimedia reception* is set to *Yes* or *In home network*, your operator or service provider may charge you for every message you receive. For details see Settings for multimedia messages, 29

Multimedia messaging supports the following formats:

- Picture: JPEG, GIF, PNG, OTA-BMP and WBMP.
- MIDI



Note: If a received message contains unsupported elements, they may be replaced with the text *Object format not supported*.

You are not able to receive any multimedia messages, if you have a call in progress, a game or another Java™ application running, or an active service connection. Because delivery of multimedia messages can fail for a variety of reasons, do not rely solely upon them for essential communications.

Reading and replying to a multimedia message

During receiving a multimedia message, the animated indicator  is displayed. A received message is indicated with  and the text *Multimedia message received* is shown.

1. Press **Show** to view the message, or press **Exit** to view it later.
2. Scroll to view the complete message. Press **Options** and some of the following options may be available: *Delete message*, *Reply*, *Forward to no.*, *Forward to e-mail*, *Message details*, *Play*, *Save sound clip* or *Save image*.

Multimedia messages Inbox, Outbox and Saved items folders

The phone saves the received multimedia messages in the *Inbox* folder. Multimedia messages to be sent are moved to the *Outbox* folder. The multimedia messages you want to send later, can be saved in the *Saved items* folder. The sent multimedia messages are saved in the *Sent items* folder if the setting *Save sent messages* is set to **Yes**. See Settings for multimedia messages on page 29.

Multimedia messages memory full

Received messages are automatically stored in the memory.

When you have a multimedia message waiting and the memory for the messages is full, the indicator  is blinking and *Multimedia memory full, view waiting msg.* is shown. To view the waiting message, press **Show**. To save the message, press **Options**, select *Save message*. You will be asked to delete old messages by first selecting the folder and then an old message to be deleted.

To discard the waiting message, press **Exit** and **Yes**. To view the message, press **No**.

Deleting messages

Press **Menu**, and select *Messages*, *Text messages* or *Multimedia msgs.* and *Delete messages*.

- To delete all messages from one folder, select the folder.

If the folders contain unread messages, the phone will ask whether you want to delete them also.

Message settings

The message settings affect the sending, receiving or viewing of the messages.

Settings for text and e-mail messages

Press **Menu**, and select *Messages*, *Text messages*, *Message settings* and *Sending profile*:

- Select *Priority* to mark your message as *Urgent*.
- Select *Delivery reports* and *On*, to be notified when the recipient receives the message.
- Select *Send callback number* to enter a phone number at which the recipient can call you.

Press **Menu**, and select *Messages*, *Text messages*, *Message settings* and *Other settings*:

- Select *Message font size* to select between small and large fonts.
- Select *Message overwriting* to allow the automatic deletion of messages, if the memory is full.
- Select *Save to outbox when sending* to disable or enable the saving of sent messages to the outbox.

Settings for multimedia messages

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

- *Save sent messages*. Select *Yes* to save the sent multimedia messages in the *Sent items* folder. With setting *No*, the sent messages are not saved.

- Select *Delivery reports* and *Yes*, to be notified when the recipient receives the message.
- *Allow multimedia reception*. Choose *No*, *Yes* or *In home network* to use multimedia service. *In home network* does not allow to receive multimedia messages when outside your home network.
- *Incoming multimedia messages*. Select *Retrieve* to download the multimedia messages automatically, or select *Reject*.
- *Allow adverts*. You can choose to allow or to reject advertisement.

Voice messages

Voice mailbox is a network service and you may need to subscribe to it first. For details, contact your service provider.

Press *Menu*, and select *Messages* and *Voice messages*. To call your voice mailbox, select *Listen to voice messages*. To key in, search for or edit your voice mailbox number, select *Voice mailbox number*.

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



Tip: In standby mode, pressing and holding  calls your voice mailbox.

Minibrowser messages

Press *Menu*, and select *Messages*, *Multimedia msgs*. Press *Connect* to connect to the Internet and to display the messages. Press *Back* to finish the internet connection.

■ *Call register (Menu 2)*

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

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



Recent call lists

When you press **Options** in the *Missed calls*, *Received calls* or *Dialled numbers* menu, you can view the time and date of the call (*Time of call*), view (*View number*) or call (*Call*) the registered phone number, add it to the phone book (*Add to contact*), or delete (*Delete*) it from the list. You can also send a text message (*Send message*) to the registered number.

Select *Delete recent call lists* to clear lists of dialled, received and missed calls.

Call timers, Data/fax calls and Minibrowser



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**, select *Call register* and then select *Call duration* to display the following list of counters and timers:

- *Call duration* to show the approximate duration of your last call.
- *Dialled calls' duration* to show the approximate duration of your dialled calls since the last reset.
- *Received calls' duration* to show the approximate duration of your received calls since the last reset.
- *All calls' duration* to show the approximate duration of all dialled and received calls since the last reset.
- *Life timer* to show the duration of all dialled and received calls. This counter cannot be reset.
- *Clear timers* to reset all counters and timers to zero except the *Life timer*.

Press **Menu**, select *Call register* and then select *Data/fax calls* and scroll to check the amounts of sent and received data, and to clear the counters. The counters unit is a byte.

Press **Menu**, select *Call register* and then select *Minibrowser calls* and scroll to check the amounts of sent and received data, and to clear the counters. The counters unit is a byte.

■ Contacts (Menu 3)



You can save names and phone numbers (contacts) in the phone's contacts directory.

- You may save names with numbers and textual notes for each name.
- For a certain number of names, you can additionally save an image.

To access the **Contacts** menu:

- Press the selection key **Contacts** or **Go to** and select **Contacts**, or
- Press the selection key **Menu** and select **Contacts**.

Scroll with  or  through the menus and select the menu by pressing **Select**. Select submenus and settings of your choice in the same way. Following menus are available:

Contacts

1. **Search** for names and display corresponding numbers.
2. **Add contact** to add a new contact name and number(s).
3. **Edit name** to change existing names.
4. **Delete** to erase all or single contacts from the **Contacts** directory.
5. **Add number** to add an additional number to an existing contact.
6. **Settings** to select how the names and numbers in contacts are displayed. Select **Memory status** to view the free and used memory capacity.
7. **Speed dials** to assign a number to a speed dialling key.
To activate speed dialling see Speed dialling on page 37.
8. **Voice tags** to view the list of recorded voice tags. By selecting **Options** after highlighting an entry, you may **Playback**, **Change** or **Delete** the voice tag. For more information see **Voice** on page 46.
9. **Own number** to view the phone numbers assigned to your UIM card.
Only shown, if the numbers are included on your UIM card.
10. **Caller groups** to arrange the names and phone numbers saved in the memory into caller groups with different ringing tones.

Searching for a name in contacts

To access the name list in **Contacts**:

- Press the selection key **Contacts** or *Go to* and select **Contacts**, then select *Search*, or
- Press *Menu* and select **Contacts**, then select *Search*, or
- From the idle menu press  or  (quick access).

Depending on your *Settings* an alphabetical list of names or the alphabetically first name and the corresponding number are displayed. Scroll with  or  through the names. Press **Details** and scroll with  or  through the stored numbers of the selected contact.

To access a name directly, begin typing the characters. The names fitting to your input are displayed. Scroll with  or  through the displayed names. Press **Details** and scroll with  or  through the stored numbers of the selected contact.

Saving multiple numbers, text items and an image per contact

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

The first number saved is automatically set as the default number. It is indicated with a frame around the number type indicator. When you select a name from the contacts directory this number is used to make a call.

1. Scroll in the **Contacts** name list to the name to which you want to add a new number or text item, and press **Details**.
2. Press **Options** and select *Add number*, *Add detail* or *Add image*.
3. Select one of the following number types  *General*,  *Mobile*,  *Home*,  *Office* and  *Fax*, and key in the number, or detail-text types  *E-mail address*,  *Web address*,  *Postal address* and  *Note*, and key in the text item, or open *Graphics* in *Gallery* and scroll to the desired image. Press **Options** and select *Save to contacts*. A copy of the image is added to the contact.

Voice dialling

You can dial up to 15 stored phone book numbers using the voice dialling feature. Before you can place a call using voice dialling, you must first assign a voice tag to the number. Before using voice dialling, note that:

- Voice tags are not language dependent. They are dependent on the speaker's voice.
- Voice tags are sensitive to background noise. Record them and make calls in a quiet environment.
- When recording a voice tag or making a call by saying a voice tag, hold the phone in the normal position near to your ear.
- Very short voice tags are not accepted. Use long voice tags and avoid similar voice tags for different numbers.
- Unique tags are recognized more accurately. Consider using first and last name or first name, last name, and number type when tagging a number. Example: "John Smith, work."
- Avoid pauses or silence as you record the voice tag.
- If the voice tag memory is full, the phone displays *Memory full. Delete an existing voice tag?* Press *OK*, scroll to locate a tag to delete, then press *Delete*.
- The recording process stops automatically; pressing *Quit* aborts the recording attempt.
- Deleting a phone number deletes any associated voice tags.



Important: You must say the name exactly as you said it when you recorded it. This may be difficult in, for example, a noisy environment or during an emergency, so you should not rely solely upon voice dialling in all circumstances.



Warning! Do not use a voice tag for dialling emergency numbers. In emergencies, stress causes changes in your voice, which may keep the phone from recognizing your voice command.

Assign a voice tag to a phone number

You must record a voice tag (up to two seconds) for a phone number before you can use the voice dialling feature to dial it.

To add a voice tag to a phone book entry:

At the Start screen, press  or , then scroll to the desired phone book entry, and press *Details*. Scroll to the phone number you want to tag and press *Options*. Scroll to *Add voice tag* and press *Select*.

Press *Start* and after the tone, speak the voice tag clearly into the microphone.



Note: Your phone informs you if the recording is not successful. Press OK to try again or Back to return to phone book.

The message Voice tag saved is displayed upon completion of the recording process. The icon  next to a phone number denotes that a voice tag exists for this number.

Dialling a number using voice dialling



Note: You must say the name exactly as you said it when you recorded it.

1. At the Start screen, press and hold the right softkey (*Contacts* or *Go to*) for two seconds.

A tone is heard and *Speak now* is displayed.

2. After the tone, clearly speak the voice tag that you recorded previously into the microphone.



Note: If the voice tag is not recognized by the phone or if you fail to speak a tag within three seconds after the tone, the message **Name not recognized** is displayed, and you are returned to the Start screen

3. When the voice tag is recognized:
 - The phone book entry will be displayed on the screen for three seconds.
 - The voice tag is replayed (through the ear piece).
 - After three seconds, the number is dialled.

The only other option for initiating voice dialling is to press the headset button momentarily at the Start screen. The alert tones play through the headset. Speak the voice tag into the headset microphone. The voice tag will playback through the headset to confirm your choice.

For further information on voice dialling and voice commands see *Voice* on page 46.

■ Profiles (Menu 4)



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

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

- To activate the selected profile, select *Activate*.
- To personalise the profile, select *Personalise*. Select the setting you want to change and make the changes.
- 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, becomes active.

■ Settings (Menu 5)



Personal short-cuts

You can add some specific functions to your personal short-cut list and activate them either in standby mode by pressing the softkey (*Go to*) or accessing the *Go to* menu. Refer to Standby mode on page 11 and Go to (Menu 12) on page 56.

Press **Menu**, and select *Settings* and *Right selection key settings*.

To select the desired functions for your personal short-cut list, select *Select Go to options* and the list of available functions is shown. Scroll to the desired function and press **Mark** to add it to the short-cut list. To remove a function from the list, press **Unmark**.

To rearrange the functions on the list, select *Organise Go to options* and the desired function. Press **Move** and select where you want to move the function.

Call settings

Anykey answer

Press **Menu**, and select **Settings**, **Call settings** and **Anykey answer**. Select **On** and you can answer an incoming call by briefly pressing any key, except **0**, selection keys **←** and **→**, and **↵**.

Automatic redial

Press **Menu**, and select **Settings**, **Call settings** and **Automatic redial**. Select **On** and your phone will make up to ten attempts to connect the call after an unsuccessful call attempt.

Speed dialling

Press **Menu**, and select **Settings**, **Call settings** and **Speed dialling**. Select **On** and the names and phone numbers assigned to the speed dialling keys, from **2^{ABC}** to **9^{WXYZ}**, can be dialled by pressing and holding the corresponding number key.

Automatic update of service

Your phone is capable of receiving updates to wireless services sent to your phone by your service provider.

Press **Menu**, and select **Settings**, **Call settings** and **Automatic service update** to activate or deactivate.

Calling card

If you wish to use a calling card for long distance calls, you can first save your calling card information into your phone. Your phone is equipped to handle up to four calling cards.

Saving Calling card information

1. Press **Menu**, and select **Settings**, **Call settings** and **Calling card**.
2. Type in the security code and press OK.
3. Select the desired Card (Card A – D) and press **Options** to activate the card.
4. Select **Edit** to create or change a card.
5. Scroll to one of the three sequence types as described below, then press Select.

- *Access no.+ phone no.+ card no.*

Dial 1-800 access number, then phone number, then card number (+ PIN if required).

- *Access no.+ card no.+ phone no.*

Dial 1-800 access number, then card number (+ PIN if required), then phone number.

- *Prefix+ phone no.+ card no.*

Dial the prefix (any numbers that must precede the phone number) and phone number want to dial, then card number + PIN if required.

6. Enter the required information (access number or prefix and card number) and press OK.

To rename the calling card

1. Scroll to *Card name*; then press *Select*.
2. Enter the card name, then press *OK*.

Making calling cards calls

1. Enter the phone number, including any prefix (such as 0 or 1) that your calling card may require when you make a calling card call. See your calling card for instructions.
2. Press and hold  for a few seconds until your phone displays *Card call*.
3. Your phone displays *Wait for tone, then press OK*. When you hear the tone or system message, press *OK*.
4. Your phone displays *Again, press OK after tone*. When you hear the tone or system message, press *OK*.

Phone settings

Phone language

Select the language the phone shall display. Press *Menu*, and select *Settings*, *Phone settings* and *Phone language*.

Automatic keypadguard



Note: When the keypad is locked, calls may be possible to the emergency number programmed into your phone (e.g. 112, 911 or other official emergency numbers). Key in the emergency number and press . The number is displayed only after you have keyed in its last digit.

Press **Menu**, and select *Settings, Phone settings* and *Automatic keypadguard*. Select *On* and key in the time delay (minutes:seconds). The keypad automatically locks in standby mode after the time delay to prevent accidental keypresses. Refer also Keypad lock (Keyguard) on page 15.

Security keypadguard

Press **Menu**, and select *Settings, Phone settings* and *Security keypadguard*.

Detail information still missing.

DTMF tones

DTMF tones are sounds that are produced when you press the keys on your phone's keypad. Sometimes, DTMF tones are called touchtones. You can use DTMF tones for many automated over-the-phone services such as checking bank balances and airline schedules and using your voice mailbox. Those features depend on operator's availability. DTMF tones can be sent only when a call is active.

Press **Menu**, and select *Settings, Phone settings* and *DTMF tones*.

To choose the *DTMF tones* options select *Manual DTMF tones*.

- *Continuous* - Tone sounds for as long as you press and hold a key.
- *Fixed* - Sets the tone to a fixed tone length.
- *Off* - No tones are sent when you press a key.

To adjust the fixed tone length, select *DTMF tone length*:

- *Short* - Fixed tone length of 0.1 sec.
- *Long* - Fixed tone length of 0.5 sec.

Welcome note

Press **Menu**, and select *Settings, Phone settings* and *Welcome note*. Key in the note which is shown briefly when the phone is switched on.

Help text activation

To set the phone to show or not to show the help texts, press **Menu**, and select *Settings*, *Phone settings* and *Help text activation*.

Time and date settings

Press **Menu**, and select *Settings*, *Time and date settings*.

Select *Clock* to set the phone to show the clock in standby mode, adjust the clock and select the time format.

Select *Date* to set the phone to show the date in standby mode, set the date, the date format and the date separator.

Select *Auto-update of date & time* (network service) to set the phone to update the time and date according to the current time zone.

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.

Display settings

Wallpaper

Let your phone display a background picture (wallpaper) from *Gallery* menu when the phone is in standby mode.

To select a picture, press **Menu**, and select *Settings*, *Display settings* and *Wallpaper*. Select *Select wallpaper* and choose a picture from a folder in the *Gallery*. To set the picture as the wallpaper, press **Options** and select *Set as wallpaper*. To activate/deactivate the wallpaper, select *On/Off*, respectively.

Colour schemes

To change the colour in some display components, for example, indicators and signal bars, press **Menu**, and select *Settings*, *Display settings* and *Colour schemes*.

Banner

This function can be used only if it is supported by your network operator or service provider. Please contact your service provider for more information.

Display brightness

To change the display contrast level used on the phone display, press **Menu**, and select *Settings*, *Display settings* and *Display brightness*. Use **(** and **)** to adjust the contrast level.

Tone settings

You can change the settings of the selected active profile.

Press **Menu**, and select *Settings* and *Tone settings*. Select and change *Incoming call alert*, *Ringing tone*, *Ringing volume*, *Vibrating alert*, *Message alert tone*, *Keypad tones*, *Warning tones* and *Alert for*. You can find the same settings in the *Profiles* menu, see Profiles (Menu 4) on page 36.

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**.

Enhancement settings

This menu is shown only if the phone is or has been connected to some compatible Nokia audio enhancements, for example to a headset.

Press **Menu**, and select *Settings* and *Enhancement settings*. Select one of the displayed enhancements (*Handsfree*, *Headset*, *Loopset*, *Text phone*).

Select *Default profile* to select the profile the phone uses when the enhancement is connected.

Select *Automatic answer* to set the phone to automatically answer an incoming call after five seconds. If the *Incoming call alert* is set to *Beep once* or *Off*, automatic answer will not be available.

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 (Restrict outgoing calls), calls may be possible to certain emergency numbers in some networks (e.g. 112, 911 or other official emergency numbers).

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

Call restrictions

Select **Call restrictions** to restrict incoming or outgoing calls to a defined list of numbers. Type in your security code to get access to this menu.

For **Restrict outgoing calls** and **Restrict incoming calls** following options are available:

- Select to select numbers to be restricted from a list.
- **Add restriction** to add a number and name to the restriction list.
- **Edit** to change numbers or names in the restriction list.
- **Delete** to erase numbers and names from the restriction list.

Access codes

Select **Access codes** to change the security code, the lock code and to set up the **Phone lock**.

With **Phone lock** set to **On**, you can prevent unauthorized use of your phone by a lock code and only incoming calls and calls to the unlocked phone number (see below) are allowed.

To allow calls to certain numbers when the phone is locked select **Allowed number when lock active**.

Voice Privacy



Note: Availability of this feature depends on your arrangement with your service provider and the network's ability to support the feature.

Some service provider's networks can encrypt the signal transmitted during a phone call to ensure others are unable to listen to your conversation. To turn **Voice privacy** on, press **Menu**, select **Settings**, **Security settings** and then **Voice privacy**. Scroll to On, then press OK.

During a call, if voice privacy is lost, your phone sounds two short beeps.

Network

The [Network](#) menu allows you to modify how your phone will work when you are outside of your primary or "home" network. How your phone will handle being out of your home area can significantly affect the types and amounts of additional charges you may incur.

Roaming

Roaming is a term used to indicate that your phone is not in its home area. When you place or receive calls while roaming, you are actually using another service provider's system to complete your call. Therefore, calls made or received while roaming are usually more expensive than calls made in your home area.

Roaming indicators

When your phone begins roaming, it displays **Roaming**. If roaming in a non-preferred system, your phone will also display **Roaming** and a Δ will appear at the top of the display.

Network choice

Your phone will automatically attempt calls using a preferred system. If your phone fails to find a preferred system, then it will use the selection you have chosen with this feature.



Note: Before making modifications to your system selection setup, contact your service provider to ascertain how these changes may affect your phone bill.

Press [Menu](#) and select [Settings](#) and [Network](#) to set the roaming options:

Select [Home only](#) or "service provider" to make and receive calls in your home area only. While roaming, No Service appears and you cannot make or receive calls.

Select [Automatic](#) to let your phone automatically select the best available system.

Network services

[Call divert](#), [Call waiting](#), and [Send my caller ID](#) are network services available through your service provider. These features do not appear in your phone's Network services menu until you save the related feature code(s) given to you by your service provider. After you save the feature

activation or cancellation code, the feature appears in the phone's menu and you can use the menu to turn the feature on or off. To save a network feature activation code, use the Menu [Network feature setting](#) (see below).



Note: Feature codes can be saved only when your default phone number (NAM 1) is selected. See [My number selection](#) below.

Call divert

When you use [Call divert](#), your network redirects incoming calls to another phone number.

Press [Menu](#), select [Settings](#), [Network Services](#) and then [Call divert](#). Select the type of call diverting:

- [Divert all calls](#) – diverts all incoming calls.
- [Divert if busy](#) – diverts calls only when you're on your phone.
- [Divert if not answered](#) – diverts calls if you don't answer.
- [Divert if out of reach](#) – diverts calls if you are out of reach of your wireless network or if your phone is turned off.

Highlight [Activate](#) and press select. In the Number box, either enter the number to which you want your calls diverted or press [Find](#) to recall a number from the phone book.

Call waiting

If [Call waiting](#) is activated, your phone beeps during a call to let you know that someone else is calling you. Depending on your caller ID setup, the phone might also show the number of the incoming call.

Press [Menu](#), select [Settings](#), [Network Services](#) and then [Call divert](#) and [Activate](#) or [Cancel](#) the feature.

Send my caller identity

If [Send my caller ID](#) is activated, you can determine, for each call you make, whether your telephone number appears on another phone's caller ID.

Press [Menu](#), select [Settings](#), [Network Services](#) and then [Send my caller ID](#) and select [Yes](#) or [No](#) the feature.

Network feature setting

To save a network feature activation code for activation, press [Menu](#), select [Settings](#), [Network Services](#) and then [Network feature setting](#). Type in the feature code provided by your network service and press OK.

Own number selection

The number assigned to your phone provides service for only one service area. Your phone can be activated in up to three different service areas, however. Each service area would assign a different phone number or account to your phone. You must select a phone number for your home system, and if you travel outside your home system, you can choose another number. Only one phone number can be active at a time.



Note: It might not be necessary to have up to three numbers for your phone if your service provider has service or roaming agreements for each area in which you wish to use your phone. Contact your service provider for details.

To set your own number according to the service area, press [Menu](#), select [Settings](#), [Network Services](#) and then [My number selection](#)

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. The names and phone numbers saved in the contacts list are not deleted.

■ Gallery (Menu 6)



You can save images and ringing tones, for example, if received in a multimedia message, in the folders of the gallery, see Reading and replying to a multimedia message on page 28. The gallery uses shared memory.



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

To view the folders, press [Menu](#), and select [Gallery](#) and [View folders](#). The list of options is shown. Open the desired folder and the list of files in the folder is shown. Scroll to the desired file. Press [Options](#) and some of

the following options may be available: *Open*, *Delete*, *Edit*, *Move*, *Rename*, *Set as wallpaper*, *Set as ring tone*, *Details* and *Sort*.

Other options are: *Add folder*, *Delete folder*, *Rename folder*, *Gallery downloads* to download more images and tones.

■ Voice (Menu 7)

This menu allows you to record memos and phone calls, access existing voice tags and add or change voice commands.

Voice tags

Press **Menu**, scroll to *Voice* and select *Voice tags* to display a list of existing voice tags. You may select a voice tag and *Playback*, *Change* or *Delete* it.

Voice commands

Press **Menu**, scroll to *Voice* and select *Voice commands* to add voice commands for the activation of following features:

- *Profiles*: *General*, *Silent*, *Meeting*, *Outdoor*, *Pager*
- *Voice mailbox*: *Call voice mailbox*
- *Recorder*: *Record*
- *Call register*: *Missed calls*, *Received calls*

Select a feature and press *Options*:

- *Add command* is displayed if there is no voice command attached.
- If there is already a voice command attached you may *Playback*, *Change* or *Delete* the attached voice command.

Voice recorder

Voice recorder allows you to record audio memos and store them in your phone. Use this feature to record things such as phone numbers and personal memos. Total time available for all memos is one minute (up to 60 seconds). Maximum length of a single message is one minute (up to 60 seconds).

Press **Menu**, scroll to *Voice* and select *Voice recorder*.

To record a memo select [Record](#). The recording starts immediately when you press [Select](#), and is finished when you press [Stop](#). Type in a name for the recording and save it to the [Recordings list](#).

To handle stored memos select [Recordings list](#) and select following options: [Playback](#), [Delete](#), [Edit title](#) and [Alarm](#). With the option [Alarm](#) you may add (edit, or remove) a reminder alarm for the memo.

■ **Organiser (Menu 8)**

The [Organiser](#) menu includes features that assist you in organising daily tasks.



Alarm clock

You can set the phone to alarm at a desired time. Press [Menu](#) scroll to [Organiser](#) and select [Alarm clock](#).

To set the alarm, select [Alarm time](#) and key in the alarm time. To change the time when the alarm time is set, select [On](#).

To set a tone for the alarm, select [Alarm tone](#) and the desired tone.

When the alarm time expires

The phone will sound an alert tone, and flash [Alarm!](#) and the current time on the display, even if the phone was switched off. Press [Stop](#) to stop the alarm. If you let the phone 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, [Switch the phone on?](#) Press [No](#) to switch off the phone or [Yes](#) to switch on the phone.



Note: Do not press [Yes](#) when wireless phone use is prohibited or when it may cause interference or danger.

Calendar

The calendar uses shared memory.



Note: Your phone must be switched on to use the functions in the [Calendar](#) menu. Do not switch the phone on when wireless phone use is prohibited or when it may cause interference or danger.

Press **Menu** scroll to **Organiser** and select **Calendar**.

The current day is indicated with a frame. A day with a note appears in bolded. To view the day notes, scroll to a day, press **Options** and select **Day notes**.



Tip: To scroll to the day notes day by day press **⏮** or **⏭**.

To view a single note, press **Options** and select **View**.

Other options for the calendar view may be:

- Options for making a note, sending a note to another phone, copying a note to another day or deleting, editing, moving and repeating a note.
- **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.

Making a calendar note

Press **Menu**, scroll to **Organiser** and select **Calendar**. Scroll to the date you want, press **Options** and select **Make a note**. Select one of the following note types: 📞 **Call**, 📝 **Memo**, 🏢 **Meeting**, 📅 **Reminder**, or 🎁 **Birthday**.

When the phone alarms for a note

The phone beeps, and displays the note. With a call note 📞, 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 keep track of your tasks with the to-do list feature. You may be able to save up to 30 notes, depending on their length.

To access the to-do list, press **Menu**, scroll to **Organiser** and select **To-do list**. If the to-do list contains notes, the to-do list is displayed.

With **Options** you may **Add**, **View**, **Delete** and **Edit** to-do notes. You can set and change the priority of to-do notes to **High** (1), **Medium** (2) or

Low (3). With the option *Save to calendar* you may save a to-do note as calendar note.

Calculator

The phone is provided with a calculator which can also be used for rough currency conversions.

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

To access the calculator, press *Menu*, scroll to *Organiser* and select *Calculator*.

Making calculations

The keys  -  insert a digit.  inserts a decimal point. To delete the last digit, press *Clear*. To change the sign, press *Options* and select *Change sign*. Press **+* once for "+", twice for "-", three times for "***" or four times for "/". To get the result, press *Options* and select *Equals*. To clear the display for a new calculation, press and hold *Clear*.

Making a currency conversion

To save the exchange rate: Press *Options*, and select *Exchange rate*. Select *Foreign unit in domestic units* or *Domestic unit in foreign units*, and key in the value (press  for a decimal point).

To make the conversion: key in the currency amount to be converted, press *Options*, and select *In domestic* or *In foreign*.

Countdown timer

You can set the alarm to sound after a period of lapsed time.

Press *Menu*, and select *Organiser* and *Countdown timer*. Key in the alarm time and if desired a note. When the timer is running,  is shown in standby mode. To change the countdown time, select *Change time*, or to stop the timer, select *Stop timer*.

When the alarm time is reached, the phone sounds a tone and flashes the related text. Press any key to stop the alarm.

Calorie counter

The *Calorie counter* estimates calories burned during activities.

To access the *Calorie counter*, press *Menu*, scroll to *Organiser* and select *Calorie counter*.

To set up the *Calorie counter* select *Settings* and enter your *Weight*, *Age* and *Gender*. Additionally you may set the *Weight format*, *Calorie format* and *Velocity format*.

To display your personal activity list select *Activities*. With *Options* you may add new activities to your personal activity list, change parameters of a selected activity, calculate the number of total calories or delete activities from your personal activity list.

■ Mobile Web (Menu 9)



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



Important: This feature is available only if your service provider's network supports mobile internet access. Your service provider may also require that you subscribe to this additional service. For more information, contact your service provider.

The *Mobile web* feature allows you to access special Internet content designed specifically for viewing from your mobile phone. You can use your phone's minibrowser to view news, get weather reports, check flight times, access financial information, download new ringing tones or graphics, etc. The browser's menu allows you to save addresses of Web sites as bookmarks, so you can return to your favourite sites quickly and easily.

Browsing sessions and indicators

When you launch the minibrowser, two icons appear on the screen:



Minibrowser icon - minibrowser session active



Active call icon - you are being billed accordingly



Note: The minibrowser disconnects you from the network after a period of inactivity. This is normal and is designed to minimize your bill. You may find, however, that you are billed for several network connections within a single session.

When the minibrowser disconnects from the network, only the browser icon  remains. While browsing, you can still access pages stored in memory without being connected to the Internet. However, if you navigate to a page that is not stored in the memory, a new connection is established and you'll be billed accordingly.

Launching and terminating the Minibrowser

The first time you launch the minibrowser, you go through a security setup process that takes three to five minutes. Follow the on-screen prompts.

To launch the minibrowser:

Press [Menu](#), scroll to [Mobile web](#), then press [Connect](#) or press and hold  from the start screen.

If a confirmation note appears, press [Yes](#). After a few seconds the home page of your provider appears.

To terminate a browsing session, press and hold  or use [Exit web](#) from the minibrowser menu (see below).

Minibrowser menu

While browsing, press and release the  key to display the minibrowser menu:

1. [Home](#) - to call the Homepage of your provider
2. [Back](#) - to go to the previous page
3. [Add bookmark](#) - to bookmark a visited page
4. [View bookmarks](#) - to list all saved bookmarks
5. [Search](#) - to launch a search page customized by your provider
6. [Go to URL](#) - to enter a URL address and to access the corresponding site
7. [Show URL](#) - to display the URL of the current page

8. *Instructions* – to display tips
9. *Save items* – to save item like pictures or ringing tones
10. *Other options* – to access history and setting features
11. *Refresh* – to reload the current page
12. *Exit web* – to end the browsing session

Navigate in the minibrowser

- Use  and  to scroll through menus and pages.
- Press  to go back to a previous page.
- To go to the Homepage, press **1** to display the minibrowser menu, scroll to *Home*, then press *OK*.
- Links appear usually as items in a numbered list. When activated, a link will take you to an other page, other site or will make a phone call.
- To select or open an item (for example a link):
 - If the item on the page is numbered, press the appropriate number on your phone's keypad. – OR –
 - Scroll to the item, then press the appropriate selection key (for example *Select* or *Open* a link).



Note: If you activate a link which makes a phone call, the browser connection terminates and the current page is stored in the memory. When you end the call, the page you were viewing is displayed again and you can continue browsing.

Bookmarks

- You can create a bookmark for a page to return to that page later on:
 - Press **1** to access the minibrowser menu.
 - Scroll to *Add bookmark* and press *Select*.
- To access a bookmarked page:
 - Press **1** to access the minibrowser menu.
 - Scroll to *View bookmarks* and press *OK* to display the list of bookmarks.

- Scroll to the desired bookmark and press [Select](#).



Tip: The first ten bookmarks are assigned to keys **1** to **0**. Press and hold the number associated with the desired bookmark to go to the bookmarked site at any time during a browser session.

Minibrowser messages

Depending on your service provider, you may be able to receive text messages via the minibrowser. Unlike SMS text messages, minibrowser messages are not stored in the phone and must be accessed via the minibrowser's homepage.

Notification of new minibrowser messages

When a new minibrowser message is received, the icon  appears in the status bar. Depending on the message priority, you may also hear an alert tone and/or see [New web message](#) displayed on your screen.

- If you receive the message while browsing, press [View](#) to read the message or [Skip](#), allowing you to view the message later.
- If you receive the message while phone is idle, press [Connect](#) to launch the browser and view the message, or press [Back](#) to return to the Start screen.

You can use the [Multimedia msgs.](#) menu to read your messages at a later time, see Multimedia messages on page 27.

Weblinks in minibrowser messages

You can receive minibrowser messages containing Web links. If you receive a message containing a link, select [Use Web link](#) from the message's Options menu to open the link and go to the Web site.

You can also receive Web links in standard SMS messages. Selecting [Use Web link](#) from the message's Options menu launches the minibrowser and takes you to the link's Web site.

■ Games (Menu 10)

Your phone software includes some games specially designed for this Nokia phone.





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

Launching a game

Press **Menu**, and select **Games** and **Select game**. Select a game or a game set, press **Options** and select **Open** or press .

Other options for games, see Other options available for an application on page 54.

Memory

The games use shared memory. To view the size of memory available for game installations, press **Menu**, and select **Games** and **Memory**.

Game settings

Press **Menu**, and select **Games** and **Settings** to set sounds, lights and shakes for the game.

■ Applications (Menu 11)

Your phone software includes some Java™ applications specially designed for this Nokia phone.



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

Launching an application

Press **Menu**, and select **Applications** and **Select application**. Scroll to an application, press **Options** and select **Open** or press .

Other options available for an application

- **Delete** to delete the application from the phone.
- **Web access** to restrict the application from accessing the network.
- **Update version** to check if a new version of the application is available for download from the services if supported by the application.

- [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 displayed if an Internet address has been provided with the application.
- [Details](#) to give additional information about the application.

Downloading an application

Your phone supports J2ME™ Java™ applications. Make sure that the application is compatible with your phone before downloading it. You can download new Java™ applications in different ways:

- Press [Menu](#), and select [Applications](#) and [Browser downloads](#). The list of available bookmarks is shown. Select [More bookmarks](#) to access the list of bookmarks in the [Services](#) menu, see Bookmarks on page 52.

Select the appropriate bookmark to connect to the desired page. For the availability of different services, pricing and tariffs, contact your service provider.

- Use the Nokia Application installer from PC Suite to download the applications from a compatible PC in your phone.



Note: 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 a game or an application, it may be saved in [Games](#) menu instead of the [Applications](#) menu.

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

The following texts may appear during a download or during an operation of a Java™ application: [Action failed](#), [Application error](#), [Application not supported](#), [Call in progress](#), [File format unknown](#), [File too large](#), [Invalid file](#), [Unable to start](#), [Unable to run application](#), [Unknown](#).

■ Go to (Menu 12)

To access some specific functions quickly, press *Menu* and select *Go to* and select the desired function from the list.

If there are no functions on the list, press *Select Go to options*, scroll to the function that you want to add to the list and press Mark.

To sort, remove or add more functions on the list, see Personal short-cuts on page 36.

5. PC Connectivity

With the PC suite you can, for example, create and send text and picture messages, synchronise contacts and calendar between your phone and a compatible PC.

You may find more information and downloadable files, e.g. PC suite in the support area on the Nokia's web site, www.nokia.com.

■ PC Suite

The PC Suite contains the following features:

- **Nokia Application Installer** to install Java™ applications from the PC to the phone.
- **Nokia Image Converter** to make images usable for multimedia messages or wallpapers and to transfer them to your phone.
- **Nokia Sound Converter** to edit polyphonic ringing tones to be compatible with your phone and to transfer them to your phone.
- **Nokia Content Copier** to copy information or back-up information from your phone to the PC or to another compatible Nokia phone.
- **Nokia PC WAP Manager** to edit and send your bookmarks or update the connection sets to your phone.
- **Nokia Phone Editor** to send text messages and edit the contacts directory and message settings of your phone.
- **Nokia PC Sync** to synchronise the contacts directory and calendar between your phone and a compatible PC.
- **Nokia Connection Manager** to select the connection type between the PC and the phone.
- **Nokia Phone Browser** to copy images and tones from your phone to your PC and vice versa.



Note: Copyright protection may prevent some images, ringing tones and other content from being copied, modified, transferred or diverted.

6. Battery statements

■ Charging and Discharging

Your phone is powered by a rechargeable battery.

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

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

Use only batteries approved by the 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.

Use the battery only for its intended purpose.

Never use any charger or battery which is damaged.

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

Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 15°C and 25°C (59°F and 77°F). A 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 local regulations (e.g. recycling). Do not dispose as household waste.

7. Technical Information

Wireless System.....	Single Band, CDMA 800 MHz
Number of Channels	832
Number of NAM's.....	2
Frequency range (Rx).....	869.7 - 893.3 MHz
Frequency range (Tx)	824.7 - 848.3 MHz
Digital data	Circuit switched data - 14.4 kB/s Packet switched data - up to 153.6 kB/s
Size (volume).....	4.46 cubic inches (74,7 cc)
Weight.....	88 grams (3.1 ounces) with BL-5C battery
Dimensions.....	Length: 101.8 mm Width: 42.8 mm Thickness: 21.3 mm
Battery	850 mAh Li-Ion Battery
Battery voltage	3.7 V DC
Charging current.....	350 mA with ACP-7 800 mA with ACP-12
Operating Temperature.....	-22°F to +140°F (-30°C to +60°C)

8. Patents

Manufactured or sold under one or more of the following US Patents:

4558302	5526366	5857151	6005857	6151507
4868846	5553125	5862178	6011554	6163609
4969192	5557639	5870683	6011853	6164547
5001372	5581244	5887266	6014573	6167248
5045973	5625274	5889770	6026161	6170073
5061928	5640395	5892475	6028567	6185295
5101175	5664053	5898925	6029128	6188909
5212834	5669069	5907823	6038238	6195338
5230091	5677620	5914796	6043760	6199035
5233634	5692032	5915440	6047196	6201876
5241284	5699406	5917868	6049796	6219560
5241583	5699482	5920826	6055439	6240076
5303404	5701392	5926138	6060193	6240079
5311179	5729534	5926769	6069923	6249584
5331638	5729541	5930233	6081534	6266330
5335362	5734683	5946651	6084962	6282373
5353328	5754976	5953541	6088746	6289205
5384782	5760568	5956625	6094587	6292668
5390223	5782646	5956633	6097964	6295286
5396657	5794142	5960389	6112099	6310609
5400949	5802465	5963901	6115617	6324412
5416435	5805084	5966374	6118775	D406261
5442521	5805301	5966378	6122498	D425480
5444816	5818437	5969192	6128322	D426830
5446364	5827082	5970059	6128509	D445415
5479476	5835889	5987137	6138091	RE32580
5487084	5839101	5991716	6144243	
5493255	5844884	5991857	6144676	
5519885	5845219	5999523	6151485	

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 fulfil 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. Unauthorised 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 is not working properly, take it to your nearest qualified service facility. The personnel there will assist you and, if necessary, arrange for service.

IMPORTANT SAFETY INFORMATION

■ 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 and always switch off your phone wherever forbidden, or when it may cause interference or danger.

Use the phone only in its normal operating positions.

When connecting the phone or accessory to another device, read its user's guide for safety instructions. Don't connect incompatible products. As with other mobile radio transmitting equipment, users are advised to operate this equipment only in the normal operating position (held to your ear with the antenna pointing over your shoulder).

■ 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 a distance of 6 inches (20 cm) be maintained between a handheld wireless phone and a pacemaker to avoid interference with the pacemaker. These recommendations are consistent with independent research and recommendations of Wireless Technology Research.

PERSONS WITH A PACEMAKER:

- Should always keep the phone more than 20 cm (6 inches) from their pacemaker when the phone is switched on.
- Should not carry the phone in a breast pocket.

- 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 hearing aids. In the event of such interference, consult your wireless 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.

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.

■ Aircraft

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 userprogrammed 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.

MAKING AN EMERGENCY CALL

Note: Some networks may require that a valid SIM card be properly inserted in the phone. Official emergency numbers vary by location (for example, 911 or other official emergency number).

1. If the phone is not on, switch it on. Check for adequate signal strength.
2. Press  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.
3. Enter the emergency number for your present location (for example, 911 or other official emergency number). Emergency numbers vary by location.
4. Press the  key.

If certain features are in use, you may first need to turn those features off before you can make an emergency call. Consult this 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.

■ 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 radiofrequency (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 (e.g., 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 1.29 W/kg and when worn on the body, as described in this user guide, is 1.28 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. 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 QMNRH-48

For body-worn operation, this phone has been tested and meets the FCC RF exposure guidelines for use with a carry case, belt clip or holder that

contains no metal and that positions the handset a minimum of 5/8 inch (1.5 cm) from the body. Use of other carry cases, belt clips or holders may not ensure compliance with the FCC RF exposure guidelines. If you do not use a body-worn enhancement and are not holding the phone at the ear, position the handset a minimum of 5/8 inch (1.5 cm) from your body when the phone is switched on.

*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.

APPENDIX

■ A message from the CTIA

© 2001 Cellular Telecommunications & Internet Association.
All Rights Reserved.

1250 Connecticut Avenue, NW Suite 800, Washington, DC 20036.
Phone: (202) 785-0081

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, 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.

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

■ A message from the 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 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.

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 Engineering (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 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.

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.nrpb.org.uk/>

July 18, 2001

For updates: <http://www.fda.gov/cdrh/phones>