User's Guide
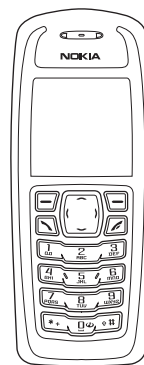
The wireless phone described in this guide is approved for use in GSM 900, 1800 and 1900 networks.

The information contained in this user guide was written for the Nokia 3100 phone.

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.

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. or Canadian 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.

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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.

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■ Network Services

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

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

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

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

■ 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 38 to see how it works.

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

  Set on the *PIN code request* in the *Security settings* menu (see Security settings on page 38), 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 SIM card is blocked. You must key in the PUK code to unblock the SIM card and set a new PIN code.

- **PIN2 code:** This code is supplied with some SIM 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 38). 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 SIM card. If this is not the case, contact your local service provider.

- **Barring password (4 digits):** The barring password is needed when using the *Call barring service*, see Security settings on page 38. You can obtain the password from your service provider.

■ Extended user's guide

You may find an extended user's guide for your phone model in the support area on the Nokia's web site, www.nokia.com.

Overview of the functions in the phone

The Nokia 3100 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 25.

- Polyphonic MIDI ringing tones enable richer ringing tones with a wide variety of sounds.

- GPRS – General Packet Radio Service is used for sending and receiving data over the mobile network.

- MIDP Java^{TM} applications specially designed for mobile phones. See Applications (Menu 10) on page 41.

- 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. ▢☺ - ➒ʷˣʸᶻ 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
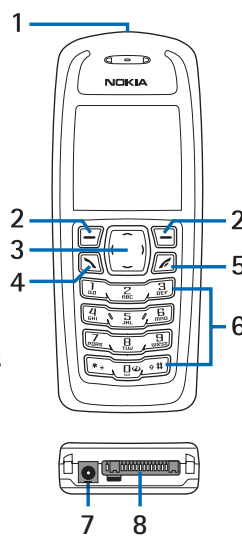
■ Standby mode

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 logo.
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 right selection key in standby mode is **Contacts** or **Go to** (personal shortcut) or it has an operator specific name to access an operator's homepage. To set the functions for your personal shortcut, see Personal shortcuts on page 33.

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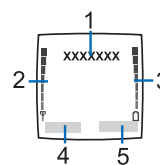
Power saving

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 23.
	You have received one or several multimedia messages. See Reading and replying to a multimedia message on page 27.
⌗0	The phone's keypad is locked. See Keypad lock (Keyguard) on page 14.
	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 37.
	The alarm clock is set to *On*. See Alarm clock (Menu 6) on page 38.
	All your calls are diverted to another number, *Divert all voice calls*. If you have two phone lines, the divert indicator for the first line is **1↑** and for the second line **2↑**. See Call divert on page 34.
◁))	The loudspeaker has been activated. See Loudspeaker on page 17.
	The phone has registered a missed call. See Call register (Menu 2) on page 30.

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2. Getting started

■ Installing the SIM card and the battery

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

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

- Before installing the SIM card, always make sure that the phone is switched off and 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).
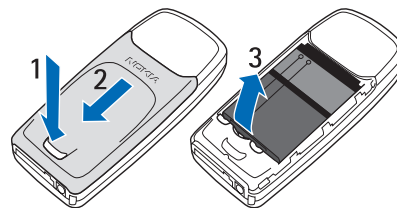
2. Release the SIM card holder. Gently pull the locking clip of the card holder (4) and open it (5).
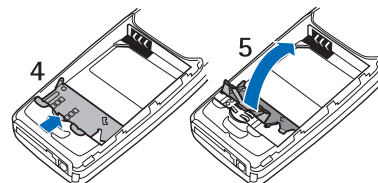
3. Insert the SIM card into the SIM card holder (6). Make sure that the SIM card is properly inserted and that the golden contact area on the card is positioned as shown.
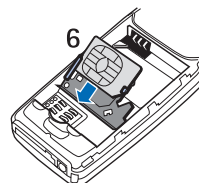
4. Close the SIM card holder (7) and press it until it snaps into position.
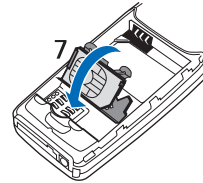
5. Insert the battery (8).

6. Slide the back cover into its place (9).
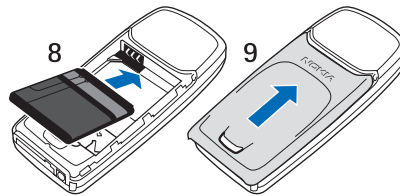
■ Charging the battery

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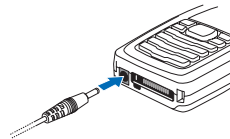
   The text *Charging* is displayed briefly if the phone is switched on. If the battery is completely empty, it may take a few minutes before the charging indicator appears on the display or any calls can be made.

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 35.

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).
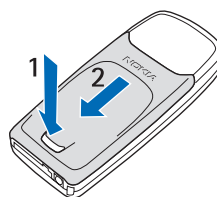
2. To remove the
   front cover,
   gently prise the
   back part of the
   phone away from
   the front cover
   beginning at the
   bottom of the
   phone.
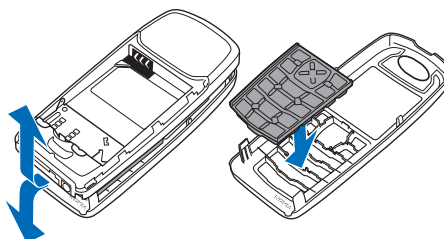
3. Insert the key mat on the new front cover.

4. To attach the front
   cover, first place
   the phone and the
   front cover properly
   together and then
   gently push on the
   top of the phone
   until the catch is
   locked properly.
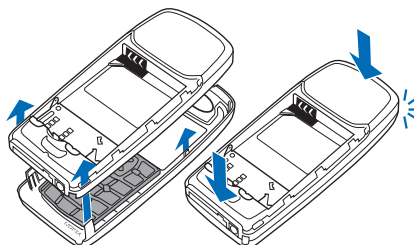
5. Place the back cover and the phone
   properly together (1) and slide the back
   cover into its place (2) until the back
   cover release button is properly locked.

■ Charging the glow-in-the-dark cover

The front cover of your Nokia 3100 phone has a glow-in-the-dark
element. To make the cover glow you need to charge it with a bright
light source for at least 15 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.

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

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 31. 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 2ᴀʙᴄ to 9ᴡxʏᴢ, see menu option *Speed dials* in chapter Contacts (Menu 3) on page 30. 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 34.

■ 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 34.

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 34.

■ 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, *End all calls*, *Mute*, *Unmute*, *Contacts*, *Menu*, *Hold*, *Unhold*, *Swap*, *Transfer*, *New call*, *Conference*, *Private*, *Answer*, *Reject*, *Send DTMF*, *Loudspeaker*, *Handset*, *Lock keypad*.

For more information, see the extended user's guide for your phone model in the support area on the Nokia's web site, www.nokia.com.

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 6mno, 6mno, 5jkl, 4ghi, 2abc .

   - 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 get some punctuation marks, press 1oo repeatedly.

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- To get a list of special characters, press and hold ✳+, select the character you want, or press ✳+ again to select a smiley from the offered list. Press Use to insert a special character or a smiley.

2. If the displayed word is the one you want, press ▢☺ 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 ❘ᴑᴑ repeatedly, or press ✳+, select the desired character, and press Use.

- To add a smiley, press ✳+ twice and select the desired smiley, 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, press ⌒ or ⌄ (or wait until the cursor appears), and key in the new letter.

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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 choise 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. Info messages

   5. Message settings

   6. Service commands

2. Call register

   1. Missed calls

   2. Received calls

   3. Dialled numbers

   4. Delete recent call lists

   5. Call duration

   6. Call costs

   7. GPRS data counter

   8. GPRS connection timer

3. Contacts

   1. Search

   2. Add contact

   3. Delete

   4. Copy

   5. Settings

   6. Speed dials

   7. Info numbers[1]

   8. Service numbers[1]

   9. My numbers

   10.Caller groups

4. Profiles

   1. General

   2. Silent

   3. Discreet

   4. Loud

   5. My Style 1

   6. My Style 2

5. Settings

   1. Personal
     shortcuts

   2. Screen saver

   3. Time and date settings

   4. Call settings

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1. Only shown if supported by your SIM card.

5. Phone settings
6. Display settings
7. Tone settings
8. Enhancement settings[1]
9. Security settings
10.Restore factory settings

6. **Alarm clock**
   1. Alarm time
   2. Alarm tone

7. **Gallery**
   1. View folders
   2. Add folder
   3. Delete folder
   4. Rename folder
   5. Gallery downloads

8. **Calendar**

9. **Games**
   1. Select game
   2. Game downloads
   3. Memory
   4. Settings

10.**Applications**
   1. Select application
   2. App. downloads
   3. Memory

11.**Extras**
   1. Calculator
   2. Countdown timer
   3. Stopwatch

12.**Services**
   1. Home
   2. Bookmarks
   3. Download links
   4. Service inbox
   5. Settings
   6. Go to address
   7. Clear the cache

13.**Go to**

14.**SIM services**[2]

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

■ Messages (Menu 1)

You can read, write, send and save text, multimedia, and e-mail messages. Before sending a message, you need to save your message centre number, see Message settings on page 28.

Text messages

Using SMS (Short Message Service), your phone can send and receive multi-part messages, which consist of several ordinary text messages (network service). Invoicing may be based on the number of parts needed for your message. If you use special (Unicode) characters, more parts may be needed for the message than otherwise. Note that predictive text input may use Unicode characters.

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.

Writing and sending messages

The number of available characters / the current part number of a multi-part message are shown on the top right of the display, for example 120/2.

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

2. Key in a message. See Writing text on page 18. Following options may be available: *Use template*, *Insert picture*, *Insert smiley*, *Insert number*. Each picture message is made up of several text messages. Therefore, sending one picture message may cost more than sending one text message.

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

4. Key in the recipient's phone number or search for a phone number in *Contacts*. Press **OK** to send the message.

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

Options for sending a message

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

With *Send to many* you can send the message to several recipients and *Send to list* sends the message to a predefined distribution list. Distribution lists see on page 25.

With *Sending profile* you can use a predifined message profile to send the message. For the message profile, see Message settings on page 28.

Writing and sending a SMS e-mail

Before you can send any e-mails via SMS you need to save the settings for e-mail sending, see Message settings on page 28. 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 31.

1. Press **Menu**, and select *Messages*, *Text messages* and *Create SMS e-mail*.

2. Key in the recipient's e-mail address or search for it in the contacts list, key in the subject and the e-mail message.

3. To send the e-mail, press **Options** and select *Send e-mail*.

Note: When sending e-mails via the SMS network service, your phone may display the words *Message sent*. This is an indication that the e-mail has been sent by your phone to the e-mail server. This is not an indication that the e-mail has been received at the intended destination. For more details about e-mail services, check with your service provider.

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 shared memory.

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

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, forward or edit the message as a text message or an e-mail, move and rename the message you are reading. With Copy to calendar you can copy the text from the beginning of the message to your phone's calendar as a reminder note. Select *Message details* to view the sender's name and phone number, the message centre used, reception date and time. Select Use detail to extract numbers, e-mail addresses and website addresses from the current message. When reading a picture message, select Save picture to save the picture in the Templates folder.

3. Select Reply to reply to a message. Select Empty screen, Original text or select a standard answer to be included in the reply. Confirm or edit e-mail address and subject. Write your reply message.

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

Inbox and outbox 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*, *My folders* or *Templates* 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*.

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 *Move*, scroll to the folder where you want to move the message and press **OK**.

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

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*.

If a message cannot be sent to certain recipients on the distribution list, select *Undelivered*. Press **Options** and select *Resend to list* (to resend the message to the recipients on the *Undelivered* list), *View list*, *Delete list* or *View message*.

Message counters

To view your message counters, press **Menu**, and select *Messages*, *Text messages*, *Message counter* and *Sent messages* or *Received messages*. To clear the counters press *Clear counters*.

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.

Multimedia messaging supports the following formats:

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

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.

Writing and sending a multimedia message

To set the settings needed, see Settings for the multimedia messages on page 29. For availability and subscription to the multimedia messaging service, contact your service provider.

1. Press **Menu**, and select *Messages*, *Multimedia msgs.* and *Create message*.

2. Key in a message.

   To insert a picture or a sound clip from *Gallery*, press **Options**, and select *Insert image* or *Insert sound clip*. The list of available folders in the *Gallery* is shown. Open a specific folder, scroll to the desired picture or sound, press **Options** and select *Insert*. The ▣ or ♫ indicator on the header of the message indicate that a picture or sound has been attached.

   To key in a name from the contacts list, press **Options** and select *More options* and *Insert contact*.

   To insert a number, press **Options** and select *More options* and *Insert number*.

   To view the message before sending it, press **Options** and select *Preview*.

3. To send the message, press **Options** and select *Send to number* (or *Send to e-mail* or *Send to many*).

4. Key in the recipient's phone number (or e-mail address) or search for the phone number (or e-mail address) in the contacts list and confirm the number.

   During sending the animated indicator ⬳ is displayed and you can use the other functions of the phone. If the sending fails, the phone tries to resend it for a few times. After that the message remains in the *Outbox* folder and you can try to resend it.

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

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 message. Press **Options** and some of the following options may be available: *Delete message*, *Reply* or *Reply to all*, *Forward to no.*, *Forward to e-mail* or *Send to many*, *Edit*, *Message details*, *Play*, *Save sound clip* or *Save image*.

Multimedia messages Inbox, Outbox, Saved and Sent 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 the multimedia messages on page 29.

Multimedia messages memory full

Received messages are automatically stored in the shared 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 and 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.
- To delete all messages from all text message folders, select *All messages* and confirm *Delete all messages from all folders?*.

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

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 1ᵒᵒ calls your voice mailbox.

Info messages

With this network service you can receive messages on various topics (such as traffic conditions). For details, contact your service provider.

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*, *Message settings*, *Text messages* and *Sending profile*. If more than one message profile set is supported by your SIM card, select the set you want to change.

Each set has the following settings: *Message centre number* (delivered from your service provider), *Messages sent via*, *Message validity*, *Default recipient number* (text messages) or *E-mail server* (e-mail), *Delivery reports*, *Use GPRS*, *Reply via same centre* (network service) and *Rename sending profile*.

Overwrite settings for text and e-mail messages
Press **Menu**, and select *Messages*, *Message settings*, *Text messages* and *Overwriting in inbox* or *Overwriting in sent items*. Select *Allowed* to set the phone to replace the old text messages with new ones in the *Inbox*

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or the *Sent items* folder, respectively when the text message memory is full.

Settings for the multimedia messages
Press **Menu**, and select *Messages*, *Message settings* and *Multimedia msgs.*. 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.

- *Delivery reports* to ask the network to send delivery reports about your messages (network service).

- *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 allow the reception of multimedia messages, or select *Reject*.

- *Connection settings*. Define service connection settings for retrieving multimedia messages. Activate the set where you want to save the connection settings and then edit the settings. You may be able receive the service settings as an OTA message from the service provider that offers the service that you want to use. For details, contact your service provider. Refer also Setting up the phone for a service on page 45.

- *Allow adverts*. You can choose to allow or to reject advertisement.

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

Service commands

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

■ Call register (Menu 2)

The phone registers the phone numbers of 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 of the call, edit, view or call the registered phone number, add it to the memory, or delete it from the list. You can also send a text message (*Send message*).

Call counters and call timers

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

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

- *Call duration* to show the approximate duration of your calls.

- *Call costs* (network service) to show the cost of your last call or all calls in terms of units specified within the *Show costs in* function.

  Note: When no more charging units or currency units are left, calls may only be possible to the emergency number programmed into your phone (e.g. 112, 911 or other official emergency number).

- *GPRS data counter* and scroll to check the amounts of sent and received data, and to clear the counters. The counters unit is a byte.

- *GPRS connection timer* scroll to check the duration of the GPRS connections, and to clear the timers.

■ Contacts (Menu 3)

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

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- The phone's directory may save names with numbers and textual notes for each name. You can also save an image for a certain number of names. The phone's contacts directory uses shared memory.

- Names and numbers saved in the SIM card's memory, are indicated by ▣ .

Searching for a name in contacts

Press **Menu**, and select *Contacts* and *Search*.

The following options may also be available:

- *Add contact* and *Delete*.

- *Copy* to copy names and phone numbers from the phone´s contact directory to the SIM card´s memory, or vice versa.

- *Settings* to select how the names and numbers in contacts are displayed. Select *Memory status* to view the free and used memory capacity.

- *Speed dials* to assign a number to a speed dialling key. To activate speed dialling see Speed dialling on page 34.

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

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

- *My numbers* to view the phone numbers assigned to your SIM card. Only shown, if the numbers are included on your SIM card.

- *Caller groups* to arrange the names and phone numbers saved in the memory into caller groups with different ringing tone.

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. Make sure that the memory in use is either *Phone* or *Phone and SIM*.

2. Scroll to the name to which you want to add a new number or text item, and press **Details**.

3. Press **Options** and select *Add number*, *Add detail* or *Add image*. If the name is stored in the SIM card's memory, the name will be moved to the phone's contacts directory.

4. Select one of the following number types ☎ *General*, ▯ *Mobile*, 🏠 *Home*, 📶 *Office* and 🖨 *Fax*, and key in the number,

   or text types @ *E-mail address*, ⊕ *Web address*, ✉ *Postal address* and ✍ *Note*, and key in the text item.

   or open *Images* 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.

■ 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 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.

- To personalise the profile, select *Personalise*. Select the setting you want to change and make the changes.

■ Settings (Menu 5)

Personal shortcuts

You can add some specific functions to your personal shortcut list and activate them either in standby mode by pressing the right selection key (**Go to**) or accessing the *Go to* menu. Refer to Standby mode on page 10 and Go to (Menu 13) on page 50.

Press **Menu**, and select *Settings* and *Personal shortcuts*.

To select the name for the right selection key displayed in standby mode, select *Right selection key*. Select *Go to* or *Contacts*.

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

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

Screen saver

Press Menu, and select *Settings* and *Screen saver*. With *Select s. saver* you can choose an animation or a still image as screen saver from *Gallery*. Select in *Timeout* after which time the screen saver will be activated. Select *On* to activate the screen saver.

Independent of the screen saver settings, for power saving a digital clock view will overwrites the whole display when for a certain time no function of the phone has been used. See Power saving on page 11.

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.

Call settings

Call divert

Press **Menu**, and select *Settings*, *Call settings* and *Call divert* (network service) to divert your incoming calls. For details, contact your service provider.

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

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 ①, 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 2ᴬᴮᶜ to 9ᵂˣʸᶻ, can be dialled by pressing and holding the corresponding number key.

Call waiting

Press **Menu**, and select *Settings*, *Call settings* and *Call waiting*. Select *Activate* and the network will notify you of an incoming call while you have a call in progress (network service). See Call waiting on page 17.

Summary after call

Press **Menu**, and select *Settings*, *Call settings* and *Summary after call*. Select *On* and the phone will briefly display the duration and cost (network service) of the last call.

Send my caller identity

Press **Menu**, and select *Settings*, *Call settings* and *Send my caller identity*. Select *Yes* and your phone number will be displayed to the person you are calling (network service) or select *Set by network*.

Line for outgoing calls

Line for outgoing calls is a network service to select the phone line 1 or 2 for making calls. Only shown if supported by your SIM card.

Phone settings

Language

Select the language the phone shall display. Press **Menu**, and select *Settings*, *Phone settings* and *Phone language*. With *Automatic* the language according to the information on the SIM card is used.

Automatic keyguard

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.

Press **Menu**, and select *Settings*, *Phone settings* and *Automatic keyguard*. 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 14.

Cell info display

Press **Menu**, and select *Settings*, *Phone settings* and *Cell info display* (network service). Select *On* and the phone indicates when it is used in a cellular network based on Micro Cellular Network (MCN) technology.

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.

Network selection

Press **Menu**, and select *Settings*, *Phone settings* and *Network selection*. With *Automatic* the phone automatically selects one of the cellular networks available in your area. With *Manual*, you can select a network that has a roaming agreement with your home network operator.

Confirm SIM service actions

See SIM services (Menu 14) on page 50.

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*.

Start-up tone

To set the phone to play or not to play a start-up tone when the phone is switched on, press **Menu**, and select *Settings*, *Phone settings* and *Start-up tone*.

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 image* 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*.

Operator logo

To set your phone to display or hide the operator logo, press **Menu**, and select *Settings*, *Display settings* and *Operator logo*.

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*, *Rhythmic backlight alert*, *Vibrating alert*, *Message alert tone*, *Keypad tones* and *Warning tones*. You can find the same settings in the *Profiles* menu, see Profiles (Menu 4) on page 32.

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.

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 (call barring, closed user group and fixed dialling), 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* and *Security settings*. Select

- *PIN code request* to set the phone to ask for your PIN code every time the phone is switched on. Some SIM cards do not allow turning this function off.

- *Call barring service* (network service) to restrict incoming calls to and outgoing calls from your phone.

- *Fixed dialling* to restrict your outgoing calls to selected phone numbers if this function is supported by your SIM card.

- *Closed user group*. With this network service you can specify a group of people whom you can call and who can call you.

- *Security level*. The preset security code is 12345.

  Select *Phone* to set the phone to ask for the security code when a new SIM card is inserted. Select *Memory* and the phone will ask for the security code when the SIM card's memory is selected and you want to change the memory in use.

- *Access codes* to change the security code, PIN code, PIN2 code or barring password.

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.

■ Alarm clock (Menu 6)

You can set the phone to alarm at a desired time. Press **Menu**, 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.

■ Gallery (Menu 7)

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 27. 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*, *Send*, *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.

■ Calendar (Menu 8)

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** 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**, and select *Calendar*. Scroll to the date you want, press **Options** and select *Make a note*. Select one of the following note types: ▤ *Reminder*, ☎ *Call* 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.

■ Games (Menu 9)

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 42.

Game downloads

Press **Menu**, and select *Games* and *Game 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 48.

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

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

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

Game settings

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

■ Applications (Menu 10)

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.

- *Connect via* the specific default settings that some applications need for the browser.

- *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 *App. 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 48. Select the appropriate bookmark to connect to the desired page. For the availability of different services, pricing and tariffs, contact your service provider.

- Press **Menu**, and select *Services* and *Download links*. Select to download an appropriate application or game. See Downloading on page 48.

- Use the game download functionality, see Game downloads on page 41.

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

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

Note that when downloading 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.*

■ Extras (Menu 11)

Your phone provides some practical functions in this menu.

> **Note:** Your phone must be switched on to use the functions in *Extras* menu. Do not switch the phone on when wireless phone use is prohibited or when it may cause interference or danger.

Calculator

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

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

Press **Menu**, and select *Extras* and *Calculator*.

Making calculations

The keys 1 - 9 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).

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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 *Extras* 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.

Stopwatch

Press **Menu**, and select *Extras* and *Stopwatch*. Select *Split timing* or *Lap timing*, and press **Start**. Press **Split** to record a split time, **Lap** to record a lap time or **Stop** to finish timing. You can scroll through the recorded times shown below the overall time.

When the timing is stopped, you can press **Options** for *Start* (split times only), *Save*, or *Reset*. If you select *Start*, timing continues from the previously timed event. If you select *Reset*, the split or lap times are reset.

Setting the timing to continue in the background

While the time is running, press ⬈ . When the stopwatch is on, ⏲ is shown in standby mode. To view the timing, key in the *Stopwatch* menu and select *Continue*.

Running the stopwatch consumes battery. Be careful not to let it run unintentionally in the background.

■ Services (Menu 12)

Some services are specially designed for mobile phones.

With your phone's multi-mode browser you can view the services that use Wireless Mark-Up Language (WML) or extensible HyperText Markup Language (xHTML) on their pages.

Check the availability of these services, pricing and tariffs with your the service provider and network operator. They will also give you instructions on how to use their services.

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.

Setting up the phone for a service

You may be able to receive the service settings as an OTA message from the service provider that offers the service that you want to use. You can also key in the settings manually or add and edit the settings with PC Suite.

For more information and for appropriate settings, contact your service provider.

Saving the service settings received as an OTA message

When you receive the service settings as an OTA message, *Service settings received* is displayed.

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

To view the received settings first, press **Options** and select *View* and then save the settings. To discard the settings press **Options** and select *Discard*.

Keying in the service settings manually

Press **Menu**, and select *Services*, *Settings*, *Connection settings* and *Active service settings*. Select the set where you want to save the service settings and press **Activate**.

Select *Edit active service settings* and then select and key in the settings according to the information you have received from your service provider. Note that some of the settings depend on the *Bearer settings* menu.

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Making a connection to a service

First activate the settings of the service, press **Menu**, and select *Services*, *Settings* and *Connection settings*. Select *Active service settings* and scroll to the set you want to use and press **Activate**.

To make a connection to the service use one of the following ways:

- Open the start page of the service: Press **Menu**, and select *Services* and *Home*, or in standby mode press and hold ☐☺ .

- Select a bookmark of the service: Press **Menu**, and select *Services*, *Bookmarks*, and select a bookmark.

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

- Key in the address of the service: Press **Menu**, and select *Services* and *Go to address*, and key in the address.

Browsing the pages of a service

The function of the phone keys may vary in different services. Follow the text guides on the phone display.

During a GPRS connection the indicator **G** is shown. If you receive a call or a text message, or make a call during a GPRS connection, the indicator ☎ will be shown on the display to indicate that the GPRS connection is suspended (on hold).

Using the phone keys while browsing
- Use the scroll keys ︵ or ︶ to browse the page.

- To select a highlighted item for example a link shown as underlined text, press ︶ .

- To key in letters and numbers, press the keys ☐☺ - **9**wxyz and to key in special characters, press the key ✳+.

Some of the following options may be available while browsing. Press **Options** and select the desired option: *Home* (start page of the selected service), *Bookmarks* (see page 48), *Add bookmark*, *View image* (or *View images*), *Go to address*, *Shortcuts* (to open a new list of options that are, for example, specific to the page, *Service inbox* (see page 48), *Appear. settings* (see page 47), *Cookie settings* (see page 47), *Use detail*, *Reload*,

Clear the cache (see page 49), *Security info*, *Quit* (to disconnect the connection, see page 47). The service provider may also offer other options.

> **Note:** If you have tried to access or have accessed confidential information requiring passwords (for example, your bank account), clear the cache of your phone after each use.

To empty the cache, see Clearing the cache memory on page 49.

Direct calling

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

Disconnect from a service

To quit browsing and to end the connection, press **Options** and select *Quit*. When *Quit browsing?* is shown, press **Yes**.

Alternatively, press ⬃ . If *GSM data* is the selected data bearer, press ⬃ twice. The phone ends the connection to the service.

Appearance settings of the multi-mode browser

Press **Menu**, and select *Services*, *Settings* and *Appearance settings*, or while browsing, press **Options**, and select *Other options* and *Appear. settings*. Select *Text wrapping* and *On* to let the text continue on the next line if it cannot be shown on one line. If you select *Off*, the text is abbreviated if it is too long to be shown on one line. Select *Show images* and *No* and any pictures appearing on the page are not shown. This can speed up the browsing of pages that contain a lot of pictures.

Selecting Cookie settings

A cookie is data that a site saves in your phone's browser cache memory. Cookies will be saved until you clear the cache memory, see Clearing the cache memory on page 49.

While browsing, press **Options**, and select *Other options* and *Security*, or in standby mode, press **Menu**, and select *Services*, *Settings* and *Security settings*. Select *Cookies* and select *Allow* or *Reject*.

Bookmarks

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

While browsing, press **Options** and select *Bookmarks*, or in standby mode, press **Menu**, and select *Services* and *Bookmarks*.

Scroll to the bookmark you want to use and press **Options** (or ⬎) to connect to the page associated with the bookmark, or press **Options** for the following functions: *Go to*, *View*, *Edit*, *Delete*, *Send*, *New bookmark*.

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

Receiving a bookmark

When you have received a bookmark as an Over The Air (OTA) message, press *Save* to save it to the bookmark list, or press **Options** and *View* or *Discard*.

Downloading

To download more tones, images, games or applications to your phone, press **Menu**, and select *Services* and *Download links*. Select *Tone downloads*, *Image downloads*, *Game downloads* or *App. downloads* to download tones, images, games or applications, respectively.

Download content only from the sources you trust. See also Game downloads on page 41 and Downloading an application on page 42.

Service inbox

The phone is able to receive service messages sent by your service provider (network service).

To set the phone to receive service messages: Press **Menu**, and select *Services*, *Settings*, *Service inbox settings*, *Service messages*, and *On*.

To view a received service message, press **View**. Or press **Exit** to move the message in the *Service inbox*. To access the *Service inbox* later, press **Menu**, and select *Services*, and *Service inbox*, or while browsing, press **Options**, and select *Other options* and *Service inbox*. Press **Options** and select *Retrieve* to activate the multi-mode browser and download the indicated content, or select *Details* or *Delete*.

Clearing the cache memory

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

Press **Menu**, and select *Services*, and *Clear the cache*. While browsing, press **Options**, and select *Other options* and *Clear the cache*.

Authority certificates

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

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

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

Viewing the list of authority certificates

Press **Menu**, select *Services*, *Settings*, *Security settings* and *Authority certificates*.

See also *Security info* in Using the phone keys while browsing on page 46.

Security indicator

If the security indicator 🔒 is displayed during a connection, the data transmission between the phone and the gateway or server (identified by the *IP address* in the *Edit active service settings*) is encrypted.

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

■ Go to (Menu 13)

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

If you wish to add some functions to the list, press **Add**, scroll to the function that you want to add and press **Mark**.

To remove or add more functions on the list, see Personal shortcuts on page 33.

■ SIM services (Menu 14)

Your SIM card may provide additional services that you can access in this menu that is shown only if it is supported by your SIM card. The name and contents of the menu depends on the available services.

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

Note that accessing these services may involve sending a text message (SMS) or making a phone call for which you may be charged. See also *Confirm SIM service actions*, menu 4-3-6.

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 PC 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 forwarded.

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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

Weight....................................85 grams (3 ounces) with BL-5C battery

Battery....................................850 mAh Li-Ion Battery

Networks...............................Wireless networks GSM 900, 1800 and1900

Size (volume)........................4.21 cubic inches (69 cc)

Frequency range (Rx)

....EGSM 900: 880 - 915 MHz

....GSM 900: 890 - 915 MHz

....GSM 1800: 1710 - 1785 MHz

....GSM1900: 1850 - 1910 MHz

Frequency range (Tx)

....EGSM 900: 925 - 960 MHz

....GSM 900: 935 - 960 MHz

....GSM1800: 1805 - 1880 MHz

....GSM1900: 1930 - 1990 MHz

Tx output power..................2 W (max)

Battery voltage....................3.7 V DC

Number of channels...........299

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.

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• 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 0.72 W/kg and when worn on the body, as described in this user guide, is 0.58 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 PPIRH-19

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 7/8 inch (2.2 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 7/8 inch (2.2 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

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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

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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

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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/

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