

# Nokia 2220

## User Guide

<b>What information is needed?</b>	<b>Numbers</b>	<b>Where is the number?</b>
<b>My number</b>		Wireless service provider
<b>Voice mail number</b>		Wireless service provider
<b>Wireless provider's number</b>		Wireless service provider
<b>Provider's customer care</b>		Wireless service provider
<b>Model number</b>	2220	Label on back of phone (under battery)
<b>Phone type</b>		Label on back of phone (under battery)
<b>Electronic serial number (ESN)</b>		Label on back of phone (under battery). See "Find phone information" on page 8.

The wireless phone described in this guide is approved for use in TDMA and AMPS networks.

## LEGAL INFORMATION

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US Patent No 5818437 and other pending patents.

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

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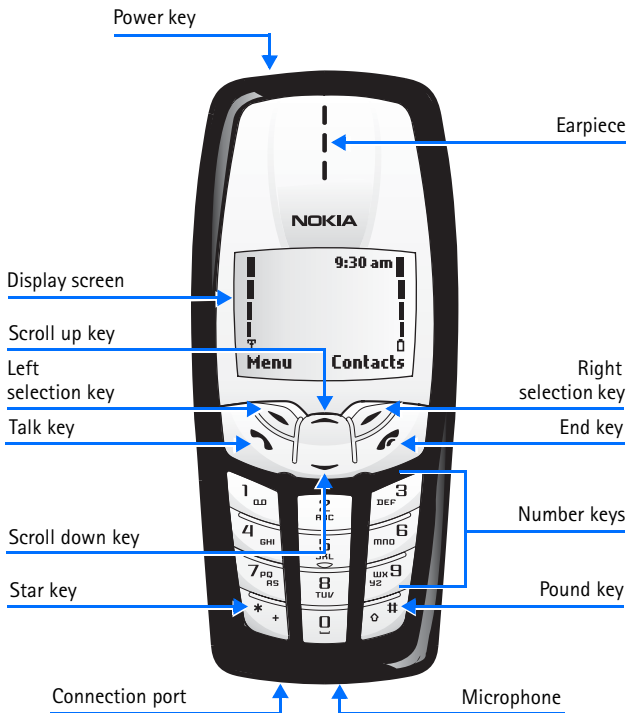
## EXPORT CONTROLS

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.

# Nokia 2220 phone at a glance



## • QUICK GUIDE

Action	Description
Make a call	Enter a phone number, and press the <b>Talk</b> key.
Answer a call	Press the <b>Talk</b> key, or select <b>Answer</b> .
Answer call during call	Press the <b>Talk</b> key.
End a call	Press the <b>End</b> key.
Decline a call	Press the <b>End</b> key to send the call to voice mail.
Mute a call	Select <b>Options &gt; Mute</b> during a call.
Redial	Press the <b>Talk</b> key twice.
Adjust call volume	During a call, press the <b>Scroll up</b> key to increase volume or the <b>Scroll down</b> key to decrease volume.
Use in-call menu	Select <b>Options</b> during a call.
Save name and number	Enter a number, select <b>Save</b> , enter a name, and select <b>OK</b> .
Use 1-touch dialing	Press and hold a key (2–9). You must assign a key to a number in contacts.
Look up a name	Select <b>Contacts &gt; Find</b> .
Check voice mail	Press and hold the <b>1</b> key (contact your service provider for details).
Write text messages	Select <b>Menu &gt; Messages &gt; Write Message</b> . Write the message.
Send text messages	From the message entry screen, select <b>Options &gt; Send</b> . Enter the recipient's number and select <b>Send</b> . <b>Note:</b> Message service is dependent on the service provider.
Read new message	If <b>Message received</b> appears on the display, select <b>Read</b> , highlight the message, then select <b>Read</b> again.
Reply to a message	While reading a message, select <b>Options &gt; Reply</b> . Select either <b>As message</b> or <b>As e-mail</b> . Write a reply, and select <b>Options &gt; Send</b> .
Press	Press a key briefly and release it.
Press and hold	Press a key, hold it for two to three seconds, and release it.



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# 1 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

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



## INTERFERENCE

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



## SWITCH OFF IN HOSPITALS

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



## SWITCH OFF IN AIRCRAFT

Wireless devices can cause interference in aircraft.



## SWITCH OFF WHEN REFUELING

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



## SWITCH OFF NEAR BLASTING

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



## USE SENSIBLY

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



## QUALIFIED SERVICE

Only qualified personnel may install or repair phone equipment.



## ACCESSORIES AND BATTERIES

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



## WATER-RESISTANCE

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



## CALLING

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



## EMERGENCY CALLS

Ensure the phone is switched on and in service. Press the **End** key as many times as needed (for example, to exit a call, to exit a menu) to clear the display. Enter the emergency number, then press the **Talk** key. Give your location. Do not end the call until told to do so.

## 2 About your phone

### • WIRELESS NETWORK SERVICES

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



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

### • REGISTER YOUR PHONE

Make sure to register your phone at [www.warranty.nokiausa.com](http://www.warranty.nokiausa.com) or 1-888-NOKIA-2U (1-888-665-4228) so that we can better serve you, if you should need to call the Nokia Customer Care Center or have your phone repaired.

### • UPDATES

From time to time, Nokia updates this user guide to reflect changes or corrections. The latest version may be available at [www.nokia.com/us](http://www.nokia.com/us).

Also, an interactive tutorial may be available at [www.nokiahowto.com](http://www.nokiahowto.com).














### • TERMS

This guide uses certain terms for the parts of the phone and the steps that you are asked to perform.

- **Highlighted** options on the screen are enclosed within a dark bar. The selection keys are used to act on the highlighted option.
- **Selection keys** are used to select various phone options.
- **Select** means to press the **Left selection key** or the **Right selection key**. In the example to the right, press the **Left selection key** to select **Menu**, or press the **Right selection key** to select **Contacts**.
- **Scroll keys**, located just below the screen, are used to move up and down in the menus and contacts.

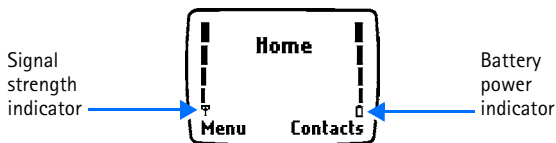


## • ICONS

Icon	What it means
	An active call is in progress.
	Silent has been selected as the current profile.
	The phone keypad is locked to prevent any accidental key presses.
	One or more new voice messages are waiting.
	One or more new text messages are waiting. (If blinking, the text message memory is full.)
	Digital service is available.
	Standard text input mode for entering alpha characters. Press # to switch between uppercase and lowercase input.
	
	Predictive text mode for quickly entering text messages. Press # to switch between uppercase and lowercase input.
	
	123 mode. This icon appears when you press and hold # while entering text. You can now enter only numbers (not alpha characters). Press and hold # again to return to text entry mode.
	Special character mode. This appears when you press * while entering text. Once the characters appear, you can select a special character by selecting <b>Insert</b> .
	Alarm clock is set.

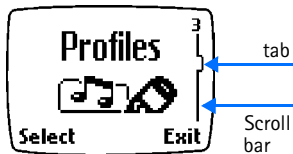
## • START SCREEN

When you switch on your phone, a welcome appears, then you see the start screen. The start screen indicates that the phone is idling or standing by.



## SCROLL BAR

When you press **Menu**, a vertical scroll bar appears on the right side of the screen. This scroll bar has a tab which moves up or down to indicate your location in the menu.



## ANTENNA

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. Hold the phone as you would any other telephone with the antenna pointed up and over your shoulder.

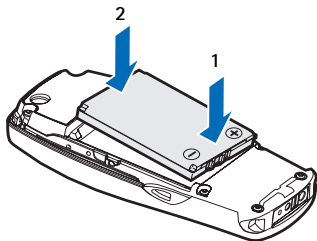


## BATTERY

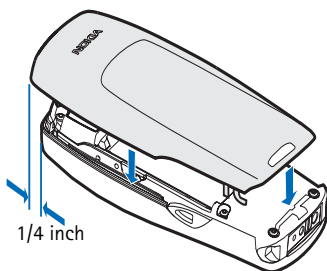
You will need to remove the battery when replacing it, or to view the phone label (located under the battery). For important safety information on using batteries and chargers, see "Accessory safety" on page 59.

### Install the battery

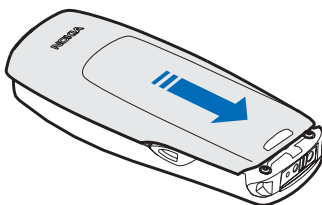
- 1 Place the battery in the compartment with the label side facing up and the golden contact area of the battery aligned with the contact prongs inside the phone.
- 2 Press down on the battery until it snaps into place.



- 3 Align the cover over the back of the phone, placing the end of the cover approximately 1/4 inch past the end of the phone. Lower the back cover onto the phone.



- 4 Press down slightly and slide the cover until it locks into place.



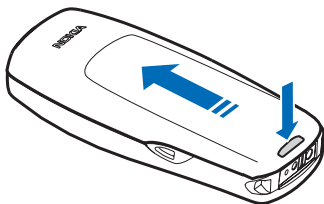
## Remove the battery

If you purchase a new battery or need to access information on the phone label, you may need to remove the battery. Make sure the phone has been turned off for at least 10 seconds.

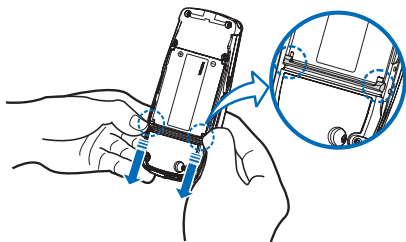


**Important:** Dispose of batteries according to applicable local regulations (for example, recycling). Do not dispose as household waste.

- 1 Hold the phone with the back facing you. At the bottom corners of the phone, press the battery cover with your thumb and forefinger.
- 2 Place the thumb of your other hand in the groove, approximately 1 inch from the top of the phone. Apply pressure with the thumb, slide the back cover toward you to release it, then remove it.



- 3 Look for the battery latch that runs along the end of the battery nearest the top of the phone.
- 4 Place your thumbs on the corners of the latch and press away from the battery.
- 5 Once the battery is released from the latch, it will lift slightly so that it can be removed from the phone.

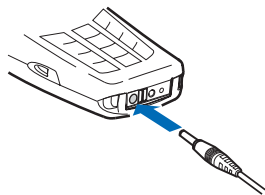


**Warning:** Use only your hands to remove the battery. Do not use any objects that may damage the phone or the battery.

## Charge the battery

Before you begin using your phone, you need to prepare your phone by charging the battery.

- 1 Plug the charger into a standard wall outlet; then connect the lead from the charger to the bottom of the phone.
- 2 The battery power indicator (or battery bar) appears on the screen and starts scrolling.  
**Charging** appears if the phone is on.
- 3 When the battery bar stops scrolling, the battery charge is complete.  
**Battery full** appears if the phone is on.
- 4 Disconnect the charger from the phone.



## IMPORTANT BATTERY INFORMATION

Use the following guidelines to obtain the best performance from your battery:

- With your phone turned off, charge your new battery for three hours before its first use. Use the battery until it is fully discharged. Repeat this procedure twice for a total of three charging cycles.
- Battery operation time may be less than the estimated times during the first charges. This condition is normal.
- If the battery is fully discharged, the scrolling bars may not appear immediately when charging.
- After the first charge, you can make and receive calls during the charging cycle, but the calls interrupt the charge. When the phone call ends, the charge will resume.
- The bars on the screen stop scrolling and remain constant when the phone is

charged. If you leave the phone connected to the charger, the battery receives an additional charge.



**Note:** The battery will accept a “trickle charge” for an additional two hours. See “Reference information” on page 52 for more information on batteries.

- Charging time depends on the charger and battery used. See “Batteries” on page 60 for charging, talk, and standby times.

## PROLONG BATTERY LIFE

For good operation times with NiMH batteries, discharge the battery from time to time by leaving your phone switched on until it turns itself off. Ignore any messages to recharge your battery and let the battery completely discharge.



**Important:** Do not attempt to discharge the battery by any other means.

## • HEADSET

Your phone is compatible with the HDC-5, HDC-10, HDE-2, and HDB-5 headsets. To connect the headset:

- 1 Plug the headset plug into the bottom of your phone.
- 2 Put the earbud into one ear.

With the headset connected, you can make and answer calls as usual.

The microphone for the headset hangs at the side of your head. Although the microphone may seem far from your mouth, you can speak at a normal volume.



**Note:** You can set your phone to answer automatically when the headset is connected. See “Automatic answer” on page 30 for more information.

## • GET HELP

### Find phone information

We recommend that you have the following available before contacting the Nokia Customer Care Center or the service provider:

- Your phone model number (Nokia 2220)
- ESN (Electronic serial number—located on the label under the battery)
- Your billing address ZIP code
- The phone or accessory in question

The type label is located under the battery inside the back cover. Do not remove or deface the label.



## Contact Nokia

Nokia Customer Care Center, USA	Customer Care Centre, Canada
Nokia Mobile Phones 7725 Woodland Center Blvd. Suite #150 Tampa, Florida 33614  Tel: 1-888-NOKIA-2U (1-888-665-4228) Fax: 1-813-249-9619  For TTY/TDD users: 1-800-24-NOKIA (1-800-246-6542)	Nokia Products Ltd. 601 Westney Road South Ajax, Ontario L1S 4N7  Tel: 1-888-22-NOKIA (1-888-226-6542) Fax: 1-905-427-1070  Web site: <a href="http://www.nokia.ca">www.nokia.ca</a>

## Contact your service provider

You may want to save your service provider's customer support telephone number into your phone. This will let you easily contact your provider if you have questions or issues with your phone service.

## Accessibility information

Nokia is committed to making mobile phones easy to use for all individuals, including those with disabilities. Nokia maintains an internet site that is dedicated to accessibility solutions. For more information about phone features, accessories and other Nokia products designed with your needs in mind, visit the web site at:

[www.nokiaaccessibility.com](http://www.nokiaaccessibility.com)

## 3 Basic operations

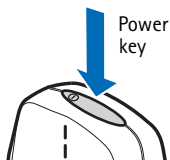
### • SWITCH YOUR PHONE ON OR OFF



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

To switch on the phone, press and hold the **Power** key for 2 seconds.

To switch off the phone, press and hold the **Power** key.



### • MAKE AND ANSWER CALLS

There are several ways to make and answer calls on your phone. You will discover other tips throughout this guide when reading about the phone features.

#### Make a call

- 1 Enter the phone number, including the area code if needed.
- 2 Press the **Talk** key.

#### End a call

Press the **End** key to end the call or to cancel the call attempt.

#### Answer a call

When your phone rings, press the **Talk** key, press one of the scroll keys twice, or press any key except the **Power** key or the **End** key.



**Note:** If Keyguard is active, the keypad will unlock when you have an incoming call.

#### Silence an incoming call

Press the **End** key or select **Silent** to mute the ringing of an incoming call.

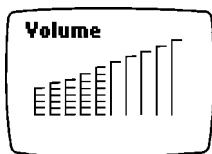
#### Redial the last-dialed number

Press the **Talk** key twice.

## Adjust the earpiece volume

Adjust the earpiece volume during a call by pressing the scroll keys located just below the screen.

- Press the **Scroll up** key to increase the volume.
- Press the **Scroll down** key to decrease the volume.



## • LOCK THE KEYPAD

Keyguard disables your keypad to prevent accidental key presses.

- To lock the keys, select **Menu** and press **\***.
- To unlock the keys, select **Unlock** and press **\***.
- To answer a call when Keyguard is active, select **Answer** or press the **Talk** key. If you are connected to a headset or loopset, press and hold the **End** key to end the call.
- After you end the call, Keyguard automatically becomes active again.
- If you need the phone lights while Keyguard is on, press the **Power** key to quickly switch the lights on for 15 seconds.
- Connecting your phone to a car kit automatically disables Keyguard.



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

## • SELECT SILENT PROFILE

If you do not want the phone to disturb others, you can select the profile in which the ringing tone and all other tones are silenced.

- 1 At the start screen, quickly press and release the **Power** key.
- 2 Scroll to **Silent** and select **Select**.

## • IN-PHONE HELP

Many menu items have brief help text. To view the help text, scroll to the menu item and wait for about 15 seconds. Select **More** or press the **Scroll down** key to continue reading the text. Select **Back** to exit, or wait a few seconds to return to the current menu.

## • MENUS

A menu is a list of choices you can make to change settings on your phone or use various phone features. Each menu can contain several levels of submenu. You can use menus and submenus two ways: by scrolling or by using a shortcut. This guide uses the scroll method when describing how to use the phone features.

### Scroll method

- 1 At the start screen, select **Menu**; then scroll through the menus using the **Scroll up** and **Scroll down** keys.
- 2 Use the scroll and selection keys to navigate the submenu.
- 3 Press the **End** key to return to the start screen.

For example, when you see "From the menus, select **Profiles > Silent**," the scrolling method is as follows: at the start screen, press the **Left selection** key (under the word **Menu**), scroll to **Profiles**, press the **Left selection** key (under the word **Select**), scroll to **Silent**, and press the **Left selection** key (under the word **Options**).

### Shortcuts

Menus and options are numbered so that you can quickly find your way to an option. The numbers appear in the top right corner of the screen and show your location in the menu.

- 1 Select **Menu**.
- 2 Within 3 seconds, enter the first number of the menu function you want to access.
- 3 Repeat until you have entered all the numbers.

For example, to select the **Silent** profile, select **Menu 3-2-1**.

### Menu Tips





- You can scroll upward to quickly access the last option in a menu list.
- You can return to the previous menu level by pressing **Back**.
- To exit a menu and return to the start screen, press the **End** key. If you leave a menu by pressing the **End** key, you cancel any changes you made.
- Some menus or menu options may not appear or may appear in a different order. Ask your service provider for details.

## 4 Text entry

You can use two methods for entering text and numbers.

- **Standard mode** is the only way to enter names into contacts and to rename caller groups.
- **Predictive text input** is a quick and easy method for writing messages.

Press # to switch predictive text on or off and to use predictive text in various modes. Press and hold # to switch between text and numeric entry. As you press #, the following icons (not the descriptions) appear in the upper left of the display:

Icon	Indicates...
	Uppercase text. Predictive text is <b>Off</b> .
	Lowercase text. Predictive text is <b>Off</b> .
	Uppercase text. Predictive text is <b>On</b> .
	Lowercase text. Predictive text is <b>On</b> .

### • STANDARD MODE

#### Enter text (Abc)

- Press a key once to insert the first letter on the key, twice for the second letter, etc. If you pause briefly, the last letter in the display is accepted and the phone awaits the next entry.
- Select **Clear** to backspace the cursor and delete a character.
- Select and hold **Clear** to backspace continuously and delete characters.
- Press the **0** key to enter a space and accept a completed word.
- Press the **1** key to enter a period (.).
- Press the **1** key repeatedly to cycle through special characters. Pause to insert the displayed character.
- Press **\*** to display all special characters. See "Punctuation and special characters" on page 15.

#### Switch to and from numeric entry (123)

To switch to **123** mode from **Abc** mode, press and hold # at any message entry screen until the icon in the upper left corner of the display switches from **Abc** to **123** (or vice versa).

## ● PREDICTIVE TEXT INPUT

Predictive text input allows you to enter text quickly using your keypad and the built-in phone dictionary.

### Activate predictive text

- 1 At any text entry screen, select **Options > Predictive text**.
- 2 Select the language of your choice.

### Enter text

- For each letter of the word that you want to spell, press the corresponding key on your keypad only *once*, even if the letter you want is not the first letter on the key. The phone predicts the word you are trying to spell.
- If a displayed word is not correct, press \* to see other matches. To move forward through a list of matches, keep pressing \*.
- Press the **0** key to accept the word, enter a space, and begin writing the next word.
- If **?** appears after a word, select **Spell** to add the word to the dictionary. See "Add new words to the dictionary" on page 14.
- Press the **1** key to insert a period into your message.
- Press and hold \* to display special characters. See "Punctuation and special characters" on page 15.

### Add new words to the dictionary

If you encounter a word that predictive text does not recognize, a question mark (?) follows the word and **Spell** appears in the lower left of the display.

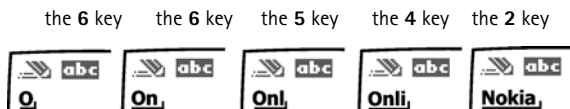
Select **Spell**, enter your new word using the keypad, and select **OK**. The word is added to the dictionary and to the message that you are writing.

Keep these factors in mind when adding words:

- New words that you accept by selecting **OK**, the **0** key, or deleting the space between two words are saved to the dictionary.
- Depending on the language and the length of the words, you may be able to add hundreds of words to the dictionary.
- When the dictionary is full, the most recent addition replaces the first.

### Predictive text example

To write *Nokia* with predictive text **on** and with the English dictionary selected, press each of the following keys *once*:



The illustration above simulates your display each time a key is pressed.

## ● PUNCTUATION AND SPECIAL CHARACTERS

While at any text entry screen, press \* to display special characters (press and hold \* if predictive text is on).

Navigate special characters using the 2, 4, 6, and 8 keys much as you would a joystick. Once a character is highlighted, press the 5 key to insert the character into your message.

To enter a symbol while adding a name to the phone book, press \*.

To add a special character for creating a number string in the number box, press \*. See "Touch tone strings" on page 38.

## 5 Contact list

The contact list can store up to 200 entries. An entry can consist of a number only or a name and a number. An entry can also include an e-mail address.

### • CONTACT LIST OPTIONS

At the start screen, select **Contacts** to access the following options:

**Find**—Search for a specific entry.

**Add new**—Add a new contact to your contact list.

**Delete all**—Delete names and numbers one by one or all at once.

**Options**—Go to options for memory status and scrolling view.

**1-touch dialing**—Assign up to eight keys for speed dialing.

### • SAVE NAMES, NUMBERS, AND E-MAIL ADDRESSES

For information on entering text, see “Text entry” on page 13.

#### **Quickly save a name and number**

- 1 Enter the phone number using the keypad; then select **Save**.
- 2 Enter a name and select **OK**.

#### **Save an entry using the contact list menu**

- 1 At the start screen, select **Contacts > Add new**.
- 2 Enter a name; then select **OK**.
- 3 Enter a number; then select **OK**.

#### **Save an e-mail address to an existing contact**

- 1 Find the name to which you want to add an e-mail address.
- 2 If you are not in the **Name+number** view, select **Details**.
- 3 Select **Options > E-mail address**.
- 4 Enter the e-mail address, and select **OK**.



## ● RECALL NAMES AND NUMBERS

1 At the start screen, select **Contacts > Find**; then enter one or two letters of the name you want to recall.

2 Select **Find**; then scroll to the appropriate entry.

You may want to use some of these alternate methods for recalling a number.

- At the start screen, select **Contacts**, enter the first letter of the name, and scroll to the name.
- At the start screen, press one of the scroll keys to enter your list of names, and scroll to the name you want to dial.
- At the start screen, press the **Talk** key to access a list of your last ten dialed calls; then scroll to the one you want to dial.

## ● MAKE A CALL

When a contacts entry is highlighted, press the **Talk** key to dial the number.

## ● EDIT A NAME OR NUMBER

You can edit a name, a number, or both.

- 1 Recall the name or number you want to edit.
- 2 If you are not in the **Name+number** view, select **Details**.
- 3 Select **Options > Edit**.
- 4 Edit the name or number and select **OK**.

## ● DELETE NAMES AND NUMBERS

Deleting stored names and numbers removes them from your phone. Once you delete an item, you can restore it only by re-entering it.

### Individual entries

- 1 Recall the contact list entry you want to delete.
- 2 If you are not in the **Name+number** view, select **Details**.
- 3 Select **Options > Delete > OK**.

### Entire contents

- 1 At the start screen, select **Contacts > Delete all > OK**.
- 2 Enter your security code and select **OK**.

## • CUSTOMIZE YOUR CONTACTS VIEW

To change the way you view names and numbers in your contacts list:

- 1 At the start screen, select **Contacts > Options > Contacts view**.
- 2 Select one of the following options:

**Name list**—Displays three names on the screen at a time.

**Name+number**—Only one name and its corresponding number appears on the screen at a time.

**Name only**—Displays individual names only. You can view the corresponding phone number by selecting **Details** and then scrolling up or down.



**Important:** If you select the **Name+number** contacts view, you will not need to select **Details** when working with contact list options.

## • CHECK MEMORY STATUS

To check how much contact list memory is free and how much has been used, at the start screen, select **Contacts > Options > Memory status**.

## 6 Call log

Your phone provides a call log that registers information about calls you make and receive. The call log keeps track of missed, received, and dialed calls. For call log to work properly:

- You must be in a digital network, your service provider must support caller ID, and it must be enabled.
- Your calls cannot be blocked.
- Your phone must be on and within the service area or in a compatible network if roaming.

### • CHECK MISSED, RECEIVED, OR DIALED CALLS

- 1 From the menus, select **Call log**; then select either **Missed calls**, **Received calls**, or **Dialed calls**.
- 2 Scroll to the number you want to view.
- 3 Select **Options**; then select one of the following options:  
**Call time**—Show the time when the call was connected. (You must first set the phone clock.)

**Send message**—Send a text message to the person who called you or whom you called.

**Edit number**—Edit the number and save it with a name to your contact list.

**Save**—Enter a name for the number and save both to your contact list.

**Delete**—Delete the number from the call list.

**View number**—View the number. (The caller's name and number must be stored in the contact list.)

**Call**—Dial the number from the call log.

When the number of a missed, received, or dialed call is highlighted, you can call the number by pressing the **Talk** key.

### • CLEAR CALL LISTS



**Warning:** You cannot undo this operation.

- 1 From the menus, select **Call log > Clear call lists**.
- 2 Select either **All**, **Missed**, **Received**, or **Dialed**.

### • CALL TIMERS

Your phone tracks the amount of time you spend on each call.

## View call durations

- 1 From the menus, select **Call log > Call timers**.
- 2 Select one of the following options:
  - Duration of last call**—Show the call duration of the last call.
  - Duration of all calls**—Show the call duration of all calls that have been made and received since you reset the timers.
  - Clear timers**—Clear all call timers for the currently selected phone number. (Your phone includes separate timers for each number used.) This action cannot be undone.



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

## Clear call timers

- 1 From the menus, select **Call log > Call timers > Clear timers**.
- 2 Enter your security code and select **OK**.

## Turn on a current call timer

You can set your phone to show the running elapsed time while a call is active.

- 1 From the menus, select **Settings > Call settings > Current call timer > On**. From this point on, the timer is active during each call you make or receive. The time appears on the phone screen.
- 2 After a call ends, press any key on the phone keypad to clear the current call time from the screen.

The **All** option clears every number in every list, whereas the other options clear only the numbers associated with that option. For example, the **Dialed** option clears only the numbers associated with calls you previously dialed.

## 7 Messages

Your phone can send and receive voice mail, text and picture messages, and e-mail.

Not all messaging features are available in all wireless networks. Contact your service provider for availability and subscription information.

### • VOICE MAIL

To use voice mail, you must learn the various greetings, passwords, and prompts. Your service provider can provide instructions.


#### Save the voice mailbox number

As part of the network voice mail feature, your service provider gives you a voice mailbox phone number.

- 1 From the menus, select **Messages > Voice messages > Voice mailbox number**.
- 2 Enter your voice mailbox phone number; then select **OK**.

Your voice mailbox number can be up to 32 digits long and is used until you change it. Therefore, if your phone number changes, the voice mail number will probably change also. For further information, contact your service provider.

#### Check for messages

When you receive a voice message, your phone beeps and the message **New voice message** appears on the phone screen, along with the  icon.

If you receive more than one voice mail message, your phone may show the number of messages that you have received. The wireless network provider determines the type of indication you will receive.

#### Listen to your voice messages

The way you listen to your voice messages depends on your service provider. Call your service provider for more information.

To listen to a voice message immediately, select **Listen** and follow the instructions given on the phone.

To store a voice message for later listening, select **Exit**.

To listen to stored voice messages, press and hold the **1** key; then follow the prompts.

## • TEXT, E-MAIL, AND PICTURE MESSAGES

Your phone is capable of a variety of messaging services including text messages (SMS or short message service), picture messages, and e-mail messages. Messaging services are Network Services. Consult your service provider for information on availability, subscribing to and using messaging services.

### Understand messaging

**Message recipients:** The phone to which you send a message must support messages. The recipient may not receive the SMS message you send if the recipient's account is with a different service provider or uses a different protocol.

**Message length:** The maximum length of a sent or received message is 160 characters. Your phone has space for several messages, depending on the length of each message. The maximum length of a message also may depend on the capabilities of the network from which the message originated.

### Message options

There are several options available when working with text, picture, and e-mail messages. The order and availability of options may vary depending on the messaging function and your service provider.

**Send**—Attempt to send the text message to the recipient.

**Settings**—Set **Urgent**, **Read receipt**, **Reply req.**, and **Callback no.** options for the message.

**Save**—Save the message in the archive folder.

**Clear text**—Clear the text in the message editor.

**Exit editor**—Go back to the **Write message** menu.

**Predictive text**—Turn predictive text on and off.

**Insert word**—If predictive text (T9) is activated, you can manually spell a word and insert it into your message.

**Insert number**—Insert numbers into the message.

**Insert symbol**—Access the list of special characters.

**Save picture**—Save a picture to the template folder.

**Matches**—List alternative word choices while using predictive text.

**Details**—When viewing a picture message, view the sender's name and number.

**Preview**—Preview a picture message before sending.

**Edit text**—Add text to a picture message.

**Delete**—Delete a message.

**Forward**—Forward a message.

**Use number**—Use the number associated with a message.

**Replay**—Replay messages you receive.

**Edit recipient**—Edit the e-mail address.

**Edit subject**—Edit the subject of an e-mail message.

## Folders

Your phone has folders for managing text messages. Text message folders are located under the **Messages** menu.

**Inbox**—The inbox stores messages you receive. Messages remain in the inbox until you delete them or save them in the archive folder. You can forward or reply to messages in your inbox.

**Outbox**—The outbox stores messages you have written, sent, edited, and forwarded. Messages in the outbox are not saved messages. As you send new messages, old messages will automatically be removed from the outbox. When message memory is full, one or more messages of the lowest priority are automatically deleted from the outbox. If you want to save a message you have sent, read the message while it is in the outbox and use the **Options** menu to save it to the archive folder.

**Archive**—The archive folder stores messages you have saved. You can save messages to the archive folder from the inbox and the outbox. You can reply to or forward saved messages.

## Delete messages from folders

- 1 From the menus, select **Messages > Delete all**.
- 2 Select either **All read**, **Inbox**, **Archive**, or **Outbox**.
- 3 Enter your security code; then select **OK**.

## • TEXT MESSAGES

### Write and send a text message


- 1 From the menus, select **Messages > Write message**.
- 2 Enter a message of up to 160 characters.  
A counter in the upper right corner of the screen shows the number of characters remaining.
- 3 When you have finished writing the message, select **Options > Send**.

- 4 Enter or recall the recipient's phone number; then select **Send**.



**Note:** When sending messages using 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 center 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.

## Read a text message

When you receive a text message, the phone beeps and displays **Message received** and the  indicator in the upper left corner of the screen.


To read the message immediately:

- 1 Select **Read** to view the message.
- 2 Use the scroll keys to view the whole message, if necessary.
- 3 Once you have finished, press the **End** key to return to the start screen, or select **Options** for other choices, such as **Reply** or **Forward**.

To save the message for later viewing, select **Exit** to move the new message to the inbox.

To read a saved message:

- 1 Select **Messages > Inbox**.
- 2 If you have more than one new message, scroll to the message you want to view.

Messages in the inbox are listed in the order they are received, with the most recent message listed first. Unread messages are indicated by .

## Respond to a text message

There are many options available for working with text messages. For a list of options and their descriptions, see "Message options" on page 22.

### REPLY TO THE MESSAGE

- 1 While reading the message, select **Options > Reply**.
- 2 Select either **As message** or **As e-mail**.  
When replying as e-mail, see "Send an e-mail message" on page 26. When replying as message, see "Write and send a text message" on page 23.

### FORWARD THE MESSAGE

- 1 While reading the message, select **Options > Forward**.
- 2 Select either **As message** or **As e-mail**.  
When forwarding as e-mail, see "Send an e-mail message" on page 26. When forwarding as message, see "Write and send a text message" on page 23.



## SAVE A MESSAGE

While reading the message, select **Options > Save**.


The message is moved to the archive folder.

## DELETE A MESSAGE

While reading the message, select **Options > Delete > OK**.

## WHEN MEMORY IS FULL

When message memory is full, one or more read messages of the lowest priority are automatically deleted. When you receive an emergency message, messages may be deleted from any of your message folders.

If you have more messages waiting at the network,  blinks on the start screen. You can delete old messages to create space for new messages.

# ● PICTURE MESSAGES

Your phone offers five picture messages that you can use to send pictures and text to your friends and family. You can also save a new picture by replacing an existing picture. For possible message options, see "Message options" on page 22.

Each picture message is made up of several text messages.



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

## Send a picture message

- 1 From the menus, select **Messages > Picture messages**.
- 2 Scroll to the picture you want to send; then select **Show**.
- 3 To choose a different picture, select **Back** and scroll to another picture; then select **Show**.
- 4 When you are viewing the picture you want to use, select **Options > Edit text**.
- 5 Enter a text message to send with the picture.  
After you enter the text, you have several options. To view a list of possible options, see "Message options" on page 22.
- 6 To preview the message before sending it, select **Options > Preview**.
- 7 After viewing the message, select **Back**.
- 8 To send the picture and message, select **Options > Send**.
- 9 Enter or recall the recipient's phone number; then select **Send**.

## Receive a picture message

- 1 When your phone displays Picture message received, select **Show**.

- 2 If the picture has a text message with it, scroll up or down to see the entire message.

## Save a picture message

- 1 Select **Show** to view the message; then select **Save**.  
You have the option to replace a current message.
- 2 Scroll to the picture you want to replace; then select **Replace**.

## • E-MAIL MESSAGES

You can send e-mail up to 160 characters in length to anyone with an e-mail address. This is a Network Service.

- Messages sent to you by e-mail arrive as regular text messages. You can use all the options described earlier to save, reply to, or forward a message.
- Contact your service provider to get the e-mail address and gateway number for your phone, and for more information on using e-mail.

## Send an e-mail message

- 1 From the menus, select **Messages > Write e-mail**.



**Note:** If you get a prompt asking you to enter your e-mail gateway number, you must obtain this number from your service provider.


- 2 At the **E-mail address** prompt, enter your recipient's e-mail address or select **Find** to retrieve a saved e-mail address from your phone list.
- 3 Select **OK**.
- 4 Enter a subject (optional) for your e-mail message; then select **OK**.



**Note:** Predictive text is not available when entering an e-mail address or a subject line for your e-mail.

- 5 Enter the text of your message.  
A running total of remaining characters appears in the top right corner of the screen.
- 6 After you finish entering the text of your e-mail, select **Options > Send**.

## Receive an e-mail message

When you receive an e-mail message, the phone makes a sound and displays **Message received** and the  indicator in the upper left corner of the screen.

To read the message, select **Read**.

While reading a received e-mail message, you can choose other options, such as **Reply and Forward**. See "Message options" on page 22.

## Edit an existing e-mail message

Edit an e-mail message by replying to the message or forwarding it. You can edit messages from any folder.

## Reply to an e-mail message

- 1 While reading the message, select **Options > Reply**.
- 2 Select either **As message** or **As e-mail**.  
When replying as e-mail, see "Send an e-mail message" on page 26. When replying as message, see "Write and send a text message" on page 23.

## Forward an e-mail message

- 1 While reading the message, select **Options > Forward**.
- 2 Select either **As message** or **As e-mail**.  
When forwarding as e-mail, see "Send an e-mail message" on page 26. When forwarding as a message, see "Write and send a text message" on page 23.

## 8 Personalization

Your phone can be easily customized to fit your lifestyle. The display language, ringing tones, audio, and accessory settings (among others) can all be modified to suit your needs.

Your phone has various profiles which allow you to customize ringing and alert tones for different environments. Once you modify the profiles, you can activate the profile that is appropriate for your surroundings. For example, you can select the Silent profile while at the movies or the **Outdoor** profile when at a sporting event.

### • PROFILES

Profiles let you set sound settings to match your environment. Pick the profile that suits your current environment: **Normal**, **Silent**, **Meeting**, **Outdoor**, or **Pager**. You can customize any of the profiles.



**Important:** You can select a default profile for each of these accessories: Headset, Handsfree Car Kit, and Loopset. To learn more about accessories, see "Accessory settings" on page 30.

### Select a profile

- 1 Quickly press and release the **Power** key.
- 2 Scroll to the profile you want to use and select **Select**.

### Customize a profile

- 1 From the menus, select **Profiles**.
- 2 Scroll to the profile you want to customize and select **Options > Customize**.
- 3 Select the option you want to customize.

### RINGING OPTIONS

You can choose the type of ring your phone uses to notify you of an incoming call. This setting does not affect any incoming text message alert tones.

From the customization options, select **Ringing options**; then select one of the following:

**Ring**—The phone rings normally.

**Ascending**—Ringing volume gets louder if the phone is not answered.

**Ring once**—The phone rings once to indicate an incoming call.

**Beep once**—The phone beeps once to indicate an incoming call.

**Silent**—The phone makes no sound.

## RINGING TONE

The ringing tone is the sound your phone makes when you receive a call. Your phone contains preprogrammed ringing tones. You can set the ringing tone to a specific sound or tune to personalize how the phone rings. You can also add custom ringing tones to your phone. See "Download a ringing tone" on page 46 for more information.

From the customization options, select **Ringing tone**; then scroll through the available tones and select the one that you want to use.

As you scroll through the ringing tones, you can listen to a sample of each if your current ringing option is not set to **Silent** or **Beep once**.

If you have already chosen a ringing option of either **Silent** or **Beep once**, the ringing tones are already turned off. See "Ringing options" on page 28 for details.

## RINGING VOLUME

You can set the default ringing volume for incoming voice calls and message alert tones.

From the customization options, select **Ringing volume**; then scroll through the volume levels and select the one that you want to use.

## VIBRATING ALERT

You can set your phone to vibrate to indicate an incoming call.

- 1 From the customization options, select **Vibrating alert**.
- 2 Scroll to **On** to activate or **Off** to deactivate, and select **OK**.  
The phone does not vibrate when it is connected to or placed in any charging device.

## MESSAGE ALERT TONE

You can set your phone to use a certain tone to indicate an incoming text message.

- 1 From the customization options, select **Message alert tone**; then scroll through the tone selections.  
The phone plays samples of each selection as you scroll to it.
- 2 When you find the tone you want, select **Select**.

## KEYPAD TONES

Keypad tones set the volume of the tone you hear when you press phone keys.

From the customization options, select **Keypad tones**; then select the level that you want to use.

If you choose **Off**, no keypad tones are heard.

In the **Silent** profile, the keypad tones are turned off.

## WARNING TONES

Warning tones include the sounds your phone makes during error conditions, during confirmations, when the battery is low, and when you need to recharge the battery.

From the customization options, select **Warning tones**; then select either **On** or **Off**.

## Rename a profile

- 1 From the customization options, select **Profile name**.
- 2 Enter the new name and select **OK**.

You cannot rename the **Normal** profile.

## • ACCESSORY SETTINGS

Use your phone with these Nokia accessories:

- Headset (HDC-5, HDE-2, HDB-5, and HDC-10)
- Handsfree Car Kit (CARK-125 and CARK-134)
- Loopset (LPS-3)
- TTY/TDD Adapter (HDA-9)



**Note:** You can select a default profile that will be associated with each accessory, such as **Normal**. However, the **Accessory settings** menu will not appear until after an accessory has been connected to the phone at least once.

## Loopset

- 1 Attach the loopset to the phone.
- 2 From the menus, select **Settings > Accessory settings > Loopset > Use loopset > Yes**.

## Automatic answer

This feature lets your phone answer incoming calls after just one ring when an accessory is connected to the phone.

- 1 From the menus, select **Settings > Accessory settings**.
- 2 Select either **Headset**, **Handsfree**, or **Loopset**.
- 3 Select **Automatic answer > On**.

## Lights (Car kit only)

When your phone is connected to a car kit, you have a choice of having the phone lights on continuously or only when the phone is in use.

- 1 From the menus, select **Settings > Accessory settings > Handsfree > Lights**.
- 2 Select **On** (phone lights on continuously) or **Automatic** (phone lights on only

when in use); then select **OK**.

## Default profile

When you use the headset, car kit or loopset, you can select a default profile.

- 1 From the menus, select **Settings > Accessory settings**.
- 2 Select either **Headset**, **Handsfree** or **Loopset**.
- 3 Select **Default profile**; then select the profile you want.



**Note:** The **Active** profile uses the current profile setting you have selected for your phone.

## ● DISPLAY LANGUAGE

You can choose the phone display language.

- 1 From the menus, select **Settings > Phone settings > Language**.
- 2 Select the language you want.

## ● CLOCK

Your phone contains a real-time clock that can be set two different ways: the clock can use the time information provided by the wireless system or it can be set manually. Once the time is set, you can display the clock on the start screen.

For added convenience, the clock is connected to an alarm clock. See "Alarm clock" on page 44 for additional information.

### Time format

- 1 From the menus, select **Settings > Time settings > Clock > Time format**.
- 2 Select either **24-hour** or **am/pm**.

### Set the clock

- 1 From the menus, select **Settings > Time settings > Clock > Set the time**.
- 2 Enter the time in *hh:mm* format and select **OK**.
- 3 If the current time format is **am/pm**, select either **am** or **pm**.



**Note:** Even if you have selected the **am/pm** format, you can still set the clock in the **24-hour** format.

### Automatic update of time

You can set your phone to update the time from the network when you turn the phone on. If the clock in your phone is 30 seconds or more off the network time, the phone will automatically update to reflect the network time.



**Note:** Automatic update of time is a network dependent feature. Contact your service provider for details and availability.

- 1 From the menus, select **Settings > Time settings > Auto-update of time**.
- 2 Select one of the following options:  
**On**—Update the time automatically.  
**Confirm first**—Request confirmation before updating the time. You can accept or decline the update.  
**Off**—Do not automatically update the time.

## Display or hide the clock

- 1 From the menus, select **Settings > Time settings > Clock**.
- 2 Select either **Hide clock** or **Show clock** (toggles—only one choice appears, depending on the current setting).

## • WELCOME NOTE

You can add a welcome note that your phone displays briefly when you turn it on.

- 1 From the menus, select **Settings > Phone settings > Welcome note**.
- 2 Enter a note, and select **Options > Save**.  
To delete the welcome note, select **Settings > Phone settings > Welcome note > Options > Delete**.

## Restore factory settings

If you have made changes to your phone profiles (settings), you can restore them to their original or factory settings. The memory, timers, language selection, and security code are not reset. However, profile and accessory settings are reset.

- 1 From the menus, select **Settings > Phone settings > Restore factory settings**.
- 2 At the prompt, enter your five-digit security code and select **OK**.



## 9 Advanced calling features

Not all features described in this guide are available in all wireless networks. Contact your service provider for availability of network services.

### • ACTIVE-CALL OPTIONS

Your phone allows you to use a number of features during a call; however, you may not be able to use all options at all times. Also, the order of in-call options may vary.



**Note:** Many in-call options are network dependent features. To use these options, you may need to contact your service provider.

During a call, select **Options** to see the in-call menu choices:

**Lock keys**—Lock the phone keypad during a call.

**Mute**—Mute the phone microphone. This option can affect the microphones of accessories connected to the phone.

**End all calls**—End all active calls.

**Touch tones**—Send touch tones.

**New call**—Make a call while you have a call in progress.

**Menu**—Access the menus.

**Contacts**—Access the contact list.

### Make a new call

To make a new call while already in a call, dial the number and press the **Talk** key.

### End all calls

Press the **End** key.

### Access the contact list

- 1 Select **Options** > **Contacts**.

### Save a name and/or number

- 1 Enter the number you want to save.
- 2 Select **Options** > **Contacts** > **Add new**.
- 3 Add the name and number as you normally would.

### Mute the microphone

Select **Options** > **Mute**.

## Conference calling

While in a call, you can call another number to add a third party to the call.



**Note:** Conference calling is a network dependent feature. Contact your service provider for availability and details.

### CONFERENCE A CALL

- 1 While in a call, dial the number you want to add and press the **Talk** key.
- 2 When the third party answers, press the **Talk** key to connect all three parties.

### DISCONNECT THIRD PARTY

While all three parties are connected, press the **Talk** key to disconnect the third caller while keeping the second party's call active.

### DISCONNECT SECOND PARTY

To disconnect with the second party and remain connected to the third party, have the second party terminate the call on his/her end.

### RECALL A NUMBER FROM THE CONTACT LIST DURING A CALL

- 1 To access the contact list, select **Options > Contacts**.
- 2 Select the number in your contact list; then select **OK** to call the number.

### END A CONFERENCE CALL

To end all calls, press the **End** key.

## • VOICE PRIVACY

The voice privacy feature encrypts the voice channel so that people cannot eavesdrop on your phone conversations.



**Note:** Voice privacy is a network dependent feature. Contact your service provider for more information on this feature.

- 1 From the menus, select **Settings > Network services > Voice privacy**.
- 2 Select **On** to activate, or **Off** to deactivate.

During a call, voice privacy becomes active and notifies you with a beep. A notification message also appears on the screen.

If you turn this feature on and voice privacy becomes inactive, your phone beeps and displays **Voice privacy not active**.



**Note:** Use caution when sending confidential information, if voice privacy is not active.

## • CALL FORWARDING

With call forwarding, you can forward incoming calls to another phone number. Before you can use call forwarding, you must first store the feature codes. Once call forwarding has been activated, **Call forwarding** appears as a menu option.



**Note:** Call forwarding is a network dependent feature. Some networks require that call forwarding be activated manually. Contact your service provider for availability and full details.

### Feature codes

Your network requires separate codes for activating and canceling the various types of call forwarding. Your service provider can provide you with the necessary feature codes for these network services.

Once you store these feature codes in your phone, they are sent automatically to the network when you select one of the call forwarding options from your phone menu. Your phone can store the following types of feature codes:

**Forward all calls**—Forward all incoming calls to the number you specify.

**Forward if busy**—Forward incoming calls when you are in a call.

**Forward if not answered**—Forward incoming calls when you are unable to answer.

**Forward if out of reach**—Forward incoming calls when the phone is out of the network or switched off.

**Cancel all call forwarding**—Cancel all active call forwarding options.

### Store the feature code

- 1 From the menus, select **Settings > Network services > Network feature setting**.
- 2 Enter the feature code and select **OK > Call forwarding**.
- 3 Select the call forwarding option you want; then select **Activate**.
- 4 Enter the feature code for canceling call forwarding; then select **OK**.
- 5 Press the **End key** to return to the start screen.

### Activate or cancel

- 1 From the menus, select **Settings > Network services > Call forwarding**; then select the desired call forwarding option.
- 2 Select **Activate** to activate call forwarding, or **Cancel** to cancel call forwarding.
- 3 If you are activating call forwarding, enter the number to which you want your calls forwarded or select **Find** to recall a number from the contact list; then select **OK**.

## • CALL WAITING

During a call, call waiting beeps to let you know that someone else is calling you. Depending on your caller ID setup, the phone might also display the number of the incoming call. Once call waiting has been activated, **Call waiting** appears as a menu option.



**Note:** Call waiting is a network dependent feature. In some networks the call waiting code must be activated manually. Contact your service provider for availability and full details.

### Store the feature code

- 1 From the menus, select **Settings > Network services > Network feature setting**.
- 2 Enter the feature code issued by your service provider and select **OK**.
- 3 Select **Call waiting > Activate**.

### Activate call waiting

From the menus, select **Settings > Network services > Call waiting > Activate**.

### Manage calls

Call waiting works with both local and long distance calls.

- To answer an incoming call, press the **Talk** key.
- To switch from one call to another, press the **Talk** key.
- To end both calls, press the **End** key.

## • SEND OWN CALLER ID

This feature allows you to block caller ID when you call someone (your number will not be displayed on their caller ID). This feature works on a call-by-call basis. You must enable this feature each time you want to block the sending of your own number to the recipient's caller ID.



**Note:** This feature is available only when supported by the wireless network and may not function if you are roaming.

### Store the feature code

Before you can use the **Send own caller ID** call feature, you must store the feature codes for activating this feature. Once the code is stored in your phone, it is sent automatically to the network when you select this option from your phone menu.

- 1 From the menus, select **Settings > Network services > Network feature setting**.

- 2 Enter the feature code issued by your service provider and select **OK**.
- 3 Select **Send own caller ID > Yes**.

## Place a call without sending your number

- 1 From the menus, select **Settings > Network services > Send own caller ID > No**.
- 2 Enter the desired phone number, or press **Find** to recall a phone number from the contact list; then select **OK**.  
The phone automatically inserts the feature code into the dialing string and dials the phone number. The phone you are calling will not display your phone number through caller ID.

## ● SELECT A PHONE NUMBER

Your service provider programs your phone number and system information into your phone memory when your phone is first activated. Your phone can hold up to three numbers. This means that your phone can be activated in three different service areas. For example, your phone could be activated in Dallas, Chicago, and New York. Each service area would assign a different phone number or account to your phone.

You must select a phone number for your home system. Only one phone number can be active at a time. If you travel outside your home system, you can choose another number. One phone number is usually enough if your service provider has service or roaming agreements for each area in which you wish to use your phone. Contact your service provider for details.

You need at least one active number to make calls. You cannot change from one phone number to another during a call.



**Note:** Phone number selection is a network dependent feature. Some networks may not support more than one number. Contact your service provider for availability and full details.

## Select the phone number

- 1 From the menus, select **Settings > Network services > Own number selection**.
- 2 Select the phone number you want to use.

## ● AUTOMATIC REDIAL

When the wireless network is busy or unavailable, automatic redial instructs your phone to retry the call. However, this feature does not automatically retry a number when the number you are calling is busy.

From the menus, select **Settings > Call settings > Automatic redial > On**.

If the system is busy, your phone makes three additional call attempts. If you want to stop the automatic redial process before the last attempt, press the **End** key or select **Quit**.

## ● 1-TOUCH DIALING

You can assign a name from your contact list to a 1-touch dialing location, using keys 2–9. (The 1 key is used exclusively to dial your voice mailbox.) Once assigned, the phone number you associate with that key is dialed automatically when you press and hold the key.

### Assign a 1-touch key

- 1 At the start screen, select **Contacts > 1-touch dialing**.
- 2 Scroll to a number that has the message **(empty)** and select **Assign**.
- 3 Select the name and number to which you want to assign this key.
- 4 To call a number using 1-touch dialing, press and hold the appropriate key for a few seconds.

### Change numbers

- 1 At the start screen, select **Contacts > 1-touch dialing**.
- 2 Scroll to the key you want to change and select **Options > Change**.
- 3 Scroll through the contact list and select the new number.

### Delete numbers

- 1 At the start screen, select **Contacts > 1-touch dialing**.
- 2 Scroll to the key you want to delete and select **Options > Delete > OK**.

## ● TOUCH TONE STRINGS

Your phone allows you to create special sets of numbers known as touch tone strings which will dial a series of digits after a "wait" or a "pause." For example, you can program your phone to send your account number while you are banking by phone.

You must be in the **123** mode to enter these characters. Enter the numbers as usual. When you want to insert the special characters, press **\*** repeatedly to switch among **\***, **+**, **p**, **w** characters.



**Note:** Use caution when sending confidential information, if voice privacy is not active.

- p Creates a *pause* when a number is dialed. The numbers you enter after this special character are automatically sent as touch tones after a 2.5-second pause.
- w Creates a *wait* when a number is dialed. This means that your phone waits for you to press the left selection key before it sends the number as touch tones.
- \* Sends command strings to the network. Contact your service provider for details.
- + Links a 1-touch dialing number to a number in the contact list.

## Set manual touch tones

- 1 From the menus, select **Settings > Phone settings > Touch tones > Manual touch tones**.
- 2 Select one of the following options:
  - Continuous**—Sound the tone for as long as you press and hold a key.
  - Fixed**—Set the tone to a fixed length, regardless of how long you press a key.
  - Off**—Turn off the tones. No tones are sent.

## Set length

You can also set the length of each touch tone.

- 1 From the menus, select **Settings > Phone settings > Touch tones > Touch tone length**.
- 2 Select either **Short** (0.1 second) or **Long** (0.5 second).

## Store

You can store touch tone strings the same way that you store names and numbers in your contact list. You can store an entire sequence of digits and send it as touch tones for frequently used strings of numbers.

- 1 Enter the phone number that you want associated with a touch tone.
- 2 Enter the touch tone character where needed (p, w, or \*).
- 3 Enter the touch tone string.
- 4 Store the number as you normally would.

## Send

- 1 From the menus, select **Settings > Phone settings > Touch tones > Manual touch tones**.
- 2 Select either **Continuous** or **Fixed** (not **Off**).
- 3 During the call, select **Options > Touch tones**.
- 4 Enter the touch tone string or recall the string from the contact list, and select **OK**.

If you send touch tones while in the analog mode, be careful not to send confidential information.

## • LINK CONTACT LIST ENTRIES

This feature allows you to store a phone number in one contact list location and link it to another contact list entry.

For example, you can link the phone number of an automated service, such as automated banking service, with a touch tone string entry in your contact list, such as account and PIN numbers. Then the phone automatically recalls and sends the touch tone string when you call the service.

- 1 Store the touch tone string into your contact list.
- 2 Assign the contact list entry with the touch tones to a 1-touch dialing location. For more information, see "1-touch dialing" on page 38.
- 3 Edit the automated service's phone number by adding  $+n$  to the end of the phone number (where  $n$  is the 1-touch dialing location).  
Example: 214-555-1234+3
- 4 Select **OK** to save your changes.
- 5 Dial the automated service number from your contact list.  
Your phone automatically sends the touch tones when the call connects.



**Note:** You may need to enter a pause (p) or a wait (w) before the + in order to account for delays in the automated system answering your call (for example, 214-555-1234p+3).

## • SYSTEM SELECTION

Your phone can operate in residential, private, and public systems (such as your home system). You can choose how your phone selects a network to use. Your phone may not show the options described here. For information, contact your service provider.

### Search for a network

From the menus, select **System**; then select one of the following options:

**Automatic**—Your phone automatically searches for available networks and chooses the appropriate one. Every time you turn on your phone, it resets to **Automatic**.

**Manual**—The phone searches for networks and then shows a list of the ones that are available. If an available network is found, the word **Available** appears on the screen, followed by the name of the network. To choose the network listed, select **OK**.



**New search**—Your phone begins a new search for both private and residential systems. When it finds the best system available, the phone shows the system name. If the phone does not find another system, the question **Perform an extended search?** appears. Select **OK** to continue searching.

## Select a public system

When you take your phone outside its home system, the phone is said to be *roaming*. The phone can search for home-type systems (that is, systems of the same type as your home system). Or, the phone can search for nonhome-type systems.

Your service provider programs a list of preferred systems into your phone. These are systems with which your service provider has roaming agreements. Your phone looks for these systems when you are roaming.



**Note:** The options described here may not be available for your phone. Contact your service provider for information.

- 1 From the menus, select **Settings > Network services > Public system selection**.
- 2 Select one of the following options:
  - Any system**—When service is not available in your home system, the phone searches for a preferred system of either type and then searches for a home-type system. Then it searches for a nonhome-type system. The search continues until your phone finds a system that can be used.
  - Home type**—When service is not available in your home system, the phone searches for a home-type system first. However, if a nonhome-type system is found, your phone will use that system.
  - Nonhome type**—The phone searches for a nonhome-type system only. The home-type system is not used.
  - Home only**—The phone uses only its home system. It will not roam.

## Select digital or analog

Your phone can work in both digital and analog modes.

- 1 From the menus, select **Settings > Network services > Digital/analog selection**.
- 2 Select either **Digit. & analog**, **Analog**, or **Digital**.  
Your phone uses both digital and analog voice channels. The phone always tries to find a digital voice channel first, but if a digital voice channel is not available, the phone looks for an analog voice channel.



**Note:** This feature is available only for certain phones. Contact your service provider for more information.

# 10 Security

## • SECURITY CODE

The security code prevents unauthorized users from changing certain important feature settings on your phone. The phone prompts you to enter the security code when required. The default code is 12345. Nokia recommends that you change the default code immediately.



**Note:** If you enter an incorrect security code 5 times in a row, the phone will not accept the correct code for 5 minutes.

Use this procedure to change your security code:

- 1 From the menus, select **Settings > Security settings > Change security code**.
- 2 At the **Security code** prompt, enter the default security code (12345) or your current security code and select **OK**.
- 3 At the **Enter new security code** prompt, enter your new five-digit security code and select **OK**.
- 4 At the **Verify new security code** prompt, enter your new security code again and select **OK**.

Keep your security code secret and stored in a safe place away from your phone. If you have changed your security code and do not remember the new code, contact your service provider.

## • CALL RESTRICTION

You can create up to 10 restrictions to restrict incoming and outgoing calls.

Before you define restrictions for outgoing calls, **Add restriction** is the only available option. After you use the **Add restriction** option to add at least one restriction, the following options become available:

**Select**—Select call restrictions from the outgoing calls list.

**Add restriction**—Add a new restriction.

**Edit**—Edit an existing call restriction.

**Delete**—Delete an existing call restriction.



**Note:** When calls are restricted, calls may be possible to the emergency number programmed into your phone (for example, 911 or other official emergency number). For example, you could dial 911 and press the **Talk** key.

## Add a number

- 1 From the menus, select **Settings > Security settings > Call restrictions**.
- 2 Enter your security code; then select **OK**.
- 3 Select **Restrict outgoing calls > Add restriction**.
- 4 At the number prompt, enter the number you want to restrict, and select **OK**.  
For example, if you want to restrict all long distance calls that begin with 1, enter 1. If you want to restrict all calls that begin with 972, enter 972.
- 5 Enter a name for the restriction and select **OK**.  
If you select **OK** without entering a name, the number will be used.

## Restrict outgoing calls

- 1 From the menus, select **Settings > Security settings > Call restrictions**.
- 2 Enter your security code; then select **OK**.
- 3 Select **Restrict outgoing calls > Select to choose from your list of call restrictions**.
- 4 To deactivate a call restriction, scroll to the restriction and select **Unmark**.  
OR  
To activate a call restriction, scroll to the restriction and select **Mark**.
- 5 Select **Back**.
- 6 At the **Save changes?** prompt, select **Yes**.

## Restrict all incoming calls

- 1 From the menus, select **Settings > Security settings > Call restrictions**.
- 2 Enter your security code and select **OK**.
- 3 Select **Restrict incoming calls**.
- 4 If incoming calls are not currently restricted, select **Mark** to restrict all incoming calls.  
OR  
If incoming calls are currently restricted, select **Unmark** to deactivate restriction of all incoming calls.
- 5 Select **Back**.
- 6 At the **Save changes?** prompt, select **Yes**.

# 11 Special features

## • ALARM CLOCK

The alarm clock feature is based on the internal clock of the phone and sounds an alert at a time you specify. The alarm clock works even if you turn your phone off.

### Set the alarm clock

- 1 From the menus, select **Settings > Time settings > Alarm clock**.
- 2 Enter the alarm time in *hh:mm* format; then select **OK**.
- 3 If the time setting is in *am/pm* format, select either **am** or **pm**.

### Respond to the alarm

At the time of the alarm, the phone sounds an alert tone. Select **Stop** or press the **End** key to stop the alarm and return to the start screen.

### Snooze

There are several ways to enable the **Snooze** feature:

- Select **Snooze**.
- Press any key except the **End** key.
- Allow the alarm to sound for one minute.

Once snooze is enabled, the alarm will sound again in 10 minutes. If you select **Stop** or press the **End** key while snoozing, the alarm is turned off.

### Alarm when phone is off

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



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

### Turn off the alarm clock

From the menus, select **Settings > Time settings > Alarm clock > Off**.

## • CALCULATOR

The calculator adds, subtracts, multiplies, divides, and converts currencies.



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

- 1 From the menus, select **Calculator**.
- 2 Enter the first number in the calculation. To enter a decimal point, press **#**. Select **Clear** to delete any mistakes.
- 3 Select **Options**; then select either **Add**, **Subtract**, **Multiply**, or **Divide**.  
OR  
Press **\*** repeatedly to cycle through the add, subtract, multiply, and divide functions.
- 4 Enter the second number in the calculation and select **Options > Equals**.
- 5 Repeat steps 3–4 as many times as necessary.

## Convert currency

You can use the calculator function to set an exchange rate and then calculate prices based on that exchange rate.

### SET THE EXCHANGE RATE

- 1 From the menus, select **Calculator > Options > Exchange rate**.
- 2 Select one of the following options:  
**Foreign units converted to home units**—Enter the number of foreign units to a domestic unit.  
**Home units converted to foreign units**—Enter the number of domestic units to a foreign unit.
- 3 Enter the appropriate exchange rate (press **#** to enter a decimal point) and select **OK**.

### CONVERT A CURRENCY AMOUNT

- 1 From the menus, select **Calculator**.
- 2 Enter the amount which you wish to convert.
- 3 Select **Options**; then select one of the following options:  
**To home**—Convert foreign units of currency to home units.  
**To foreign**—Convert home units of currency to foreign units.

## • BUSINESS CARDS

Your phone can send or receive electronic business cards consisting of a name, phone number and e-mail. You can save received business cards in your contact list. This is a network dependent feature.

### Send a business card

- 1 Find the name in your contact list.

- 2 Select **Options > Send bus. card**.
- 3 Enter or recall the phone number to which you want to send the business card; then select **Send**.

## **View a received business card**

- 1 When your phone displays **Business card received**, select **Options > Show**.
- 2 Scroll through the available information.

## **Save a viewed business card**

- 1 After viewing the business card, select **Back > Save**.
- 2 At the **Name** prompt, edit the name if desired; then select **OK**.
- 3 At the **Number** prompt, edit the number if desired; then select **OK**.
- 4 At the **E-mail** prompt, edit the e-mail address if desired; then select **OK**.

## **Delete a viewed business card**

After viewing the business card select **Back > Discard > OK**.

# ● **DOWNLOAD A RINGING TONE**

You can download up to 10 ringing tones to replace the personal entries in your list of ringing tones. Since this is a network dependent feature, methods for downloading ringing tones vary. Contact your wireless service provider for details.

If you have this service and your phone receives a downloaded ringing tone, your phone displays **Ringling tone received**.

## **Listen to received tones**

- 1 When your phone shows **Ringling tone received**, select **Options > Playback > OK** to play the ringing tone.
- 2 To stop playing the ringing tone, press any key or select **Quit**.

## **Save a received tone**

- 1 After listening to the ringing tone, select **Quit > Save tone > Select**.
- 2 Choose which ringing tone you want to replace—either an empty **Personal** location, if any are remaining, or a previously downloaded tone.
- 3 If you are replacing a previously downloaded tone, at the **Replace tone?** prompt, select **OK** to replace the tone or **Back** to return to the previous menu.

## **Discard a received tone**

After listening to the ringing tone, select **Quit > Discard tone > OK**.

## 12 Prepaid services

Depending on your service provider, you may have either prepaid service or Minute Manager. Check with your service provider to determine which of these services, if any, applies to you. If you have Minute Manager, disregard this chapter and see "Minute Manager" on page 49 for more information.

With prepaid service, you buy wireless network services in advance. Your phone works the same way it did before, with some additional features.

Since prepaid service may not be available from your wireless service provider, the **Prepaid** screen may not appear. Contact your service provider for details.

### • ACTIVATE AND DEACTIVATE

After you sign up with your service provider for prepaid service, you can activate the **Prepaid** menu in your phone. This menu appears on your screen only if you have activated the service.

To activate prepaid services, enter the following sequence: **\*#7766#**

To deactivate prepaid services, enter the following sequence: **\*#77633#**

### • SAVE YOUR ACCESS NUMBERS

You can save the prepaid service access numbers in your phone. Contact your service provider for the access numbers.

- 1 From the menus, select **Prepaid > Save access phone numbers > Replenish phone number**.
- 2 Enter the replenish number from your service provider; then select **OK**.
- 3 Select **Balance phone number**.
- 4 Enter the balance number from your service provider; then select **OK**.
- 5 Select **Customer service phone number**.
- 6 Enter the customer service number from your service provider; then select **OK**.

### • CHECK YOUR BALANCE

You can check the balance remaining in your prepaid account. Contact your service provider for the access number used to check the balance.



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

- 1 From the menus, select **Prepaid > Check account balance**.
- 2 If you have not already saved the balance number under **Save access phone numbers**, enter the balance number and select **OK**.  
The phone calls the balance number.
- 3 Follow the operator prompts.

## ● **ADD MONEY TO YOUR ACCOUNT**

- 1 From the menus, select **Prepaid > Add money to account**.
- 2 If you have not already saved the replenish number under **Save access phone numbers**, enter the replenish number and select **OK**.  
The phone calls the replenish number.
- 3 Follow the operator prompts.

## ● **CALL CUSTOMER SERVICE**

You can call the customer service number for your prepaid account. Contact your service provider for the access numbers.

- 1 From the menus, select **Prepaid > Call customer service**.
- 2 If you have not already saved the customer service number under **Save access phone numbers**, enter the customer service number and select **OK**.  
The phone calls the customer service number.
- 3 Follow the operator prompts.

## ● **EXPIRATION DATE**

You can store and edit the expiration date of your prepaid credit each time you add money to your account. Enter and change this date manually.

### **Enter a date**

- 1 From the menus, select **Prepaid > Expiration date**.
- 2 Enter the expiration date and select **OK**.

### **View a date**

From the menus, select **Prepaid > Expiration date**.



# 13 Minute Manager

Depending on your service provider, you may have either prepaid service or Minute Manager. Check with your service provider to determine which of these services, if any, applies to you. If you have prepaid service, disregard this chapter and see "Prepaid services" on page 47 for more information.

With Minute Manager service, you cap monthly spending of mobile service. This section describes how you can use your Minute Manager menu to manage your mobile account. Since this service may not be available from your wireless service provider, the **Minute Mgr.** screen may not appear. Contact your service provider for details.



**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.

## • CALL INFORMATION

### My charges

You can view the current charges for all calls made this billing cycle, or you can view the charge for the last call you made. This information is approximate. The actual charges and minutes will be listed on your monthly bill.

- 1 From the menus, select **Minute Mgr. > My calls > My charges.**
- 2 Select either **Current** or **My last call.**



**Note:** If you exceed your Minute Manager limit, calls may only be possible to the emergency number programmed into your phone (for example, 911).

### My minutes

You can check the minutes you have used in the current billing cycle, as well as the number of anytime minutes remaining in your plan package. This information is for regular plan minutes. It does not include information on long distance calls or SMS messages.

- 1 From the menus, select **Minute Mgr. > My calls > My minutes.**
- 2 Select either **Minutes used** or **Package mins.**

### My data

You can check the total number of SMS messages you have sent and received. This number includes any free messages provided by your plan.

- 1 From the menus, select **Minute Mgr. > My calls > My data.**
- 2 Select either **Messages sent** or **Msgs received.**

## • ACCOUNT INFORMATION

You can check information on your current bill, spending limit, and rate plan.

### **My bill**

Bill information is updated by your service provider and reflects the current amount owed.

To view your current bill, select **Minute Mgr. > My account > My bill**.

### **My bill date**

The bill date is the date when the next bill cycle starts.

To view your bill date, select **Minute Mgr. > My account > My bill date**.

### **My limit**

Your spending limit is set by your service provider during account activation and is independent of any balance information.

To view your spending limit, select **Minute Mgr. > My account > My limit**.

### **My rate plan**

To view information about your current rate plan, select **Minute Mgr. > My account > My rate plan**.

### **My number**

To view your mobile number, select **Minute Mgr. > My account > My number**.

## • CUSTOMER CARE

You can call the customer care number for your Minute Manager account. This is the same number you will call to make a payment. The customer care number may be preprogrammed in your phone. If not, contact your service provider for the number.

Use this procedure to make a payment.

- 1 From the menus, select **Minute Mgr. > Customer care > Make payment**.  
The customer care number appears on the screen.
- 2 Select **Call** to dial the number.

# 14 Games

## • PLAY

- 1 From the menus, select **Games**.
- 2 Select the desired game; then select one of the following options:
  - Continue**—Continue a game that was stopped.
  - New Game**—Start a new game.
  - Level (Snake II and Pairs II only)**—Choose the difficulty level.
  - Mazes (Snake II only)**—Choose among different maze designs.
  - Top score**—Display the top score.
  - Instructions**—Learn how to play the game.
  - Time trial (Pairs II only)**—To advance to the next level, you must pair up all tiles before the dynamite fuse runs out.
  - Puzzle (Pairs II only)**—Reveal pictures to find pairs with as few tries as possible.

Visit Nokia games services on the Internet for more hints and tips at:  
[www.nokia.com/us](http://www.nokia.com/us).

## • SETTINGS

You can turn game sounds, lights, and vibration on or off.

- 1 From the menus, select **Games > Settings**.
- 2 Select either **Game sounds**, **Game lights**, or **Shakes**.
- 3 Select either **On** or **Off**.

# 15 Reference information

This section provides information about your phone's batteries, accessories, chargers, safety guidelines and technical information. Be aware that the information in this section is subject to change as batteries, chargers, and accessories change.

## • BATTERY STATEMENTS

### Charging and discharging

Your phone is powered by a rechargeable battery.

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

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

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

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

For good operation times with NiMH batteries, discharge the battery from time to time by leaving your phone switched on until it turns itself off (or by using the battery discharge facility of any approved accessory available for your phone). Do not attempt to discharge the battery by any other means.

Use the battery only for its intended purpose.

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

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

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

Do not dispose of batteries in a fire!

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



**Note:** For information on how to charge and recharge your battery, refer to "Important battery information" on page 7.

## ● PROPER CARE AND MAINTENANCE

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

- Keep the phone and all its parts and accessories out of the reach of small children.
- Keep the phone dry. Precipitation, humidity and all types of liquids or moisture can contain minerals that will corrode electronic circuits.
- Do not use or store the phone in dusty, dirty areas. Its moving parts can be damaged.
- Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the phone in cold areas. When it warms up (to its normal temperature), moisture can form inside and 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.



**Important:** Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate regulations governing radio devices.

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

## ● IMPORTANT SAFETY INFORMATION

This section provides additional safety information. A brief overview of safety can be found in "For your safety" on page 1.

## Traffic safety

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

Remember road safety always comes first!

## Operating environment

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

Use the phone only in its normal operating positions.

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

## Electronic devices

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

### PACEMAKERS

Pacemaker manufacturers recommend that a minimum separation of 6 inches (approximately 15.3 cm) be maintained between a hand-held wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research. Persons with pacemakers:

- Should always keep the phone more than 6 inches (approximately 15.3 cm) from their pacemaker when the phone is switched on
- Should not carry the phone in a breast pocket
- Should use the ear opposite the pacemaker to minimize the potential for interference.
- If you have any reason to suspect that interference is taking place, switch off your phone immediately.

### HEARING AIDS

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

## Other medical devices

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

## Vehicles

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

### POSTED FACILITIES

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

## Potentially explosive atmospheres

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

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

Areas with a potentially explosive atmosphere are often but not always clearly marked. They include below deck on boats; chemical transfer or storage facilities; vehicles using liquefied petroleum gas (such as propane or butane); areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you would normally be advised to turn off your vehicle engine.

## Vehicles

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

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

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

For vehicles equipped with an air bag, remember that an air bag inflates with great force. Do not place objects, including both installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result. FCC regulations prohibit using your phone while in the air. Switch off your phone before boarding an aircraft. The use of wireless telephones in an aircraft may be dangerous to the operation of the aircraft, disrupt the wireless telephone network, and may be illegal.

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

## ● MAKE EMERGENCY CALLS



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

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

### To make an emergency call

- 1 If the phone is not on, switch it on, then check for adequate signal strength.
- 2 Press the **End** key 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 Key in the emergency number for your present location (for example, 911 or other official emergency number). Emergency numbers vary by location.
- 4 Press the **Talk** key.

If certain features are in use, (Keyguard, etc.) you may first need to turn those features off before you can make an emergency call. Consult this user guide and your local wireless 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 radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg.\* Tests for SAR are conducted using standard operating positions accepted by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output. Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (for example, at the ear and worn on the body) as required by the FCC for each model. The following values are the highest SAR values for this model phone as reported to the FCC.

When tested for use at the ear:

FCCID # GMLRH40 is 1.2 W/kg

FCCID # GMLRH42 is 1.19 W/Kg

When worn on the body as described in this user guide:

FCCID # GMLRH40 is 1.2 W/kg

FCCID # GMLRH42 is 1.21 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 GMLRH-40 and FCC ID GMLRH-42.

For body worn operation, this phone has been tested and meets the FCC RF exposure guidelines for use with an accessory that contains no metal and that positions the handset a minimum of 5/8 inch (1.5 cm) from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines. If you do not use a body-worn accessory and are not holding the phone at the ear, position the handset a minimum of 5/8 inch (1.5 cm) from your body when the phone is switched on.

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

## ● ACCESSORY SAFETY

This section provides information about phone batteries, chargers, and accessories. Be aware that the information in this section is subject to change as the batteries, chargers, and accessories change.

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



**Warning:** Use only Nokia original accessories or batteries, chargers, and accessories approved by Nokia, for use with this Nokia 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.

When you are not using a charger, disconnect it from the power source.

When the battery is running out of power and your phone only has a few minutes of talk time remaining, a warning tone sounds and the **Battery low** message appears briefly. When no more talk time is left, a warning tone is sounded and the phone switches itself off.

### Practical rules for accessory operation

- Keep all accessories out of reach of small children.
- When you disconnect the power cord of any accessory, grasp and pull the plug, not the cord.
- Check regularly that any vehicle-installed accessories are mounted and are operating properly.
- Installation of any complex car accessories must be made by qualified personnel only.
- Use only batteries, chargers, and accessories that have been approved by the phone manufacturer. The use of any other types could invalidate any approval or warranty applying to the phone and could be dangerous. Refer to "Accessory safety" on page 59 for important battery usage information.

## Batteries

This section provides information about the phone battery. Be aware that the information in this section is subject to change.



**Note:** Dispose of used batteries in accordance with any local regulations.

The tables shown in this section provide information about the batteries that are available for your phone, charging times with the Rapid Travel Charger (ACP-8U), the Travel Charger (ACP-12U), the Standard Travel Charger (ACP-7U), talk times, and standby times. Consult your service provider for more information.

## Charging times

The charging times listed below are approximate.

Battery option	ACP-7U Charger	ACP-8U Charger	ACP-12U Charger
900-mAh BMC-3 NiMH battery	Up to 4 hours	Up to 2 hours	Up to 1 hour, 40 minutes

## Standby and talk times

Battery talk and standby times are estimates only and depend on signal strength, network conditions, features used, battery age and condition (including the effect of charging habits), temperatures to which the battery is exposed, use in digital mode, and many other factors. Please note that the amount of time a phone is used for calls will affect its standby time. Likewise, the amount of time that the phone is turned on and in standby mode will affect its talk time.

Battery option	Talk time		Standby Time	
	Digital	Analog	Digital	Analog
900-mAh BMC-3 NiMH battery	Up to 5 hours	Up to 2 hours	Up to 15 days	Up to 2 days
850-mAh BLC-2 Li-Ion battery	Up to 5 hours	Up to 2 hours	Up to 16 days	Up to 2 days

## • ACCESSORIES



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

### Power

- 900-mAh NiMH Battery (BMC-3)
- 850-mAh Li-Ion Battery (BLC-2)
- Standard Travel Charger (ACP-7U)
- Rapid Travel Charger (ACP-8U)
- Travel Charger (ACP-12U)
- Mobile Charger (LCH-12)
- Spare Battery Charger (DDC-1) is compatible with:  
Standard Travel Charger (ACP-7U)  
Rapid Travel Charger (ACP-8U)
- Desktop Charging Stand (DCV-10) is compatible with:  
Standard Travel Charger (ACP-7U)  
Rapid Travel Charger (ACP-8U)

### Audio

- Headset Kit (HDC-5)
- Headset (HDE-2)
- Boom Headset (HDB-5)
- Retractable Headset (HDC-10)
- Dual Headset (HDD-1)
- Headrest Handsfree (BHF-2)

### Accessibility

- TTY/TDD Adapter (HDA-9)
- Loopset (LPS-3)

### Car

- Mobile Holder (MBC-6)
- Express Car Kit (CARK-125)
- Full Car Kit (CARK-134)

## • NOKIA XPRESS-ON™ COLOR COVERS

The Xpress-on™ cover is available in several fashion colors. Extra covers may be purchased from your authorized Nokia dealer.



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

### REMOVE THE BACK COVER

- 1 Switch off the power and disconnect the phone from the charger or any other device.
- 2 Push in the release button on the back of the phone, slide the cover toward the top of the phone, and remove it.

### REMOVE THE FRONT COVER

- 1 Use the finger rests on each side of the phone and hold the phone face down.

- 2 While holding the phone, place your finger on the groove between the phone and the cover.
- 3 Gently pry the front cover away from the phone and lift the phone out of the cover.

### **REMOVE THE KEYPAD**

- 1 Lift the keypad from the inside of the front cover.
- 2 Place the keypad into the new front cover.

### **REPLACE THE FRONT COVER**

- 1 Slide the top of the phone into the top of the front cover.  
Be careful to align the **Power key/IR** port with its place in the top of the front cover.
- 2 Gently push the bottom of the phone into the bottom of the front cover until it snaps into place.

### **REPLACE THE BACK COVER**

- 1 Insert the two catches of the back cover in the corresponding slots in the phone.
- 2 Slide the cover towards the bottom of the phone until it locks into place.

## • TECHNICAL INFORMATION

Feature	Specification
Weight	4.23 oz with BLC-2 battery 5.17 oz with BMC-3 battery
Volume	108 cc
Frequency range	824.04–848.97 MHz (TX) 869.04–893.97 MHz (RX)
Transmitter output power	Up to 600 mW
Battery voltage	3.6 V nominal
Operating temperature	-4°F to + 104°F (-20°C to + 40°C)
Number of channels	832
Phone numbers	Up to 3
Contact list locations	Up to 200

# Nokia One-Year Limited Warranty

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

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



- earthquake or damage from exposure to weather conditions, an Act of God, or battery leakage, theft, blown fuse, or improper use of any electrical source, damage caused by computer or internet viruses, bugs, worms, Trojan Horses, cancelbots or damage caused by the connection to other products not recommended for interconnection by Nokia.
- c) Nokia was not advised in writing by the Consumer of the alleged defect or malfunction of the Product within fourteen (14) days after the expiration of the applicable limited warranty period.
  - d) The Product serial number plate or the accessory data code has been removed, defaced or altered.
  - e) The defect or damage was caused by the defective function of the cellular system or by inadequate signal reception by the external antenna, or viruses or other software problems introduced into the Product.
- 8 Nokia does not warrant uninterrupted or error-free operation of the Product. If a problem develops during the limited warranty period, the Consumer shall take the following step-by-step procedure:
- a) The Consumer shall return the Product to the place of purchase for repair or replacement processing.
  - b) If "a" is not convenient because of distance (more than 50 miles) or for other good cause, the Consumer shall ship the Product prepaid and insured to:  
Nokia Inc., Attn: Repair Department  
795 West Nasa Blvd.  
Melbourne, FL 32901
  - c) The Consumer shall include a return address, daytime phone number and/or fax number, complete description of the problem, proof of purchase and service agreement (if applicable). Expenses related to removing the Product from an installation are not covered under this limited warranty.
  - d) The Consumer will be billed for any parts or labor charges not covered by this limited warranty. The Consumer will be responsible for any expenses related to reinstallation of the Product.
  - e) Nokia will repair the Product under the limited warranty within 30 days after receipt of the Product. If Nokia cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, Nokia at its option, will provide a replacement Product or refund the purchase price of the Product less a reasonable amount for usage. In some states the Consumer may have the right to a loaner if the repair of the Product takes more than ten (10) days. Please contact the Customer Service Center at Nokia at the telephone number listed at the end of this warranty if you need a loaner and the repair of the Product has taken or is estimated to take more than ten

(10) days.

- f) If the Product is returned during the limited warranty period, but the problem with the Product is not covered under the terms and conditions of this limited warranty, the Consumer will be notified and given an estimate of the charges the Consumer must pay to have the Product repaired, with all shipping charges billed to the Consumer. If the estimate is refused, the Product will be returned freight collect. If the Product is returned after the expiration of the limited warranty period, Nokia's normal service policies shall apply and the Consumer will be responsible for all shipping charges.
- 9 You (the Consumer) understand that the product may consist of refurbished equipment that contains used components, some of which have been reprocessed. The used components comply with Product performance and reliability specifications.
- 10 ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR USE, SHALL BE LIMITED TO THE DURATION OF THE FOREGOING LIMITED WRITTEN WARRANTY. OTHERWISE, THE FOREGOING LIMITED WARRANTY IS THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. NOKIA SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF ANTICIPATED BENEFITS OR PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF DATA, PUNITIVE DAMAGES, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT OR FACILITIES, DOWNTIME, THE CLAIMS OF ANY THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY, RESULTING FROM THE PURCHASE OR USE OF THE PRODUCT OR ARISING FROM BREACH OF THE WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL OR EQUITABLE THEORY, EVEN IF NOKIA KNEW OF THE LIKELIHOOD OF SUCH DAMAGES. NOKIA SHALL NOT BE LIABLE FOR DELAY IN RENDERING SERVICE UNDER THE LIMITED WARRANTY, OR LOSS OF USE DURING THE PERIOD THAT THE PRODUCT IS BEING REPAIRED.
- 11 Some states do not allow limitation of how long an implied warranty lasts, so the one year warranty limitation may not apply to you (the Consumer). Some states do not allow the exclusion or limitation of incidental and consequential damages, so certain of the above limitations or exclusions may not apply to you (the Consumer). This limited warranty gives the Consumer specific legal rights and the Consumer may also have other rights which vary from state to state.
- 12 Nokia neither assumes nor authorizes any authorized service center or any other person or entity to assume for it any other obligation or liability beyond that which is expressly provided for in this limited warranty including the provider or seller of any extended warranty or service agreement.

- 13** This is the entire warranty between the Nokia and the Consumer, and supersedes all prior and contemporaneous agreements or understandings, oral or written, relating to the Product, and no representation, promise or condition not contained herein shall modify these terms.
- 14** This limited warranty allocates the risk of failure of the Product between the Consumer and Nokia. The allocation is recognized by the Consumer and is reflected in the purchase price.
- 15** Any action or lawsuit for breach of warranty must be commenced within eighteen (18) months following purchase of the Product.
- 16** Questions concerning this limited warranty may be directed to:  
Nokia Inc.  
Attn: Customer Service  
7725 Woodland Center Blvd., Ste. 150  
Tampa, FL 33614  
Telephone: 1-888-NOKIA-2U (1-888-665-4228)  
Facsimile: (813) 287-6612  
TTY/TDD Users Only: 1-800-24-NOKIA (1-800-246-6542)
- 17** The limited warranty period for Nokia supplied attachments and accessories is specifically defined within their own warranty cards and packaging.  
Manufactured or sold under one or more of the following US patents:

5001372	5371481	5553125	5805084	5893060	6006114	6119002	6229996
5045973	5390223	5594797	5819165	5903839	6026161	6119003	6269331
5101175	5400949	5604921	5822366	5907823	6035194	6128509	6282373
5124672	5416435	5606548	5835858	5914796	6043760	6144243	6285888
5212834	5430740	5613235	5839101	5920826	6049796	6151485	6286122
5230091	5442521	5625274	5842141	5924026	6055439	6151507	6292668
5233634	5446364	5677620	5844884	5924038	6060193	6154457	6308084
5241284	5471655	5692032	5845219	5953665	6084962	6163609	6310609
5241583	5479476	5697074	5857151	5956625	6094587	6164547	6311054
5266782	5487084	5734683	5870683	5987406	6097961	6185295	6314166
5317283	5493255	5760568	5887262	5987639	6097964	6188909	6324412
5335362	5551067	5794142	5892475	5999523	6115617	6219560	
Pending:	29158527	29158526	29158528	29158485	29158529	29158524	



# **Appendix A**

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

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*Safety is the most important call you will ever make.*

## **A Guide to Safe and Responsible Wireless Phone Use**

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

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

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

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

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

## **Wireless Phone "Safety Tips"**

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



# **Appendix B**

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

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

## Consumer Update on Wireless Phones

### U.S. Food and Drug Administration

#### 1. Do wireless phones pose a health hazard?

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

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

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

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

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

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

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

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

FDA shares regulatory responsibilities for wireless phones with the Federal Communications Commission (FCC). All phones that are sold in the United States must comply with FCC safety guidelines that limit RF exposure. FCC relies on FDA and other health agencies for safety questions about wireless phones. FCC also regulates the base stations that the wireless phone networks rely upon. While these base stations operate at higher power than do the wireless phones themselves, the RF exposures that people get from these base stations are typically thousands of times lower than those they can get from wireless phones. Base stations are thus not the subject of the safety questions discussed in this document.

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

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

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

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

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

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

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

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

FDA is working with the U.S. National Toxicology Program and with groups of investigators around the world to ensure that high priority animal studies are conducted to address important questions about the effects of exposure to radiofrequency energy (RF).

FDA has been a leading participant in the World Health Organization International Electromagnetic Fields (EMF) Project since its inception in 1996. An influential result of this work has been the development of a detailed agenda of research needs that has driven the establishment of new research programs around the world. The Project has also helped develop a series of public information documents on EMF issues.

FDA and the Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research and Development Agreement (CRADA) to do research on wireless phone safety. FDA provides the scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts to independent investigators. The initial research will include both laboratory studies and studies of wireless phone users. The CRADA will also include a broad assessment of additional research needs in the context of the latest research developments around the world.

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

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

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

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

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

### **9. What steps can I take to reduce my exposure to radiofrequency energy from my wireless phone?**

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

If you must conduct extended conversations by wireless phone every day, you could place more distance between your body and the source of the RF, since the exposure level drops off dramatically with distance. For example, you could use a headset and carry the wireless phone away from your body or use a wireless phone connected to a remote antenna.

Again, the scientific data do not demonstrate that wireless phones are harmful. But if you are concerned about the RF exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless phone use.

### **10. What about children using wireless phones?**

The scientific evidence does not show a danger to users of wireless phones, including children and teenagers. If you want to take steps to lower exposure to radiofrequency energy (RF), the measures described above would apply to children and teenagers using wireless phones. Reducing the time of wireless phone use and increasing the distance between the user and the RF source will reduce RF exposure. Some groups sponsored by other national governments have advised that children be discouraged

from using wireless phones at all. For example, the government in the United Kingdom distributed leaflets containing such a recommendation in December 2000. They noted that no evidence exists that using a wireless phone causes brain tumors or other ill effects. Their recommendation to limit wireless phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

### **11. What about wireless phone interference with medical equipment?**

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

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

### **12. Where can I find additional information?**

For additional information, please refer to the following resources:

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

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

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