

# Nokia 6820 User Guide

What information is needed?	Numbers	Where is the number?
My number		Wireless service provider
Voice mail number		Wireless service provider
Wireless provider's number		Wireless service provider
Provider's customer care		Wireless service provider
Model number	6820	Title page and phone label (under battery)
Phone type		Phone label
IMEI number		Phone label

## LEGAL INFORMATION

CE168

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# For your safety

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



## SWITCH ON SAFELY

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



## ROAD SAFETY COMES FIRST

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



## INTERFERENCE

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



## SWITCH OFF IN HOSPITALS

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



## SWITCH OFF IN AIRCRAFT

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



## SWITCH OFF WHEN REFUELING

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



## SWITCH OFF NEAR BLASTING

Follow any restrictions. Don't use the phone where blasting is in progress.



## USE SENSIBLY

Use only in the normal position as explained in the product documentation. Don't touch the antenna unnecessarily.



## QUALIFIED SERVICE

Only qualified personnel may install or repair this product.



## ENHANCEMENTS AND BATTERIES

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



## WATER-RESISTANCE

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



## BACK-UP COPIES

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



## CONNECTING TO OTHER DEVICES

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

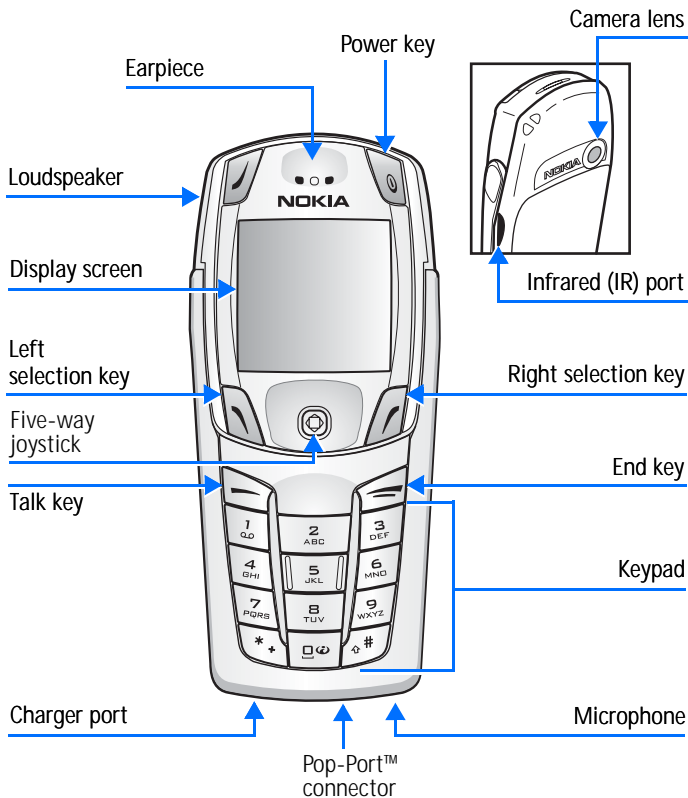


## EMERGENCY CALLS

Ensure the phone is switched on and in service. Select **End** as many times as needed to clear the display and return to the main screen. Enter the emergency number; then select the **Talk** key. Give your location. Do not end the call until given permission to do so.



## Nokia 6820 phone at a glance



# Quick Guide

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 (sends the call to voice mail, if available).
Mute a call	Select <b>Mute</b> during a call.
Redial	Press the <b>Talk</b> key twice.
Adjust call volume	Press the joystick to the left or the right.
Use the in-call menu	Select <b>Options</b> during a call.
Save a 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 (2–8). You must first assign a key to a number in the phone book.
Look up a name	Select <b>Names &gt; Find</b> .
Check voice mail	Press and hold the <b>1</b> key. (Contact your service provider for details.)
Write and Send a text message	Select <b>Menu &gt; Messages &gt; Text Messages &gt; Create Message</b> . Write the message, select <b>Send</b> , enter the phone number, and select <b>OK</b> .
Send a picture, video, or audio file	Select <b>Menu &gt; Gallery</b> . Select a folder and locate the item you wish to send. Select <b>Options &gt; Send</b> . Enter the phone number and select <b>OK</b> .
Read a new message	If <b>New Message</b> appears, select <b>Read</b> , highlight the message, and select <b>Read</b> again.
Reply to a message	After viewing a message, select <b>Reply</b> . Write your reply and select <b>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.



# 1 Welcome to Nokia

Congratulations on your purchase of the Nokia 6820 mobile phone.

## • ABOUT YOUR PHONE

The Nokia 6820 phone comes in two model types—the Nokia 6820a phone, which is approved for use in 900, 1800, and 1900 MHz GSM networks, and the Nokia 6820b phone which is approved for use in 850, 1800, and 1900 MHz GSM networks.

To view your model type, refer to the information label under the battery. For more information about where this label is located, see "Find the information label" on page 12.

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



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

## • OVERVIEW OF PHONE FUNCTIONS

Your Nokia 6820 phone provides many useful features:

**Messaging keyboard**—provides a complete keyboard designed for easy text writing. You can use all of the phone functions with the keyboard either closed or open. When you open the keyboard you have the extra benefit of a full messaging keyboard.

**Speakerphone**—allows you to have hands-free conversations. You can activate the loudspeaker at any time during a call. To activate the speakerphone, select **Loudsp**. To deactivate the speakerphone during a call, select **Handset**.

**EDGE (enhanced data rates for GSM evolution)**—allows you to use EDGE packet transmission networks for connections that are faster than GPRS.

**XHTML browser**—allows you to retrieve and view colorful and rich graphical content from Web servers.

**Instant messaging**—lets you send short text messages that are delivered to online users.

**Presence-enhanced messaging**—lets your colleagues, family, and friends know when you are available.

**E-mail**—lets you write, send, and retrieve e-mail from your compatible e-mail account.

**MMS (multimedia messaging service)**—lets you send and receive multimedia messages containing text, pictures, sound or video clips to and from compatible devices. You can save the pictures and ringing tones on your phone.

**GPRS (general packet radio service)**—allows your phone to send and receive data over a mobile network. Applications such as WAP, MMS and SMS messaging, and Java™ may use GPRS.

**Polyphonic sound**—consists of several sound components that are played at the same time. The phone has sound components from over 40 instruments and can play up to 16 instruments at the same time. The phone supports scalable polyphonic MIDI (SP-MIDI) format.

**J2METM (Java 2 Micro Edition) support**—lets you play the included Java applications and games and supports many applications and games that you can download.

**OTA (over-the-air) settings service**—allows you to receive WAP, MMS, GPRS and other wireless service settings directly as an OTA message. You only need to save the settings on your phone. For more information on the availability of the settings, contact your service provider or the nearest authorized Nokia dealer.

## • NETWORK SERVICES

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

Your service provider may have requested that certain features be disabled or not activated in your device. If so, they will not appear on your device menu. Contact your service provider for more information.

## • SHARED MEMORY

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

- 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 serve your needs better if you should need to call the center or have your phone repaired.

- E-NEWSLETTERS

When you register your phone, you can sign up for Nokia's e-newsletter *Nokia Connections* if you would like. You will receive tips and tricks on using your phone, accessory information, and special offers.

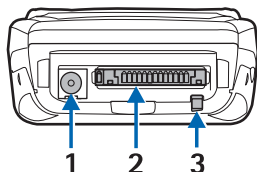
- ACCESSIBILITY SOLUTIONS

Nokia is committed to making mobile phones easy to use for all individuals. Nokia maintains an Internet site that is dedicated to accessibility solutions. For more information about phone features, enhancements, alternate format user guides, and other Nokia products designed with your needs in mind, visit the Web site at [www.nokiaaccessibility.com](http://www.nokiaaccessibility.com) or call 1-888-665-4228.

## 2 Phone setup

### • CONNECTORS

- 1 Connector for battery charger
- 2 Connector for headsets, data cable and other accessories.
- 3 Connector for microphone



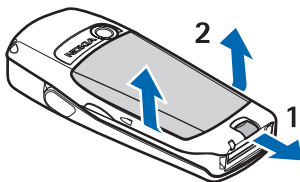
### • INSTALL SIM CARD AND BATTERY

Keep all SIM cards out of the reach of small children. For availability and information on using SIM card services, contact your SIM card vendor. This may be the service provider or another vendor.

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

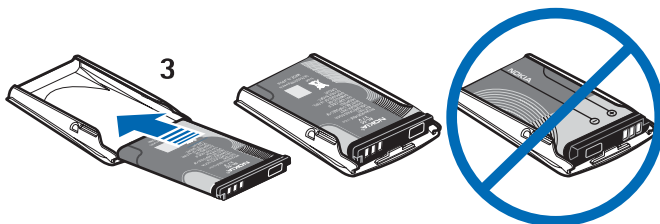
Before installing the SIM card, always make sure that the phone is switched off and disconnected from the charger or any enhancement; then remove the battery.

- With the back of the phone facing you, push the back cover release button (1) and, at the same time, lift the back cover off the phone (2).
- Slide the battery into the back cover (3) until you hear it click into place.





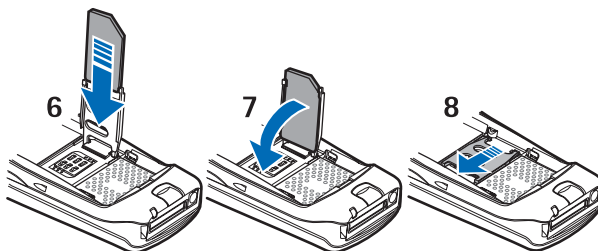
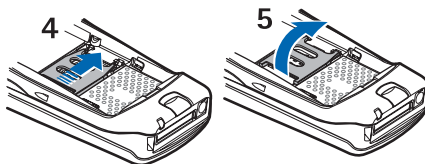
**Important:** Insert the battery exactly as shown in the diagram. The contacts on the battery must be aligned with the contacts on the phone for the phone to operate.



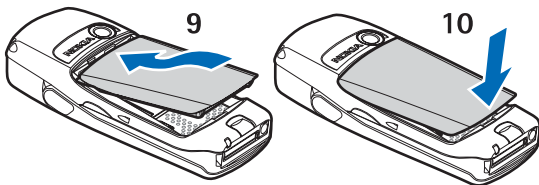
- To release the SIM card holder, slide the card holder backwards (4), and open it by lifting it up (5).

- Insert the SIM card into the SIM card holder (6).  
Make sure that the SIM card is properly inserted and that the golden contact area on the card is facing downwards.

- Close the SIM card holder (7) and slide it back into place (8).



- Direct the back cover towards the locking catches on the front cover (9), and slide the back cover until it locks into place (10).



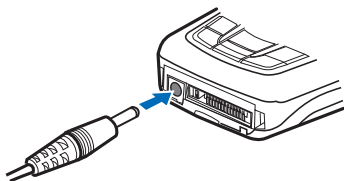
## • CHARGE THE BATTERY

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

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

You can use the phone while the charger is connected.

Charging time depends on the charger and the battery used. For example, charging a BL-5C battery with the ACP-12 travel charger takes about 1 and a half hours while the phone is in the standby mode.





## • SWITCH THE PHONE ON AND OFF

To switch on the phone, select and hold the **Power** key.

- If the phone prompts you for a PIN code or a security code, key in the code and select **OK**. (For more information, see "Access codes" on page 64.)
- If the phone displays **Insert SIM card**, even though the SIM card is properly inserted, or **SIM card not supported**, contact your provider. Your phone does not support 5-V SIM cards.

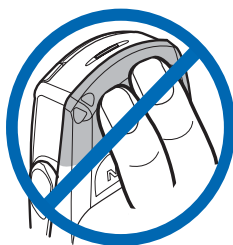


## • HOW TO HOLD YOUR PHONE

Hold the phone as shown with the antenna area pointing up.



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



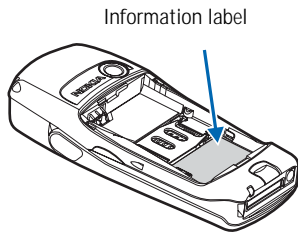
## • HOW TO GET HELP

If you need help, Nokia Customer Care is available for assistance.

### Find the information label

We recommend that you obtain the label information so it can be available if you call. This information is on the back of the phone, beneath the battery.

- The international mobile equipment identity (IMEI) number
- The phone model number



### Contact Nokia

Please have your phone or enhancement with you when you place the call.

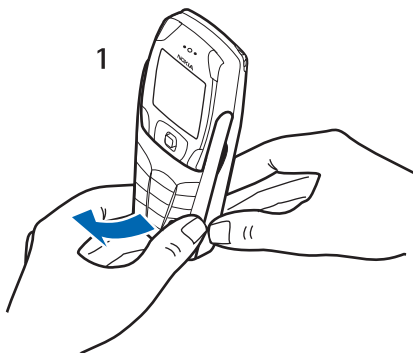
Nokia Customer Care Center, USA	Customer Care Center, Canada
Nokia Inc. 7725 Woodland Center Boulevard Suite 150 Tampa, Florida 33614 Tel: 1-888-NOKIA-2U (1-888-665-4228) Fax: 1-813-249-9619 TTY: 1-800-24-NOKIA (hearing impaired only) (1-800-246-6542)	Nokia Products Ltd. 601 Westney Road South Ajax, Ontario L1S 4N7 Tel: 1-888-22-NOKIA (1-888-226-6542) Fax: 1-905-427-1070

### 3 Phone basics

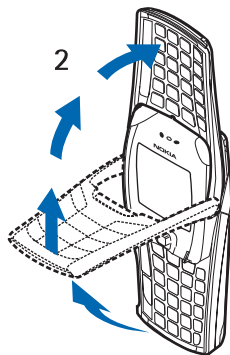
Your phone can be used with the keyboard open or closed.

- **OPEN THE KEYBOARD**

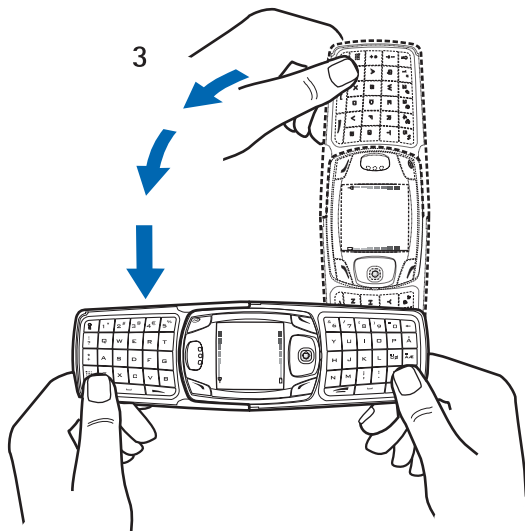
- 1 Hold the phone with both hands, and open the keyboard as shown.



- 2 Extend the keyboard until you hear it click into place.

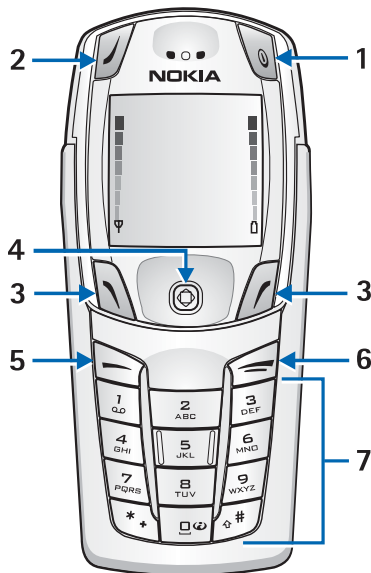


- 3 Turn the phone to a horizontal position and hold it as shown.



## • KEY FUNCTIONS (KEYBOARD CLOSED)

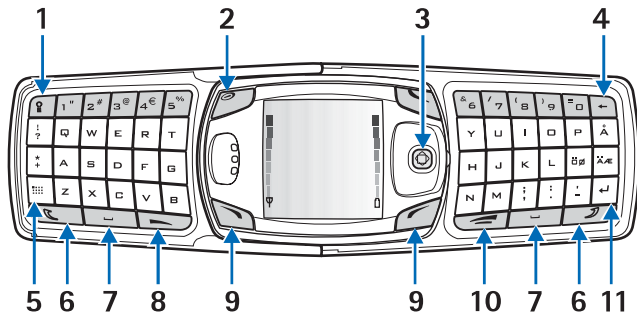
- 1 Power key (⏻)—switches the phone on and off. When the keypad is locked, it turns the phone display lights on for about 15 seconds.
- 2 Left selection key (↙)—becomes Left selection key when the keyboard is open. This key has no function when the keyboard is closed.
- 3 Left selection key (↘) and right selection key (↗)—provides a variety of functions that are indicated in guiding text on the display above the keys.
- 4 Five-way joystick (⊕)—moves in four directions and selects the active menu option when pressed. For details, see "About the five-way joystick" on page 17.
- 5 Talk key (☎)—dials a phone number and answers a call. In the standby mode it accesses the list of most recently called numbers.
- 6 End key (⏹)—ends an active call or exits from the current function.
- 7 Typing keys—enters numbers and characters.

















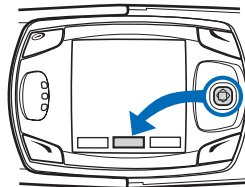
**Note:** Some phones may not display the mobile Internet symbol on the (0) key.

## • KEY FUNCTIONS (KEYBOARD OPEN)

When the keyboard is opened, the display graphics rotate 90 degrees and the Left, Middle, and Right selection keys change positions. The guiding text near the Left and Right selection keys does not change.



- 1 Keyboard light key (  )—switches the keyboard light on or off.
- 2 Power key (  )—switches the phone on and off.
- 3 Five-way joystick (  )—moves in four directions and selects the displayed menu option. (See illustration.)
- 4 Backspace key (  )—deletes characters.
- 5 Character key (  )—opens a set of characters and symbols during text writing.
- 6 Shift keys (  and  )—enters upper case letters and symbols. You can either press the Shift key first and then the desired key or press both keys at the same time.
- 7 Space bar keys (  and  )—enters a space.
- 8 Talk key (  )—dials a phone number and answers a call. In the standby mode it accesses the list of most recently called numbers.
- 9 Left selection key (  ) and Right selection key (  )—selects the menu option shown in the guiding text displayed above the key.
- 10 End key (  )—ends an active call or exits from a function.
- 11 Enter key (  )—starts a new line when writing text.



## • ABOUT THE FIVE-WAY JOYSTICK

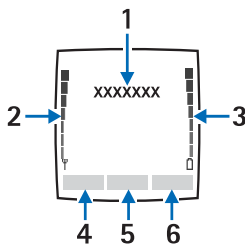
The five-way joystick provides a variety of functions:

- Allows you to scroll through lists.
- Moves the cursor up and down, right and left when writing text, using the calendar, and in some game applications.
- Selects the active menu item when pressed briefly (or confirms a selection).
- Adjusts the volume when moved to the left (to decrease volume) or to the right (to increase volume) during a call.
- Activates the camera when moved up in the standby mode.
- Opens the text editing screen to write a text message when moved to the left in the standby mode.
- Opens the calendar when moved to the right in the standby mode.
- Opens the contacts list when moved down in the standby mode.

## • THE STANDBY MODE

When the phone is ready for use (the keyboard can be either closed or open), and you have not keyed in any characters, the phone is in the standby mode. The following list describes the sections of the screen while in the standby mode. (For detailed descriptions of the screen icons, see “Icons in the standby mode” on page 19.)

- 1 Network**—shows the name of the network or the operator logo, to indicate in which cellular network the phone is currently being used.
- 2 Signal strength**—shows the signal strength of the cellular network at the current location. The higher the bar, the stronger the signal.
- 3 Battery charge**—shows the battery charge level. The higher the bar, the more power in the battery.
- 4 Left selection key menu option**—shows the menu option, which is Go to in standby mode.
- 5 Menu**—shows the joystick menu option.
- 6 Right selection key menu option**—shows the Right selection key menu option that can be customized to display your preferred shortcut. The default setting is Contact, which accesses the Contacts menu. To choose your own menu option for this key, see “Personal shortcuts” on page 57.




## • CUSTOMIZE THE GO TO MENU

Use these steps to customize the **Go to** menu.

- 1 Select **Go to** to view the list of shortcuts in your personal shortcut list.
- 2 To add items to the **Go to** menu, or remove items from the menu, choose **Options > Select Options**.  
Scroll to the desired function and select **Mark** to add it to the shortcut list. To remove a function from the list, select **Unmark**.
- 3 To rearrange items in the **Go to** menu, choose **Options > Organize**.  
Select the desired function and select **Move**; then select the location where you want to move the function.

## • SWITCH THE KEYBOARD LIGHTS ON OR OFF

When you open the keyboard, the main display is lit, but the keyboard lights do not automatically illuminate. To turn on the keyboard lights, press the **Keyboard light** key , located on the top left corner of the keyboard. The keyboard lights are switched off after a certain time, but they are turned on again as soon as you press any key. To switch the keyboard lights off, press the **Keyboard light** key or close the keyboard.

### Screensaver



















With the keyboard closed, the phone automatically activates a screensaver while in the standby mode. This occurs after a certain length of time when none of the phone functions have been used. For more information on the display, see “Display settings” on page 55.

### Wallpaper

You can set your phone to display a background picture as wallpaper when the phone is in the standby mode. For information on customizing your wallpaper, see “Display settings” on page 55.



## Icons in the standby mode

Icon	Indicates...
	You have one or more new text or picture messages.
	You have one or more new multimedia messages.
 or 	Your phone is connected to the IM service and the availability status is online or offline, respectively.
	You have one or more IM messages and you are connected to the IM service.
	The phone keypad is locked.
	The phone will not ring for an incoming call or a text message because <b>Incoming call alert</b> and <b>Message alert tone</b> are set to <b>Off</b> .
	The alarm clock is set to <b>On</b> .
	The countdown timer is running.
	The stopwatch is running in the background.
	The EGPRS connection mode is set to <b>Always online</b> and EGPRS service is available.
	An EGPRS connection is active.
	The EGPRS connection is suspended (on hold).
	There is an active IR connection.
	Your calls are forwarded to another number. If you have two phone lines, the icon for the first line is  and for the second line is  .
<b>1</b> or <b>2</b>	The selected phone line (only appears if you have two phone lines).
	The loudspeaker is activated.

## Icon Indicates...



Calls are limited to a closed user group. See "Security settings" on page 64.



The timed profile is selected.



A headset enhancement is connected to the phone.



A hands-free enhancement is connected to the phone.



A loopset enhancement is connected to the phone.




A music stand enhancement is connected to the phone.

## • KEYPAD LOCK (KEYGUARD)

The keyguard feature locks the keypad to prevent the keys from being accidentally pressed. You can lock the keypad only when the keyboard is closed.

Security keyguard is an additional feature that allows you to set up a code to unlock your phone before use. For information on security keyguard, see "Phone settings" on page 62.



**Note:** When keyguard is on, calls may be possible to the emergency number programmed into your phone. Key in the emergency number and press the Talk key . The number is displayed only after you have keyed in its last digit.

### LOCK THE KEYPAD

- In the standby mode, select **Menu**; then press the \* key within 1.5 seconds.
- To lock the keypad during a call, select **Options > Lock Keypad**.
- To answer a call when keyguard is on, press the **Talk** key. During the call, the phone can be operated normally. When you end or reject the call, the keypad automatically locks.

### UNLOCK THE KEYPAD

Select **Unlock**; then press the \* key within 1.5 seconds, or open the keyboard. The keyguard does not automatically reactivate when you close the keyboard.

## • OVER-THE-AIR SETTINGS SERVICE

To use wireless services such as MMS and EGPRS, you need to have proper connection settings on your phone. These settings may have already been set up by your service provider. If not, you may obtain the settings directly as an OTA message, and save them on your phone. For more information, contact your service provider.

You may be able to receive the connection settings for EGPRS, multimedia messages, synchronization, IM and presence, e-mail, and multimode browser.

When you have received the connection settings as an OTA message, **Connection settings received** is displayed.

- To save the settings, select **Options > Save**. If the phone prompts you to enter the PIN code for the settings, key in the PIN code and select **OK**. To obtain the PIN code, contact the service provider that supplies the settings. If no settings have been saved yet, the settings are saved under the first free connection set.
- To view the received settings first, select **Options > View**. To save the settings, select **Save**.
- To discard the received settings, select **Options > Discard**.

To activate the settings, see "Connect to a service" on page 85.

## 4 Call functions

### • MAKE A CALL

You can make a call with the keyboard open or closed. If you open the keyboard, the loudspeaker automatically activates.

#### Enter the phone number

- 1 Key in the phone number, including the area code.

If you key in an incorrect character, select **Clear** to delete it. To make a call when the keyboard is open, key in the phone number using the number keys.

For international calls, press the \* key twice for the international prefix or, if the keyboard is open, press +. (The + character replaces the international access code.) Then key in the country code, the area code (without the leading 0), if necessary, and the phone number.

- 2 Press the **Talk** key to call the number.
- 3 Press the **End** key to end the call or to cancel the call attempt.



**Note:** To adjust the volume during a call, move the joystick to the right to increase the volume or to the left to decrease the volume.

For more information, see “Options during a call” on page 24.

#### Use the contact list

- 1 Select **Names > Find** and select a name from the list.
- 2 Choose a phone number for the contact and press the **Talk** key.
- 3 Press the **End** key to end the call or to cancel the call attempt.

To search for a name/phone number that you have saved in **Contacts**, see “Search for a contact” on page 46.

#### Last number redial

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

#### Call your voice mailbox

In the standby mode when the keyboard is closed, press and hold the **1** key, or press the **1** key, then the **Talk** key. When the keyboard is open, press and hold the corresponding number key on the keyboard.

If you are prompted to supply a voice mailbox number, key it in and select **OK**. Contact your service provider to obtain your voice mailbox number. For more information, see "Voice messages" on page 38.

## Speed dial a phone number

Before you can use 1-touch dialing you need to assign speed dial numbers. For more information, see "Speed dialing" on page 50.

If 1-touch dialing is set to off, press the speed dialing number and then press the **Talk** key.

If 1-touch dialing is set to on, press and hold a speed dialing key until the call is started.



**Note:** To activate 1-touch dialing, select **Menu > Settings > More Settings > Call settings > 1-touch dialing > On**.

## • ANSWER OR REJECT AN INCOMING CALL

Press the **Send** key to answer an incoming call, and press the **End** key to end the call.

Press the **End** key to reject an incoming call.

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

If you are using a headset with a headset key, you can also answer and end a call by pressing the headset key.

If the **Call forwarding** function has been activated to forward calls, rejecting an incoming call will also forward the call. See "Call settings" on page 61.

## Caller ID

When there is an incoming call, the phone shows the caller's name, phone number, or the text **Private number** or **Call**.

If more than one name is found in **Contacts** with the same seven last digits of the phone number as the caller's number, only the phone number will be displayed (if it is available).

If the caller's number has not been saved in **Contacts**, but there is another name saved with the same seven last digits in the phone number as in the phone number of the caller, the phone may display an incorrect name.

## Call waiting

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

To activate call waiting, see "Call settings" on page 61.

## • OPTIONS DURING A CALL

Many of the options during a call are dependent on network services. For availability, contact your service provider.

When you select **Options** during a call, you can select one of the following basic options: **Lock keypad**, **Record**, **End call**, **New call**, **End all calls**, **Contacts**, **Menu**, **Mute** or **Unmute**, **Hold** or **Unhold**, **Private**, **Answer** and **Reject**.

The following options are also available:

**Conference**—allows you to make a conference call that allows up to five people to take part in a conference call. During a call, make a call to a new participant (**New call**). The first call is put on hold. When you have answered the new call, select **Conference** to include the first participant in the call. To have a private conversation with one of the participants, select **Private** and select the participant. To rejoin the conference call after a private conversation, select **Conference**.

**Send DTMF**—sends DTMF (dual tone multifrequency) tone strings, such as passwords or bank account numbers. The DTMF system is used by all touch-tone telephones. Key in the DTMF string, or search for it in contacts. You can key in the wait character (w) and the pause character (p) by repeatedly pressing the \* key.

**Swap**—switches between the active call and the call on hold, **Transfer** to connect a call on hold to an active call and to disconnect yourself from the calls.

**Loudspeaker**—activates the loudspeaker during a call. Do not hold the phone to your ear during loudspeaker operation. To activate the loudspeaker, open the keyboard or, if the keyboard is closed, select **Options > Loudspeaker** or select **Loudsp.**, if available.

During a call with the keyboard open, you can select **Handset** to deactivate the loudspeaker or close the keyboard. When the keyboard is closed, select **Options > Handset** or select **Handset**, if available to deactivate the loudspeaker.

The loudspeaker is deactivated automatically when you end a call (or a call attempt), when you connect a compatible hands-free unit or a headset to the phone, or when you close the keyboard.

If you have connected a compatible hands-free unit or a headset to the phone, the **Handset** option is replaced with **Handsfree** or **Headset** and the selection key **Handset** is replaced with **Handsfr.** or **Headset** respectively.

## 5 Text entry

Your phone is specifically designed for easy and comfortable text writing. The easiest way to write is using your thumbs to type on the messaging keyboard. You can start writing a message using the keyboard, close the keyboard and continue writing with either traditional or predictive text input. Predictive text input is not available when the keyboard is open.

### • WRITE TEXT WITH THE KEYBOARD OPEN

When the keyboard is open, you can start to write a message in several ways.

- Select **Menu > Messages > Text messages > Create message**.
- Move the joystick to the left in the standby mode.
- Press any of the letter keys in the standby mode (except the pause character *p* or the waiting character *w*) to open Notes.

#### AVAILABLE FUNCTIONS

The following functions are available when writing text with the keyboard open:

- To insert a number, press a number key. (If you pressing a number key in the standby mode, it initiates a normal call procedure.)
- To switch between the lower and upper case, indicated by **abc**, **abc** or **ABC** on the top left of the display, or to key in symbols, press the **Shift** keys on the keyboard. You can either press a **Shift** key and the desired character consecutively, or press and hold a **Shift** key and the desired letter key at the same time.
- To write in upper case only, press one of the **Shift** keys twice.
- To delete characters from the display, press the **Backspace** key or select **Clear**. Press the **Backspace** key briefly to clear one character at a time. Use a longer keypress to delete characters more quickly.
- To add a space, press one of the **Space** keys at the bottom of the keyboard.
- To create a line break, press the **Enter** key.

#### TYPING ACCENTED CHARACTERS

The characters available depend on the language selected in the **Phone language** menu. To type accented characters or symbols that are not printed on the keyboard, do one of the following:

- To access a set of punctuation marks, accented characters, and symbols, press the **Character** key. Scroll through the character set by moving the joystick, and select **Insert** to enter the selected character.
- To type an accented character that is not included in the list of special characters under the **Character** key, such as á, press and hold the **Character** key and simultaneously press "a" repeatedly until the desired accented variant of "a" appears on the display.

## • WRITE TEXT WITH THE KEYBOARD CLOSED

When the keyboard is closed, you can enter text using the traditional keypad method. You can also use predictive text to

### Set predictive text on or off

Predictive text anticipates the words you are typing to make text entry more efficient. This feature is available when the keyboard is closed.

To use the dictionary, select **Options > Dictionary** when writing or editing text. Then, select a language from the dictionary options list. Predictive text input is only available for the languages on the list.

To revert to traditional text input, select **Dictionary off**.

To quickly set the predictive text input on or off when writing text, press the # key twice, or press and hold **Options**.

### Predictive text

You can key in any letter with a single keypress. Predictive text is based on a built-in dictionary to which you can also add new words. For more instructions for writing text, see “Tips for writing text” on page 27.

- 1 Start writing a word using the 2–9 keys.  
Press each key once for one letter. The word may change after each keystroke. For example, to write Nokia with the English dictionary selected, press the 6 key once for *N*, the 6 key once for *o*, the 5 key once for *k*, the 4 key once for *i*, and the 2 key once for *a*. To insert a number while in letter mode, press and hold the desired number key.
- 2 When you have finished writing the word and it is correct, confirm it by pressing the 0 key to add a space or by moving the joystick to the right.
- 3 If the word is not the one you are looking for, press the \* key repeatedly or select **Options > Matches**.
- 4 When the word you want appears, confirm it.  
If the ? character appears after the word, the word that you intended to write is not in the dictionary.
- 5 To add a word to the dictionary, select **Spell**, key in the word (traditional text input is used) and select **Save**.  
When the dictionary becomes full, the new word replaces the oldest one that was added.
- 6 Start writing the next word.



## COMPOUND WORDS

Key in the first part of the word and confirm it by moving the joystick to the right. Write the last part of the word and confirm it by moving the joystick to the right.

### Traditional text input

Press a number key 1–9, repeatedly until the desired character appears. The characters available depend on the language selected in the **Phone language** menu.

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

- If the next letter you want is located on the same key as the present one, wait until the cursor appears, or move the joystick to the right and key in the letter.
- To access the most common punctuation marks and special characters, use the 1 key.

### Tips for writing text

The following functions may also be available for writing text in predictive or traditional input:

- To insert a space, press the 0 key.
- To move the cursor to the right, left, up or down, move the joystick respectively.
- To delete a character from the display, select **Clear**. Press and hold **Clear** to delete the characters more quickly.  
To delete all the characters simultaneously when writing a message, select **Options > Clear text**.
- To insert a word that is not in the dictionary when using predictive text input, select **Options > Insert word**. Write the word using traditional text input and select **Save**. The word is also added to the dictionary.
- To insert a special character when using traditional text input, press the \* key. When using predictive text input, press and hold the \* key, or select **Options > Insert symbol**. Move the cursor with the joystick to a character, and select **Use** to select it.
- You can also scroll to a character by pressing the 2, 4, 6, and 8 keys, and select it by pressing the 5 key.

The following options are available when writing text messages:

- To insert a phone number while in letter mode, select **Options > Insert number**. Key in the number or select **Find** to search for it in **Contacts**. When done, select **OK**.
- To insert a name from **Contacts**, select **Options > Insert contact**. To insert a phone number or a text item attached to the contact name, select **Options > View details**.

## 6 The menu

Your phone offers you an extensive range of functions that are grouped into menus. Most of the menu functions include Help text. To view the Help text, scroll to the menu function you want and wait 15 seconds. To exit the help text, select **Back**.

You can view the main menu as a grid of icons or in list view. To change the menu view, see "Display settings" on page 55

### • SCROLL TO A MENU FUNCTION

- 1 To access the menu, select **Menu**.
- 2 Scroll through the menu by moving the joystick up or down (or right and left if the grid menu is selected), and press the joystick to select a highlighted menu item. .
- 3 If the menu contains submenus, select the one you want.
- 4 If the selected submenu contains further submenus, repeat step 3.
- 5 Select the setting of your choice.
- 6 Select **Back** to return to the previous menu level, and **Exit** to exit the menu.

### • MENU SHORTCUTS

Each menu, submenu, and settings option is numbered for quick access. The shortcut numbers appear the upper corner of the display. If you frequently use a specific menu, you can key in the shortcut numbers to go directly to that location without scrolling.

To use shortcuts, select **Menu** and, within 2 seconds, press the sequence of number keys associated with the menu function you want to view or activate. To access menu functions in menu 1, press **Menu > 1** and then key in the rest of the desired shortcut number. Select **Back** to return to the previous menu level and **Exit** to exit the menu.

## 7 Messages



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

Before you can send text, picture or text (SMS) e-mail messages, you need to save your message center number. See “Message settings” on page 39. The default setting of the multimedia message service is generally on.



**Note:** When sending messages using the SMS network service, your phone may display “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.

The appearance of a multimedia message may vary depending on the receiving device.

### • TEXT MESSAGES (SMS)

You can use SMS (short message service) to send and receive multipart messages that consist of several ordinary text messages. This feature requires network services. See your service provider for more information about service availability and pricing.

Your phone allows you to send text messages beyond the normal 160-character limit. If your message exceeds 160 characters, it is sent as a series of two or more messages. In the navigation bar, you can see the message length indicator counting backwards from 160. For example, 10 (2) means that you can still add 10 characters for the text to be sent as two messages.

Using special (Unicode) characters, such as è, â, á, ì, takes up more space. If there are special characters in your message, the indicator may not show the message length correctly. Before the message is sent, the device tells you if the message exceeds the maximum length allowed for one message. You can cancel sending by pressing Cancel or you can save the message in the inbox.

You can also send and receive text messages that contain pictures. This feature must be supported by your network services or service provider. Only phones that offer picture message features can receive and display picture messages. The text messages function uses shared memory.

### Write and send a message

In the standby mode, you can move the joystick to the left to start writing a message quickly.

The *number of available characters /the current part number* of a multipart message are shown on the top right of the display (such as 120/2).

- 1 Select Menu > Messages > Text messages > Create message.
- 2 Key in your message.
- 3 To send the message, press the Send key.
- 4 Enter the recipient's phone number or search for it in Contacts, and select OK.

## Options when sending a message

After you have written a message, select Options > Sending options to choose from the following options:

**Send to many**—to send a message to several recipients. When you have sent the message to all the intended recipients, select Done.

**Send to list**—to send a message using a distribution list.

**Sending profile**—to send a message using a message profile.

## Write and send SMS e-mail

Before you can send an e-mail using SMS, you need to save the settings for sending e-mail. For availability and subscription to the e-mail service, contact your service provider.

- 1 Select Menu > Messages > Text messages > Create SMS e-mail.
- 2 Key in the recipient's e-mail address or search for it in Contacts, and select OK.
- 3 If you wish, you can key in a subject for the e-mail and select OK.
- 4 Key in the e-mail message.

The total number of characters that you can key in is shown on the top right of the display. The e-mail address and subject are included in the total number of characters.

Also see "Text and picture templates" on page 32. Pictures cannot be inserted.


- 5 To send the e-mail, press the Send key.


If you have not saved the settings for sending e-mail, the phone prompts you to enter the number of the e-mail server. Key in the information and select OK to send the e-mail.



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

## Read and reply to SMS messages or SMS e-mail

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

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

1 Select **Show** to view the new message. You can also select **Exit** to view it later. Later, you can view the message by selecting **Menu > Messages > Text messages > Inbox**.

2 If more than one message has been received, select the one that you want to read.

An unread text message is indicated by  in front of it.

3 While reading or viewing the message, you can select from a series of basic options, such as **Delete**, **Forward**, **Edit** (as a text message or an e-mail), **Rename**, or **Move**. You can also select one of the following options:

**Copy to calendar**—to copy text from the beginning of the message to your calendar as a memo for the current day.

**Message details**—to view, if available, the sender's name and phone number, the message center used, and the date and time of receipt.

**Use detail**—to extract numbers, e-mail and Web site addresses from the current message.

**Save picture**—(when viewing a picture message), to save the picture in the **Templates** folder.

4 Select **Reply** to reply to a message.

5 Select **Original text** to include the original message in the reply, or select a standard answer to be included in the reply, or select **Empty** screen.

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

6 Press the **Send** key to send the message to the displayed number.

## Inbox and sent items folders

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

Text messages that you wish to send later can be saved in the **Archive**, **My folders**, or **Templates** folder.

## • ARCHIVE FOLDER AND CUSTOM FOLDERS



To organize your messages, move them to the **Archive** folder or add new folders for your messages.

While reading a message, select **Options > Move** and select the folder to which you want to move the message.


To add or delete a folder, select **Menu > Messages > Text messages > My folders**.

- To add a folder, select **Options > Add folder**. If you have not saved any folders, select **Add** to create one.
- To delete a folder, locate the folder that you want to delete and select **Options > Delete folder**.

## • TEXT AND PICTURE TEMPLATES

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

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

- To insert a text template into a message or an e-mail, select **Options > Use template** and select the template you want to insert.
- To insert a picture into a text message, select **Options > Insert picture** and select a picture to view it. Select **Insert** to insert the picture into your message. The  icon in the header of the message indicates that a picture has been attached. The number of characters allowed in the message depends on the size of the picture.
- To view the text and the picture together before sending the message, select **Options > Preview**.

## • MANAGE DISTRIBUTION LISTS

If you send messages frequently to a fixed group of people, you can define and save distribution lists. The phone sends the message separately to each recipient on the list, so sending a message using a distribution list may cost more than sending a message to one recipient.

Make sure that each contact you want to add to the distribution lists is already set up in your phone. Use these steps to set up and name distribution lists.

- 1 In the standby mode, select **Menu > Messages > Text messages > Distribution lists**.  
If you have created distribution lists, the current list appears. If you have not yet created a list, **Add** appears.
- 2 To create a distribution list, select **Add** if it's the first list, or select **Options > Add for a new list**.
- 3 Key in a name for the list and select **OK**.
- 4 To add names to the list, select the list; then select **View > Add** to open Contacts list. Select the desired contact.

Use these steps to manage and edit lists.

- 1 To work with a list, select the list name and select **Options**; then choose from the following options:

- **Add List**—to create a new list.
  - **Rename List**—to change the name of a list.
  - **Clear List**—to empty the list of names.
  - **Delete List**—to delete the list entirely.
- 2 To access the names on a list, locate the desired list and select **View**. Then choose from the following options:
- To view the contact information for a recipient, locate the desired name, select **Options > View details**.
  - To delete a recipient from the list, locate the desired name, select **Options > Delete contact**.

## • TEXT MESSAGE COUNTER

The text message counter shows the number of sent and received text and picture messages. Picture messages may consist of more than one message. You can view the recipient or sender of the message, or view the details of the message.

## • MULTIMEDIA MESSAGES

A multimedia message can contain text and one image, sound clip, video clip or a slide. This function can be used only if it is supported by your service provider. Only phones that offer compatible multimedia message features can receive and display multimedia messages.

The phone supports multimedia messages that are up to 100 kB in size. If the message contains an image, the phone scales it down to fit the display area. If the maximum size is exceeded, the phone may not be able to receive the message. Some service providers send a text message with a link or Internet address where you can view the multimedia message.



**Note:** If **Allow multimedia reception** is set to **Yes** or **In home network**, your operator or service provider may charge you for each message you receive.

Multimedia messaging works with the following formats:

- **Picture:** JPEG, GIF, WBMP, BMP, PNG, and OTA-BMP
- **Sound:** scalable polyphonic MIDI (SP-MIDI), AMR audio and monophonic ringing tones
- **Video clips** in H.263 format with SubQCIF image size and AMR audio

The phone does not necessarily support all variations of the listed file formats. If a received message contains any unsupported elements, they may be replaced with the file name and the text **Object format not supported**.

You cannot receive any multimedia messages if you have a call in progress, a game or another Java application running, or if you have an active browsing session over GSM data. Because delivery of multimedia messages can fail for a variety of reasons, do not rely solely upon them for essential communications.

Your phone allows you to send and receive multimedia messages that contain several pages, or slides. To insert a slide into a message, select **Options > Insert > Slide**. Each slide can contain text, one image and one sound clip. To move the text part to the top or bottom of the message, select **Options > Text on top** or **Options > Text on bottom**.


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

## Write and send a multimedia message

To define the settings for multimedia messaging, see "Settings for multimedia messages" on page 40. For information about subscribing to multimedia messaging services, contact your service provider.

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

- 1 Select **Menu > Messages > Multimedia msgs. > Create message**.
- 2 Key in a message.
  - To add a file to the message, select **Options > Insert**.
  - Select **Image, Sound clip, Video clip, or Slide**.
  - Open the folder that contains the item you want to add to the message, locate the desired file, and select **Options > Insert**.An attached file is indicated by the file name in the message.
- 3 To insert a name from **Contacts**, select **Options > More options > Insert contact**, and select the desired name.
- 4 To insert a number, select **Options > More options > Insert number**. Key in the number or search for it in **Contacts**, and select **OK**.
- 5 To view the message before sending it, select **Options > Preview**.
- 6 Press the **Talk** key to send the message, or select **Options > Send to e-mail or Send to many**.
- 7 Enter the recipient's phone number (or e-mail address) or search for it in **Contacts**.
- 8 Select **OK**.



It takes more time to send a multimedia message than a text message. While the multimedia message is being sent, the animated icon  is displayed and you can use other functions on the phone. If there is an interruption while the message is being sent, the phone makes a few more attempts to send it. If this fails, the message remains




in the **Outbox** folder and you can try to send it later.

Sent messages are saved in the **Sent items** folder if the setting **Save sent messages** is set to **Yes**. (See “Settings for multimedia messages” on page 40.) This is not, however, a confirmation that the message has been received at the intended destination.

## Read and reply to a multimedia message

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

The blinking icon  indicates that the memory for multimedia messages is full, see “Multimedia messages memory full” on page 36.

- 1 Select **Show** to view the message, or select **Exit** to view it later.  
(To read the message later, select **Menu > Messages > Multimedia msgs. > Inbox**.)  
The function of the middle selection key changes according to the displayed object.
- 2 Choose from the following:
  - To reply to the message, select **Reply**.
  - To delete an object contained in the message, select **Delete**. Otherwise, select **Options > Delete message**.
  - To listen to a sound clip or view a video clip contained in the message, select **Play**.
  - To zoom in on an attached image, select **Zoom**.

If you select **Options**, some of the following options are available:

**Delete message**—deletes a saved message.

**Reply or Reply to all**—lets you reply to the message.

**Use detail**—extracts phone numbers, e-mail addresses, or Web addresses from the message.

**Forward to no.**, **Forward to e-mail** or **Send to many**—forwards the message.

**Edit**—edits a message that you have written.

**Message details**—displays the subject, size and class of the message.

**Details**—displays the details of the attached image or sound.

**Play presentation**—displays the presentation attached in the message.

**Save image**, **Save sound clip** or **Save video clip**—saves the file in the **Gallery**.

## Inbox, Outbox, Saved and Sent items folders


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

Multimedia messages that are waiting to be sent are stored in the **Outbox** folder of the **Multimedia msgs.** submenu.

Multimedia messages that you wish to save and send later can be saved in the **Saved items** folder of the **Multimedia msgs.** submenu.

Multimedia messages that have been sent are saved in the **Sent items** folder of the **Multimedia msgs.** submenu, if the setting **Save sent messages** is set to **Yes**. (For more information see "Settings for multimedia messages" on page 40.)

## MULTIMEDIA MESSAGES MEMORY FULL

When you have a new multimedia message waiting and the memory for the messages is full, the icon  blinks and **Multimedia memory full, view waiting msg.** is shown. To view the waiting message, select **Show**. To save the message, select **Save** and delete old messages by first selecting the folder and then the message to be deleted.

To discard the waiting message, select **Exit** > **Yes**. If you select **No**, you can view the message.

## • DELETE MESSAGES

To delete text messages, select **Menu** > **Messages** > **Text messages** > **Delete messages**. Then choose from the following options:

**All messages**—to delete all messages from all folders. If there are unread messages, the phone prompts you to confirm you want to delete these also.

**Inbox**—to delete all messages in the **Inbox**.

**Sent items**—to delete all messages in the **Sent** folder.

**Archive**—to delete all messages in the **Archive** folder.

## • E-MAIL MESSAGES

The e-mail features allow you to access your e-mail account using your phone. The compatible e-mail application that you use in the office or at home must use POP3 and IMAP4 e-mail servers.



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

Before you can send and retrieve e-mail, you may need to do the following:

- Obtain a compatible e-mail account. For details on compatibility, contact an e-mail service provider.
- For the settings required for e-mail, contact your service provider. For receiving the e-mail settings over the air, see “Over-the-air settings service” on page 21.
- Activate the e-mail service settings that you have obtained from the e-mail service provider. To activate the settings, select **Menu > Messages > Settings > E-mail settings**.
- To set the e-mail settings on your phone, select **Menu > Messages > E-mail > Other options > Settings**. See “E-mail settings” on page 41.

## Write and send e-mail

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

- 1 Select **Menu > Messages > E-mail > Create e-mail**.
- 2 Key in the recipient's e-mail address and select **Options > OK**.
- 3 To search for the e-mail address in contacts, select **Options > Find > OK**.
- 4 Key in a subject for the e-mail, and then select **Options > OK**.
- 5 Key in the e-mail message.

The number of characters that you can key in is shown on the top right of the display.

- 6 To send the e-mail message, select **Options > Send e-mail**, and select one of these options:

**Send now**—sends the e-mail immediately. If you are connected to the e-mail account, your phone establishes the connection and then sends the e-mail.


**Send later**—saves your e-mail in the **Outbox** folder to send later. To edit or continue writing your e-mail later, you can save it in **Drafts** by selecting **Save draft msg**. When you are ready to send the e-mail, select **Menu > Messages > E-mail > Send now** or **Send and retrieve**.

Other options in the options list allow you to edit the e-mail or subject, add a copy recipient or a hidden copy recipient, exit the editor or use the dictionary.

## Download e-mail from your e-mail account

If message memory is full, delete some of your older messages before you start to download new messages.

- 1 Do one of the following:
  - To download new messages, select **Menu > Messages > E-mail > Retrieve**.
  - ∞ To send messages that are in your **Outbox** folder at the same time you download new messages, select **Menu > Messages > E-mail > Send and retrieve**.

- 2 Select any messages you want to view in the **Inbox**, or press **Back** to view it later.  
Unread text messages are indicated by .

## Read and reply to an e-mail message

- 1 Select **Menu** > **Messages** > **E-mail** > **Inbox**.
- 2 Display the desired message and select **Options**.
- 3 Select **Reply** to reply to an e-mail. Select **Original text** to include the original message in the reply or select **Empty screen**.

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

- 4 Select **Options** > **Send e-mail** > **Send now** to send the message.

## E-mail menu folders

Your phone has the following folders in the E-mail menu:

**Inbox**—for saving e-mail messages that you have downloaded from your e-mail account.

**Outbox**—for saving e-mail messages that have not been sent if you have selected **Send later** (see “Write and send e-mail” on page 37).

**Deleted items**—for e-mail messages that have been deleted.

**Sent items**—for saving e-mail messages that have been sent.

**Drafts**—for saving unfinished e-mail messages.

**Archive**—for organizing and saving your e-mail messages.

## Options for an e-mail application

Select **Menu** > **Messages** > **E-mail**, and select one of the following options:

- **Connect via**—activates the network connection settings for your e-mail function. Select **Application** to activate the settings that are used for the e-mail application or select **Default** to confirm that your e-mail function uses the same settings as your browser. See “Key in the service settings” on page 84. Contact your e-mail service provider for more information.
- **Details**—displays additional information about the application.

## • VOICE MESSAGES

The voice mailbox is a network service. For more information, contact your service provider.

Select **Menu** > **Messages** > **Voice messages**, and select one of the following options:



**Note:** You can also press and hold the 1 key to call your mailbox. This shortcut is available with the keyboard open or closed.

- Listen to voice messages to call your voice mailbox at the phone number that you have saved in the **Voice mailbox number** menu. If you have two phone lines available through your network service, each phone line may have its own voice mailbox number. For more information, see “Call settings” on page 61.
- **Voice mailbox number** to key in, search for or edit your voice mailbox number and select OK to save it.

If supported by the network, the icon  indicates there are new voice messages. Select Listen to call your voice mailbox number.

## • INFO MESSAGES

Info messages is a network service that provides informational messages from your service provider on various topics. For availability, topics and the relevant topic numbers, contact your service provider.

## • MESSAGE SETTINGS

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

### Settings for SMS text and e-mail messages

- 1 Select Menu > Messages > Message settings > Text messages > Sending profile.
- 2 If more than one message profile set is supported by your SIM card, select the set that you want to change.

**Message center number**—to save the phone number of the message center that is required for sending text messages. You will receive this number from your service provider.

**Messages sent via**—to select the message type: Text, E-mail, Paging or Fax.

**Message validity**—to select the length of time for which the network should attempt to deliver your message.

**Default recipient number** (for message type Text)—to save a default number for sending messages for this message profile.

**E-mail server** (for message type E-mail)—to save the e-mail server number.

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

**Use GPRS > Yes**—to set GPRS as the preferred SMS bearer. Also set the GPRS connection setting to **Always online**. (See “EGPRS” on page 60.)

**Reply via same center**—to allow the message recipient to send you a reply by way of your message center (network service).

**Rename sending profile**—to change the name of the selected message profile. The message profile sets are only displayed if your SIM card supports more than one set.

## Overwrite settings

When the text message memory is full, the phone cannot receive or send any new messages. However, you can set the phone to automatically replace old text messages in the **Inbox** and **Sent** items folders with new ones.

Select **Menu > Messages > Message settings > Text messages**, and select either **Overwriting in inbox** or **Overwriting in sent items** and **Allowed**.

## Settings for multimedia messages

You may receive the multimedia connection settings as an over-the-air message from the service provider. To receive the settings over the air, see “Over-the-air settings service” on page 21.

To key in the settings manually, select **Menu > Messages > Message settings > Multimedia msgs.**, and set up the following items:

**Save sent messages > Yes**—to set the phone to save sent multimedia messages in the **Sent** items folder. If you select **No**, the sent messages are not saved.

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

**Scale image down**—to define the image size when you insert the image to the multimedia message.

**Default slide timing**—to set the timing for slides in multimedia messages.

**Allow multimedia reception > No, Yes, or In home network**—to use the multimedia service. If you select **In home network**, you cannot receive multimedia messages outside your home network.

**Incoming multimedia messages > Retrieve**—to set the phone to automatically fetch newly received multimedia messages. Select **Reject** if you do not wish to receive multimedia messages.

**Connection settings**—to define connection settings for retrieving multimedia messages. First select **Active multimedia settings**, and activate the set in which you want to save the settings. Select **Edit active multimedia settings** and edit the active settings.

Select each of the settings one by one and key in all the required settings. Contact your service provider for the settings.

**Allow adverts**—to receive or reject advertisements. The setting is not shown if **Allow multimedia reception** is set to **No**.

## • E-MAIL SETTINGS

You may receive the e-mail connection settings as an over-the-air message from the service provider. For receiving the settings over the air, see "Over-the-air settings service" on page 21. For keying in the settings manually, select **Menu > Messages > Message settings > E-mail messages > Active e-mail settings**.

You must first activate a mailbox. Select **Mailbox in use** and activate the mailbox for which you want to save the settings. Select **Activate > Edit active e-mail settings** and edit the settings.

Select each of the settings one by one and key in all that are required. Contact your or e-mail service provider for the settings.

**Mailbox name**—key in the name that you want to use for the mailbox.

**E-mail address**—key in your e-mail address.

**My name**—key in your name or nickname if you want the recipient to see it.

**Outgoing (SMTP) server**—key in the address of the e-mail server.

**Outgoing (SMTP) port**—key in the number of the e-mail server port for outgoing e-mail. The most common default value is 25.

**Use SMTP authorization**—if your e-mail service provider requires authentication for sending e-mails, set the setting to on. You must also define your **SMTP user name** and **SMTP password**.

**SMTP user name**—key in the user name for outgoing mails that you have obtained from your e-mail service provider.

**SMTP password**—key in the password that you want to use for outgoing mails. If you have not defined a password, you may be asked to define one when your phone connects to your e-mail account.

**Include signature**—confirm your selection if you want to add a predefined signature to your e-mail.

**Incoming (POP3/IMAP) server**—key in the e-mail server address for incoming e-mail (either POP3 or IMAP4)

**Incoming (POP3/IMAP) port**—key in the port number that you have obtained from your e-mail service provider.

**POP3/IMAP user name**—key in the user name to access the mailbox. If you have not defined your **SMTP user name**, the e-mail server uses this user name instead.

**POP3/IMAP password**—key in the password to access the mailbox. If you have not defined your **SMTP password**, the e-mail server uses **POP3/IMAP password** instead.

**Reply-to address**—key in the e-mail address to which you want the replies to be sent, if it differs from your e-mail address.

**Incoming server type** > POP3 or IMAP4—if both types are supported, select IMAP4. Changing the server type also changes the incoming port number.

**Secure login APOP** > On—if your connection requires an encrypted login, otherwise leave it to Off. Contact your service provider if in doubt. This option is only shown, if you have selected POP3 as your mailbox type. Using encrypted login enables increased security for user names and passwords. It does not increase security for the connection itself

**Retrieve mails**—key in the number of e-mails that you want to retrieve at a time.

## • FONT SIZE SETTING

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

## • SERVICE COMMANDS

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



## 8 Call log



The phone records the phone numbers for missed, received and dialed calls, and the approximate length of the calls.

The phone records missed and received calls only if the network supports these functions. The phone must also be switched on and within the network service area.

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

### • RECENT CALL LISTS

Select **Menu** > **Call log**, and one of the following options:

**Missed calls**—to view the list of the last 20 phone numbers from which somebody has tried to call you (network service). The number in front of the name or phone number indicates the number of call attempts from that caller.

When a note about missed calls is displayed, select **List** to access the list of phone numbers. Scroll to the number you would like to call back and press the **Send** key.

**Received calls**—to view the list of the last 20 phone numbers from which you have most recently accepted calls (network service).

**Dialed numbers**—to view the list of the last 20 phone numbers that you have most recently called or attempted to call. See also "Last number redial" on page 22.

**Delete recent call lists**—to delete the recent calls lists. Select whether you want to delete all the phone numbers in the recent calls lists, or only the numbers in the missed calls, received calls or dialed numbers lists. You cannot undo the operation.

### • TIMERS AND COUNTERS

Timers and counters maintain useful information about phone activity.



**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.

Select **Menu** > **Call log** > **Timers and counters**, and one of the following options:

- **Call timers**—scroll to view the approximate duration of your incoming and outgoing calls in hours, minutes, and seconds. The security code is required to clear the timers. If you have two phone lines available (network service), each phone line has its own call duration timers. The timers of the selected line are displayed.

- **GPRS data counter.**—scroll to check the size of data that was sent or received in bytes, sent and received data in total, and to clear the counters. The security code is required to clear the counters.
- **GPRS connection timer.**—scroll to check the duration of the last GPRS connection or the total GPRS connection time. You can also clear the timers. The security code is required to clear the timers.




**Note:** Timers and counters may be reset if you have your phone repaired.

## 9 Contacts



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

You may save up to 500 names with numbers and text notes for each name in the phone memory. You can also save an image for a certain number of names. The number of names that can be saved depends on both the length of the names, and the number and length of the phone numbers and text items.

The phone supports SIM cards that can save up to 250 names and phone numbers. Names and numbers that are saved in the SIM card memory, are indicated by .

Using presence you can publish your current availability status to communicate to anyone who has access to this service and who is requesting this information. You can view the availability status of any of the contacts that you have subscribed to in the **Subscribed names** menu and in the detailed view of a name in **Contacts**.

### • CONTACTS SETTINGS

Select **Menu > Contacts > Settings**, and one of the following options:

**Memory in use**—to select the memory, either SIM card or phone, that you want to use for your contacts. To recall names and numbers from both memories for contacts, select **Phone and SIM**. In this case, the names and numbers will be saved in the phone memory.

**Contacts view**—to select how the names, numbers and images in contacts are displayed.

**Memory status**—to view how much free memory is available for both memories for contacts.

### • ADD CONTACTS

Names and numbers will be saved in the memory in use.


- 1 Select **Menu > Contacts > Add contact**.
- 2 Key in the name and select **OK**.
- 3 Key in the phone number, and select **OK**.
- 4 When the name and number have been saved, select **Done**.



**Note:** To quick save in the standby mode, key in the phone number and select **Save**. Key in the name, select **OK > Done**.

## Save multiple numbers and text items per contact

You can save different types of phone numbers and short text items for each name in the phone memory that is allocated for contacts.

The first number saved is automatically set as the default number and it is indicated by a frame around the number type icon, for example . When you select a name from contacts the default number is used unless you select another number.

- 1 Make sure that the memory in use is either **Phone** or **Phone and SIM**.
- 2 To access the list of names and phone numbers, move the joystick down in the standby mode.
- 3 Select the desired name and select **Details > Options > Add number** or **Add detail**.
- 4 To add a number or detail, select one of the number types or text types, respectively.
  - For the **User ID**—select **Search** to search for an ID by a mobile phone number or an e-mail address in the server of the operator or service provider if you have connected to the presence service. If only one ID is found, it is automatically saved. Otherwise, to save an ID, select **Options > Save**.
  - To key in the ID, select **Enter ID manually**. Key in the ID and select **OK** to save it.
  - To change the number or text type, select **Change type** in the options list. (You cannot change the type of an ID when it is on the **IM contacts** or in the **Subscribed names list**.)
  - To set the selected number as the default number, select **Set as default**.
- 5 Key in the number or text item and select **OK** to save it.
- 6 Select **Back > Exit** to return to the standby mode.

## Add an image to a name or number

You can add an image to a name or number saved in the phone memory. The image must be one of the supported formats (JPEG, GIF, WBMP, BMP, PNG, and OTA-BMP).

Move the joystick down in the standby mode, scroll to the name (and number), and select **Details > Options > Add image**. The phone opens the list of folders in the **Gallery**. Scroll to the desired image, and select **Options > Save to contacts**.

## • SEARCH FOR A CONTACT

- 1 Select **Menu > Contacts > Find**, or move the joystick down in the standby mode.
- 2 Key in the first characters of the name that you are searching for in the pop-up window. Move the joystick up or down to scroll through the names in the list, and right or left to move the cursor in the pop-up window

- 3 Scroll to the desired contact, and select **Details**.
- 4 Scroll to view the details of the selected contact.

Depending on the **Contacts** view setting in "Contacts settings" on page 45, the subscribed contacts are shown differently. Either only the availability icon or the availability icon, personal logo and the status message are shown.

- 5 Select **Details** to view all dynamic information.

To view the status message in full, select **Details** and press and hold the \* key at the dynamic contact while scrolling through the contact names.

## • DELETE CONTACTS

Select **Menu > Contacts > Delete** to delete a contact and the details attached to it.

If the contact has an ID on the IM contacts or in the **Subscribed names** list, the note **Presence information will be deleted** is shown before the contact is deleted.

- To delete names and numbers one by one, select **One by one** and scroll to the name (and number) that you want to delete. Select **Delete > Yes**.
- To delete contacts all at once, select **Delete all**, scroll to one of the memory locations (**Phone** or **SIM card**), and select **Delete**. Select **Yes**. Confirm the deletion using the security code.

## • EDIT OR DELETE DETAILS IN CONTACTS

Move the joystick down in the standby mode, scroll to the contact that you want to edit or delete and select **Details**. Scroll to the name, number, text item or image that you want to edit or delete, and select **Options**.

- To edit a name, number or text item or to change an image, select **Edit name**, **Edit number**, **Edit detail**, or **Change image**. (You cannot edit or delete an ID when it is on the IM contacts or in the **Subscribed names** list.)
- To delete a number or text item, select **Delete number** or **Delete detail**.
- To delete an image which is attached to the contact, select **Delete image**. Deleting an image from contacts does not delete it from **Gallery**.

## • MY PRESENCE

My presence is a network service that provides enhanced communication services that you can share with others, such as your family, friends and colleagues. You can share your current presence status with those who have access to the service and request it. The




requested information is shown in **Subscribed names** in the viewers **Contacts** menu. You can control and personalize the information that you want to share with others, and control the list of persons who can view your presence status.

For the availability of the presence service, contact your service provider. You need to access the presence service before you can share your presence status with others. Other viewers need access to the presence service and a compatible phone to share your presence status.

Select **Menu > Contacts > My presence**, and one of the following options:

**Connect to My presence service (or Disconnect)**—to connect to or disconnect from the service.

**My current presence**—to change your presence status. Choose from the following options:

- **View current presence** and select **Private presence** or **Public presence** to view your current private or public status.
- **My availability** to set your availability status to **Available** indicated by , **Busy** indicated by , or **Not available** indicated by .
- **My presence message** and key in the text to be shown to other persons or select **Options > Previous msgs.** and select an old message as the status message.
- **My presence logo** to select the default logo of the availability status or personalize one from the **Graphics** folder in the **Gallery**.
- **Show to** to select the groups with whom you want to share or not to share your presence status. Select **Private and public**, **Private viewers** or **No one**.

**Current viewers** and select:

- **Current viewers** to view all the persons who have subscribed to your presence information.
- **Private list** to view the list of the persons who are allowed to view your personalized presence information.
- **Blocked list** to view all the persons you have blocked from viewing your presence information.

**Settings** and select:

- **Show current presence in idle** to show the current status icon in the standby mode.
- **Synchronize with profiles** to select whether you want to link **My presence message** and **My availability** manually or automatically to the currently active profile. (You cannot link a personalized status logo to a Profile.)
- **Connection type** to set the phone to automatically connect to the service when the phone is switched on.
- **Network settings.** (See “IM and my presence settings” on page 54.)

## Subscribed contacts

You can create a list of contacts whose presence status you want to monitor. You can view the information (if the contacts allow you to view it) and if it is not prevented by the network. You can view subscribed contacts either by scrolling through the contacts or by viewing the **Subscribed names** menu.

Make sure that the memory in use is either **Phone** or **Phone and SIM**. See "Contacts settings" on page 45.

To connect to the Presence service, select **Menu > Contacts > My presence > Connect to My presence service**. You can also view the subscribed contacts when you are not connected to the presence service, but you cannot see the presence status of the contact.

## Add contacts to the subscribed contacts

- 1 Select **Menu > Contacts > Subscribed names**. If you have not connected to the Presence service, the phone asks if you want to connect now.
- 2 If you have no contacts on your list, select **Add**. Otherwise, select **Options > Subscribe new**. The list of contacts is shown.
- 3 Select a contact from the list and if the contact has an ID saved, the contact is added to the subscribed contacts list. If there are more than one ID, select one of them. After subscription to the contact, **Subscription activated** is shown.

To subscribe to a contact from **Contacts** list, move the joystick down in the standby mode and scroll to the contact that you want to subscribe to. Select **Details > Options**. To subscribe, select **Request presence > As subscription**.

If you only want to view the presence information without subscribing to a contact, select **Request presence and One time only**.

## View subscribed contacts

See also "Search for a contact" on page 46 to view the presence information.

- 1 Select **Menu > Contacts > Subscribed names**.

The status information of the first contact on the dynamic contacts list is shown and it may include text and some of the following icons:

,  or  indicate that the person is available, busy, or not available.

 indicates that the person's presence information is not available.

- 2 Scroll to the desired contact and select **Details** to view the details of the selected contact. If you select **Options**, you can select from the following:
  - **Subscribe new** to add a new contact to the list of subscribed contacts.
  - **IM** to start a chat conversation.
  - **Send message** to send a text message to the selected contact.

- **Send e-mail** to send an e-mail to the selected contact.
- **Send bus. card** to send a business card.
- **Unsubscribe** to remove the selected contact from the list of subscribed contacts.

## Unsubscribe a contact

To unsubscribe a contact from the **Contacts** list, move the joystick down in the standby mode and scroll to the contact that you want to unsubscribe. Select **Details**, select the ID, and select **Options**. To unsubscribe, select **Unsubscribe** and select **OK** to confirm.

To unsubscribe using the **Subscribed names** menu, see “View subscribed contacts” on page 49.

## • COPY CONTACTS

You can copy names and phone numbers from the phone memory to your SIM card memory and vice versa. Any text items saved in the phone memory, such as e-mail addresses, will not be copied to the SIM card.

- 1 Select **Menu** > **Contacts** > **Copy**.
- 2 Select the method, **From phone to SIM card** or **From SIM card to phone**.
- 3 Select **One by one**, **All** or **Primary numbers**.

**Primary numbers** is shown if you copy from the phone to the SIM card. Only the primary numbers will be copied.

- 4 To keep or delete the original names and numbers, select **Keep original** or **Move original**.

## • SEND AND RECEIVE BUSINESS CARDS

You can send and receive a person's contact information from a compatible device as a business card.

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

To send a business card, search for the name and phone number you want to send from contacts, select **Details** > **Options** > **Send bus. card**. Select **Via infrared**, **Via text message** (network service), or **Via Bluetooth**.

## • SPEED DIALING

To assign a number to a speed dialing key, use the following steps:



- 1 Select **Menu** > **Contacts** > **1-touch dialing** and scroll to the desired speed dialing key number.
- 2 Select **Assign**.  
If a number has already been assigned to the key, select **Options** > **Change**.
- 3 Select **Find**, and select first the name and then the number you want to assign.  
If the **1-touch dialing** function is off, the phone gives you the option to activate it.  
To make a call using the speed dialing keys, see “Speed dial a phone number” on page 23.

## • VOICE DIALING

You can make a phone call by saying a voice tag that has been added to a phone number. Any spoken word or words, such as a person's name, can be a voice tag. You can add up to 10 voice tags.



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

Before using voice dialing, review the following information:

- Voice tags are not language dependent. They are dependent on the speaker's voice.
- Voice tags are sensitive to background noise. Record them and make calls in a quiet environment.
- When recording a voice tag or making a call by saying a voice tag, hold the phone in the normal position near to your ear.
- Very short names are not accepted. Use long names and avoid similar names for different numbers.




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

## Add and manage voice tags

Before you begin, make sure you have the contact names you intend to save with voice tags set up in the phone memory. You can also add voice tags to the names in the SIM card, but if you replace your SIM card with a new one, you first need to delete the old voice tags before you can add new ones. Voice tags use shared memory. For more information, see “Shared Memory” on page 6.

- 1 In the standby mode, select **Menu** > **Contacts**, scroll to the desired contact, and select **Details**.
- 2 Select **Options** > **Add voice tag**.
- 3 Select **Start**, and say clearly the words you want to record as a voice tag.  
After recording, the phone plays the recorded tag.

- 4 When the voice tag has been successfully saved, **Voice tag saved** is displayed, a beep sounds and a symbol  appears after the phone number with a voice tag.

To check the voice tags, select **Menu > Contacts > Voice tags**. Scroll to the contact, select **Options**, and select the function you want.

## Make a call using a voice tag

If the phone has an application using the GPRS connection that is sending or receiving data, first end the application to make a call by using voice dialing.

- 1 In the standby mode, press the **Right** selection key or press and hold **Names**.  
A short tone is heard and **Speak now** is displayed.
- 2 Say the voice tag clearly.  
The phone plays the recognized voice tag and dials the phone number of the voice tag after 1.5 seconds.

If you are using a compatible headset, press and hold the headset key to start the voice dialing.

## Info numbers and service numbers

Your service provider may have included information numbers or service on your SIM card.

Select **Menu > Contacts > Info numbers** or **Service numbers**. Scroll through a category to an information number, or to a service number and press the **Send** key to call the number.

## • SAVE NUMBERS ON THE SIM CARD

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

## • CALLER GROUPS

You can arrange the names and phone numbers saved in **Contacts** into caller groups. For each caller group, you can select a ringing tone and a logo that is shown on the display when you receive a call from a phone number in the group. To set the phone to ring only upon calls from phone numbers belonging to a selected caller group, see **Alert for** in "Tone settings" on page 55.

Select **Menu > Contacts > Caller groups** and select the desired caller group. You can select from the following functions: **Group name**, **Group ringing tone**, **Group logo**, and **Group members**.

If you select **Group members**, select **Add**, to add a name to the group, if there are no names in the group. Otherwise, select **Options > Add contact**.

To remove a name from a caller group, scroll to the desired name, and select **Remove**.

# 10 Settings



## • PROFILES

Your phone has a group of profiles that allow you to personalize the tone settings of your phone and to activate a profile for different events and environments. Available profiles are General, Silent, Meeting, Outdoor, My style 1 and My style 2.

Select **Menu > Settings > Profiles** and select a profile. Choose from the following options:

- To activate the selected profile, select **Activate**.
- To activate the profile for a certain amount of time up to 24 hours, select **Timed** and set the end time. When the timed profile expires, the previous profile that was not timed, becomes active.
- To personalize the profile, select **Customize**. Select the setting that you want to change and make the changes. The settings can also be changed in the **Tone settings** menu, see "Tone settings" on page 55.
- To rename a profile, select **Customize > Profile Name**. The **Normal** profile cannot be renamed.
- To change your presence status, select **My presence**. The menu is available if you have set **Synchronize with profiles** to **On**, see "My presence" on page 47. Select **My availability** to change your availability status and **My presence message** to edit your status message.
- To quickly change the profile in the standby mode, press the **Power** key, scroll to the profile that you want to activate and press **Select**.

## • IM AND MY PRESENCE SETTINGS

For the settings required for IM, contact your service provider. To receive the IM and presence settings over the air, see "Over-the-air settings service" on page 21.

### KEYING IN THE SETTINGS MANUALLY

- 1 Select **Menu > Settings > IM and my presence settings > Active IM and presence settings**.
- 2 Scroll to the set you would like to activate and select **Activate**.  
You must activate the connection set where you want to save the settings. A connection set is a collection of settings required to make a connection to the IM and presence services.
- 3 Select **Edit active IM and presence sett.**

Select each of the settings one by one and key in all the required information that you have received from your service provider.



**Note:** The connection settings are in the Connection settings menu.

## • TONE SETTINGS

You can find the same settings in the Profiles menu. The settings you choose also update the active profile.

Select **Menu > Settings > Tone settings**, and select from the following options:

**Ringling options**—to select how the phone notifies you of an incoming voice call.

**Ringling tone**—to select a tone for incoming voice calls. To select ringing tones that have been saved in the Gallery, select **Open gallery** from the ringing tone list.

**Ringling volume**—to set the tone level for incoming voice calls and incoming messages.



**Note:** If you download a ringing tone or receive one using OTA, you can save it in the Gallery.

**Vibrating alert**—to set the phone to vibrate for incoming voice calls and incoming messages. The vibrating alert does not work when the phone is connected to a charger, a desktop stand, or a car kit.

**Message alert tone**—to set the alert tone for incoming messages.

**IM alert tone**—to select the alert tone for IM messages.

**Keypad tones**—to adjust the tone level of keypad.

**Warning tones**—to set the phone to sound tones, for example when the battery is running out of power.

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

## • DISPLAY SETTINGS

Select **Menu > Settings > Display settings**, and choose from the following options:

**Wallpaper**—to set the phone to display a background image, known as wallpaper, when the phone is in the standby mode. Some images are provided in the Gallery menu. You can also receive images, for example through a multimedia message, or use PC Suite to transfer them from your PC and then save them in Gallery. Your phone supports JPEG, GIF, WBMP, BMP, PNG, and OTA-BMP formats, but not necessarily all variations of these formats.

- Select **image** to open an image folder. Scroll to the desired image you want to set as wallpaper, select **Options > Set as wallpaper**.

- **On or Off** to activate/deactivate the wallpaper. (The wallpaper is not displayed when the phone activates the screen saver.)

**Color schemes**—to change the color of some display components, such as icons and signal bars.

**Menu view**—to select how the main menu items are displayed on the phone. Select **List** or **Grid**.

**Operator logo**—to set the phone to show or hide the operator logo. If you have not saved any operator logos, the **Operator logo** menu is dimmed. The operator logo is not displayed when the phone activates the screen saver.

**Screen saver timeout**—to select the timeout after which the screen saver will be activated. The length of the timeout can vary from 5 seconds to 60 minutes.

The digital clock screen saver is used for power saving in the standby mode. It activates when the phone has not been used for a certain length of time while the keyboard is closed. To deactivate the screen saver, press any key or open the keyboard. The screen saver is also deactivated when the phone is out of the network coverage area. The screen saver overrides graphics and text information shown on the display when the phone is in the standby mode.

**Display contrast**—to change the brightness level of the phone display. Move the joystick to the left to decrease and to the right to increase the brightness level, and select **OK** to accept it.

## • TIME AND DATE SETTINGS

Select **Menu > Settings > Time and date settings**, and select one of the following options:

**Clock > Show clock** or **Hide clock**—to show or hide the time on the top right of the display in the standby mode. Select **Set the time** to adjust the clock to the correct time, and **Time format** to select 12-hour or 24-hour time format.

The clock is also used for the functions **Messages**, **Call log**, **Alarm clock**, timed **Profiles**, **Calendar**, **Notes**, and screen saver for example.



**Note:** If the battery is removed from the phone for an extended time, you may need to reset the time.

**Date > Show date** or **Hide date**—to show or hide the date on the display in the standby mode. Select **Set the date** to adjust the date. You can also select the date format.

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

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


## • PERSONAL SHORTCUTS

You can select the function for the **Right selection** key displayed in the standby mode.

You have also a list of phone functions which can be activated by saying a voice tag. Up to five voice tags for the voice commands can be added.

Select **Menu > Settings > Personal shortcuts**, and select from the following options:

**Right selection key**—to view the list of available functions for the **Right selection** key. Scroll to the function that you want and select it.

**Voice commands**—to add a command. Select the command folder you want, scroll to the command to which you want to add a voice tag. Select **Options > Add command**. If the command already has a voice tag, the icon  is shown. For adding and activating a voice command, see “Voice dialing” on page 51.

During a call or when an application using the EGPRS connection is sending or receiving data, you cannot activate or add a voice command.

## • CONNECTIVITY AND RELATED SETTINGS

You can connect the phone to a compatible device using an IR or Bluetooth connection. You can also define the settings for EGPRS dial-up connections. Bluetooth connections and IR connections cannot be active at the same time.

### Bluetooth technology

The phone supports Bluetooth wireless technology which allows you to connect the phone to a compatible Bluetooth device within approximately 32 feet (10 meters). The Bluetooth connection can be subject to interference from obstructions such as walls or other electronic devices.



**Note:** There may be restrictions on using Bluetooth devices in some locations.

The Nokia 6820 phone is designed to be compliant with and adapt to Bluetooth Specification 1.1. Compatibility between the phone and other products with Bluetooth wireless technology depends also on the profiles and protocols used by the devices. The current profiles supported by the Nokia 6820 phone are:

- SAP (SIM access profile)
- OPP (object push profile) as a client and server
- FTP (file transfer profile) as a server
- DUN (dial-up networking profile) as a gateway
- HSP (headset profile)
- HFP (hands-free profile) as an audio gateway
- SDP (service discovery profile)

- GAP (generic access profile)
- SPP (serial port profile) with the PC connectivity software
- GOEP (generic access exchange profile)

When a profile is active, the profile is shown on the phone display, such as **Remote SIM**, to indicate that the phone is disconnected from the GSM network, thereby deactivating all phone functions.

For compatibility between your phone and another Bluetooth device, consult the manufacturer of the device. In some locations, there may be restrictions on using Bluetooth devices. Check with your local authorities.




**Note:** Using Bluetooth features, or allowing them to run in the background while using other features, increases the demand on battery power and reduces the battery life.

## Set up a Bluetooth connection

When you activate the Bluetooth application for the first time, you are asked to provide a Bluetooth name for your phone. This is the name that will be seen by other Bluetooth users.

Use the following steps to activate your Bluetooth connection.

- 1 Select **Menu > Settings > Connectivity > Bluetooth**.
- 2 Select **Bluetooth > On**.

The active Bluetooth connection is indicated by  at the top of the display.



**Note:** If you do not plan to use the Bluetooth feature for an extended time period, deactivate it to save power.

- 3 Select **Search for audio enhancements** to search for compatible Bluetooth devices.
- 4 Select the device that you want to connect to the phone.
- 5 Enter the Bluetooth passcode of the device to associate (or *pair*) and connect the device. (You only need to give this passcode when you connect to the device for the first time.)

## Set up Bluetooth name and visibility

Select **Menu > Settings > Connectivity > Bluetooth > Bluetooth settings** to define how your phone appears to other Bluetooth devices. Select from the following options:

**My phone's visibility** and **Shown to all**—to show the phone to all other Bluetooth devices.

**Hidden**—to show the phone only to the paired devices.

**My phone's name**—to change the Bluetooth device name for your phone.



## Start a Bluetooth connection

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

**View active device**—to check which Bluetooth connection is currently active. To close the connection to the selected device, select **Disconnect**.

**View paired devices**—to view a list of Bluetooth devices that are currently paired with the phone. Scroll to the desired device. To delete the pairing to the device, select **Delete**.

**Select Options**—to access some of the following functions. (This list may change depending on the status of the device and the Bluetooth connection.)

**Connect**—to connect to the selected device.

**Assign short name**—to give a nickname (visible to you only) to the selected device.

**Request conn. authorization**—to set up authorization. Select **No** to allow the phone to connect automatically. Select **Yes** if you want the phone to prompt you first.

## Infrared

The phone has an IR (infrared) port that you can use for connecting your phone to another IrDA compliant device. You can send or receive data such as business cards and calendar notes to or from a compatible phone or data device, such as a computer.



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

## Send and receive data using IR

- Ensure that the IR ports of the sending and receiving devices are pointing at each other and that there are no obstructions between the devices.
- To activate the IR port of your phone, select **Menu > Settings > Connectivity > Infrared**.
- The user of the sending phone selects the desired IR function to start data transfer.

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

## IR connection icon

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

The IR connection deactivates automatically.

## EGPRS

GPRS (general packet radio service) is a network service that allows mobile phones to be used for sending and receiving data over an IP-based network. GPRS is a data bearer that enables wireless access to data networks, such as the Internet.

EGPRS (enhanced GPRS), also known as EDGE (enhanced data rates for global evolution) is similar to GPRS but the connection is faster. For more information on availability of EGPRS and data transfer speed, contact your service provider.



**Note:** The Nokia 6820 phone is 3GPP GSM Release 99 terminal supporting EGPRS service. It is also designed to support Release 97 GPRS networks. However, proper functionality in all Release 97 GPRS networks cannot be guaranteed. For more information, contact your service provider.

The applications that may use EGPRS are multimedia, IM and text messaging, browsing sessions, e-mail, remote SyncML, Java application downloading and the PC dial-up (such as Internet and e-mail).

To use EGPRS technology, you must first do the following:

- Contact your service provider for availability and subscription to the EGPRS service.
- Save the EGPRS settings for each of the applications used over EGPRS.

For information on pricing, contact your service provider.




**Note:** When you select GPRS as a data bearer, the phone uses EGPRS instead of GPRS, if this is available in the network. You cannot select between EGPRS and GPRS but for some applications you may be able to select either GPRS or GSM data (CSD).


## EGPRS CONNECTION

Your phone supports three simultaneous EGPRS connections. You can browse XHTML pages, receive multimedia messages and maintain a PC dial-up connection, all at the same time.

Select **Menu > Settings > Connectivity > GPRS > GPRS connection**.

Select **Always online** to set the phone to automatically register to an EGPRS network when you switch the phone on. When the GPRS connection is established, the icon  appears on the top left of the display.

When you start an application using EGPRS, the connection between the phone and the network is established, and data transfer is possible. When you end the application, the EGPRS connection is ended but the registration with the EGPRS network remains.

If you receive a call or a text message, or make a call during a GPRS connection, the icon  appears on the top right of the display to indicate that the EGPRS connection has been suspended (on hold).

The GPRS and EGPRS connections are indicated by the same icons.

If you select **When needed**, the EGPRS registration and connection are established when required by an application using GPRS and closed when you end the application.

## • EGPRS MODEM SETTINGS

You can connect the phone to a compatible PC using IR, Bluetooth or a data cable connection and use the phone as a modem to enable EGPRS connectivity from the PC.

Select **Menu > Settings > Connectivity > GPRS > GPRS modem settings**. Select **Active access point** to activate the desired access point. Select **Edit active access point** to change the access point settings.

- Select **Alias for access point**. Key in the name that you would like for the activated access point and select **OK**.
- Select **GPRS access point**. Key in the access point name (APN) to establish a connection to an EGPRS network. Contact your service provider for the APN.

You can also set the EGPRS dial-up service settings (APN) on your PC using the Nokia Modem Options software. See "PC Suite" on page 92. If you have set the settings on both your PC and on your phone, the settings for the PC are used.

## • CALL SETTINGS

Select **Menu > Settings > More settings > Call settings**, and select from the following options:

**Call forwarding (network service)**—to direct your incoming calls to an alternate location, such as your voice mailbox number. Forwarding options that are not supported by your SIM card or your service provider may not be shown. Contact your service provider for details.

For example, select **Call forwarding** to forward your voice calls when your number is busy or when you reject an incoming call.

To turn on call forwarding, select **Call forwarding**, select a menu option, and choose **Activate**. To turn call forwarding off, select **Cancel**. To check whether call forwarding is activated or not, select **Check status**.

To see the call forwarding icons in the standby mode, see "Icons in the standby mode" on page 19.

**Anykey answer > On**—to answer an incoming call by briefly pressing any key, except the Power key, Left selection key, Right selection key, and End key.

**Automatic redial > On**—to set up your phone to make a maximum of ten attempts to connect a call after an unsuccessful call attempt.

**1-touch dialing > On**—to turn on speed dialing.

**Call waiting > Activate**—to set up the phone to notify you of an incoming call while you have a call in progress. See “Call waiting” on page 23. This feature requires supporting network services.

**Summary after call > On**—to set the phone up to briefly display the duration and cost of the call when it terminates. This feature requires supporting network services.

**Send my caller identity > Yes**—to set your phone up to display your phone number to the person you are calling. Select **Set by network** and the setting agreed upon with your service provider is used. This feature requires supporting network services.

**Line for outgoing calls**—to select the phone line 1 or 2 for making calls. For example, you can use line 1 for personal calls and line 2 for business calls. For more information on availability, contact your service provider.

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

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



**Note:** In the standby mode, you can switch from one line to the other by pressing and holding the \* key.

## • PHONE SETTINGS

Select **Menu > Settings > More settings > Phone settings**, and select from the following options:

**Phone language**—to set the language for the display text. If **Automatic** is selected, the phone selects the language according to the information on the SIM card.

**Memory status**—to view the amount of free, used, and total amount of memory for each function. You may also find memory information in the menus of some functions, for example in the **Applications** menu.

**Security keyguard**—to lock the keypad of the phone with a security code. For more information, see “Security code” on page 65.

- Key in the security code and select **OK**.
- To set the security keyguard, select **On**. The keypad lock remains active if you open the keyboard.
- To activate the security keyguard, select **Menu** and the \* key within 1.5 seconds (when the keyboard is closed). To deactivate the keyguard when the keyboard is open, select **Unlock > OK**; then key in the security code. If the keyboard is closed, select **Unlock** and press the \* key within 1.5 seconds. Then key in the security code.
- When the keypad is locked, **PK** appears on top of the display. If you have activated the security keyguard, it does not protect your phone data from PC Suite access.

**Cell info display > On**—to set the phone to indicate when it is used in a cellular network that is based on micro cellular network (MCN) technology.

**Welcome note**—to customize the welcome note. Key in the note that you would like to be shown briefly when the phone is switched on and select **Save**.

**Operator selection > Automatic**—to set up the phone to automatically select one of the cellular networks available in your area.

If you select **Manual**, you can select a network that has a roaming agreement with your service provider. If **No network access** is displayed, you must select another network. The phone stays in manual mode until the automatic mode is selected or another SIM card is inserted into the phone.

**Confirm SIM service actions**—to receive confirmation messages when SIM services are being used. For more information, see "SIM services" on page 91.

**Help text activation**—to set the phone to show the help topics.

**Start-up tone**—to set the phone to play a start-up tone when it is switched on.

## • ENHANCEMENT SETTINGS

The enhancement settings menu is only shown if the phone is or has been connected to some mobile enhancements (accessories), such as a charger or hands-free unit.

**Select Menu > Settings > More Settings > Enhancement settings**. Then select an appropriate enhancement from a list, if the corresponding enhancement is or has been connected to the phone. You can select the following options:

**Default profile**—to automatically activate the desired profile when you connect to the selected enhancement. You can select another profile while the enhancement is connected.

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

**Lights**—to set the lights permanently to **On**. Select **Automatic** to set the lights on for 15 seconds after a keypress. The **Lights** option is available only when **Handsfree** is selected.

When the phone is connected to the full car kit, select **Ignition detector** and **On** to automatically switch off the phone approximately 20 seconds after you have switched off the ignition.

For the Loopset, select **Use Loopset**.

For **Text phone**, select **Use text phone** and select **Yes** to use the text phone settings instead of headset or loopset settings.

## • SECURITY SETTINGS

To work with security settings, select **Menu > Settings > More settings > Security settings**, and select the setting you would like to modify.



**Note:** When security features that restrict calls are in use (call restricting, closed user group, and fixed dialing), calls may be possible to certain emergency numbers in some networks.

### PIN code request

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

### Call restricting

Select **Call restrictions** to restrict incoming calls to, and outgoing calls from, your phone. Network service and a password are required.

### Fixed dialing

Select **Fixed dialing** to restrict your outgoing calls and text messages to selected phone numbers if this function is supported by your SIM card. The PIN2 code is required.

When the fixed dialing is on, GPRS connections are not possible except while sending text messages over a GPRS connection. In this case, the recipient's phone number and the message center number must be included in the fixed dialing list.

### Closed user group

**Closed user group** is a network service that specifies the group of people whom you can call and who can call you. For more information, contact your service provider.

### Security level

**Security level** instructs the phone to ask for the security code whenever a new SIM card is inserted into the phone.

### Memory

Select **Memory** to set the phone to request the security code when the SIM card memory is selected.

### Access codes

Select **Access codes** to change the security code, PIN code, PIN2 code or restriction password. Codes can only include numbers from 0 to 9. Refer to the following items when changing access codes.

## SECURITY CODE

The security code is 5 to 10 digits and protects your phone against unauthorized use. The preset code is 12345. When you have changed the code, keep the new code secret and in a safe place separate from your phone. To change the code, and to set the phone to request it, see "Security settings" on page 64.

If you key in an incorrect security code five times in succession, the phone may display Code error. Wait for five minutes and key in the code again.

## PIN AND PIN2 CODES

The PIN (personal identification number) code is 4 to 8 digits and protects your SIM card against unauthorized use. The PIN code is usually supplied with the SIM card. To set the phone to request the PIN code each time the phone is switched on, see "Security settings" on page 64.

The PIN2 code may be supplied with the SIM card and is required to access some functions.

## MODULE PIN

The module PIN code is 4 to 8 digits and is required to access the information in the security module. See "Security module" on page 89. The module PIN is supplied with the SIM card if the SIM card has a security module in it.

## SIGNING PIN

The signing PIN is 4 to 8 digits and is required for the digital signature. See "Digital signature" on page 90. The signing PIN is supplied with the SIM card if the SIM card has a security module in it.

## PUK AND PUK2 CODES (8 DIGITS)

The PUK (personal unblocking key) code is required to change a blocked PIN code. The PUK2 code is required to change a blocked PIN2 code.

If the codes are not supplied with the SIM card, contact your service provider.

If you key in an incorrect PIN code three times in succession, the phone may display PIN blocked or PIN code blocked and ask you to key in the PUK code.

## RESTRICTION PASSWORD (4 DIGITS)

The restriction password is required when using the Call restriction service. You can obtain the password from your service provider.

## WALLET CODE (4 TO 10 DIGITS)

The wallet code is required to access the wallet services. If you key in an incorrect wallet code several times, the wallet application is blocked for five minutes. For further information, see "Wallet" on page 74.

## • RESTORE FACTORY SETTINGS

To reset the menu settings to their original values, select **Menu > Settings > More settings > Restore factory settings**. Key in the security code and select **OK**.



**Note:** The data you have keyed in or downloaded, for example the names and phone numbers saved in contacts, are not deleted.



# 11 Gallery



In the **Gallery** menu you can manage images, photos, recordings, tones and video clips.

Your phone supports usage rights system to protect acquired content. A piece of content, for example ringing tone, can be protected and associated with certain usage rules, for example number of usage times and a certain usage period. The rules are defined in the usage rights for the content which can be delivered either together with the content or independently depending on the service provider. You may be able to update these rights. Always check the delivery terms of any content and usage rights before acquiring them, as they may be subject to a fee.

The **Gallery** uses shared memory. For more information, see "Shared Memory" on page 6.

## 1 Select Menu > Gallery.

A list of folders is shown. **Graphics**, **Images**, **Video clips**, **Recordings** and **Tones**, are the original folders on the phone. You cannot delete, rename or move the original folders on the phone.

## 2 Scroll to the desired folder and select **Open** to view a list of files in the folder. You can select **Options** to access **Add folder**, **Delete folder**, **Move**, **Rename folder**, **Details**, **Type of view**, **Sort** and **Gallery downloads**. Other available options include the following:

**Type of view**—to select how the folders are displayed.

**Gallery downloads**—to download more images and tones. Select **Image downloads** or **Tone downloads**. The list of available browser bookmarks is shown. Select **More bookmarks** to access the list of bookmarks in the **Services** menu.

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

For availability of different services, pricing and tariffs, contact your service provider. Download content only from the sources you trust.

## 3 If you opened a folder in step 2, select the file you want to view and select **Open**.

Or, select **Options** to access **Delete**, **Send**, **Move**, **Rename** Set as wallpaper, Set as ring tone, **Edit image**, **Details**, **Type of view**, **Sort**, **Delete all**, **View in sequence**, **Play**, **Zoom**, **Mute audio (Unmute audio)**, **Set contrast**. Choose from the following options:

**Send**—to send the selected file using MMS, a Bluetooth connection, or an IR connection.

**Delete all**—to delete all the files in the selected folder.

**Edit image**—to insert text, a frame or clip-art into the selected picture.

**View in sequence**—to view the files in the folder one by one.

**Play**—to listen to or to view a sound or image file that is contained in the message.

**Zoom**—to increase the size of the image that is contained in the message.

**Mute audio (Unmute audio)**—to mute (unmute) the sound file.

**Set contrast**—to adjust the contrast level of the image.

**Update rights**—to update the usage rights of the selected file. The option is only shown if the rights update is supported by the file.

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

## 12 Camera



You can take photos and record video clips with the built-in camera. The camera lens is on the back of the phone, and the display of the phone works as a viewfinder. The camera produces pictures in JPEG format and the video clips in H.263 (SubQCIF) format. You cannot use the camera, if the keyboard is open.

The camera includes a self-timer if you want to be included in the photo. The timer allows you 10 seconds before the camera takes the photo.

If there is not enough memory to take a new photo or record a video clip, you need to free some by deleting old photos or other files from **Gallery**. The camera uses shared memory. For more information, see “Shared Memory” on page 6.



**Note:** Obey all local laws governing the taking of pictures.

### • CAMERA SETTINGS

Use this procedure to choose your camera settings.

Select **Menu > Camera > Settings**. Choose settings for the following:

**Image quality**—to define how much the photo file will be compressed when saving the image. Select **High**, **Normal** or **Basic**. The **High** setting provides the best image quality but takes more memory.

**Video clip length**—to select the length for video clips recorded with the camera. Select **Default** if you intend to send the file as a multimedia message.

**Camera sounds**—to set the shutter sound and the self-timer tone to **On** or **Off**.

**Default title**—to define the prefix the camera should use to name the photo files.

If you select **Automatic**, the camera uses the prefix **Image** with an incremental number (such as **Image001**, **Image 002**).

If you select **My title**, you can key in a prefix for a series of photos and the camera numbers the photo files for you. For example (**PoolParty001**, **PoolParty002**).

### • TAKE A PHOTO

1 Select **Menu > Camera** and choose from the following:

- **Standard photo**—to take a basic photo using landscape orientation.
- **Portrait photo**—to take a photo using portrait orientation.
- **Night mode**—to take a photo when the lightning is dim.



**Note:** To quickly access the camera in the standby mode (with standard photo view), move the joystick up.

The image appears on the display, and you can use the display as a viewfinder.

**2** Select **Capture**.

The phone saves the photo in the **Photos** folder of the **Gallery** menu. The saved photo appears on the display.

**3** Select **Back** to take another photo, or select **Options** and select from the following:


- **Zoom**—to enlarge the view. Use the joystick to reposition the picture in the viewfinder window.
- **Send**—to send the photo using MMS, IR or Bluetooth technology.
- **Rename**—to change the name of the photo.
- **Open Gallery**—to view the folders in the **Gallery** menu.
- **Set contrast**—to adjust the contrast for the photo.
- **Set as wallpaper**—to save the photo as background wallpaper on your phone.
- **Details**—to see the name, size, resolution, date created, format, and copyright information.

**4** To use the viewfinder options, select **Options** and select from the following:

- **View Previous**—to view the previous photo.
- **Open Gallery**—to view the folders in the **Gallery** menu.
- **Change mode**—to change the type of photo or video.
- **Self-timer**—to take a photo using a delay.

To use the self-timer, select **Start** and, after the timeout period (approximately 10 seconds) the camera takes the photo and saves it in the **Gallery** menu. While the self-timer is running, a beeping sound is heard.

## • RECORD A VIDEO CLIP

Select **Menu** > **Camera** > **Video** > **Record**. The recording icon  and the remaining recording time are shown at the top of the display.

To stop the recording, select **Stop** and the video clip is saved in the **Video clips** folder of the **Gallery** menu.

To pause the recording, select **Pause**. To resume the recording, select **Continue**.

Select **Options** to select, for example, an option to set the desired operation mode, mute or unmute the microphone, or access the **Gallery**.

# 13 Organizer



## • ALARM CLOCK

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

Select **Menu** > **Organizer** > **Alarm clock**.

- Select **Alarm time**, key in the alarm time and select **OK**.  
To change the alarm time, select **On**.
- Select **Alarm tone**, and you can select a default alarm tone, personalize your alarm tone by selecting one from the ringing tone list or from the **Gallery**.

When the alarm time expires, the phone sounds an alert tone, and flashes **Alarm!** along with the current time on the display. Select **Stop** to stop the alarm. If you let the alarm continue for a minute or if you select **Snooze**, the alarm stops for about ten minutes and then resumes.

If the alarm time is reached while the phone is switched off, the phone switches itself on and starts sounding the alarm tone. If you select **Stop**, the phone prompts you to activate the phone for calls by displaying **Switch the phone on?** 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.

## • CALENDAR

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

The calendar uses shared memory. For more information, see “Shared Memory” on page 6.

- 1 Select **Menu** > **Organizer** > **Calendar**.



**Note:** To quickly view the current **Calendar** month, move the joystick to the right in the standby mode.

- 2 Scroll to the day that you want and select **View**.

The current day is indicated by a frame around the day. If there are any notes set for the day, the day is shown in bold type.

- 3 To view a single note, scroll to the desired note, and select **View**.

You can scroll to view the entire note.

- 4 To perform other tasks, select **Options** and choose from the following:

**Make a note**—to create a note.

**Delete, Edit, or Move options**—to erase, change, or move a note.

**Go to date**—to go directly to a new date.

**Send note**—to send the note to a compatible phone calendar using IR, calendar, text message, MMS, or Bluetooth technology.

**Copy**—to copy the note to another day.


**Settings**—to set the date, time, date or time format, or the first day of the week. In the **Auto-delete** option you can set the phone to automatically delete old notes after a specified time. However, the repeated notes, for example birthday notes, will not be deleted.

**Go to to-do list**—to take a shortcut to the to-do list.


## Add a calendar note


For information on keying in letters and numbers, see “Tips for writing text” on page 27.


### About the Alarm Feature


When you add a calendar note, you have the option to use an alarm. If you set the alarm, the phone will beep and display the note at the alarm time. When a call note icon  is shown on the display, you can call the displayed number by pressing the **Talk** key. To stop the alarm and view the note, select **View**. Select **Snooze** to phone returns to the standby mode. To stop the alarm without viewing the note, select **Exit**.


Select **Menu > Organizer > Calendar** or move the joystick to the right in the standby mode to go to the monthly view. Scroll to the date that you want, and select **View**. Select **Add Note** if there are no notes for the day, or select **Options > Make a note** and select from the following:

 **Calendar**—Key in the note and select **Save** (or select **Options** and search for the name in contacts and select **OK**). Key in the location of the meeting, select **Save**. Key in the start time for the meeting and select **OK**, and then key in the end time and select **OK**. To set the alarm for the note, select **With tone** or **Silent** (no alarm tone) and then set the alarm time.

 **Call**—Key in the phone number, and select **Save**. Key in the name, select **Save**. (Instead of keying in the phone number, search for the name and number in contacts). Key in the time for the call and select **OK**. To set the alarm for the note, select **With tone** or **Silent** (no alarm tone) and then set the alarm time.

 **Birthday**—Key in the name (or select **Options** and search for it in contacts) and select **Save**. Then key in the year of birth and select **OK**. To set the alarm for the note, select **With tone** or **Silent** (no alarm tone) and then set the alarm time.

 **Note**—Key in the note, and select **Save**. Key in the end day for the note and select **OK**. To set the alarm for the note, select **With tone** or **Silent** (no alarm tone) and set the alarm time.

 **Reminder**—Key in the subject for the reminder, and select **Save**. To set the alarm for the note, select **Alarm on** and set the alarm time.

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

## • TO-DO LIST

In the to-do list, you can save notes for tasks that you have to do and manage the tasks in different ways.

The to-do list uses shared memory. For more information, see “Shared Memory” on page 6.

Select **Menu > Organizer > To-do list**.

- To add a new note when the task list is empty, select **Add note**, or select **Options** and select **Add** if you have saved tasks. Select **Save** and select the priority for the note **High**, **Medium**, or **Low**. The phone automatically sets the deadline without an alarm for the note. To change the deadline, view the note and select the option for deadline.
- In the task list, you can select **Options**, and select an option for, example to sort the tasks by priority or by deadline, send them to another phone, save them as a calendar note, or access the calendar.
- To view a task, scroll to the desired task on the list and select **View**. To edit the displayed task, select **Edit**.

## • NOTES

You can use **Notes** for writing and sending notes using IR, SMS, or MMS. **Notes** uses shared memory. For more information, see “Shared Memory” on page 6.

- 1 Select **Menu > Organizer > Notes**, or type a character when the messaging keyboard is open.

The phone will ask you to set the date and time, if they have not already been set when you start to write a note.

- 2 To add a new note, select **Add note** (if the list of notes is empty) or select **Options > Make a note**.
- 3 To view a note, scroll to the desired note on the list and select **View**.
- 4 To edit the displayed note, select **Edit**.
- 5 Key in the note and select **Save**.

If you select **Options**, you can select **Insert time & date** to add the current time and date to the note. If there is not enough space for time and date, the phone will ask you to delete the appropriate number of characters from your note.

You can also send the note using IR, Bluetooth connection, MMS, or as a text message (SMS) to another compatible phone. If the note is too long to be sent as a text message,

the phone prompts you to delete the appropriate number of characters from your note.

## • WALLET

You can use the wallet to pay for your purchases made from the browser. You can save your personal information, such as credit card numbers and addresses in the wallet, and then use the data that are saved in the wallet during browsing. You can also save access codes to mobile services that request a user name and password.

The data in the wallet is protected with a wallet code that you can define when you access the wallet for the first time. At **Create wallet code**, key in the code and select **OK** to confirm it and at **Verify wallet code**, key in the code again and select **OK**.

To delete all the contents of the wallet and the wallet code, key in \*#7370925538# (\*#res wallet# in letters) in the standby mode. You also need the security code for the phone. See "Access codes" on page 64.

### Access the wallet

Select **Menu > Organizer > Wallet**. Key in your wallet code, select **OK**. You then can choose from the following options:

**Wallet profiles**—to create card combinations, for example, for different services. A wallet profile is helpful if the service asks you to fill in many data items. You can select the appropriate wallet profile instead of selecting different cards separately.

**Cards**—to save personal card information. You can save payment card, loyalty card and access card information, including information such as user name and password combinations for different services.

**Tickets**—to save notifications of e-tickets that you have bought using your mobile service. To view the tickets, scroll to the desired ticket and select **View**.

**Receipts**—to save receipts for mobile purchases.

**Personal notes**—to save all kinds of personal information that you want to protect by the wallet PIN code.

**Settings**—to manage your wallet settings. For more information, see "Wallet settings" on page 76.

### Save card details

- 1 Select **Menu > Organizer > Wallet > Cards**.
- 2 Select one of the following card types to save the details:

**Payment card**—for credit and debit cards.

**Loyalty card**—for membership cards.

**Access card**—for personal user names and passwords to online services.



**Address card**—for basic contact information for home or office.

**User info card**—for customized personal preferences for online services.

- 3 If there are no cards in the folder, select **Add** to create a new card.
- 4 To view saved details of the card, scroll to the desired card and select **View**.
- 5 Fill in the fields for the details and select **Done**.

You can also receive card information to your phone over the air from a card issuer or service provider. You will be notified as to which category the card belongs to. Save or discard the received card. You can view, but not edit the saved card. For availability of receiving card information over the air, contact the card issuer or service provider.

## Add personal notes

You can save personal notes, for example, account numbers, passwords, codes, or notations. Access the wallet and select **Personal notes**. To create a new personal note, select **Add new**. To view a note, scroll to the desired note on the list and select **View**. To edit the displayed note, select **Edit**.

When viewing a note, you can select the following options **Send via text msg**, **Copy to calendar**, or **Use detail**.

## Create a wallet profile

When you have saved your personal card details, you can combine them together to create a wallet profile. You can use the wallet profile to retrieve wallet data from different cards while browsing.

- 1 Select **Menu > Organizer > Wallet > Wallet profiles**.
- 2 To create a new wallet profile, select **Add new**.
- 3 Fill in the following fields and select **Done**.

Some of the fields contain data that are selected from the wallet. You must save the data before you can create a wallet profile.

**Wallet profile name**—enter a name for the profile.

**Select payment card next**—select a card from the payment card list.

**Select loyalty card next**—select a card from the loyalty card list.

**Select access card next**—select a card from the access card list.

**Select user info card next**—select a card from the user data card list.

**Select billing address next**—select an address from the address card list.

**Select shipping address next**—select an address from the address card list.

**Select receipt delivery address next**—select an address from the address card list.

Select receipt delivery method next—select the way to deliver the receipt; Receipt to phone number or Receipt to e-mail address.

## Wallet settings

- 1 Select Menu > Organizer > Wallet > Settings
- 2 Select Change code to change the wallet code.
- 3 Select Phone ID to set the RFID code.

## Guidelines for wallet purchases

To do your shopping, access the desired service site that supports the wallet. The service needs to support the Electronic Commerce Modeling Language specification. See "Connect to a service" on page 85.

Choose the product that you want to buy and read carefully all provided information before your purchase.



**Note:** The text may not fit within a single screen. Therefore, make sure that you scroll through and read all of the text before you purchase.

- To pay for the items, the phone asks whether you want to use the wallet or not. The phone also asks for your wallet PIN code.
- Select the card you want to pay with from the **Payment cards** list. Provided that the data form you receive from the service provider supports the Electronic Commerce Modeling Language specification, the phone automatically fills in the credit card information or the wallet profile from the wallet.
- When you approve the purchase, and the information is forwarded.
- You may receive an acknowledgement or a digital receipt of the purchase.
- To close the wallet, select **Close wallet**. If you do not use the wallet for 5 minutes, it will be automatically closed.



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

## • SYNCHRONIZATION

Synchronization allows you to save your calendar and contacts data on a remote Internet server or on a compatible PC. If you have saved data on the remote Internet server, you can synchronize your phone by starting the synchronization from the phone. Synchronizing to the remote server is a network service. You can also synchronize your contact and calendar data to correspond with the data on your compatible PC by starting the synchronization from your PC. The contact data in your SIM card will not be synchronized.



**Note:** Answering an incoming call during synchronization will end the synchronization process and you will need to restart it.

## Synchronize from your phone

Before synchronizing from your phone, you may need to do the following:

- Subscribe to a synchronization service. For more information on availability and the synchronization service settings, contact your service provider.
- Retrieve the synchronization settings from your service provider.
- Set the connection settings you need for synchronization. See “Phone setup” on page 84.

To start the synchronization from your phone, use the following steps:

- 1 Activate the connection settings that you need for synchronization. See “Phone setup” on page 84.
- 2 Select **Menu > Organizer > Synchronization > Settings > Active Internet sync. settings**.
- 3 Scroll to the set you wish to activate and select **Activate**.
- 4 Mark the data to be synchronized.
- 5 Select **Menu > Organizer > Synchronization > Synchronize**.

The marked data in the active set will be synchronized after confirmation.



**Note:** Synchronizing for the first time or after an interrupted synchronization may take up to 30 minutes to complete, if contacts or calendar are full.

## Obtain synchronization settings

You may receive the synchronization settings as an OTA message from your service provider. To receive the settings over the air, see “Over-the-air settings service” on page 21.

To key in the settings manually, use the following steps:

- 1 Select **Menu > Organizer > Synchronization > Settings > Active Internet sync. settings**.
- 2 Scroll to the set you wish to activate, and select **Activate**.  
You must activate the set where you want to save the synchronization settings. A set is a collection of settings required to make a connection to a service.
- 3 Select **Edit active Internet sync. settings**. Select each setting one by one and key in all the required settings.
  - **Settings' name**—to key in the name for the set.
  - **Data to be synchronized**—to mark the data you want to synchronize. Select **Contacts** and/or **Calendar**, and select **Done**.
  - **Database addresses**—to select **Contacts database** and/or **Calendar database**.
  - **User name**—to key in the user name.

- **Password**—to key in the password.
  - **Synchronization server**—to key in the name of the server.
  - **Connection settings**—to define connection settings required for synchronization.  
Select each of the settings one by one and key in all the required settings. Contact your service provider for the settings.
- 4 Select **PC sync. settings** to key in the settings for server alerted synchronization.
  - 5 Select and key in **User name** and **Password**.

## Synchronize from your PC

To synchronize contacts and the calendar from your PC, use an IR or Bluetooth connection, or a data cable. You also need the PC Suite software of your phone installed on your PC. Start the synchronization from your PC using PC suite.



# 14 Applications

## • GAMES

The games use shared memory. For more information, see "Shared Memory" on page 6.

### About photosensitive seizures

A very small percentage of people may experience a seizure when exposed to certain visual images, including flashing lights or patterns that may appear in video games. Even people who have no history of seizures or epilepsy may have an undiagnosed condition that can cause photosensitive epileptic seizures while watching video games. These seizures may have a variety of symptoms, including lightheadedness, altered vision, eye or face twitching, jerking or shaking of arms or legs, disorientation, confusion, or momentary loss of awareness. Seizures may also cause loss of consciousness or convulsions that can lead to injury from falling down or striking nearby objects.

**Immediately stop playing and consult a doctor** if you experience any of these symptoms. Adults who allow teenagers (or children) to play the games should watch for or ask their children about these symptoms as they are more likely than adults to experience these seizures. The risk of photosensitive epileptic seizures may be reduced by playing in a well-lit room and by not playing when you are drowsy or fatigued. If you or any of your relatives have a history of seizures or epilepsy, consult a doctor before playing.

**Play safely.** Take a break from playing games at least every half hour. Stop playing immediately if you begin to feel tired of if you experience an unpleasant sensation or pain in your hands or arms. If the condition persists, consult a doctor.

### How to play games

Select **Menu > Applications > Games** and select from the following options:

**Select game**—to launch a game. Scroll to a game or a game set (the name depends on the game) and select **Open**. For functions that you can access by selecting **Options** in the game list, see "Other options for an application or application set" on page 80.

**Game downloads**—to download a game to the phone.

**Memory**—to view the amount of memory that is available for game and application installations.

**Settings**—to set sounds, lights and shakes for the game.



**Note:** Running some games may consume the battery faster (and you may need to connect the phone to the charger).

## • COLLECTION

Collection menu allows you to manage and use applications downloaded to the phone. Collection uses shared memory. For more information, see “Shared Memory” on page 6.

Select **Menu** > **Applications** > **Collection** and select from the following options:

**Select application**—to launch an application. Scroll to an application or application set (the name depends on the application) and select **Open**. For functions that you can access by selecting **Options** in the applications list, see “Other options for an application or application set” on page 80.

**App. downloads**—to download an application to the phone.

**Memory**—to view the amount of memory that is available for game and application installations.



**Note:** Running some applications may consume the battery faster and you may need to connect the phone to the charger.

## Other options for an application or application set

**Delete**—to delete the application or application set from your phone.

If you delete a pre-installed application or an application set from your phone, you may download it again to your phone from the Nokia Software Market, [www.softwamarket.nokia.com](http://www.softwamarket.nokia.com).

**Web access**—to restrict the application from accessing the network. Select **Ask first** and the phone will ask you for net access, **Allowed** to allow the net access, or **Not allowed** not to allow the net access.

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

**Web page**—to provide further information or additional data for the application from an Internet page. This is a network service and the menu is shown only if an Internet address has been provided with the application.

**Details**—to give additional information about the application.

## Download a game or an application

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

- Select **Menu** > **Applications** > **Applications** > **App. downloads** or select **Menu** > **Applications** > **Games** > **Game downloads**.  
The list of available browser bookmarks appears. Select **More bookmarks** to access the list of bookmarks in the Services menu.

Select the appropriate bookmark to connect to the desired site. If the connection fails, you may not be able to access the page from the service whose connection settings are currently active. In this case, enter the **Services** menu and activate another set of service settings. (See “Connect to a service” on page 85.) Try again to connect to the site.

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

- Select **Menu > Services > Download links** to download an appropriate application or game.
- Use the **Nokia Application installer** from **PC Suite** to download the applications to your phone.

When downloading a game or an application, you have the option to save it to the **Games** menu instead of the **Applications** menu.



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

## • EXTRAS

### Voice recorder

The voice recorder allows you to record sounds and speech. You might find this useful for recording information you intend to write down later, such as a name and a phone number. The recorder cannot be used when a data call or connection is active.



**Note:** Obey all local laws governing recording of calls.

### MAKE A RECORDING

- 1 Select **Menu > Applications > Extras > Voice recorder**.
- 2 To start the recording, select **Record**. To start the recording during a call, select **Options > Record**. While recording a call, all parties to the call will hear a faint beeping sound.

When recording, hold the phone in the normal position near to your ear.

- 3 To end the recording, select **Stop**.  
The recording is saved in the **Recordings** folder of the **Gallery** menu.
- 4 To listen to the last recording, select **Replay last**. To send the recording as a multimedia message, select **Send**.

## LIST OF RECORDINGS

Select **Menu** > **Applications** > **Extras** > **Voice recorder** > **Recordings** list. The list of folders in the **Gallery** appears. Scroll to **Recordings**, select **Open** and you can select some of the options for files in the **Gallery**.

## Calculator

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

- 1 Select **Menu** > **Applications** > **Extras** > **Calculator**.
- 2 When "0" appears on the screen, key in the first number of the calculation, press the # key for a decimal point or the corresponding symbol on the keyboard, if the keyboard is open.
- 3 Select **Options** > **Add**, **Subtract**, **Multiply**, **Divide**, **Square**, **Square root** or **Change sign**.  
If the keyboard is open, you can also use the corresponding calculation symbols of the keyboard, if available.



**Note:** If you are using the calculator with the keyboard closed, press the \* key once to add, twice to subtract, three times to multiply, or four times to divide.

- 4 Key in the second number.
- 5 For the total, select **Equals**.
- 6 To start a new calculation, press and hold **Clear**.



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

## Currency conversion

- 1 Select **Menu** > **Applications** > **Extras** > **Calculator**.
- 2 To save the exchange rate, select **Options** > **Exchange rate**.
- 3 Select either of the displayed options.
- 4 Key in the exchange rate, press the # key for a decimal point, and select **OK**.  
The exchange rate remains in the memory until you replace it with another one.
- 5 To perform the currency conversion, key in the amount to be converted, select **Options** > **In domestic** or **In foreign**.

You can also perform the currency conversion in the standby mode. Key in the amount to be converted, select **Options** > **In domestic** or **In foreign**.



**Note:** When you change base currency, you must key in the new rates because all previously set exchange rates are set to zero.



## Countdown timer

Select **Menu > Applications > Extras > Countdown timer**. Key in the time in hours and minutes and select **OK**. If you wish, write a note that will be displayed when the time expires, and select **OK** to start the countdown timer.

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

If the alarm time is reached when the phone is in the standby mode, the phone sounds a tone and shows the note, if available or **Countdown time up**. Stop the alarm by pressing any key. If no key is pressed, the alarm stops automatically within 30 seconds. To stop the alarm and to delete the note, select **OK**.

## Stopwatch

You can measure time and take split or lap times using the stopwatch. During timing, the other functions of the phone can be used. To set the stopwatch to run in the background, press the **End key**.



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

### TAKE SPLIT TIMES OR LAP TIMES

- 1 Select **Menu > Applications > Extras > Stopwatch > Split timing or Lap timing > Start**.

You can select **Continue** if you have set the stopwatch to run in the background.

- 2 Select **Split** to take a split time, **Lap** to take a lap time, or **Stop** to stop the timing. You can scroll through the split or lap times shown below the overall time.
- 3 Select **Save** to save the lap or split times as a set of times.
- 4 To reset the times or to continue timing, select **Options > Reset or Start**.

### VIEW AND DELETE TIMES

Select **Menu > Applications > Extras > Stopwatch**.

If the stopwatch has not been reset, select **Show last** to view the most recent measured time. Select **View times** and a list of names or the final times of the time sets is shown. Select the time set that you want to view.

To delete the saved times, select **Delete times**. Select **Delete all > OK**, or select **One by one**, scroll to the times that you want to delete, and select **Delete > OK**.

# 15 Services



You can access various services with the multimode browser, such as weather reports, news, flight times, financial information and entertainment.

Check the availability of these services, pricing, and tariffs with the service provider you plan to use. Service providers will also give you instructions on how to use their services.

With the multimode browser you can view the services that use wireless mark-up language (WML) or extensible hypertext markup language (XHTML). Since the phone display area and the memory capacity are much smaller than in a computer, Internet content is displayed differently on the phone. You may not be able to view all details of the Internet pages.

The main steps for using services are listed below:

- 1 Save the service settings that are required to access the service that you want to use.
- 2 Make a connection to the selected service.
- 3 Start browsing the pages of the service.
- 4 When finished browsing, end the connection to the service.

## • PHONE SETUP

You may receive the service settings as an over-the-air message from your service provider that offers the service that you want to use. You can also key in the settings manually or add and edit the settings using PC Suite.

For more information and for the appropriate settings, contact the service provider that offers the service that you want to use.

To receive the service settings over the air, see "Over-the-air settings service" on page 21.

### Key in the service settings

- 1 Select **Menu > Services > Settings > Connection settings > Active service settings**.
- 2 Scroll to the connection set that you would like to activate and select **Activate**.  
You need to activate the connection set where you want to save the service settings. A connection set is a collection of settings that are required to connect to a service.
- 3 Select **Edit active service settings**.
- 4 Select each of the settings one by one and key in all the required settings according to the information you have received from your service provider. Bearer-related settings are in the **Bearer settings** menu.



## Connect to a service

Make sure that the service settings of the service that you want to use have been activated. To activate the settings:

- 1 Select **Menu > Services > Settings > Connection settings > Active service settings**.
- 2 Scroll to the set you want to activate and select **Activate**.
- 3 Connect to the service using one of the three following methods:
  - Open the start page of the service, such as the home page of the service provider. To use this method, select **Menu > Services > Home**, or in the standby mode, press and hold the **0** key. If the keyboard is open, press the corresponding number key.
  - Select the bookmark of the service. To use this method, select **Menu > Services > Bookmarks**, and select a bookmark. If the bookmark does not work with the current active service settings, activate another set of service settings and try again.
  - Key in the address of the service. To use this method, select **Menu > Services > Go to address**. Key in the address of the service, and select **OK**. It is not necessary to add the prefix **http://** in front of the address.

## • BROWSE THE PAGES OF A SERVICE

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

If EGPRS is selected as the data bearer, the  icon appears on the top left of the display during browsing. If you receive a call or a text message, or make a call during an EGPRS connection, the  icon appears on the top right of the display to indicate that the EGPRS connection has been suspended (on hold). After the call the phone tries to reconnect the EGPRS connection.

## • USE THE PHONE KEYS WHILE BROWSING

- Move the joystick up or down to browse through the page.
- To select a highlighted item, press the joystick briefly or press the **Send** key.
- To enter letters and numbers, press the keys **0–9**. To enter special characters, press the **\*** key. When the keyboard is open, you can key in letters and numbers normally.

## • OPTIONS WHILE BROWSING

Select **Options** to view a list of options. The service provider may also offer other options. Choose from the following selections:

**Home**—to return to the home page.

**Bookmarks**—to view the list of bookmarks. (See “Bookmarks” on page 87.)

**Download links**—to show the list of bookmarks for downloading.

**Add bookmark**—to save the page as a bookmark.

**Shortcuts**—to open a new list of options that are, for example, specific to the page.

**Other options**—to show a list of other options, such as **Wallet** and some security options.

**Reload**—to reload and update the current page.

**Quit**—to disconnect. (See “Disconnect from a service” on page 86.)



**Note:** If you access confidential information requiring passwords, such as your bank account, empty the cache of your phone after each use. (See “Cache memory” on page 88.)

### Direct calling

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

### Disconnect from a service

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

Alternatively, press the **End** key twice. The phone ends the connection to the service.

### Appearance settings of the multimode browser

While browsing, select **Options > Other options > Appear. settings**, or in the standby mode, select **Menu > Services, Settings > Appearance settings**. Select from the following settings:

**Text wrapping > On**—to make the text continue on the next line or select **Off**, if you want it to be abbreviated when it is too long to be shown on one line.

**Show images > No**—to turn off the pictures while browsing. This can speed up the browsing of pages that contain a lot of pictures.

**Font size**—to choose a font size. Select **Small, Normal** or **Large**.

Alerts > Alert for unsecure connection > Yes—to set the phone to alert when a secure connection changes to an unsecure one during browsing. Select Alert for unsecure items and Yes to set the phone to alert when a secure page contains an unsecure item.

Encoding and select an option in Content encoding—to change the encoding for the Web page content. The default value is Western. Select UTF-8 URLs > On, if you want the phone to send a URL as a UTF-8 encoding.

## Cookies

A cookie is data that a site saves in the browser cache memory of your phone. The data can be, for example, your user information or your browsing preferences. Cookies are saved until you clear the cache memory. See “Cache memory” on page 88.

- 1 While browsing, select Options > Other options > Security > Cookies, or in the standby mode, select Menu > Services > Settings > Security settings > Cookies.
- 2 Select Allow or Reject to allow or prevent the phone receiving cookies.

## • BOOKMARKS

You can save addresses as bookmarks in the phone memory.

- 1 While browsing, select Options > Bookmarks, or in the standby mode, select Menu > Services > Bookmarks.
- 2 Select the desired bookmark or press the joystick briefly to make a connection to the page associated with the bookmark.
- 3 To manage bookmarks, select Options > View, Edit, Delete, Send, or New bookmark.

Your phone may be set up with some bookmarks for sites that are not affiliated with Nokia. Nokia does not guarantee or endorse these sites. If you choose to access them, you should take the same precautions for security and content as you would with any Internet site.

When you receive a bookmark as an OTA message, select Save to add it to the bookmark list, or select Options > View or Discard.

## • DOWNLOADS

- 1 To download more tones, images, games or applications to your phone, select Menu > Services > Download links.
- 2 Select Tone downloads, Image downloads, Game downloads or App. downloads to download tones, images, games or applications, respectively.

Download content only from sources you trust.

## • SERVICE INBOX

The phone is able to receive service messages (pushed messages) from your service provider. To set the phone to receive service messages, select **Menu > Services > Settings > Service inbox settings > Service messages > On**.

- To view a received service message, select **View**. If you select **Exit**, the message is moved to the **Service inbox**. To view the service message later, select **Menu > Services > Service inbox**.
- While browsing, select **Options > Other options > Service inbox**. Scroll to the message that you want, and select **Retrieve** to download the marked content from the Web page, or select **Options > Details** or **Delete**.

## • CACHE MEMORY

The information or services you have accessed are stored in the cache of your phone. A cache is a buffer memory, which is used to store data temporarily.

To empty the cache while browsing, select **Options > Other options > Clear the cache**.

To empty the cache in the standby mode, select **Menu > Services > Clear the cache**.

## • BROWSER SECURITY

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

### CERTIFICATES

There are three kinds of certificates: server certificates, authority certificates, and user certificates.

The phone uses a server certificate to improve security in connection between the phone and the gateway. The phone receives the server certificate from the service provider before the connection is established and its validity is checked using the authority certificates that are saved on the phone. Server certificates are not saved.

The security icon  is displayed during a connection if the data transmission between the phone and the gateway (identified by the IP address in the Edit active service settings) is encrypted.

However, the security icon is not an indication that the data transmission between the gateway and the content server (place where the requested resource is saved) is secure. It is up to the service provider to secure the data transmission between the gateway and the content server.

Authority certificates are used by some services, such as banking, for checking the validity of other certificates. Authority certificates can be either saved in the security module by the service provider, or they can be downloaded from the network, if the service supports the use of authority certificates.

User certificates are issued to users by a Certifying Authority. User certificates are required, for example, to create a digital signature and they associate the user with a specific private key in a security module.

While the use of certificates makes the risks involved in remote connections and software installation considerably smaller, they must be used correctly in order to benefit from increased security. The existence of a certificate does not offer any protection by itself. The certificate manager must contain correct, authentic, or trusted certificates for increased security to be available.

Certificates have a restricted lifetime. If *Expired certificate* or *Certificate not valid yet* is shown (even if the certificate should be valid), check that the current date and time in your phone are correct.

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

## SECURITY MODULE

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

Select **Menu > Services > Settings > Security settings > Security module settings**. Select from the following module settings:

**Security module details**—to show the security module title, status, manufacturer and serial number.

**Module PIN request**—to set the phone to ask for the module PIN when using services that are provided by the security module. Key in the code and select **On**. To disable the module PIN request, select **Off**.


**Change module PIN**—to change the module PIN, if allowed by the security module. Key in the current module PIN code; then key in the new code twice.

**Change signing PIN**—to change a signing PIN. Select the signing PIN that you want to change. Key in the current PIN code; then key in the new code twice.

## DIGITAL SIGNATURE

You can create digital signatures with your phone. The signature can be traced back to you through the private key in the security module and the user certificate that was used to create the signature. Using the digital signature may be considered to be equal to a normal signature on any legal document.

To create a digital signature, select a link on a page, for example, the title of the book you want to buy and its price. The text that needs to be signed (possibly including amount, date, etc.) will be shown.

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



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

To add the digital signature to the text, read all of the text before you select **Sign**. The text may not fit on a single screen. Therefore, make sure to scroll through and read all of the text before signing.

Select the user certificate that you want to use. Key in the signing PIN and select **OK**. The digital signature icon will disappear, and the service may display a confirmation of your purchase.



## 16 SIM services



In addition to the functions that are available on the phone, your SIM card may provide additional services that you can access in **Menu 10**.

**Menu 10** is only shown if it is supported by your SIM card. The name and contents of the menu depend entirely on the service available.



**Note:** For availability, rates and information on using SIM services, contact your SIM card vendor.

You can set the phone to show you the confirmation messages that are sent between your phone and the network when you are using the SIM services by selecting the option **Yes Confirm SIM service actions** in **Phone settings**.



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

# 17 PC connectivity

You can send and receive e-mail, and access the Internet when your phone is connected to a compatible PC using an IR or Bluetooth connection, or a data cable. You can use your phone with a variety of PC connectivity and data communications applications. With PC Suite you can, for example, synchronize contacts, calendar, to-do notes, and notes between your phone and the compatible PC.

You can find more information and downloadable files on the Nokia Web site: [www.nokia.com/support/phones/6820](http://www.nokia.com/support/phones/6820).

## • PC SUITE

PC Suite contains the following applications:

- Nokia Application Installer to install Java applications from the compatible PC to the phone.
- Nokia Image Converter to create images in supported formats for portrait images, multimedia messages, or wallpapers, and to transfer them to your phone.
- Nokia Sound Converter to edit polyphonic ringing tones in supported formats to be compatible with your phone and transfer them to your phone.
- Nokia Content Copier to copy data or back-up data from your phone to a compatible PC or to another compatible Nokia phone.
- Nokia Settings Manager to edit and send your browser bookmarks or update the connection sets to your phone.
- Nokia Phone Editor to send text messages (SMS) and edit the contacts in your phone.
- Nokia Phone Browser to view the contents of the Gallery folder of your phone on a compatible PC. You can browse picture and audio files in the phone memory and to transfer them between phone and PC.
- Nokia Multimedia Player to play multimedia (MMS) messages, and audio and video files. You can also create playlists of your favorite multimedia files.
- Nokia PC Sync to synchronize contacts, calendar, to-do notes and notes between your phone and your PC.
- Nokia 6820 data modem drivers to use your phone as a modem.
- Nokia Modem Options to obtain settings for HSCSD and GPRS connections.
- Nokia Connection Manager to select the connection type between the PC and the phone.

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

## EGPRS, HSCSD and CSD

You can use EGPRS, GPRS, HSCSD, and CSD data services. For availability and subscription to data services, contact your service provider.

The use of HSCSD service consumes the battery more quickly than normal voice or data calls. You may need to connect the phone to a charger for the duration of data transfer. For more information, see "EGPRS modem settings" on page 61.

## • DATA COMMUNICATIONS APPLICATIONS

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



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

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

# 18 Enhancements



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



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

## • SAFETY

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

Check the model number of any charger before use with this device. This device is intended for use when supplied with power from ACP-7, ACP-8, ACP-9, ACP-12, LCH-8, LCH-9, LCH-12, and AC-1.

## • ENHANCEMENTS FOR YOUR PHONE

For detailed information on accessories and enhancements, contact your authorized Nokia dealer or visit the Nokia Web site at [www.nokia.com/us](http://www.nokia.com/us).

### Audio

- Wireless Headset (HDW-2)
- Wireless Clip-on Headset (HS-3W)
- Wireless Boom Headset (HS-4W)
- Boom Headset (HDB-4)
- Headset (HS-5)
- Retractable Headset (HS-10)
- HDA Phone Adapter
- LPS-4 Inductive Loopset

## Car

- Wireless Car Kit (CARK112)
- Wireless Car Kit (CK-1W)
- Car Installation Kit (CARK 126)

## Imaging

- Nokia Observation Camera
- Image Frames (SU-4/7)
- Image Viewer (SU-2)

## Messaging

- Digital Pen

## Data

- Data Cable (DKU-5)
- Desktop Stand (DCV-14)

## Power

- Battery, 850 mAh, Li-ion (BL-5C)
- Retractable Charger (AC-1)
- Travel Charger (ACP 12)

# 19 Reference Information

## • BATTERY INFORMATION

### Charging and discharging

Your device is powered by a rechargeable battery. The full performance of a new battery is achieved only after two or three complete charge and discharge cycles. The battery can be charged and discharged hundreds of times but it will eventually wear out. When the talk and standby times are noticeably shorter than normal, buy a new battery. Use only Nokia approved batteries, and recharge your battery only with Nokia approved chargers designated for this device.

Unplug the charger from the electrical plug and the device when not in use. Do not leave the battery connected to a charger. Overcharging may shorten its lifetime. If left unused, a fully charged battery will lose its charge over time. Temperature extremes can affect the ability of your battery to charge.

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

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

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

Do not dispose of batteries in a fire! Dispose of batteries according to local regulations. Please recycle when possible. Do not dispose as household waste.

## • ENHANCEMENTS, BATTERIES, AND CHARGERS

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



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

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

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

## • CARE AND MAINTENANCE

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

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

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

## • ADDITIONAL SAFETY INFORMATION

### Operating environment

Remember to follow any special regulations in force in any area and always switch off your device when its use is prohibited or when it may cause interference or danger. Use the device only in its normal operating positions. To maintain compliance with radio frequency exposure guidelines only use accessories approved by Nokia for use with this device. When the device is on and being worn on the body, always use an approved carrying case.

### Medical devices

Operation of any radio transmitting equipment, including wireless phones, may interfere with the functionality of inadequately protected medical devices. Consult a physician or the manufacturer of the medical device to determine if they are adequately shielded from external RF energy or if you have any questions. Switch off your 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.

#### **PACEMAKERS**

Pacemaker manufacturers recommend that a minimum separation of 6 in (15.3 cm) be maintained between a wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research. To minimize the potential for interference, persons with pacemakers should

- Always keep the device more than 6 in (15.3 cm) from their pacemaker when the device is switched on
- Not carry the device in a breast pocket
- Hold the device to the ear opposite the pacemaker

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

#### **HEARING AID**

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

### Vehicles

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



Only qualified personnel should service the device, or install the device in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty that may apply to the device. Check regularly that all wireless device equipment in your vehicle is mounted and operating properly. Do not store or carry flammable liquids, gases, or explosive materials in the same compartment as the device, its parts, or enhancements. For vehicles equipped with an air bag, remember that an air bags inflate with great force. Do not place objects, including installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

## Potentially explosive environments

Switch off your device when in any area with a potentially explosive atmosphere and obey all signs and instructions. Potentially explosive atmospheres include areas where you would normally be advised to turn off your vehicle engine. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Switch off the device at refuelling points such as near gas pumps at service stations. Observe restrictions on the use of radio equipment in fuel depots, storage, and distribution areas, chemical plants or where blasting operations are in progress. Areas with a potentially explosive atmosphere are often but not always clearly marked. They include below deck on boats, chemical transfer or storage facilities, vehicles using liquefied petroleum gas (such as propane or butane), and areas where the air contains chemicals or particles such as grain, dust or metal powders.

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

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

## EMERGENCY CALLS



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

To make an emergency call:

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

#### 4 Press the Talk key.

If certain features are in use, you may first need to turn those features off before you can make an emergency call. Consult this guide or your service provider. When making an emergency call, give all the necessary information as accurately as possible. 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 highest SAR value for the Nokia 6820a model phone as reported to the FCC when tested for use at the ear is 0.66 W/kg, and when worn on the body, as described in this user guide, is 1.20 W/kg. The highest SAR value for the Nokia 6820b model phone as reported to the FCC when tested for use at the ear is 0.78 W/kg, and when worn on the body, as described in this user guide, is 0.87 W/kg. (Body-worn measurements differ among phone models, depending upon available enhancements 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 PYANHL-9 for the Nokia 6280a model and FCC ID PYARH-26 for the Nokia 6820b model.

For body worn operation, this phone has been tested and meets the FCC RF exposure guidelines for use with a carry case, belt clip, or holder that contains no metal and that positions the handset a minimum of 5/8-inch (1.5 cm) from the body. Use of other carry cases, belt clips, or holders may not ensure compliance with 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](http://www.nokia.com).

## • TECHNICAL INFORMATION

<b>Weight</b>	3.5 oz (100 g) with BL-5C 850-mAh semi-fixed Li-Ion Battery	
<b>Size</b>	Volume: 4.8 cubic inches (79 cc) Length: 4.2 in (106.1 mm closed) Width: 1.8 in (46.1 mm) at hinges, 1.5 in (38 mm) at bottom Thickness: .8 in (21.6 mm) at top, .7 in (17 mm) at bottom)	
<b>Frequency range</b>	<b>6820a</b> GSM900 880.2–914.8 MHz (TX) 925.2–959.8 MHz (RX) GSM1800 1710.2–1784.8 MHz (TX) 1805.2–1879.8 (RX) GSM1900 1850.2–1909.8 MHz (TX) 1930.2–1989.8 (RX)	<b>6820b</b> GSM850 824.2–848.8 MHz (TX) 869.2–893.8 MHz (RX) GSM1800 1710.2–1784.8 MHz (TX) 1805.2–1879.8 (RX) GSM1900 1850.2–1909.8 MHz (TX) 1930.2–1989.8 (RX)
<b>Transmitter output power</b>	Up to 2 W	
<b>Battery voltage</b>	3.7 V	
<b>Operating temperature</b>	14°F to + 131°F (-10°C to +55°C)	
<b><sup>a</sup>Talk time, standby time</b>	Talk time: up to 7 hours Stand-by time: up to 10 days	

a. 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 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 the standby mode will affect its talk time.

## • 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 enhancement 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 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. Pending patent numbers are shown with an asterisk (\*).

162111	177166	4868846	4945633	5001372	5053928
5083240	5101175	5124672	5151946	5152004	5173927
5212834	5230091	5241583	5266782	5271056	5311151
5317283	5331638	5335362	5341149	5353328	5371481
5378935	5384782	5390223	5392460	5396657	5400949
5408504	5416435	5430740	5442521	5444816	5446364
5446422	5477422	5479476	5487084	5526366	5534878
5548616	5551067	5553125	5557639	5565821	5566201
5570369	5581244	5594797	5600708	5606548	5613235
5625274	5640395	5664053	5675611	5677620	5692032
5697074	5699482	5701392	5722074	5729541	5760568
5787341	5794142	5797102	5802465	5805301	5809413
5819165	5821891	5822366	5827082	5835858	5835889
5839101	5842141	5844884	5845219	5850607	5857151
5859843	5862178	5870683	5884103	5884190	5889770
5898775	5898925	5903832	5903839	5907823	5912570
5914690	5914796	5917868	5920826	5926147	5926769
5929813	5930233	5946651	5953665	5956332	5956625
5956633	5960354	5960389	5963901	5966378	5977887
5983081	5987137	5987639	5991857	6005857	6006114
6009328	6011853	6011971	6014113	6014551	6014573
6025802	6026161	6028567	6031827	6035189	6035194
6038238	6043760	6047196	6049796	6050415	6054954
6054966	6055439	6060193	6069923	6072787	6073001
6079993	6081732	6084471	6084855	6084920	6084962
6088746	6094587	6097964	6105784	6112099	6115617
6118775	6119002	6119180	6121846	6122498	6128322
6128509	6130650	6133884	6137789	6138091	6140966
6144243	6144676	6148209	6151485	6151507	6163609

6164547	6167038	6167248	6167273	6170073	6171127
6178535	6182101	6184592	6185295	6185302	6185422
6188909	6195338	6199035	6201712	6201876	6202109
6219560	6223037	6223059	6230020	6240076	6249584
6259312	6262735	6266321	6266330	6269126	6271794
6272361	6282436	6285888	6292668	6295286	6307512
6308084	6311054	6314166	6317083	6324389	6324412
6333716	6347218	6356759	6359865	6359904	6363259
6370362	6370389	6377803	6377820	6381468	6385254
6385451	6392605	6392660	6400958	6417817	6430163
6434133	6437711	6438370	6445932	6453179	6456237
6456826	6463278	6470470	6487397	6510148	6522670
6591116	6606508				

# Appendix A Message from the CTIA

(Cellular Telecommunications  
& Internet Association)  
to all users of mobile phones.

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Phone: (202) 785-0081

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

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

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

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

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

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

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

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

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

- 1 Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable features most phones offer, including automatic redial and memory. Also, work to memorize the phone keypad so you can use the speed dial function without taking your attention off the road.
- 2 When available, use a hands free device. A number of hands free wireless phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.
- 3 Position your wireless phone within easy reach. Make sure you place your wireless phone within easy reach and where you can grab it without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voice mail answer it for you.
- 4 Suspend conversations during hazardous driving conditions or situations. Let the person you are speaking with know you are driving; if necessary, suspend the

call in heavy traffic or hazardous weather conditions. Rain, sleet, snow and ice can be hazardous, but so is heavy traffic. As a driver, your first responsibility is to pay attention to the road.

- 5 Do not take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a "to do" list while driving a car, you are not watching where you are going. It's common sense. Don't get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.
- 6 Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan your calls before you begin your trip or attempt to coincide your calls with times you may be stopped at a stop sign, red light or otherwise stationary. But if you need to dial while driving, follow this simple tip--dial only a few numbers, check the road and your mirrors, then continue.
- 7 Do not engage in stressful or emotional conversations that may be distracting. Stressful or emotional conversations and driving do not mix--they are distracting and even dangerous when you are behind the wheel of a car. Make people you are talking with aware you are driving and if necessary, suspend conversations which have the potential to divert your attention from the road.
- 8 Use your wireless phone to call for help. Your wireless phone is one of the greatest tools you can own to protect yourself and your family in dangerous situations--with your phone at your side, help is only three numbers away. Dial 9-1-1 or other local emergency number in the case of fire, traffic accident, road hazard or medical emergency. Remember, it is a free call on your wireless phone!
- 9 Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity to be a "Good Samaritan" in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other local emergency number, as you would want others to do for you.
- 10 Call roadside assistance or a special wireless non-emergency assistance number when necessary. Certain situations you encounter while driving may require attention, but are not urgent enough to merit a call for emergency services. But you still can use your wireless phone to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

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

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

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

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

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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 an 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.nrp.org.uk/>

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

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