



G4010

User Guide

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Unpacking

Check to make sure that you have all the parts shown below



Handset



Standard Battery



Travel Adapter



Neckstrap



Handsfree portable



Warranty Card



User Guide

For Your Safety

Important Information

This user guide contains important information on the use and operation of this phone. Please read all the information carefully for optimal performance and to prevent any damage to or misuse of the phone. Any changes or modifications not expressly approved in this user guide could void your warranty for this equipment.

Before You Start

Safety Instructions

WARNING! To reduce the possibility of electric shock, do not expose your phone to high humidity areas, such as the bathroom, swimming pool, etc.

Always store your phone away from heat. Never store your phone in settings that may expose it to temperatures less than 32° F or greater than 104° F, such as outside during a snowstorm or in your car on a hot day. Exposure to excessive cold or heat will result in malfunction, damage and/or catastrophic failure.

Be careful when using your phone near other electronic devices. RF emissions from your mobile phone may affect nearby inadequately shielded electronic equipment. You should consult with manufacturers of any personal medical devices such as pacemakers and hearing aides to determine if they are susceptible to interference from your mobile phone. Turn off your phone in a medical facility or at a gas station. Never place your phone in a microwave oven as this will cause the battery to explode.

IMPORTANT! Please read the TIA SAFETY INFORMATION on page 123 before using your phone.

Safety Information

Please read and observe the following information for the safe and proper use of your phone and to prevent any unanticipated damage by accident. Also, keep the user's manual in an accessible place all the times after reading it.

- ▶ Unplug the power cord and charger during a lightning storm to avoid electric shock or fire.
- ▶ Do not use your phone in high explosive areas as the phone may generate sparks.
- ▶ Do not put your phone in a place subject to excessive dust, and keep the minimum required distance between the power cord and heat sources.
- ▶ Unplug the power cord prior to cleaning your phone, and clean the power plug pin when it is dirty.
- ▶ Do not damage the power cord by bending, twisting, pulling, or heating. Do not use the plug if it is loose as it may cause fire or electric shock.
- ▶ Hold the power cord plug firmly to plug and unplug the power cord. Ensure the plug is firmly connected. If it is not firmly connected, it may cause excessive heat or fire.
- ▶ Do not place any heavy item on the power cord. Do not allow the power cord to be crimped as it may cause fire or electric shock.
- ▶ Be careful not to let the battery contact metal conductors such as a necklace or coins. When shorted, it may cause an explosion.
- ▶ Do not disassemble or impact to the battery as it may cause electric shock, short-circuit, and fire. Store the battery in a place out of reach of children.

- ▶ Using a damaged battery or placing a battery in your mouth may cause serious injury.
- ▶ Do not place items containing magnetic components such as a credit card, phone card, bank book and a subway ticket, near your phone. The magnetism of the phone may damage the data stored in the magnetic strip.
- ▶ Do not hold or let the antenna come in contact with your body during a call.
- ▶ Talking on your phone for a long period of time may reduce the call quality due to heat generated during the use.
- ▶ Do not allow excessive vibration or impact to the phone
- ▶ When you do not use the phone for a long period time, store it in a safe area with the power cord unplugged.

FCC RF Exposure Information

WARNING! Read this information before operating the phone.

In August 1996, the Federal Communications (FCC) of the United States, with its action in Report and Order FCC 96-326, adopted an updated safety standard for human exposure to radio frequency (RF) electromagnetic energy emitted by FCC regulated transmitters. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies.

The design of this phone complies with the FCC guidelines and these international standards.

CAUTION

Use only the supplied and approved antenna. Use of unauthorized antennas or modifications could impair call quality, damage the phone, void your warranty and/or result in violation of FCC regulations.

Do not use the phone with a damaged antenna. If a damaged antenna comes into contact with skin, a minor burn may result. Contact your local dealer for a replacement of antenna.

Body-worn Operation

This device was tested for typical body-worn operations with the back of the phone kept 3/4 inch (2 cm) from the body. To comply with FCC RF exposure requirements, a minimum separation distance of 3/4 inches (2 cm) must be maintained between the user's body and the back of the phone, including the antenna, whether extended or retracted. Third-party belt-clips, holsters, and similar accessories containing metallic components should not be used. Body-worn accessories that cannot maintain 3/4 inch (2 cm) separation distance between the user's body and the back of the phone, and have not been tested for typical body-worn operations may not comply with FCC RF exposure limits and should be avoided.

Vehicle Mounted External Antenna (optional, if available)

A minimum separation distance of 8 inches (20 cm) must be maintained between the user/bystander and the vehicle mounted external antenna to satisfy FCC RF exposure requirements.

For more information about RF exposure, visit the FCC website at www.fcc.gov

FCC Part 15 Class B Compliance

This device and its accessories comply with part 15 of FCC rules. Operation is subject to the following two conditions: (1) This device and its accessories may not cause harmful interference, and (2) this device and its accessories must accept any interference received, including interference that may cause undesired operation.

Cautions for Battery

- ▶ Do not disassemble.
- ▶ Do not short-circuit.
- ▶ Do not expose to high temperature: 60°C (140°F).
- ▶ Do not incinerate.

Battery Disposal

- ▶ Please dispose of your battery properly or bring to your local wireless carrier for recycling.
- ▶ Do not dispose in fire or with hazardous or flammable materials.

Adapter (Charger) Cautions

- ▶ Using the wrong battery charger could damage your phone and void your warranty.
- ▶ The adapter or battery charger is intended for indoor use only.

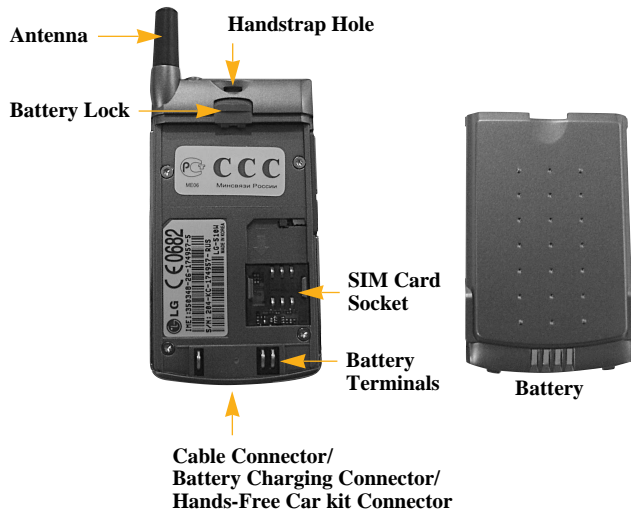
Do not expose the adapter or battery charger to direct sunlight or use it in places with high humidity, such as the bathroom.

Phone Components



Your Phone' s Features

- 1. Earpiece**
- 2.12 left soft key / right soft key:** Each of these keys performs the function indicated by the text on the display immediately above it.
- 3. Side keys:** These keys are used to control the volume of key tone in standby mode and speaker volume during a call.
- 4. Vibration key:** Use to set the Manner Mode by pressing and holding the < key for about 3 seconds while in standby mode.
- 5. Send key:** You can dial a phone number and answer incoming calls. Press this key in standby mode to quickly access the most recent incoming, outgoing and missed calls.
- 6. Alphanumeric keys:** These keys are used to dial a number in standby mode and to enter number or characters in edit mode.
- 7. Microphone:** Can be muted during a call for privacy.
- 8. Active flip:** Open the flip to answer an incoming call and close to end the call
- 9. Display screen:** Displays phone status icons, menu items, Web information, pictures and more in full color.
- 10. Navigation key:**
- 11. Confirm key:** Long press will launch the WAP browser. Lets you select menu options and confirm actions.
- 13. Message key:** Use to retrieve or send voice and text messages.
- 14. End/Power key:** Lets you power the phone the phone no or off, end calls or return to Standby mode.



Display Information

The table below describes various display indicators or icons that appear on the phone's display screen.

On-Screen Icons

Icon	Description
	Indicates the strength of the network signal.
	Indicates a call is in progress.
	Indicates that you are roaming off the network.
	Indicates that GPRS service is available.
	Indicates the alarm has been set and is on.
	Indicates the status of the battery charge.
	Indicates the receipt of a text message.
	Indicates the receipt of a voice message.
	Indicates that the vibration ringer has been set.
	Indicates the receipt of an e-mail message.
	Indicates the Loud menu in Profiles.
	Indicates the Quiet menu in Profiles.
	Indicates the Headset menu in Profiles.
	Indicates the Car menu in Profiles.
	Indicates the General menu in Profiles.
	Indicates that you can use the push message service.
	Indicates the Schedule function.

Getting Started

Using the Battery, Charger and SIM Card

Installing and Removing the Battery

- ▶ To install, insert the battery into the opening on the back of the phone and gently press down until the latch snaps into place.
- ▶ To remove, first make sure the power is off. Press the battery release latch up and remove the battery from the phone at a 45-degree angle.

Installing the Battery

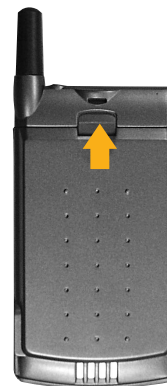
To install the battery, insert the bottom of the battery into the opening on the back of the phone. Then, push the battery down until the latch clicks.



Removing the Battery

Turn the power off. (If power is on, a loss of stored numbers and messages may occur.)

Lifting release latch detaches the battery from the phone.



Charging the Battery

Use of unauthorized accessories could damage your phone and invalidate your warranty.

To use the travel adapter provided with your phone.

1. With the battery in position on the phone, connect the lead from the travel adapter to the bottom of the phone. Check that the arrow on the lead connector is facing towards the front of the phone.



2. Connect the adapter to a standard AC wall outlet. Only use the travel adapter that comes included with the package.

Warning Do not force the connector as this may damage the phone and/or the travel adapter.

Disconnecting the charger

When charging is finished, disconnect the adapter from the power outlet and from the phone by pressing the gray tabs on both sides of the connector and pulling the connector out.



! Notice

- ▶ The battery delivered with your phone has to be fully charged before using it.
- ▶ Do not remove the battery or the SIM card while charging.
- ▶ If your phone is powered on while charging, you'll see the bars in the battery indicator icon cycle. When the battery is fully charged, the bars in the battery indicator icon will flash on and off.
- ▶ If your phone is powered off, the display will show charging status. "Battery Charging" or "Battery Full" will be displayed.

If the battery fails to charge completely.

- ▶ After turning the phone on and off, please attempt to recharge the battery.
- ▶ After detaching and reattaching the battery, please attempt to recharge the battery.

Installing the SIM Card

When you subscribe to a cellular network, you are provided with a plug-in SIM card loaded with your subscription details (PIN, optional services available and so on).

Locate the SIM card socket in the back of the phone. Follow the steps below to install the SIM card.

1. Remove the battery if attached.
2. Slide the SIM card into the SIM card holder so that the holder locks the card in position.



- ⓘ Notice** When you need to remove the SIM card, slide it towards the top of the phone and take it out of the holder.




ⓘ Notice

- ▶ Before installing always make sure that the phone is switched off and remove the battery.
- ▶ The metal contact of the SIM card can be easily damaged by scratches. Pay special attention to the SIM card when you handle and install. Follow the instructions supplied with the SIM card.

Turning Your Phone On and Off

Turning Your Phone ON

1. Install a charged battery pack or connect the phone to an external power source such as the cigarette lighter adapter or car kit.
2. Press  for more than five seconds.
 - ▶ Fully extend the antenna for the best performance.
3. Depending on the status of the PIN code Request setting you may or may not need to enter it.

- ⓘ Notice** Like any other radio device, avoid any unnecessary contact with the antenna while your phone is on.

Turning Your Phone OFF

1. Press  for a few seconds.

Access Codes

You can use the access codes described in this section to avoid unauthorized use of your phone. The access codes (except PUK and PUK2 codes) can be changed by using the **Change Codes** feature [Menu 4-5-4].

PIN code (4 to 8 digits)

The PIN (Personal Identification Number) code protects you SIM card against unauthorized use. The PIN code is usually supplied with the SIM card. When the **PIN Code Request** is set to Enable, your phone will request the PIN code every time it is switched on. When the **PIN Code Request** is set to **Disable**, your phone connects to the network directly without the PIN code.

PIN2 code (4 to 8 digits)

The PIN2 code, supplied with some SIM cards, is required to access functions such as Advice of Call Charge and Fixed Dial Number. These functions are only available if supported by your SIM card.

PUK code (4 to 8 digits)

The PUK (PIN Unblocking Key) code is required to change a blocked PIN code. The PUK code may be supplied with the SIM card. If not, contact your local service provider for the code. If you lose the code, also contact your service provider.

PUK2 code (4 to 8 digits)

The PUK2 code, supplied with some SIM cards, is required to change a blocked PIN2 code. If you lose the code, also contact your service provider.

Security code (4 to 8 digits)

The security code protects the unauthorized use of your phone. The default security code is set to “0000” and the security code is required to delete all phone entries and to activate the Restore Factory Settings menu. The security code default setting can be modified from the Security Settings menu.



Barring Password

The barring password is required when you use the Call Barring function. You obtain the password from your service provider when you subscribe to this function. See page68 for further details.



General Functions

Making and Answering Calls



Making a Call

1. Make sure your is on.
2. Enter a phone number including the area code. To edit a number on the display screen, press the right/left navigation keys to move the cursor to desired position. Or, press right soft key(Clear key) to erase one digit at a time.
 - ▶ Press and hold right soft key to erase the entire number.
3. Press  to call the number.
4. When you are finished, press .


Making a call by Send key

1. Press , and the most recent incoming, outgoing and missed phone numbers will be displayed.
2. Select the desired number by using the navigation keys.
3. Press .

Making International Calls

1. Press and hold the  key for the international prefix. The “+” character can be replaced with the international access code.
2. Enter the country code, area code, and the phone number.
3. Press .

Ending a Call

When you have finished your call, briefly press the  key.

Making a call from the Phonebook

You can store the names and phone numbers dialed regularly in the SIM card and phone memory, called the phonebook.

You then simply select the required name to recall the associated number. For further details on the Phonebook feature, refer to page??

Adjusting the Volume



During a call, if you want to adjust the earpiece volume, use the Side keys on the Side keys of the phone.

Press the up navigation key to increase and the down navigation key to decrease the volume.

In idle mode with the flip cover open, you can adjust the Side keys volume using the up/down navigation keys.


Answering a Call

When somebody calls you, the phone rings and the phone icon in the middle of the screen flashes. If the caller can be identified, the caller's phone number(or name if stored in your phonebook) is displayed.

1. If necessary, open the flip. Press the  key and left soft key to answer the incoming call. If the **Press any key** menu option(Menu 4.4.2)is set to **Yes**, you can press any key to answer a call except for the  key and right soft key.

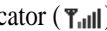
! Notice

- ▶ To reject an incoming call, press and hold the Side Keys on the left side of the phone without opening the flip.
- ▶ If the **Flip open** menu option(Menu 4.4.2) is set to **Yes**, you do not need to press any key. You can answer the call simply by opening the flip.

2. End the call by closing the phone or pressing the  key.

- ! Notice** You can answer a call while using the phonebook or menu features.

Signal Strength

Call quality is always best when the antenna is fully raised. If you're inside a building, being near a window may give you better reception. You can see the strength of your signal by the signal indicator () on your phone's display screen.

Entering Text

When using your phone, you will need to enter text. For example, when storing a name in the phonebook and write message, creating your personal greeting or scheduling events in your calendar. You can enter alphanumeric characters by using your phone's keypad.

You are provided with the following text input modes.

T9 mode


This mode allows you to enter words with only one keystroke per letter. Each key on the keypad has more than one letter. The

T9 mode automatically compares your keystrokes with an internal linguistic dictionary to determine the correct word, thus requiring far fewer keystrokes than the traditional ABC mode.

ABC mode

This mode allows you to enter letters by pressing the key labelled with the required letter once, twice, three or four times until the letter is displayed.

123 mode(Number mode)

Type numbers using one keystroke per number. To change to 123 mode in a text entry field, press  key until 123 mode is displayed.

Symbolic mode


This mode allows you to enter special character.

- ! Notice** You can select T9 languages by selecting menu. In T9 mode, you can also select T9 Off menu. (Default is T9 On)

Changing the Text input Mode



1. When you are in a field that allows characters to be entered, you will notice the text input mode indicator in the upper right corner of the display.







2. If you want to change mode, press the  key. The modes available are displayed.


Using the T9 Mode


The T9 predictive text input mode allows you to enter words easily with a minimum of key presses. As you press each key, the phone selects a letter that makes on the word that it thinks you are typing, based on a built-in dictionary. As a new letter is added, the word changes based on the key that you have pressed.

- When you are in the T9 predictive text input mode, start entering a word by pressing keys  to . Press each key only once for one letter.
 - The word changes as letters are typed - ignore what,s on the screen until the word is typed completely.
 - If the word is still incorrect after typing is completely, press the Right navigation key one or more times to cycle through other word options.



Example: Press     to type Good

Press     [Right navigation key] to type Home

- If the desired word is missing from the choices, add it using the ABC mode.
- Enter the whole word before editing or deleting any keystrokes.
 - Complete each word with a space by pressing the  key. To delete letters, press right soft key. Press and hold down right soft key to erase entire words.


- Notice** To exit the text input mode without saving your input, press . The phone returns to the previous menu level.

Using the ABC Mode











Use the  to  keys to enter your text.

- Press the key labelled with the required letter:
 - Once for the first letter
 - Twice for the second letter
 - And so on

- Once for the first letter
- Twice for the second letter
- And so on

- To insert a space, press the  key once. To delete letters, press the right soft key. Press and hold down the right soft key to clear the display.

- Notice** Refer to the table below for more information on the characters available using the keys.

Key	Characters in the Order Display
	. , ' ? ! - & 1
	A B C 2 Ä Å Æ Ç a b c à ä å 2 B
	D E F 3 É d e f è é
	G H I 4 g h i ì
	J K L 5 j k l
	M N O 6 Ñ Ö Ø m n o ñ ò ö ø
	P Q R S 7 p q r s
	T U V 8 Ü t u v ù ü
	W X Y Z 9 w x y z
	0 [Space Key]


Using the 123(Number) Mode

The 123 mode enables you to enter numbers in a text message (a telephone number, for example).

Press the keys corresponding to the required digits before manually switching back to the appropriate text entry mode.

Using the Symbol Mode

The Symbol mode enables you to enter various symbols.

To enter a symbol, press  key then use the navigation keys to select the desired symbol. Press [OK] key.

Phonebook

You can store phone numbers and their corresponding names in the memory of your SIM card.

In addition, you can store up to 100 numbers and names in the phone memory.

The SIM card and phone memories, although physically separate, are used as if they were a single entity, called the phonebook. (see page 77 in detail)

- ▶ **Search:** Allows you to search for a specific name and number.
- ▶ **Add new:** Allows you to add new names and numbers.
- ▶ **Speed dials:** Allows you to assign up to 8 speed dial numbers.
- ▶ **Caller groups:** Allows you to display group list, select it, edit the name, set ring type and icon for each group.
- ▶ **Copy all:** Allows you to copy entries from your Phone memory to SIM card or from SIM card to Phone memory.
- ▶ **Delete all:** Allows you to erase all data in SIM, Phone or Voice list memory.
- ▶ **Settings:** Allows you to settings memory and search.
- ▶ **Information:** Allows you to check the status of memory, SDN(Service Dial Number), and Own number.

In-Call Menu

Your phone provides a number of control functions that you can use during a call. To access these functions during a call, press the left soft key [Options].


During a Call

The menu displayed on the handset screen during a call is different to the default main menu reached from the idle screen, and the options are described here.


Making a Second Call


You can get a dial number from phonebook to make a second call. Press right soft key then select Search. To save the dial number into phonebook during call, press right soft key then select Add Entry.

Swapping Between Two Calls


To switch between two calls, select left soft key, then select Swap. You can make one of two calls focused by pressing up/down arrow key. If you want to end one of two calls, make the call you want to end focused, then press  key when the call you want to end is focused.


Answering an Incoming Call

To answer an incoming call when the handset is ringing, simply press the  key. The handset is also able to warn you of an incoming call while you are already in a call. A tone sounds in the earpiece, and the display will show that a second call is waiting. This feature, known as Call Waiting, is only available if your network supports it. For details of how to activate and deactivate it see Call waiting [Menu 4-4-4].

If Call Waiting is on, you can put the first call on hold and answer the second, by pressing  or by selecting left soft key, then Hold & Answer. You can end the current call and answer the waiting call by selecting left soft key, then End & Answer.

Rejecting an Incoming Call

When not in a call you can reject an incoming call without answering it by simply pressing the  key.

When in a call you can reject an incoming call by pressing the left soft key [Menu] key and selecting Multiparty/Reject or by pressing  key.

Muting the Microphone

You can mute the microphone during a call by pressing the [Menu] key then selecting Mute on. The handset can be unmuted by pressing the must off menu. When the handset is muted, the caller cannot hear you, but you can still hear them.


Switching DTMF Tones on During a Call

To turn DTMF tones on during a call, for example, to allow your handset to make use of an automated switchboard, select left soft key, then DTMF On. DTMF tones can be turned off the same way.

Multiparty or Conference Calls

The multiparty or conference service provides you with the ability to have a simultaneous conversation with more than one caller, if your network service provider supports this feature. A multiparty call can only be set up when you have one active call and one call on hold, both calls having been answered. Once a multiparty call is set up, calls may be added, disconnected or separated (that is, removed from the multiparty call but still connected to you) by the person who set up the multiparty call. These options are all available from the in-call menu and are listed in Section. The maximum callers in a multiparty call are five. Once started, you are in control of the multiparty call, and only you can add calls to the multiparty call.

Making a Second Call

You can make a second call while you are already in a call. To do this, enter the second number and press . When you get second call the first call is automatically put on hold. You can swap between calls by selecting left soft key then Swap.

Setting up a Multiparty Call

You can connect a call on hold to the currently active call to form a multiparty call by selecting left soft key then Multiparty/Join all.

Putting the Multiparty Call on Hold

To put a multiparty call on hold, select left soft key then Multiparty/Hold all.

Activate the Multiparty Call on Hold

To make a multiparty call on hold active, select left soft key then Multiparty/Join all.

Adding Calls to the Multiparty Call

To join an active call to the held multiparty call, select left soft key then Multiparty/Join all.


Displaying Callers in a Multiparty Call

To scroll through the numbers of the callers who make up a multiparty call on the handset screen, press Up/Down Navigation keys.

A Private Call in a Multiparty Call

To have a private call with one caller of a multiparty call, display the number of the caller you wish to talk to on the screen, then select left soft key and Multiparty/Private to put all the other callers on hold.

Ending a Multiparty Call

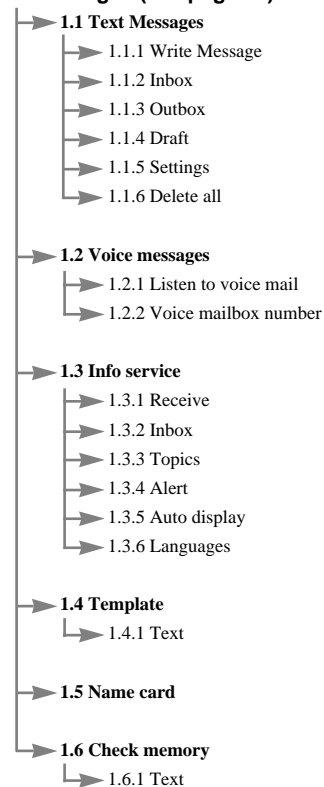
The currently displayed caller of a multiparty call can be disconnected by pressing the  key. To end a multiparty call, press left soft key then select Multiparty/End multiparty. Selecting left soft key then Multiparty/End all, will end all the active and held calls.

Menu Tree

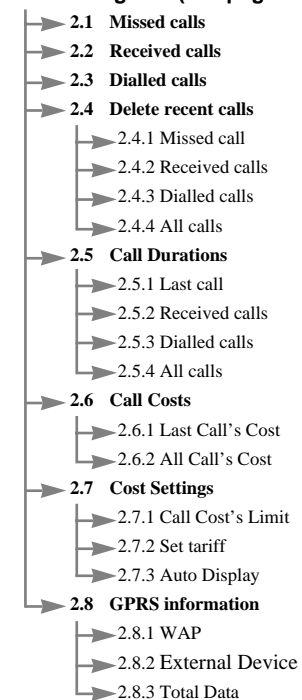
The following illustration shows the menu structure available and indicates the:

- ▶ Number assigned to each option.
- ▶ Page on which you can find a description of each feature.

1. Messages (see page 42)



2. Call Register (see page 52)



3. Profiles (see page 58)

- ▶ **3.1 Vibrate only**
 - ▶ 3.1.1 Activate
- ▶ **3.2 Silent**
 - ▶ 3.2.1 Activate
 - ▶ 3.2.2 Personalize
 - ▶ 3.2.3 Rename
- ▶ **3.3 General**
 - ▶ 3.3.1 Activate
 - ▶ 3.3.2 Personalize
 - ▶ 3.3.3 Rename
- ▶ **3.4 Loud**
 - ▶ 3.4.1 Activate
 - ▶ 3.4.2 Personalize
 - ▶ 3.4.3 Rename
- ▶ **3.5 Headset**
 - ▶ 3.5.1 Personalize
- ▶ **3.6 Car**
 - ▶ 3.6.1 Personalize

4 Settings (see page 60)

- ▶ **4.1 Alarm clock**
- ▶ **4.2 Date & Time settings**
 - ▶ 4.2.1 Date & time
 - ▶ 4.2.2 Auto update
- ▶ **4.3 Phone settings**
 - ▶ 4.3.1 Display settings
 - ▶ 4.3.2 Power on sound
 - ▶ 4.3.3 Languages
 - ▶ 4.3.4 TTY
 - ▶ 4.3.5 LED indicator

4. Settings (continued)

- ▶ **4.4 Call settings**
 - ▶ 4.4.1 Call divert
 - ▶ 4.4.2 Answer mode
 - ▶ 4.4.3 Send my number
 - ▶ 4.4.4 Call waiting
 - ▶ 4.4.5 Minute minder
 - ▶ 4.4.6 Auto redial
 - ▶ 4.4.7 Select line
 - ▶ 4.4.8 Closed user group
- ▶ **4.5 Security settings**
 - ▶ 4.5.1 PIN code request
 - ▶ 4.5.2 Call barring service
 - ▶ 4.5.3 Fixed dial number
 - ▶ 4.5.4 Change codes
- ▶ **4.6 Network settings**
 - ▶ 4.6.1 Automatic
 - ▶ 4.6.2 Manual
 - ▶ 4.6.3 Preferred
- ▶ **4.7 GPRS settings**
 - ▶ 4.7.1 Attach
 - ▶ 4.7.2 External device
- ▶ **4.8 Reset settings**

5. Organizer (see page 74)

- ▶ **5.1 Scheduler**
- ▶ **5.2 Memo**
- ▶ **5.3 Phone book**
 - ▶ 5.3.1 Search
 - ▶ 5.3.2 Add new
 - ▶ 5.3.3 Speed dials
 - ▶ 5.3.4 Caller groups
 - ▶ 5.3.5 Copy all
 - ▶ 5.3.6 Delete all
 - ▶ 5.3.7 Settings
 - ▶ 5.3.8 Information

6. Fun & Tools (see page 85)

- ▶ **6.1 Games**
 - ▶ 6.1.1 Black Jack
- ▶ **6.2 My folder**
 - ▶ 6.2.1 Picture
 - ▶ 6.2.2 Animation
 - ▶ 6.2.3 Sound
- ▶ **6.3 Unit converter**
- ▶ **6.4 Calculator**
- ▶ **6.5 World time**

7. Internet (see page 89)

- ▶ **7.1 Home**
- ▶ **7.2 Push messages**
 - ▶ 7.2.1 Inbox
 - ▶ 7.2.2 Receive
- ▶ **7.3 Profiles**
- ▶ **7.4 Cache settings**
 - ▶ 7.4.1 Clear cache
 - ▶ 7.4.2 Cache check
- ▶ **7.5 WAP information**
- ▶ **7.6 Reset profiles**

*: Shown only if supported by CPHS


Messages



Text Messages

Menu 1.1

Your phone receives voice mail notification messages, and the Short Message Service(SMS) messages.

Voice mail and SMS are network services. Please contact your service provider for more information.

When the  icon appears, you have received voice mail.

When the  icon appears, you have received a new text message. If the message memory is full, an error message is displayed, the  icon flashes and you cannot receive any new messages. Use the Delete option in the Read Messages menu (1-1-2) to delete obsolete messages. Once there is space in the memory any undelivered SMS messages will be received (provided sufficient space is available).

Write message

(Menu 1.1.1)

Via this menu, you can write and edit text messages of up to about 918 characters.

1. Key in a message. For details on how to enter text, refer to page 28(Entering Text).
2. After you complete the message, you can select the required option, press the left soft key [Options].

The following options are available.




- ▶ **Send to number:** Enter the phone number and select the number from the phone book.


- ▶ **Send to email:** Enter the email and select the email from the phone book
- ▶ **Save to draft:** Allows you to save the message so that it can be sent later.
- ▶ **Attach** (The following options are available.)
 - **Symbol:** You can attach special characters.
 - **Picture:** The phone allows you to send and receive text messages that contain pictures. These messages are called 'Picture Messages', several of which are preset in the phone and can be replaced with new one received from other sources.
 - **Animation:** Attaching an animation in a message can be done through EMS(Enhanced Messaging Service). You can select one of 15 animation in the phone.
 - **Sound:** You can attach the Sounds that are available for short message.
 - **Text template:** You can use Text templates already set in the phone.
 - **Phone number:** You can add phone numbers.
 - **Name card:** You can attach your name card.
- ▶ **T9 languages:** For details on how to enter text, refer to page 30(Using the T9 Mode). Choose between English and Spanish.
- ▶ **Clear text:** Allows you to delete the writing message.
- ▶ **Exit:** Allows you to exit in editor.

Inbox*(Menu 1.1.2)*

Received text messages, page messages, and email lists may be searched and the contents may be viewed.

Received messages are displayed from newest to oldest.

1. Press light soft key [Menu].
2. Press  .
3. Select  Inbox.

 Notice	Icon directive
[]	Read SIM email
[]	Unread SIM email
[]	Read email
[]	Unread email
[]	Read SIM message
[]	Unread SIM message
[]	Read message
[]	Unread message
[]	Read delivery report
[]	Unread delivery report

The following options are available.


- ▶ **Reply:** Replies to the SMS with the original message attached.
- ▶ **Forward:** Forwards a received message to other recipients. After recipients are entered, the message can be forwarded.
- ▶ **Return call:** You can call back to the sender.
- ▶ **Extract:** You can extract picture, sound, text webpage and email address. They will be saved in My folder, phonebook or bookmarks.
- ▶ **Delete:** Deletes the selected message from the Inbox.

Outbox*(Menu 1.1.3)*

You may view lists and contents of sent messages in this menu and may also verify if the transmission was successful.

The following options are available.

- ▶ **Forward:** You can forward the current message to other recipients.
- ▶ **Delete:** Deletes the selected message from the Outbox.

 Notice	Icon directive
[]	Sent SIM email
[]	Sent email
[]	Sent SIM message
[]	Sent message

Draft*(Menu 1.1.4)*

Using this menu, you can preset that you use most frequently. This menu shows the preset message list. Scroll through the list using the Up/Down navigation keys. When the required message number appears, press the left soft key [Options].

The following options are available.

- ▶ **Forward:** Allows you to forward the current message to other recipients.
- ▶ **Delete:** Allows you to delete the selected preset message.

Settings

(Menu 1.1.5)

Via this menu, you can set up default SMS information.

- ▶ **Message types:** Allows you to set the default message type (Text, Voice, Fax, Paging, X.400, E-mail, ERMES). The network can convert the messages into the selected format. The type of message you desire can be set to Text type.
- ▶ **Validity period:** Allows you to set the length of time for which your text messages will be stored at the SMS center while attempts are made to deliver them to the recipient. Possible values are 1 hour, 12 hours, 1 day, 1 week and the maximum authorized by your service provider.
- ▶ **Delivery reports:** Allows you to activate or deactivate the report function. When this function is activated, the network informs you whether or not your message has been delivered.
- ▶ **Reply with same service:** Allows the recipient of your SMS message to send you a reply via your message center, if the service is provided by the network.
- ▶ **Message center number:** Allows you to store or change the number of your SMS center required when sending text messages. You must obtain this number from your service provider.
- ▶ **Email gateway:** Allows you to store or change the number of your SMS center required when sending text messages.
- ▶ **Subject:** If you set it to on, allows you to enter the subject.
- ▶ **Bearer setting:** Select Dual, GPRS and GSM. For settings for the selected bearer.

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

Dual/GPRS Only/GSM Only

Voice Messages

Menu 1.2

This menu provides you with a quick way of accessing your voice mailbox (if provided by your network).

Before using this feature, you must enter the voice server number obtained from your service provider.

Listen to voice mail


(Menu 1.2.1)

You can then select this option and simply press the left soft key [Ok] to listen to your messages.

Voice mailbox number

(Menu 1.2.2)

You can get the voicemail if this feature is supported by the network service provider. When new voicemail is arrived, the symbol will be displayed on the screen. Please check with your network service provider for details of their service in order to configure the handset accordingly.

1. Hold down  key in standby mode.
2. You can check the following submenus.

Info service

(Dependent to network and subscription) *Menu 1.3*

Info service messages are text messages by the network to GSM phone users. They provide general information such as weather reports, traffic news, taxis, pharmacies, and stock prices. Each type of information has the number; therefore, you can contact service provider, as long as you have input the certain number for the information. When you have received an info service message, you can see the popup message to show you that you have received a message or the info service message is directly displayed. To view the message again or not in the standby mode, follow the sequence as shown below;

Receive *(Menu 1.3.1)*

Allows you to enable or disable the reception of broadcast messages.

Inbox *(Menu 1.3.2)*

Received broadcast messages lists may be searched and contents may be viewed.

Topics *(Menu 1.3.3)* **(Dependent to network and subscription)**

If you want to create new topics, press left soft key[OK]. Then, you select new topics menu by left soft key[Options].

If you have already topics, you can activate, edit, delete and add new by pressing left soft key[Ok].

Alert *(Menu 1.3.4)*

Allows you to select the alert type for a new message.

Auto Display *(Menu 1.3.5)*

Allows you to receive broadcast message, it is automatically displayed on the window. Scroll through the message using Up/Down navigation keys.

Language *(Menu 1.3.6)* **(Dependent to network and subscription)**

Allows you to select the language you want. Then, the cell broadcast message will be displayed in the language that you selected. If you use all languages supported by phone, select “Automatic” at the bottom of the list.

Templates

Menu 1.4

There are 10 predefined messages in the list. You can view and edit the template messages or create new messages in the open <Empty> slots.

- **Please call me back**
- **I'm late. I will be there at**
- **Where are you now?**
- **I am on the way**
- **Top urgent. Please contact**
- **I love you**

The following options are available.

- ▶ **Edit:** Allows you to write a new message or edit the selected template message.
- ▶ **Delete:** Allows you to delete the selected template message.
- ▶ **Send:** Allows you to call the selected template message.
- ▶ **Add new:** Allows you to create new messages in the open <Empty> slots.

Name card

Menu 1.5

You can make your name card. Key in Name, Phone number, Office number, Fax number and email.

- ▶ **Edit:** Allows you to write a new message or edit the selected template message.
- ▶ **Delete:** Allows you to delete the selected template message.
- ▶ **Send:** Allows you to call the selected template message.

Check memory

Menu 1.6

You can check how many free location remain are stored in the phonebook (card and phone memories), two options are available : Text

Text

(Menu 1.6.1)

In this menu, you can view how many text messages downloaded from the server.

You can check the record of missed, received, and dialled calls only if the network supports the Calling Line Identification (CLI) within the service area.

The number and name (if available) are displayed together with the date and time at which the call was made. You can also view call times and costs.

Missed Calls

Menu 2.1

This option lets you view the last 10 unanswered calls. You can also:

- View the number if available and call it or save it in the phonebook
- Enter new name for the number and save both in the phonebook
- Send a message by this number
- Delete the call from the list
- Delete all missed calls from the list

Received Calls

Menu 2.2

This option lets you view the last 10 incoming calls. You can also:

- View the number if available and call it or save it in the phonebook
- Enter new name for the number and save both in the phonebook
- Send a message by this number
- Delete the call from the list
- Delete all incoming calls from the list

Dialed Calls

Menu 2.3

This option lets you view the last 10 outgoing calls(called or attempted). You can also:

- View the number if available and call it or save it in the phonebook
- Enter new name for the number and save both in the phonebook
- Send a message by this number
- Delete the call from the list
- Delete all incoming calls from the list

Delete recent calls

Menu 2.4

Allows you to delete Missed, Received and Dialed call list. You can delete all call lists at a time.

Call durations

Menu 2.5

Allows you to view the duration of your incoming and outgoing calls. You can also reset the call times.

The following timers are available.

Last Call

(Menu 2.5.1)

Length of the last call.

Received Calls

(Menu 2.5.2)

Length of the incoming calls.

Dialed Calls

(Menu 2.5.3)

Length of the outgoing calls.

All Calls

(Menu 2.5.4)

Total length of all calls made and incoming calls since the timer was last reset.

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

Call costs (Network Service)

Menu 2.6

Call costs allows you to check the cost of the last call or all calls. The call costs are displayed separately for each SIM card. To reset the cost, you need to PIN2 code.

The following options are available.

Last Call's Cost

(Menu 2.6.1)

Cost of the last call made.

All Call's Cost

(Menu 2.6.2)

Total cost of all calls made since the costcounter was last reset. If the total cost exceeds the maximum cost set, you will no longer be able to make any calls, except calls to the emergency services, until you reset the counter.

! Notice The actual cost invoiced for calls by your service provider may vary, depending upon network features, rounding-off for billing, tax, and etc.

Cost Settings (SIM Dependent)

Menu 2.7

Call cost's limit

(Menu 2.7.1)

This network service allows you to limit the cost of your calls by selected charging units. If you select **Read**, the number of remaining unit is shown. If you select **Change**, you can change your charge limit.

Set tariff

(Menu 2.7.2)

You can set the currency type and the unit price. Contact your service providers to obtain charging unit prices. To select the currency or unit in this menu, you need the PIN2 code.

- ⚠ **Note** When all units have been used, no calls can be made except emergency calls. Depending on the SIM card, you need the PIN2 code to set a call cost limit.

Auto display

(Menu 2.7.3)

This network service allows you to see automatically the cost of your last calls. If you select **Yes** in **Auto display** menu, you can see the last cost when the call is released.

GPRS information

Menu 2.8

You can check the amount of data transferred over the network through GPRS. In addition, you can also view how much time you are online.

- ⚠ **Notice GPRS** General Packet Radio Service

WAP

(Menu 2.8.1)

External device

(Menu 2.8.2)

Total data

(Menu 2.8.3)

In Profiles, you can adjust and customize the phone tones for different events, environments, or caller groups.

There are five preset profiles: **Vibrate Only**, **Silent**, **General**, **Loud**, **Headset** and **Car**. Silent, General and Loud which you can customize to meet your needs.

Changing the profile

1. A list of profiles opens.
2. In the Profiles list, scroll to a profile and select “Activate”.

Customizing profiles (Personalize)

1. To modify a profile, scroll to the profile in the Profiles list and select “Personalize”. A list of profile settings opens.
2. Scroll to the setting you want to change and press the Up/Down navigation key to open the choices:

- **Incoming call alert:**
- **Ringtone:** To set the ringtone for voice calls, choose a ringtone from the list. When you scroll through the list, you can stop on a tone to listen to it before you make your selection. Press any key to stop the sound.
- **Ringtone volume:** To set the volume level for the ringtone tones.
- **Message alert type:** To set the type for messages.
- **Message alert tone:** To set the tone for messages.
- **Key volume:** To set the volume level for keypad tones.

- **Automatic answer:** This function will be activated only when your phone is connected to the handsfree kit or headset.

The following options are available

Off: The phone will not answer automatically.

After 5 sec: After 5 seconds, the phone will answer automatically.

After 10 sec: After 10 seconds, the phone will answer automatically.

Customizing profiles (Rename)

1. To modify a profile, scroll to the profile in the Profiles list and select “Rename”.
2. You can rename a profile and give it any name you want. The **Vibrate Only**, **Headset** and **Car** profile cannot be renamed.

Alarm Clock

Menu 4.1

Set the alarm to ring at a specific time. In the **Alarm Clock** menu, the following options are available.

The following options are available.

On: Set the time(hour and minute) for activating the alarm.

1. Enter the menu.
2. Select [On] by pressing Right/Left navigation keys.
3. If you want to set the time for activating the alarm, press Up/Down navigation keys.

- **Once:** The alarm rings only once and is then deactivated.
- **Daily:** The alarm rings every day at the same time.
- **Weekly:** The alarm rings every week on the same day and at the same time.
- **Monthly:** The alarm rings every month on the same day and at the same time.

Off: Disabling the alarm.

Date & Time settings

Menu 4.2

Date & Time

(Menu 4.2.1)

This options allows you to change the current time and date displayed.

The following options are available.

- ▶ **Set date:** Allows you to enter the day, month and year. You can change the date format via the **Date format** menu option.

Format : Allows you to change the time and date formats.

- ▶ **Date format**

YYYY/MM/DD(year/month/day)

DD/MM/YYYY(day/month/year)

MM/DD/YYYY(month/day/year)

- ▶ **Set time:** Allows you to enter the current time. You can choose the time format via the **Time format** menu option.

- ▶ **Time format**

24 hours/12 hours

Auto update

(Menu 4.2.2)

To set the phone to automatically update the time and date according to the current time zone, select on.

Phone Settings

Menu 4.3

Many different feature of your phone can be customized to suit your preferences. All of these features are accessed via the **Phone Settings** menu.

Display settings

(Menu 4.3.1)

- ▶ **Wallpaper:** You can set up the screen displayed on the LCD screen in the standby mode.

Power on sound

(Menu 4.3.2)

- ▶ **Backlight:** You can select whether or not the phone uses the backlight. A marginal increase in stabbby/talk time can be achieved by turning the backlight off.
- ▶ **Contrasts:** This option allows you to adjust the contrast of the LCD screen by pressing the Navigatio key.

Language

(Menu 4.3.3)

You can select a display language. When the language option is set to **Automatic**, the language is automatically selected according to the language of the SIM card used. English will be set if the language on the SIM card is not supported in the phone.

TTY

(Menu 4.3.4)

The majority of users are Deaf, but commonly, a TTY is also used by Hard of Hearing, Speech Impaired, and even Deaf and Blind individuals. When you use a TTY, only one person can type at a time, and you should not interrupt the other. Keep your sentences short and right to the point. If at all possible, have a printer to facilitate your life. Try to avoid asking too many questions at once.

- ! **Note** TTY users must have a TTY/TDD device.
TTY : Tele Typewriter
TDD : Telecommunication Device for the Deaf

LED indicator

(Menu 4.3.5)

This option allows you to select whether or not the service light on the top of the phone is used.

The following options are available.

- ▶ **Enable:** The service light flashes when the phone is ready for use.
- ▶ **Disable:** The service light is not used

Call settings

Menu 4.4

To change the settings for call diverting.

Call divert

(Menu 4.4.1)

When this network service is activated, you can direct your incoming calls to another number, for example, to your voice mailbox number. For details, contact your service provider. Select one of the divert options, for example, select **If busy** to divert voice calls when your number is busy or when you reject incoming calls.

The following options are available.



- ▶ **All voice calls:** Diverts voice calls unconditionally.
- **Active:** Activating the corresponding service.
- **To voice mail centre:** Forwards to message centre. This function does not include All data calls and All fax calls menus.
- **To other number:** Inputs the number for diverting.
- **To favourite number:** You can check 5 diverted numbers.
 - ▶ **If busy:** Diverts voice calls when the phone is in use.
 - ▶ **If no reply:** Diverts voice calls which you do not answer.
 - ▶ **If out of reach:** Diverts voice calls when the phone is switched off or out of coverage.
- ▶ **All data calls:** Diverts to a number with a PC connection unconditionally.

- ▶ **All fax calls:** Diverts to a number with a fax connection unconditionally.
- ▶ **Cancel all:** Cancels all call divert service.

Answer mode

(Menu 4.4.2)

Allows you to determine when to answer the phone.

- ▶ **Folder open:** This option allows you to answer a call simply by opening the flip. Select **Yes**, to answer a call, you simply open the flip. Select **No**, to answer a call, you must open the flip and press a key, depending on the setting of the **Any key** or **Only send key** menu option.
- ▶ **Any key:** Select **Yes**, and you can answer an incoming call by briefly pressing any key, except  key.
- ▶ **Only send key:** You can receive a call by only pressing  key.

Send my number

(Menu 4.4.3)

This network service allows you to set your phone number to be displayed (On) or hidden (Off) from the person to whom you are calling. Select **by network** to reset the phone to the setting that you have agreed upon with your service provider.

Call waiting (Network Service)

(Menu 4.4.4)

The network will notify you of a new incoming call while you have a call in progress. Select **Activate** to request the network to activate call waiting, **Cancel** to request the network to deactivate call waiting, or **Check status**, to check if the function is active or not.

Minute minder*(Menu 4.4.5)*

This option allows you to specify whether the phone must beep every minute during an outgoing call to keep you informed of the length of your call.

Automatic redial*(Menu 4.4.6)*

Select **On**, and your phone will make a maximum of three attempts to connect the call after an unsuccessful call attempt.

Select Line (Network service)*(Menu 4.4.7)*

This setting is shown only if the SIM card supports two subscriber numbers, that is, two phone lines. Select which phone line (**Line 1** or **Line 2**) you want to use for making calls and sending short messages. Calls on both lines can be answered irrespective of the selected line.

- ❗ **Note** You will not be able to make calls if you select **Line 2** and have not subscribed to this network service.

Closed user group (Network service)*(Menu 4.4.8)*

Closed user group is a network service that specifies the group of people whom you can call and who can call you. For more information contact your network operator or service provider. If a group index is specified, it is used for all outgoing calls. If no group index is specified, the network will use the preferential index (a specific index that is stored in the network).

- ▶ **On:** Activating and editing the CUG Index.
- ▶ **Off:** Deleting the selected CUG.
- ▶ **Default:** Setting the selected CUG Index.

Security settings

Menu 4.5

Various codes and passwords are used to protect the features of your phone. They are described in the following sections (see pages 24 ~ 25).

PIN Code Request

(Menu 4.5.1)

When the PIN code request feature is enabled, you must enter your PIN each time you switch the phone on. Consequently, any person who does not have your PIN cannot use your phone without your approval.

- ❗ **Note** Before disabling the PIN code request feature, you must enter your PIN.

The following options are available:

- **Enable:** You must enter the PIN each time the phone is switched on.
- **Disable:** The phone connects directly to the network when you switch it on.

Call barring service (Network dependent)

(Menu 4.5.2)

Call barring allows you to restrict the making and receiving of calls with your phone. For this function, you need the barring password, which you can obtain from your service provider.

The following options are available:

- ▶ **All outgoing calls:** Calls cannot be made.
- ▶ **Outgoing international:** International calls cannot be made.

- ▶ **Outgoing international when roam:** When abroad, calls can be made only to numbers within the current country and to your home country, that is the country where your home network provider is located.
- ▶ **Incoming calls:** Calls cannot be received.
- ▶ **Incoming when roam:** Calls cannot be received when you are using your phone outside your home service area.
- ▶ **Cancel all barrings:** All call barring settings are deactivated; calls can be made and received normally.
- ▶ **Barring password:** You can set and change the call barring password obtained from your service provider using this option. You must enter the current password before you can specify a new one. Once you have entered a new password, you are asked to confirm it by entering it again.

- ❗ **Note** To use Call barring service, you must input the network password. When calls are barred, calls may be possible to certain emergency numbers in some networks.

Fixed dial number(FDN) (SIM dependent) *(Menu 4.5.3)*

Allows you to restrict your outgoing calls to selected phone numbers, if this function is supported by your SIM card. The PIN2 code is required.

The following options are available:

- ▶ **Activate:** You can only call phone numbers stored in the phonebook. You must enter your PIN2.
- ▶ **Cancel:** You can call any number.
- ▶ **Number list:** You can view the number list saved as fixed dial number.

❗ **Note** Not all SIM cards have a PIN2. If your SIM card does not, this menu option is not displayed.

Change codes *(Menu 4.5.4)*

The Change codes feature allows you to change your current password to a new one. You must enter the current password before you can specify a new one.

You can change the access codes: **Security code, PIN1 code, PIN2 code.**

❗ **Note** PIN: Personal Identification Number.

Network settings *Menu 4.6*

The Network Settings feature enables you to indicate whether the network used when roaming(outside your home area) is selected automatically or manually.

❗ **Note** You can select a network other than your home network only if it has a valid roaming agreement with your home network.

Automatic *(Menu 4.6.1)*

Allows you to set the phone to automatically search for and select one of the cellular networks available in your area. The phone will be set to **Automatic** even though the power is off and on.

Manual *(Menu 4.6.2)*

If you want to select the desired network manually from a list of network. If the connection to the manually selected network is lost, the phone will sound an error tone and ask you to select a network again. The selected network must have a roaming agreement with your home network, that is, the operator whose SIM card is in your phone. The phone let you select another network if the phone fails to access the selected network. If you switch off the phone, the phone will be reset to **Automatic**.

Preferred *(Menu 4.6.3)*

You can set a list of preferred networks the handset should attempt to register with first, before attempting to register to any other networks. This list is created from the handset's predefined list of known networks.

GPRS settings

Menu 4.7

GPRS (General Packet Radio Service) is a technology that allows mobile phones to be used for sending and receiving data over the mobile network. GPRS is a data bearer that enables wireless access to data network such as the internet. The applications which use GPRS are WAP, MMS and SMS messages.

Before you can use GPRS technology

- You need to subscribe to the GPRS service. For availability and subscription to GPRS service, contact your network operator or service provider.
- You need to save the GPRS settings for the applications used over GPRS.

Fees for GPRS and applications:

Both the active GPRS connection and the applications used over GPRS, for example WAP service, sending and receiving data and SMS messages, require a fee. For more detailed information on fees, contact your network operator or service provider.

Attach

(Menu 4.7.1)

If you select **Power on** and you are in a network that supports packet data, the phone registers to the GPRS network and sending short messages will be done via GPRS. Also, starting an active packet data connection, for example, to send and receive e-mail, is quicker. If you select **When needed**, the phone

will use a packet data connection only if you start an application or action that needs it. The GPRS connection is closed after it is not used by any application.

- ! **Note** If there is no GPRS coverage and you have chosen **Automatic**, the phone will periodically try to establish a packet data connection.

External device

When you use Internet via GPRS by using external device, you can set APN, IP address, DNS, User ID, and Password (Menu 4.7.2) profiles. Otherwise, you may be differed those information by network.

Reset settings

Menu 4.8

You can easily reset your phone to its default configuration. To do so, proceed, as follows.

1. Select the Reset Settings menu option.
2. Enter the 4-digit phone password.

- ! **Note** The password is preset to 0000. To change this password, refer to page 70

Schedule

Menu 5.1

When you enter this menu a Calendar will show up. On top of the screen there are sections for date. Also on bottom of the screen there are sections for icons (schedule, memo). Whenever you change the date, the calendar will be updated according to the date. And square cursor will be used to locate the certain day. If you see under bar on the calendar, it means that there is a schedule or memo that day. This function helps to remind you of your schedule and memo. The phone will sound an alarm tone if you set this for the note.

For changing the day, month, and year.

Key	Description
Up/Down Navigation key	Weekly
Left/Right Navigation key	Daily

Note Your phone should be switched on to use this function.

• View

Shows the note for the chosen day. Use Up/Down navigation key to browse through the note lists. If you set alarm for the note, Alarm watch is displayed. At that time, if you press [Select], you can see the note in detail. Press [Options] to delete, edit the note you selected.

• Edit

Allows you to edit the schedule.

• Delete

Allows you to delete the schedule.

• Add new

You can edit maximum 39 characters and take up to 20 notes.

• Calendar

Allows you to consult the calendar.

• Scheduler tone

The phone can sound an alarm tone when the set date for an event is reached, if you have set an alarm for the note.

• View all Schedules

Shows the notes that are set for all days. Use Up/Down navigation key to browse through the note lists. You can use the same menu as “View” by pressing [Options].

• Go to Date

Allows you to jump to a specific date.

• Delete past

You can delete for the past schedule already is notified you.

• Delete all

Allows you to delete all schedules. You are asked to confirm your action.

Memo

Menu 5.2

To write, edit and delete a memo on a specific date, proceed as follows.

1. Scroll to highlight Memo.
2. Press left soft key [Add].
3. Input the memo and then press left soft key [Options].

The following options are available.

- ▶ **Save:** Allows you to save the memo.
- ▶ **T9 languages:** Allows you to select the T9 language to use in memo.
- ▶ **Exit editor:** Allows you to exit in memo editor.

Or

1. Select a Memo.
2. Press left soft key [Select].
3. Press left soft key [Options].

The following options are available.

- ▶ **Edit:** If you select a day for which a memo already exists, you can press the left soft key [Options → Edit] to edit the memo displayed.
- ▶ **Delete:** Allows you to delete the memo. You can press the left soft key [Options → Delete] to edit the memo displayed.
- ▶ **Add New:** Add a new memo, up to 20 memos and 40 characters per each memo.
- ▶ **Delete All:** Allows you to delete all memos. You are asked to confirm your action.

Phonebook

Menu 5.3

You can store phone numbers and their corresponding names in the memory of your SIM card. In addition, you can store up to 255 numbers and names in the phone memory. The SIM card and phone memories, although physically separate, are used as if they were a single entity, called the phonebook.

1. To use **Phonebook**, press [Names] in the standby mode.
2. To use **Phonebook**, press [Menu] in the standby mode and select **Organiser**.

❗ **Note** To use Phonebook, press right soft key [Names] in standby mode. Or, press left soft key [Menu], **5**, **3**.


Search (Calling from phonebook)

(Menu 5.3.1)

1. When the idle screen is displayed, press right soft key [Names]. You are asked to enter a name.
2. Enter the start of the name that you wish to find and press left soft key [Search].

❗ **Note** You can also scroll through the phonebook from the beginning, by pressing the right soft key [Search] directly.

3. If you want to edit, delete, copy an entry, or to add the voice to one, select [Options]. The following menu will be displayed.

4. Once you have found the required entry, press  to dial the number.

- **View detail:** To view detail the selected a name.
- **Edit:** You can edit the name, number, E-mail and fax by pressing [OK].
- **Delete:** You can delete an entry.
- **Call:** To call by chosen entry.
- **Write message:** Write text message/write multimedia message.
- **Copy:** You can copy an entry from SIM to phone or from phone to SIM.
- **Voice:** You can add the voice to the entry or change the voice tag.
- **Main number:** You can select the one out of mobile, home, office that you often use. The main number will be displayed first, if you set this.

Add New

(Menu 5.3.2)

You can add phonebook entry by using this function. Phone memory capacity is 255 entries. SIM card memory capacity depends on the cellular service provider. You can also save 20 characters of name in the Phone memory, and save characters in the SIM card. The number of character is SIM dependent feature.

1. Open the phonebook first by pressing right soft key [Names] in standby mode.
2. Scroll to highlight **Add new**, and press left soft key [Ok].
3. Select the memory you want to save: **SIM** or **Phone**.
 - a. Enter a name and then press down navigation key.
 - b. Enter a number and then press down navigation key.
 - c. You can set a group for the entry by pressing Left/Right navigation key.
 - e. Press left soft key [Ok].

You should speak words within 2 seconds, and the phone asks you to speak it again to ensure the accuracy of voice recognition. After voice recognition has finished, voice is attached automatically.

- ! Note** The voice can only be attached to the main number which you set. For example, if you change the main number, voice will be automatically attached to the changed number. This means that you cannot attach voice to mobile, office, home number simultaneously. You can add voice tag to phone number in SIM card. The voice tag can be erased if you remove or change SIM card.

Speed Dials

(Menu 5.3.3)

You can assign any of the keys, **2** to **9** with a Name list entry. You can call directly by pressing this key for 2-3 seconds.

1. Open the phonebook first by pressing [Names] in a standby mode.
2. Scroll to **Speed dial**, then press left soft key [Ok].
3. If you want to add Speed dial, select (**Empty**). Then, you can search the name in phonebook.
4. Select allocated a name by speed dial, and choose **Change** or **Delete** to edit the name.

Caller Groups

(Menu 5.3.4)

There are 6 predefined groups as well as one additional group labeled Others where you can create the lists under.

1. You can set the phone to ring in a specific way and display a preselected graphic icon when a particular person calls you.
2. Scroll to **Caller Group** item then press left soft key [OK] to enter this menu.
3. Every Group list will be displayed : **Family, VIP, Friends, Colleague, Group 1, Group 2, Others.**
4. Select Group name that you want to manage by pressing left soft key [Options].
5. Then submenus below will be displayed except **Others**.
 - **Member list:** Allows you to see the member list in the group.
 - **Group ring tone:** Allows you to select the ring tone to be used when you receive a voice phone call from a person in the group.
 - **Group icon:** Allows you to select the graphic icon to be displayed when you receive a call from a person in the group.
 - **Add member:** Allows you to add the member to the group.
 - **Delete member:** Allows you to delete the member in the group.
 - **Rename:** Allows you to assign a name to the group.

Copy all

(Menu 5.3.5)

You can copy/move entries from SIM card memory to Phone memory and vice versa.

- ▶ **SIM to Phone:** You can copy the entry from SIM Card to Phone memory.
- ▶ **Phone to SIM:** You can copy the entry from Phone memory to SIM Card.


The following options are available.

- **Keep original:** When copying, Original Dial Number is kept.
- **Delete original:** When copying, Original Dial Number will be erased.

Delete all

(Menu 5.3.6)

You can delete all entries in SIM, Phone, and Voice list. This function requires Security code except for voice.


Press  to return to the in standby mode.

Settings

(Menu 5.3.7)

1. **Set memory:** Scroll to highlight Set memory, then press left soft key [OK].
2. **Search by:** Scroll to highlight Search by, then press left soft key [Ok].
 - ▶ **Set memory:** Scroll to highlight **Set memory**, then press left soft key.
 - If you select **Variable**, when adding entry, the phone will ask where to store.
 - If you select **SIM** or **Phone**, the phone will store an entry to SIM or phone.
 - ▶ **Search by:** Scroll to highlight **Search by**, then press left soft key [Ok].
 - If you select **Variable**, the phone will ask how to search.
 - If you select **Name** or **Number**, the phone will search an entry by Name or Number.

Information*(Menu 5.3.8)*

- ▶ **Service dial Number:** You can view the list of Service Dialing Numbers (SDN) assigned by your network provider (If supported by the SIM card). Such numbers include the emergency, directory enquiries and voice mail numbers.
 1. Select the Service dial number option.
 2. The names of the available services will be shown.
 3. Use Up/Down navigation key to select a service. Press 
- ▶ **Memory status:** You can check how many names and numbers are stored in the phonebook (card and phone memories).
 1. Select the Memory status option.
 2. You can see memory status.
- ▶ **Own number (SIM dependent):** Allows you to display your phone number in SIM card.

Fun & Tools**Game***Menu 6.1***Black Jack***(Menu 6.1.1)*

You have selected the game, the following options are available.

- ! **Note** The control keys are different depending on a game. However, each one has an introduction to explain the main control keys. The rest ones are as follows.

The control keys are different depending on a game. However, each one has an introduction to explain the main control keys. The rest ones are as follows.

New game: Allows you to start a game.

High score: Enables you to view the highest score recorded for the selected game.

Instruction: To select a help text on how to play the game.

Key Info: Describes the buttons used by the game.

Continue: Allows you to continue play a game.

My folder

Menu 6.2

Enables you to download pictures or sounds which can be used as Wallpaper or Ringtone. You can view, listen, delete or rename downloaded data.

In the My folder menu, the following options are available.

Pictures

(Menu 6.2.1)

1. Edit title
2. Delete
3. Delete all

Animation

(Menu 6.2.2)

1. Send ————— Via test message
2. Edit title
3. Delete
4. Delete all

Sound

(Menu 6.2.3)

1. Edit title
2. Delete
3. Delete all

Send: You can send the title for each download contents.

Edit title: You can edit the title for each download content.

Delete: You can delete each download content.

Delete all: You can delete all download contents.

Unit converter

Menu 6.3

This converts any measurement into a unit you want.

1. You can select one of four unit types by pressing left soft key [Options].
2. Select the standard value by using left/right navigation keys.
3. Select the unit you want to convert by pressing up/down navigation keys.
4. You can check the converted value for the unit you want. Also, you can input the prime number by pressing **#**.

Calculator

Menu 6.4

Using this feature, you can use the phone as a calculator. The calculator provides the basic arithmetic functions: addition, subtraction, multiplication and division (Can enter numbers up to the second decimal place).

Using the Calculator

1. Enter the first number using the numeric keys.
2. Use a navigation key to select a sign for calculation.

! Note To include a decimal point, press the ***** key.

3. To calculate the result, press left soft key [Result].

World time

Menu 6.5

Allows you to check the current time for Greenwich Mean Time (GMT) and 61 major cities around the world, using the left/right navigation keys.

The screen shows the City name, Current date and time.

To select the time zone in which you are located, proceed as follows:


1. Select the city corresponding to your time zone by pressing the Left/Right navigation keys one or more times. The local date and time are displayed.
2. Press the left soft key [Set].

Internet


You can access various WAP(Wireless Application Protocol) services such as banking, news, weather reports and flight times. These services are specially designed for mobile phones and they are maintained by WAP service providers.

Check the availability of WAP services, pricing and tariffs with your network operator and/or the service provider whose service you wish to use. Service providers will also give you instructions on how to use their services.

Please contact your service provider to open your internet account. To use the Web Browser, you must indicate your phone number via the Own Number menu option (Menu 5.3.9.2).

To launch the browser in standby mode, press hold down  key.

Once connected, the homepage is displayed. The content depends on the service provider.


You can open any WWW page by entering its URL address. To exit the browser at any time, press the  key. The idle screen is displayed.

Navigating with the WAP Browser

You can surf the Internet using either the phone keys or the WAP Browser menu.

Using the Phone Keys

When surfing the Internet, the phone keys function differently from the phone mode.

Key	Description
up/down navigation key	Scroll each line of the content area
left navigation key	Return to the previous page
	Return to the startup homepage

Using the WAP Browser Menu

There are various menu options available when surfing the Wireless Web.

Note The WAP Browser menus may vary, depending on your version of the browser.

Home

Menu 7.1

Connect to a homepage. The homepage may be the site which is defined in the activated profile. It will be defined by Service Provider if you do not make in activated profile.

Push messages

Menu 7.2

Inbox

(Menu 7.2.1)

You can order Push messages from WAP service providers. Push messages are notifications of, for example, news headlines and they may contain a text message or address of a WAP service. For availability and subscription, contact your WAP service provider.

Service providers can update an existing Push message every time a new Push message is received. Messages can be updated even if you have moved them to another folder than Inbox. Push messages expire, they are deleted automatically.

- **Information:** Show the information of received push messages.
- **Load:** Allow you connect to a specific site using the information in the received push message.
- **Delete:** Delete the selected push message.

Receive

(Menu 7.2.2)

You can set the option whether you will receive the message or not.

Profiles

Menu 7.4

You can make up to 10 profiles and activate only one out of them. Scroll to desired profile and press left navigation key to access available options.

- ▶ **Activate:** You can activate the profile you want.
- ▶ **Settings:** You can edit and change WAP settings of the selected profile.
- **Homepage:** This setting allows you to enter the address (URL) of a site you want to use as homepage. You do not need to type “http://” at the front of each URL as the WAP Browser will automatically add it.
- **Display image:** You can select whether images on WAP cards are displayed or not.
 - **Yes:** Images are displayed.
 - **No:** Images are not displayed.
- **Connect type :** The options for connection type are Temporary or Continuous and depend on the gateway you are using.
 - **Continuous:** A confirmed delivery mechanism but generates more network traffic.
 - **Temporary:** A non-confirmed (connectionless) service.

- **Secure settings:** According to the used gateway port, you can choose this option as **On** or **Off**.
- **Secure:** Secure option is On.
- **None:** Secure option is Off.
- ▶ **Rename:** Edit the Profile Name.
- ▶ **E-mail server**
 - **Connect :** Connect to the E-mail server that you configured.
 - **Edit address :** Edit the E-mail address.

Cache settings

Menu 7.4

The information or services you have accessed are stored in the cache memory of the phone.

Clear cache

(Menu 7.4.1)

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.

Check cache

(Menu 7.4.2)

You can change the time for checking the Cache memory.

Note A cache is a buffer memory, which is used to store data temporarily.

WAP information

Menu 7.5

The WAP Browser version is displayed.

Reset profiles

Menu 7.6

You can reset profiles to return to original settings.

Q&A

Please check to see if any problem which you may have with your phone is described here before taking it for service or calling a service engineer.

Q How do I view the list of outgoing calls, incoming calls and missed calls?


A Press [Send].


Q How do I clear all call history?

A Press left soft key and then **2 4 4**.

Q How do I view all numbers stored in memory?

A Press right soft key and then **3, 1**.

Q When  does not disappear from the screen.

A Check whether it is service area, and if you continue to see  please turn off the power and wait for approximately 2 minutes to turn it back on. If there is no change, check again after relocating to other areas.

Q When connection is abrupt or is not audible in certain areas.

A When frequency environments is unstable in a certain area, connection may be abrupt and not audible. Relocate to other areas and try again.

Q When connection is not made well or abrupt even when established.

A When frequency is unstable or weak, or if there are too many users, connection may be cut off even after it was established. Please try again a little later or try after relocating to other areas.

Q When LCD does not turn on.

A Remove battery and turn on the power after placing it back on. If there is no change even then, sufficiently charge the battery and try again.

Q: When it echoes while connection is made with a certain telephone in a certain area.

A Called "Echo Phenomenon", it occurs if connection volume is too high or caused by special properties(semi electronic telephone exchange) of the machine on the other end.

Q When the phone is heated.

A If connection is made for a significantly long duration, or game and Internet and others are used for a long time, the phone may become hot. This has no effect upon the life of the product or performance.

Q When the bell does not ring, or when lamp or LCD blinks only.

A May be set as "Vibrate" or "Quiet" in the Profiles menu. Please select "General" or "Loud"

Q Standby duration for battery gradually becomes shorter.

A Because battery wear out, its life gradually becomes shorter. If its life becomes shorter over half of that at the time of purchase, you must purchase a new one.


Q When usage time of battery becomes shorter.

A If time for use of battery is short, it may be due to the user environment, or large volume of calls, or weak signals.

Q No number is dialed when you recall a phonebook entry.

A Check that the number have been stored correctly, by using the Phone book Search feature. Re-store them, if necessary.

Q Your correspondent cannot reach you.

A Is you phone switched on ( pressed for more than three seconds)? Are you accessing the right cellular network? Or, you may have set an incoming call barring option.

Q I cannot find the lock, PIN, or PUK code. What is my password?

A The default lock code is "0000". If you forget or lose the lock code contact your phone dealer. If you forget or lose a PIN or PUK code, or if you have not received such a code, contact your network service provider

There are a variety of accessories available for your mobile phone. You can select these options according to your personal communication requirements. Consult your local dealer for availability.

Travel Adapter

This adapter, model ??-??, allows you to charge the battery. It supports standard U.S. 120 Volt 60Hz outlets. It takes 5 hours to charge a completely discharged battery.



Battery

Standard battery and extended battery are available.



Cigar Lighter Adapter (optional)

You can operate the phone and trickle charge the phone battery from your vehicle by using the vehicle power adapter, model ???-??. It takes 5 hours to charge a completely discharged battery.



Headset

Connects to your phone, allowing hands-free operation. Includes earpiece, microphone, and integrated call answer/termination button.



Data Cable Kit(optional)

Connects your phone to PC



Handsfree Kit(optional)



Safety Guidelines

TIA Safety Information

Provided herein is the complete TIA Safety Information for Wireless Handheld phones. Inclusion of the text covering Pacemakers, Hearing Aids, and Other Medical Devices is required in the owner's manual for CTIA Certification. Use of the remaining TIA language is encouraged when appropriate.

Exposure to Radio Frequency Signal

Your wireless handheld portable telephone is a low-power radio transmitter and receiver. When it is ON, it receives and also sends out radio frequency (RF) signals.

In August, 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless phones. Those guidelines are consistent with the safety standards previously set by both U.S. and international standards bodies:

ANSI C95.1 (1992) *

NCRP Report 86 (1986)

ICNIRP (1996)

Those standards were based on comprehensive and periodic evaluations of the relevant scientific literature. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the ANSI Standard (C95.1).

*American National Standards Institute; National Council on Radiation Protection and Measurements; International Commission on Non-Ionizing Radiation Protection

The design of your phone complies with the FCC guidelines (and those standards).

Antenna Care

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate FCC regulations.

Phone Operation

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

Tips on Efficient Operation

For your phone to operate most efficiently:

- ▶ Extend your antenna fully.
- ▶ Do not touch the antenna unnecessarily when the phone is in use. Contact with the antenna affects call quality and may cause the phone to operate at a higher power level than otherwise needed.

Driving

Check the laws and regulations on the use of wireless phones in the areas where you drive. Always obey them. Also, if using your phone while driving, please:

- ▶ Give full attention to driving — driving safely is your first responsibility;
- ▶ Use hands-free operation, if available;
- ▶ Pull off the road and park before making or answering a call if driving conditions so require.

Electronic Devices

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

Pacemakers

The Health Industry Manufacturers Association recommends that a minimum separation of six (6") inches be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research.

Persons with pacemakers:

- ▶ Should ALWAYS keep the phone more than six inches from their pacemaker when the phone is turned ON;
- ▶ Should not carry the phone in a breast pocket.
- ▶ Should use the ear opposite the pacemaker to minimize the potential for interference.
- ▶ If you have any reason to suspect that interference is taking place, turn your phone OFF immediately.

Hearing Aids

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

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if they are adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

Turn your phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle.

You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted Facilities

Turn your phone OFF in any facility where posted notices so require.

Aircraft

FCC regulations prohibit using your phone while in the air. Turn your phone OFF before boarding an aircraft.

Blasting Areas

To avoid interfering with blasting operations, turn your phone OFF when in a "blasting area" or in areas posted: "Turn off two-way radio". Obey all signs and instructions.

Potentially Explosive Atmosphere

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

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

For Vehicles Equipped with an Air Bag

An air bag inflates with great force. DO NOT place objects, including either 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.

FDA Consumer Update

The U.S. Food and Drug Administration's Center for Devices and Radiological Health Consumer Update on Mobile Phones.

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 standby 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 the FDA's role concerning the safety of wireless phones?

Under the law, the 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, the 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, the 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.

The 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:

- o National Institute for Occupational Safety and Health
- o Environmental Protection Agency
- o Occupational Safety and Health Administration
- o National Telecommunications and Information Administration

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

The 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. The FCC relies on the FDA and other health agencies for safety questions about wireless phones.

The 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 handheld 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 FCC safety guidelines that were developed with the advice of the 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 the FDA doing to find out more about the possible health effects of wireless phone RF?

The 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).

The 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.

The FDA and the Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research and Development Agreement (CRADA) to do research on wireless phone safety. The FDA provides the scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts with 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 radio frequency 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 radio frequency energy (RF) exposures. The FCC established these guidelines in consultation with the 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 the FDA done to measure the radio frequency energy coming from wireless phones?

The Institute of Electrical and Electronic Engineers (IEEE) is developing a technical standard for measuring the radio frequency 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?

Radio frequency energy (RF) from wireless phones can interact with some electronic devices. For this reason, the 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 the 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.

The FDA has tested hearing aids for interference from handheld wireless phones and helped develop a voluntary standard sponsored by the Institute of Electrical and Electronic Engineers (IEEE). This standard specifies test methods and performance requirements for hearing aids and wireless phones so that no interference occurs when a person uses a “compatible” phone and a “compatible” hearing aid at the same time. This standard was approved by the IEEE in 2000.

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

12. Where can I find additional information?

For additional information, please refer to the following resources: FDA web page on wireless phones

(<http://www.fda.gov/cdrh/phones/index.html>)

Federal Communications Commission (FCC) RF Safety Program (<http://www.fcc.gov/oet/rfsafety>)

International Commission on Non-Ionizing Radiation Protection (<http://www.icnirp.de>)

World Health Organization (WHO) International EMF Project (<http://www.who.int/emf>)

National Radiological Protection Board (UK) (<http://www.nrpb.org.uk/>)

Consumer Information on SAR (Specific Absorption Rate)

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 (FCC) 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 specified by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although 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. Because the phone is designed to operate at multiple power levels to use only the power required to reach the network, in general, the closer you are to a wireless base station antenna, the lower the power output.

Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model phone when tested for use at the ear is 0.689 W/kg and when worn on the body, as described in this user's manual, is 0.931 W/kg. (Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements.) While there may be differences between SAR levels of various phones and at various positions, they all meet the government requirement for safe exposure.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF emission 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 BEJG4010.

Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) website at <http://www.wow-com.com>

*In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kg (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.

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