* Some of the contents of this manual may differ from your phone, depending on the software installed or your service provider.

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PORTABLE CELLULAR TELEPHONE
SCH-A612

User's Manual

3rd version
(2003. 05. 11)

(The reference pages will be updated in a later version)

* Some of the contents in this manual may differ from your phone,depending upon the software installed or services provided by your network service provider.

*Licensed under U.S patent no.4,558,302 and foreign counterparts.

Table of Contents

Important Safety Precautions 7

Unpacking 9

Your Phone 10

Phone's Parts 10
Display 13
Backlight 14
Service Light 15
Camera 15

Getting Started 16

Using the Battery 16
Switching the Phone On or Off 20
Your Phone's Modes 21

Call Functions 25

Making a Call 25
Ending a Call 26
Using the Recent Call Logs 26
Making a Call from Phonebook 27
Speed-dialing 31
Three-digit Dialing 32
Pause Dialing 33
Adjusting the Volume During a Call 35
Silencing a Call Ringer 35
Answering a Call 36
Rejecting a Call 37
Viewing Missed Calls 37
Options During a Call 38
Call Forwarding 38
Call Waiting 40
Three-way Calling 41

Using the Menus 42
Accessing Menu Modes 42
Accessing a Menu Function by Scrolling 43
Accessing a Menu Function by Using Its Shortcut 45
List of Menu Functions 46

My Phone 51
Personal Menu *(OK-1)* 51
Animation *(OK-2)* 54
Sliding Text *(OK-3)* 55
Dialing Digits *(OK-4)* 55
Language *(OK-5)* 56
Memory *(OK-6)* 56

PhoneBook 57
Outgoing *(MENU 1-1)* 57
Incoming *(MENU 1-2)* 58
Find Number *(MENU 1-3)* 58
Add Entry *(MENU 1-4)* 62
Name Ringer *(MENU 1-5)* 62
Group Editing *(MENU 1-6)* 63
Erase All *(MENU 1-7)* 65
My Phone Number *(MENU 1-#)* 65

Organizer 66
Calendar *(MENU 2-1)* 66
Memo Pad *(MENU 2-2)* 69
Alarm *(MENU 2-3)* 70
Weekday Alarm *(MENU 2-4)* 71
Calculator *(MENU 2-5)* 72
Unit Converter *(MENU 2-6)* 73
World Time *(MENU 2-7)* 74

Internet/Message 75
Service Menu *(MENU 3-1)* 75
Messages *(MENU 3-2)* 81

Games 89

Music Box 91
Sound Effects *(MENU 5-1)* 91
Melodies *(MENU 5-2)* 91
My Melody *(MENU 5-3)* 92

Sounds 93
Ring Volume *(MENU 6-1)* 93
Alert Type *(MENU 6-2)* 93
Message Alert *(MENU 6-3)* 94
Connect Tone *(MENU 6-4)* 95
Disconnect Tone *(MENU 6-5)* 95
Tone Length *(MENU 6-6)* 95

Camera 96
Take Photo *(MENU 7-1)* 96
Photo Mail *(MENU 7-2)* 99
Photo Album *(MENU 7-3)* 105
Lock *(MENU 7-4)* 106

Setup 107
Answer Mode *(MENU 8-1)* 107
LCD *(MENU 8-2)* 107
Service LED *(MENU 8-3)* 108
Modem *(MENU 8-4)* 109
Auto Hyphen *(MENU 8-5)* 110
Lock Phone *(MENU 8-6)* 111
Time Manager *(MENU 8-7)* 112
Reset *(MENU 8-*)* 114
Security *(MENU 8-0)* 115

Health and Safety Information 118
Exposure to Radio Frequency (RF)Signals 118
For Body Operation 120
Precautions When Using Batteries 120
Road Safey 122
Operating Environmen 124
Electronic Devices..... 124
Potentially Explosive Atmosphers 126
Emergency Calls 126

Other Important Safety Information.....128
Care and Maintenance 129

Acknowledging Special Precautions and
the FCC and Industry Canada Notice 130
Cautions.....130

FCC Compliance Information.....130
Information to User.....131
Appendix A: Certification Information (SAR).....132

Appendix B: Guide to Safe and Responsible Wireless Phone Use.....134
A Guide to Safe and Responsible Wireless Phone Use.....134
Wireless Phone « Safety Tips».....135

Appendix C: Consumer Update on Wireless Phones.....138

Important Safety Precautions

Read these guidelines before using your wireless phone. Failure to comply with them may be dangerous or illegal.

Road Safety at All Times

Do not use a hand-held phone while driving; park the vehicle first.

Switching Off When Refueling

Do not use the phone at a refueling point (service station) or near fuels or chemicals.

Switching Off in Aircraft

Wireless phones can cause interference. Using them in aircraft is both illegal and dangerous.

Switching Off in Hospitals

Switch your phone off near medical equipment. Follow any regulations or rules in force.

Interference

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

Special Regulations

Meet any special regulations in force in any area and always switch off your phone whenever it is forbidden to use it, or when it may cause interference or danger (in a hospital for example).

Sensible Use
Use only in the normal position (held to the ear). Avoid unnecessary contact with the antenna when the phone is switched on.

Emergency Call
Ensure the phone is switched on and in service. Key in the emergency number for your present location, then press the key. You must deactivate any unnecessary features before you can make an emergency call. Give all the necessary information as accurately as possible. Do not cut off the call until given permission to do so.

Water Resistance
Your phone is not water-resistance. Keep it dry.

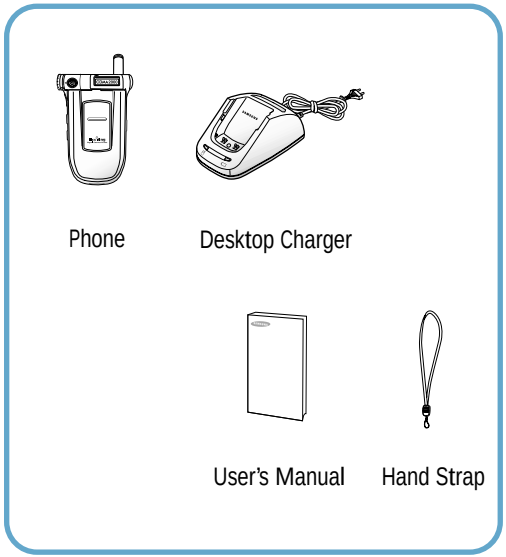
Accessories and Batteries
Use only Samsung-approved accessories and batteries. Use of unauthorized accessories could damage your phone and may be dangerous.

Qualified Service
Only qualified service personnel may install or repair your phone.

For more detailed safety information, see “Health and Safety Information” on page xx.

Unpacking

Your package contains the following items:



In addition, you can obtain the following accessories for your phone from your local Samsung dealer:

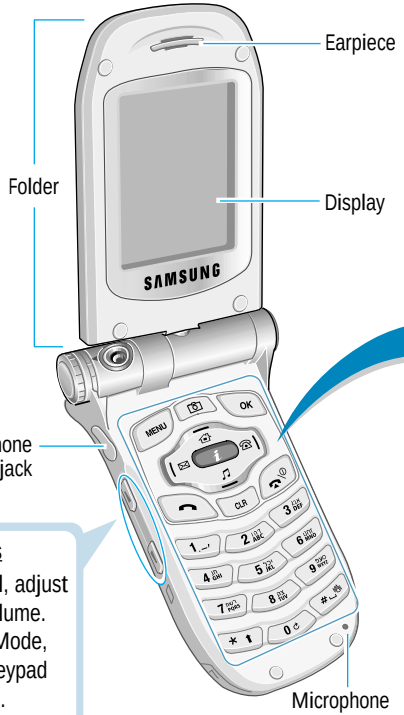
- Standard batteries
- Hands-free car kit
- Travel charger
- Desktop charger
- Cigar lighter charger
- Data cable
- Ear-microphone
- Hand strap

Your Phone

Phone's Parts

The following illustrations show the main elements of your phone:

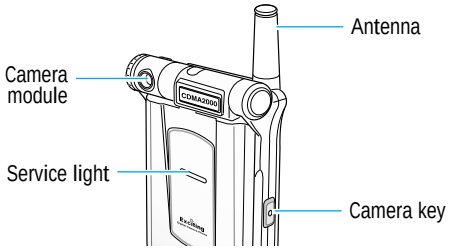
With the phone open



Volume keys

During a call, adjust the voice volume.
In Standby Mode, adjust the keypad tone volume.

With the phone closed

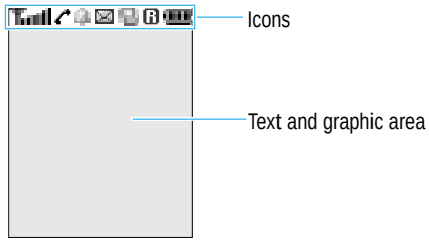


Key(s)	Functions
MENU	Enters Menu Mode.
OK	Selects the current menu or option.
	Allows you to quickly access the **Camera** menu to use the camera on your phone. Also, turns the camera on when pressed and held. In the capture mode, works as a camera shutter.
(Navigation keys)	In Menu Mode, scrolls through the menu options. In Standby Mode, accesses the following menus: • ⌒ : Personal Menu Mode • ⌣ : **Music Box** • (: **Messages** •) : **PhoneBook**

Key(s)	Functions (continued)
	Enters the **Services Menu** feature. Quickly launches the web browser when pressed and held.
	Makes or answers a call. In Standby Mode, recalls the last numbers you dialed or received.
	Ends a call. Also switches the phone on and off when pressed and held. In Menu Mode, cancels your input and returns to Standby Mode.
CLR	Deletes characters from the display. In Menu Mode, returns to the previous menu level.
0 ~ 9	Enters numbers, letters and some special characters.
* #	Perform various functions. In Standby Mode, the # key quickly enters or exits the manner mode when pressed and held.
	(on the right side of the phone) Turns the camera on when held down so that you can take a picture when the folder is reversed. In the capture mode, works as a camera shutter.

Display

The display has two areas:



Icons

Signal Strength : Shows the received signal strength. The greater the number of bars, the better the signal.

Service: Appears when a call is in progress.

No Service: Appears when you are outside a service area. When it displays, you cannot make or receive calls. Wait a little while for a better signal or move into an open area to regain service.

Alarm: Appears when you set an alarm to ring at a specified time.

New Message: Indicates that there is a new message waiting to be checked.

Icons *(continued)*

Vibration Mode: Appears when the alert type for calls is set to **Vibration**, **Vibration+Ring** or **Ring+Vibration** or when your phone is in the manner mode.

Roaming: Appears when you are out of your home area and have logged onto a different network; for example, when traveling in other countries.

Battery Status: Shows the level of your battery. The more bars you see, the more power you have left.

Backlight

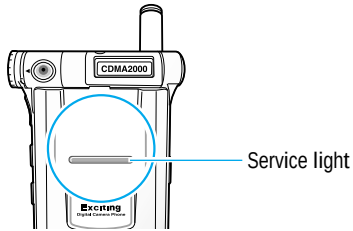
The backlight illuminates the display and keypad. When you press any key or open the folder, the backlight illuminates. It turns off if no key is pressed within a given period of time, depending on your setting in the **Backlight Time** menu. The display turns off after one minute to conserve your battery power.

To specify the length of time the phone waits before the backlight turns off, set the **Backlight Time** menu (**Menu 8-2-1**). See page xx for further details.

Service Light

The service light on the folder flashes to indicate an incoming call, message or alarm and blinks for a few seconds when you turn the phone on or off.

You can activate or deactivate the use of the service light in the **SVC LED** menu (**Menu 8-3**). See page xx for further details.



Camera

The camera module on the top left of your phone allows you to take a picture while on the move.

For further details about the Camera feature, see page xx.

Getting Started

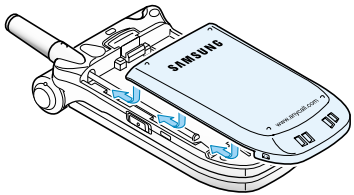
Using the Battery

Your phone is powered by a rechargeable Li-ion battery. Use only approved batteries and chargers. Ask your local Samsung dealer for further details.

Note: You must fully charge the battery before using your phone for the first time. A discharged battery is fully recharged in approximately 200 minutes for a standard battery.

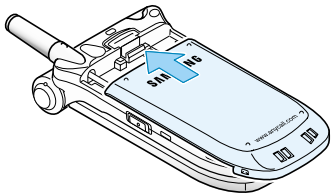
Installing the Battery

1. Place the battery so that its tabs align with the grooves on the phone.



2. Slide the battery toward the top of the phone until it clicks into place.

   Make sure that the battery is properly installed before switching the phone on.



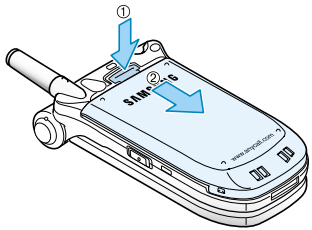
Removing the Battery

1. If necessary, switch off the phone by pressing and holding the ☎\⏻ key until the power-off animation displays.

2. To remove the battery:

   ① press and hold the catch above the battery and

   ② slide the battery away.



Charging the Battery

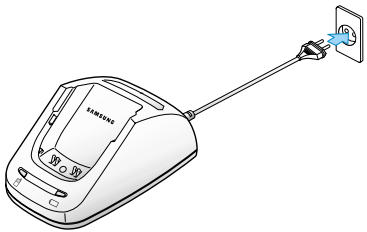
A desktop charger is provided with your phone. Use only approved batteries and chargers. Ask your local Samsung dealer for further details.

Note: You must fully charge the battery before using your phone for the first time.

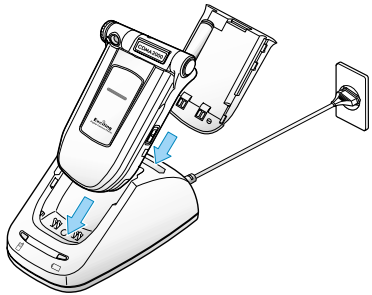
The phone can be used while the battery is charging, but this increases the time it takes to charge your battery. To get the quickest charge for any battery, turn the phone off.

To charge the battery using the desktop charger:

1. Plug the power cord of the desktop charger into a standard AC outlet. When the power is connected properly, the small lights, or LEDs on the charger, flicker briefly and then turn off.



2. Place the battery into the compartment of the charger. Select one of the following two options:
   - Place the phone with the battery attached into the front compartment. The left LED on the charger glows red.
   - Insert a battery alone, not attached to the phone, into the rear compartment. The right LED on the charger glows red.



3. The color indication of the LEDs on the charger is as listed below:
   - Red: the battery is charging.
   - Green: the battery is fully charged.
   - Yellow: the battery is not correctly plugged in or is operating at a too high or too low temperature.
4. When charging is completed and the LED changes to green, remove the battery or phone from the charger and unplug the power cord of the charger from the AC outlet.

Low Battery Indicator

When the battery is weak and only a few minutes of talk time remain, the battery sensor lets you know by blinking the empty Battery Status icon ( ).
You hear a warning tone and a message repeats at regular intervals on the display.

When the battery becomes too weak for the phone to operate, it switches off automatically.

Switching the Phone On or Off

1. Open the folder, if necessary.

2. Press and hold the key for more than one second to switch the phone on.

   The service light flashes and the power on/off melody sounds. When the system locates services, the idle screen appears on the display.

   If the phone is out of the service area, the No Service icon ( ) appears on the display. In this case, you cannot place and receive calls. You can try again later when service is available.

   Note: You can change the display language in the **Language** menu (**OK-5**). See page xx.

3. When you wish to switch the phone off, press and hold the key for more than two seconds.

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

Note: Do not touch the antenna on the phone unnecessarily when the phone is switched on. Contact with the antenna affects the call quality and may cause the phone to operate at a higher power level than otherwise needed.

Your Phone's Modes

Standby Mode

Standby is the most basic state of your phone. The phone goes into Standby Mode soon after you turn it on, or whenever you briefly press the key. When your phone is in Standby Mode, you will typically see the current date and time. If you enter a phone number, you can press the key to dial it, or press the key to save it in Phonebook.

Press the key at any time to return to Standby Mode. Be careful; if you are on a call when you press the key, your phone disconnects the call and returns to Standby Mode.

Talk Mode

You can place and answer calls only when your phone is turned on. During a call, the phone is in the talk mode. While you are in the talk mode, pressing the **MENU** key gives you a list of options. See page xx for details.

Power Save Mode

Your phone comes with a Power Save feature that automatically turns off the display when you don't use the phone. While this feature is active, the phone's battery charge is conserved.

The display switches off if no key is pressed within one minute after the backlight turns off. You can press any key to activate the display.

Lock Mode

When you lock your phone using the **Lock Phone** menu (**MENU 8-6**), you cannot use the phone. In the lock mode, you can receive messages and calls, but you cannot place a call or use the phone's menu functions.

To unlock the phone temporarily, press the **MENU** key and enter the password.

For further details about locking and unlocking the phone, see page xx.

Manner Mode

Manner Mode disables all sounds on the phone. This feature is best used in situations where the phone might disturb others, such as in a meeting, at a library or in a theater. Your phone can be set to the manner mode with a press of a key in Standby Mode.

To enter the silent mode, press and hold the **#** key until "Change to Manner Mode" and the Vibration icon ( ) appear.

To exit and reactivate the previous sound settings, press and hold the **#** key until "Cancel Manner mode" appears. The Vibration icon no longer displays.

Call Functions

Making a Call

To make a call:

1. In Standby Mode, enter the area code and phone number.

   While entering a phone number, press the **MENU** key to insert a hard pause. For further details about pause dialing, see page xx.

2. Press the key. The phone places the call to the entered phone number.

Correcting the Number

To clear	Press the
the last digit displayed	**CLR** key.
the whole display and return to Standby Mode	**CLR** key and hold it for more than one second.

Ending a Call

When you want to finish your call, press the key.

The call time, or the length of the call, displays along with the phone number of the other person. If the number is stored in your Phonebook, the name displays. If there is no match, you can press the key and store the number in Phonebook. For further details about storing a number, see page xx.

Or, simply close the folder to end a call.

Using the Recent Call Logs

The phone stores up to 60 of the calls dialed, received or missed chronologically. The last call is saved in the first position.

To recall any of these numbers:

1. If there are characters on the display, return to Standby Mode by pressing the key.
2. Press the key. The list of recent calls displays.
   - : Dialed calls
   - : Received calls
   - : Missed calls
3. Press the Navigation keys to scan through the list until you find the number you want.
4. Press the key to dial the displayed number.

You can also view the details of the call by pressing the **OK** key. The phone displays the other person's name, if available, the phone number, the date and time when the call was made, and the length of the call.

Press the **MENU** key to use the following options:

Save: allows you to save the number in your Phonebook. For further details about saving a number, see below.

Delete: deletes the number from the list.

Making a Call from Phonebook

You can store the phone numbers you called regularly in the phone's memory, which is called "Phonebook." You then simply recall the number to dial. For further details about the Phonebook feature, see page xx.

Saving a Number with a Name in Phonebook

1. Press the key after ending a call or entering the phone number you want to save by using the number keypad.
2. Select a label icon for the number by pressing the Navigation keys and press the **OK** key.

   Five labels are available: (**Home**), (**Mobile**), (**Office**), (**Other**) and (**FAX**).

3. Press the ⌒ or ⌣ key to move through the fields and fill in each field as needed.

   - **NAME**: Enter a name for the number. For further details about entering characters, see page xx.
   - **Home/Mobile/Office/Other/FAX**: Add a number in the Phone number field. You can enter a speed dial number in the box at the right side of the label. Notice that speed dialing is not available for fax numbers.
   - **E-mail**: Enter an e-mail address.
   - ללא קבוצה (Group): Select a caller group by pressing the (or) key. The ringer melody for the group also appears.
   - **Memo**: Enter a memo to remind you of the person.

4. When you finish entering, press the **OK** key to save the entry.

5. Select **Yes** by pressing the Navigation keys to confirm your input and press the **OK** key.

6. Press the **CLR** or ☎ key to exit.

Entering Text

When you are asked to enter characters, the available text input modes appear at the bottom of the display.

1.

To select	Press the MENU key until
Hebrew only	[א] highlights.
Upper-case English	[A] highlights.
Lower-case English	[a] highlights.
Symbols only	[S] highlights.

2. Press the key labeled with the required letter:

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

- To enter a number, press and hold the corresponding key.
- Press the) key to move the cursor to the right.
- Press the **CLR** key to clear the characters to the left one by one. Pressing and holding the key clears out the display.
- You can move the cursor by pressing the (or) key. Then add characters using the alphanumeric keys or put a space between each word by pressing the # key.
- If you select the symbol mode, the available symbols display. Highlight one by pressing the (or) key and then press the **OK** key. To display more symbol sets, press the ⌒ or ⌣ key.

Finding a Number in Phonebook

1. Press and hold the) key in Standby Mode. The list of all the names in Phonebook displays.

2. Press the ⌒ or ⌣ key to scroll to a name.

   While scrolling through the Phonebook list, you can access the following options by pressing the **MENU** key:

   - **Edit**: allows you to edit the entry.
   - **Delete Name**: deletes the entry.
   - **New**: allows you to add a new entry.

3. If necessary, press the (or) key to find the number.

4. Press the ☎ key to place a call to the number.

   Press the **OK** key to view the details about the name.

5. When you view the details about the name, press the **MENU** key to display the following options:

   - **Edit**: allows you to edit the name entry.
   - **Delete**: deletes the selected item of the entry.

6. Press the **CLR** or ☎ key to exit.

You can find a number using specific information, such as the location number, name, number or group. For detailed information, see page xx.

Speed-dialing

Once you have stored phone numbers in Phonebook, you can dial them easily with the few presses of the keys.

Enter the memory location of the number you want to dial, and then hold the final digit to dial.

One-touch Dial: Memory locations 000, 001 through 009 are special one-touch locations. You can dial the phone numbers stored in them simply by pressing one key.

Press and hold the third digit of the memory location containing the number to be dialed.

For example: Location no. 009
Press the **9** key and hold.

The number (and name) stored displays, and then dials.

Two-touch Dial: For memory locations of two digits.

Press the second digit briefly, then hold down the third digit of the memory cell.

For example: Location no. 023
Press the **2** key briefly and hold the **3** key.

The number (and name) stored displays, and then dials.

Three-touch Dial: For memory locations of three digits.

Press the first two digits briefly, then hold down the third digit of the memory cell.

For example: Location no. 123
Press the **1** key and the **2** key briefly, and then hold the **3** key.

The number (and name) stored displays, and then dials.

Three-digit Dialing

You can quickly dial a phone number in Phonebook or Call Logs by entering its last three consecutive digits. Your phone searches for the entire number for you.

1. Enter the last three digits of the phone number. Your phone displays the phone number matching your input.
2. Scroll through the numbers using the Navigation keys to display the one you want.
3. Press the key to dial the number.

Pause Dialing

When you call an automated system, like a banking service, you are often required to enter a password or account number. Instead of manually entering the numbers each time, you can store the numbers in your Phonebook, separated by special characters, which are called pauses.

Storing Pauses in a Phonebook Entry

To store a number in your Phonebook that contains pauses:

1. Enter the phone number you want to store, such as the bank's teleservice phone number.
2. Press the **MENU** key insert a pause. A "p" displays, meaning that a hard pause will occur at that point in the dialing sequence.

   The "p" stops the dialing and waits for the teleservice to prompt you for a number. The number following the "p" is your account number, PIN, etc.
3. Enter the digits that need to follow the pause, such as your account number.
4. Repeat steps 2 and 3 to add more pauses and numbers, if necessary.
5. Store the number in your Phonebook as you normally would by pressing the key and following from step 2 on page xx.

Pause Dialing from a Stored Phonebook Entry

1. Dial the number from Phonebook.
2. Wait for the appropriate prompt from the number you are calling.
3. When prompted, press the key to send the DTMF (Dual Tone Multi Frequency) number that follows your pause.

   "SENDING DTMF" flashes on the display and the transmitted tone sounds.

Manual Pause Dialing

You can enter pauses manually during the dialing process.

1. Enter the phone number of the service you want to call, such as a bank's teleservice phone number.
2. Press the **MENU** key to insert a pause.
   The screen displays a "p" indicating a pause.
3. Enter the number to be sent after the pause.
4. Repeat steps 2 and 3 to add more pauses and numbers, if necessary,
5. Press the key.
6. After connecting, wait for the prompt from teleservice. Press the key again after the prompt to send the additional number(s).

Adjusting the Volume During a Call

During a call, if you want to adjust the voice volume, use the Volume keys on the left side of the phone.

Press the ▲ key to increase the volume level and the ▼ key to decrease the level. The graphic on the display shows all five levels.

In Standby Mode with the folder open, you can also adjust the keypad tone volume using these keys.

Silencing a Call Ringer

You can silence the ringer when a call comes in by pressing and holding one of the Volume keys on the left side of the phone.

Answering a Call

When somebody calls you, the phone alerts you by ringing and blinking the service light on the folder.

If the caller can be identified, the caller's phone number, or name if stored in your Phonebook, displays.

There are three ways to answer a call depending on your setting in the **Answer Mode** menu (**Menu 8-1**):

If you select	To answer the call,
Open Folder	open the folder. If it is already open, press the key.
Any key	open the folder and press any key, except the key and the Volume keys.
Send key	open the folder and press the key.

To end the call, close the folder or press the key.

Note: You can answer a call while using the Phonebook or menu features. The current operation stops.

Rejecting a Call

To reject an incoming call, press and hold the key.

Viewing Missed Calls

If you fail to answer a call for any reason, the phone indicates a missed call by displaying a text notification on the screen. Additionally, if caller information is available, a Missed entry is created.

When the display informs you of the missed call, press the key to access the recent calls list. Or, press the key to clear the message and return to Standby Mode.

You can also view the missed calls in the **Incoming** menu (**Menu 1-2**). Missed calls are indicated by the icon. For details, see page xx.

Options During a Call

Your phone provides a number of functions that you can use during a call. As some of these options are network services, you may not be able to use all of them at all times.

Press the **MENU** key during a call to access the following options:

PhoneBook: allows you to use the **PhoneBook** menu. See page xx.

Messages: allows you to use the **Messages** menu. See page xx.

Mic Mute: allows you to switch your phone's microphone off, so that the other party cannot hear you.

Example: You wish to say something to another person in the room but do not want the other party to hear you.

Silent Key Tone: does not transmit the key tones. It allows you to press keys without hearing annoying key tones during a call.

Send Own Number: sends DTMF (Dual-tone Multi-frequency) tones of your phone number.

Send DTMF: sends DTMF tones of the currently displayed number. DTMF (Dual Tone Multi Frequency) tones can be used to control electronic phone services, such as bank-by-phone or voice mail. During a call, enter the digits you want to send as DTMF tones, for example, the bank account number and password. Press the key and then the **OK** key to send the number.

Switching to the Whisper Mode

Whisper Mode automatically increases the microphone's sensitivity to allow the other person to hear your voice even though you may be whispering.

To switch to the whisper mode, press and hold the key during a call.

Note: In normal environments, this feature may cause your voice to be too loud.

Call Forwarding

This feature provides the option of forwarding incoming calls to another phone number, even though your phone is turned off. Activating Call Forwarding does not affect outgoing calls made from this phone. Contact your service provider to activate Call Forwarding.

Call Waiting

You can answer an incoming call while you have a call in progress, if this service is supported by the network. Contact your service provider to activate Call Waiting.

When a waiting call is detected, the incoming call alert sounds, depending on the network, and a text notification displays.

To answer a waiting call:

1. To answer the call, press the key. The phone connects the calling person and places the current person on hold.
2. Press the key again to switch between the two people.
3. To end the call, press the key or close the phone. All of the calls are disconnected.

Three-way Calling

This feature enables you to conduct conference calls with two separate people at the same time. The phone records only the first person into the Outgoing call log. But, you are billed airtime for each of the outgoing calls separately. Contact your service provider to activate Three-way Calling.

To make a three-way call:

1. During a conversation, enter the phone number for the third person and press the key.
2. When the third person answers, press the key again to begin your three-way call.

When one of the callers hangs up, you and the remaining caller stays connected. If you initiated the call and you hang up first, all three people are disconnected.

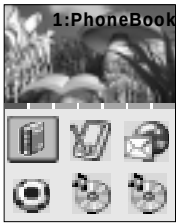
Using the Menus

This phone offers a range of functions that allows you to tailor the phone to your needs. These functions are arranged in menus and submenus.

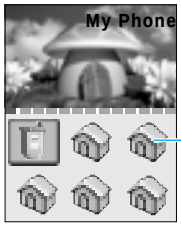
The menus and submenus can be accessed by scrolling or by using the shortcuts.

Accessing Menu Modes

In Standby Mode, press the **MENU** key to enter Menu Mode.



Or, press the key in Standby Mode to enter Personal Menu Mode.



Unregistered menu

You can configure Personal Menu Mode with your favorite menu functions by registering new menus and changing the menu order or icons in the **My Phone** menu. Note that you can access the menu only from Personal Menu Mode.

For further details about configuring Personal Menu Mode, see page xx.

Accessing a Menu Function by Scrolling

1. In Standby Mode, press the **MENU** or key to access Main Menu Mode.
2. Scroll with the Navigation keys to reach a menu, for example, **Music Box**. Press the **OK** key to enter the menu.
3. Find the menu option you want, for example, **Melodies**, by scrolling with the Navigation keys. Press the **OK** key to enter the menu option.

   If the menu you have selected contains submenus, repeat this step.
4. Scroll with the Navigation keys to find the setting of your choice.
5. Press the **OK** key to save the setting.

Notes:
- To return to the previous menu level, press the **CLR** key.
- You can exit the menu without changing the menu settings by pressing the ☎\⏻ key.

When you see a blinking box at the bottom left of the display in Personal Menu Mode, it means that the highlighted menu has some options available.

Note: The options are unavailable for the **My Phone** menu.

Press the **MENU** key to access the following options:

Change Icon: allows you to change the menu icon. For further details, see page xx.

Delete Menu: deletes the menu from Personal Menu Mode.

Change Order: allows you to change the menu order. For further details, see page xx.

Accessing a Menu Function by Using Its Shortcut

The main menu items, such as menu, submenus and setting options, are numbered and can be accessed quickly by using their shortcut numbers.

Notes:
- The numbers assigned to each menu function are indicated on the list on page xx.
- In Personal Menu Mode, the shortcut numbers can be different depending on your setting in the **My Phone** menu.

1. In Standby Mode, press the ⌒ key to access Personal Menu Mode.

   Within three seconds, enter the first digit of the shortcut number. Repeat this for each digit of the shortcut number.

   Example: Setting the backlight mode

   Press the **8**, **2** and **2** keys.

   8 for **Setup**, **2** for **LCD**, and **2** for **Set Backlight**.

2. Find the setting of your choice by using the Navigation keys.

3. Press the **OK** key to save the setting.

List of Menu Functions

The following list shows the menu structure available and indicates the number assigned to each option and the page where you can find a description of each feature.

My Phone

Page xx

- 1: Personal Menu
  - 1: Select Menu
  - 2: Set Order
  - 3: Delete Menu
  - 4: Reset Menu
  - 5: Change Icon
  - 6: Change Color
  - 7: Icon List
- 2: Animation
  - 1: Standby Mode
  - 2: Incoming Call
  - 3: Internet
  - 4: Power On
  - 5: Power Off
- 3: Sliding Text
- 4: Dialing Digits
- 5: Language
- 6: Memory

1: PhoneBook

Page xx

- 1-1: Outgoing
- 1-2: Incoming
- 1-3: Find Number
  - 1-3-1: By Name
  - 1-3-2: By Group
  - 1-3-3: By Location
  - 1-3-4: Last Search
- 1-4: Add Entry
- 1-5: Name Ringer
  - 1-5-1: Set Number
  - 1-5-2: Edit Number
- 1-6: Group Editing
- 1-7: Erase All
- 1-#: My Phone #

2: Organizer

Page xx

- 2-1: Calendar
- 2-2: Memo Pad
- 2-3: Alarm
- 2-4: Weekday Alarm
- 2-5: Calculator
- 2-6: Unit Converter
  - 2-6-1: Length
  - 2-6-2: Weight
  - 2-6-3: Volume
  - 2-6-4: Area
  - 2-6-5: Temperature
- 2-7: World Time

3: Internet / MSG

Page xx

- 3-1: Services Menu
  - 3-1-1: InternetPortal
  - 3-1-2: Java Games
  - 3-1-3: Image & Melody
  - 3-1-4: What's New?
  - 3-1-5: Multimedia
- 3-2: Messages
  - 3-2-1: Inbox
  - 3-2-2: Outbox
  - 3-2-3: Drafts

4: Games

Page xx

- 4-1: Push Push
- 4-2: Couple Bowling
- 4-3: Rascal Othello
- 4-4: Snow Gogo

5: Music Box

Page xx

- 5-1: Sound Effects
- 5-2: Melodies
- 5-3: My Melody

6: Sounds

Page xx

- 6-1: Ring Volume
- 6-2: Alert Type
- 6-3: Message Alert
  - 6-3-1: Alert Tone
  - 6-3-2: Alert Interval
- 6-4: Connect Tone
- 6-5: Discon. Tone
- 6-6: Tone Length

7: Camera

Page xx

- 7-1: Take Photo
- 7-2: Photo Mail
  - 7-2-1: Write Mail
  - 7-2-2: Sent Mail
  - 7-2-3: Reserved Mail
  - 7-2-4: Received Mail
  - 7-2-5: Setup
- 7-3: Photo Album
- 7-4: Lock
  - 7-4-1: Lock Photo
  - 7-4-2: Lock Photomail

8: Setup

Page xx

- 8-1: Answer Mode
- 8-2: LCD
  - 8-2-1: Backlight Time
  - 8-2-2: Set Backlight
  - 8-2-3: Contrast
- 8-3: SVC LED
- 8-4: Modem
  - 8-4-1: Modem Alert
  - 8-4-2: Data/Fax
  - 8-4-3: Port Speed
- 8-5: Auto Hyphen
- 8-6: Lock Phone
- 8-7: Time Manager
  - 8-7-1: Air Time
  - 8-7-2: Set Time
- 8-*: Reset
- 8-0: Security
  - 8-0-1: Send PIN
  - 8-0-2: Emergency #
  - 8-0-3: NAM
  - 8-0-4: Lock Code

My Phone

You can use the **My Phone** menu to determine the various settings for Personal Menu Mode or the display components.

Note that this menu can be accessed only when you press the key.

Personal Menu *(OK-1)*

This menu allows you to set up Personal Menu Mode, which is displayed when you press the key, to suit your preference.

Select Menu *(OK-1-1)*

You can register up to 12 menus onto Personal Menu Mode.

1. Select a menu by pressing the and keys, and press the **OK** key.
2. Find a submenu by repeating step 1, if necessary, and press the **MENU** key to register.
3. Select a menu address by pressing the Navigation keys and press the **OK** key.

   The addresses already occupied are marked in red. If you select one of them, a message appears to confirm that you want to change it. Select **Yes** to confirm, or **No** to cancel and select a new address.

4. Select an icon from the list by pressing the Navigation keys and press the **OK** key.

   The menu is added to Personal Menu Mode.

5. To exit, press the **CLR** or ☎\⏻ key.

Set Order *(OK-1-2)*

You can change the order of the menus.

1. Select a menu you want to move by pressing the ⌒ or ⌣ key.
2. Press the) key and move it by pressing the ⌒ or ⌣ key.
3. Press the (key to fix the menu.
4. Press the **OK** key to save the change.

Delete Menu *(OK-1-3)*

You can delete the registered menus from Personal Menu Mode.

Select the menu that you want to delete and press the **OK** key.

Reset Menu *(OK-1-4)*

This menu resets Personal Menu Mode to its default status.

When a confirming message appears, select **Yes** to reset. Select **No** to cancel your selection.

Change Icon *(OK-1-5)*

Using this menu, you can change the icons for the menus already registered on Personal Menu Mode.

1. Select a menu of which you want to change the icon by pressing the ⌒ or ⌣ key and press the **OK** key.
2. Press the **OK** key to display the icon list.
3. Select an icon from the list using the Navigation keys and press the **OK** key.

Change Color *(OK-1-6)*

Using this menu, you can change the colors for the items on the display.

1. Select an item of which you want to change the color by pressing the (or) key.
2. Select a color by pressing the ⌒ or ⌣ key.
3. Press the **MENU** key and adjust the depth of the selected color using the ⌒ or ⌣ key, if necessary.

Icon List *(OK-1-7)*

You can view the icons available. Use the Navigation keys to scroll through the icon list.

Animation *(OK-2)*

You can set various animated images to display on the background of the display in some situations.

The following options are available:

Standby Mode: allows you to select an image to display on the idle screen.

Incoming Call: allows you to select an image to alert you when a call comes in.

Internet: allows you to select an image to display when you connect to the Internet.

Power On: allows you to select an image to display when you switch the phone on.

Power Off: allows you to select an image to display when you switch the phone off.

Sliding Text *(OK-3)*

You can set the phone to display a greeting message that slides at the top of the idle screen.

1. Select **On** to turn the feature on.

   If you want to turn the feature off, select **Off**.

2. Press the **MENU** key.

3. If there is text already entered, press the **CLR** key to clear it. Enter the text of up to 32 characters.

   For further information about entering characters, see page xx.

4. Press the **OK** key to save your input.

Dialing Digits *(OK-4)*

This menu allows you to change the size of the number that displays when you enter a phone number to dial.

Select either **Big** or **Small**.

Language *(OK-5)*

You can change the display language. You may select either **English** or **Hebrew**.

Memory *(OK-6)*

(Cannot check using the current phone!!!)
You can see how many items downloaded from the Internet are currently stored in your phone's memory or delete them.

To delete items:

1. Press the Navigation keys to scroll to an item you want to delete.
2. When an item highlights, press the **MENU** key.

   Pressing the **OK** key allows you to view the details about the item.
3. Select **Delete** or **Delete All**, and press the **OK** key.
4. When a confirming message appears, select **Yes** and press the **OK** key.

PhoneBook

The **PhoneBook** menu allows you to:
- store names, each having up to 5 different numbers, and use them easily.
- view records of the calls you made or received.
- specify the phone to alert you in a distinctive way when you receive a call from individual or a group number stored in your Phonebook.
- view your phone number.

You can quickly access this menu by pressing the) key in Standby Mode.

Outgoing *(MENU 1-1)*

In this menu, you can view the records of up to 30 of the last phone calls placed from your phone.

Press the **OK** key after selecting a number. The number, or name if saved in your Phonebook, displays together with the date and time when the call was made. Pressing the **MENU** key allows you to save the selected number into Phonebook or delete it.

Press the key to make a call to the number.

Press the **MENU** key to use the following options:

Save: allows you to save the number in your Phonebook.

Delete: deletes the selected call record.

Delete All: deletes all call records.

Incoming *(MENU 1-2)*

In this menu, you can view the records of up to 30 of the last phone calls placed to your phone.

For details about accessing a record or using the options, see “Outgoing” on page xx.

Find Number *(MENU 1-3)*

This option allows you to find the entries stored in Phonebook using speed dial numbers, names, group names or your last search.

By Name *(MENU 1-3-1)*

This option allows you to find a stored number by entering a person’s name.

1. Enter the first few letters of the name by pressing the associated alphanumeric keys and press the **OK** key.

   The phone searches for the names on the list containing those characters, and then displays the corresponding entries in alphabetical order.

2. Press the ⌒ or ⌣ key to scroll to a name.

   You can access the following options by pressing the **MENU** key:

   - **Edit**: allows you to edit the name entry.
   - **Delete Name**: deletes the selected name entry.
   - **New**: allows you to add a new name entry.

3. If necessary, press the (or) key to find a number under the name.

4. Press the ☎ key to place a call to the number.

   Press the **OK** key to view details about the name.

5. When you view the details, press the **MENU** key to use the following options:

   - **Edit**: allows you to edit the name entry.
   - **Delete**: deletes the selected item.

6. To exit, press the **CLR** or ☎ key.

By Group *(MENU 1-3-2)*

This option allows you to find a stored number by entering the name of its caller group.

1. Select a caller group and press the **OK** key. The members of the group display.

2. Press the ⌒ or ⌣ key to find a name.

   You can access the following options by pressing the **MENU** key:

   - **Edit**: allows you to edit the name entry.
   - **Delete Name**: deletes the selected name entry.
   - **New**: allows you to add a new name entry.

3. If necessary, press the (or) key to find a number under the name.

4. Press the ☎ key to place a call to the number.

   Press the **OK** key to view the details about the name.

5. When you view the details, press the **MENU** key to use the following options:

   - **Edit**: allows you to edit the name entry.
   - **Delete**: deletes the selected item.

6. To exit, press the **CLR** or ☎ key.

By Location *(MENU 1-3-3)*

This option allows you to find a stored number by entering its memory location number.

1. Enter the location number you want to find and press the **OK** key.

   The phone searches for the corresponding entry displays.

2. If necessary, press the **MENU** key to use the following options:

   - **Change Speed #**: allows you to change the speed dial number of the number.
   - **Cancel Speed #**: allows you to release the speed dial number of the number.

3. Press the ☎ key to place a call to the number.

   Press the **OK** key to view the details about the name.

4. When you view the details, press the **MENU** key to use the following options:

   - **Edit**: allows you to edit the name entry.
   - **Delete**: deletes the selected item.

5. To exit, press the **CLR** or ☎ key.

Last Search *(MENU 1-3-4)*

This option allows you to search for a number using the last method you selected.

Press the ☎ key to place a call to the number.

Press the **OK** key to view the details about the name.

For further details about the last searching method, refer to each option.

Add Entry *(MENU 1-4)*

This menu allows you to add a new name entry.

Create a new entry by following from step 3 in "Saving a Number with a Name in Phonebook" on page xx.

Name Ringer *(MENU 1-5)*

If the caller line identification service is available, you can set the phone to alert you to an incoming call from a specific person by using a distinctive ringer.

Setting a Special Ringer for a Number

1. Select **Set Number** and press the **OK** key.
2. Select a number from the Phonebook list using the Navigation keys and press the **OK** key.
3. Select the category of the ringer by pressing the (or) key and press the ⌣ key.
4. Select the bell or melody by pressing the (or) key and press the **OK** key.
5. After registering, press the **CLR** or ☎\⏻ key to exit.

Changing the Special Ringer Settings

1. Select **Edit Number** and press the **OK** key.
2. Select the number and press the **OK** key.
3. Press the **MENU** key and select one of the following options:
   - **Change Setup**: allows you to change the ringer.
   - **Delete Number**: cancels the ringer setting.
4. After changing or deleting, press the **CLR** or ☎\⏻ key to exit.

Group Editing *(MENU 1-6)*

This menu allows you to add a new group and edit or delete the existing groups. You have three default groups and you can add six additional groups.

Adding a New Group

1. From the group list, select a group by using the Navigation keys, and then press the **MENU** or **OK** key.
2. Select **Add** and press the **OK** key.
3. Enter a name for the group and press the **OK** key.

   For further details about entering characters, see page xx.

4. Select the category of the ringer by pressing the (or) key and press the ⌣ key.
5. Select the bell or melody by pressing the (or) key and press the **OK** key.
6. To exit, press the **CLR** or ☎\⏻ key.

Editing an Existing Group

1. From the group list, select the group you want to edit and then press the **MENU** or **OK** key.
2. Select **Edit** by using the Navigation keys and press the **OK** key.
3. Clear the group name by pressing the **CLR** key.
4. Enter a new name and press the **OK** key.
5. Select the ringer category by pressing the (or) key and press the ⌣ key.
6. Select the bell or melody by pressing the (or) key and press the **OK** key.
7. To exit, press the **CLR** or ☎\⏻ key.

Deleting an Existing Group

1. From the group list, select the group you want to delete and then press the **MENU** or **OK** key.
2. Select **Delete** by using the Navigation keys and press the **OK** key.
3. To exit, press the **CLR** or ☎\⏻ key.

Erase All *(MENU 1-7)*

This menu allows you to erase all of the Phonebook entries.

To access this menu, enter your four-digit password.

Note: The password is preset to “0000” at the factory. To change it, see page xx.

When the confirming message appears, select **Yes** to delete. Otherwise, select **No**.

My Phone Number *(MENU 1-#)*

You can view your phone number using this menu.

Organizer

The **Organizer** feature provides various convenient functions, such as:

- a calendar to manage your schedule and a memo pad.
- an alarm to ring at a specified time once and the particular days of the week.
- a calculator and unit converter.
- a world time clock.

Calendar *(MENU 2-1)*

This option allows you to view the current month as well as the past or future months in calendar format. In this menu, the current day is highlighted on the calendar. You can schedule up to 30 events and be alerted by the calendar function before an event begins. Days with scheduled events are marked in green.

Selecting a Day on the Calendar View

- You can move to the next or the previous day by pressing the (or) key.
- You can move up or down one week by pressing the ⌒ or ⌣ key.
- To display the next or the previous month, use the Volume keys on the left side of the phone.
- You can also use the number keypad.
  - **1** : selects today's date of the previous year.
  - **2** : moves to the previous week.
  - **3** : selects today's date of the following year.
  - **4** : moves to the previous day.
  - **5** : selects today.
  - **6** : selects the next day.
  - **7** : moves to the previous month.
  - **8** : moves to the next week.
  - **9** : moves to the next month.

Scheduling a New Event

1. Select a day on the Calendar view, referring to "Selecting a Day on the Calendar View" on page xx and press the **OK** key.
2. If necessary, change the date and press the ⌣ key.
3. Enter the time for the event.
   The Contents field automatically highlights.
4. Press the **OK** key and enter your event information.

   For further information about entering characters, see page xx.
5. Press the **OK** key to accept your input.
6. Specify when an alarm will inform you of your schedule by pressing the (or) key, and press the ⌣ key.

7. Select the ring category and then the bell or melody and press the **OK** key.

8. Press the **OK** key to save the event.

9. On the Calendar view, you can use the following options by pressing the **MENU** key:

   - **Set Schedule:** allows you to add a new schedule.
   - **Delete All:** deletes all schedules stored on the calendar.

Viewing a Scheduled Event

Select a day on the Calendar view, referring to "Selecting a Day on the Calendar View" on page xx and press the **OK** key. The list of the events on the selected day appears.

If more than one event is scheduled, press the ⌒ or ⌣ key to scroll to an event and press the **OK** key to view details.

While viewing an event, press the **MENU** key to use the following options:

Edit: allows you to edit the schedule.

Add: allows you to add a new schedule.

Delete: deletes the schedule.

Memo Pad *(MENU 2-2)*

You can make up to five memos of important things you need to remember.

Writing a New Memo

1. Enter what you need to remember.

   For further details about entering characters, see page xx.

2. Press the **OK** key to save the memo.

3. On the Memo list, you can use the following options by pressing the **MENU** key:

   - **New Memo**: allows you to create a new memo.
   - **Delete**: deletes the selected memo.
   - **Delete All**: deletes all memos.

Viewing a Memo

If you have already created memos, your list of memos appears when you access the **Memo Pad** (**MENU 2-2**) menu.

To view details, select a memo from the list and press the **OK** key.

While viewing a memo, press the **MENU** key to use the following options:

Edit: allows you to edit the memo.

Delete: deletes the memo.

Alarm *(MENU 2-3)*

This option allows you to set up to two alarms to ring at a specified time.

1. Select **Alarm 1** or **Alarm 2** and press the **OK** key.
2. When an alarm screen appears, press the **MENU** key to display the following options:
   - **Alarm Time**: enter the time when the alarm sounds using the number keypad. You need to enter the time in 24-hour format.
   - **Alarm Melody**: select the ring type and then the melody or bell.
   - **Alarm Type**: select the interval for the alarm to ring from **Once** or **Daily**.
3. After changing the settings, press the **OK** key.
4. Repeat steps 2 and 3, if necessary.
5. When you finish setting the alarm options, select **On** using the Navigation keys.
6. Press the **OK** key to save the setting.

To cancel the alarm, select **Off** in the Alarm screen.

To stop the alarm when it rings, press one of the Volume keys, or any key after opening the folder.

Note: Keep in mind that if your phone is off at the specified time, the alarm will not sound.

Weekday Alarm *(MENU 2-4)*

You can set an alarm to ring at a specified time every day or only on the specified weekdays. This feature is useful when you need a wake-up call.

To set a wake-up call:

1. When a morning call screen displays, press the **MENU** key to display the following options:
   - **Alarm Time**: enter the time you want the alarm to ring using the number keypad. You need to enter the time in 24-hour format.
   - **Melody**: select the ringer type and then the melody or bell.
   - **Alarm Type**: select the interval for the alarm to ring from **Daily**, **On Sun-Fri** or **On Sun-Thu**.
2. After changing the settings, press the **OK** key.
3. Repeat steps 1 and 2, if necessary.
4. When you finish setting the options, select **On** using the Navigation keys.
5. Press the **OK** key to save the setting.

To cancel the weekday alarm, access the **Weekday Alarm** menu (**MENU 2-4**) and select **Off**.

Notes:
- The weekday alarm sounds even when your phone is in the manner mode (see page xx) or if you set the **Alert Type** menu (**MENU 6-2**) to **Lamp** or **Vibration**.
- Keep in mind that if your phone is off at the specified time, the phone will not sound.

Calculator *(MENU 2-5)*

Using this feature, you can use the phone as a calculator. The calculator provides basic arithmetic functions; addition, subtraction, multiplication and division.

1. Enter the first number using the numeric keys.

   Notes:
   - To erase mistakes or clear the display, press the **CLR** key.
   - Use the * key to enter a decimal point and the # key to change the sign of a number to a negative (-).

2. Set the operation for your calculation by pressing one of the Navigation keys according to the illustration on the display; **+** (add), **-** (subtract), **x** (multiply), **÷** (divide).

3. Enter the second number and press the **OK** key to get the result.

4. Repeat steps 2 and 3 as many times as required.

5. Press the **CLR** or key to exit.

Unit Converter *(MENU 2-6)*

This menu allows you to convert a value into another unit of measurement, for example, inches to centimeters.

To perform a unit conversion:

1. Select either **Length**, **Weight**, **Volume**, **Area** or **Temperature** and press the **OK** key.

2. Select the original unit by pressing the (or) key.

3. Enter the value to be converted and press the key.

4. Select the required unit by pressing the (or) key and press the **OK** key.

   The phone displays the result.

5. If necessary, press the **CLR** key to reset the converter and repeat the conversion.

6. Press the key to exit.

World Time *(MENU 2-7)*

This menu allows you to check the current time in another part of the world.

Press the Navigation keys to scroll through the world map until the time zone you want appears.

Internet/Message

You can use this menu to:

- navigate the wireless web by using the web browser.
- send or receive SMS (Short Message Service) messages.

Service Menu *(MENU 3-1)*

Your phone comes equipped with a web browser which makes it possible for you to access the wireless web.

The web browser allows you to access up-to-the minute information through your phone. Browsing the wireless web through your phone is unlike using your computer; site providers have selected only the critical aspects of their sites to present to wireless phone users and they have removed most graphics.

You can quickly access this menu by pressing the *i* key in Standby Mode.

Internet Portal *(MENU 3-1-1)*

Selecting this option launches the web browser. Once connected, the home page of your wireless web service provider or the last page you visited displays.

What appears on the display when you are connected to the network may be different depending on your service provider. To view additional contents, press the key.

Note: You can quickly launch the browser by pressing and holding the *i* key in Standby Mode.

Using the Soft Keys

At the bottom of the browser display is a solid bat which contains browser commands. The **MENU** and **OK** keys below the solid bar are used to execute the commands. These two keys are called “Soft keys” because their function changes depending on where you are in the browser.

Navigating Through the Web Browser

To	Press the
scroll through the browser items	or key.
select the content	**OK** key.
stop the current processing	**CLR** key.
return to the startup homepage	*i* or **CLR** key and hold it down.
return to the previous page	**MENU** or **CLR** key.

Exiting the Web Browser

To exit the browser, simply press the key or close the folder at any time.

Using the Browser Options

(Cannot check using the current phone!!!)

While navigating the web browser, press and hold the **MENU** key to use the following options:

Bookmarks: shows your bookmark list. Select one and press the **OK** key to quickly access the associated web page. You can also change or delete the bookmark items.

Add Bookmark: allows you to bookmark the current web page.

Reload: reloads the current web page with the updated information.

Open URL: allows you to manually enter a URL address of the web page you want to access.

Phone Functions: enables you to use the Phonebook and Message features without exiting the web browser.

Java Games *(MENU 3-1-2)*

(Cannot check using the current phone!!!)

You can download and access Java games from the wireless web.

To download a game:

1. Select **Download** and press the **OK** key.

   You are accessed to the web site given by your service provider.

2. Scroll to the game you want to download using the Navigation keys and follow the instructions on the screen.

3. To exit the browser, press the ☎ key.

To play a game:

1. Select **Activate** and press the **OK** key. The list of the downloaded games displays.

   Notes:
   - You can change the display to the icon view or the list view by pressing the # key.
   - To use the options, press the * key.

2. Scroll to the game you want to play using the Navigation keys and press the **OK** key.

   For details about playing the game, see the on-screen help.

   Notes: You can delete a game by pressing the **MENU** key on the list.

3. To quit the game, press the ☎ key.

Image & Melody *(MENU 3-1-3)*

(Cannot check using the current phone!!!)

You can download images and melodies from the wireless web.

When you select this menu, you are accessed to the web site given by your service provider.

Scroll to the item you want to download using the Navigation keys and follow the instructions on the screen.

What's New *(MENU 3-1-4)*

(Cannot check using the current phone!!!)

Using this menu, you can access the web site providing the latest news and information.

Navigate through the browser, as needed, referring to page xx.

Multimedia *(MENU 3-1-5)*

You can play or delete the multimedia items downloaded from the wireless web.

To download a multimedia file:

1. Select **Download** and press the **OK** key.

   You are accessed to the web site given by your service provider.

2. Scroll to the item you want to download and follow the instructions on the screen.

3. To exit the browser, press the key.

To play a multimedia item:
(Cannot check using the current phone!!!)

1. Select **Activate** and press the **OK** key. The list of the downloaded items displays.

2. Scroll to the item you want to play by pressing the or key.

   Note: You can delete a file by pressing the **MENU** key on the list.

3. Press the **OK** key to play back the item.

   Press the **CLR** key to pause the playback and the **MENU** key to resume.

   To repeat the playback, press and hold the **MENU** key.

4. To exit, press the key.

Messages *(MENU 3-2)*

Using the **Messages** menu, you can:
- read your text messages and listen to voice messages.
- send text messages.
- view how many messages you sent and received.

You can quickly access this menu by pressing the key in Standby Mode.

Inbox *(MENU 3-2-1)*
(Cannot check using the current phone!!!)

Your phone can receive voice mail and text messages. When the phone receives a message, an alert sounds, and a text notification displays along with the New Message icon ( ). The icon remains on the display until you read the text messages or listen to the voice messages.

Your phone receives incoming messages in both Standby Mode and the talk mode. Messages can be received when the phone is locked, but you cannot access them. To review messages, you must unlock the phone.

When the memory is full and a new message comes in, the phone automatically erases the messages in the Inbox from the oldest to receive the new one. If all of the messages are protected or not reviewed, the phone rejects new messages.

Listening to Voice Message

When you access the **Voice** menu (**MENU 3-2-1-1**), information about the latest voicemail, such as the date and time when the mail was received and the caller's name or number, appears.

Select a message using the Navigation keys and:

To	Press the
listen to the voicemail	key or **1** key and follow the prompts from the voicemail server.
delete the voicemail	**2** key.

Note: You can quickly access your voicemail box by pressing and holding the key in Standby Mode.

Reading Text Messages

When you access the **Text** menu (**MENU 3-2-1-2**), an indexed list of text messages displays. The first message is the latest one. A symbol on the left of the sender's name or number indicates the status of the message:

- : Read messages
- : Unread messages
- : Urgent messages
- : Locked messages

Select a message using the Navigation keys and:

To	Press the
make a call to the sender	key.
read the message text	**OK** key.
erase the message	**MENU** key and select the **Delete** option.
delete all of the messages	**MENU** key and select the **Delete All** option.

While reading a message, press the **MENU** key to use the following options:

Reply: allows you to send a reply message to the sender.

Forward: allows you to resend the message to other people.

Delete: deletes the message.

Save Number: allows you to save the phone number of the sender. For further details about saving a number in your Phonebook, see page xx.

Protect: allows you to keep the message from being deleted. Locked messages are marked with the icon on the list. They are not deleted until you unlock by selecting this option.

Setting the Message Display

Using the **Display Setup** menu (**MENU 3-2-1-3**), you can set the phone to display the contents of a new text message when it comes in.

The following options are available:

Full Text: the phone displays the full contents of the message.

Icon Only: the phone displays only the New Message icon ( ).

Outbox *(MENU 3-2-2)*

Using this menu, you can write and send text messages to multiple destinations.

Sending a Message

You can send a text message by creating a new message or by using text stored at the previous transmissions.

Creating and Sending a New Message

1. On the Outbox screen, press the **OK** key when **New MSG** highlights.

2. Enter a message and press the **OK** key. For further details about entering characters, see page xx.

3. The display asks you if you want to save the message text, select **Yes** or **No** and press the **OK** key.

   If you select **Yes**, the message is saved in the Text box. You can use the message in the **Drafts** menu.

   Note: When the memory is full, you cannot store any more text until you delete the obsolete text.

4. Enter the phone number of the destination using the number keypad.

   Pressing the **MENU** key allows you to search for a number from Phonebook by a person or group's name. Notice that only the numbers with the label **Mobile** are displayed. When you find the number, press the * key to place a check mark and press the **OK** key.

6. If you want to send the message to more than one person, press the key to fill in another destination field.

   Note: You will be billed for each phone number.

7. If necessary, repeat steps 5 and 6 to add more phone numbers. You can enter up to 20 numbers.

8. When you finish entering the phone number(s), press the **OK** key.

9. If necessary, change the Callback number to which the recipient calls back.

   The default Callback number is your phone number.

10. Press the **OK** key to send the message.

11. When the message is sent successfully, the display asks if you want to save it into the **Outgoing MSG** menu. Select **Yes** or **No** and press the **OK** key.

Reviewing Outgoing Messages

(Cannot check using the current phone!!!)

You can store the sent messages after transmission.

1. On the Outbox screen, select **Outgoing MSG** by using the Navigation keys and press the **OK** key.

2. Select a message using the Navigation keys.

3.

To	Press the
view the message	**OK** key.
forward the message	**MENU** key and select the **Forward** option.
edit the message	**Menu** key and select the **Edit** option.
delete the message	**MENU** key and select the **Delete** option.
delete all of the messages in the Outbox	**MENU** key and select the **Delete All** option.

While viewing a message, press the **MENU** key to use the following options:

Forward: allows you to send the message to other people.

Delete: deletes the message.

Drafts *(MENU 3-2-3)*

You can store the text that you send most frequently for future use in the Drafts box. When you create a message, the text you entered is automatically stored in this menu. Also, when you receive a call while creating a message, the text you already entered is automatically stored in this menu. The Drafts box can hold up to 80 messages.

1. Select the text using the Navigation keys.

2.

To	Press the
view the message	**OK** key.
add new text	**MENU** key and select the **Write New Text** option.
delete the selected text	**MENU** key and select the **Delete Text** option.
delete all of the text in the menu	**MENU** key and select the **Delete All** option.

While viewing a message, press the **MENU** key to display the following options:

Outgoing: allows you to send an SMS message using the text. For further information about sending a message, see page xx.

Edit Text: allows you to edit the text.

Delete Text: deletes the text.

Games

You can enjoy four games on your phone; **Push Push**, **Couple Bowling**, **Rascal Othello** and **Snow Gogo**.

To start a game:

1. Press the ⌒ or ⌣ key until a game is highlighted and press the **OK** key.

2. Press the **OK** key.

   - For the Push Push game, the Key Helper appears to help you understand the key operation for the game.

   - For the Couple Bowling game, the Menu screen appears, containing the following options:

     New Game: starts a new game.
     Key control: shows the key operation for the game.
     About Game: gives you information on how to play the game, terms, rules or how to calculate your score.

   - For the Rascal Othello and Snow Gogo games, the Menu screen appears, containing the following options:

     Start: starts a new game.
     Introduction (**Info**): gives you an introduction of the game.
     Option: set up the options for the game.
     Help: shows the key operation for the game.

3. If necessary, select **Start** or **New Game** by pressing the ⌒ or ⌣ key, and press the **OK** key to start the game.

To stop the game, press the ☎ key at any time.

Music Box

The **Music Box** menu contains the bells and melodies to alert you to an incoming call. A bell or melody selected in this menu is used according to the setting in the **Alert Type** menu (**MENU 6-2**).

You can quickly access this menu by pressing the ⌣ key in Standby Mode.

Sound Effects *(MENU 5-1)*

You can select one of the 25 default ringer tones.

Use the Navigation keys to listen to the tones available. Each time you select one, it plays for a few seconds.

Melodies *(MENU 5-2)*

You can select one of the 25 default ringer melodies.

Use the Navigation keys to listen to the melodies available. Each time you select one, it plays for a few seconds.

My Melody *(MENU 5-3)*

You can select one of the melodies downloaded from the wireless web.

Use the Navigation keys to listen to the melodies available. Each time you select one, it plays for a few seconds.

Sounds

Using this menu, you can customize the sound settings, such as the:

- ring volume or type.
- tone to alert you to an incoming message.
- tone to sound when your call is connected or disconnected to the system.
- length of DTMF tones.

Ring Volume *(MENU 6-1)*

This option allows you to adjust the ringer volume.

Use the Navigation keys or the Volume keys on the left side of the phone to adjust the volume. The display shows the volume level.

Alert Type *(MENU 6-2)*

This option allows you to indicate how you are to be informed of any incoming calls.

The following options are available:

Ring/Melody: The phone rings using the bell or melody selected in the **Music Box** menu (**MENU 5**).

Vibration: The phone vibrates but does not ring.

Lamp: The backlight switches on and the service light blinks; the phone neither rings nor vibrates.

Vibration+Ring: The phone vibrates and then rings.

Ring+Vibration: The phone rings and then vibrates.

Message Alert *(MENU 6-3)*

When you receive a new message, the phone alerts you. You can set how frequently this happens and which alert type sounds by using this menu.

If you receive a message during a call, the phone automatically mutes the ringer and provides a call waiting tone. This is to avoid ringing in your ear while you are trying to talk.

Alert Tone *(MENU 6-3-1)*

You can set the alert type for the message alert from **Alert Type 1** through **Alert Type 5**. The **Vibration** option vibrates the phone. Selecting **Lamp** flashes the service light, but does not sound the message alert.

Alert Interval *(MENU 6-3-2)*

You can set how often your phone alerts you that there are new received messages, either **Once** or **Every 2 Mins**. Selecting **No Alert** does not sound the message alert.

Connect Tone *(MENU 6-4)*

With this menu **Set**, the phone sounds a tone when your call is connected to the system.

To turn the connect tone off, select **Release**.

Disconnect Tone *(MENU 6-5)*

With this menu **Set**, the phone sounds a tone when a call is disconnected or dropped from the system.

To turn the disconnect tone off, select **Release**.

Tone Length *(MENU 6-6)*

This menu allows you to select **Short** or **Long** DTMF (Dual-tone Multi-Frequency) tones. DTMF tones are sent by your phone to access teleservices, such as a bank account. The system used by the bank or other service determines if you need short or long DTMF tones. If the service is digital, as most are, short DTMF tones will almost always work.

Camera

Using the camera module embedded in your phone, you can take pictures of people or events while on the move and send them to other phones using a message. The camera produces JPEG pictures.

Take Photo *(MENU 7-1)*

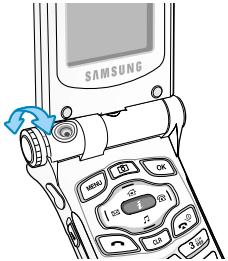
In this menu, you can take a picture and save it.

Taking a Picture with the Folder Open

1. Accessing this menu turns on the camera at the top left of the phone. Or, press and hold the key in Standby Mode.

   The image to be captured appears on the display.

2. Adjust the image by rotating the camera module and aiming it at the subject.



   Press one of the Volume keys to flip the image vertically. You can zoom in or out the image using the (and) keys, and adjust the brightness using the ⌒ and ⌣ keys.

3. Press the **OK** or key to take the picture.

   If you want to have the delay time of 10 seconds before the camera takes the picture, press the **MENU** key.

   Note: If the phone is short of memory to take a picture, you will be alerted by a warning message. Erase unnecessary images stored in the **Photo Album** menu (**Menu 7-3**).

4. When the phone confirms the image you took, press the **OK** key.

   If you want to discard the image and go back to the capture mode, press the **MENU** or **CLR** key.

5. Enter a name for your picture.

   For further details about how to enter characters, see page xx.

6. Press the **OK** key to save the picture.

   The phone returns to the capture mode.

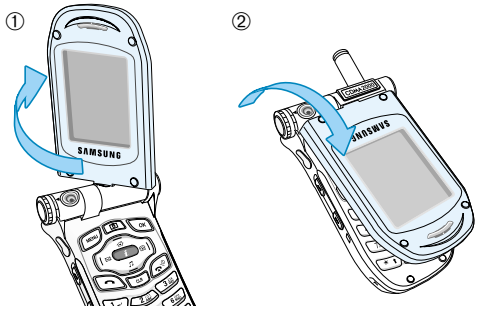
7. Continue taking a picture or press the key to return to Standby Mode.

Taking a Picture with the Folder Reversed

Your phone's folder can be reversed. When the folder is reversed, you can take a picture using the Camera key [•] on the right side of the phone.

To take a picture with the folder reversed:

1. To reverse the folder, rotate and close it, as shown.



2. To turn the camera on, press and hold the Camera key.

   The image to be captured appears on the display.

3. Adjust the image by rotating the camera module and aiming it to the subject.

   To use the options, press the ▼ key. You can change the setting by pressing the ▲ key. The following options are available:

   - : allows you to flip the image vertically.
   - : allows you to enlarge the image.

   - : allows you to adjust the brightness of the image.
   - : allows you to view the images stored in your Photo Album.

4. Press the Camera key to take the picture.

   Your phone automatically saves the picture in your Photo Album.

Photo Mail *(MENU 7-2)*

This menu allows you to send the images you captured to other people by attaching them to a text message. You can also receive messages containing a picture.

Write Mail *(MENU 7-2-1)*

You can send a message by taking a new picture or by using a picture in your Photo Album.

Sending a Message using a New Picture

1. Select **New Photo** and press the **OK** key.

   The camera turns on and the display switches to the capture mode.

2. Take and save a picture by following steps 2 to 6 on page xx.

3. Enter a subject of your message and press the **OK** key.

   For further details about how to enter characters, see page xx.

4. Write a message and press the **OK** key.

5. Enter the destination number.

   Pressing the **MENU** key gives you options which allow you to find a phone number or e-mail address stored in your Phonebook. You can also enter an e-mail address by selecting the **e-mail directinput** option.

6. If you want to send the message to more than one person, press the ⌣ key to fill in another destination field.

7. If necessary, repeat steps 5 and 6 to add more destinations. You can enter up to 5 numbers or addresses.

   Note: You will be billed for each destination.

8. When you finish entering the phone number(s), press the **OK** key.

9. To send the message immediately, select **Send Now** and press the **OK** key.

   If you want the phone to send it at a later time, select **Send Later**. You can set the date and time when the message is sent.

   Note: You can enter a date within 60 days.

10. When the message is sent successfully, the display asks if you want to save it in the Sent Mail box. Select **Yes** or **No** and press the **OK** key.

Note: If the phone fails to send the message, the display asks if you want to save it in the Reserved Mail box. Select **Yes** or **No** and press the **OK** key.

Sending a Message Using a Stored Picture

1. Select **Stored Photo** and press the **OK** key.

   The display shows the first picture stored in Photo Album.

2. Select the picture you want to send by pressing the (or) key and press the **OK** key.

3. Follow the procedure from step 3 on page xx.

Sent Mail *(MENU 7-2-2)*

(Cannot check using the current phone!!!)

In this menu, you can review the sent messages.

Select a message using the ⌒ or ⌣ key and:

To	Press the
read the message text	**OK** key.
forward the message	**MENU** key and select the **Forward** option.
delete the message	**MENU** key and select the **Delete** option.
delete all of the messages	**MENU** key and select the **Delete All** option.

While viewing a message, press the **MENU** key to use the following options:

Forward: allows you to resend the message.

Delete: deletes the message.

Reserved Mail *(MENU 7-2-3)*

In this menu, you can review the messages your phone couldn't send.

For further details about viewing a message and using the options, see "Sent Mail" above.

Received Mail *(MENU 7-2-4)*

(Cannot check using the current phone!!!)

When you save the received messages from the web server to your phone's memory, your phone stores them in this menu, . For further details, see page 91.

Select a message using the ⌒ or ⌣ key and:

To	Press the
make a call to the sender	⌒ key.
read the message text	**OK** key.
forward the message	**MENU** key and select the **Forward** option.
delete the message	**MENU** key and select the **Delete** option.
delete all of the messages	**MENU** key and select the **Delete All** option.

While viewing a message, press the **MENU** key to use the following options:

Forward: allows you to resend the message.

Delete: deletes the message.

Setup *(MENU 7-2-5)*

You can change the settings for using the Photo MMS (Multimedia Message Service) feature.

The following options are available:

Sending No.: When this option is activated, the recipient can see your phone number in your message.

Send Result: When this option is activated, the network sends you the report message showing whether or not your message is delivered.

Rcvd Result: When this option is activated, the network sends you the report message showing whether or not your message is read by the recipient.

Save to Web: When this option is activated, the pictures in the sent or received messages are automatically saved in the wireless web page assigned to you from the server. This option is available only when you are subscribed to the associated service. Contact your service provider for further details.

To change a setting:

1. Select an option and press the **OK** key.
2. Select **On** to activate the option and press the **OK** key.

   If you do not want to use the option, select **Off**.

   After saving your setting, the display returns to the Photo Mail screen.

3. To set another option, press the **OK** key and repeat from step 1.
4. To exit, press the **CLR** or ☎ key.

Photo Album *(MENU 7-3)*

This menu allows you to review your pictures.

When you access this menu, the first picture displays on the full screen. Press the (or) key to scroll through the pictures.

Pressing the **OK** key shows the pictures as thumbnail images on one screen. In the thumbnail view mode, use the Navigation keys to scroll through the pictures. To go back to the normal view mode, press the **OK** key again.

While viewing a picture, press the **MENU** key to use the following options:

Delete: deletes the picture.

Delete All: deletes all of the pictures in your Photo Album.

Photoname change: allows you to change the picture's name.

PhotoLock: allows you to lock the picture so that it does not display. This option is available only in the normal view mode. Once a picture is locked, you need to enter the password to view the picture.

Lock *(MENU 7-4)*

This menu allows you to lock your pictures and photo messages using the phone password.

The following options are available:

Lock Photo: allows you to lock the **Photo Album** menu to keep it from being accessed by unauthorized people. Once the menu is locked, you need to enter the password to access it.

Lock Photo Mail: allows you to lock the **Photo Mail** menu to keep it from being accessed by unauthorized people. Once the menu is locked, you need to enter the password to access it.

To lock your pictures or messages:

1. Select an option and press the **OK** key.
2. Enter your four-digit password.
3. Select **Lock** and press the **OK** key.

   If you want to unlock the selected option, select **Release**.
4. To exit, press the **CLR** or key.

Setup

Many different features of your phone can be customized to suit your preferences.

Answer Mode *(MENU 8-1)*

This menu allows you to select how to answer an incoming call.

The following options are available:

Open Folder: the phone answers when you open the folder.

Any Key: the phone answers when you press any key except for the key and the Volume keys.

Send Key: the phone answers only when you press the key.

LCD *(MENU 8-2)*

Backlight Time *(MENU 8-2-1)*

You can set the length of time the phone waits until the backlight turns off after you press the last key or open the folder. Select either **15 Seconds On**, **30 Seconds On** or **60 Seconds On**.

Set Backlight *(MENU 8-2-2)*

You can set the backlight mode. **Normal Mode** flashes the backlight when you press any key. Select **Saving Mode** to use the backlight only between 5:00 PM and 8:00 AM. Doing this saves the battery power.

Contrast *(MENU 8-2-3)*

This option allows you to adjust the contrast of the display.

Adjust the brightness using the Navigation keys, or the Volume keys on the left side of the phone.

Service LED *(MENU 8-3)*

You can activate or deactivate the use of the service light on the folder.

Modem *(MENU 8-4)*

Your phone is capable of sending or receiving digital data and fax calls when connected to a computing device (laptop, desktop, handheld, palmtop, etc.) running Windows NT, Windows 98 or later versions. The phone functions just like a typical modem on your PC, enabling you to use wireless data involving a wide variety of Windows software applications.

To use digital data or fax services with your phone, you need to obtain a digital data/fax kit from your local Samsung dealer. This kit contains the necessary cables, software, and user's manual required for you to connect and use your phone with your computing device.

Refer to your data kit manual for further details about setting up your computing device.

Note: The phone must be on a digital network to receive faxes and data.

Modem Alert *(MENU 8-4-1)*

This option allows you to set how you are alerted when the phone receives data or fax calls.

Select the ringer category and then select the bell or melody.

Data / FAX *(MENU 8-4-2)*

You can set the phone to function as a modem to send or receive voice, data and fax calls.

The following options are available:

Voice Only: You can set the phone to send or receive voice calls only.

Data Only: You can set the phone to automatically receive data calls only. You can select one of **Off**, **For 10 min.** or **Always**.

FAX Only: You can set the phone to automatically receive fax calls only. You can select one of **Off**, **For 10 min.** or **Always**.

Port Speed *(MENU 8-4-3)*

This menu allows you to select the speed for the communication between your phone and the computing device.

Select one of **Auto Speed, 19.2 kbps, 115.2 kbps** or **230.4 kbps**.

Auto Hyphen *(MENU 8-5)*

When this option is set to **On**, your phone automatically hyphenates numbers when you enter a phone number, for example, 000-000-000. Digits following a pause are not hyphenated.

Lock Phone *(MENU 8-6)*

This menu allows you to lock the phone. Locking the phone limits all use of your phone. To access this menu, you need to enter your four-digit lock code. The lock code is preset to “0000” at the factory.

The following options are available:

Auto Lock: after unlocking the phone temporarily, you can lock the phone simply by closing the folder.

Release: releases the lock mode.

In the lock mode, you can make emergency calls using the stored emergency numbers (see page xx). Simply enter one of them and press the key.

To use the phone in the lock mode, press the **Menu** key and enter the four-digit lock code. Your phone unlocks temporarily and you can use it.

To unlock your phone completely, access the **Lock Phone** menu after unlocking the phone temporarily, and then select **Release**.

Time Manager *(MENU 8-7)*

Using this menu option, you can:
- view the length of your calls.
- set the current date and time.

Air Time *(MENU 8-7-1)*

Your phone keeps track of the amount of air time, or call time, used. Using this option, you can view the airtime for the last call or all calls made to or from your phone. You can also easily reset the airtime measurement.

The display shows the following measurements:

Last Call: shows the air time of the last call.

Data Calls: shows the air time of the all data calls.

Total Calls: shows the number of all calls made to or from your phone and the total duration of the calls since the air time counter was last set to zero by using the **Delete Total** option.

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

While viewing the air time, press the **MENU** key to use the following options:

Delete Last: deletes the “Last Call” measurement.

Delete Total: deletes the “Total Calls” measurement.

Delete Data: deletes the “Data Calls” measurement.

Delete All: deletes all measurements at the same time.

Set Time *(MENU 8-7-2)*

This option enables you to set the current date and time.

Enter the date and time using the number keypad. You can move the cursor between the date and the time fields by pressing the ⌒ or ⌣ key.

The month, day, hour and minute must be entered using 2 digits and the year requires all four digits. You need to enter the hour in 24-hour format; for example, enter 15 and 30 for 3:30 PM.

Reset *(MENU 8-*)*

Using this menu option, you can reset your phone to its default status. To access this menu, you need to enter your four-digit lock code. The lock code is preset to “0000” at the factory.

The following options are available:

Settings Only : resets all user-selectable setting options to their default settings.

Clear All: erases all data you have stored in the phone’s memory, such as Phonebook entries, memos, schedules, call records and pictures.

When a confirmation displays explaining that you will reset all the menu options, select **Yes** to confirm. The phone turns off by itself and back on, reboots, and then returns to Standby Mode.

Select **No** to cancel your selection.

Security *(MENU 8-0)*

Your phone provides you with various security options, including a user-programmable lock code and special number features.To access this menu, you need to enter your four-digit lock code. The lock code is preset to “0000” at the factory.

Send PIN *(MENU 8-0-1)*

By setting the phone to send the PIN code when dialing, you can prevent your phone from being used by unauthorized people. The phone prompts you to enter the your PIN code when you make a call, and a person who doesn’t have the code will not be able to use your phone.

Select **Set** to turn this feature on, or **Release** to turn it off.

Note: Your service provider must enable this feature and assign you a PIN code in order for this feature to work. Contact your service provider for complete information about the PIN code.

Emergency Number *(MENU 8-0-2)*

This feature allows you to store up to seven emergency numbers so that you can make a call using them even when the phone is locked. Your phone has four default emergency numbers; 100, 101, 102, and *166.

To store an emergency number:

1. Select a location by pressing the ⌒ or ⌣ key, and press the **OK** key.
2. If there is a number already stored in the selected location, press the **CLR** key to clear the number.
3. Enter a phone number and press the **OK** key to save.

   Each emergency number can be up to 12 digits long.

To call an emergency number in the lock mode, simply enter one of the stored numbers and press the key.

NAM *(MENU 8-0-3)*

NAM stands for numerical assignment module-essentially your phone number. Your phone can have two NAMs. This means that you can have two phone numbers for using your phone and can quickly and easily switch your service back and forth between the two numbers.

When you change the NAM, the phone turns off by itself and then back on, or reboot, and acquires service using the new NAM setting.

Lock Code *(MENU 8-0-4)*

This feature allows you to change your current lock code to a new one. The lock code is preset to “0000” at the factory.

Enter the current code, and enter a new code. Enter it once again at the prompt.

Note: Your phone does not allow viewing of the lock code for security reasons. So, if you have changed the lock code, be sure to write it down or memorize it.

Health and Safety Information

Exposure to Radio Frequency (RF) Signals

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 the safety standards that were developed by independent scientific organizations through periodic and through 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 phones employs a unit of measurement known as Specific Absorption Rate (SAR). The SAR limit recommended by the FCC is 1.6W/kg.*

* In the U.S. 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.

SAR tests 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 the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output of the phone.

Before a new model phone 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. While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of http://www.fcc.gov/oet/fccid after searching on FCC ID printed in the label on the phone.

FCC certification information for this model phone is attached separation paper.

For Body Operation

This device was tested for typical body-worn operations with the back of the phone kept 1.5 cm. from the body. To maintain compliance with FCC RF exposure requirements, use only belt-clips, holsters or similar accessories that maintain a 1.5 cm. separation distance between the user's body and the back of the phone, including the antenna, whether extended or retracted. The use of belt-clips, holsters and similar accessories should not contain metallic components in its assembly. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure requirements, and should be avoided.

For more Information concerning exposure to radio frequency signals, see the following websites:

Federal Communications Commission (FCC)
http://www.fcc.gov/rfsafety

Cellular Telecommunications Industry Association (CTIA): http://www.wow-com.com

U.S.Food and Drug Administration (FDA)
http://www.fda.gov/cdrh/consumer

World Health Organization (WHO)
http://www.who.int/peh-emf/en

Precautions When Using Batteries

- Never use any charger or battery that is damaged in any way.
- Use the battery only for its intended purpose.
- If you use the phone near the network's base station, it uses less power; talk and standby time are greatly affected by the signal strength on the cellular network and the parameters set by the network operator.

- Battery charging time depends on the remaining battery charge and the type of battery and charger used. The battery can be charged and discharged hundreds of times, but it will gradually wear out. When the operation time (talk time and standby time) is noticeably shorter than normal, it is time to buy a new battery.
- If left unused, a fully charged battery will discharge itself over time.
- Use only Samsung-approved batteries and recharge your battery only with Samsung-approved chargers. When a charger is not in use, disconnect it from the power source. Do not leave the battery connected to a charger for more than a week, since overcharging may shorten its life.
- Extreme temperatures will affect the charging capacity of your battery: it may require cooling or warming first.
- Do not leave the battery in hot or cold places, such as in a car in summer or winter conditions, as you will reduce the capacity and lifetime of the battery. Always try to keep the battery at room temperature. A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged. Li-ion batteries are particularly affected by temperatures below 0 °C (32 °F).
- Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes a direct connection between the + and – terminals of the battery (metal strips on the battery), for example when you carry a spare battery in a pocket or bag. Short-circuiting the terminals may damage the battery or the object causing the short-circuiting.
- Dispose of used batteries in accordance with local regulations. Always recycle. Do not dispose of batteries in a fire.

Road Safety

Your wireless phone gives you the powerful ability to communicate by voice, almost anywhere, anytime. But an important responsibility accompanies the benefits of wireless phones, one that every user must uphold.

When driving a car, driving is your first responsibility. When using your wireless phone behind the wheel of a car, practice good common sense and remember the following tips:

1. Get to know your wireless phone and its features, such as speed dial and redial. If available, these features help you to place your call without taking your attention off the road.
2. When available, use a hands-free device. If possible, add an extra layer of convenience and safety to your wireless phone with one of the many hands-free accessories available today.
3. Position your wireless phone within easy reach. Be able to access your wireless phone without removing your eyes from the road. If you get an incoming call at an inconvenient time, let your voice mail answer it for you.
4. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, ice and even heavy traffic can be hazardous.
5. Do not take notes or look up phone numbers while driving. Jotting down a To Do list or flipping through your phonebook takes your attention away from your primary responsibility, driving safely.

6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan calls when your car will be stationary. If you need to make a call while moving, dial only a few numbers, check the road and your mirrors, then continue.
7. Do not engage in stressful or emotional conversations that may be distracting. Make the people with whom you are talking aware that you are driving and suspend conversations that have the potential to divert your attention from the road.
8. Use your wireless phone to call for help. Dial the emergency number in the case of fire, traffic accident or medical emergencies. Remember, it is a free call on your wireless phone!
9. Use your wireless phone to help others in emergencies. If you see a car accident, crime in progress or other serious emergency where lives are in danger, call the emergency number, as you would want others to do for you.
10. Call roadside assistance or a special non-emergency wireless assistance number when necessary. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured, or a vehicle you know to be stolen, call roadside assistance or any other special non-emergency wireless number.

Operating Environment

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

When connecting the phone or any accessory to another device, read its user's guide for detailed safety instructions. Do not connect incompatible products.

As with other mobile radio transmitting equipment, users are advised that for the satisfactory operation of the equipment and for the safety of personnel, it is recommended that the equipment should only be used in the normal operating position (held to your ear with the antenna pointing over your shoulder).

Electronic Devices

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

Persons with pacemakers:

- should always keep the phone more than 15 cm (6 inches) from their pacemaker when the phone is switched on
- should not carry the phone in a breast pocket
- should use the ear opposite the pacemaker to minimize potential interference

If you have any reason to suspect that interference is taking place, switch off your phone immediately.

Hearing Aids

Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may wish to consult your hearing aid manufacturer to discuss alternatives.

Other Medical Devices

If you use any other personal medical devices, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information. Switch off your phone in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. 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.
You should also consult the manufacturer of any equipment that has been added to your vehicle.

Posted Facilities

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

Potentially Explosive Atmospheres

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

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

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

Emergency Calls

This phone, like any wireless phone, operates using radio signals, wireless and landline networks as well as user-programmed functions, which cannot guarantee connection in all conditions. Therefore, you should never rely solely on any wireless phone for essential communications (medical emergencies, for example).

Remember, to make or receive any calls the phone must be switched on and in a service area with adequate signal strength. Emergency calls may not be possible on all wireless phone networks or when certain network services and/or phone features are in use. Check with local service providers.

To make an emergency call:

1. If the phone is not on, switch it on.
2. Key in the emergency number for your present location (for example, 999 or other official emergency number). Emergency numbers vary by location.
3. Press the key.

If certain features are in use (call barring, for example), you may first need to deactivate those features before you can make an emergency call. Consult this document and your local cellular service provider.

When making an emergency call, remember to give all the necessary information as accurately as possible. Remember that your phone may be the only means of communication at the scene of an accident; do not cut off the call until given permission to do so.

Other Important Safety Information

- Only qualified personnel should service the phone or install the phone in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty applicable to the device.
- Check regularly that all wireless phone equipment in your vehicle is mounted and operating properly.
- Do not store or carry flammable liquids, gases or explosive materials in the same compartment as the phone, its parts or accessories.
- For vehicles equipped with an air bag, remember that an air bag inflates with great force. Do not place objects, including both installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If wireless equipment is improperly installed and the air bag inflates, serious injury could result.
- Switch off your phone before boarding an aircraft. The use of wireless phones in aircraft may be dangerous to the operation of the aircraft, and is illegal.
- Failure to observe these instructions may lead to the suspension or denial of telephone services to the offender, or legal action, or both.

Care and Maintenance

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

- Keep the phone and all its parts and accessories out of the reach of small children's.
- Keep the phone dry. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits.
- Do not use the phone with a wet hand. Doing so may cause an electric shock to you or damage to the phone.
- Do not use or store the phone in dusty, dirty areas, as its moving parts may be damaged.
- Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the phone in cold areas. When the phone warms up to its normal operating temperature, moisture can form inside the phone, which may damage the phone's electronic circuit boards.
- Do not drop, knock or shake the phone. Rough handling can break internal circuit boards.
- Do not use harsh chemicals, cleaning solvents or strong detergents to clean the phone. Wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.

- Do not paint the phone. Paint can clog the device's moving parts and prevent proper operation.
- Do not put the phone in or on heating devices, such as a microwave oven, a stove or a radiator. The phone may explode when overheated.
- Use only the supplied or an approved replacement antenna. Unauthorized antennas or modified accessories may damage the phone and violate regulations governing radio devices.
- If the phone, battery, charger or any accessory is not working properly, take it to your nearest qualified service facility. The personnel there will assist you, and if necessary, arrange for service.

Acknowledging Special Precautions and the FCC and Industry Canada Notice

Cautions

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Compliance Information

This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received.

Including interference that may cause undesired operation.

Information to User

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/ TV technician for help.

Appendix A: CERTIFICATION INFORMATION (SAR)

THIS MODEL PHONE MEETS THE GOVERNMENT'S REQUIREMENTS FOR EXPOSURE TO RADIO WAVES.

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on safety 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 (SAR). The SAR limit set by the FCC is 1.6 W/kg. SAR Tests are conducted using standard operating positions accepted by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

Before a new model phone 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 values for this model phone as reported to the FCC are Head: 1.22W/Kg.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of

http://www.fcc.gov/oet/fccid after searching on FCC ID A3LSCHA612.

In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kilogram (W/kg) averaged over one gram of tissue. The standard incorporates a substantial margin of safety to give additional protection for the public and to account for any variations in measurements.

Appendix B: Guide to Safe and Responsible Wireless Phone Use

Cellular Telecommunications & Internet Association

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

A Guide to Safe and Responsible Wireless Phone Use

TENS OF MILLIONS OF PEOPLE IN THE U.S. TODAY TAKE ADVANTAGE OF THE UNIQUE COMBINATION OF CONVENIENCE, SAFETY AND VALUE DELIVERED BY THE WIRELESS TELEPHONE. QUITE SIMPLY, THE WIRELESS PHONE GIVES PEOPLE THE POWERFUL ABILITY TO COMMUNICATE BY VOICE-ALMOST ANYWHERE, ANYTIME-WITH THE BOSS, WITH A CLIENT, WITH THE KIDS, WITH EMERGENCY PERSONNEL OR EVEN WITH THE POLICE. EACH YEAR, AMERICANS MAKE BILLIONS OF CALLS FROM THEIR WIRELESS PHONES, AND THE NUMBERS ARE RAPIDLY GROWING.

But an important responsibility accompanies those benefits, one that every wireless phone user must uphold. When driving a car, driving is your first responsibility. A wireless phone can be an invaluable tool, but good judgment must be exercised at all times while driving a motor vehicle-whether on the phone or not. The basic lessons are ones we all learned as teenagers. Driving requires alertness, caution and courtesy. It requires a heavy dose of basic common sense-keep your head up, keep your eyes on the road, check your mirrors frequently and watch out for other drivers. It requires obeying all traffic signs and signals and staying within the speed limit. It means using seat belts and requiring other passengers to do the same.

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

Wireless Phone "Safety Tips"

Below are safety tips to follow while driving and using a wireless phone which should be easy to remember:

1. Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable features most phones offer, including automatic redial and memory. Also, work to memorize the phone keypad so you can use the speed dial function without taking your attention off the road.

2. When available, use a hands free device. A number of hands free wireless phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.

3. Position your wireless phone within easy reach. Make sure you place your wireless phone within easy reach and where you can grab it without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voice mail answer it for you.

4. Suspend conversations during hazardous driving conditions or situations. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow and ice can be hazardous, but so is heavy traffic. As a driver, your first responsibility is to pay attention to the road.

5. Do not take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a "to do" list while driving a car, you are not watching where you are going. It's common sense. Don't get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.

6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan your calls before you begin your trip or attempt to coincide your calls with times you may be stopped at a stop sign, red light or otherwise stationary. But if you need to dial while driving, follow this simple tip-dial only a few numbers, check the road and your mirrors, then continue.

7. Do not engage in stressful or emotional conversations that may be distracting. Stressful or emotional conversations and driving do not mix-they are distracting and even dangerous when you are behind the wheel of a car. Make people you are talking with aware you are driving and if necessary, suspend conversations which have the potential to divert your attention from the road.

8. Use your wireless phone to call for help. Your wireless phone is one of the greatest tools you can own to protect yourself and your family in dangerous situations-with your phone at your side, help is only three numbers away. Dial 9-1-1 or other local emergency number in the case of fire, traffic accident, road hazard or medical emergency. Remember, it is a free call on your wireless phone!

9. Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity to be a "Good Samaritan" in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other local emergency number, as you would want others to do for you.

10. Call roadside assistance or a special wireless non-emergency assistance number when neceµssary. Certain situations you encounter while driving may require attention, but are not urgent enough to merit a call for emergency services. But you still can use your wireless phone to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

Careless, distracted individuals and people driving irresponsibly represent a hazard to everyone on the road. Since 1984, the Cellular Telecommunications Industry Association and the wireless industry have conducted educational outreach to inform wireless phone users of their responsibilities as safe drivers and good citizens. As we approach a new century, more and more of us will take advantage of the benefits of wireless telephones. And, as we take to the roads, we all have a responsibility to drive safely.

"The wireless industry reminds you to use your phone safely when driving."

Cellular Telecommunications & Internet Association
For more information, please call 1-888-901-SAFE.
For updates: http://www.wow-com.com/consumer/issues/driving/articles.cfm?ID=85

Appendix C: Consumer Update on Wireless Phones

U.S. Food and Drug Administration

1. What kinds of phones are the subject of this update?

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

2. 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 radio frequency energy (RF) in the microwave range while being used. They also emit very low levels of RF when in the stand-by mode. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

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

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

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

Support needed research into possible biological effects of RF of the type emitted by wireless phones;

Design wireless phones in a way that minimizes any RF exposure to the user that is not necessary for device function; and

Cooperate in providing users of wireless phones with the best possible information on possible effects of wireless phone use on human health

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

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

National Telecommunications and Information Administration

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

FDA shares regulatory responsibilities for wireless phones with the Federal Communications Commission (FCC). All phones that are sold in the United States must comply with FCC safety guidelines that limit RF exposure. FCC relies on FDA and other health agencies for safety questions about wireless phones.

FCC also regulates the base stations that the wireless phone networks rely upon. While these base stations operate at higher power than do the wireless phones themselves, the RF exposures that people get from these base stations are typically thousands of times lower than those they can get from wireless phones. Base stations are thus not the primary subject of the safety questions discussed in this document.

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

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

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

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

5. What steps can I take to reduce my exposure to radio frequency 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 radio frequency 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.

6. 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 radio frequency 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.

7. Do hands-free kits for wireless phones reduce risks from exposure to RF emissions?

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that hands-free kits reduce risks. Hands-free kits can be used with wireless phones for convenience and comfort. These systems reduce the absorption of RF energy in the head because the phone, which is the source of the RF emissions, will not be placed against the head. On the other hand, if the phone is mounted against the waist or other part of the body during use, then that part of the body will absorb more RF energy. Wireless phones marketed in the U.S. are required to meet safety requirements regardless of whether they are used against the head or against the body. Either configuration should result in compliance with the safety limit.

8. Do wireless phone accessories that claim to shield the head from RF radiation work?

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that accessories that claim to shield the head from those emissions reduce risks. Some products that claim to shield the user from RF absorption use special phone cases, while others involve nothing more than a metallic accessory attached to the phone. Studies have shown that these products generally do not work as advertised. Unlike "hand-free" kits, these so-called "shields" may interfere with proper operation of the phone. The phone may be forced to boost its power to compensate, leading to an increase in RF absorption. In February 2002, the Federal trade Commission (FTC) charged two companies that sold devices that claimed to protect wireless phone users from radiation with making false and unsubstantiated claims. According to FTC, these defendants lacked a reasonable basis to substantiate their claim.

9. What about wireless phone interference with medical equipment?

Radio frequency energy (RF) from wireless phones can interact with some electronic devices. For this reason, FDA helped develop a detailed test method to measure electromagnetic interference (EMI) of implanted cardiac pacemakers and defibrillators from wireless telephones. This test method is now part of a standard sponsored by the Association for the Advancement of Medical instrumentation (AAMI). The final draft, a joint effort by FDA, medical device manufacturers, and many other groups, was completed in late 2000. This standard will allow manufacturers to ensure that cardiac pacemakers and defibrillators are safe from wireless phone EMI.

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

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

10. 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 radio frequency 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, gioma, 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.

11. 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.

Appendix C: Consumer Update on Wireless Phones

12. Which other federal agencies have responsibilities related to potential RF health effects?

Additional information on the safety of RF exposures from various sources can be obtained from the following organizations.

FCC RF Safety Program:
http://www.fcc.gov/oet/rfsafety/

Environmental Protection Agency (EPA):
http://www.epa.gov/radiation/

Occupational Safety and Health Administration's (OSHA):
http://www.osha-slc.gov/SLTC/radiofrequencyradiation/index.html

National Institute for Occupational Safety and Health (NIOSH):
http://www.cdc.gov/niosh/emfpg.html

World health Organization (WHO):
http://www.who.int/peh-emf/

International Commission on Non-Ionizing Radiation Protection:
http://www.icnirp.de

National Radiation Protection Board (UK):
http://www.nrpb.org.uk