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

SAMSUNG ELECTRONICS

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SAMSUNG

TDMA MOBILE TELEPHONE STH-A225

July. 27. 2001

Please, be sure to read this manual before using your phone. And keep the manual after reading it and use any time you have a question.

FCC RF EXPOSURE INFORMATION

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

Use only the supplied or an approved antenna. Unauthorized antennas, modifications, or attachments could impair call quality, damage the phone, or result in violation of FCC regulations.

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

Body-worn Operation

This device was tested for typical body-worn operations using the optional belt-clip/holster placed 1.0 inch (2.5cm) from the body. To comply with FCC RF exposure requirements, a minimum separation distance of 1.0 inch (2.5cm) must be maintained between the user's body and the phone, including the antenna, whether extended or retracted. The use of third-party belt-clips/ holsters with no metallic components that provide the minimum separation distance of 1.0 inch (2.5cm) can be used to satisfy FCC RF exposure requirements. The use of non-tested accessories or other body-worn operations may not comply with FCC RF exposure requirements and should be avoided. Contact your local dealer for optional accessory items.

Vehicle Mounted External Antenna (optional, if available.)

A minimum separation distance of 7.9 inches (20cm) must be maintained Between a person and the vehicle mounted external antenna to satisfy FCC RF exposure requirements.

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

SAR Information & FCC ID Labeling

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

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radiofrequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless mobile phones employs a unit of measurement know as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg.* Tests for SAR are conducted using standard operating positions specified by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output.

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

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

Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) web-site at http://www.wow-com (see note).

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

Note: The URL http://phonefacts.net may be used in place of http://www.wow-com for direct access to SAR information.

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Important Safety Precautions

Read these simple guidelines. Failure to comply with them may be dangerous or illegal.
For more detailed safety information, see Safety Information on page 96.

Road safety comes first
Do not use a hand-held phone while driving; park the vehicle first. Remember that in some countries, it is illegal to use a hand-held phone while driving.

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

Switch off in aircraft
Mobile phones can cause interference. Using them on aircraft is both illegal and dangerous.

Respect special regulations
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 (in a hospital for example).

Interference
All mobile phones may be subject to radio interference, which may affect their performance.

Qualified service
Only qualified service personnel should repair cellular equipment. Use only approved accessories and batteries.

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

Emergency calls
Ensure the phone is switched on and in service.
Enter the emergency number (100 or other official emergency number) and press the key. Give your location. Do not end the call until given permission to do so. End the call by closing the phone or pressing the /⏻ key.

IMPORTANT! Use only SAMSUNG-approved accessories.
The use of any other power-supplying accessory will invalidate any approval or warranty applying to the phone, and may be dangerous.

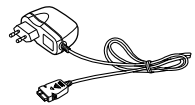
When you disconnect the power cord of any accessory, grasp and pull the connector, not the cord.

Unpacking

Your package contains the following items.

Handset

Travel Charger



Battery

Hand Strap

User's Manual

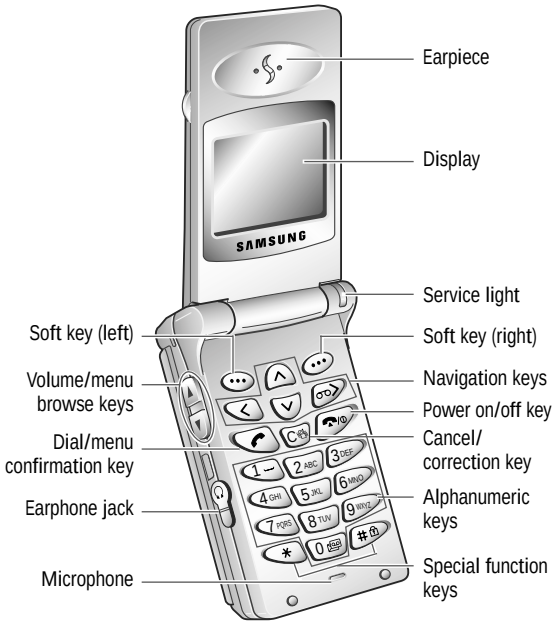
In addition, you can obtain the following accessories for your phone from your local SAMSUNG dealer:

- Desktop charger
- Hands-free kit
- Standard/Extended battery
- Cigarette lighter adapter
- Earphone
- Leather case

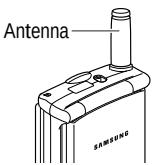
Your Phone

Phone Layout

The following illustrations show the main elements of your phone.



Top



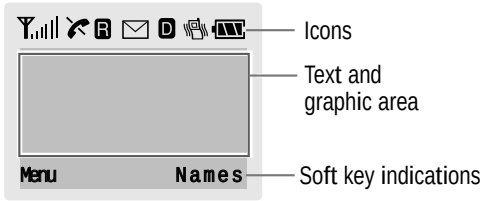
Key	Description
(soft keys)	Perform the functions indicated by the text above them (in the bottom line of the display).
	In the menu facility, scroll through the menu options and phonebook memory. *When pressed in idle mode*, access your favorite menu options directly (for more information on shortcuts, see page 68).
	In the menu facility, return to the previous menu level and select the current menu, respectively. *When entering a name*, move the cursor left and right, respectively. *When pressed in idle mode*, the < key enters your favorite menu options directly (for more information on shortcuts, see page 70). The > key records a voice memo *when held down in idle mode* and the phone conversation *during a call*.
C	Deletes characters from the display. *In the menu facility*, returns to the previous menu level. *When held down for more than two seconds in idle mode*, quickly enters or exits the silent mode.

Key	Description
	Makes or answers a call. *In idle mode*, recalls the last number dialed.
	Ends a call. Also switches the phone on and off when pressed and held. *In the menu facility*, returns to the idle mode and cancels your input.
0	*When held down for more than two seconds in idle mode*, accesses your voice mailbox.
0 … 9 WXYZ	Enter numbers, letters and some special characters.
* #	Enter special dial characters. Also use these keys for various purposes in different functions.
	(on the side of the phone) *During a call*, adjusts the earpiece volume. *In idle mode with the phone open,* adjusts the key volume. *In the menu facility*, scrolls through the menu options and phonebook memory.

Display

Display Layout

The display comprises three areas.



Area	Description
First line	Displays various icons (see page 12).
Middle lines	Display messages, instructions and any information that you enter (number to be dialed, for example).
Last line	Shows the functions currently assigned to the two soft keys.

Icons

Icon	Description
	Shows the received signal strength. The greater the number of bars, the better the signal strength.
	Appears when a call is in progress.
	Appears when you are out of service area.
R	Appears when you are out of your home area and have registered with a different network (when travelling in other cities and countries, for example).
	Appears when a new text message has been received.
D	Appears when the phone is in digital mode.
	Appears when the silent mode is activated and when the Alert Type menu option (**3.3**) is set to **Vibration**.
	Shows the level of your battery. The more bars you see, the more power you have left.
	Appears when a new voice mail message has been received.
	Appears when you set the mute mode.
	Appears when you set an alarm.

Backlight

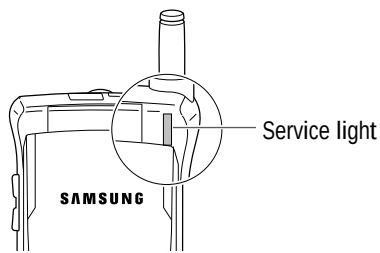
The display is illuminated by a backlight. When you press any key, the backlight illuminates. It turns off if no key is pressed within a given period of time, depending on the **Backlight** option set in the **Phone Settings** menu.

To specify the length of time for which the backlight is active, set the **Backlight** menu option (**4.2.1**); see page 64 for further details.

Service Light

The service light is in the top right-hand corner of the phone. It flashes to indicate phone status: When the the phone is ready for use, it flashes in green. When a call or message comes in, and you are recording a voice memo, it flashes in red.

To activate or deactivate use of the service light, set the **Service Light** menu option (**4.3**); see page 64 for further details.

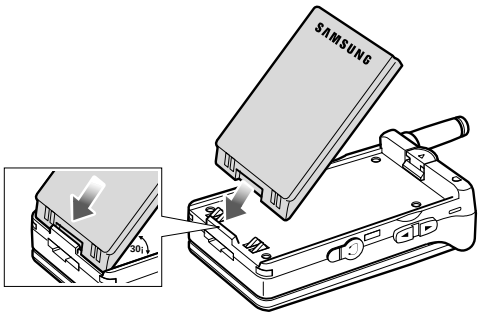


Getting Started

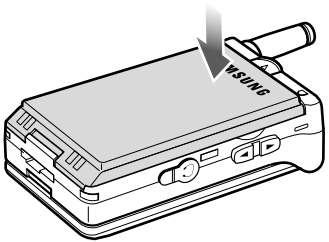
Installing the Battery

To Install the Battery

1. Insert the tabs on the base of the battery into the notches on the base of the phone, as shown.



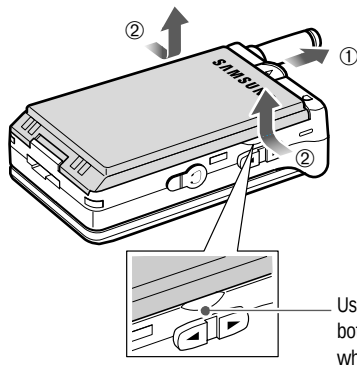
2. Push the battery down until it snaps into place,



To Remove the Battery

1. If necessary, switch off the phone by holding down the ☎/⏻ key until the the power off graphic begins to play.

2. Remove the battery. To do so:
   ① Push up and hold the catch above the battery on the back of the phone
   ② Lift the battery away



Use the grooves on both sides of the phone when you lift the battery away.

Charging a Battery

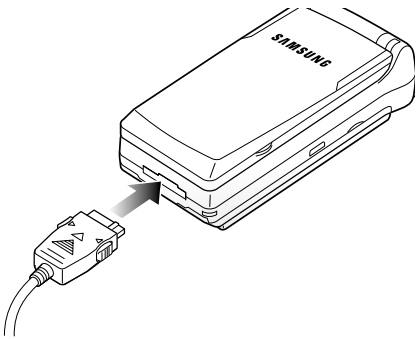
Your phone is powered by a rechargeable Li-Ion battery. A travel charger is provided with your phone. Use only approved batteries and chargers. Ask your local SAMSUNG dealer for further details.

The phone can be used while the battery is charging.

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.

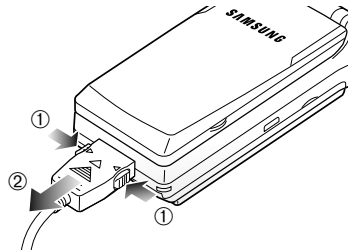
Charging a Battery by a Travel Charger

1. With the battery in position on the phone, connect the lead from the travel charger to the jack on the bottom of the phone.



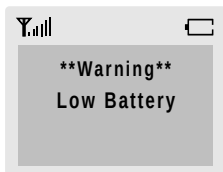
2. Connect the charger to a standard AC wall outlet.

3. When charging is finished (the lamp on the charger turns green), disconnect the charger from the power outlet and remove it from the phone by squeezing the two tabs on the lead (①) and unplug the lead(②).



Low Battery Indicator

When the battery is weak and only a few minutes of talk time remain, you will hear a warning tone and the following message will be repeated 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 / Off

1. Open the phone.
2. Hold down the ☎/⏻ key for more than one second to switch the phone on.
3. The phone searches for your network and when it finds it, the idle screen, illustrated below, is displayed.

Note: The display language is factory set to English. To change the language, use the **Language** menu option (**4.7**); for further details, refer to page 67.

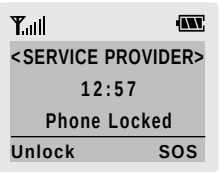
4. When you wish to switch the phone off, hold down the ☎/⏻ key for more than two seconds.

Locking Your Phone

You can lock your phone to protect the phone against unauthorized use. When the phone is locked, you cannot operate the phone until you enter the lock code.

To lock your phone:

Press and hold down the # key for more than two seconds in idle mode. “Phone Locked” appears on the idle screen.



To unlock the phone:

Press the **Unlock** soft key and enter the lock code, then press the **OK** soft key. Your phone’s lock code is preset at the factory to 00000000. For further details, see page 79.

Even when the phone is locked, you can place an SOS call to one of the emergency numbers stored in the SOS Call List (**6.4**). See page 81 for further details.

To place an SOS call, press the **SOS** soft key, select the desired emergency number using the ⌄ and ⌃ key and press the **Yes** soft key.

General Functions

Making a Call

When the idle screen is displayed, key in the area code and phone number and press the key.

Note: If you have set the **Auto Redial** menu option (**4.6**) to **ON** (see page 66) and the person called does not answer or is already on the phone, the number is redialed automatically up to ten times. If the network answers the call (by voice mail greeting, for example), the phone does not redial.

Correcting the Number

To clear...	Then...
The last digit displayed	Press the **C** key.
Any other digit in the number	Press the < or > key until the cursor is immediately to the right of the digit to be cleared. Press the **C** key. You can also insert a missing digit simply by pressing the appropriate key.
The whole display	Hold down the **C** key for more than one second.

Ending a Call

When you have finished your call, briefly press and release the /⏻ key.

Making a Call from the Phonebook

You can store the names and phone numbers called regularly in the phone memory, called the phonebook. You then simply select the required name to recall the associated number. For further details on the Phonebook feature, refer to page 30.

Redialing the Last Number

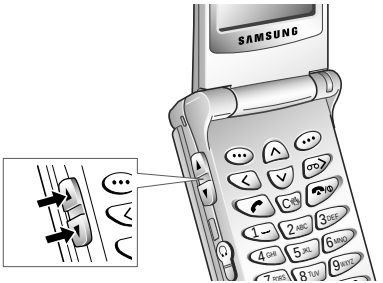
The phone stores the last 10 numbers dialed. To recall any of these numbers, proceed as follows.

1. If you have typed any characters on the display, clear the display by holding down the **C** key for more than one second.
2. Press the key to display the last number dialed.
3. Use the ∨ and ∧ keys to scroll through the numbers until the required number is displayed.
4.

To...	Then...
Dial the number displayed	Press the key.
Edit the number displayed	• Press the **Edit** soft key. • Change the number as required, referring to Correcting the Number for further details (see previous page).

Adjusting the Volume

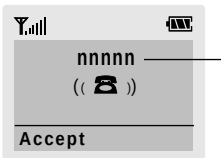
During a call, if you want to adjust the earpiece volume, use the ▲ and ▼ keys on the left side of the phone. Press ▲ to increase and ▼ to decrease the volume.



In idle mode with the phone open, you can adjust the key volume using the ▲ and ▼ keys .

Answering a Call

When somebody calls you, the phone rings and the phone animation plays in the middle of the screen.



Caller's name or number (if available)

If the caller can be identified, the caller's phone number (or name if stored in your phonebook) is displayed. If the caller cannot be identified, only the phone animation plays.

1. If necessary, open the phone. Press the key or the **Accept** soft key to answer the incoming call.

   Note: If the **Answer Mode** menu option (**4.5**) is set to **Open Answer**, you do not need to press any key. You can answer the call simply by opening the phone (see page 66).

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

   Note: You can answer a call while using the phonebook or menu features. The current operation will be interrupted.

Viewing Missed Calls

If you are unable to answer a call for any reason, you can find out who was calling you, provided that this service is available. In this way, you can call the person back, if necessary.

The number of missed calls is displayed on the idle screen immediately after the call was missed.

To view the missed call immediately, proceed as follows.

1. If the phone is closed, open it.

2. Press the **View** soft key.

   The number corresponding to the most recent missed call is displayed, if available.

3.

To...	**Then press the...**
Scroll through the missed calls	^ and v keys.
Call the number displayed	key.
Edit or delete a missed call number	**Options** soft key (see next page).

Editing a Missed Call Number

Note: If the caller's number associated with the missed call is not available, the **Edit** option is not displayed.

1. Press the **Options** soft key.
2. If necessary, press the ^ or v key to highlight the **Edit Number** option.
3. Press the **Select** soft key.
4. Change the number as required.
5.

To...	**Then press the...**
Call the number	key.
Store the number	**Save** soft key and enter the name and location required (for further details, refer to page 30).

Deleting a Missed Call

1. Press the **Options** soft key.
2. If necessary, press the ^ or v key to highlight the **Delete** option.
3. Press the **Select** soft key.

You can press the /⏻ key at any time to exit the Missed Call feature.

Note: You can access the Missed Call feature at any time by selecting the **Missed Calls** menu option (**1.1**); for further details, see page 50 .

Quick-switching to Silent Mode

You can quickly switch your phone to silent mode with a touch of a key. Press and hold the **C** key until the icon and **Silent Mode** appears in display. Your phone goes to silent mode immediately.

In silent mode, your phone switches the sound settings as follows:

alert type (3.3)	vibration + light
message tone (3.5)	vibration + light
error tone (3.6)	off
keypad tone	off

Press and hold the **C** key again to exit silent mode.

This feature is convenient when you are in a hurry to mute the phone sound, such as when in a theater.

Selecting Functions and Options

Using the Soft Keys

Your phone offers a set of functions that allow you to customize your phone. These functions are arranged in menus and sub-menus, accessed via the two soft keys marked •••. Each menu and sub-menu allows you to view and alter the settings of a particular function.

The roles of the soft keys vary according to the current context; the label on the bottom line of the display just above each key indicates its current role.

Example:

Press the left soft key to save the name entered.

Press the right soft key to select the text input mode (upper case, lower case and numeric characters).

Selecting Functions and Options

To view the various functions/options available and select the one required, proceed as follows.

1. Press the appropriate soft key.
2.

To...	Then press the...
Select the: • Function displayed or • Option highlighted	**Select** soft key or > key.
View the next function or highlight the next option in a list	∨ key or ▼ key on the left side of the phone.
Move back to the previous function or option in a list	∧ key or ▲ key on the left side of the phone.
Move back up one level in the structure	< key, ↩ soft key or **C** key.
Exit the structure without changing the settings	⏻/⏻ key.

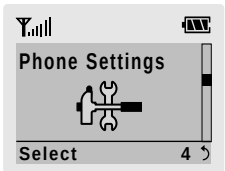
In some functions, you may be asked for a lock code or security code. Enter the required code and press the **OK** soft key.

Note: When you access a list of options, your phone highlights the current option. If, however, there are only two options, such as On/Off or Enable/Disable, your phone highlights the option that is not currently active, so that you can select it directly.

Example: Setting the Display Language

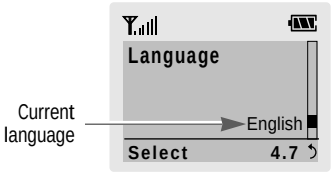
1. When the idle screen is displayed, press the **Menu** soft key to enter the menu facility.

2. Scroll through the menus until you reach the **Phone Settings** menu, by pressing the ⌄ and ⌃ keys.

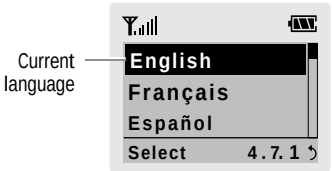


3. To select the **Phone Settings** menu, press the **Select** soft key or > key.

4. Scroll through the sub-menus until you reach the **Language** sub-menu, by pressing the ⌄ and ⌃ keys.



5. To view the languages available, press the **Select** soft key or the > key. The current setting is highlighted.



6. Scroll through the list of languages until the appropriate one is highlighted, by pressing the ⌄ and ⌃ keys.

7. Press the **Select** soft key or the > key to confirm your selection.

8. Press the **C** or < key twice to exit the menu structure.

Phonebook

The Phonebook allows you to store frequently used phone numbers and the associated names in your phone to make it easy for you to make a call without having to remember or enter the phone number. You can store up to 250 (1 ~ 250) numbers.

Storing a Phone Number with a Name

As soon as you start to enter a number, **Save** appears above the left soft key to allow you to store the number in the phonebook.

1. Key in the number to be stored.

   Note: If you make a mistake while entering a number, correct it using the **C** key. For further details, refer to page 20.

2. When you are sure that it is correct, press the **Save** soft key.

3. Select a label by pressing the ⌄ or ⌃ key, and press the **Save** soft key.

   The available labels are: **Home**, **Office**, **Mobile**, **Pager**, **Fax**, **E-mail** and **No label**.

4. Enter the corresponding name. For information on how to enter a name, see next page.

5. When you are satisfied, press the **OK** soft key. The phone now prompts you to select a location in the phone memory for you to save the number and name.

6. Enter your preferred location by pressing the number keys.

7. Press **OK** to store the name and number.

8. Press ☎/⏻ to return to the idle screen.

   If you want to make a call to the number, press the **Call** soft key. And if you want to access the Phonebook options, press the **Options** soft key.

Entering a Name

1.

To select...	**Then press the ⇧ soft key until...**
Upper case characters	**A** is displayed.
Lower case characters	**a** is displayed.
Numbers only	**1** is displayed.

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

Key	Characters in the Order Displayed	
	Upper Case	**Lower Case**
1	Space 1	Space 1
2	A B C 2	a b c 2
3	D E F 3	d e f 3
4	G H I 4	g h i 4
5	J K L 5	j k l 5
6	M N O 6	m n o 6
7	P Q R S 7	p q r s 7
8	T U V 8	† u v 8
9	W X Y Z	w x y z 9
0	0	0
*	* / + - = < > ( )	# . , : ; ! ? @ ‘
	% & - Φ Θ Ψ Π Σ Ξ	“ ¿ § £ $ ¥ ¤ ß Ω

3. Select the other letters in the same way.

Note: The cursor moves to the next available space when you press a different key. When entering the same letter twice (or a different letter on the same key), just wait for a few seconds for the cursor to move automatically, and then select the next letter.
You can also move the cursor by using the < and > keys.

Speed Dialing by Memory Location

Once you have stored phone numbers in the phone book memory, you can dial them easily whenever you want.

To speed dial the desired number:

For the 1-digit memory location number (1 through 9), press and hold down the appropriate digit.

For the 2 or more-digit memory location number (10 through 250), press first digit(s) briefly and hold down the last digit.

Note: If you enter the location number and then press the # key, your phone displays the details on the entry, such as name, number, location number and label. If you have stored more than one number for a name, scroll through the entry by pressing < and > keys.

Phonebook Options

When storing or viewing a number in the phonebook, **Options** appears above the right soft key to allow you to access the phonebook options, described in the following paragraphs.

Accessing the Options

To access the various phonebook options, proceed as follows.

1. Press the **Options** soft key. The first available option is highlighted.

2.

To...	**Then press the...**
Select the highlighted option	**Select** soft key or > key.
Highlight a different option	∨ or ∧ key one or more times until the required option is highlighted.

Add Number

This option allows you to place up to 4 numbers in one Phonebook location by labeling each of the numbers.
Note that you can only use each label one time for each stored name. For example, you can only have one number labeled Work for a name entry.

Change Name
This option allows you to change the name for the number. Clear the old name by pressing the **C** key and enter a new name. For information on entering a name, see page 31.

Change Number
This option allows you to change the number. Clear the old number by pressing the **C** key and enter a new number.

Change Type
This option allows you to change the label type of a stored number. Note that you can only use each label one time for each stored name. For example, you can only have one number labeled Work for a name entry.

Caller Group
This option allows you to include the number as a member of the desired caller group. For more details on Caller Group, see page 37.

Erase Number
This option allows you to erase a stored number. If you saved two numbers under a name, only the currently selected number will be erased. You are asked to confirm that you wish to erase the number by pressing the **Yes** soft key.

Erase Name
This option allows you to erase a name stored in the phonebook so that all numbers under the name are erased. You are asked to confirm that you wish to erase the name by pressing the **Yes** soft key.

Move
This option allows you to move a phonebook entry to another location. When prompted, enter the location number which you are moving the number to, and press the **OK** soft key.

Set Priority No.
This option allows you to set the selected number as a speed dial number for the entry if it has more than one number. Press the **Set** soft key.

Searching for and Dialing a Number in the Phonebook

1. When the idle screen is displayed, press the **Names** soft key. You are asked to enter a name.

2. Enter the starting characters of the name that you want to find and press the **Search** soft key.

   Note: You can also scroll through all phonebook entries by pressing the **Search** soft key directly.

   The phonebook entries are listed, starting with the first entry matching your input. This entry is also highlighted.

3.

To...	Then press the...
View the highlighted entry	**View** soft key.
Select a different entry	∨ or ∧ key one or more times until the required entry is highlighted.
Look for a name starting with a different letter	Key labeled with the required letter.

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

Name Options

While entering a name for searching, you can see the **Option** soft key with the **Search** soft key. This key allows you to enter the various options.

Accessing the Options

To access the various phonebook options, proceed as follows.

1. While entering a name, press the **Options** soft key. The first available option is highlighted.

2.

To...	Then press the...
Select the highlighted option	**Select** soft key or > key.
Highlight a different option	∨ or ∧ key one or more times until the required option is highlighted.

New Entry

This option allows you to create a new entry in the Phonebook. For details on storing a phone number, see page 30.

Caller Group

You can set the phone to ring in a specific way and display a preselected graphic icon when a particular person calls you. To do so, you must:

- Define your caller groups
- Assign the numbers in the phonebook to the appropriate group

Defining a caller group

Select the group to be defined and set the appropriate options. The following options are available.

Call ring tone: allows you to select the ring tone to be used when you receive a voice phone call from a person in the group.

SMS tone: allows you to select the ring tone to be used when you receive a text message from a person in the group.

Graphic: allows you to select the graphic icon to be displayed when you receive a call from a person in the group.

Group Name: allows you to assign a name to the group; for further details on how to enter characters, refer to page 31.

Assigning numbers to a group

1. View the required number in the phonebook.
2. Press the **Options** soft key.
3. Select the **Caller Group** option.
4. Select the required group.

To remove a number from a group, select the **No Group** option.

Own Number

This function is a memory aid, which you can use to check your own phone number if you need to do so.

Memory Status

You can check how many names and numbers are stored in the Phonebook.

In-Call Options

Your phone provides a number of control functions that you can use during a call.

Putting a Call on Hold

You can make another call while you have a call in progress if this service is supported by the network. Of these two calls, one is active and the other is on hold and you can swap between the calls.

Note: The procedure to put a call on hold may vary depending on the service provider. For further details, contact your service provider.

1. Key in the phone number that you wish to dial or look it up in the Phonebook.

2. Press the key to dial the second call. The first call is automatically put on hold.

To swap between the two calls, simply press the **Swap** soft key.

When you have finished, end each call normally by pressing the /⏻ key.

Switching the Microphone Off (Mute)

You can temporarily 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.

To switch the microphone off temporarily, press the **Mute** soft key.

The other party can no longer hear you. To indicate this, the mute icon ( ) displays.

To switch the microphone back on, press the **Unmute** soft key.

The other party can hear you again. The mute icon disappears.

Muting / Sending Key Tones

These options allow you to turn the key tones off or on. If the **Mute keys** option is selected, your phone does not transmit the key tones. It allows you to press keys without hearing annoying key tones during a call.

Note: To communicate with answering machines or computerized telephony systems, the **Send keys** option must be selected.

Searching for a Number in the Phonebook

You can search for a number in the phonebook during a call.

1. Press the **Options** soft key.
2. Press the ⌄ key to highlight the **Phonebook** option.
3. Press the **OK** soft key.
   The phonebook entries are listed.
4. Enter the name that you wish to find.

   If you enter the start of the name, the phonebook entries are listed, starting with the first entry matching your input. The entry is also highlighted.
5. To view the highlighted entry, press the **View** soft key.

For a more detailed description of the Phonebook feature, refer to page 30.

Making a Calling Card Call

When you make a call using the prepaid calling card, if you save the calling card information in the Calling Card menu option (**4.9**), you can send automatically the code number required for the service without entering them manually each time you are prompted.

For further details on making a calling card call, refer page 68.

Using the SMS Service

If you receive an SMS (Short Message Service) message during a call, the message icon ( ) lights in the display. The SMS Service option enables you to use this feature.

Read Messages: allows you to read the messages that you have received.

Write Messages: allows you to write a message.

For further details on the SMS service, refer to page 52.

Answering a Second Call

You can answer an incoming call while you have a call in progress, if this service is supported by the network and you have set the **Call Waiting** menu option (**7.2**) to **Activate** (see page 83). You will be notified of an incoming call by a call waiting tone.

To answer a call while you have a call in progress, proceed as follows.

1. Press the key to answer the incoming call. The first call is automatically put on hold.
2. To switch between the two calls, press the key.
3. To end the current call, press the /⏻ key.

Making a Conference Call

You can conduct conference calls with two separate parties at the same time. A conference call is a network service. For more information, contact your service provider.

Note: The procedure may vary depending on your service provider. Contact the service provider for details.

1. Call the first participant in the normal way.
2. Call the second participant in the normal way.
3. When the second person answer, press the key to merge the calls.

   Note: The first call remains held until you press the key.
4. End the conference call by closing the phone or pressing the /⏻ key.

Using the Menus

The phone offers a range of functions that allows you to customize 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 a Menu Function by Scrolling

1. In idle mode, press the **Menu** soft key to access the menu facility. Scroll with the ^ or v key (or the ▲ or ▼ key on the left side of the phone) to reach the desired main menu, e.g. **Phone Settings**. Press the **Select** soft key to enter the menu.
2. If the menu contains any submenus: for example, **Language**, find the one you want by scrolling with the ^ or v key (or the ▲ or ▼ key on the left side of the phone). Press the **Select** soft key to enter the submenu.

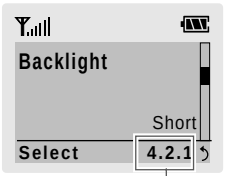
   If the menu you selected has submenus, repeat this step.
3. Scroll with the ^ or v key (or the ▲ or ▼ key on the left side of the phone) to find the setting of your choice. Press the **OK** soft key to confirm the chosen setting.

Notes:

- You can return the previous menu level by pressing the **C** or < key.
- You can exit the menu without changing the menu settings by pressing the ☎/ⓘ key.

Accessing a Menu Function by Using its Shortcut

The menu items (menu, submenus and setting options) are numbered and can be accessed quickly by using their shortcut number. The shortcut number is shown in the bottom right next to the ↩ soft key on the display.



1. In idle mode, press the **Menu** soft key.
2. Within three seconds, key in the first digit of the shortcut number. Repeat this for each digit of the shortcut number.

Example: Setting the **Backlight** option to **Short**

Press the **Menu** soft key, and key in **4**, **2**, **1**, **2**.

Menu for entering the menu, **4** for **Phone Settings**, **2** for **LCD Control**, **1** for **Backlight**, **2** for **Short**.

Note: The numbers assigned to each menu function are indicated on the list on page 46.

List of Menu Functions

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

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

1. Call Records

Page 50

- 1.1 Missed Calls
- 1.2 Incoming Calls
- 1.3 Outgoing Calls
- 1.4 Call Time
  - 1.4.1 Last Call Time
  - 1.4.2 Total Call Time
  - 1.4.3 Display Call Time
  - 1.4.4 Reset Timers

2. Messages

Page 52

- 2.1 Voice Mail
  - 2.1.1 Connect to Voice Server
  - 2.1.2 Voice Server Number
- 2.2 Read Messages
  - 2.2.1 New Inbox
  - 2.2.2 Old Inbox
  - 2.2.3 Outbox
- 2.3 Write Messages
- 2.4 Preset Message List
- 2.5 Setup

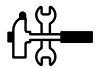
3. Sound Settings

Page 58

- 3.1 Ring Volume
- 3.2 Ring Tone
- 3.3 Alert Type
- 3.4 Tone Length
- 3.5 Message Tone
- 3.6 Error Tone
- 3.7 Minute Minder
- 3.8 Connect Tone
- 3.9 Melody Composer

4. Phone Settings

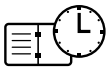
Page 64



- 4.1 Greeting Message
- 4.2 LCD Control
  - 4.2.1 Back Light
  - 4.2.2 Contrast
- 4.3 Service Light
- 4.4 Auto Redial
- 4.5 Answer Mode
- 4.6 Slide Menu
- 4.7 Language
- 4.8 Reset Setting
- 4.9 ShortCut
- 4.10 Calling Cards

5. Organizer

Page 71



- 5.1 Calendar
- 5.2 To Do List
- 5.3 Time & Date
  - 5.3.1 Set Time
  - 5.3.2 Set Date
  - 5.3.3 World Time
  - 5.3.4 Format
- 5.4 Alarm
  - 5.4.1 Once Alarm
  - 5.4.2 Daily Alarm
  - 5.4.3 Weekly Alarm
  - 5.4.4 Remove Alarm
- 5.5 Calculator

6. Security

Page 79

- 6.1 Change Lock code
- 6.2 Change Security code
- 6.3 Call Restriction
  - 6.3.1 restrict all outgoing call
  - 6.3.2 restrict all incoming call
  - 6.3.3 restrict outgoing call
- 6.4 SOS Call List

7. Network Services

Page 82

- 7.1 Call Diverting*
  - 7.1.1 Divert Always
  - 7.1.2 Busy
  - 7.1.3 No Reply
  - 7.1.4 Unreachable
  - 7.1.5 Cancel All
- 7.2 Call Waiting*
- 7.3 Network Selection
  - 7.3.1 Automatic
  - 7.3.2 Manual
  - 7.3.3 New Search
- 7.4 Voice Privacy
- 7.5 NAM Selection
- 7.6 Set Service Code
  - 7.6.1 Call Diverting
  - 7.6.2 Call Waiting

* : available when you set the service code in the **Set Service Code** menu option (**7.6**).

8. Games

Page 87

- 8.1 Casino
- 8.2 Roulette
- 8.3 Black Jack
- 8.4 Sniper
- 8.5 Snake
- 8.6 Mole
- 8.7 Othello

Call Records

Via this menu, you can view the following phone calls:

- Missed
- Incoming
- Outgoing

The number and name (if available) are displayed, together with the date and time at which the call was made.

Note: Your phone can keep up to ten numbers in each list.

Missed Calls *Menu 1.1*

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

- Edit the number (if available) and dial it or save it in the phonebook
- Delete the call from the list

Incoming Calls *Menu 1.2*

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

- Edit the number (if available) and dial it or save it in the phonebook
- Delete the call from the list

Outgoing Calls *Menu 1.3*

This option lets you view the last 10 numbers dialed. You can also:

- Delete the number
- Edit the number and save it in the phonebook

Call Time *Menu 1.4*

Your phone records the amount of call time used. Using this option, you can view the timers for calls made and received. The following options are available.

Last Call Time: shows the duration of the last call.

Total Call Time: shows the total duration of all calls made from or received to your phone since the timer was last reset.

Display Call Time: allows you to set the phone to display the call time when the call is made or received. Select **Enable** to display the call time and **Disable** not to display it.

Reset Timers: allows you to reset the call timers; you must first enter the phone's lock code (see page 79) and then press the **OK** soft key.

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.

Messages

The SMS (Short Message Service) function is a network service and may not be supported by your network. Messages can be sent by text, E-mail and paging messaging systems, provided that these services are supported by your network.

When the Message icon ✉ appears, you have received new text messages. If the message memory is full, an error message is displayed and you cannot receive any new messages. Use the Delete option in the Read Messages menu (2.2) to delete obsolete messages.

Voice Mail *Menu 2.1*

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

Note: Voice Mail is a network feature. Contact your service provider for more information. Depending on the service provider, you may be charged for accessing the voice server.

Connect to Voice Server: Before using this feature, you must enter the voice server number obtained from your service provider (see menu option **2.1.2**). You can then select this option and simply press the **Save** soft key to listen to your messages.

Note: You can connect to the Voice Sever of the service provider directly by pressing and holding down the **0** key in idle mode .

Voice Server Number: allows you to change the voice mail server number.

To...	Then press the...
Enter the server number	Corresponding numeric keys.
Correct a digit	**C** key.
Save the entered number	**OK** soft key

Read Messages *Menu 2.2*

Three message boxes are available:

New Inbox: used to store the messages that you have received but not read.

Old Inbox: used to store the messages that you have received and read.

Outbox: used to store the messages that you have already sent or will send.

Select the required box. The header of the first message in the box is displayed:

- Message number
- Message status: New, Old, Not Sent, Sent
- Date and time at which the message was received (inbox only)

To view this message, press the **View** soft key. The screen shows the:

- Sender's phone number (if sent with the message) or recipient's phone number
- Message text

To scroll through the message, press the ⌄ and ⌃ keys.

You can choose the following options, by pressing the **Options** soft key.

Delete: allows you to delete obsolete messages.

Text Reply: allows you to reply by sending a text message.

Call Back: allows you to call the sender back.

Cut Number: allows you to extract a number from the message text, so that you can call the number or save it in the phonebook.

Send: allows you to send a message that you have received or saved. You can:

- Send the message
- Save and send the message
- Save but not send the message

Edit Message: allows you to edit a message.

Note: The available options may vary, depending on the message status (New/Old, Not Sent or Sent for example).

Write Messages *Menu 2.3*

Via this menu, you can write text messages of up to 160 alphanumeric characters. For further information on how to enter the characters in your message, refer to page 31.

Note: While writing a message, pressing the # key inserts a carriage return.

After you complete the message and press the **OK** key, you can select the following options.

Send Only: Enter the destination and select a setting group in which you set up default information on the SMS feature via the **Setup** menu (see the following page).

Save and Send: allows you to save a copy of the message and then send the message to the required destination. You are also required to select a setting group. You can read the message in your outbox using the **Read Messages** option. **Sent** is displayed when you read the message to indicate the message status.

Save Only: allows you to save the message so that it can be sent later. When you read the message in your outbox, **Not sent** is displayed.

Preset Message List *Menu 2.4*

Using this menu, you can preset up to five messages that you use most frequently. This menu shows the preset message list. Scroll through the list using the ⌄ and ⌃ keys. When the required message number appears, press the **Options** soft key.

Edit: allows you to write a new message or edit the selected preset message.

Note: For further information on how to enter the characters in your message, refer to page 31.

Send Message: allows you to recall the selected message. Once you have completed the message, you can send, save and send, or simply save it.

Delete: allows you to delete the selected message.

Setup *Menu 2.5*

Via this menu, you can set up default information for the SMS feature. A setting group is a collection of settings required to send messages. Five setting groups are available.

Select the desired number using the ⌄ and ⌃ key, press the **Select** soft key and then set up the options for the group. The available options are:

Setting Name: allows you to give a name to the setting group currently being defined.

Callback Number: allows you to set the phone number to which the recipient of your SMS message may send you a reply message via your message center, if the service is provided by the network.

Manual Ack: allows you to activate or deactivate the manual acknowledgement function. When this function is activated, the recipient can send you an answer to your message by one touch of a number key.

Delivery Ack: allows you to activate or deactivate the delivery acknowledgement function. When this function is activated, the network informs you whether your message has been read or not by the recipient.

Privacy: allows you to set the restriction feature. When this option is set to **Restricted**, the recipient must have the password which you have set when writing a message to read the message. If you do not want to use the feature, select **Not Restricted**.

Urgency: allows you to set the urgency status of the messages. **Bulk**, **Normal**, **Urgent**, and **Very Urgent** are available.

Type: allows you to set the type of messages. **Text** and **E-mail** are available.

Sound Settings

You can use the Sound Settings feature to customize various settings, such as the:

- Ringing tone or melody, volume and type
- Sounds made when you press a key, make an error or receive a message

Ring Volume *Menu 3.1*

This option allows you to adjust the ringing volume to one of five levels.

Press the ^ key to increase and the v key to decrease the volume. The greater the number of bars, the greater the volume.

Note: You can also use the ▲ and ▼ keys on the left side of the phone to adjust the volume.

Ring Tone *Menu 3.2*

This option allows you to select the required ringing tone. You can choose between 20 different tones. Each time you select a tone, it is played for a few seconds. Tones 19 and 20 correspond to the melodies that you can compose, using the **Melody Composer** menu option (**3.9**).

Alert Type *Menu 3.3*

This option allows you to indicate how you are to be informed of any incoming calls. The following options are available.

Light only: only the backlight is switched on; the phone neither rings nor vibrates.

Melody: the phone rings using the ringing tone selected via the **Ring Tone** menu option (**3.2**).

Vibration: the phone vibrates but does not ring.

Note: In idle mode, you can set the phone to vibrate only (silent mode) or to start ringing again, simply by pressing the **C** key (for further details, see page 25).

Vibra+Melody: the phone first vibrates three times and then starts ringing.

Step Melody: the phone rings using the selected ringing tone, but the volume becomes louder and louder from the minimum. Reaching to the maximum, the phone restarts from the minimum.

Tone Length *Menu 3.4*

The tone length setting enables you to select **short** or **long** DTMF (dual-tone multi-frequency) tones. DTMF tones are what your phone transmits 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. If the service is digital (which most are these days), short DTMF will almost always work. However, some new systems and almost all older (analog) system require you to use long DTMF tones.

Message Tone *Menu 3.5*

This option allows you to select how the phone informs you that a new message has been received.

The following options are available.

Light Only: the service light in the top right-hand corner of the phone flashes.

Single Beep: the phone beeps once.

SMS Tone1~10: the phone uses an SMS tone. You are provided with ten SMS tones.

Error Tone *Menu 3.6*

This option allows you to select how the phone informs you that you have made a mistake.

The following options are available.

OFF: the phone does not beep.

ON: the phone beeps to indicate an invalid entry.

Minute Minder *Menu 3.7*

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

The following options are available.

OFF: the phone does not beep.

ON: the phone beeps every minute.

Connect Tone *Menu 3.8*

You can set your phone to beep when your call is connected to the system.

The following options are available.

OFF: the phone does not beep.

ON: the phone beeps when your call is connected.

Melody Composer *Menu 3.9*

This option allows you to compose your own melody to be used as the ring tone.
Three octaves are available. A maximum of 100 notes can be entered. You can adjust the length of the notes and add rests, as required.

Composing a Melody

You can compose two melodies. When you access the menu, the names of any melodies created are displayed. Otherwise, **Melody 1** and **Melody 2** appear. Select the melody that you wish to create or edit.

To...	Then press the...
Compose a melody	**Edit** soft key.
Insert a note	**Next** soft key.
Move a note a semitone up	^ key.
Move a note a semitone down	v key.
Change the length of a note	< key one or more times until the note is of the required length.
Delete a note	**C** key.
Enter a rest	> key repeatedly for the required length of time.
Listen to your melody	**Listen** soft key.
Modify your melody	**Modify** soft key.

Saving a Melody

When you are satisfied with your melody, you can save it and indicate that you wish to use it as the ring tone.

1. Press the **Save** soft key.

2. Enter a title for the melody.

   Note: For further details on how to enter characters, refer to page 31.

   You are asked if the melody is to be set as the ring tone.

3. To use the melody as the ring tone, press the **Yes** soft key.
   The melody is saved and is played each time your phone rings. You can also select the melodies composed via the **Ring Tone** menu option (**3.2**); they are tones 19 and 20 respectively.

   Otherwise, press the **No** soft key. The melody is saved only.

Phone Settings

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

Greeting Message *Menu 4.1*

This option allows you to set a greeting message to be displayed briefly when the phone is switched on. The current message is displayed.

To...	Then press the...
Clear the existing message	**C** key and hold it down until the message is cleared.
Enter a new message	Appropriate alphanumeric keys.

For further details on how to enter characters, refer to page 31.

LCD Control *Menu 4.2*

Back Light

You can select whether or not the phone uses the backlight. A marginal increase in standby/talk time can be achieved by turning the backlight off.

The following options are available.

OFF: the backlight is not used.

Short: the backlight comes on when you press a key or receive a call and switches off 10 seconds after the last key is pressed.

Long: the backlight comes on when you press a key or receive a call and switches off 20 seconds after the last key is pressed.

Contrast

This option allows you to adjust the contrast of the LCD screen by pressing the ⌄ and ⌃ keys. Each time you press the key, you can see the LCD screen changing according to the current value.

Service Light *Menu 4.3*

This option allows you to select whether or not the service light in the top right-hand corner of the phone is used.

The following options are available.

OFF: the service light is not used.

ON: the service light flashes when the phone is ready for use.

Auto Redial *Menu 4.4*

With the Auto Redial function, the phone makes up to ten attempts to redial a phone number after an unsuccessful call.

Note: The interval between two call attempts varies.

The following options are available.

OFF: the number is not redialed.

ON: the number is redialed automatically.

Answer Mode *Menu 4.5*

This option allows you to select how incoming calls are to be answered.

The following options are available.

Open Answer: to answer a call, you can simply open the phone. With the phone open, pressing the volume keys answers the call.

Any Key Answer: to answer a call, you can press any key except the ☎/⏻ key. Pressing the ☎/⏻ key mutes the ringer.

Send Key Answer: to answer a call, you must press the ☎ key. Pressing the ☎/⏻ key mutes the ringer.

Slide Menu *Menu 4.6*

With the **Slide Menu** feature, you can determine how the menus are displayed. If the feature is enabled, the menus seem to slide into position from the top, bottom, left or right, as applicable.

Language *Menu 4.7*

You can select a display language. The available language options are: **English**, **Español**, and **Português**.

Reset Settings *Menu 4.8*

You can easily reset your phone to its default configuration.

Enter the 8-digit phone lock code and press the **OK** soft key. The phone resets all settings to default.

Note: The lock code is preset to 00000000. To change this code, refer to page 79.

Calling Cards *Menu 4.9*

When you use a calling card for long distance calls, you must send the service code and the card number to the service system. Using this menu, you can save these calling card information to send them automatically when you make calling card calls. You can store up to five calling cards.

Enter 8-digit phone lock code and press the **OK** soft key to access the Calling Card menu.

Saving Calling Card Information

1. Scroll to the desired calling card using the ⌄ and ⌃ keys and press the **Select** soft key.
2. If you want to set the card name, press the **Select** soft key. Enter the name as needed. For further details on entering a name, see page 31.
3. When entering name is finished, press the **OK** soft key. The name is saved.
4. Press the ⌄ key to select the Card Number menu and press the **Select** soft key.
5. Enter the card number (and/or PIN if required) as listed on the back of the calling card.

   To enter a pause, "P" before the second number, press and hold the * key. the number after "P" will be sent only by pressing the ↶ key when you make a calling call.

   Note: The order of the numbers which you must enter may vary depending on the dialing sequence your card uses.

6. When entering the number is finished, press the **OK** soft key.
7. To return to idle mode, press the ⏻/⊙ key.

Selecting a Calling Card

1. Scroll to the desired calling card using the ⌄ and ⌃ keys and press the **Select** soft key.
2. Select **Set Default** using the ⌄ and ⌃ keys and press the **Select** soft key.
3. The display shows the number saved for the calling card. If you are satisfied, press the **Set** soft key.
4. To return to idle mode, press the ⏻/⊙ key.

Making Calling Card Calls

1. Make a call to the calling card service system.
2. When you are connected, press the **Options** soft key and select **Card Call** using the ⌄ and ⌃ keys.
3. Press the **OK** soft key.
4. When you hear the tone from the calling card service, press the ↶ key to transmit the card numbers.
5. Dial the number of the designated phone.

Note: The procedure may not apply to all calling cards. Please look at the back of your calling card or contact your phone company for instructions.

ShortCut *Menu 4.10*

The four navigation keys can also be used as shortcut keys. When held down in idle mode, they allow you to access specific menu options directly.

Using the **ShortCut** menu option (**5.6**), the following menu options can be assigned to the shortcut keys:

- **None**
- **Calendar** (menu option **5.1**)
- **Calculator** (menu option **5.5**)
- **Messages** (menu option **2**)
- **Sound Settings** (menu option **3**)
- **Games** (menu option **8**)
- **To Do List** (menu option **5.2**)
- **Phonebook**
- **New Inbox** (menu option **2.2.1**)

1. Select the key to be used as a shortcut key:
   - Key up (^)
   - Key down (v)
   - Key left (<)

2. Select the menu option to be assigned to the key.

Note: To deactivate a shortcut key, select the **None** option.

Organizer

The Organizer feature enables you to:
- View the calendar and organize your schedule
- Define a list of things to do
- Set the current date and time
- Set the alarm so that the phone rings at a specific time (to remind you of an appointment for example)
- Use the phone as a calculator
- Assign functions to the navigation keys so that they can be used as shortcuts giving direct access to your favorite menus

Calendar *Menu 5.1*

With the Calendar feature, you can:
- Consult the calendar
- Write memos to keep track of your schedule and trigger an alarm if necessary

Consulting the Calendar

When you select the **Calendar** menu option (**5.1**), the calendar is displayed. The following options are available when you press the **Options** soft key.

Search all: displays all memos set, regardless of the day and starting with the oldest. To scroll through the memos, press the v and ^ keys.

Delete all: allows you to delete all memos. You are asked to confirm your action.

Go to date: allows you to jump to a specific date.

Writing a Memo

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

1. Select the required date in the calendar, using the navigation keys.

   Note: To skip to the previous or next month, press the ▲ or ▼ key on the left side of the phone.

2. Press the **Select** soft key.
   An empty memo screen is displayed to allow you to enter your memo.

3. Enter your memo and then press the **OK** soft key.

   Note: For further details on how to enter characters, refer to page 31.

   You are asked if you wish to set the alarm.

4. If you want the alarm to ring on the chosen day, press the **Yes** soft key.
   Otherwise, press the **No** soft key.

5. If you pressed **Yes**, set the time for the alarm and press **OK**.
   A check mark is displayed in front of the date in the calendar to indicate that a memo exists.

Editing a Memo

If you select a day for which a memo already exists, you can press the **Edit** soft key to edit the memo displayed.

Note: For further details on how to enter characters, refer to page 31.

Once you have finished editing the memo, press the **OK** soft key. The following options are then available when you press the **Options** soft key.

Alarm: allows you to set the alarm to ring on the chosen day.

Erase: allows you to delete the memo.

Copy to: allows you to copy the memo to another date.

Move to: allows you to change the date and time of the memo.

To Do List *Menu 5.2*

This feature allows you to:
- Draw up a list of tasks to be done
- Assign a priority and deadline to each task
- Sort the tasks by priority and status mark (□ for tasks to be done, ✓ for completed tasks)

Creating the To Do List

To create the To Do List, proceed as follows.

1. Press the **New** soft key.

2. Enter the first task.

   Note: You can enter up to 48 characters. For further details on how to enter characters, see page 31.

3. Press the **OK** soft key.

4. Select high or low priority using the ⌄ or ⌃ keys and the **Select** soft key.
5. Enter your deadline.
6. Press the **OK** soft key.

Editing the To Do List

If tasks are already defined in the To Do List when you select the **To Do List** menu option (**5.2**), the current contents are displayed with the associated priority and status mark. The following options are available.

To...	Then...
View the details for a specific task	• Highlight the task. • Press the **View** soft key.
Change the status of a specific task (☐ or ✓)	• Highlight the task. • Press the * key to mark the task as completed as of the current date and time. or • Highlight the task. • Press the **Options** soft key. • Select the **Mark** option. • Select the appropriate status.
Create a new task	• Press the **Options** soft key. • Select the **New** option. • Enter the text, priority and deadline for the task.
Edit an existing task	• Highlight the task. • Press the **Options** soft key. • Select the **Edit** option. • Change the text, priority and deadline for the task.

To...	Then...
Sort the existing tasks by priority or status	• Press the **Options** soft key. • Select the **Sort** option. • Select the sort criterion (high, low, done, undo).
Copy a task	• Highlight the task. • Press the **Options** soft key. • Select the **Copy** option. • Change the text, priority and deadline for the task as required.
Delete a task	• Highlight the task. • Press the **Options** soft key. • Select the **Delete** option.
Delete all tasks	• Press the **Options** soft key. • Select the **Delete all** option. • Confirm the deletion by pressing **OK**.

Time & Date *Menu 5.3*

This option allows you to change the current time and date displayed. You can also check the current time for Greenwich Mean Time (GMT) and 21 major cities around the world.

Set Time: allows you to enter the current time. You can choose the time format via the **Format** menu option **(5.3.4)**.

Note: Before setting the time, you must specify your time zone, via the **World Time** menu option (**5.3.3**).

Set Date: allows you to enter the day, month and year. You can change the date format via the **Format** menu option (**5.3.4**).

World Time: allows you to check the current time for Greenwich Mean Time (GMT) and 21 major cities around the world, using the ⌄ and ⌃ keys.

The screen shows the:

- City name
- Current date and time
- Time difference between the selected city and your city if you have set the local time (see below for further details) or GMT (by default)

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

1. Select the city corresponding to your time zone by pressing the ⌄ or ⌃ key one or more times. The local date and time are displayed.
2. Press the **Set** soft key.

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

Time format: 24 hours
12 hours

Date format: YYYY/MM/DD (year/month/day)
DD/MM/YYYY (day/month/year)
MM/DD/YYYY (month/day/year)

Alarm

Menu 5.4

You can set the alarm to ring at a specific time.

Note: To meet FAA safety guidelines, the alarm does not function when the phone is off.

In the **Alarm** menu, the following frequency options are available.

Once Alarm: the alarm rings only once and is then deactivated.

Daily Alarm: the alarm rings every day at the same time.

Weekly Alarm: the alarm rings every week on the same day and at the same time.

To set the alarm, proceed as follows.

1. Choose the alarm frequency option.
2. Enter the required time and day of the week (if applicable).

Once you have set the alarm, you can see the alarm icon next to the current time.

To stop the alarm when it rings, open the phone and press the **Exit** soft key.

Remove Alarm: deactivates the alarm.

Calculator *Menu 5.5*

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

1. Enter the first number using the numeric keys.

2. Press the right soft key until the required arithmetic symbol appears: + (add), - (subtract), * (multiply), / (divide).

3. Enter the second number.

4. Repeat Steps 1 to 3 as many times as required.

   Notes:
   - To erase any mistakes and clear the display, press the **C** key.
   - To include a decimal point or a bracket, press the left soft key until the required symbol is displayed.

5. To calculate the result, press the key.

Security

The Security feature enables you to restrict the use of your phone to:
- The people of your choice
- The types of calls of your choice

Change Lock code *Menu 6.1*

The lock code is a password for locking or unlocking the phone. This feature allows you to change your current lock code to a new one. You must enter the current code before you can specify a new one.

The lock code is factory set to 00000000. Once you have entered a new lock code, you are asked to confirm it by entering it again.

Change Security code *Menu 6.2*

The security code is used for restriction of the use of your phone. This menu allows you to change your current security code to a new one. You must enter the current code before you can specify a new one.

The security code is factory set to 00000000. Once you have entered a new password, you are asked to confirm it by entering it again.

Call Restriction

Menu 6.3

The call restriction feature allows you to restrict your calls.

Call restriction can be set up in the following ways.

Restrict all outgoing call: calls cannot be made.

Restrict all Incoming call: calls cannot be received.

Restrict outgoing call: calls to the phone numbers which you have specified cannot be made. You can set up to 10 phone numbers.

To restrict the all outgoing or all incoming calls, proceed as follows.

1. Select **Restrict all outgoing call** or **Restrict all incoming call** by pressing the ⌄ or ⌃ key until the appropriate option is highlighted and then press **Select**.
2. Select **Enable** to the feature on, and press **Select**.

   If you want to set the restriction off, select **Disable**.
3. Enter your security code and press **OK.**

To set the phone numbers to be restricted, proceed as follows.

1. Select **Restrict outgoing call** by pressing the ⌄ or ⌃ key, and then press **Select** .

2. Enter your security code and press **OK**.
3. Select the location by pressing the ⌄ or ⌃ key and press **Options**.
4. Select **Edit**, then the **OK** soft key. If a number has already been saved, this option allows you to edit the number.

   If you want to erase a saved number, select **Erase**. When a confirmation displays, press **Yes**.
5. Enter the phone number and press **OK**. The phone number is saved and now you cannot make a call to the number.

SOS Call List

Menu 6.4

Your phone provides three emergency numbers for SOS calls programmed by the service provider. Three numbers can be manually dialed at any time even when the phone is locked.

To make an SOS call when the phone is locked, press the **SOS** soft key, select the desired number saved in the SOS call list, and then press the **Call** soft key.

Network Services

These menu functions are network services. Please contact your service provider to check their availability and subscribe to them, if you so wish.

Call Diverting *Menu 7.1*

This network service enables incoming calls to be rerouted to the number that you specify.

Example: You may wish to divert your business calls to a colleague while you are on holiday.

Note: For using the Call Diverting service, you must set the service code for it. Depending on the Set Service Code setting, this menu may not appear For details, see page 86.

Call diverting can be set up in the following ways.

- **Divert Always:** all calls are diverted.
- **Busy:** calls are diverted if you are already making another call.
- **No Reply:** calls are diverted if you do not answer the phone.
- **Unreachable:** calls are diverted if you are not in an area covered by your service provider.
- **Cancel All:** all call diverting options are cancelled.

The following options are available.

Activate: activates the Call Diverting feature.

Cancel: deactivates the Call Diverting feature.

You can deactivate all call diverting settings by selecting the **Cancel All** option.

Call Waiting *Menu 7.2*

This network service enables you to be informed when someone is trying to reach you during another call.

Note: For using the Call Waiting service, you must set the service code for it. Depending on the Set Service Code setting, this menu may not appear. For details, see page 86.

The following options are available.

Activate: activates the Call Waiting feature. You can answer an incoming call while you have a call in progress. See page 42 for answering a waiting call.

Cancel: deactivates the Call Waiting feature.

Network Selection *Menu 7.3*

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

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

To indicate whether the network is to be selected automatically or manually when roaming, proceed as follows.

1. When **Network Selection** is displayed, press the **Select** soft key.

2. Press the ⌄ or ⌃ key until the appropriate option is highlighted and then press the **OK** soft key.

   - If you select **Automatic**, your phone automatically searches for a network available to you and chooses the appropriate one. Every time you switch your phone on, this menu resets to **Automatic**.

   - If you select **Manual**, your phone searches for available networks, then displays them. Press the ⌄ or ⌃ key until the preferred network is highlighted and then press the **OK** soft key.

   - If you select **New Search**, your phone begins a new search for new Private and Residential systems. When finding the best new system, the phone displays it. Then you can confirm by pressing **Select** or start another search by pressing **Next**.

3. You are connected to that network.

Voice Privacy *Menu 7.4*

Voice Privacy encrypts the voice channel so that people cannot eavesdrop on your conversation. If you turn this feature on and voice privacy becomes inactive for any reason your phone displays “Voice privacy not active” and beeps. This feature is used only in digital networks.

The following options are available.

Activate: turns this feature on.

Deactivate: turns this feature off.

Note: This feature may not be available in all areas. Contact your service provider for details and availability.

NAM Selection *Menu 7.5*

The service provider programs your phone with the phone number and system information when your phone is first activated. This is called a Number Assignment Module (NAM).

For example, your phone can be activated in up to 4 different service areas each giving your phone a different phone number or account.

Only one number can be active at a time. When you select a phone number, you are also selecting which system to be used as your home system. The first phone number displayed with this menu is the currently selected number.

Notes:

- It may not be necessary to have four NAMs for your phone if your service provider has service or roaming agreements for each area in which you wish to use your phone. Contact your service provider for details.
- You need at least one active number to make a call. You cannot change from one NAM to another during a call.

Set Service Code *Menu 7.6*

For using the network services, such as the Call Diverting and Call Waiting, you must set the service codes supplied by your service provider with this menu. For more information on the service code, contact your service provider.

The following options are available.

Call Diverting: allows you to set the codes for using each of the options (**Divert Always**, **Busy**, **No Reply**, **Unreachable** and **Cancel All**) in the Call Diverting.

Call Waiting: allows you to set the codes for using each of the options (**Activate** and **Cancel**) in the Call Waiting.

After selecting the desired option, enter the service code and press the **OK** soft key. The service code is saved.

Games

Using this feature, you can play seven different games with the phone:

- Casino
- Black Jack
- Snake
- Othello
- Roulette
- Sniper
- Mole

Once you have selected a game, the following options are available.

Play: allows you to start a game.

Level: allows you to select the level of difficulty. Select the required level using the ^ and v keys and press the **OK** soft key. This option is only available in games with several levels (Sniper, Snake).

Configuration: allows you to configure the phone for the chosen game (backlight and sound settings). To adjust each setting, highlight the **Backlight** or **Sound** option by pressing the ^ and v keys and then toggle between **ON** and **OFF** by pressing the **On/Off** soft key.

Instructions: describes the buttons used by the game. If necessary, press the ^ and v keys to see a more detailed description.

High Score: enables you to view the highest score recorded for the selected game. You can also reset this score by pressing the **Reset** soft key.

If you break the current record for the game, the phone displays the High Score screen.

To stop playing a game, press the **C** or ⏻/⏻ key.

Voice Memo Pad

With the > key, you can use the phone as a recorder. In idle mode, it records a voice memo, and while you are on the phone, it records the phone conversation during a call.

Notes:
- Your phone can record up to 10 items, and the maximum recording time for each item is 1 minute.
- Closing the phone while recording cancels the recording.
- If you have an incoming call while recording a voice memo, or the call is disconnected while recording phone conversation, the memo recorded up to that point is saved with the current date and time stamp.
- When you are out of the service area('No Service' is displayed)or in analog mode, a voice memo is not correctly recorded. It is recommended that you use this feature in digital mode in the service area.

Record

To record a voice memo, select this menu or press and hold the > key in idle mode.

To record a phone conversation, press the > key while you are on the phone.

1. The message "**Recording**" displays, along with the timer.
2. Record a memo by speaking to the micro phone or talking to the remote person.
3. To stop recording, press the **Stop** soft key.
4. If you ar recording a phone conversation, it is automatically saved by the title of the current date and time.

   If you are recording a voice memo, you are asked to enter the title for the recorded message. Go to step 5.
5. Enter the desired title up to 16 digits using the keypad, then press the **Save** key to save the recording. For details on entering characters, see page 31.

   If you do not enter a title, **Untitled** is saved as the label.

Note: Recording voice conversations is illegal in some countries. Make sure the other party has stated its consent to being recorded.

Replay & Delete

Using this menu, you can play back a recorded message and delete it if you want.

1. When the display shows the title of the currently selected memo, press the ^ or v key to display the memo you want to play.
2. Press the **Play** soft key to play back the recorded message currently displayed.
3. When you have finished reviewing, press the **Stop** soft key.

4. If you want to delete the memo, press **Delete** soft key.

5. When the phone confirms your selection, press the **Yes** soft key.

   If you do not want to delete the memo, press the **No** soft key.

6. Repeat step 2 through 5 as necessary.

7. When you have finished, press the /⏻ key to return to idle mode.

Edit Title

You can change the title of the selected memo .

1. The display shows the title of the currently selected memo. Press the ^ or v key to scroll to the memo whose title you want to edit.

2. Press the **Edit** soft key.

3. Enter the desired title up to 16 digits using the keypad. For details on entering characters, see page 31.

4. When entering is done, press the **Save** soft key to save the new title.

5. When you have finished, press the /⏻ key to return the idle mode.

Solving Problems

Before contacting the after-sales service, perform the following simple checks. They may save you the time and expense of an unnecessary service call.

"No service", "Network failure" or "Not done" is displayed

- The network connection was lost. You may be in a weak reception area (in a tunnel or surrounded by buildings). Move and try again.
- You are trying to access an option for which you have not taken out a subscription with your service provider. Contact the service provider for further details.

You have entered a number but it was not dialed

- Have you pressed the key?
- Are you accessing the right cellular network?
- You may have chosen to restrict outgoing calls.

Your correspondent cannot reach you

- Is your phone switched on (/⏻ pressed for more than one second)?
- Are you accessing the right cellular network?
- You may have chosen to restrict incoming calls.
- You may be in a weak signal area. Move and try again.

Your correspondent cannot hear you speaking

- Have you switched off the microphone (mute)?
- Are you holding the phone close enough to your mouth? The microphone is located in the bottom center of the phone.

The phone starts beeping and "**Warning** Low Battery" flashes in the display

- The battery power is weak. Replace the battery and recharge it.

The audio quality of the call is poor

- Check the signal strength indicator in the display ( ); the number of bars after it indicates the signal strength from strong ( ) to weak ( ).
- Try moving the phone slightly or moving closer to a window if you are in a building.

No number is dialed when you recall a phonebook entry

- Check that the numbers have been stored correctly, by using the Phonebook Search feature.
- Re-store number, if necessary.

If the above guidelines do not enable you to solve the problem, take a note of:

- The model and serial numbers of your phone
- Your warranty details
- A clear description of the problem

Then contact your local dealer or SAMSUNG after-sales service.

Using the Batteries

Your phone is powered by a rechargeable Li-ion standard battery.

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 times are greatly affected by the signal strength on the cellular network and the parameters set by the network operator.
- Battery charging times depend 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 life-time 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-circuit.
- Dispose of used batteries in accordance with local regulations. Always recycle. Do not dispose of batteries in a fire.

Safety Information

Road Safety

- Remember, road safety always comes first!
- Do not use a hand-held phone while driving a vehicle. Always park the vehicle before having a conversation.
- Make sure that the phone is stored safely and will not fall or be broken in the event of a collision or emergency stop.
- The use of an alert device to operate a vehicle's lights or horn on public roads is not permitted.
- Only qualified personnel should install or service the phone in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty applicable to the unit.
- Electronic fuel injection, anti-skid braking, electronic cruise control or any other electronic systems may malfunction due to the lack of protection from radio signals. Check regularly that all cellular phone equipment in your vehicle is mounted and operating correctly.

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 (in a hospital for example).
- Operation of any radio-transmitting equipment, including cellular phones, may interfere with inadequately protected medical devices. Consult a doctor or the manufacturer of the medical device if you have any questions. Other electronic equipment may also be subject to interference.
- As with other mobile radio-transmitting equipment, you are advised that for satisfactory operations and personal safety, the equipment should only be used in the normal operating position.
- Always switch off the phone when at a refuelling point (service station). You 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.
- Do not store or carry flammable liquids, gases or explosive materials in the same compartment as the phone, its parts or accessories.
- Switch off your cellular phone when in an aircraft. The use of cellular phones in an aircraft is illegal and may be dangerous to the operation of the aircraft or disrupt the cellular network. Failure to observe these instructions may lead to the suspension or denial of cellular telephone services to the offender, 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 the warranty obligations and enjoy this product for many years.

- Keep the phone and all its parts and accessories out of the reach of small children.
- Keep the phone dry. Precipitation, humidity and liquids containing minerals will corrode the electronic circuits.
- Do not use or store the phone in dusty, dirty areas as its components 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 temperature, moisture can form inside the phone, which may damage the electronic circuits.
- Do not attempt to open the phone's casing. Non-expert handling of the phone may damage it.
- Do not drop or knock the phone. Rough handling may damage the internal circuits.

- Do not use harsh chemicals, cleaning solvents or strong detergents to clean the phone. Wipe it with a soft cloth slightly dampened in mild, soapy water.
- If the phone or any of its accessories are not working properly, take them to your nearest qualified service center. The personnel there will assist you, and if necessary, arrange for the phone to be repaired.

Emergency Calls

Important! This phone, like any cellular phone, uses radio signals, cellular and landline networks, as well as user-programmed functions that cannot guarantee connection in all conditions. Therefore, you should never rely solely on any cellular 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 cellular signal strength.

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

Glossary

To help you understand the main technical terms and abbreviations used in this booklet and take full advantage of the features on your mobile phone, here are a few definitions.

Antenna

A device for transmitting or receiving signals. The size and shape of antennas is determined, in part, by the frequency of the signal they receive. Wireless phones and the base station must have antennas.

Call Diverting

Ability to reroute calls to another mobile or fixed line.

Call Holding

Ability to put one call on standby while answering or making another call; you can then switch between the two calls, as required.

Call Waiting

Ability to inform users that they have an incoming call when engaged on another call.

Conference Calling

Ability to establish a conference call involving up to two additional parties.

Hands-Free

A feature that permits a driver to use a wireless phone without lifting or holding the handset - an important safety feature for automobiles, tractors and most other motorized vehicles.

LCD (Liquid Crystal Display)

Commonly used to refer to the screen display on the wireless phone.

Calling Line Identification Services (Caller-ID)

Services allowing subscribers to view or block the telephone numbers of callers.

Phone Password

Lock code used to unlock the phone when you have selected the option to lock it automatically each time it switches on, and security code used to restrict the use of your phone.

Roaming

Use of your phone when you are outside your home area (when travelling for example).

SMS (Short Message Service)

Network service for sending and receiving messages to and from another subscriber without having to speak to the correspondent. The message created or received (up to 160 characters long) can be displayed, received, edited or sent.

Soft Keys

Keys marked ••• . on the phone, the purpose of which:

- Varies according to the function that you are currently using
- Is indicated on the bottom line of the display just above the corresponding key

TDMA

Time division multiple access (TDMA) is a digital transmission technology that allows a number of users to access a single radio-frequency (RF) channel without interference by allocating unique time slots to each user within each channel. The TDMA digital transmission scheme multiplexes three signals over a single channel. The current TDMA standard for cellular divides a single channel into six time slots, with each signal using two slots, providing a 3 to 1 gain in capacity over advanced mobile-phone service (AMPS). Each caller is assigned a specific time slot for transmission.

Voice Mail

A computerized answering service that answers a call, plays a greeting and records a message.

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TDMA Mobile Telephone STH-A225

Quick Reference Card

Switch On/Off	Press and hold ☎/⏻.
Make a Call	① Key in the number. ② Press the ✆ key.
End a Call	Briefly press the ☎/⏻ key.
View Missed Calls right after they were missed	① Open the phone and press the **View** soft key. ② Scroll with the ∧ and ∨ keys through the missed calls. ③ To return the call, press the ✆ key.
Access the Menu Function	① Press the **Menu** soft key. ② Scroll with the ∧ and ∨ keys through the list of menus until you reach the required menu. ③ Press the **Select** soft key. ④ Scroll with the ∧ and ∨ keys through the list of options until the required one is selected. ⑤ Press the **Select** soft key to confirm.

• *Each of the two soft keys (⋯) performs the function indicated by the text above it (bottom line in the display).*

Answer a Call	Open the phone *or* Press the ↷ key.
Adjust the Volume	Press the ▲ or ▼ key.
Choose the Alert Type	① Select the **Alert Type** menu option (**3.3**). ② Select an option: **Light only**, **Melody**, **Vibration**, **Vibra+ Melody** and **Step Melody**. ③ Press the **Select** soft key to confirm.

Store Numbers in the Phonebook	① Key in the number. ② Press the **Save** soft key. ③ Enter the name. ④ Press the **OK** soft key. ⑤ If necessary, change the location. ⑥ Press the **OK** soft key.
Search for a Number in the Phonebook	① Press the **Name** soft key. ② Enter the start of the name. ③ Press the **Search** soft key. ④ To scroll through the names, press the ^ and v keys. ⑤ To make a call, press the ↷.

FDA Consumer Update

FDA

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

FDA has been receiving inquiries about the safety of mobile phones, including cellular phones and PCS phones. The following summarizes what is known-and what remains unknown-about whether these products can pose a hazard to health, and what can be done to minimize any potential risk. This information may be used to respond to questions.

Why the concern?

Mobile phones emit low levels of radiofrequency energy (i.e.,radiofrequency radiation) in the microwave range while being used. They also emit very low levels of radiofrequency energy (RF), considered non-significant, when in the stand-by mode. It is well known that high of RF can produce biological damage through heating effects (this is how your microwave oven is able to cook food). However, it is not known whether, to what extent, or through what mechanism, lower levels of RF might cause adverse health effects as well. Although some research has been done to address these questions, no clear picture of the biological effects of this type of radiation has emerged to date. Thus, the available science does not allow us to conclude that mobile phones are absolutely safe, or that they are unsafe. However, the available scientific evidence does not demonstrate any adverse health effects associated with the use of mobile phones.

What kinds of phones are in question?

Questions have been raised about hand-held mobile phones, the kind that have a built-in antenna that is positioned close to the user's head during normal telephone conversation. These types of mobile phones are of concern because of the

short distance between the phone's antenna-the primary source of the RF-and the person's head. The exposure to RF from mobile phones in which the antenna is located at greater distances from the user(on the outside of a car, for example) is drastically lower than that from hand-held phones, because a person's RF exposure decreases rapidly with distance from the source. The safety of so-called "cordless phones," which have a base unit connected to the telephone wiring in a house and which operate at far lower power levels and frequencies, has not been questioned.

How much evidence is there that hand-held mobile phones might be harmful?

Briefly, there is not enough evidence to know for sure, either way; however, research efforts are on-going. The existing scientific evidence is conflicting and many of the studies that have been done to date have suffered from flaws in their research methods. Animal experiments investigating the effects of RF exposures characteristic of mobile phones have yielded conflicting results. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. In one study, mice genetically altered to be predisposed to developing one type of cancer developed more than twice as many such cancers when they were exposed to RF energy compared to controls. There is much uncertainty among scientists about whether results obtained from animal studies apply to the use of mobile phones. First, it is uncertain how to apply the results obtained in rats and mice to humans. Second, many of the studies that showed increased tumor development used animals that had already been treated with cancer-causing chemicals, and other studies exposed the animals to the RF virtually continuously-up to 22 hours per day.

For the past five years in the United States, the mobile phone industry has supported research into the safety of mobile phones. This research has resulted in two findings in particular that merit additional study:

1. In a hospital-based, case-control study, researchers looked for an association between mobile phone use and either glioma (a type of brain cancer) or acoustic neuroma (a benign tumor of the nerve sheath). No statistically significant association was found between mobile phone use and acoustic neuroma. There was also no association between mobile phone use and gliomas when all types of types of gliomas were considered together. It should be noted that the average length of mobile phone exposure in this study was less than three years.

   When 20 types of glioma were considered separately, however, an association was found between mobile phone use and one rare type of glioma, neuroepithelliomatous tumors. It is possible with multiple comparisons of the same sample that this association occurred by chance. Moreover, the risk did not increase with how often the mobile phone was used, or the length of the calls. In fact, the risk actually decreased with cumulative hours of mobile phone use. Most cancer causing agents increase risk with increased exposure. An ongoing study of brain cancers by the National Cancer Institute is expected to bear on the accuracy and repeatability of these results.[1]

2. Researchers conducted a large battery of laboratory tests to assess the effects of exposure to mobile phone RF on genetic material. These included tests for several kinds of abnormalities, including mutations, chromosomal aberrations, DNA strand breaks, and structural changes in the genetic material of blood cells called lymphocytes. None of the tests showed any effect of the RF except for the micronucleus assay, which detects structural effects on the genetic material. The cells in this assay showed changes after exposure to simulated cell phone radiation, but only after 24 hours of exposure. It is possible that exposing the test cells to radiation for this long resulted in heating. Since this assay is known to be sensitive to heating, heat alone could have caused the abnormalities to occur. The data already in the literature on the response of the micronucleus assay to RF are conflicting. Thus, follow-up research is necessary.[2]

FDA is currently working with government, industry, and academic groups to ensure the proper follow-up to these industry-funded research findings. Collaboration with the Cellular Telecommunications Industry Association(CTIA) in particular is expected to lead to FDA providing research recommendations and scientific oversight of new CTIA-funded research based on such recommendations.

Two other studies of interest have been reported recently in the literature:

1. Two groups of 18 people were exposed to simulated mobile phone signals under laboratory conditions while they performed cognitive function tests. There were no changes in the subjects' ability to recall words, numbers, or pictures, or in their spatial memory, but they were able to make choices more quickly in one visual test when they were exposed to simulated mobile phone signals. This was the only change noted among more than 20 variables compared.[3]

2 . In a study of 209 brain tumor cases and 425 matched controls, there was no increased risk of brain tumors associated with mobile phone use. When tumors did exist in certain locations, however, they were more likely to be on the side of the head where the mobile phone was used. Because this occurred in only a small number of cases, the increased likelihood was too small to be statistically significant.[4]

In summary, we do not have enough information at this point to assure the public that there are, or are not, any low incident health problems associated with use of mobile phones. FDA continues to work with all parties, including other federal agencies and industry, to assure that research is undertaken to provide the necessary answers to the outstanding questions about the safety of mobile phones.

What is known about cases of human cancer that have been reported in users of hand-held mobile phones?

Some people who have used mobile phones have been diagnosed with brain cancer. But it is important to understand that this type of cancer also occurs among people who have not used mobile phones. In fact, brain cancer occurs in the U.S. population at a rate of about 6 new cases per 100,000 people each year. At that rate, assuming 80 million users of mobile phones (a number increasing at a rate of about 1 million per moth), about 4800 cases of brain cancer would be expected each year among those 80 million people, whether or not they used their phones. Thus it is not possible to tell whether any individual's cancer arose because of the phone, or whether it would have happened anyway. A key question is whether the risk of getting a particular form of cancer is greater among people who use mobile phones than among the rest of the population. One way to answer that question is to compare the usage of mobile phones among people with brain cancer with the use of mobile phones among appropriately matched people without brain cancer. This is called a case-control study. The current case-control study of brain cancers by the National Cancer Institute, as well as the follow-up research to be sponsored by industry, will begin to generate this type of information.

What is FDA's role concerning the safety of mobile phones?

Under the law, FDA does not review the safety of radiation-emitting consumer products such as mobile phones before marketing, as it does with new drugs or medical devices. However, the agency has authority to take action if mobile phones are shown to emit radiation at a level that is hazardous to the user. In such a case, FDA could require the manufacturers of mobile 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 at this time, FDA has urged the mobile phone industry to take a number of steps to assure public safety. The agency has recommended that the industry:

- support needed research into possible biological effects of RF of the type emitted by mobile phones:
- design mobile phones in a way that minimizes any RF exposure to the user that is not necessary for device function; and
- cooperate in providing mobile phone users with the best possible information on what is known about possible effects of mobile phone use on human health.

At the same time, FDA belongs to an interagency working group of the federal agencies that have responsibility for different aspects of mobile phone safety to ensure a coordinated effort at the federal level. These agencies are:

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

The National Institutes of Health also participates in this group.

In the absence of conclusive information about any possible risk, what can concerned individuals do?

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 people are concerned about avoiding even potential risks, there are simple steps they can take to do so. For example, time is a key factor in how much exposure a person receives. Those persons who spend long periods of time on their hand-held mobile phones could consider holding lengthy conversations on conventional phones and reserving the hand-held models for shorter conversations for for situations when other types of phones are not available.

Phone who must conduct extended conversations in their cars every day could switch to a type of mobile phone that places more distance between their bodies and the source of the RF, since the exposure level drops off dramatically with distance. For example, they could switch to:

- a mobile phone in which the antenna is located outside the vehicle,
- a hand-held phone with a built-in antenna connected to a different antenna mounted on the outside of the car or built into a separate package, or
- a headset with a remote antenna to a mobile phone carried at the waist.

Again, the scientific data do not demonstrate that mobile phones are harmful. But if people are concerned about the radiofrequency energy from these products, taking the simple precautions outlined above can reduce any possible risk.

Where can I find additional information?

For additional information, see the following websites:

Federal Communications Commission (FCC) RF Safety Program (select "Information on Human Exposure to RF Fields from Cellular and PCS Radio Transmitters"): http://www.fcc.gov/oet/rfsafety

World Health Organization (WHO) International Commission on Non-Ionizing Radiation Protection (select Qs & As): http://www.who.int/emf

United Kingdom, National Radiological Protection Board: http://www.nrpb.org.uk

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

U.S Food and Drug Administration (FDA) Center for Devices and Radiological Health:
http://www.fda.gov/cdrh/consumer/

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[4] Hardell, L, Nasman, A, Pahlson, A, Hallquist, A and Mild, KH. Use of cellular telephones and the risk for brain tumors: a case-control study. Int. J. Oncol., 15:113-116, 1999.

Wireless Phone Safety Tips

Your Samsung wireless telephone 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 Samsung 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 additional 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, if possible, 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 address book takes 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 people you are talking with aware you are driving and suspend conversations which have the potential to divert your attention from the road.

8. **Use your wireless phone to call for help.** Dial 100 or other local 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 an auto accident, crime in progress or other serious emergency where lives are in danger, call 100 or other local emergency number, as you would want others to do for you.*

10. **Call roadside assistance or a special non-emergencies 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 other special non-emergency wireless number.*

Check the laws and regulations on the use of wireless telephones and their accessories in the areas where you drive. Always obey them. The use of these devices may be prohibited or restricted in certain areas.

For more information, please call 1-888-901-SAFE, or visit our website www.wow-com.com™.

* Wherever wireless phone service is available.