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



### **TDMA MOBILE TFI FPHONE STH-N375**

Draft version (2001/11/6)



World Wide Web

http://www.samsungmobile.com

English. 11/2001. Rev. 1.0

Printed in Korea Code No.: GH68-xxxxxA 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 quidelines 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.

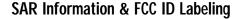
#### **Body-worn Operation**

This device was tested for typical body-worn operations using the optional belt-clip/holster placed 0.78 inches (2.0cm) from the body. To comply with FCC RF exposure requirements, a minimum separation distance of 0.78 inches (2.0cm) must be maintained between the user's body and the phone, including the antenna. The use of third-party belt-clips/ holsters with no metallic components that provide the minimum separation distance of 0.78 inches (2.0cm) can be used to satisfy FCC RF exposure requirements. The use of non-tested accessories or other bodyworn 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



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 1.484 W/kg and when worn on the body, as described in this user guide, is 1.240 W/kg. (Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements). While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement 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 <a href="https://www.fcc.gov/oet/fccid">http://www.fcc.gov/oet/fccid</a> after searching on FCC ID <a href="https://www.fcc.gov/oet/fccid">A3LSTHN270</a>.

Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) web-site at <a href="http://www.wow-com.com">http://www.wow-com.com</a> (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 <a href="http://phonefacts.net">http://phonefacts.net</a> may be used in place of <a href="http://www.wow-com.com">http://www.wow-com.com</a> for direct access to SAR information.

#### **Contents**

| Unpacking                             | 7    |
|---------------------------------------|------|
| Your Phone                            |      |
| Phone Layout                          | 8    |
| Display                               |      |
| Service Light                         | . 12 |
| Getting Started                       |      |
| Installing the Battery                | . 13 |
| Charging a Battery                    | . 15 |
| Switching the Phone On/Off            | . 17 |
| Locking Your Phone                    | . 18 |
| General Functions                     |      |
| Making a Call                         | . 19 |
| Making a Call from the Phonebook      | . 20 |
| Redialing the Last Number             |      |
| Adjusting the Volume                  | . 21 |
| Answering a Call                      |      |
| Viewing Missed Calls                  |      |
| Quick-switching to Silent Mode        | . 24 |
| Selecting Functions and Options       |      |
| Using the Soft Keys                   | . 25 |
| Selecting Functions and Options       |      |
| Example: Setting the Display Language | . 27 |
| Phonebook                             |      |
| Storing a Phone Number with a Name    | . 29 |
| Speed Dialing by Memory Location      |      |
| Phonebook Options                     |      |
| Searching for and Dialing             |      |
| a Number in the Phonebook             | . 35 |
| Name Ontions                          | 36   |



| In-Call Options                                    | Phone Settings   |
|--|--|
| Muting/Sending Key Tones                           | Greeting Message (Menu 4.1)  |
| Searching for a Number in the Phonebook 40         | LCD Control (Menu 4.2)   |
| Using the SMS Service                              | Service Light (Menu 4.3)67   |
| Making a Calling card call                         | Auto Redial (Menu 4.4)   |
| Making the Voice Call Private                      | Answer Mode ( <i>Menu</i> 4.5)   |
| Putting a Call on Hold42                           | Slide Menu ( <i>Menu 4.6</i> )   |
| Answering a Second Call                            | Language (Menu 4.7)  |
| Making a Conference Call                           | Reset Settings (Menu 4.8)69  |
|  | Calling card (Menu 4.9)  |
| Using the Menus                                    | User Changeable Key (Menu 4.10)  |
| Accessing a Menu Function by scrolling 45          | , , , , , , , , , , , , , , , , , , ,  |
| Accessing a Menu Function by Using its Shortcut 46 | Organizer  |
| List of Menu Functions                             | Calendar <i>(Menu 5.1)</i> 74  |
|  | To Do List <i>(Menu 5.2)</i>   |
| Call Records                                       | Time & Date (Menu 5.3)   |
| Missed Calls (Menu 1.1)                            | Alarm (Menu 5.4)   |
| Incoming Calls (Menu 1.2)                          | Calculator (Menu 5.5)81  |
| Outgoing Calls (Menu 1.3)52                        | ,  |
| Call Time (Menu 1.4)                               | Security   |
| •  | Change Lock code (Menu 6.1)  |
| Messages   | Change Security code (Menu 6.2)82  |
| Voice Mail (Menu 2.1)                              | Call Restriction (Menu 6.3)  |
| Read Messages (Menu 2.2)                           | SOS Call List (Menu 6.4)   |
| Write Messages ( <i>Menu 2.3</i> )                 | ,  |
| Preset Message List (Menu 2.4)                     | * Network Services   |
| Setup (Menu 2.5)                                   | * Call Diverting (Menu 7.1)  |
|  | Call Waiting (Menu 7.2)  |
| Sound Settings                                     | Network Selection (Menu 7.3)   |
| Ring Volume ( <i>Menu 3.1</i> ) 60                 | Voice Privacy (Menu 7.4)   |
| Ring Tone (Menu 3.2)                               | NAM Selection (Menu 7.5)   |
| Alert Type (Menu 3.3)                              | Set Service Code ( <i>Menu 7.6</i> )   |
| Tone Length (Menu 3.4) 61                          |  |
| Message Tone ( <i>Menu 3.5</i> ) 62                | Games  |
| Error Tone (Menu 3.6)                              |  |
| Minute Minder ( <i>Menu 3.7</i> )                  | Voice Memo Pad   |
| Connect Tone ( <i>Menu 3.8</i> )                   | Record   |
| Melody Composer                                    | Replay & Delete  |
|  | Edit Title95   |
| •  | * available when you set the service code in the Set Service Code menu option (7.6). |



| Solving Problems                            |
|---|
| Health and Safety Information               |
| Exposure to Radio Frequency (RF) Signals 98 |
| Precaution When Using Batteries101          |
| Road Safety                                 |
| Operating Environment                       |
| Electronic Devices                          |
| Potentially Explosive Atmospheres           |
| Vehicles                                    |
| Emergency Calls110                          |
| Care and Maintenance111                     |
| <b>Glossary</b> 113                         |
| Index116                                    |
| Quick Reference Card121                     |
| FDA Consumer Update                         |

### **Quick Safety Guide**

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

#### Road safety comes first

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

#### Switch off when refuelling

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

#### Switch off on aircraft

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

#### Switch off in hospital

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

#### 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 wireless phones may be subject to radio interference, which may affect their performance.

# **Unpacking**

Radio frequency exposure information

In August 1996, the Federal Communications Commission (FCC) of the U.S. adopted an updated safety standard for human exposure to radio frequency electromagnetic energy emitted by FCC regulated transmitters. The design of this phone complies with the FCC guidelines and these international standards.

To maintain compliance with FCC RF exposure guidelines, if you wear a handset on your body, use the SAMSUNG-supplied or approved carrying case, holster, or other body-worn accessory.

If you do not use a body-worn accessory, ensure the antenna is at least one inch (2.5 cm) from your body when transmitting. Use of non-approved accessories may violate FCC RF exposure guidelines.

#### Use sensibly

Use only in the normal position (to ear). Do not touch the antenna unnecessarily when the phone is switched on

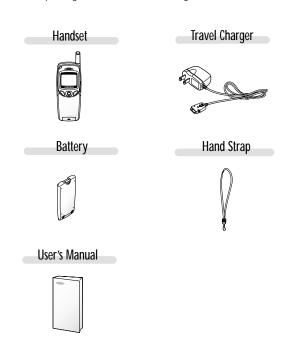
#### Accessories and batteries

Use only SAMSUNG-approved accessories and batteries.

#### Use qualified service

Only qualified service personnel must repair equipment.

Your package contains the following items.



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
- · Ear-microphone
- · Leather case

### **Your Phone**

### **Phone Layout**

The following illustrations show the main elements of your phone.



#### Key Description



Perform the functions indicated by the text above them (in the bottom line of the display).



*In the menu facility*, scrolls through the menu options and Phonebook memory when slid and confirms selection when pressed.

When slid or pressed in idle mode, function as shortcut keys to access favorite menus. For details on changing the shortcut setting, see page xx. Note that sliding this key right is fixed to access the **Voice Memo** menu.

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 silent mode.



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 in idle mode, allows you to access your voice mail box.

### **Key Description** (continued...)



Enter numbers, letters and some special characters.

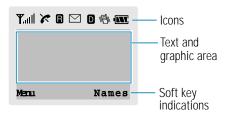


Enter special dial characters. Also use these keys for various purposes in different functions.

### **Display**

### **Display Layout**

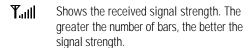
The display comprises three areas.

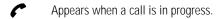


| Area         | Description   |
|--------------|---|
| First line   | Displays various icons (see page xx).   |
| Middle lines | Display messages, instructions and any information that you enter (number to be dialed, for example). |
| Last line    | Shows the functions currently assigned to the two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

#### **Icons**

#### Icon Description





Appears when you are out of service area.

Appears when you are out of your home area and have registered onto a different network (when travelling in other cities and countries, for example).

Appears when a new text message has been received.

Appears when the phone is in digital mode.

Appears when the silent mode is active 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**

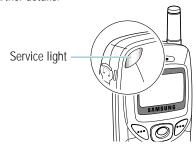
The display is illuminated by a backlight. When you press any key, the backlight illuminates. It turns off if no key is pressed within a given period of time, depending on the **Back Light** option set in the **Phone Settings** menu.

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

### Service Light

The service light is in the top left-hand corner of the phone. It flashes to indicate phone status: It flashes to indicate phone status: When 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 xx for further details.

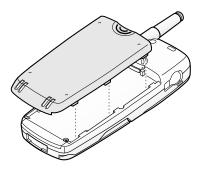


# **Getting Started**

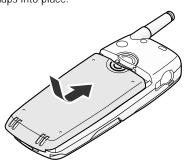
### **Installing the Battery**

#### To Install the Battery

 Place the battery on the back of the phone with the top of the battery about a quarter of an inch from the catch so that the battery engages with the slots molded into the body.



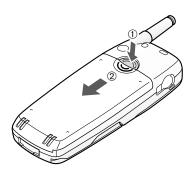
2. Slide the battery toward the top of the phone until it snaps into place.





### To Remove the Battery

- If necessary, switch off the phone by holding down the key until the power off graphic begins to play.
- 2. Remove the battery. To do so:
  - Push and hold down the catch above the battery on the back of the phone and
  - ② slide the battery down and lift it away.



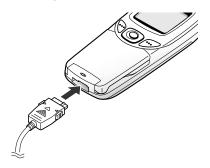
### **Charging a Battery**

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.

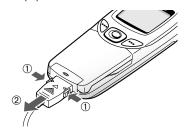
1. With the battery in position on the phone, connect the lead from the travel charger to the jack on the bottom of the phone.



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



3. When charging is finished (the lamp on the charge 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, along with the empty battery icon:



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

### Switching the Phone On/Off

- 1. Open the flip cover.
- 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 the network, the idle screen, illustrated below, is displayed.



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

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 "0000". For further details on the lock code, see page xx.

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 80 for further details.

To place an SOS call, press the **SOS** soft key, select the desired emergency number by sliding the navigation key up or down 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 (4.4) to ON (see page xx) 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 will not attempt to redial.

#### Correcting the Number

| To clear                 | Then press   |
|--------------------------|--|
| The last digit displayed | The <b>C</b> key.                                    |
| The whole display        | Hold down the <b>C</b> key for more than one second. |

#### **Ending a Call**

When you want to finish your call, briefly press and release the  $\frown \bigcirc$  key or close the flip cover.



### Making a Call from the Phonebook

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

### **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, press the key to return to idle mode.
- 2. Press the Ney to display the last dialed number.
- Slide the navigation key up or down 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 details (see page xx).
- Press the Save soft key to save the number or the key to dial the number.

### **Adjusting the Volume**

During a call, if you want to adjust the earpiece volume, use the navigation key. Slide the key up to increase and the key down to decrease the volume level.



### **Answering a Call**

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



If you are subscribed to the Caller Identification service and 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. Open the flip cover. If it is already open, press the key.

If the **Answer Mode** menu option (4.5) is set to **Anykey Answer**, you can press any key except the Abo key.

With the menu set to **Send Key Answer**, you must press the key or the **Accept** soft key to answer the incoming call (For details on the **Answer Mode** menu, see page xx).

2. End the call by closing the flip cover or pressing the we 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 the Caller Line Identification 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, take the following steps:

1. If the flip cover is closed, open the cover.

2. Press the View soft key.

3

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

| B. <b>To</b>                  |               | Then                         |        |
|-------------------------------|---------------|------------------------------|--------|
| Scroll throug<br>missed calls | h the         | Slide the na<br>key up or do | U      |
| Call the num                  | ber displayed | Press the                    | ▶ key. |
| Edit or delete call number    | e a missed    | Press the Opsoft key (see    |        |

#### **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, slide the navigation key up or down to highlight the **Edit** option.
- 3. Press the **Select** soft key.
- 4. Change the number as required.

| ). | 10               | men press me  |
|----|------------------|---|
|    | Call the number  | ➤ key.  |
|    | Store the number | <b>Save</b> soft key and enter<br>the name and location<br>required (for further<br>details, refer to page xx). |

### **Deleting a Missed Call**

- 1. Press the **Options** soft key.
- 2. If necessary, slide the navigation key up or down to highlight the **Delete** option.
- 3. Press the **Select** soft key.

You can press the we 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 xx0.

### **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 licon 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

To exit silent mode, press and hold the  ${\bf C}$  key again until "Exit Silent Mode" appears.

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  $\mathfrak{D}$  and  $\mathfrak{C}$ . 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 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. | То  | Then  |
|----|---|---|
|    | Select the:  • Function displayed or  • Option highlighted    | press the <b>Select</b> soft key or the navigation key, or slide the key right. |
|    | View the next function or highlight the next option in a list | slide the navigation key down.  |
|    | Move back to the function or option in a list                 | slide the navigation<br>key up.   |
|    | Move back up one level in the structure                       | slide the navigation<br>key left or press the 5<br>soft key or <b>C</b> key.    |
|    | Exit the structure without changing                           | <b>∽</b> ∕∞ key.  |

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



Scroll through the menus until you reach the Phone Settings menu, by sliding the navigation key down.

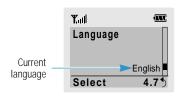


3. To select the **Phone Settings** menu, press the **Select** soft key or the navigation key.



the settings

4. Scroll through the sub-menus until you reach the **Language** sub-menu, by sliding the navigation key down.



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



- 6. Scroll through the list of languages until the appropriate one is highlighted, by sliding the navigation key up or down.
- 7. Press the **Select** soft key or the navigation key to confirm your selection.
- 8. Press the **C** or **5** soft key or slide the navigation key left 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  $\sim$  250) entries.

### 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 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.
- Select a label by sliding the navigation key up or down, and press the **Select** soft key or the navigation 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 page xx.
- When you are satisfied, press the **OK** soft key or the navigation key.
   The phone now prompts you to select a location in the phone memory for you to save the entry.

- 6. If necessary, enter your preferred location by pressing the number keys.
- Press the **OK** soft key or the navigation key. The entry is saved and the display shows the name and number you just have saved.
- 8. Press the key to return to the idle screen.

To make a call to the displayed number, press the **Call** soft key.

To access the Phonebook options, press the **Options** soft key. See page xx.

#### **Entering a Name**

| 1. To select          | Then press the 1 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 referring to the table on next page.
  - · Once for the first letter
  - · Twice for the second letter
  - And so on

The cursor moves to the next available space when you press a different key.

3. Select the other letters in the same way.

Note: When entering the same letter twice or a different letter on the same key, press the 1 key to enter a space or just wait for a few seconds for the cursor to move automatically, and then select the next letter.

#### List of characters available:

| Key  | Characters in the Order Displayed |                   |  |
|------|-----------------------------------|-------------------|--|
| , co | Upper Case                        | Lower Case        |  |
| 1    | Space 1                           | Space 1           |  |
| 2    | A B C 2                           | abc2              |  |
| 3    | DEF3                              | def3              |  |
| 4    | GHI4                              | ghi 4             |  |
| 5    | JKL5                              | j k l 5           |  |
| 6    | M N O 6                           | mno6              |  |
| 7    | PQRS7                             | pqrs7             |  |
| 8    | T U V 8                           | † u v 8           |  |
| 9    | WXYZ9                             | wxyz9             |  |
| 0    | 0                                 | 0                 |  |
| *    | * / + - = < > ( )                 | # . , : ; ! ? @ ' |  |
|      | % & _ Φ Θ Ψ Π Σ Ξ                 | "¿§£\$¥¤βΩ        |  |

### **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 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 the # key repeatedly.

### **Phonebook Options**

When viewing a number in Phonebook, **Options** appears above the left soft key to allow you to access the Phonebook options.

#### Accessing the Options

To access the various Phonebook options, take the following steps:

 While viewing a Phonebook entry, press the Options soft key. The first available option is highlighted.

| 2. | To |
|----|----|
|    |    |

#### Then...

Select the highlighted option

Highlight a different option

Press the **Select** soft key or the navigation key.

Slide the navigation key up or down until the required option is highlighted.

#### Add Number

This option allows you to store up to seven numbers per entry by assigning them to different categories. Note that you cannot duplicate same categories for one entry. For example, you can only have one number labeled "Mobile" for the selected entry.

### **Change Name**

This option allows you to change the name for the number. Clear the old name pressing the  ${\bf C}$  key and enter a new name. For information on entering a name, see page xx.

### **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 cannot duplicate same categories for one entry. For example, you can only have one number labeled "Mobile" for the selected entry.

#### **Caller Group**

This option allows you to set the number as a member of the caller group. Select the desired caller group from the list. For more details on the Caller Group feature, see page xx.

#### **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 **OK** soft key or the navigation key.

#### Frase 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 **OK** soft key or the navigation 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 or the navigation 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 or the navigation 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.

| 3. | То   | Then   |
|----|--|--|
|    | View the highlighted entry                             | Press the <b>View</b> soft key or the navigation key.                        |
|    | Select a different entry                               | Slide the navigation key up or down until the required entry is highlighted. |
|    | Look for a name<br>starting with a<br>different letter | Press the 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 **Options** above the right soft key. This key allows you to enter the various options.

### Accessing the Options

To access the various Phonebook options, take the following steps:

- 1. In idle mode, press the **Names** soft key.
- 2. Press the **Options** soft key. The first available option is highlighted.

| 3. | То                            | Then  |
|----|-------------------------------|---|
|    | Select the highlighted option | Press the <b>Select</b> soft key or the navigation key.                       |
|    | Highlight a different option  | Slide the navigation key up or down 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 xx.

#### Assigning numbers to a group

- 1. View the required number in 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 the used memory and free memory you have for Phonebook . The display shows how many entries are currently stored and can be saved in future in Phonebook.

# **In-Call Options**

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

### **Muting/Sending Key Tones**

You can turn the key tones which were generated each time you press a key off or on.

To turn the key tone off, take the following steps:

- 1. During a call, press the **Options** soft key.
- Slide the navigation key up or down to select the Mute Keys option. Now, the option is replaced with Send Keys.
- Press the **OK** soft key or the navigation key. Your phone does not transmit the key tones. It allows you to press keys without hearing annoying key tones during a call.

To turn the key tone on, take the following steps:

- 1. During a call, press the **Options** soft key.
- Slide the navigation key up or down to select the Send Keys option. Now, the option is replaced with Mute Keys.
- 3. Press the **OK** soft key or the navigation key.

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. During a call, press the **Options** soft key.
- Slide the navigation key up or down to select the Phonebook option.
- 3. Press the **OK** soft key or the navigation 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 or the navigation key.

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

### Using the SMS Service

You can create and send a SMS message during a call.

- 1. During a call, press the **Options** soft key.
- 2. Slide the navigation key up or down to select the **SMS Service** option.
- 3. Press the **OK** soft key or the navigation key.
- 4. Write text for the message, and press the **OK** soft key or the navigation key.
- Enter the desired phone number, and press the **OK** soft key or the navigation key to send the message.

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

### 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 xx.

### Making the Voice Call Private

You can make the current call private so that nobody eavesdrops your call.

- 1. During a call, press the **Options** soft key.
- 2. Slide the navigation key up or down to select the **Voice Privacy** option.
- 3. Press the **OK** soft key or the navigation key.
- 4. Slide the navigation key up or down to select **Activate** or **Deactivate**.

Select Activate to secure your call or Deactivate not to do.

5. Press the **OK** soft key or the navigation key.

### **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 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 your network. For further details, contact your service provider.

To make a call while you have a call in progress, take the following steps:

1. During a call, key in the phone number that you wish to dial or look it up in Phonebook.

- 2. Press the key to dial the second call. The first call is automatically put on hold.
- 3. To swap between the two calls, simply press the key.
- 4. To end the current call, press the key.

### **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 xx). You will be notified of an incoming call by a call waiting tone.

To answer a call while you have a call in progress, take the following steps:

- When you hear a call waiting tone, 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 network. Contact the service provider for details.

- 1. Call the first participant in the normal way.
- 2. Call the second participant in the normal way. The first call is automatically put on hold.
- 3. When the second person answer, press the key to merge the calls.
- 4. End the conference call by closing the flip cover or pressing the wey.

During a conference call, if one of the callers hangs up, you and the remaining caller will stay connected. If you initiated the call and you hang up first, all three parties are disconnected.

## **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

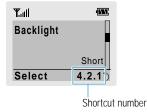
- In idle mode, press the Menu soft key to access the menu facility. Slide the navigation key up or down to reach the desired main menu, e.g., Phone Settings. Press the Select soft key or the navigation key to enter the menu.
- If the menu contains any submenus, for example, Language, find the one you want by sliding the navigation key up or down. Press the Select soft key or the navigation key to enter the submenu.
  - If the menu you selected has submenus, repeat this step.
- 3. Slide the navigation key up or down to find the setting of your choice. Press the **OK** soft key or the navigation key to confirm the chosen setting.

#### Notes:

- You can return the previous menu level by pressing the C key.
- You can exit the menu without changing the menu settings by pressing the wey.

# 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 \$\frac{1}{2}\$ soft key on the display.



- 1. In idle mode, press the **Menu** soft key.
- 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.

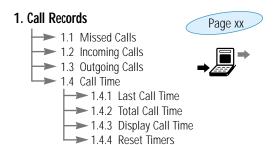
Menu for entering the menu, 4 for Phone Settings, 2 for LCD Control, 1 for Backlight, 2 for Short.

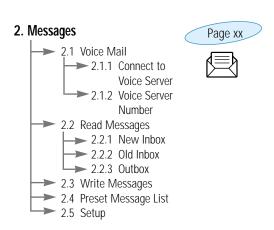
**Note:** The numbers assigned to each menu function are indicated on the list on page xx.

#### 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





Using the Menus

#### 3. Sound Settings

3.1 Ring Volume
3.2 Ring Tone

→ 3.3 Alert Type

→ 3.4 Tone Length

3.5 Message Tone3.6 Error Tone

3.7 Minute Minder

→ 3.8 Connect Tone

3.9 Melody Composer

### 4. Phone Settings

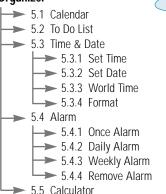
→ 4.1 Greeting Message → 4.2 LCD Control → 4.2.1 Back Light → 4.2.2 Contrast ► 4.3 Service Light 4.4 Auto Redial 4.5 Answer Mode 4.6 Slide Menu 4.7 Language → 4.8 Reset Settings → 4.9 Calling Card 4.10 User Changeable Key → 4.10.1 Key up → 4.10.2 Key down → 4.10.3 Key left → 4.10.4 Key OK

### Page xx



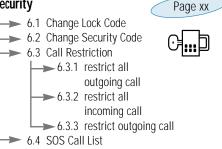
Page xx

### 5. Organizer

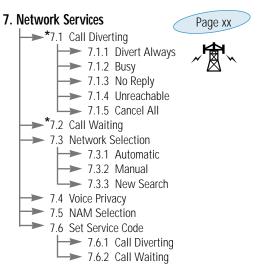


Page xx

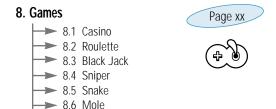
#### 6. Security



48



<sup>\*</sup>available when you set the service code in the Set Service Code menu option (7.6).



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 record.

#### Missed Calls

Menu 1.1

This option lets you view the last unanswered calls. Pressing the **Options** soft key allows you to:

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

### **Incoming Calls**

Menu 1.2

This option lets you view the last calls received. Pressing the **Options** soft key allows you to:

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

### **Outgoing Calls**

Menu 1.3

This option lets you view the last numbers dialed. Pressing the **Options** soft key allows you to:

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

#### **Call Time**

Menu 1.4

This option lets you view the timers for calls made and received. The following timers are available.

Last Call Time: duration of the last call.

**Total Call Time**: total duration of all calls made from or receive to your phone since the timer was last reset using the **Reset Timer** option.

**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**: option used to reset the call timers; you must first enter the phone's security code (see page xx) and then press the **OK** soft key or the navigation 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, fax and email messaging systems, provided that these services are supported by your network.

When you receive new text messages, the  $\square$  icon appears on the top line of the display. 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 way of accessing your voice mailbox (if provided by your network).

**Note:** Please 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 to listen to your voice mails.

**Note:** You can connect to the voice mail server of the service provider quickly 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 Save soft key or the navigation 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 first message in the box is displayed with the following information:
  - · Message number
  - Message status: New, Old, Not Sent, Sent (If you have set the **Delivery Ack** menu option to **ON**, the report is also shown; see page xx for further details.)
  - Date and time at which the message was received (inbox only)

- 2. Side the navigation key up or down to select the message you want to read.
- 3. To view this message, press the **View** soft key. The screen shows the:
  - Sender's phone number (if the message was sent) or recipient's phone number
  - Message text

To scroll through the message, slide the navigation key up or down.

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 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 And Send:** allows you to edit a message for sending.

**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 (157 characters for e-mail message). For further information on how to enter the characters in your message, see page xx.

- Slide the navigation key up or down to select a setting group on which you have set up default information on the SMS feature via the **Setup** menu (see the page xx), and press the key or the **Select** soft key.
- 2. After completing the message, press the **OK** soft key or the navigation key.

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

- Select the desired one of the following options by sliding the navigation key up or down, and press the key or the **Select** soft key.
  - **Send Only:** After transmission, the message will be cleared.
  - Save and Send: allows you to save a copy of the message. When you read the message in your outbox, Sent is displayed to indicate the message status.
  - Save Only: allows you to save the message so that it can be sent later. You do not take the next step. When you read the message in your outbox, Not sent is displayed.

 Enter the destination (phone number or e-mail address) and press the navigation key or the **OK** soft key to send the message.

### **Preset Message List**

Menu 2.4

Using this menu, you can preset up to five messages that you send most frequently to retrieve when writing a new message. Scroll through the list by sliding the navigation key up or down. When the required message number appears, press the **Options** soft key or the navigation key.

The following options are available:

**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 xx.

**Send Message:** allows you to retrieve the selected message for sending. 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 by sliding the navigation key up or down, and press the key or the **Select** soft key. Then, set up the options for the group.

The available setup 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 see 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. The available types are; **Text** and **E-mail**.



# **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 volume level of the ringer.

Slide the navigation key up or down to increase or decrease the level. The greater the number of bars you see, the greater the volume is.

### Ring Tone

Menu 3.2

This option allows you to select the desired ringer tone. You can choose from 20 different tones. Each time you select a tone, it sounds 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 ringer tone selected via the **Ring Tone** menu option (3.2).

**Vibration:** the phone vibrates but does not ring.

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

**Step Melody:** the phone rings using the selected ringer tone, but the volume becomes louder and louder from the minimum level. 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 remote phone (or the remote phone is ringing depending on your network).

The following options are available:

**OFF:** the phone does not beep.

**ON:** the phone beeps when your call is connected.

### Melody Composer

This option allows you to compose your own melody to be used as the ring tone.

Menu 3.9

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.

| То                          | Then press the   |
|-----------------------------|--|
| Compose a melody            | Edit soft key.   |
| Insert a note               | Next soft key.   |
| Move a note a semitone up   | <b>2</b> key.  |
| Move a note a semitone down | <b>8</b> key.  |
| Change the length of a note | <b>4</b> key one or more times until the note is of the required length. |
| Delete a note               | C key.   |
| Enter a rest                | <b>6</b> key and hold it down for the required length of time.           |

| То                    | Then press the          |
|-----------------------|-------------------------|
| Listen to your melody | Listen soft key.        |
| Modify your melody    | <b>Modify</b> soft key. |

#### Saving a Melody

When you are satisfied with your melody after listening to it, you can save the melody 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 xx.

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

 To use the melody as the ring tone, press the Yes soft key or the navigation key. The melody is saved and set to the current ring tone.
 Otherwise, press the No soft key. The melody is saved only.

**Note**: You can also select the melodies composed via the **Ring Tone** menu option **(3.2)**; they are tones 19 and 20 respectively.

# **Phone Settings**

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

### **Greeting Message**

Menu 4.1

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

| То                         | Then press the  |
|----------------------------|---|
| Clear the existing message | <b>C</b> 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 xx. |
| Save the message           | <b>OK</b> soft key or the navigation key.                         |

#### **LCD Control**

Menu 4.4

### **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 sliding the navigation key up or down. Each time you slide 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 left-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.

Phone Settings

Phone Settings

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 depending on the network.

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 flip cover. When the cover is already open, pressing the key to 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.

**Note:** This menu may be unavailable depending on your network.

The following options are available:

Disable: the menus were not slid.

**Enable:** 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 the menu settings to its factory default status.

Enter the 4-digit security code and press the **OK** soft key or the navigation key. The phone resets all settings to default.

**Note:** The security code is preset to "0000". To change this code, refer to page xx.

### **Calling Card**

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 calling card 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 4-digit security code and press the **OK** soft key or the navigation key to access the Calling Card menu.

### **Saving Calling Card Information**

- Scroll to a calling card number by sliding the navigation key up or down, and press the key or the Select soft key.
- 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 xx.
- 3. When entering name is finished, press the **OK** soft key or the navigation key. The name is saved.
- Slide the navigation key down to display the Card Number menu, and press the key or 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 call with the calling card.

**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 or the navigation key.
- 7. To return to idle mode, press the **^**/• key.

### Selecting a Calling Card

You can set the default card to use for making a calling card calls. The number stored in the selected card will be sent when you make calling card calls.

- Scroll to the desired calling card by sliding the navigation key up or down, and press the key or the **Select** soft key.
- Select Set Default by sliding the navigation key up or down and, press the key or the Select soft key.
- 3. The display shows the number saved for the calling card. If you are satisfied, press the navigation key or the **Set** soft key.
- 4. To return to idle mode, press the **★**/• key.

### Making Calls Using the Calling Card

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.

- 1. Make a call to the calling card service system.
- 2. When you are connected, press the **Options** soft key and select **Callcard Service** by sliding the navigation key up or down.
- 3. Press the navigation key or the **OK** soft key.
- 4. When you hear the prompting tone from the service system, press the \( \simega \) key to transmit the card numbers.
- 5. Dial the number of the desired remote phone.

### **User Changeable Key**

Menu 4.10

The navigation key can also be used as shortcut keys. When slid or pressed in idle mode, it allows you to access specific menu options directly. Using this menu, the following menu options can be assigned to the shortcut keys:

- Calendar (Menu 5-1)
- Calculator (Menu 5-5)
- Messages (Menu 2)
- Sound Settings (Menu 3)
- Games (Menu 8)
- Organizer (Menu 5)
- Phonebook (with the entries listed by name)
- Volume Up (key volume up)
- Volume Down (key volume down)
- Select the key to be used as a shortcut key by sliding the navigation key, and press the key or the **Select** key:
  - **Key up** (the key slid up)
  - **Key down** (the key slid down)
  - Key left (the key slid left)
  - Key OK (the key pressed)

**Note:** Sliding the navigation key is fixed to enter the **Voice Memo** menu.

Select the menu option to be assigned to the key by sliding the navigation key, and press the key or the **Select** soft 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

### 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, slide the navigation key up or down.

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

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

### Writing a Memo

To write or edit a memo on a specific date, take the following steps:

1. Select the required date in the calendar, by sliding the navigation key.

Note: Press the \* key to skip to the previous month or the #key to skip to the next month.

- Press the navigation key or 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 navigation key or the **OK** soft key.

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

You are asked if you wish to set the alarm.

- If you want the alarm to ring on the chosen day, press the **Yes** soft key or the navigation key.
   Otherwise, press the **No** soft key.
- If you pressed Yes, set the time for the alarm and press the OK soft key or the navigation key.
   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 xx.



Once you have finished editing the memo, press the **OK** soft key. The following options are 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, take the following steps:

- 1. Press the **New** soft key or the navigation key.
- Enter the first task.

Note: For further details on how to enter characters, see page xx.

- 3. Press the **OK** soft key or the navigation key.
- 4. Select **High** or **Low** priority by sliding the navigation key up or down, and press the key or the **Select** soft key.

- 5. Enter your deadline. If you do not want to define the deadline, press the **Skip** soft key.
- 6. Press the **OK** soft key or the navigation key to save the task.

### 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...

### View the details for a specific task

of a specific task (□ or **✓**)

#### Then

- · Highlight the task.
- Press the View soft key.
- Change the status 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 • Press the **Options** soft key. tasks by priority • Select the **Sort** option. · Select the sort criterion (High, or status 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** or the navigation

### 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.

key.

**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, by sliding the navigation key up or down.

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, take the following steps:

1. Select the city corresponding to your time zone by sliding the navigation key up or down one or more times.

The local date and time are displayed.

2. Press the navigation key or the **Set** soft key.

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

<u>Time format</u>: 24 Hours 12 Hours

<u>Date format</u>: 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.

The following 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, take the following steps:

- 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  $\stackrel{\circ}{-}$  next to the current time in the idle screen.

To stop the alarm when it rings, open the flip cover 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.

### **Using the Calculator**

- 1. Enter the first number using the numeric keys.
- Press the right soft key until the required arithmetic symbol appears: + (add), - (subtract), \* (multiply), / (divide).
- 3. Enter the second number.
- 4. Repeat steps 2 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.
- To calculate the result, press the navigation or key.
- 6. To end the calculation, 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. The lock code is factory set to "0000". This menu allows you to change your current lock code to a new one.

Before you can specify a new lock code, you must enter the current code. Then, enter a new code and enter it again to confirm.

### **Change Security Code**

Menu 6.2

The security code is used for restriction of the use of your phone. The security code is factory set to "0000". This menu allows you to change your current security code to a new one.

Before you can specify a new security code, you must enter the current code. Then, enter a new code and enter it again to confirm.

### **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, take the following steps:

- Select restrict all outgoing call or restrict all incoming call by sliding the navigation key up or down, and then press the key or the Select soft key.
- 2. Select **Enable** to the feature on, and press the **Select** soft key.

If you want to set the restriction off, select **Disable**.

3. Enter your security code and press the navigation key or the **OK** soft key.

To set the phone numbers to be restricted, take the following steps:

 Select restrict outgoing call by sliding the navigation key up or down, and then press the key or the Select soft key.



- 2. Enter your security code and press the navigation key or the **OK** soft key.
- 3. Select an empty location by sliding the navigation key up or down and press the **Options** soft key.
- Select Edit, then the navigation key or 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 the **Yes** soft key or the navigation key.

5. Enter the phone number and press the navigation key or the **OK** soft key. The phone number is saved and now you cannot make a call to the number.

### **SOS Call List**

Menu 6.4

Your phone provides 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 or all outgoing calls are restricted.

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

**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 xx.

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.

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 canceled.

- 1. Select the type of the call diverting options by sliding the navigation key up or down, and press the key or the **Select** soft key.
- 2. When **Activate** is highlighted, press the navigation key or the **Select** soft key.
- Enter the number to which the calls are to be diverted, and press the navigation key or the **OK** soft key.

Note: Pressing the Names soft key when displayed allows you to search for a number in Phonebook

The phone sends your setting to the network and the network's acknowledgement is displayed.

You can deactivate each call diverting setting by selecting the **Cancel** 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 xx.

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 xx 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.

The following options are available:

**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**.

**Manual**: your phone searches for available networks, then displays them. Slide the navigation key until the preferred network is highlighted and then press the key or the **OK** soft key.

**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 the navigation key or the **Select** soft key, or start another search by pressing the **Next** soft key.

### **Voice Privacy**

Menu 7.4

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

The following options are available:

**Activate:** turns this feature on. Your calls will be secured.

**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.

**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 navigation key or the **OK** soft key. The service code is saved and the option will be selectable when you access the appropriate menu.

### **Games**

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

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

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 by sliding the navigation key and press the key or 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 sliding the navigation key up or down, and then toggle between **ON** ( $\checkmark$ ) and **OFF** ( $\square$ ) by pressing the navigation key or the **On/Off** soft key.

**Instructions**: describes the buttons used by the game. If necessary, slide the navigation key 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  ${\bf C}$  or  ${\bf r}$  key.



### **Voice Memo**

You can use the phone as a recorder by sliding the navigation key right. In idle mode, it records a voice memo, and while you are on the phone, it records the phone conversation during a call.

To access the Voice Memo menu, slide the navigation key right in idle mode.

#### Notes:

- Your phone can record up to 10 memos, and each memo can be up to 1 minute in length of time.
- You can record a memo with the flip cover closed.
- Closing the flip cover 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 stamp of the current date and time.
- 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 slide the navigation key and hold in idle mode.

To record a phone conversation, slide the navigation key and hold while you are on the phone.

- 1. The message "Recording" displays, along with the timer.
- 2. Record a memo by speaking to the microphone or talking to the remote person.
- 3. To stop recording, press the **Stop** soft key.

If you are 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 next step.

 Enter the desired title up to 16 digits using the keypad, then press the **Save** soft key or the navigation key to save the recording. For details on entering characters, see page xx.

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.

- When the display shows the title of the currently selected memo, slide the navigation key up or down to display the memo you want to play.
- Press the navigation key or the **Play** soft key to play back the recorded message currently displayed.
- 3. When you have finished reviewing, press the **Stop** soft key.
- If you want to delete the memo, press the **Delete** soft key.
- 5. When the phone confirms your selection, press the navigation key or the **Yes** soft key.
  - If you do not want to delete the memo, press the  ${f No}$  soft key.
- 6. Repeat steps 1 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.

- The display shows the title of the currently selected memo. Slide the navigation key up or down to scroll to the memo title you want to edit.
- 2. Press the navigation key or the **Edit** soft key.
- 3. Enter the desired title up to 16 digits using the keypad. For details on entering characters, see page xx.
- When entering is done, press the navigation key or the Save soft key to save the new title.
- 5. When you have finished, press the key to return 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 \( \strice{\sing{\sing{\sing{\strice{\strice{\strice{\strice{\sing{\sii}}\sing{\sing{\sing{\sing{\sing{\sing{\sing{\sing{\sing{\sing{\s
- 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 ( no 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. More 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 (\(\mathbf{T}\_{\text{id}}\)); the number of bars after it indicates the signal strength from strong (\(\mathbf{T}\_{\text{id}}\)) to weak (\(\mathbf{Y}\_{\text{i}}\)).
- 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 the 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.

# Health and Safety Information

### **Exposure to Radio Frequency (RF) Signals**

Your mobile phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. Those guidelines are consistent with the safety standard previously set by both U.S. and international standards bodies:

- American National Standards Institute (ANSI) IFFE, C95.1-1992
- National Council on Radiation Protection and Measurement (NCRP). Report 86
- International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996
- Ministry of Health (Canada), Safety Code 6.

The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless mobile phones employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit set by the FCC is 1.6W/kg.\*

Tests for SAR are conducted using standard operating positions specified by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operation 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. (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 safety exposure.

For body worn operation, to maintain compliance with FCC RF exposure guidelines, use only Samsung-approved accessories. When carrying the phone while it is on, use the specific Samsung belt-clip that has been tested for compliance.

Use of non-SAMSUNG-approved accessories may violate FCC RF exposure guidelines and should be avoided.

In the U.S. and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kg(w/kg) averaged over on 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.

For additional information concerning exposure to radio frequency signals, 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

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

**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

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

### **Precautions When Using Batteries**

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

- 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 back of 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

### **Road Safety**

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

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

- Get to know your wireless phone and its features such as speed dial and redial. If available, these features help you to place your call without taking your attention off the road.
- 2. When available, use a hands-free device. If possible, add an 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.

- 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, and 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 that have the potential to divert your attention from the road.
- 8. Use your wireless phone to call for help. Dial 9-1-1 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 9-1-1 or other local emergency number, as you would want others to do for you.

10. Call roadside assistance or a special nonemergencies 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 nonemergency wireless number.

### **Operating Environment**

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

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

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



### **Electronic Devices**

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

### **Pacemakers**

Pacemaker manufacturers recommend that a minimum separation of 6 inches (20 cm) be maintained between a hand-held wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research.

Persons with pacemakers:

- Should always keep the phone more than 6 inches (15 cm) from their pacemaker when the phone is switched on;
- Should not carry the phone in a breast pocket;
- Should use the ear opposite the pacemaker to minimize the potential for interference.
- If you have any reason to suspect that interference is taking place, switch off your phone immediately.

### **Hearing Aids**

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

### Other Medical Devices

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

### **Vehicles**

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

### **Posted Facilities**

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



### **Potentially Explosive Atmospheres**

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

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

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

### Vehicles

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

Check regularly that all mobile phone equipment on your vehicle is mounted and operating properly.

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

For vehicles equipped with an air bag, remember that an air bag inflates with great force. Do not place objects, including both installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

Switch off your phone before boarding an aircraft. The use of mobile phones in an aircraft may be dangerous to the operation of the aircraft, disrupt the wireless telephone network and may be illegal.

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



### **Emergency Calls**

### Important!

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

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

### To make an emergency call:

- 1. If the phone is not on, switch it on.
- 2. Key in the emergency number for your present location (for example, 911 or other official emergency number). Emergency numbers vary by location.
- 3. Press < >>.

If certain features are in use (keyguard, restrict calls, etc.), you may first need to turn those features off before you can make an emergency call. Consult this document and your local cellular service provider.

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

### Care and Maintenance

Your phone is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfill any warranty obligations and allow you to enjoy this product for many years. When using your phone, battery, charger, OR any accessory:

- Keep it and all its parts and accessories out of small children's reach.
- Keep it dry. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits.
- Do not use or store it in dusty, dirty areas as its moving parts can be damaged.
- Do not store it in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store it in cold areas. When the phone warms up (to its normal operating temperature), moisture can form inside the phone, which may damage the phone's electronic circuit boards.
- Do not drop, knock or shake it. Rough handling can break internal circuit boards.

- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean it. Wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.
- Do not paint it. Paint can clog the device's moving parts and prevent proper operation.
- Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications of attachments could damage the phone and may violate regulations governing radio devices.
- If the phone, battery, charger, or any accessory is not working properly, take it to your nearest qualified service facility. The personnel there will assist you, and if necessary, arrange for service.

### **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.

### **Calling Line Identification Services (Caller-ID)**

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

### **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.

### **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 can be displayed, received, edited or sent.

### Soft Keys

Keys marked and 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.



## Index

# The index will be updated in later version.

| A Accessories • 7 Adjusting volume • 22 Alarm (5.4) • 76 Alert Type (3.3) • 59 Answering a call • 22 a second call • 42 Answer mode (4.5) • 66 Auto Redial (4.4) • 66   | restriction (6.3) • 78 SOS (6.4) • 80 time (1.4) • 51 via the phonebook • 21 waiting (7.3) • 42, 82 Care • 96 Changing lock code (6.1) • 78 security code (6.2) • 78 Characters entering • 31 Charging batteries • 16             | E Earphone • 7 Earpiece adjusting the volume • 20 Editing memos • 71 messages • 54 missed calls • 24 phonebook numbers • 34 To Do List • 73 Voice memo title • 91 Erasing           | K Key tones adjusting the volume • 22 muting • 41 selecting • 59 sending • 41 Keys description • 9 location • 8 navigation • 27   |
|---|---|---|---|
| B Backlight • 13; 64 contrast • 65 Batteries charging • 16 installing • 14 low battery indicator • 17 precautions • 94 removing • 15  | Composer Melody (3.9) • 61 Conference calls • 43 Connect to Voice Mail (2.1) • 52 tone (3.8) • 61 Contrast • 65 Correcting numbers • 20  D Date   | memos • 72 missed calls • 25 phonebook numbers • 34 tasks • 74 voice memo • 89 Error Tone (3.6) • 60  F Functions selecting • 26  | L Language (4.7) • 67 Last number redialing • 21 Length of calls • 51 Letters entering • 31 Light backlight • 13; 64 service • 13; 65 Lock code • 78 Locking phone • 19 Low battery indicator • 17  |
| Calculator (5.5) • 78 Calendar (5.1) • 70 Caller group • 36 ID • 23 Calling card(4.9) • 68 Calls answering • 22 a second call • 42 conference • 43 diverting (7.1) • 81 ending • 21 holding • 39 incoming (1.2) • 51 international • 20 making • 20 missed • 23: 50 outgoing (1.3) • 51 records (1) • 50 redialing automatically • 66 | format (5.3.4) • 75 setting (5.3.2) • 75 Deleting memos • 72 missed calls • 25 phonebook numbers • 34 tasks • 74 voice memo • 89 Display • 11 contrast • 69 icons • 12 setting the language (4.7) • 67 Diverting calls (7.1) • 81 | G Games (8) • 85 Greeting Message (4.1) • 64 Groups caller • 36  H Holding calls • 39  I Icons description • 12 ID, caller • 23 Identifying a caller • 23 Incoming Calls (1.2) • 50 | Maintenance • 98 Melody Composer (3.9) • 61 Memory status • 38 Memos editing • 71 erasing • 72 writing • 71 Menus by scrolling • 44 by shortcut • 45 list • 46 using • 44 Message Tone (3.5) • 60 Messages greeting (4.1) • 64 preset (2.4) • 56 reading (2.2) • 53 setup (2.5) • 56 voice mail (2.1) • 52 writing (2.3) • 55 |



Index

| Microphone mute • 40 Microphone mute • 40 Minute Minder (3.7) • 61 Missed calls (1.1) • 50 deleting • 25 editing the number • 24 viewing • 23; 50 Mute key tones • 41 microphone • 40  N NAM, selecting (7.5) • 84 Names entering • 31 options • 36 searching/dialing • 35 storing in the phonebook • 30 Network Selection (7.3) • 82 Network Services (7) • 81 Number correcting • 20 editing missed call • 24; 50 phonebook • 34 erasing phonebook • 34 moving phonebook • 35 own • 38 redialing • 21 automatically • 66 searching/dialing • 35 storing in the phonebook • 30 | Phone locking • 19 Settings (4) • 64 switching on/off • 18 Phonebook • 30 dialing • 35 editing numbers • 34 erasing numbers • 34 making calls • 20 moving numbers • 34 options • 33 searching • 35: 41 storing numbers/names • 30 Playing, voice memo • 89 Preset Message List (2.4) • 56 Problem solving • 92  R Read Messages (2.2) • 52 Recording, voice memo • 88 Redialing automatically • 66 last number • 21 Replaying, voice memo • 89 Reset Settings (4.8) • 67 Restriction, call • 79 Ring Ione (3.2) • 58 type • 59 Volume (3.1) • 58 Roaming • 82 | S (continued) Sending key tones • 41 messages • 55 Service code (7.6) • 85 Service light • 13; 65 Setting alarm (5.4) • 76 date (5.3.2) • 75 display language • 67 time (5.3.1) • 74 Settings resetting (4.8) • 67 Setup (2.5) • 56 Sillent mode • 25 Silde Menu (4.6) • 67 SMS setup (2.5) • 56 text message icon • 52 using • 42; 52 Soft keys, using • 26 Solving problems • 92 Sound Settings (3) • 58 Speed Dialing • 32 Switching on/off microphone • 40 phone • 18  T Tasks defining • 72 deleting • 74 editing • 73 sorting • 77 | Tone connect (3.8) • 61 error (3.6) • 60 length (3.4) • 59 melody • 58 message (3.5) • 60 ring (3.2) • 58 Travel charger • 16  V Vibration • 59 Voice mail (2.1) • 52 Voice memo pad • 88 Voice privacy (7.4) • 84 Voice privacy (7.4) • 84 Voice server Number (2.1.2) • 53 Volume adjusting • 22 selecting the ring (3.1) • 58  W Waiting call • 42; 82 World Time (5.3.3) • 75 Write Messages (2.3) • 55 Writing memos • 71 |
|---|---|--|--|
| O Options selecting • 26 Organizer (5) • 70 Outgoing Calls (1.3) • 51 Own Number • 38   | Safety batteries • 94 information • 96 precautions • 5 Security (6) • 78 Schedule • 68 Searching for names/numbers • 35; 41 Security code • 78 Selecting functions/options • 26   | Text messages • 52 icon • 52 preset (2.4) • 56 reading (2.2) • 53 setup (2.5) • 56 writing (2.3) • 55 Time calls (1.4) • 51; 61 format (5.3.4) • 73 setting (5.3.1) • 72 world (5.3.3) • 73 To Do List (5.2) • 72  |  |





### Access the Menu Function

- ① Press the **Menu** soft key.
- 2 Scroll through the list of menus until you reach the required menu by sliding the navigation up or down.
- 3 Press the navigation or the Select soft key.
- Scroll through the list of options until the required one is selected by sliding the navigation up or down.
- ⑤ Press the navigation or the **Select** soft key.

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

### **TDMA Mobile Telephone STH-N375 Quick Reference Card**

| Switch On/Off                            | Press and hold ♠.  |
|--|--|
| Make a Call                              | ① Key in the number.<br>② Press 🦜 .  |
| End a Call                               | Briefly press ♠⁄₀.   |
| View Missed<br>Calls right<br>after they | ① Open the phone and press the <b>View</b> soft key.                             |
| were missed                              | ② Scroll through the<br>missed calls by sliding<br>the navigation up or<br>down. |
|  | ③ To return the call,<br>press   |





| •  |             |  |                          |
|--|-------------|--|--------------------------|
| © To make a call, press the                      |             | key to confirm.  |                          |
| navigation up or down.                           |             | or the <b>Select</b> soft                                  |                          |
| names, slide the                                 |             | ③ Press the navigation                                     |                          |
| To scroll through the                            |             | iviciouy   |                          |
| ③ Press the Search soft key.                     | FIIOITEDOOK | Melody and Step  |                          |
| name.  | In the      | Vibration, Vibra+  |                          |
| @ Enter the start of the                         | a Number    | Light only, Melody,  |                          |
| ① Press the <b>Name</b> soft key.                | Search for  | © Select an option:  |                          |
| © Press the navigation or th <b>OK</b> soft key. |             | <ul><li>Select the Alert Type menu option (3.3).</li></ul> | Choose the<br>Alert Type |
| location.  |             |  | volume                   |
| ® If necessary, change the                       |             | or down during a call.                                     | Larpiece                 |
| <b>OK</b> soft key.                              |             | Slide the navigation up                                    | Adjust the               |
| Press the navigation or th                       |             |  |                          |
| ③ Enter the name.                                | Phonebook   | Press J  |                          |
| @ Press the Save soft key.                       | Numbers     | Or   | Call                     |
| ① Key in the number.                             | Store       | Open the flip cover  | Answer a                 |
| 7  |             |  |                          |



# 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, followup 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.<sup>3</sup>
- 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.<sup>4</sup>

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 radiationemitting 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/

<sup>&</sup>lt;sup>1</sup>Muscat et al. Epidemiological Study of Cellular Telephone Use and Malignant Brain Tumors. In: State of the Science Symposium;1999 June 20; Long Beach, California.

<sup>&</sup>lt;sup>2</sup> Tice et al. Tests of mobile phone signals for activity in genotoxicity and other laboratory assays. In: Annual Meeting of the Environmental Mutagen Society, March 29, 1999, Washington, D.C.; and personal communication, unpublished results.

<sup>&</sup>lt;sup>3</sup> Preece, AW, Iwi, G, Davies-Smith, A, Wesnes, K, Butler, S, Lim, E, and Varey, A. Effect of a 915-MHz simulated mobile phone signal on cognitive function in man. Int. J. Radiat. Biol., April 8, 1999

<sup>&</sup>lt;sup>4</sup> 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.