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# Manual do Usuário

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CDMA / AMPS / PCS TRI MODE PHONE

# VX1

 **verizon**wireless



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# User Guide



# VX1

CDMA / AMPS / PCS TRI MODE PHONE

 **verizon**wireless

Download from [www.somanua.com](http://www.somanua.com)

# LIMITED WARRANTY STATEMENT

## 1. WHAT THIS WARRANTY COVERS:

LG offers you a limited warranty that the enclosed subscriber unit and its enclosed accessories will be free from defects in material and workmanship, according to the following terms and conditions:

- (1) The limited warranty for the unit and enclosed accessories shall be a period of one (1) year from the date of original purchase. The remaining warranty period for the unit being repaired or replaced shall be determined by presentation of the original sales receipt for the purchase of the unit.
- (2) The limited warranty extends only to the original purchaser of the product and is not assignable or transferable to any subsequent purchaser/end user.
- (3) The limited warranty is good only to the original purchaser of the product during the warranty period as long as it is in the U. S., including Alaska, Hawaii, U. S. Territories, and all Canadian Provinces.
- (4) The external housing and cosmetic parts shall be free of major defects at the time of shipment and, therefore, shall not be covered under these limited warranty terms.
- (5) Upon request from LG, the consumer must provide information satisfactory to LG to prove the date of purchase or exchange.
- (6) The customer shall bear the cost of shipping the product to the Customer Service Department of LG. LG shall bear the cost of shipping the product back to the consumer after the completion of service under this limited warranty.

## 2. WHAT THIS WARRANTY DOES NOT COVER:

- (1) Defects or damage resulting from use of the product in other than its normal and customary manner.
- (2) Defect or damage from abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connections, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of LG, including damage caused by shipping, blown fuses, or spills of food or liquid.
- (3) Breakage or damage to antennas unless caused directly by defects in material or workmanship.
- (4) Alleged defects or malfunctions of the product if the Customer Service Department at LG was not notified by the consumer during the applicable limited warranty period.
- (5) Products, which have had the serial number, removed or made illegible.

- (6) This limited warranty is in lieu of all other warranties, express or implied either in fact or by operations of law, statutory or otherwise, including but not limited to any implied warranty of marketability merchantability or fitness for a particular use.
- (7) Damage resulting from use of non-LG approved accessories.
- (8) All plastic surfaces and all other externally exposed parts that are scratched or damaged due to normal customer use.
- (9) Products operated outside published maximum ratings.
- (10) Products used or obtained in a rental program.
- (11) Consumables (such as fuses).

### 3. STATE LAW RIGHTS:

No other express warranty is applicable to this product. THE DURATION OF ANY IMPLIED WARRANTIES, INCLUDING THE IMPLIED WARRANTY OF MARKETABILITY OR MERCHANTABILITY, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN. LG INFOCOMM U.S.A., INC. SHALL NOT BE LIABLE FOR THE LOSS OF THE USE OF THE PRODUCT, INCONVENIENCE, LOSS OR ANY OTHER DAMAGES, DIRECT OR CONSEQUENTIAL, ARISING OUT OF THE USE OF, OR INABILITY TO USE, THIS PRODUCT OR FOR ANY BREACH OF ANY EXPRESS OR IMPLIED WARRANTY, INCLUDING THE IMPLIED WARRANTY OF MARKETABILITY OR MERCHANTABILITY APPLICABLE TO THIS PRODUCT.

Some states do not allow the exclusive of limitation of incidental or consequential damages or limitations on how long an implied warranty lasts; so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights, which vary from state to state.

### 4. HOW TO GET WARRANTY SERVICE:

To obtain warranty service, please call the following telephone number from anywhere in the continental United States:

Tel. 1-800-793-8896  
[www.lgeservice.com](http://www.lgeservice.com)

Please call or write for the location of the LGE authorized service center nearest you and the procedures for obtaining warranty claims.



201 JAMES RECORD ROAD, HUNTSVILLE, AL 35824

## 10 Driver Safety Tips

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

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

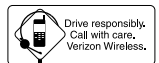
1. Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable features most phones offer, including automatic redial and memory. Also, work to memorize the phone keypad so you can use the speed dial function without taking your attention off the road.
2. When available, use a hands-free device. A number of hands-free wireless phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.
3. Position your wireless phone within easy reach. Make sure you place your wireless phone within easy reach and where you can reach it without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voice mail answer it for you.
4. Suspend conversations during hazardous driving conditions or situations. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow and ice can be hazardous, but so is heavy traffic. As a driver, your first responsibility is to pay attention to the road.

5. Do not take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a **to do** list while driving a car, you are not watching where you are going. It's common sense. Don't get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.
6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan your calls before you begin your trip or attempt to coincide your calls with times you may be stopped at a stop sign, red light or otherwise stationary. But if you need to dial while driving, follow this simple tip--dial only a few numbers, check the road and your mirrors, then continue.
7. Do not engage in stressful or emotional conversations that may be distracting. Stressful or emotional conversations and driving do not mix--they are distracting and even dangerous when you are behind the wheel of a car. Make people you are talking with aware you are driving and if necessary, suspend conversations which have the potential to divert your attention from the road.
8. Use your wireless phone to call for help. Your wireless phone is one of the greatest tools you can own to protect yourself and your family in dangerous situations--with your phone at your side, help is only three numbers away. Dial 911 or other local emergency number in the case of fire, traffic accident, road hazard or medical emergency. Remember, it is a free call on your wireless phone!
9. Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity to be a "Good Samaritan" in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 911 or other local emergency number, as you would want others to do for you.
10. Call roadside assistance or a special wireless non-emergency assistance number when necessary. Certain situations you encounter while driving may require attention, but are not urgent enough to merit a call for emergency services. But you still can use your wireless phone to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless numbers.

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

For more information, please call to 888-901-SAFE, or visit our website [www.wow-com.com](http://www.wow-com.com)

Provided by the Cellular Telecommunications Industry Association



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

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

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

Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model phone when tested for use at the ear is 1.28 mW/g and when worn on the body, as described in this user guide, is 0.83 mW/g. (Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements). While there may be differences between SAR levels of various phones and at various positions, they all meet the government requirement for safe exposure.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF emission guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of <http://www.fcc.gov/oet/fccid> after searching on FCC ID BEJTM520.

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

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

## SUBJECT

The VX1 phone has been designed to operate on the latest digital mobile communication technology, Code Division Multiple Access (CDMA). This CDMA digital technology has greatly enhanced voice clarity and can provide a variety of advanced features. Currently, CDMA mobile communication technology has been commercially used in Cellular and Personal Communication Service (PCS).

The difference between them is operating frequency spectrum. Cellular uses 800Mhz and PCS uses 1.9Ghz. The VX1 operates on both frequencies, this is called a dual-mode phone. Also, the VX1 works on Advanced Mobile Phone Service (AMPS). We call it a tri-mode phone. If one of the Cellular, PCS or AMPS base stations is located nearby, call fail rate of a tri-mode phone is less than a dual-mode phone or a single-mode phone.

CDMA technology adopts DSSS (Direct Sequence Spread Spectrum). DSSS enables the phone to keep communication from being crossed and to use one frequency channel by multiple users in the same specific area, resulting in a 10 fold increase in capacity when compared with the analog mode currently used. Soft/Softer Handoff, Hard Handoff, and Dynamic RF power Control technologies are combined into this phone to reduce call interruptions.

The Cellular and PCS CDMA networks consist of MSO (Mobile Switching Office), BSC (Base Station Controller), BTS (Base station Transmission System), and MS (Mobile Station). The following table lists some major CDMA Standards.

CDMA Standard	Designator	Description
Basic air interface	TIA/EIA/IS-95-A	Protocol between MS and BTS for Cellular & AMPS
	ANSI J-STD-008	Protocol between MS and BTS for PCS
Network	TIA/EIA/IS-634	MAS-BS
	TIA/EIA/IS/651	PCSC-RS
	TIA/EIA/IS-41-C	Intersystem operations
	TIA/EIA/IS-124	Nom-signaling data comm.
Service	TIA/EIA/IS-96-B	Speech CODEC
	TIA/EIA/IS-99	Assign data and fax
	TIA/EIA/IS-637	Short message service
	TIA/EIA/IS-657	Packet data
Performance	TIA/EIA/IS-97	Cellular base station
	TIA/EIA/IS-98	Cellular mobile station
	ANSI J-STD-018	PCS personal station
	ANSI J-STD-019	PCS base station
	TIA/EIA/IS-125	Speech CODEC

※ TSB -74: Protocol between an IS-95A system and ANSI J-STD-008

1xRTT system receives subscribers in wireless section twice as much as IS-95. Its battery life is twice as long as IS-95. High-speed data transmission is also possible.

# Introduction

## Highlights

Congratulations! Your new mobile phone will change the way you communicate and is a compact, lightweight personal communication system with added features for the person on the go. Our advanced digital mobile communication technology features the following:

- Large, easy-to-read, 8-line, backlight LCD with status icons.
- Paging, messaging, voice mail, and caller ID.
- 18-key keypad.
- Long battery standby and talk time.
- Menu-driven interface with prompt for easy operation and configuration.
- Any key answer, auto answer, auto retry, and one touch dialing and speed dialing with 199 memory locations.
- Bilingual (English and Spanish menu languages are available).
- Optional accessories. (see pages 119~121)

## Important Information

This user guide provides important information on the use and operation of your VX1 phone. Please read all the information carefully prior to using the phone for best performance and to prevent any damage to or misuse of the phone. Any unapproved change or modification will void your warranty.

## Check Accessories

Your mobile phone comes with the following accessories, a one-slot desktop charger and a rechargeable battery. Please verify your accessories are included.



# Before You Start

## Safety Instructions

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

**IMPORTANT!** Please read the SAFETY AND GENERAL INFORMATION on page 123 before using your phone.



### FCC RF Exposure Information

**WARNING!** Read this information before operating the phone.

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

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

### CAUTION

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

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

## Body-worn Operation

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

## Vehicle Mounted External Antenna (optional, if available)

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

For more information about RF exposure, visit the FCC website at [www.fcc.gov](http://www.fcc.gov)

## FCC Part 15 Class B Compliance

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

### Cautions for Battery

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

### Battery Disposal

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

### Adapter (CHARGER) Cautions

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

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

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## Chapter 1. Getting Started

### Cautions

- ▶ Using the phone near receiving equipment (i.e., TV or radio) may cause interference.
- ▶ Keep your phone in a safe place when not in use.
- ▶ Only use the batteries, antennas and chargers provided by LG. Using unauthorized accessories could void your warranty.
- ▶ Only authorized personnel should service the phone and its accessories. Faulty installation or service may result in accidents and consequently void the warranty.
- ▶ Do not hold the antenna while the phone is in use.
- ▶ Do not use the phone in designated **no cellular phone use** areas.
- ▶ Do not expose the phone to high temperature or humidity.
- ▶ Avoid getting your phone wet. If the phone gets wet, turn the power off immediately and remove the battery. If the phone is non-functional, return it to the dealer for service.
- ▶ Avoid shock or impact on the phone.

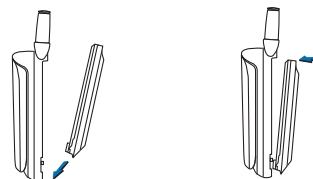
### Using the Battery Pack

**Charge the battery fully before the initial use of the phone.**

The phone comes with a rechargeable battery. Keep the battery charged while not in use in order to maximize talk and standby time when using the phone.

#### Installing the Battery

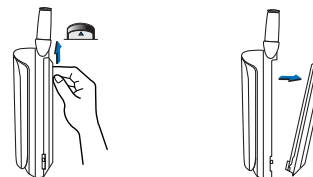
To install the battery, insert the bottom of the battery into the opening on the back of the phone. Then, push the battery down until the latch clicks.



#### Removing the Battery

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

By lifting removal button the battery will become detached.



## Battery Charge Level

The battery charge level is shown at the top right of the LCD screen.



When the battery charge level becomes low, the low battery sensor will alert you in three ways: sounding an audible tone, blinking the battery icon outline, and displaying **LOW BATTERY WARNING!** If the battery charge level becomes exceedingly low, the phone will automatically switch off and any function in progress will not be saved.

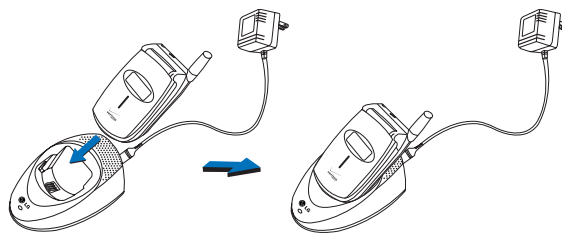
## Using the Desktop Charger

The Desktop charger has a slot for recharging batteries. The slot accommodates phone and battery for charging.

**Warning!** Use only the Desktop charger provided with the phone. Using an unauthorized charger may cause damage to your phone or battery.

1. Plug the charger into a wall outlet.
  - ▶ The phone must be charged from a 110 V power source only.
2. Insert the phone with an installed battery or a battery into the slot of the charger.
  - ▶ Red light indicates the battery is being charged.
  - ▶ Green light indicates the battery is fully charged.

Charge time will vary depending upon battery level. Maximum charge time for a fully discharged battery will not exceed 3 hours.

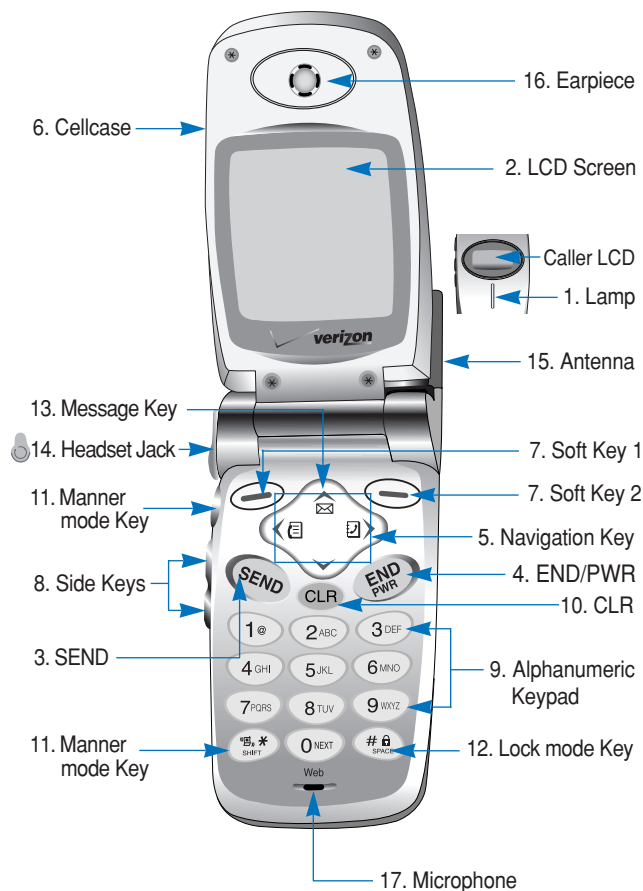


## Caring for the Battery






1. To recharge the battery, you do not need to wait until the battery is completely discharged.
2. Use only LG batteries and chargers specific to your model of phone. LG's chargers are designed to maximize the battery life.
3. Do not disassemble or short-circuit the battery.
4. Keep the metal contacts of the battery clean.
5. Replace the battery when it no longer provides acceptable performance. The battery may be recharged several hundred times before it needs replacing.
6. Recharge the battery if it has not been used for a long time to maximize battery life.
7. Do not expose the battery charger to direct sunlight or use it in areas of high humidity, such as the bathroom.
8. Do not leave the battery in hot or cold places, this may deteriorate battery performance.
9. Your battery life may vary by location, use patterns, etc.
10. Long backlight settings, searching for service, MiniBrowser, data connectivity and synchronization all may affect battery life, talk and standby time.


## Phone components

The following shows key components of your mobile phone.





## Phone Overview

1. **Lamp** The red light shows when you turn the power on and when you have incoming calls and messages.
2. **LCD screen** Displays messages and indicator icons.
3. **SEND** Allows a user to place or answer calls.
4. **END/PWR** Used to turn power on/off and to end a call. Using this key, you can return to the main menu display screen.
5. **Navigation Key** This Navigation key allows quick access to  text and voice mail notification messages.  Calendar,  Outgoing Call list,  Name search.
6. **Cellcase** Open the cellcase to answer an incoming call and close to end the call.
7. **Soft Keys**
  - Soft Key 1 











Used to display the function setting menu.
  - Soft Key 2 

Press this key once in a menu, to go back one level.
8. **Side Keys** Enables you to adjust key beep volume (in standby mode) and earpiece volume (during a call).  
When your phone rings press either side key to mute the ringer or vibration for that call only.

9. **Alphanumeric keypad** Enables you to enter numbers and characters and to choose menu items.
10. **Clear Key** Press to delete a single space or character. Press and hold to delete entire words.
11. **Manner Mode Key**
  - In standby mode, set the manner mode by pressing and holding the  key about 3 seconds.
12. **Lock Mode Key**
  - In standby mode, set the lock function by pressing and holding the  key about 3 seconds.
13. **Message Key**
14. **Headset Jack**
15. **Antenna**
16. **Earpiece**
17. **Microphone**

## Onscreen Icons

The phone screen displays several onscreen icons which appear when the phone is powered on.

-  Displays the strength of the signal received by the phone and current signal strength is indicated by the number of bars displayed on the screen.
-  No service  
The phone is not receiving a system signal.
-  In use  
A call is in progress.  
\* No icon indicates the phone is in standby mode.
-  Digital indicator  
Digital service is available.
-  Analog indicator  
Analog service is available.
-  Indicates that a text message or voice mail has been received.
-  Roaming  
The phone is outside of its home service area.
-  In Vibration mode
-  In Alarm mode
-  Charge level  
Indicates battery charge level.

## Entering Information Using T9 Text Input



You can edit the Banner, Scheduler, Short Message and Phone Book using T9 Text Input.



### Key Functions


**Soft Key 2** : Press to scroll and select a mode through menus.


- You can scroll through the modes using Soft Key 2 in the following order : Abc → 123 → Symbol → Help → T9En

- SHIFT Key (): Used to change the letter case.


 ~  (Type Text): In T9 mode, press one key per letter to enter text.

 ~  (Type Numbers): In 123 (Numbers) mode, press once to enter numbers.

 (Next): In T9 mode, press to display other matching words.

 (Punctuation): In T9 mode, press to insert punctuation in a word and complete a sentence.

 (Space): Press to complete a word or insert a space.

 (Clear): Press to delete a single space or character.  
Press and hold to delete entire words.



## Input mode

T9 Text Input provides five modes for entering text, numbers, special characters, and punctuation.

### T9En (T9) Mode

Type text using one keystroke per letter. The default is T9 mode.

### ABC (Multi-tap) Mode


Use ABC mode to add words to the T9 database.

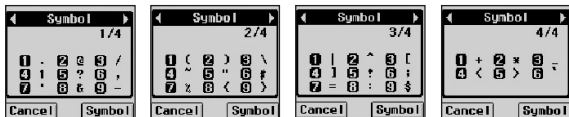
### 123 (Numbers) Mode

Type numbers using one keystroke per number. To change to 123 mode in a text entry field, press Soft Key 2 until 123 mode is displayed.

### SYMBOL Mode

Insert special characters and punctuation.

You may use any of the 33 special characters. When the cursor is located where you want the special character, switch to SYMBOL mode. Press Navigation Key  to cycle through and select from the following characters:



### T9Help Mode

Display T9 Help Text.


## Changing Letter Case

There are three options for selecting letter cases:

### Initial Cap (T9En/Abc)

Only the first letter is capitalized.

### Caps Lock (T9EN/ABC)

Press  to change letter case to Caps Lock. All subsequent letters are capitalized.

















### Lowercase (T9en/abc)

Press  again to change letter case to lowercase.


## Examples Using T9 Text Input

### Typing In T9 Mode






To type a new message, follow these steps:

1. Press: Soft Key 2  to change letter case to T9En mode.
2. Press:    .
3. Press:  to complete the word and add a space.
4. Press:          .
5. Display: Call the office.

## Using the NEXT Key














After you have finished typing a word, if the word displayed is not the word you want, press  to display additional choices.

For example, follow these steps :

1. Press:     .
2. Display: Good
3. Press:  .
4. Display: Home, Gone, Hood.....

## Adding Words to the T9 Database







If a word is not in the T9 database, add it by using **ABC (Multi-tap) mode** text entry. The word is automatically added to the T9 database when you return to T9 mode. For example, follow these steps:

1. Press: Soft Key 2  to change letter case to ABC (multi-tap) mode.
2. Press:      .
3. Display: lmt
4. Press: Soft Key 2  to change letter case to T9 mode and then the word lmt will be added to the T9 database
5. Press:  to erase the existing word.
6. Press:    .
7. Display: got
8. Press:   .
9. Display: lmt

## Examples Using ABC (Multi-tap) Text Input

### Typing In ABC (Multi-tap) Mode


To type a new message, follow these steps:

1. Press: Soft Key 2  to change letter case to ABC mode
2. Press:  to change to **ABC** Caps Lock mode
3. Press:     .
4. Display: LG

# Chapter 2. Basic Functions

## Turning the Phone On and Off


### Turning the Phone On

1. Install a charged battery pack or connect the phone to an external power source such as the cigarette lighter adapter or car kit.
2. Press  for a few seconds until the red light in the middle of the phone flashes.
  - ▶ Fully extend the antenna for the best performance.

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



### Turning the Phone Off






1. Press and hold  until display screen turns off, then release the key.
2. Protect the antenna by pushing it back into the phone, if extended.



## Making a Call

When you make a call, follow these simple steps:




1. Make sure the phone is turned on.
  - ▶ If not, press .
2. Enter the phone number, with area code (if needed).
3. Press .
- ▶ If the phone is locked, enter the lock code.
  - ▶ **Call Failed** indicates that the call did not go through.
4. Press to  the call.
5. **This phone has been restricted** If this message displays on your screen, then outgoing calls are in restricted mode. You can only dial phone numbers saved in Emergency or Phone Book list.
  - ▶ If you want to turn off this function, take the following step.  
**Menu** →  (Press four times) **Security** →  **Restrict** → Enter Lock Code → **No** → **Ok**
6. When one-touch is enabled, type in the phone book entry number and hold the last digit until the call is made.

**Note** Phone number and entry name appear on the display when you type in the entry number and hold the last digit.

## Correcting Dialing Mistakes

If you make mistakes while dialing a number, press **CLR** once to erase the last digit entered or hold down **CLR** for at least two seconds to delete all digits, or simply press Soft Key 2 **Back** to exit the dialing state.


## Receiving Calls

- When the phone rings, open the cellcase or if the cellcase is open, press any key (except **END CALL**, **END CALL**, **END CALL**, or **END CALL**) to answer.
 
  - ▶ If you press the **END CALL** or Side Keys (**END CALL**, **END CALL**, **END CALL**) while the phone is ringing, the ringing or vibration is muted for that call.
- Press **END CALL**, **END CALL** or **END CALL** twice to end the call.

## Using Manner & Lock Mode

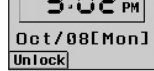
### Manner Mode (Quick)

Use Manner Mode in a public place.

- In standby mode, activate Manner Mode quickly by pressing the **END CALL**, **END CALL** (for 3 seconds) instead of using the Menu function.
 
    - ▶ When Manner Mode is set, **-Manner Mode-** (**END CALL**) is displayed on the LCD screen.
    - ▶ When Manner Mode is set, Key tone does not sound and Vibration is selected as the ringer.
- Note** To cancel Manner Mode, press **END CALL**, **END CALL** again until **Normal Mode Entered!** is displayed.

### Lock Mode (Quick)

Use to prevent others from using your phone.



- In standby mode, to activate the Lock Mode quickly, press the **END CALL** (for 3 seconds).
 

**Lock mode Setting!** will be displayed.
- Note** To cancel the Lock Mode, Press Soft Key 1 **Unlock**, then enter your password (4 digits).

The lock code (password) is commonly the last 4 digits of your phone number.



## Call Waiting

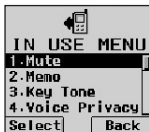
Your cellular service may offer a call waiting function. While a call is in progress, you may hear two beeps indicating another incoming call. When call waiting is enabled, you may put the active call on hold while you answer the other incoming call. Check with your cellular service provider for information about this function.

1. Press  to receive a waiting call.
2. Press  again to switch between calls.


## Mute

The mute function prevents the other party from hearing your voice, but allows you to hear the other party.

1. Press Soft Key 1 **Menu** and  during a call.
2. To cancel Mute, press Soft Key 1 **Menu** and  again.



## Redialing Calls

1. Press  to redial the last number in call history.
  - ▶ You can also redial any of the last 30 numbers you have dialed. The last 30 numbers are stored in the call history list. (See the Call History List on page 73.)

## Adjusting the Volume

The volume keys on the left side (Side Keys) of the phone can be used to adjust the earpiece, ringer, and key beep volumes. The upper key is used to increase and the lower key is used to decrease the volume.

- ▶ You may adjust the earpiece volume during a call.
- ▶ The ringer volume can be adjusted through the Menu feature.
- ▶ If you adjust the ringer volume to minimum or set the lamp in ringer type, the LCD displays **-Ringer Off-** and you will not hear the ringer sound.
- ▶ The key beep volume is adjusted through Menu feature.

## Power Save Mode

When the phone is in an area without service for about 15 minutes, it stops searching for service and enters into Power Save Mode. When your phone activates this feature, **Power Save** is displayed on the screen. The phone automatically checks for service periodically or you can check manually by pressing any key.

## Signal Strength

The call quality depends on the signal strength in your area. The current signal strength is displayed on the screen as the number of bars next to the signal strength icon: The more bars, the better the signal strength. If the signal quality is poor, move to an open area. If you are in a building, the reception may be better near a window. For maximum reception, make sure that the antenna is fully extended.

## Caller ID Display

The small LCD on the outside of the phone displays information such as:




- ▶ Date and Time.
- ▶ Caller ID (caller's information[name and/or number])
- ▶ Number of missed calls.
- ▶ Number of new messages.
- ▶ No service status and Power Save Mode.
- ▶ Wake up and scheduler message.

The phone will display most recent information until the cellcase is opened, then the information will appear on the main display.

## Speed Dialing (see *Making a call from Phone Book* on page 41.)

Speed dialing is a convenient feature, which allows you to make phone calls quickly and easily. Your phone recalls the phone number from your personal directory, displays it briefly and then dials it.

1. Enter memory location number 001 to 199 .
2. Press  .

## Caller ID

Caller ID lets you know who is calling by displaying the number of the person calling when your phone rings. If the caller's name and number are already stored in your phone book, the corresponding name appears with the number.

You should check with your service provider to ensure they offer this feature.

## Phone Book Features

You can store up to 199 entries in your phone book with easy access to your most frequently dialed phone numbers.

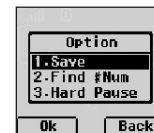
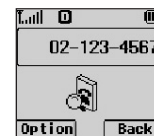
### Personal Phone Book Memory



The phone has 199 personal phone book memory locations where you can store up to 5 phone numbers with 32 digit capacity for each phone number.

### Saving Numbers in Your Personal Phone Book

Memory locations 1 through 9 should be used for one-touch dialing for your most frequently used phone numbers.

1. Input the phone number that you want to save (up to 32 digits).
2. Press Soft Key 1 **Option**, the sub-menu appears.
3. Select **Save** on the sub-menu.
4. The phone will prompt you for the memory location where the number will be saved. Press Soft Key 1 **Next** to automatically store the number in the first available memory location. You also have the option to enter a specific three-digit memory location number.





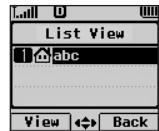
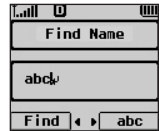
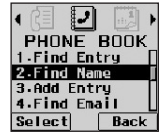
5. Select your desired label types **Home, Office, Mobile, Pager, Data/Fax** and **E-mail** using .
6. Enter a name for the phone number (up to 16 characters). If you do not want to enter a name, go to the next step.
7. You may select the desired ID ring type, secret and .
8. Press Soft Key 1 **Save**.  
A confirmation prompt **Saved! Thanks!** displays on the phone.



## Retrieving Numbers

### Retrieving by Name Search



1. Press Soft Key 2 **PIM**.
2. Press  **Find Name**.
3. Enter the character(s) that you want to search for (such as the few letters of the name.)
4. Press Soft Key 1 **Find**.
5. You will see a list of matches.
6. Press Soft Key 1 **View** to see specifics in that memory location, or press  to place the call.






## Retrieving Phone Numbers Using Memory Location Number.

From the initial display, press Soft Key 2 **PIM** and then select Find Entry. Enter the location number to be retrieved.

To search for stored phone numbers, from the initial display enter a specific number(s) and a list containing that number(s) appears. If you want to make a call, select the number you want by using , then press .

## How do I add phone numbers, names, and e-mail address on a previously saved number in my Personal Phone Book (See pages 69 ~72)


## Making a call from Your Phone Book

You can place a call from any memory location either by using speed dialing or by entering the phone number and pressing .

**One-Touch Speed Dialing**: This feature enables you to store your nine most frequently used numbers in your phone book in memory locations (1 through 9)

- ▶ For locations 1 through 9, you can use one-touch dialing (if enabled, see **One-Touch** on page 60) by pressing and holding the corresponding key to the memory location to be dialed.

OR

- ▶ Press a digit, then press .

**Two-Touch Speed Dialing:** This feature enables you to dial numbers in your phone book through two keys (for locations 10 to 99.)

- 1) Press the first digit.
- 2) Press and hold the key of the second digit.


**OR**

- 1) Press the first and second digit, then press .


**Three-Touch Speed Dialing:** This feature enables you to dial numbers in your phone book by pressing three keys (for locations 100 to 199.)

- 1) Press the first and second digits.
- 2) Press and hold the key of the third digit.

**OR**

- 1) Press the first, second, and third digits, then press .



### Dialing from a Memory List

- 1) From a memory list, press the scroll keys to go to the memory location you want.
- 2) Press .

### Dialing from a Memory Location

- ▶ While viewing a memory location, press to call.

## Advanced Phone Book Features

1. **Pause Feature:** When you call automated systems (such as voice mail or credit billing numbers), you often have to enter a series of numbers. Instead of entering these numbers by hand, you can store the numbers in your phone book separated by special characters (eg. , ) called pauses.

There are two different pauses that you can use when storing a number:

#### ▶ Hard Pause (H)


The phone will stop dialing until you press Soft Key 1 **Resume** to advance to the next number.

#### ▶ Time Pause (T)


The phone will wait two seconds before sending the next string of digits.

2. Storing a number with pauses

- 1) Enter the phone number.
- 2) Press Soft Key 1 **Option**.
- 3) Select one of the following:
  - ▶ Press **Hard Pause**.
  - ▶ Press **Time Pause**.
- 4) Enter additional number(s) (e.g., pin number or credit card number).

- 5) Press Soft Key 1 **Option** and press Soft Key 1 **Ok**, the sub-menu will appear. Select **Save** on the sub-menu to save this number with pauses.
- 6) The phone will prompt you for the memory location where the number will be saved. Press Soft Key 1 **Next** to automatically store the number in the first available memory location. You also have the option to enter a specific three-digit memory location number.
- 7) Select your desired label type **Home, Office, Mobile, Pager, Data / Fax** or **E-mail** using  .
- 8) Enter a name for the phone number (up to 16 characters.) If you do not want to enter a name, go to the next step.  
Press Soft Key 1 **Save**. A confirmation message **Saved! Thanks!** displays on the phone.

3. Prepending a Stored Number **Prepend** can be used if you are out of your home system area and need to add the area code to an existing phone book number. When a phone book entry or message callback number shows up on the display, you can add to the beginning of the original number. However, you cannot edit the original number during Prepend.

- 1) Recall a number in memory.
- 2) Enter the prepend digits and the phone number.
- 3) Press  .

#### 4. Dynamic Search

##### ▶ Number Dynamic Search



Compares entered numbers against the entries in the phone book and then displays a matching list in descending order. You can then call a number from the list.

##### ▶ Name Dynamic Search

Compares entered letters against the entries in the phone book and then displays a matching list in descending order. You can then call a number from the list.

## Chapter 3. Menu Features




### General Guidelines to MENU Access and Settings

1. Press Soft Key 1 **Menu**. Four menu items will appear on the display screen.
2. Press  to go through the list of menu features.
3. Press the corresponding number to the menu item that you want to select. Then the sub-menu list will appear on the screen.
4. Press the appropriate key to select the sub-menu you want to access.
5. Select preferred settings, using the . Press Soft Key 2 **Back** to go one step backward while accessing menu or selecting settings.
6. Press Soft Key 1 **Ok** to save the settings or Soft Key 2 **Back** to cancel without saving.

## SOUND (Menu)

### Ring Sound (Menu )

To select a Ring Sound.

1. Press Soft Key 1 **Menu**.
2. Press  **Ring Sound**.
3. Press  or  until you find the sound you desire.
4. Then press Soft Key 1 **Ok** to save the ring sound.



**Note** The beep or bell may cause a serious injury to the eardrum, so the phone increases the volume incrementally.

## Ring Type (Menu **2abc**)

To select a Ring Type.

1. Press Soft Key 1 **Menu**.
2. Press **2abc** **Ring Type**.
3. Select one of six ring types **Ring**, **Vibrate**, **Vib1+Ring**, **Vib2 +Ring**, **Vib3+Ring** and **Lamp** with **↑↓** or **↻**.



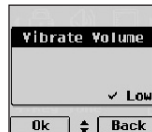
**Note** The number after Vib means the number of vibrations.

4. Then press Soft Key 1 **Ok** to save the ring type.

## Ring & Vib Vol. (Menu **3DEF**)

To select a Ring & Vib Vol.

1. Press Soft Key 1 **Menu**.
2. Press **3DEF** **Ring & Vib Vol.**
3. Adjust the volume of the ringer or level of the vibrate with **↑↓** or **↻**.
4. Then press Soft Key 1 **Ok** to save the ring volume or vibrate level.



## Key Tone (Menu **4GHI**)

To set Key Tone length and touch tone playback speed.

1. Press Soft Key 1 **Menu**.
2. Press **4GHI** **Key Tone**.
3. Set **Normal/Long** with **↻** or **↑↓** and then press Soft Key 1 **Ok**.






- ▶ **Normal** Sends out a tone for a fixed period of time even if you keep the key pressed.
- ▶ **Long** Sends out a continuous tone for as long as you keep the key pressed.

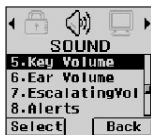
**Note** Use the side key volume buttons on the side keys of the phone. The upper button increases the volume and the lower button decreases the volume.

**Note** Dual-Tone Multi Frequency (DTMF) Signaling by the simultaneous transmission of two tones, one from a group of low frequencies and another from a group of high frequencies. Each group of frequencies consists of four frequencies. Setting Key Beep length to long will extend the DTMF tone. Press **Menu**, then press **4GHI** **Key Tone** Using **↻** then select Long. Press Soft Key 1 **Ok**.


## Key Volume (Menu 5.M.)




To adjust the key beep volume.

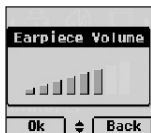
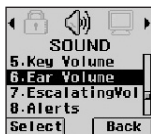
1. Press **Soft Key 1 Menu**.
2. Press **5.M. Key Volume**.
3. Adjust the key volume with    
or .
4. Then press **Soft Key 1 Ok** to save the key volume.



## Ear Volume (Menu 6.M.)




To adjust the earpiece volume during a call, press the  .

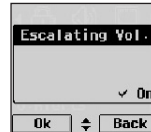
1. Press **Soft Key 1 Menu**.
2. Press **6.M. Ear Volume**.
3. Adjust the earpiece volume with   or .
4. Then press **Soft Key 1 Ok** to save the earpiece volume.



## Escalating Vol. (Menu 7.M.)

In order to protect your ears, when the cellcase is open, you may choose to escalate the ring volume from the minimum to maximum. It alerts you in a low volume. But if the cellcase is closed, it rings according to the ring volume regardless of the setting of Escalating Volume.

1. Press **Soft Key 1 Menu**.
2. Press **7.M. Escalating Vol.**
3. Set **Off/On** with  or   and then press **Soft Key 1 Ok**.



## Alerts (Menu )

Any of the four Alert options could be turned on or off.

1. Press Soft Key 1 **Menu**.
2. Press  **Alerts**.



▶ Check each option and turn it off if not desired.

- 1) Fade (Menu  )

Sets an alert to inform you when you have lost a call or services.

- 2) Minute (Menu  )

Alerts you 10 seconds before the end of every minute during a call.

- 3) Service (Menu  )



If on, alerts you when service changes.

When you enter a service area, the phone displays **Entering Service Area** message.

When you leave a service area, the phone displays **Leaving Service Area** message.

- 4) Call Connect (Menu  )



Alert tone notifies the user when the call is connected.

3. Choose among the options and press Soft Key 1 **Ok**.
4. Set **Off/On** with  or  and then press Soft Key 1 **Ok**.

## DISPLAY (Menu Press one time)

### Backlight (Menu Press one time, )

Choose the settings of the LCD and keypad backlight.

1. Press Soft Key 1 **Menu**.
2. Press  one time.
3. Press  **Backlight**.



4. Choose an option and press Soft Key 1 **Ok**.



- ▶ **10 seconds** turns the backlight off 10 seconds after the last key was pressed.
- ▶ **30 seconds** turns the backlight off 30 seconds after the last key was pressed.
- ▶ **On when Cellcase open** means that the backlight is always on while cellcase is open.
- ▶ **Always on** means that the backlight is always on.
- ▶ **Always off** means that the backlight is never on.

## Contrast (Menu) Press one time,

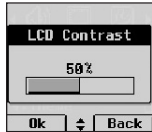
Using the Navigation Key, select the contrast setting using the scale of lightest to darkest.




1. Press Soft Key 1 **Menu**.



2. Press  one time.

3. Press  **Contrast**.



4. Adjust the contrast with   or .

5. Then press Soft Key 1 **Ok** to save the contrast setting.

## Banner (Menu) Press one time,

Enter the string of characters you want to be displayed (up to 16 characters.)

1. Press Soft Key 1 **Menu**.



2. Press  one time.

3. Press  **Banner**.



4. Enter a Banner name and then press Soft Key 1 **Save**.

## Theme (Menu) Press one time,

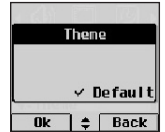
You can set up the screen displayed on the LCD screen in the standby mode. (Default Analog Clock)

1. Press Soft Key 1 **Menu**.



2. Press  one time.

3. Press  **Theme**.



4. Used to choose the theme between **Default** and **Analog Clock** and then press Soft Key 1 **Ok**.

## Language (Menu) Press one time,

Set the Bilingual feature according to your preference, choose between **English** and **Spanish**.




1. Press Soft Key 1 **Menu**.



2. Press  one time.

3. Press  **Language**.





4. Set **English/Spanish** with  or   and then press Soft Key 1 **Ok**.



## Version (Menu Press one time, )



View the software and PRL version.

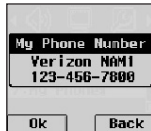
1. Press Soft Key 1 **Menu**.
2. Press  one time.
3. Press  **Version**.
4. Press Soft Key 1 **Ok**.



## My Phone # (Menu Press one time, )

The number will be displayed on the screen.

1. Press Soft Key 1 **Menu**.
2. Press  one time.
3. Press  **My Phone #**.
4. Press Soft Key 1 **Ok**.



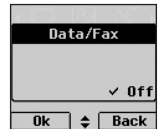
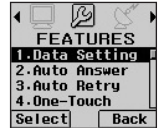
## FEATURES (Menu Press two times )




### Data Setting (Menu Press two times, )

### Data/Fax (Press Menu two times, , )

In **Data/Fax** setting, you can use your phone to transmit data and faxes.


Wireless data communication services refer to utilization of subscriber terminals for access to internet with personal computer or laptops at 19.2 Kbps or at maximum of 230.4 Kbps. Speed of connection depends on carrier's network and other variables. Contact communication information specifications must match network.



1. Press Soft Key 1 **Menu**.
2. Press  two times.
3. Press  **Data Setting** and then  **Data/Fax**.
4. Press Soft Key 1 **Ok**.




▶ **Data In:** This setting enables the subscriber terminal to receive data calls.

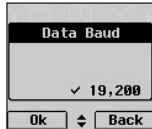
▶ **Fax In:** This setting enables the subscriber terminal to receive fax transmittals.

 **Note** Data Connection Kit-Your wireless connection to the Internet and other dial-up networking functions. This Kit allows you to connect your PC or PDA to your LG wireless phone, freeing you from having to locate a telephone outlet. You can send or receive an e-mail, a fax, or access the Internet anytime, anywhere.

## Data Baud (Menu Press two times, , )

This setting enables the subscriber terminal to set the data baud.

1. Press Soft Key 1 **Menu**.
2. Press  two times.
3. Press  **Data Setting** and press  **Date Baud**.
4. Select an option, press Soft Key 1 **Ok**.





▶ Data Baud set 19,200/115,200/230,400

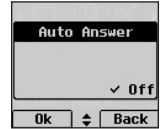
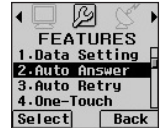
Data Baud needs to be set properly based on carrier's network. Contact carrier for the maximum available speed.

**Note** When using 1X HSPD data service by means of a RS-232C data cable, data baud shall be set to 115,200. (230,400 shall not be supported). When using 1X HSPD data service by means of USB data cable, you may get better data speed if the data baud is set to 230,400 rather than 115,200.

## Auto Answer (Menu Press two times, )

Select the ring type before the phone automatically answers a call. This feature is used only with the car kit.

1. Press Soft Key 1 **Menu**.
2. Press  two times and press  **Auto Answer**.
3. Select an option and press Soft Key 1 **Ok**.



- ▶ Off
- ▶ after 1 ring (or melody for 5 seconds)
- ▶ after 3 rings (or melody for 10 seconds)

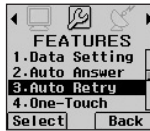
When you have an incoming call, the phone automatically responds after 1 ring/3 rings.



**Note** Auto Answer works only when the cellcase is open.

## Auto Retry (Menu Press two times, )

Set the length of time the phone waits before automatically redialing a number when the attempted call fails.

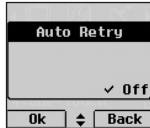
1. Press Soft Key 1 **Menu**.



2. Press  two times and press 

### Auto Retry.

3. Select an option and press Soft Key 1 **Ok**.

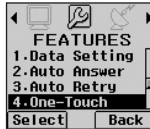


- ▶ Off/every 10 seconds/every 30 seconds/every 60 seconds

## One-Touch (Menu Press two times, )

Enable/Disable one-touch dialing.

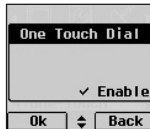
1. Press Soft Key 1 **Menu**.



2. Press  two times.

3. Press  **One-Touch**.

4. Select **Enable** or **Disable** and press Soft Key 1 **Ok**.



## Voice Privacy (Menu Press two times, )

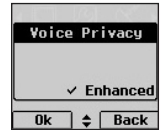
Set the voice privacy feature for CDMA calls as **Enhanced** or **Standard**. CDMA offers inherent voice privacy. Check with your service provider for availability of the enhanced voice privacy mode.

1. Press Soft Key 1 **Menu**.



2. Press  two times.

3. Press  **Voice Privacy**.



4. Select **Enhanced** or **Standard** and press Soft Key 1 **Ok**.

## Audio AGC (Menu Press two times, )

Enable/Disable the function of Audio AGC(Auto Gain Control) system.

This feature provides a better audio experience by enabling the Audio AGC system to control the dynamic range and volume of the sending and receiving voice across different levels of speaker and environments.

1. Press Soft Key 1 **Menu**.



2. Press  two times.

3. Press  **Audio AGC**.





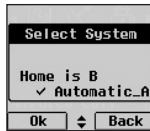
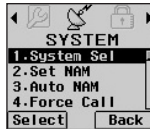
4. Select **Off** or **On** and press Soft Key 1 **Ok**.

## SYSTEM (Menu Press three times)

### System Sel (Menu Press three times, )



This function enables set up of the user's mobile phone producer's management environment. Leave this setting at the default unless you want to alter the system selection. (As instructed by your service provider.)

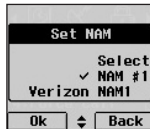
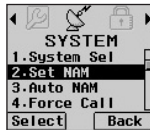
1. Press Soft Key 1 **Menu**.
2. Press  three times and press  **System Sel**.
3. Select an option and press Soft Key 1 **Ok**.
  - ▶ Home is B (Automatic\_B, Automatic\_A, Home only) is displays.



### Set NAM (Menu Press three times, )



Select the phone's NAM (Number Assignment Module) if the phone is registered with multiple service providers.

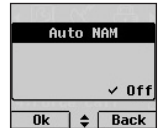
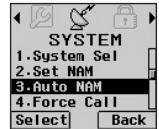
1. Press Soft Key 1 **Menu**.
2. Press  three times, and press  **Set NAM**.
3. Select **NAM#1** or **NAM#2** and press Soft Key 1 **Ok**.



## Auto NAM (Menu Press three times, )



Allows the phone to automatically switch between programmed telephone numbers corresponding to the service provider area.

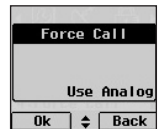
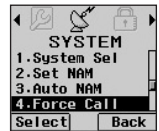
1. Press Soft Key 1 **Menu**.
2. Press  three times and press  **Auto NAM**.
3. Select **Off** or **On** and press Soft Key 1 **Ok**.



## Force Call (Menu Press three times, )

Allows the phone to make an analog call. You have 30 seconds to place the call. This feature is typically used for data applications.

1. Press Soft Key 1 **Menu**.
2. Press  three times and press  **Force Call**.
3. Press Soft Key 1 **Ok**.





## Serving Sys (Menu Press three times, )

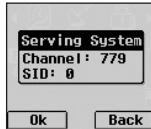
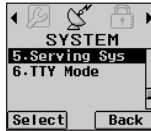
You can identify the channel number of System which is served and SID Number.

This information is only for technical support.

1. Press Soft Key 1 **Menu**.

2. Press  three times and press  **Serving Sys**.



3. Press Soft Key 1 **Ok**.



## TTY Mode (Menu Press three times, )

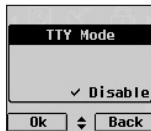
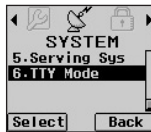
Users can attach a TTY device and communicate with parties also using a TTY device. A phone with TTY support is able to translate typed characters to voice. Voice can also be translated into characters and then displayed on the TTY.

1. Press Soft Key 1 **Menu**.

2. Press  three times and press  **TTY Mode**.

3. Select an option and press Soft Key 1 **Ok**.

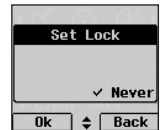
▶ TTY users must have a TTY/TDD device.



## SECURITY (Menu Press four times)

### Lock Mode (Menu Press four times, )

Keeps your phone from unauthorized use. Once the phone is locked, it is in restricted mode, until the lock code is entered. This will allow you to receive phone calls and still make emergency calls. The lock code is commonly the last 4 digits of your phone. If you need to modify the lock code, you may modify it using the New Lock code within the Security menu.



1. Press Soft Key 1 **Menu**.

2. Press  four times and press  **Lock Mode**.

3. Enter the four-digit Lock code.

4. Select an option and press Soft Key 1 **Ok**.



▶ **Never** means that the phone is never locked (Lock mode can be used). When locked, you can receive incoming calls or make only emergency calls.

▶ **On power up** means the phone is locked when it is turned on.

▶ **Always** means that the phone is always locked.



## Restrict (Menu Press four times, )

To change your restrict.

1. Press Soft Key 1 **Menu**.
2. Press  four times and press  **Restrict**.

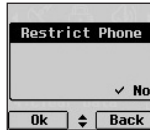


3. Enter the four-digit lock code.

4. Select Yes or No with  or  and then press Soft Key 1 **Ok**.



If you set it to **Yes** you can only place calls to emergency numbers and phone numbers stored in the memory locations.

You can still receive calls in the restrict mode.



## Clear Call (Menu Press four times, )

Allows you to delete all the telephone numbers saved in the **Call History**.

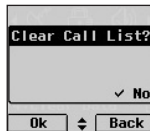
1. Press Soft Key 1 **Menu**.
2. Press  four times and press  **Clear Call**.



3. Enter the four-digit lock code.



4. Use to select **Yes**.

5. Press Soft Key 1 **Ok**.



## Clear Data (Menu Press four times )

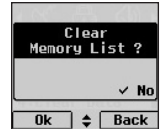
Deletes all information saved in memory locations (001-199), schedule, and wake up. Be careful since any deleted information is not recoverable.

1. Press Soft Key 1 **Menu**.
2. Press  four times and press  **Clear Data**.

3. Enter the four-digit lock code.

4. Using the  then select **Yes**.




5. Press Soft Key 1 **Ok**.

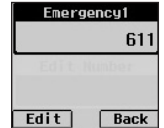


## Emergency # (Menu Press four times, )

You can call these numbers, and 911, even when the phone is locked or restricted.

To enter 3 emergency numbers.

1. Press Soft Key 1 **Menu**.
2. Press  four times and press  **Emergency #**.
3. Enter the four-digit lock code.
4. Use to select **Edit**.
5. Enter an Emergency number.
6. Press Soft Key 1 **Save**.
7. Press .





## New Lock Code ( Menu Press four times, )

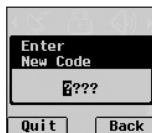
New Lock Code allows you to enter a new four-digit lock code number.

This is the same number as the pin code.



1. Press Soft Key 1 **Menu**.

2. Press  four times and press  **New Lock Code**.



3. Then enter the four-digit lock code.


4. For confirmation, it will ask you to enter the new lock code again.

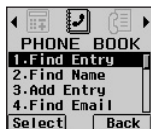
# Chapter 4. PIM Features


## PHONE BOOK (PIM)

### Find Entry (PIM)

To find phone numbers you have stored in the Phone Book.

1. Press Soft Key 2 **PIM**.
2. Press  **Find Entry**.
3. The display prompts you to enter the entry number on the display screen.
4. If you press Soft Key 1 **Ok** without entering an entry, you will view a list of all entries in your phone book.




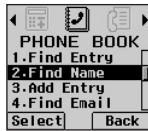
**Note** At any entry, you may move to another entry by pressing the Up/Down () key. If you press Soft Key 1 **Option**, you can save or erase.



## Find Name (PIM, )

To search for a phone number by name.








1. Press Soft Key 2 **PIM**.
2. Press  **Find Name**.
3. Enter the letter(s) that you want to search for (at least three letters are required for a quick search). Then press Soft Key 1 **Find**. A list of matching names is displayed. If the name is found, the name will be displayed and if the name is not found, the message **Entry Empty!** will appear. Following the above message, if the saved content is not found, the **Not Found** message appears on the screen.

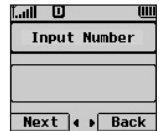
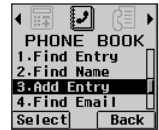


**Note** On the Find Name menu, you can change mode by pressing Soft Key 2. (Abc -> 123 -> Symbol -> Help -> T9En)







## Add Entry (PIM, )

You can save phone numbers, pager numbers and so on, up to 199 entries .






1. Press Soft Key 2 **PIM**.
2. Press  **Add Entry**.
3. Enter the phone number, then press Soft Key 1 **Next**.
4. Select the memory location number.
5. Press Soft Key 1 **Next**.
6. Select the desired phone number type using  .
7. Enter Name.
  - ▶ To enter an Email address, select **E-mail** from label, press  to move to the available E-mail addresses.
8. You may select the desired **ID ring type** , **secret**  /  using  .

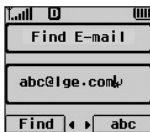
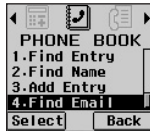


**Note** Phone Type

-  Home Phone Number Entry
-  Office Phone Number Entry
-  Mobile Phone Number Entry
-  Pager Number Entry
-  Data/Fax Number Entry
-  E-Mail Address entry

## Find Email (PIM, )

1. Press Soft Key 2 **PIM**.
2. Press  **Find Email**.
3. Enter the E-mail address you want to search for and press Soft Key 1 **Find**. If the E-mail address is found, the E-mail address will be displayed and if the E-mail address is not found, the message **Entry Empty!** will appear. Following the above message, if the saved content is not found, the message **Not Found** appears on the screen.
  - ▶ Select the item you want to view using .
4. After selecting the E-mail address to edit from the E-mail list, press Soft Key 1 **View** and the phone book entry will be displayed.
5. After selecting the E-mail label, press  to move to an available entry where you can edit or delete.
6. To save, press Soft Key 1 **Save** or press Soft Key 1 **Option** and Select **Save Entry** on the sub-menu.
  - ▶ To delete an E-mail address: Move to the Phone book from either **Find Email** or **Find Entry**. After selecting the E-mail label, press  to move to the memory location, press and hold  to delete the E-mail address and press Soft Key 1 **Save** to confirm.





## CALL HISTORY (PIM Press one time)

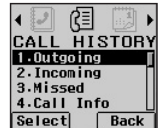
Allows you to view the 30 most recent phone calls. Once you exceed the (total) 30-number storage limit, the oldest call history record is overwritten. These calls are divided into 3 types of calls.

### Outgoing (PIM Press one time, )

Allows you to view list of all outgoing calls.

Maximum 10 numbers are possible.



1. Press Soft Key 2 **PIM**.
2. Select **CALL HISTORY**,  **Outgoing**.
3. You may place a call by pressing .

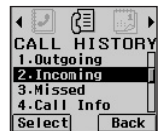


### Incoming (PIM Press one time, )

Allows you to view list of all incoming calls.

Maximum 10 numbers are possible.

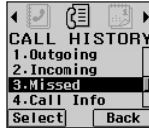
1. Press Soft Key 2 **PIM**.
2. Select **CALL HISTORY**,  **Incoming**.
3. You may place a call by pressing .





## Missed (PIM) Press one time,

Allows you to view list of all missed calls.

Maximum 10 numbers are possible.








1. Press Soft Key 2 **PIM**.
2. Select **CALL HISTORY**,  **Missed**.
3. You may place a call by pressing .

Works only in digital area and if it is not restricted.



## Recent Call History List

Allows you to view the 30 most recently dialed phone numbers. Speed dialing a number in the Call History List is available.

1. Press Soft Key 2 **PIM**.
2. Example: Select Outgoing
3. Press ,  or  to scroll through the last calls and scroll to the number you want to call.
4. Press  to place a call. Or to see the details of the call choose **View** from the Soft Key 1 **Option**. Press Soft Key 1 **Save** to save the number in a memory location. (If you need further information please refer to pages 37~38)  
Press number key to prepend in view status. You can make an addition, if needed, to the beginning of original number and press .
5. To erase the call from the list, choose **Erase** from the Soft Key 1 **Option**.

## Call Info (PIM) Press one time,




### 1. Last Call


(PIM  Press one time, , )

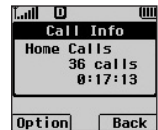
Displays the duration of the last call made.






### 2. Home Calls


(PIM  Press one time, , )

Keeps a running count of the time spent making calls in your service area since the last reset. To reset the counter, press Soft Key 1 **Option**, select **Zero** using  and then Soft Key 1 **Select**.






### 3. Roam Calls

(PIM  Press one time, , )

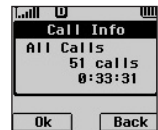
Keeps a running count of the time spent making calls outside your service area. To reset the counter, press Soft Key 1 **Option**, select **Zero** using  and then Soft Key 1 **Select**.



### 4. All Calls

(PIM  Press one time, , )

Keeps a running count of the time spent making all calls, either inside or outside your area. Resetting the call time is not available.







## SCHEDULER (PIM Press two times)

### Scheduler Functions












Scheduler keeps your agenda convenient and easy to access. Simply store your appointments and your phone alerts you with a reminder of your appointment. You can also take advantage of the **wake-up** feature.

**Note** If transmitting SMS or connecting UP during a call, at the preset time, it does not ring. After exiting, it will ring the reminder.

### General Guidelines to Scheduler Access and Setting

1. The menu will appear when you press Soft Key 2 **PIM**.
2. Scroll through the menu list by using  .
3. To make a selection, locate the entry on the menu and press Soft Key 1 **Select** on left or by pressing number on the menu.
4. Move between entries on the menu by using .
5. Press Soft Key 1 **Select** to make new entries and Soft Key 2 **Back** to exit without making new entries.
6. If you want to see the calendar, press  in standby mode.

### How to use buttons





-  ,  Moves cursor to the left.
-  ,  Moves cursor to the right.
-  Moves to the previous week.
-  Moves to the next week.
-  Moves to the previous year.
-  Moves to the next year.
-  Moves to the previous month.
-  Moves to the next month.
-  Moves to today.

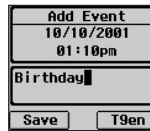
2001/10						
Su	Mo	Tu	We	Th	Fr	Sa
		2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			
Select		Back				

## Add Event ( PIM Press two times, )

Allows you to input your schedule.


If you input the time and memo, an alarm rings at the set time.

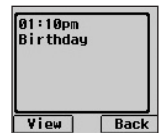
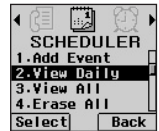
1. Press Soft Key 2 **PIM**.
2. Select **SCHEDULER**,  **Add Event**.
3. Select the date using your keypad (refer to p77), then press Soft Key 1 **Select**.
4. Enter the time and data of the event using your keypad.
5. To toggle between AM and PM, select **am/pm** using side keys ( ).
6. Enter a title and press Soft Key 1 **Save**.
7. Press .



## View Daily ( PIM Press two times, )

Allows you to view all events of a selected date.

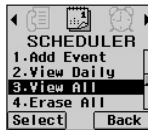
1. Press Soft Key 2 **PIM**.
2. Select **SCHEDULER**,  **View Daily**.
3. Select the date using your keypad (refer to p77), then press Soft Key 1 **Select**.
4. Select the item and press Soft Key 1 **View**.
  - ▶ You will see a list of matches.
5. Press Soft Key 1 **Option**.
  - ▶ You may select either **Erase** or **Edit**.



## View All (PIM) Press two times, (3<sup>OFF</sup>)

Allows you to view all stored events.

1. Press Soft Key 2 **PIM**.
2. Select **SCHEDULER**, (3<sup>OFF</sup>) **View All**.



- ▶ All stored entries will appear.
3. Select the item and press Soft Key 1 **View**.
  - ▶ You will see a list of matches.

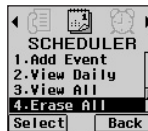


4. Press Soft Key 1 **Option**.
- ▶ You may select either **Erase** or **Edit**.

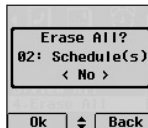
## Erase All (PIM) Press two times, (4<sup>OFF</sup>)

Allows you to delete all items stored in the scheduler.

1. Press Soft Key 2 **PIM**.
2. Select **SCHEDULER**, (4<sup>OFF</sup>) **Erase All**.



- ▶ You are then prompted to **Erase All**.

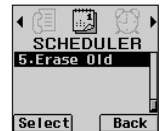


3. To delete information, scroll to **Yes** and press Soft Key 1 **Ok**.
- ▶ All items in Scheduler will be deleted.

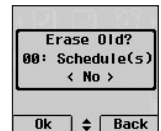
## Erase Old (PIM) Press two times, (5<sup>ML</sup>)

Erases only the past Scheduler items.

1. Press Soft Key 2 **PIM**.
2. Select **SCHEDULER**, (5<sup>ML</sup>) **Erase Old**.



- ▶ You are then prompted to **Erase Old**.
3. To delete information, scroll to **Yes** and press Soft Key 1 **Ok**.








- ▶ Past **Scheduler** items will be deleted.

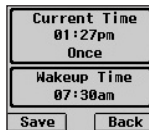
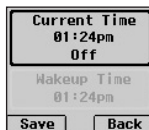
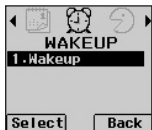
## WAKE UP (PIM Press three times)

Works only in digital area.


## Wake up (PIM Press three times, )

To change an event alarm time.

1. Press Soft Key 2 **PIM**.
2. Press  three times, then press  **Wake up**.
3. Set time for alarm and press Soft Key 1 **Save**.
  - ▶ The current time will be displayed on the upper portion of the screen.
4. You can change the alarm mode using  or . (Off/Daily/Once)
5. You can move to the edit window using .
  - ▶ At alarm time, **Wake Up** will be displayed on the LCD screen and the alarm will sound.
  - ▶ Am/pm may be selected using the Side key.
  - ▶ Ringing (or vibration, Vib1+Ring, Vib2+Ring, Vib3+Ring) will stop when any key is pressed or cellcase is opened.
  - ▶ Ring volume is controlled according to setting in reception mode. However, ringing (or vibration, Vib1+Ring, Vib2+Ring, Vib3+Ring) will not be heard when reception mode is in **Lamp**.



## GAME (PIM Press four times)




You can get key information about playing a game if you press  after selecting Black Jack game or Comanche in menu.

## Comanche (PIM Press four times, )

You control a Comanche helicopter. Your objective is to destroy the enemy's helicopters, tanks, and automobiles. If you attack ambulances, you lose 5 points for each. You clear each stage by destroying the building at the end of the stage.



To Play the Game

1. Press Soft Key 2 **PIM**.
2. Press  four times.
3. Choose game **Comanche** and press **Select**.
4. For a new game, press .
5. To start the game, press Soft Key 1 .

## 1. Keypad Configuration - Menu Screen

**1** : Moves to selected menu's screen.

**2** : Moves to Score screen.

**3** : Moves to Keypad Configuration screen.

**4** : Resumes the game if paused.

**CLR** : Moves to the Game Selection screen.

**END** : Ends the game.



2. When you see the game's logo on the screen, you can select from stage 1 to stage 10 by using 0 to 9 on the keypad. After selecting a stage, you begin gameplay by pressing Soft Key 1.



## 3. Keypad Configuration - Game Screen

**1** : Moves Comanche one tile up. If you push and hold the button, Comanche keeps moving upwards.



**4** : Moves Comanche one tile to the left. If you push and hold the button, Comanche keeps moving to the left.

**5** : Moves Comanche one tile to the right. If you push and hold the button, Comanche keeps moving to the right.

**6** : Fires air-to-air missile.

**7** : Moves Comanche one tile down. If you push and hold the button, Comanche keeps moving downward.

**9** : Fires air-to-ground missile.

**←** : Moves Comanche one tile to the left.

**→** : Moves Comanche one tile to the right.

**↑** : Moves Comanche one tile up.

**↓** : Moves Comanche one tile down.

**CLR** : Pauses the game.



#### 4. Score input screen

- ① : @ 1 \$ . , ? ! + - \* / = ' " ; :
- ②ABC : A B C 2
- ③DEF : D E F 3
- ④GHI : G H I 4
- ⑤JKL : J K L 5
- ⑥MNO : M N O 6
- ⑦PQRS : P Q R S 7
- ⑧TUV : T U V 8
- ⑨WXYZ : W X Y Z 9
- ⑩ : 0 & ^ | ~ # % ( ) [ ] { } < > \_
- # : Space
- CLR : Delete
- END PGM : Ends the game
- ↔ : Switches between lowercase and uppercase characters
- ☐ : Input name completed



#### Black Jack ( PIM ↔ Press four times, ②ABC )

Black Jack is a card game. The one whose cards add closest to 21 wins the hand. The player and the dealer get dealt two cards each. The player then chooses to receive another card (Hit) or play what he was dealt (Stay). You can get as many cards as you want, but the total value of the cards must not exceed 21. An (Ace) is valued at 1 or 11. J (Jack), Q (Queen) and K (King) are valued at 10. Two through Ten receive face value. If your first two cards are composed of an A and one of 10, J, Q, and K, gets a “Black Jack”. The dealer shouts out “Black Jack”. If you get Black Jack you win the hand, unless the dealer also has a Black Jack.



To play Black Jack

1. Press Soft Key 2 **PIM**.
2. Press ↔ four times.
3. Choose game **Black Jack** and press **Select**.
4. For a new game, press ①.
5. To start the game, press Soft Key 1 ☐.

### 1. Keypad Configurations - Menu Screen

- 1: Begins a new game.
- 2: Moves to score screen.
- 3: Moves to key configurations screen.
- 4: Resumes the game if paused.
- CLR: Moves to game selection menu.
- END: Ends the game.



### 2. Key Configurations - Game Logo Screen

- CLR: Pauses the game.
- END: Ends the game.
- Left arrow: Moves to Betting screen.
- Right arrow: Moves to Game Menu screen.



### 3. Key Configurations - Betting Screen

- 4: Decreases bet.
- 5: Increases bet.
- END: Ends the game and moves to Input Name screen.
- CLR: Pauses the game.
- END: Ends the game.
- Left arrow: Moves to Dealing Screen.



### 4. Keypad Configurations - Dealing Screen

- CLR: Pauses the game.
- END: Ends the game.



### 5. Key Configurations - Game Screen

- 3: HIT
- 6: STAY
- 9: DOUBLE (Appears only when you have two of the same card; such as 2 k's)
- CLR: Pauses the game
- END: Ends the game







The rest are the same as the keypad configurations in Comanche.

## Setting (PIM) Press four times,

You can set sound volume of the game and backlight to on or off.

To change your phone's setting when you play the game.

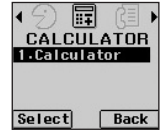








1. Press Soft Key 2 **PIM**.
2. Press  four times, then press  **Setting**.
3. Use to choose the setting between  **Sound Volume** and  **Backlight**.

## CALCULATOR (PIM) Press five times)

### Calculator (PIM) Press five times,



Calculate simple mathematical computations.  
(Can enter numbers up to the second decimal place.)



1. Press  and  in order.
2. Press  five times.
3. Select (multiplication) using  keys.
4. Press  , in order.
5. Select using Soft Key 1 **Answer**.  
You will see the result of the calculation **250**.

**Note** Calculation should be 50 characters (for example, 50+14-...).  
Valid result is 2.14\*E9.


## Chapter 5. Message Features

Text message, page and voice mailbox become available as soon as the power is on. You can access the above types of messages using the Message Key . In addition, you can make a call to the call back number by pressing  during a message check.

The phone can store up to 30 messages (1 Voice message: 29 text messages) with 245 characters per message. Users may read and edit messages, saved in the outbox during transmission and send them.

However, you should check whether your carrier provides the above features.

Character limits: The VX1 supports up to 245 characters per message including header information. Limits to available characters per message may exist; please check with your service provider for system capabilities.


The information that is stored in the message is determined by phone mode and service capability. You can check types of messages by pressing the Message Key .

### Types of Menu

- ▶ **Voice:** Shows the number of messages in voice mail.
- ▶ **Send Msg:** Sends a message.
- ▶ **Inbox:** Shows you the list of the received messages.
- ▶ **Outbox:** Informs the status of the saved message.
- ▶ **Erase Msgs:** Deletes all stored messages.
- ▶ **Setting:** Select alert type for new message(s).

### New Message Alert

There are four ways your phone alerts you to new messages.

1. The phone displays the message on the display screen.
2. One of four ring types is heard if selected.
3. The red light blinks.
4. The message icon is displayed on the display screen . In the case of an urgent message, the icon will flash and it displays as an **Urgent message**.

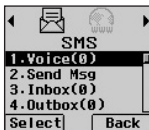


If you receive the same message twice, your phone deletes the older one and the new one is stored as a **DUPLICATE**.

## SMS (SMS)

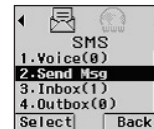
### Voice (Voice)

Allows you to view the new voice messages recorded in the voice mail box. Once you exceed the storage limit, the old messages will be overwritten. When you have a new text message, your phone will alert you.



## Send Message (SMS, 2MB)

Text messages, page messages, and e-mail transmissions are all available. If there is a message in the transmission, it is a text message. When there is no message in the transmission, it is a page.



To send a message, enter a SMS phone number to **Send To 1**. Select **Continue** in **Option** menu and enter a message in the content entering stage. Press **Send** in **Option** to send the message.

To send e-mail, enter recipient's e-mail address.

### Checking your Voice Mail box

1. Press (SMS).
2. Select (Voice) **Voice**.
  - ▶ To delete information press Soft Key 1 **Option** and then select **Erase**.

While you are answering another call, if you have a new message, the call back number will be displayed on the screen.

### Out of Memory Warning


No more messages can be received until enough memory space becomes available.

At this time, the message **NOT ENOUGH MEMORY** will be displayed on the screen and any new message is not accepted.

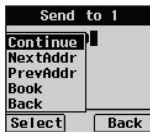
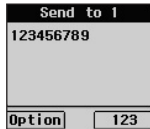
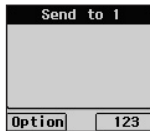
## Menu

**Send to 1:** This feature allows multi-sending of up to 10 total addresses.

There are five optional menus of **Continue**, **Next Addr**, **Prev Addr**, **Book**, and **Back**.

1. Press .
2. Select  **Send Msg**.
3. After entering the phone number where the message is to be sent, press Soft Key 1 **Option**.

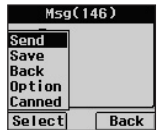
- ▶ **Continue** Use to save the current address.
- ▶ **Next Addr** Allows you to enter the next sending address.
- ▶ **Prev Addr** Allows you to edit the previous sending address.
- ▶ **Book** Allows you to refer to the address in the phone book. By reading the phone number or e-mail address, you may save them as recipient numbers.
- ▶ **Back** Goes back to the previous page.





4. After entering a message to be sent by selecting **Continue**, press Soft Key 1 **Option**.

- ▶ **Send** Use to send the message.
- ▶ **Save** Use to save the sending address, call back number, user data, call timer.
- ▶ **Back** Goes back to previous page.
- ▶ **Option** Send, CB#, Priority, Deferred, Validity, and Delivery ACK are available options.
  - **Send** With the changed parameters, send the message.
  - **CB** Used to enter the call back number.
  - **Priority** Allows you to give the priority to message. **Normal** or **Urgent**.
  - **Deferred** Allows you to delay sending the message until the programmed time frame.
 

Delaying time frame is as follows: Immediate, After 30 Minutes, After 1 Hour, After 2 Hours, After 12 Hours, After 1 Day and After 2 Days.



- **Validity** Indicates the validity of message delivery to the Short Message Center (SMC) without being transmitted to the sending address for certain periods of time. Those messages will be deleted within the programmed time frame. Validity time frames are as follows: Default, 30 Minutes, 1 Hour, 2 Hours, 12 Hours, 1 Day and 2 Days.

- **Delivery ACK** Allows you to be certain the message transmission has gone through. When all fields are entered, press  to send the message. If you press  without a sending address, a warning message is displayed on the screen. When the message has gone through, confirming message is displayed on the display screen. If the message has not gone through, the **No Call Back phone number received** message will be displayed on the screen.

► **Canned** Up to 10 frequently used sentences are displayed. Users may add the sentences to a message just by reading canned sentences, not by entering from the keypad.

- 10 texts : Yes, No, Call me, Need Direct, Where are you?, Will call later, Busy, On my way, Will arrive 15 minutes, Thank you.

5. If you select **Send**, it notifies you that the message was sent successfully.

6. Then select Soft Key 2 **Quit**.

7. This option must be set up by carrier.



## Inbox (🏠, 3)☒

Received text messages, page messages, and e-mail lists may be searched, and the contents may be viewed. Received messages are sorted in an order of urgent messages, unread messages and read messages.



To view the list of the received messages.

1. Press 🏠 .
2. Select (3)☒ **Inbox**.

- ▶ Messages are saved in order of **URGENT/NEW/OLD**. For example, if a NEW message is read it goes into OLD messages.

☒ : URGENT

☒ : NEW

☒ : OLD

3. After selecting the desired message with 🏠 or (3)☒ ; press Soft Key 1 **Option** and select **View**.

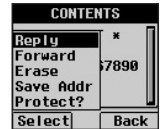


- ▶ **View** You can read the selected message.
- ▶ **Erase** Delete the selected message.

- ▶ **Protect?** Configure **Erase Protect** on the selected message. For the Protect configured message, messages may not be deleted by **Erase Inbox** and **Erase All** functions of **Erase Msgs** Menu.

4. Press Soft Key 1 **Option** after checking the message.

- ▶ **Reply** This function allows you to reply to this SMS or e-mail address. If the SMS has both an originating address and an e-mail address, the reply will only be sent to the e-mail address.



- ▶ **Forward** Forwards a received message to others. After recipients are entered, the messages can be forwarded.
- ▶ **Erase** Deletes the selected message from the Inbox.



► **Save Addr** Stores the callback number, e-mail address and user data number included in the received message into your phone book. When received number information is displayed, the user can store the number in the corresponding number list in the phone book. For an e-mail address, select the option new entry and old entry. The new e-mail address may overwrite an old address entry if necessary. For new entries, an e-mail address may be stored with the new memory number.

► **Protect?** Protects a message when deleting all other messages. There are two options disable and enable. When you select Protect?, a lock will be displayed in front of the protected message.

## Outbox (🏠, 40#)

Up to 30 sent messages can be stored in the Outbox. Icons indicate if the messages were successfully sent to the message center.



Users may view lists and contents of sent messages in this menu and may also verify if the transmission was successful or not.

Displays the status of the messages recorded in the voice mailbox.

1. Press 🏠 .
2. Select 40# **Outbox**.
3. After selecting the desired message with 🏠 or 📧, #00, press Soft Key 1 **Opt ion**. If you select the sent message (▶) **Resend / View / Erase / Cancel / Protect?** appears on the screen. If you select the saved message (📧), **Send / View / Erase / Protect?** appears on the screen.

► **Resend** Allows you to retransmit the selected message.

► **View** Shows the message currently saved. The view menu has three sub-menus Resend, Open and Erase.

- **Resend** Used to retransmit the selected message.

- **Open** Used to copy the saved message.

- **Erase** Used to delete the recorded message.

- **Cancel** Used to delete the recorded message.

▶ **Erase** Delete a selected message in the Outbox.

▶ **Cancel** Cancels the transmitted message.

#### ● Status

▶ : Send - Messages saved in Short Message Center (SMC) have been transmitted.

📁 : Save - After message editing, it indicates that messages are only stored in the Outbox without being transmitted.

▲ : Fail - Indicates a failed message transmission.

✓ : Delivery - Message has been delivered.

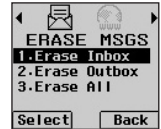
↶ : Cancel - After transmission to message center has occurred, messages that have not been delivered may be canceled by transmitting cancel message.

✉ : Multi-sending address - Indicates more than one designated recipient.

⏸ : Pending - Transmission is unavailable in analog mode or in a no service area. Messages are pending transmission. Pending messages are transmitted automatically when digital mode becomes available.

## Erase Msgs (🏠, 5✉)

All the voice mailbox messages, text messages and pages are deleted when you select 5✉ **Erase Msgs** from the Message Menu screen. Protected messages are not erased.



## Erase Inbox (🏠, 5✉, 1▶)

Read messages and all messages are divided and must be deleted separately. Protected messages are not deleted.

## Erase Outbox (🏠, 5✉, 2✉)

Allows you to delete all messages saved in the Outbox.

## Erase All (🏠, 5✉, 3✉)

Allows you to delete all messages in the Outbox and the Inbox. Protected messages are not deleted.

## Setting (🏠, 📞)

Alert, default CB# (call back number), Auto Save and Auto Delete may be configured for receiving new messages. You are alerted in 3 ways when you receive a new message:



- By displaying a message on the screen.
- By sounding a beep or vibration.
- By the flashing of a lamp.

## Alert (🏠, 📞, 1🔊)

Allows you to select the alert type for a new message. Alert types are **2 Alerts**, **Vibrate**, **Lamp**, and **4 Alerts**.

## 2Min Alert (🏠, 📞, 2🕒)

User may select 2-Min Alert for reminder in case a new message(s) is not opened.

## Default CB# (🏠, 📞, 3📞)

By setting this configuration **ON**, a user may automatically set his/her phone number as a sender number without entering phone numbers for message transmission.

Enables its own phone number to be verified on call back menu.

## Auto Save (🏠, 📞, 4💾)

With this feature on, messages are automatically saved in the Outbox when transmitted.

## Auto Delete (🏠, 📞, 5🗑️)

With this feature on, old messages are automatically deleted when you exceed storage limit.

## Chapter 6. Functions Used During a Call

### Mute (During a call: MENU <sup>1</sup>)

- Sometimes it may be necessary to mute a call. To use this function during a call, press Soft Key 1 **Menu** and <sup>1</sup>.



- If you need to cancel the mute, press the Soft Key 1 **Menu** and <sup>1</sup>.

### Memo (During a call: MENU <sup>2</sup>)

Used to save a phone number the other party tells you during a call, without writing it down. The phone number is saved in the Outgoing Call History.

### Key Tone (During a call: MENU <sup>3</sup>)

Set key beep length and touch tone playback speed.

- **Normal** Tone sounds for a fixed duration, no matter how long you press the key.
- **Long** Tone sounds continuously, as long as you press the key.

### Voice Privacy (During a call: MENU <sup>4</sup>)

Set the privacy feature for CDMA calls as **Enhanced** or **Standard**.

CDMA offers inherent voice privacy. Check with your service provider for availability of the enhanced voice privacy mode.

## Chapter 7. MiniBrowser

The MiniBrowser feature allows you to view internet content especially designed for the mobile phone interface. Access and selections within this feature are service provider dependent.

For specific information on MiniBrowser access through your phone, contact your service provider.


### Browser Start

() , () Press one time, ()

To start the MiniBrowser.



### Browser Msg

() , () Press one time, ()

If there are any browser alerting messages, then the list is displayed.




### Browser Set () , () Press one time, ()

#### 1. Prompt () , () Press one time, () , ()

You can set the function of whether or not to see the information messages when you start UP.

Prior to making a MiniBrowser call, the user is informed that there is a charge and asks if they still want to launch the browser. This step is used to prevent accidental activation of the browser since all subscribers will be provided with the browser automatically.



A message is also available to ask the user if they want to exit the browser, after they press () . Users can disable this extra step (or enable if it is disabled) through a menu option.

- ▶ None: You will not see the information messages.
- ▶ To start: You only see the messages asking whether or not to start up.
- ▶ Both: You see the messages asking whether to start or stop the up.
- ▶ To end: You see the message asking to stop the up.

#### 2. Alert Sound () , () Press one time, () , ()

There are 3 alert options. **Mute**, **2 alerts** and **4 alerts** options are provided in this menu. The user may select a browser start sound.

## Overview

The MiniBrowser allows the user to use a variety of Internet services. Using the MiniBrowser on the phone allows you to:

- ▶ Send and receive Internet e-mail.
- ▶ Browse and search the World Wide Web via web pages especially designed for wireless phone customers.
- ▶ Set bookmarks to directly access your favorite sites.
- ▶ Retrieve information, such as stock quotes and flight schedules from the internet.






## Quality of Browser

Browsing the web via the phone is not like using your home computer. Site providers have selected only the critical aspects of their site to present to wireless phone users and have removed most graphics.


## Billing

Each time you start MiniBrowser, the phone will connect to the Nationwide Network as necessary, the phone icon (**In Use** Icon) will appear on the display screen, and you will be billed accordingly. Rates will vary according to your billing plan.

Each time you start the MiniBrowser you will view a reminder that you will be billed for the connection time. If you wish to disable this reminder, follow the steps below:

1. Message Menu  ➤  Press one time ➤  Browser Set ➤  Prompt.
2. Disable the reminder by selecting **None** using .

## Accessing the MiniBrowser





You can access MiniBrowser by pressing and holding  in the initial screen or by selecting item from Main Menu screen.


### Start MiniBrowser ( , , )

- 1) A reminder of the charge will appear; press Soft Key 1 **Yes** to launch the MiniBrowser if required.
- 2) After a few seconds, you will see the Home Page.

### Ending MiniBrowser Session

You can end a MiniBrowser session by pressing .

If the prompt **To end** or **Both** option is set in the MiniBrowser Setup, you will be prompted whether you want to end the browser call. (Message Menu  ➤  Press one time ➤  Browser Set ➤  Prompt.)

Ending browser calls - Users can end a browser session by pressing .

## Navigating through the Browser



While using the MiniBrowser, you will find that on-screen items may be presented in one of the following ways:

- ▶ numbered options (some options may not be numbered).
- ▶ links (embedded in content).
- ▶ text or numeric input.
- ▶ simple text.


You can act on the options or the links by using the Soft Keys. The Soft Keys are just below the display screen.

## Navigation keys

### Scrolling Up/Down by Item

You can use  to scroll through the content if the current page does not fit on one screen. The currently selected item is indicated by a > cursor on the screen and  will also move the cursor.

### Fast Scrolling Up/Down

Press and hold  to quickly move the cursor up and down on the current screen.


### Scrolling Up/Down by page

Press Side Keys to move up and down a whole screen page.



### Go to Home Page

To go back to the Home Page, press and hold  .


## View Browser Menu

Press and hold  to use the browser menu when the MiniBrowser is being used.

### Clearing out text/number entered

When entering text or numbers, press  to clear the last number, letter or symbol. And press and hold  to clear the input field completely.

### Selecting and activating items using Soft Keys and/or digits

If the items on a page are numbered, you can use your keypad (number) Keys or  to select an item, or you can select the items by moving the cursor and selecting the appropriate Soft Keys.

## Soft Keys

To navigate to different screens or select special functions, use the Soft Keys. Soft Keys are just below the display screen. Note that the function associated with the Soft Keys can change for each page and will depend on each highlighted item.

### Soft Key 1

The Soft Key 1 is used primarily for first options or selecting item but its function may change, depending on the content displayed.


### Soft Key 2

The Soft Key 2 is used primarily for secondary options or a menu of secondary options.

## Entering Text, Numbers, or Symbols

When you are prompted to enter text, the current text entry method will appear on the Soft Key 2 as Alpha, Symbol, Number, Word or Smart. (exact label depends on implementation.)

To change the input mode, use the Soft Key 2.

To create an upper case character, use . And the current text method will appear on the Soft Key 2 as ALPHA or SMART.

 allows user to shift to input case sensitivity.

## Initiating a phone call from the MiniBrowser

You can make a phone call from the MiniBrowser, if the site you are using supports the feature (the phone number may be highlighted and the Soft Key 1 will appear as Call).


The browser connection will be terminated when you initiate the call. After you end the call, your phone will return to the screen from which you initiated the call.

## Using Bookmarks

You can bookmark many individual pages for easy access at a later time. Bookmarks save you time by reducing the number of steps it takes to access a desired page.



## To create a Bookmark:


Go to the page that you want to mark. On the browser menu, select **Mark Site** or press and hold .

If the page has a title, it will automatically be used for the name of the bookmark. When the bookmark is saved you can change the bookmark name if you choose. Selecting **Save** will save the name and add the page to the bottom of your list of bookmarks.

A message will appear confirming that the bookmark was added to the list. Select Soft Key 1 **Ok** to return to the screen that you marked to resume navigation within the Mini Browser.

This function is dependent upon the html coding of the page being read and determined by the website.

## Finding a Bookmark

From the Home Page or press and hold , then select the bookmark you want.

Or

From the Home Page, press and hold the number associated with the bookmark in the bookmark list.

## Chapter 8. Accessories

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

### Travel Charger

This charger, model TC-30W, allows you to charge the battery. It supports standard U.S. 120 Volt 60 Hz outlets. An orange light indicates that it is charging, a green light indicates charging is complete. It takes 5 hours to charge a completely discharged battery.



### Battery (LGLi-AATM)

Standard battery and Extended battery are available.



Standard battery



Extended battery

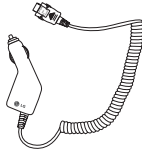
### Desktop Charger

The desktop charger, model DC-45W, allows you to place the phone in the stand for charging. It can charge a completely discharged battery in 3 hours.



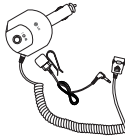
## Cigarette Lighter Charger

You can operate the phone and trickle charge the phone's battery from your vehicle by using the cigarette lighter charger, model CLC-30W. It takes 5 hours to charge a completely discharged battery.



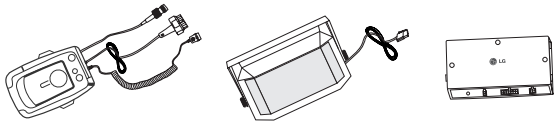
## Hands-Free Car Kit (Portable)

The hands-free car kit, model PHF-32W, enables you to attach the phone to the car providing you with hands-free operation. It will also charge a completely discharged battery in 5 hours.



## Hands-Free Car kit (Installed)

The installed hands-free car kit, model IHF-52W, is permanently installed in your car, and provides you with hands-free operation. It will also charge a completely discharged battery.



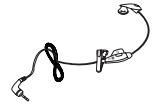
## Data Cable Kit

Connects your phone to your PC.  
(Model KW- $\alpha$ )



## Headset

Connects to your phone, allowing hands-free operation. Includes earpiece, microphone, and integrated call answer/termination button.  
(Model Headset 1000)



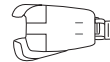
## Hand strap



## AC Adaptor

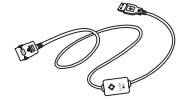


## Holster



## USB Converter Cable

Connects your phone to your PC.  
(Model LG-USB 1000)



# Chapter 9. Appendix

## Menu Tree

Press Soft Key **1 Menu** . Press  to scroll.

### SOUND

1. Ring Sound
2. Ring Type
  - ▶ Ring
  - ▶ Vibrate
  - ▶ Vib 1 + Ring
  - ▶ Vib 2 + Ring
  - ▶ Vib 3 + Ring
  - ▶ Lamp
3. Ring & Vib Vol.
4. Key Tone
  - ▶ Normal
  - ▶ Long
5. Key Volume
6. Ear Volume
7. Escalating Vol
8. Alerts
  - ▶ Fade
  - ▶ Minute
  - ▶ Service
  - ▶ Call Connect

### DISPLAY

1. Backlight
  - ▶ 10 seconds
  - ▶ Always off
  - ▶ Always on
  - ▶ On when Cellcase open
  - ▶ 30 seconds

### FEATURES

2. Contrast
3. Banner
4. Theme
  - ▶ Analog Clock
  - ▶ Default
5. Language
  - ▶ English
  - ▶ Spanish
6. Version
7. My Phone#

### SYSTEM

1. System Sel
  - ▶ Automatic\_B
  - ▶ Automatic\_A
  - ▶ Home only
2. Set NAM
3. Auto NAM
  - ▶ Off
  - ▶ On
4. Force Call
5. Use Analog
6. TTY Mode
  - ▶ Disable
  - ▶ Enable

### SYSTEM

- ▶ every 10 seconds
4. One-Touch
  - ▶ Enable
  - ▶ Disable
5. Voice Privacy
  - ▶ Standard
  - ▶ Enhanced
6. Audio AGC
  - ▶ Off
  - ▶ On

### SECURITY

1. Lock Mode
  - ▶ Never
  - ▶ Always
  - ▶ On power up
2. Restrict
3. Clear Call
4. Clear Data
5. Emergency #
6. New Look Code

Press Soft Key **2 PIM** . Press  to scroll.

### SECURITY

4. Call Info
  - ▶ Last Call
  - ▶ Home Calls
  - ▶ Roam Calls
  - ▶ All Calls

Press , Press  to scroll.

### SMS

- Voice**
- Send Msg**
- Inbox**
- Outbox**

Press , Press  to scroll.

### Wireless Web

- Browser Start**
- Browser Msg**
- Browser Set**

1. Prompt
2. Alert Sound

### SCHEDULER

1. Add Event
2. View Daily
3. View All
4. Erase All
5. Erase Old

### Erase Msgs

1. Erase Inbox
2. Erase Outbox
3. Erase All

### WAKEUP

1. Wakeup

### Setting

1. Alert
2. 2 Min Alert
3. Default CB#
4. Auto Save
5. Auto Delete

### PHONE BOOK

1. Find Entry
2. Find Name
3. Add Entry
4. Find Email

### CALL HISTORY

1. Outgoing
2. Incoming
3. Missed

### CALCULATOR

1. Calculator

### GAME

1. Comanche
2. Black Jack
3. Setting

# Chapter 10. Safety Guidelines

## Safety Information

### Exposure to Radio Frequency Signal

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

European and international agencies have set standards and recommendations for the protection of public exposure to RF electromagnetic energy.

- ▶ International Commission on Non-Ionizing Radiation Protection (ICNIRP) 1996
- ▶ Verband Deutscher Elektrotechnik (VDE) DIN-0848

Directives of the European Community, Directorate General V in Matters of Radio Frequency Electromagnetic Energy

- ▶ National Radiological Protection Board of the United Kingdom, GS 11, 1988
- ▶ American National Standards Institute (ANSI) IEEE C95.1-1992
- ▶ National Council on Radiation Protection and Measurements (NCRP), Report 86
- ▶ Department of Health and Welfare Canada, Safety Code 6

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

The design of your phone complies with these standards when used normally. Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate FCC regulations.

## Efficient Phone Operation

### Normal Position

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

### Tips on Efficient Operation:

For your phone to operate most efficiently;

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

### For Vehicles Equipped with an Air Bag

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.

### Batteries

Caution: All batteries can cause property damage, injury or burns if a conductive material, such as jewelry, keys, or beaded chains, touches exposed terminals. The material may complete an electrical circuit and become quite hot. To protect against such unwanted current drain, exercise care in handling any charged battery, particularly when placing it inside your pocket, purse or other container with metal objects. Your batteries are packed with a protective battery cover. When the battery is detached from the phone, please use this cover for storing your batteries when not in use.

Check the laws and regulations on the use of wireless telephones in the areas where you drive. Always obey them.

Also, if using your phone while driving, please:

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

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

### Pacemakers

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

Persons with pacemakers

- ▶ Should ALWAYS keep the phone more than six inches from their pacemaker when the phone is turned ON
- ▶ Should not carry the phone in a breast pocket
- ▶ Should use the ear opposite the pacemaker to minimize the potential for interference

If you have any reason to suspect that interference in taking place, turn your phone OFF immediately.

### Hearing Aids

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

## Other Medical Devices

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

## Vehicles

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

## Posted Facilities

Turn your phone OFF in any facility where posted notice so require. FCC regulations prohibit using your phone while in the air. Switch OFF your phone before boarding an aircraft.

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

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

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

## FDA Consumer Update

The 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 standby mode. It is well known that high levels 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, especially 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:

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, neuroepitheliomatous 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 on-going study of brain cancers by the National Cancer Institute is expected to bear on the accuracy and repeatability of these results.

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

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



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

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

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

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

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

Some people who have used mobile phones have been diagnosed with brain cancer. But it is important to understand that this type of cancer also occurs among people who have not used mobile phones. In fact, brain cancer occurs in the U.S. population at a rate of about 6 new cases per 100,000 people each year. At that rate, assuming 80 million users of mobile phones (a number increasing at a rate of about 1 million per month), about 4800 cases of brain cancer would be expected each year among those 80 million people, whether or not they used their phones. Thus it is not possible to tell whether any individual's cancer arose because of the phone, or whether it would have happened anyway. A key question is whether the risk of getting a particular form of cancer is greater among people who use mobile phones than among the rest of the population.

One way to answer that question is to compare the usage of mobile phones among people with brain cancer with the use of mobile phones among appropriately matched people without brain cancer. This is called a case-control study. The current case-control study of brain cancers by the National Cancer Institute, as well as the follow-up research to be sponsored by industry, will begin to generate this type of information.

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

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

Although the existing scientific data do not justify FDA regulatory actions at this time, FDA has urged the mobile phone industry to take a number of steps to assure public safety. The agency has recommended that the industry support needed research into possible biological effects of RF of the type emitted by mobile phones, design mobile phones in a way that minimizes any RF exposure to the user that is not necessary for device function, and cooperate in providing mobile phone users with the best possible information on what is known about possible effects of mobile phone use on human health.

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

National Institute for Occupational Safety and Health

Environmental Protection Agency

Federal Communications 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 or for situations when other types of phones are not available.

People 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 Q's & A's):<http://www.who.int/emf>

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

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

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

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