LG

LG

CDMA/AMPS DUAL MODE PHONE

User Guide
LG-DM110

Phone components

This section provides an introduction to the LG-DM110. It includes illustrations and descriptions of the important phone parts and instructions for getting your phone powered up and ready to use.

Handstrap hole — Antenna
Lamp
Headset Jack
Buzzer — Earpiece
Side Keys — LCD screen
Soft Key1 — Soft Key2
MSG key
Alphanumeric keypad — Scroll keys
Microphone
Active Flip

10 Driver Safety Tips

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

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

1. Get to knew your wireless phone and its features such as speed dial and redial. If available, these features help you to place your call without taking attention off the road.

2. When available, use a hands free device. If possible, add an additional layer of convenience and safety to your wireless phone with one of the many hands free accessories available today.

3. Position your wireless phone within easy reach. Be able to access your wireless phone without removing your eyes from the road. If you get the incoming call at an inconvenient time, if possible, let your voice mail answer it for you.

4. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, ice and even heavy traffic can be hazardous.

5. Do not take notes or look up phone numbers while driving. Jotting down a "to do" list or flipping through your address book takes attention away from your primary responsibility, driving safety.

6. Dial sensibly and assess the traffic; If possible, place calls when you are not moving or before pulling into traffic. Try to plan calls when your car will be stationary. If you need to make a call while moving, dial only a few numbers, check the road and your mirrors, they continue.

7. Do not engage in stressful or emotional conversations that may be distracting. Make people you are talking with aware you are driving and suspend conversations that have the potential to divert your attention from the road.

8. Use your wireless phone to call for you. Dial 9-1-1 or other local emergency number in the case of fire, traffic accident or medical emergencies. Remember, it is a free call on your wireless phone!

9. Use your wireless phone to help others in emergencies, if you see an auto accident crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other to call emergency number, as you would want others to do for you.

10. Call raodside assistance or a special non-emergency wireless assistance number when necessary. If you see a broken down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injuried, or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

"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

Provided by the Cellular Telecommunications

Industry Association

Provided by the Cellular Telecommunications Industry Association

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 product extends for ONE (1) year beginning on the date of purchase of the product.

(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) This 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 Canada.

(4) The external housing and cosmetic parts shall be free of 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 to reasonably prove the date of purchase.

(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 damages resulting from use of the product in other than its normal and customary manner.

(2) Defects or damages 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, spills of food or liquid.

(3) Breakage or damage to antennas unless caused directly by defects in material or workmanship.

(4) That the Customer Service Department at LG was not notified by consumer of the alleged defect or malfunction of the product 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 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, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN. LG INFOCOMM 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 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:

LG Infocomm Inc.
201 James Record Road Huntsville, AL 35824
Tel. 1-800-793-8896 Fax. 1-800-448-4026
www.lgeservice.com

DO NOT RETURN YOUR PRODUCT TO THE ABOVE ADDRESS. Please call or write for the location of the LGIC authorized service center nearest you and for the procedures for obtaining warranty claims.

🄛🄖 LG Infocomm Inc.

10225 Willow Creek Road San Diego, CA 92131

Highlights

Congratulations on your purchase of the LG-DM110 phone that has been designed to operate with the latest digital mobile communication technology, code division multiple access (CDMA). This CDMA digital technology has greatly enhanced voice clarity and can provide various types of advanced features. The LG-DM110 is a dual mode phone that can also operate on analog cellular systems (Advanced Mobile Phone Service - AMPS). It is an advanced, compact phone with diverse enhanced features as follows:

- Large, easy-to-read, 5-line, backlight LCD with status icons.
- Paging, Messaging, Voice mail and Caller ID capability.
- 18-button keypad.
- Exceptionally long battery life using state-of-the-art Li-ion battery technology and ultra-power saving circuits.
- Choice of 27 ring sounds.
- Menu-driven interface with prompts for easy operation and configuration.
- Call privacy inherent with CDMA encoding.
- "Any Key" answer, auto-redialing, one- touch and speed dialing with 199 memory locations.
- Optional accessories.

Important Information

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

Check Components

Each standard unit comes with the LG-DM110 phone, a one-slot desktop charger, and one rechargeable battery. Please make sure that these components are all included.

Before You Start

Safety Instructions

WARNING! To reduce the risk of fire or electric shock, do not expose this product to rain or moisture. Do not use this product near swimming pools or other bodies of water.

IMPORTANT! Before installing or operating this product, read the SAFETY AND GENERAL INFORMATION located near the end of this document!

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

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

Body-worn Operation

This device was tested for typical body-worn operations with the back of the phone kept 0.79 inches (2 cm) from the body. To comply with FCC RF exposure requirements, a minimum separation distance of 0.79 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 0.79 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 7.9 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, please visit the FCC website at www.fcc.gov

FCC Part 15 Class B Compliance

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

CAUTION FOR BATTERY USE

- Do not disassemble.
- Do not short-circuit.
- Do not exposure to high temperature : 60℃(140℉)
- Do not incinerate.

CARING FOR BATTERY USE

- Must be recycled or disposed of properly

CAUTION FOR ADAPTER (CHARGER) USE

- Charge only Lithium rechargeable battery.
  Other types of batteries may burst causing injury to person and damage.
- Charge the battery pack equipped with this charger at room temperature condition.
  The charger or adapter is intended for indoor use only.

Do not expose the battery charger or adapter to direct sunlight nor use it in any place of high humidity, such as the bathroom.

Contents

Cautions

▸ Using the phone in proximity to receiving equipment (i.e., TV or radio) may cause interference.

▸ Keep your phone in a safe place when not in use.

▸ Use only the batteries, antennas, and chargers provided by LG. The warranty will not be applied to products provided by other suppliers.

▸ Only authorized personnel should service the phone and its accessories. Faulty installation or service may result in accidents and consequently invalidate 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 pack. If the phone is inoperable, return it to the dealer for service.

▸ Avoid shock or impact on the phone.

Phone Overview

Function	Key Descriptions
Lamp	The red light goes on when you use the power key to turn on the phone and when there are incoming calls and messages.
LCD screen	Displays messages & indicator icons.
END/PWR	Used to turn power on/off. This key disconnects a call. Using this key, you can also exit out of a menu back to the phone's standby display without changing the setting.
SEND	Allows user to place or answer calls.
⌃	This key allows quick access to text and voice mail notification messages.
Active Flip	Close the active flip to the terminate a call in progress. Open the active flip to answer an incoming call.
Soft Keys (○ ○)	The current operation of a soft key is defined by the word at the bottom of the display. Soft Keys 2 : If you press this key once, you can erase one digit or character. If you press and hold this key, you can erase all digits(When enter the phone number). If you press this key once in a menu, you can go back one level and if you press and hold the key in a menu, you can go back to the standby display.
Side Keys	These keys enable you to adjust keybeep volume (in standby mode) and earpiece volume (in a call status).
Scroll Keys	These keys are used to scroll through the memory locations and menu items. - In the standby status, set the manner mode by pressing the ⌄ button. (for 2 seconds) - In the standby status, set the lock function by pressing the ⌃ button. (for 2 seconds)
Alphanumeric keypad	These keys enable you to enter numbers and characters and choose menu items.

LCD Icons

An icon display which shows the function available when in use.

Icons	Descriptions
D	Digital indicator Digital service is available.
✕	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.
«❰»	In manner mode
Rm	Roaming The phone is outside of its home service area.
▰▰▰	Charge level Battery charge level.
○○	Voice message When a voice message arrives.
✉	Text message When a character message arrives.
ᵞıllll	Signal strength Current signal strength is indicated by the number of lines shown. Display of six bars means the best reception.

Using the Battery Pack

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

The phone comes with a rechargeable battery pack. On purchasing the phone, one must charge the battery fully. Keep the battery charged while not in use in order to maximize talk time and standby time when using the phone remotely.

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.
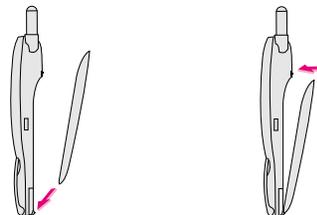
Removing the Battery

Turn the power off. (If power is not off, a loss of stored numbers and messages may occur.)
By lifting removal button the battery will become detached.
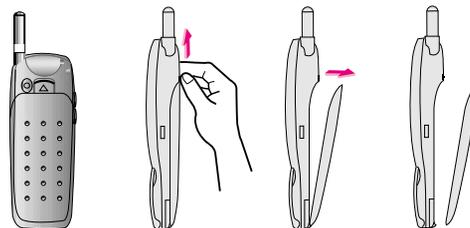
Battery Charge Level

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

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 Holder

The LG-DM110 desktop holder has a slot accommodate with a battery. The slot accommodates a phone with a battery pack for charging.

Warning! Use only the desktop holder provided with the phone. Using the wrong charger may cause damage to your phone or battery.

1. Plug the charger into a wall outlet.
   ▶ The charger should operate on a 110V AC source.

2. If your phone is powered on while charging, you'll see the bars in the battery icon cycle. When the battery is fully charged, the bars in the battery icon will flash on and off.

   ▶ If your phone is powered off, the display will show charging status. "Charging… (Phone is Off)" or "Charging Completion" will be displayed.

If completely discharged, the battery will take 3 hours to recharge. If you leave the phone on while it is in the desktop holder, the battery will take longer to charge.

Caring for the Battery

1. You do not need to completely discharge the battery before recharging. Unlike other battery systems, there is no memory effect that could compromise the battery's performance.

2. Use only LG batteries and chargers. LG's chargers are designed to maximize the battery life.

3. Do not disassemble or short-circuit the battery pack.

4. Keep the metal contacts of the battery pack clean.

5. Replace the battery when it no longer provides acceptable performance. The battery pack may be recharged hundreds of times until it needs replacing.

6. Recharge the battery if it has not been used for a long time to maximize usability.

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

8. Do not leave the battery in hot or cold places, this may deteriorate the battery performance.

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 at the top of the phone flashes.
▶ If you want to make a call, fully extend the antenna for optimum performance.

Note As with 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 "Good Bye~" text is displayed on the LCD, and then release the button.
2. Protect the antenna by pushing it back into the phone, if extended.

Making a Call

Whenever 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 and press 📞 .
▶ "Call Failed" indicates that the call did not go through.

4. Press 🔴 to disconnect the call.
5. "This phone has been restricted" displayed on your screen means that outgoing call restricted mode is turned on.
▶ If you want to turn off this function, follow the steps below.

[MENU] → [7] Security → Lock code insert → [2] Restrict → "No" →[OK]

Correcting Dialing Mistakes

If you have misdialed a number, press Soft Key 2 CLR once to erase the last entered digit or hold down Soft Key 2 CLR for at least one second to delete all digits.

Receiving Calls

1. When the phone rings, open the flip cover or in case the flip cover is closed, press any key (except 🔴 & Side Keys) to answer.
▶ If you press the 🔴 button once when you receive a call, you can hold on the present call, and bell sound or vibration stops. If you press the 🔴 button twice, the present call is terminated.
▶ Press Side Keys (◖◗) when you receive a call to, mute the volume of the ringer.
2. Press 🔴 to disconnect the call.

Using Quick Mode

Manner Mode

Using Manner Mode in a public place.

1. In the standby mode, activate manner mode by pressing the ⊛ . (for 2 seconds)

▶ When Manner Mode is set, "Manner Mode" is displayed on the LCD screen.

▶ When Manner Mode is set, Key Tone dose not sound and Vibration is selected as the ringer.

Note To turn off the Manner Mode
To turn off the status, press in again until "Normal Mode Entered" is displayed.

Set-up of Lock Function

Used to prevent others from using your phone.

1. In the standby mode, activate the lock function by pressing the ⊕ . (for 2 seconds)
"Lock mode Setting" will be displayed.

Note To release the Lock Function
Press Soft Key 1 unlock , then enter lock code(4 digits).

Default value is the last 4 digits of your phone number after activation.

Call Waiting

Your cellular service may offer the call waiting feature. While you are answering a call, 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 about this feature.

1. Press ⊜ to receive a waiting call.

2. Press ⊜ again to switch between calls.

Redialing Calls

Redialing Calls Manually

1. Press ⊜ to redial the last number in call history.

▶ You can also redial any of the last 10 numbers you have dialed. The last 10 numbers can be stored in the call history list (See the "Recent Call History List" on page 41.).

Adjusting the Volume

The volume buttons on the left topside of the phone can be used to adjust earpiece, ringer, key beep volumes and message volume. The upper button increases and the lower button decreases the volume.

● You may adjust the earpiece volume while you are in a call.

● Adjust the ringer volume while the phone is ringing.

- The ringer volume can also be adjusted through Menu feature.
- If you adjust the ringer volume to minimum, the LCD displays "-Ringer Off-" and you will not hear the ringer sound.
- The key beep volume is adjusted through Menu feature.
- The message volume is adjusted through Menu feature.

Power Save Mode

When the phone is in an area without service for 15 minutes, it stops searching for service and enters into the Power Save Mode. When your phone activates this feature, "Power Save" is displayed on your 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 phone displays the current strength as the number of bars next to the signal strength icon: the more the bars, the better the signal strength. If the signal quality is poor, try moving the phone. 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.

Emergency Dialing

As long as your phone is registered on the system, you can place calls to emergency number 911 - even if your phone is locked or restricted.

1. Press **9** then **SEND** .

   OR

1. Press and hold **9** (for more than 2 seconds).

Key Lock

This function allows you to carry the phone safely without accidentally dialing a number.

1. Press and hold Soft Key 1 MENU for about 3 seconds "-KEY LOCKED-" is displayed.
2. To deactivate Key Lock, press and hold Soft Key 1 MENU for about 3 seconds again.

Speed Dialing (see "Dialing Number from Your Phone Book" on page 29.)

Speed dialing is a convenient feature, allowing 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 (1 to 99).
2. Press **SEND** . The phone will recall the telephone number from memory, display it, and then dial it.

Caller ID

This feature enables the phone number of the caller to be displayed when you receive the call. You should check if the cellular service carrier provides this feature.

Use of Caller ID

The phone number of the caller will be displayed on the LCD screen when the call is received. The 'Number is Restricted' message will be displayed if the phone is blocked displaying the caller's phone number. In addition, the 'Number is Unavailable' message will be displayed when the Caller ID cannot be used. The 'Missed Call' message will be displayed when a call ringing on the phone goes unanswered. Missed call numbers will be stored in the call history temporarily and can be displayed if the phone number is not blocked.

▶ If the phone number is stored in memory together with the name, the phone number of caller and name is displayed on the screen before you answer.

Phone Book Features

Two Types of Phone Books

You can store up to 198 entries in the Phone Book giving you easy access to your most frequently dialed phone numbers. There are two types of phone books: Personal Phone Book Memory and Recent Call History List.

Personal Phone Book Memory

The phone has 198 personal phone book memory locations where you can store 5 numbers with up to 32 digits with an associated name of up to 16 characters.

Saving Numbers to Your Personal Phone Book

Memory locations 1 through 8 should be used for one-touch dialing for your most frequently used phone numbers.

1. Enter the phone number that you want to save(Up to 32 digits).
2. By pressing Soft Key 1 OPT , the sub-menu will appear.
3. Select "Save" on the sub-menu.
4. Select your desired label types (Home,Office, Mobile,Pager,Data,Fax,No Label) using the [♦] button.
5. Enter a name (up to 16 characters) and then press Soft Key 1 SAVE . If you do not want to enter a name, press Soft Key 1 SAVE to proceed directly to the next number.
6. The phone will ask you for the memory location where the number will be saved. Press Soft Key 1 OK 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.

   (Entry 9 is designated to Emergency Call)

7. The phone will ask whether you want to keep this number secret or not. Setting memory location to "Secret" hides the phone number and is not edited but deleted only. Press Soft Key 1 Yes or press Soft Key 2 No using the [♦] button.

Entering information using the keypad

The phone has four modes for entering characters

To toggle the modes in an entry field, press ♠ until the desired mode is displayed.

ENG : Enters characters by pressing each corresponding key until the character you want is displayed.

"ENG" indicates upper case letters will be entered. "eng" indicates lower case letters will be entered.

T9 : Enters words using the phone's word database, which allows you to press the corresponding keys only once for each letter regardless of its position on the face of the key.

"T9 EN" indicates upper case letters will be entered. "T9 en" indicates lower case letters will be entered. "T9 En" indicates first character will be upper case letters and the others will be lower case letters. "T9 HLP" indicates help screens on the handset.

SYM : Enters symbols.

123 : Enters numbers.

Entering text using "Eng" mode.

Use Eng mode to enter characters using the multi-tap method. Each key cycles through the characters printed on its face (For example, ❷ cycles through "A", "B", "C" and "2").

When you have the correct letter or number in position on the screen, wait for two seconds for the cursor to automatically advance to the next space or manually move the cursor to the left ot right by pressing ☎ or ☎.

For example, to type "LG", you would use the following multi-tap sequence on the keypad.

Press ❺ three times to enter the letter **L**

Press ❹ one time to enter the letter **G**

Entering text using T9 mode.

T9 analyzes letters you type and tries to create a word. The word may change as you type - don't worry about what's on the screen until after you finish the word.

T9 mode uses an intelligent software protocol that allows you to enter text with fewer key presses than the multi-tap method. T9 determines the word by matching the keys you pressed with words in an internal database and displays the matching word that is used most often.

Key Functions

♠ (Up and Down) : Press to scroll and select a mode through menus.

☎/☎ (Left and Right) : Press to move the cursor.

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

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

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

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

◖◗ (Space) : Press to complete a word or punctuation and insert a space.

Soft Key 1 (Save) : Press to save the contents.

Soft Key 2 (Clear) : Press to backspace and delete a single space or character. Press and hold to delete entire words.

For multi line editing in SMS Edit, the functions of several keys will work differently.

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

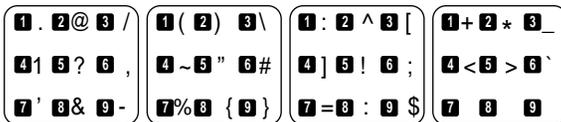(Space) : In multi - tap mode, press to complete a word or punctuation and to insert space.

00 (Space) : In T9 mode or numeric mode, press to complete a word or punctuation and insert a space.

(Move to next / Previous line) : In multi - tap mode, move cursor to previous line or next line.

Type the entire word, but press each key only once per letter. For example(In "T9 En" mode), to type the word "Hello", press the keys **0 0 0 0 0** (in that order). As you type, T9 matches your key presses with from its database. Different words may appear as you type because each key you press changes the word possibility. The word you want may appear only after you press all of the necessary keys.

Entering special characters using SYM mode.

You may use any of the 33 special characters. Enter the number next to the character you want to insert. In SYM mode press Soft Keys (◀▶) to cycle through the following characters:

1 . **2** @ **3** /	**1** (**2**) **3** \	**1** : **2** ^ **3** [	**1** + **2** * **3** _
4 1 **5** ? **6** ,	**4** ~ **5** " **6** #	**4**] **5** ! **6** ;	**4** < **5** > **6** `
7 ' **8** & **9** -	**7** % **8** { **9** }	**7** = **8** : **9** $	**7** **8** **9**

Entering text using 123 mode.

123 mode allows you to enter numbers. To change to 123 mode in a text entry field, press ♦ until 123 mode is displayed.

Retrieving Telephone Numbers

Retrieving Phone Numbers Using Memory Location Number.

1. Enter Phone Entry Number (up to 2 digits) to be retrieved on the initial display.

2. By pressing Soft Key 1 OPT the sub-menu will appear.

3. By locating cursor on "Entry" and pressing Soft Key 1 SEL the information stored in the Entry of the number entered will appear. Pressing 🔘 will connect you to the number.

4. As alternative method, press Soft Key 2 BOOK on the initial display and select [Phone Book] [Find Entry] will be followed by inquiry of Entry #. The Entry # for telephone number to be retrieved may now be entered.

To search telephone numbers, including special numbers, enter a special number in the initial display and press Soft Key 1 OPT . By selecting "Find" on the sub-menu, the Entry List will appear. Information linked to the Entry will appear upon selecting telephone number for which details are desired.

Modifying Personal Phone Book

Adding Phone Numbers

Add Phone

1. Locate corresponding Entry.

2. By pressing Soft Key 1 OPT in Entry View, the sub-menu will appear.

3. Select "Add Phone #" on the sub-menu.

4. "Add Phone #" will be completed after entering

new telephone number, followed by addition of necessary settings such as Label or Secret .

Editing Stored Memory Location

Edit Entry

1. Locate corresponding Entry by name or Entry #.
2. By pressing Soft Key 1 OPT in Entry View the sub-menu will appear.
3. Select "Edit Entry" in the sub-menu.
4. After entering changes in name, press [SAVE].

Edit Phone

1. Locate telephone # to be edited in the corresponding Entry.
2. Sub-menu will appear by pressing Soft Key 1 OPT after locating cursor on telephone #.
3. Select "Edit Phone #" on the sub-menu.
4. Setting for telephone #, Label and Secret may now be changed.

Deleting Phone Numbers in Memory

1. Locate subject to be deleted using name or Entry #.
2. In Entry View, all information stored in selected Entry may be deleted at once (Erase Entry) or telephone number may be singled out to be deleted (Erase Phone #).
3. By selecting Soft Key 1 OPT in Entry View, the sub-menu will appear.
4. To delete telephone number, select "Erase Phone #" on the sub-menu, and select Soft Key 1 OK to confirm.

(You may not delete the last number.)

5. To delete an Entry, select "Erase Entry" on the sub-menu, and select Soft Key 1 OK to confirm. Entry View with next Entry will return.

Note The numbers, once erased, cannot be restored permanently. Please be careful!

Dialing Numbers from Your Phone Book

You can make a call using any memory location either by speed dialing from the memory list or by pressing 📞 while viewing the full contents of the memory location.

One-Touch Dialing : One-touch dialing is a convenient feature which enables you to dial frequently used numbers in your personal phone book by pressing a key once (for memory location 1 through 8).

▶ Entry 9 is designated to Emergency Call.

▶ For locations 1 to 8, you can use one-touch dialing(if enabled, see "One-Touch" on page 37.) by pressing and holding down the key corresponding to the memory location.

OR

▶ Press digit, then press 📞 .

Two-Touch Dialing (Speed Dialing) : This dialing 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 digit and second digit, then press $\text{\fbox{SEND}}$.

Three-Touch Dialing (Speed Dialing) : This dialing feature enables you to dial numbers in your phone book through three keys (for location 100 to 199).

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

Dialing from a Memory List

1) From a memory list, press the scroll keys to go to the memory location you want.
2) Press $\text{\fbox{SEND}}$.

Dialing from a Memory Location.

▶ On viewing and checking the memory location to call, press $\text{\fbox{SEND}}$.

Advanced Phone Book Feature

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 called pauses. There are two kinds of pauses:

▶ Hard Pauses (H)

: The phone pauses until you press Soft Key 1 resume to go to the next number.

▶ Time Pause (T)

: The phone will pause for two seconds before sending the next set of numbers.

▶ Hyphen (-)

: Hyphens are used for appearance only (e.g. 1-800-555-1234). They will not add a pause between numbers.

2. Storing a Number with Pauses

1) Enter the phone number.
2) Press Soft Key 1 OPT .
3) Select one from the following:

▶ Press [Hard Pause].

▶ Press [Time Pause].

▶ Press [Hyphen], and hyphens will not pause a number.

4) Enter additional number(s) (e.g. pin number or credit card number).
5) Press Soft Key 1 OPT and Press Soft Key 1 SEL , the sub-menu will appear and select "Save" on the sub-menu, to save this number with pauses.

3. "Prepending" a Stored Number : "Prepend" can be used if you are out of your home system 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 make addition to the beginning of the original number. However, you cannot edit the original number during "Prepending".

1) Recall a number in memory.
2) Enter the appropriate digits to prepend numbers and the phone number.
3) Press $\text{\fbox{SEND}}$.

General Guidelines to MENU Access and Settings

1. Press Soft Key 1 MENU . The first 3 menu items will appear.

2. Press ⊕, ⊕ or ⬧ to go through the list of menu features, or use the side keys.

3. Press the number corresponding to the menu item that you want to select. Then the sub-menu list will appear on the screen.

4. Press the appropriate number key to select the sub-menu you want to access.

5. Select preferred settings, using the ⊕ or ⊕ keys. 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 ❶)

Ring Sound (MENU ❶ ❶)

Select the ringer sound with ⊕, ⊕ or ⬧ button. The ring sound will notify that you have an incoming call.

Ring Type (MENU ❶ ❷)

Select one of the four ring types (Ring, Vibrator, Vib+ Ring and Lamp) with ⊕, ⊕ or ⬧ button.

Ring & Vibrator Volume (MENU ❶ ❸)

Adjust the volume of the ringer using the ⬧ button.

Key Beep (MENU ❶ ❹)

Set Key beep length and touch tone playback speed.

▶ Normal : Sends out a tone for a fixed period of time only even if you keep the button pressed.

▶ Long : Sends out a continuous tone for as long as you keep the button pressed.

Key Volume (MENU ❶ ❺)

Adjust the key beep volume (the sound the phone makes when the keys are pressed).

Ear Volume (MENU ❶ ❻)

Adjust the earpiece volume. You can also adjust this during a call, by pressing the side keys.

Alerts Sound (MENU ❶ ❼)

1.Fade (MENU ❶ ❼ ❶)

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

2.Minute (MENU ❶ ❼ ❷)

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

3.Service (MENU ❶ ❼ ❸)

If on, alerts you when service (CDMA / No 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 **1** **7** **4**)

Alert sound to notify the user when the call is connected.

Display (MENU **2**)

Backlight (MENU **2** **1**)

Choose the settings of the LCD and keypad backlight. "10 seconds" turns the backlight off 10 seconds after the last key was pressed. "30 seconds" waits 30 seconds after the last key was pressed. "On when Flip open" means that the backlight is always on while flip is open. "Always on" means that the backlight is on regardless of the flip's status. Choosing "Always on" significantly decreases talk time. "Always off" means that the backlight is never on.

Banner (MENU **2** **2**)

Enter the banner (up to 16 characters) that is displayed on the top line when the phone powers up and when it is in standby mode. Press Soft Key 1 OPT and press Soft Key 1 SEL select [Edit] using the [$\spadesuit$] button, to make changes to the existing banner. Enter the characters as you would when storing a name tag to a memory location. Then press Soft Key 1 SAVE .

Theme (MENU **2** **3**)

You can set up the screen displayed on the LCD screen in the standby mode.(Default, Star theme)

Auto Hyphen (MENU **2** **4**)

Set hyphen option. When on, this automatically inserts hyphens to be consistent with U.S. phone numbers.

System (MENU **3**)

Set NAM (MENU **3** **1**)

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

Auto NAM (MENU **3** **2**)

Allows the phone to automatically switch to one of the programmed Telephone No. if it is operating in the corresponding service provider area.

Force Mode (MENU **3** **3**)

Make next call in analog mode. You have 30 seconds to place an analog call. This feature is typically used for data applications.

System Select (MENU **3** **4**)

Choose setting to control which cellular company your phone uses. Leave this setting as default unless you want to alter the system selection. (As instructed by your communication provider.)

▶ Home is A (Automatic-B, Home only, Automatic-A or Home only, Automatic) is displayed.

Version (MENU **3** **5**)

View the software and PRL version.

Serving Sys. (MENU **3** **6**)

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

This information is only for technical support.

Call Information (MENU ④)

Last Call (MENU ④ ①)

Displays duration of last call in minutes and seconds.

Home Calls (MENU ④ ②)

Displays the total number and time (minutes and seconds) of all calls made while in the home system (i.e. not roaming), since last reset. You can reset it by pressing Soft Key 1 OPT and Press Soft Key 1 SEL after select [Zero] using the [♠] button.

Roam Calls (MENU ④ ③)

Displays the total number and time (minutes and seconds) of all calls made while in the roaming mode.

You can reset it by pressing Soft Key 1 OPT and Press Soft Key 1 SEL after select [Zero] using the [♠] button.

All Calls (MENU ④ ④)

Displays the total number and time (minutes and seconds) including calls made while in the home system and while roaming. This is not resetable.

Features (MENU ⑤)

Data/Fax (MENU ⑤ ①)

In "Data/Fax" setting, data and fax can be transmitted.
Wireless data communication services refer to utilization of subscriber terminals for access to internet with personal computer or laptops at 8Kbps or at maximum of 13Kbps.

Data In : This setting enables the subscriber terminal to receive data calls. No incoming calls can be received with this setting. Outgoing calls (Voice Fax and data) can be made. The setting will revert back to Off / Disable mode after the Power is turned off, then back on.

Fax In : This setting enables the subscriber terminal to receive fax transmittals. No incoming voice calls can be received with this setting. Outgoing calls(Voice Fax and data) can be made. The setting will revert back to Off/Disable mode of the Power is turned off, then back on.

Auto Answer (MENU ⑤ ②)

Select the number of rings before the phone automatically answers a call. This feature is most commonly used with the car kit.

- off
- after 1 ring(or melody 5 seconds)
- after 3 rings(or melody 10 seconds)
- after 5 rings(or melody 15 seconds)

Auto Retry (MENU ⑤ ③)

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

One-Touch (MENU ⑤ ④)

Enable/Disable one-touch dialing.

Voice Privacy (MENU ⑤ ⑤)

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.

Utility (MENU 6)

Country (MENU 6 1)

You can search for the national code of all countries in the world.(total 123 countries)

Calculator (MENU 6 2)

You can calculate simple mathematics. (Can be entered up to the second decimal place)

For example) $25 \times 100 = 2500$

1) Press **2** and **5** in order.

2) Select ⊠ using **⬧** buttons, then press [SEL] button.

3) Press **1 0** and **0** in order.

4) Select ⊜ using **⬧** buttons, then press [SEL] button.

Then you will see the result of calculation "2500".

Audio AGC (MENU 6 3)

Enable/Disable the function of Audio AGC 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.

Security (MENU 7)

Default value is the last 4 digits of your phone number after activation. (You must enter the lock code after pressing [MENU] **7**) If you need to modify the password, you may modify it using the New Code of Security.

Lock Mode (MENU 7 1)

Choose when you want the phone to lock. "Never" means that the phone is never locked (Prompt lock function can be used). When locked, you can only make emergency calls (see Emergency Dialing) or receive incoming calls. "On power up" locks the phone when the phone is turned on. "Always" means that the phone is always locked.

Restrict (MENU 7 2)

Set call restrictions to "Yes" or "No". If set to "Yes", you can only make calls to emergency numbers and phone numbers in locations 1 to 8. You will still receive calls in restrict mode.

Clear Call (MENU 7 3)

Used to deletes all the phone number saved in the **Call History** for which calls have been made.

Clear Memory (MENU 7 4)

Used to delete all contents saved in memory address. During deletion, the display "Erasing phone memory.. Please wait!!" appear. You should be careful with this function because it deletes all data saved in the memory location. Any content deleted is not recoverable.

Emergency # (MENU 7 5)

To enter 3 emergency numbers ([OPT] → [SEL] → enter number → [OPT] → [SEL] → [⬧] →). You can call these numbers and 911 even when the phone is locked or restricted, if you dial the numbers to override the lock and restriction settings.

New Code (MENU 7 6)

New code allows you to enter a new four-digit lock code number. For confirmation, it will ask you to enter the new lock code twice. This is the same number as the pin code.

Send PIN (MENU 7 7)

Used to store and sets PIN CODE (As instructed by your communication provider.)

Browser Start (MENU 8)

See "chapter 7. MiniBrowser" on page 54~59

Chapter 4. Book Features

Call History (BOOK ❶)

The phone maintains a list of the calls made, inclusive of Outgoing, Incoming and Missed calls.

The most recent entry is stored at the top. Once all 30 locations are filled, the next entry will drop the oldest entry. Depending on the operating mode and available features, each entry may contain a phone number, name and time stamp (which indicates when the call is generated).

You may see one of the following entries:

Outgoing (BOOK ❶ ❶)

Displays outgoing call logs. In this menu, you can make a call by pressing the 📞.

Incoming (BOOK ❶ ❷)

Displays incoming call logs. In this menu, you can make a call by pressing the 📞.

Missed (BOOK ❶ ❸)

Displays missed call logs. In this menu, you can make a call by pressing the 📞 .

Added (BOOK ❶ ❹)

Added menu shows the user memo saved on the line. See "Memo" on page 53

Recent Call History List

The phone keeps a list of the last 30 calls you have made, inclusive of Outgoing, Incoming, Missed, or Scratchpad (using the scratch pad feature) calls. You can redial any of these numbers quickly and easily.

1. Press Soft Key 2 BOOK
2. Press [Call History]
3. Example : Press [Outgoing]
4. Press 📞, 📞 or 🔼 to scroll through the last ten calls until the cursor is at the number you want to call.
5. You can press 📞 to place a call or choose [View] of Soft Key 1 OPT to see the details of the call. You can then choose Soft Key 1 SAVE to save the number to a memory location. If the number already has a name associated with it, it is already entered into a memory location.

Phone Book (BOOK ❷)

Find Entry (BOOK ❷ ❶)

1. Press Soft Key 2 BOOK
2. Press [Phone Book] [Find Entry]
3. Press Soft Key 1 ALL
4. Press Soft Key 1 VIEW to see specifics in that memory location.
5. Press 📞 to make the call.

Find Name (BOOK ❷ ❷)

1. Press Soft Key 2 BOOK

2. Press [Phone Book] [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

▶ The phone then searches for names with that character string. (Searches will ignore difference between upper and lower case letters.)

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.

Add Entry (BOOK ❷ ❸)

Store in advance your frequently used telephone numbers. You can save telephone numbers, pager number, and so on, up to 198 entries (Entry 9 is designated to Emergency Call.)

1. Press Soft Key 2 BOOK

2. Press [Phone Book] [Add Entry]

3. Enter phone number then Select [Next] of Soft Key 1 OPT

▶ Select your desired phone type using the [🔼] button.

4. Enter Name and Press Soft Key 1 SAVE

5. Select the memory location number

▶ You are allowed to specify any address you want

6. Press Soft Key 1 OK OK

Find Email (BOOK ❷ ❹)

1. Press Soft Key 2 BOOK

2. Press [Phone Book] [Find Email]

▶ Select the item you want to view using the 🔼 .

3. Press Soft Key 1 VIEW

Add Email (BOOK ❷ ❺)

1. Press Soft Key 2 BOOK

2. Press [Phone Book][Add Email]

3. Enter email address, then Select [OK] of Soft Key 1 OPT .

4. Enter Name and press Soft Key 1 SAVE

5. Select the memory location number, then press Soft Key 1 OK

PC-Sync (BOOK ❸)

Optional

Your Phone's Sync feature will synchronize data between your phone and your PC. This feature allows you to save time and effort by downloading information from your PC to your phone. This is a benefit in that you have your information with you wherever you go, you save yourself the task of entering data twice (PC and phone) and you have created a backup file.

Viewing Your Telephone Number (BOOK ❹)

To view your phone number :

1. Press Soft Key 2 BOOK ❹ .

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 the 🆂🅴🅽🅳 during a message check.

The phone can store up to 20 messages (Voice message : 1, Text messages 19) at 245 characters per message. However, you should check whether your carrier provides the above features.

The information that is stored on the message is determined by the modes offered by the phone and service capability. You can check types of messages by pressing the message key ⬤ .

Types of Menu

▶ New Text : menu displaying newly received text messages
▶ Old Text : menu displaying opened but not erased text messages
▶ Voice : menu which shows the number of messages in voice mail
▶ Send Msg
▶ Erase All : menu to delete all stored messages
▶ Setting : menu to select alert type for new message(s)

New Message Alert

The phone notifies you that it received new messages by the following four methods.

1. The phone displays the message on the screen.

2. One of four sounds is heard (if selected).
3. The red light blinks.
4. The message icon is displayed on the screen [✉]. In the case of an urgent message, the icon will flash and an "asterisk" mark will be displayed on both sides of the message.

Note If you receive the same message twice, your phone deletes the older one and the new one is stored as "DUPLICATE"

New Text (⬤ ❶)

Reading Newly Received Text Messages

The latest message will be automatically displayed on screen. To scroll a line up or down, use the ⬤ or ⬇ key.

At the end of message, you can go to next new message by ⬇ .

If you press Soft Key 1 OPT , then you can see 6 sub-menus:

Reply : This function reply the sms to callback number or email address. If the sms has both of callback number and email address, the reply will be sent to email only.

Forward : This function will forward sms user data to another person.

Erase : Delete current displayed message.

Call Back : Dials reply number. Press 🆂🅴🅽🅳 key also does the same function.

Email : This function save a email address into the phone book, When the sms message with a email address. There are two sub-functions, one is modifying a email address from the old entry, the other is Save a email address as new entry.

Protect? : Select auto-delete disable function. It toggles between function disable and enable each time by selection. A " ✳ " will be added on head of message when you select [Protect?].

✳ Auto Delete function: In the case of message storage is full, the oldest message is automatically replaced by a new message. When marked as [Protect?], the message will be kept on storage.

Old Text (⬥ ❷)

1. Press ⬥ (✉) .

2. Select "2. Old Text".

1) Lists messages opened but not deleted by user.

2) In case of stored messages, messages are listed as seen on right and may be selected by moving [⬥] key using "Up" and "Down" keys

Voice (⬥ ❸)

You can check the number of new voice messages arriving in the voice mailbox. The latest message is stored, overwriting the previous one in the voice mailbox. The voice mailbox is alerted while receiving as in the case of general text characters.

Checking of Voice Mailbox

1. Press ⬥ (✉) .

2. Select "3. Voice"

▶ If you press the 📞 key, a voice mail callback number will be displayed and a call is made to your voicemail system, where you can access your voice mail message.

Out of Memory Warning

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

At this time, the message "NOT ENOUGH MEMORY! New Message is rejected."

Send Msg (⬥ ❹)

Menu Tree:

TO, CB#, Msg, Save Outbox, Outbox list, Deferred, Validity, Priority, Delivery ack

▶ Soft Key 1 OK will select the menu where the cursor is located. Soft Key 2 BACK will open the SMS main menu.

▶ The program supports multi-destination address in which the same user data may be delivered to a number of destinations. In this case origination may take longer time than usual.

To : This field is to enter the destination address. Up to six destinations can be designated and the letters entered include numbers, letters and special characters.

Option menu is available. Option menu includes ok, cancel, next, back and addr book, email book.

▶ OK : 'OK' is used to save the current address, and return the user to the previous menu.

▶Cancel : 'Cancel' is used to return the user to the previous menu without saving the entered address.

- ▶ Next : 'Next' enables the user to enter the next destination address. The field is in loop type.
- ▶ Back : 'Back' enables the user to enter the previous destination address.
- ▶ addr book: 'addr book' enables the user to refer to the addresses in the phone book. Selecting the address in the phone book copies the address to the destination address field.
- ▶ email book : 'email book' enables the user to refer to the email in the phone book. Selecting the email in the phone book copies the email to the destination email field.

CB# : This field is used to enter the callback number that includes numbers.

Msg : This field is used to enter the data actually transmitted. The data may consist of numbers, letters, alphabets and special characters.

Option menu is available. Option menu includes OK, Save, Cancel, List, and Canned.

- ▶ OK : 'OK' saves the entered data and returns the user to the previous menu, but not save the data in the list.
- ▶ Save : 'Save' is used to save the entered data, return the user to the previous menu, and save the data in the list so that the data can be used from the list.
- ▶ Cancel : 'Cancel' is used to return the user to the previous window without saving the entered message.

- ▶ List : 'List' displays the previously saved list where a saved message can be selected.
- ▶ Canned : Specific texts are saved in 'Canned' from which a text can be selected. There are 10 texts available in total.

▶ Saved message

Yes, No, Call me, Need directions, Where are you?, Will call later, Busy, On my way, Will arrive 15 minutes, Thank you

Save Outbox : 'Save Outbox' is used to save the destination address, callback number, and user data used so far.

Outbox list : 'Outbox list' has the contents of outbox in list format, and informs the status of the saved message.

- ▶ status
- 目 : Save
- ▨ : Send - Message is saved in Short Message Center (SMC) or transmitted to the destination.
- ▨ : Fail
- ▨ : Delivery - Message has been transmitted to the destination
- ▨ : Cancel -A message saved in SMC is not sent to destination yet, the cancellation message cancels the sending message to destination.
- ▨ : Multi-destination address
- ▶ Option menu is available. Option menu includes View, Erase, and Cancel.

The Option menu has open, erase, cancel sub menu

- Open : 'Open' is used to copy the saved message to destination address, callback, and user data field.
- Erase : 'Erase' is used to delete the list on the line.
- Cancel : 'Cancel' is used to transmit the cancellation message for the message of which status is ▓ so that the message cannot be transmitted to the opposite party.

Deferred: 'deferred' is used to perform delayed delivery. The message becomes delayed in Short Message Center (SMC) for a while, and is transmitted to the destination. (Delay type is divided into Immediate, After 30 min, After 1 hour, After 2 hour, After 12 hour, After 1 days and After 2 days.)

Validity: 'Validity' indicates the available period. If the message delivered to Short Message Center (SMC) is not transmitted to the destination for certain period of time, the message is not transmitted but deleted from Short Message Center (SMC). (Validity is divided into 30 minutes, 1 hour, 2 hour, 12 hour, 1 day, 2 days, and continue.)

Priority: 'Priority' is to set the priority order of the message. Priority is divided into Normal and Urgent.

Delivery ack : 'Delivery ack' provides acknowledgement that the transmitted message was received by the destination.

When all fields are entered, press ⬛ to originate the message.

Pressing ⬛ without destination entered will display a warning message. If the message is normally transmitted, the message is displayed to confirm the normal transmission. If the message is not normally transmitted, the failed destination address is displayed.

Erase All (⬠ ➎)

All the voice mailbox messages, text messages and pages are deleted when you select "4. Erase All" from the MESSAGE MENU screen.

Setting (⬠ ➏)

The phone generates a sound and vibration, a lamp blinks and the screen indicates the arrival of a new message when receiving a message (only when selected from Alert). However, only the screen indicating a new message is displayed in the off state.

Alert (⬠ ➏ ➊)

Used to select the type of reception sound when receiving a message.

You can select 2 alerts, 4 alerts, Lamp and Vibrate in the "Alert" mode.

2Min Alert (⬠ ➏ ➋)

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

Default CB# (⬠ ➏ ➌)

This menu enables display of its own phone number on the callback field of the origination menu.

Auto Save (△ ❻ ❹)

Setting menu to save sent messages in the outbox automatically.

Browser Msg (△ ❼), Browser Set (△ ❽)

See "Chapter 7. MiniBrowser" on page 54~59

Mute (During a call : MENU ❶)

- Switching microphone on and off during in a call. When the microphone is off, the other party can not hear you. Press Soft Key 1 MENU and ❶ during a call. Then, "MUTE" is displayed on the screen.
- If you need to release mute press the Soft Key 1 MENU and ❶ key again.

Memo (During a call : MENU ❷)

Used to enter a phone number the other party gives you during a call. With this function, you can save the number without writing it down. The phone number is saved at this time in Call History.

Key Beep (During a call : MENU ❸)

Set Key beep length and touch tone playback speed.

- Normal : Sends out a tone the for duration of time no matter how long you keep key pressed.
- Long : Sends out a continuous tone for as long as you keep the button pressed.

Voice Privacy (During a call : MENU ❹)

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.

Serving Sys (During a call : MENU ❺)

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

This information is only for technical support.

Chapter 7. Mini Browser

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

For specific information on MiniBrowser access through your phone, refer to your service Provider.

Overview

The MiniBrowser allows the user to use a variety of Internet service. 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 specially designed for cellular 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, and the phone icon [In Use Icon] will appear on the display, 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(▲) ➤ Browser Set (**8**) ➤ Prompt (**1**)

2. Disable the reminder by selecting "Prompt Select" to "None" using ▲▼.

Accessing the MiniBrowser

You can access MiniBrowser by pressing and hold **0** in initial screen or by selecting item from Main Menu screen.

Start MiniBrowser (Menu 8)

1) From the Main Menu, highlight [8. Browser Start] and press Soft Key 1 SEL .

2) A reminder of the charge will appear; press Soft Key 1 yes to launch the MiniBrowser if required.

3) After a few seconds, you will see the Home Page.

Ending MiniBrowser Session

You can end a MiniBrowser session by press and hold END .

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(▲) ➤ Browser Set (**8**) ➤ Prompt (**1**)

Ending browser calls - Users should be able to end a browser session by press and hold [END/PWR].

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 making use of Soft Keys. The Soft Keys are located at the bottom line of the display.

Navigation Keys

Scrolling Up/Down by Item

You can use your [up/down] to scroll through the content if the current page does not fit into one screen. The currently selected item is indicated by a "▶" cursor on the screen, and the [Soft Keys] will also move the cursor.

Fast Scrolling Up/Down

Press and hold [up/down] key to move the cursor up and down fast on the current screen.

Scrolling Up/Down by page

Press volume key (Side Keys) to move screen page up and down.

Go to Home Page

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

View Browser Menu

Press and hold [0] button to use browser menu when the MiniBrowser is being used.

Clearing out text/number entered

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

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 [up/down] 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 appear on the bottom row of your phone's display. Note that the function associated with the Soft Keys can change with each page and depend on each highlighted item.

Soft Key 1

: The Soft Key1 is used primarily for first options or selecting item but its function may change, depending on what the content is displayed.

Soft Key 2

: The Soft Key2 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, alpha, smart, Number, or Symbol (exact label depends on implementation.)

To change the input mode, use the Soft Keys.

Initiating a phone call from the MiniBrowser

You may initiate 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 take 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 pressing and hold .

If the page has a title, it will be automatically used for the name of the bookmark. When bookmark is saved you could change the bookmark name if you want. Selecting Save will save the name and add the page to 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.

The new bookmark is added to the bottom of your bookmark list.

Finding a bookmark

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

Or

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

Browser Msg (Message Menu ( ) -> Browser Msg (7))

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

Browser Setting (Message Menu ( ) -> Browser Set (8))

Type of Browser setting Menu

Prompt : Whether to inform users before making MiniBrowser calls will be charged and prompt them whether to launch the browser or not. This step is used to prevent accidental activation of the browser since all subscribers will be provisioned with browser automatically.

A message is also available to inform the users whether or not they want to exit the browser before they press . Users can disable the extra step (or enable if it is disabled) through a menu option. "to end", "none", "to start", and "both"

Alert Sound : There are 3 types of beeps. 2 alerts, 4 alerts, mute option are provided in this menu. User can assign a browser alerting message sound.

Chapter 8. Accessories

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

Travel Charger

This charger, model TC-10W, allows you to charge the battery pack. It supports standard U.S. 120Volt 60Hz outlets. A Orange light indicates that it is charging while a green light indicates charging is complete. It takes 5 hours to charge a completely discharged battery.

Extended Battery (LGLi-AADL)

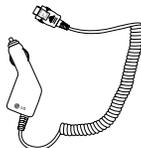Provided 550 hrs standby, 540 min talk time (CDMA mode).

Dual Port Desktop Charger

The dual port desktop charger, model DC-60W, allows you to place both the phone and a spare battery for charging at the same time in the stand. The charger starts to charge the spare battery as soon as it has finished charging the phone battery. It can charge a completely discharged battery in 3 hours.

Cigar 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-11W or CLC-12W. It takes 5 hours to charge a completely discharged battery.

Hands-Free Car Kit (Portable)

The hands-free car kit, model PHF-30W, 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(Install)

The installed hands-free car kit model IHF-30W is permanently installed in your car, and provides you with hands-free operation. It will also charge a completely discharged battery is shows.
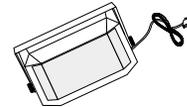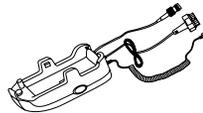
Data Cable Kit

Connects your phone to your PC.(Model KW-α or KYKIT-α)

Headset

Connects to your phone, allowing hands free operation. Includes earpiece, microphone and mute button.

Chapter 9. Appendix

Menu Tree

Press Soft Key 1 `MENU`. Press 🔺🔻 or ⭐/🔒 to scroll.

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

   - ▼ Default
   - ▼ Star theme
4. Auto Hyphen

Display
1. Backlight
   - ▼ 10 seconds
   - ▼ 30 seconds
   - ▼ On when Flip open
   - ▼ Always on
2. Banner
   - ▼ Always off
3. Theme

System
1. Set NAM
2. Auto NAM
3. Force Mode
4. System Sel
5. Version
6. Serving Sys.

Call Information
1. Last call
2. Home calls
3. Roam calls
4. All calls

Features
1. Data/ Fax
   - ▼ Off
   - ▼ Data In
   - ▼ Fax In
2. Auto Answer
   - ▼ Off
   - ▼ after 1 ring
   - ▼ after 3 rings
   - ▼ after 5 rings

3. Auto Retry
   - ▼ Off
   - ▼ every 10 seconds
   - ▼ every 30 seconds
   - ▼ every 60 seconds
4. One-Touch
5. Voice Privacy
   - ▼ Enhanced
   - ▼ Standard

Utility
1. Country
2. Calculator
3. Audio AGC

Security
1. Lock Mode
   - ▼ Never
   - ▼ On power up
   - ▼ Always
2. Restrict
3. Clear Call
4. Clear Memory
5. Emergency #
6. New Code
7. Send PIN

Browser Start

Press Soft Key 2 `BOOK`. Press 🔺🔻 or ⭐/🔒 to scroll.

Call History
1. Outgoing
2. Incoming
3. Missed
4. Added

Phone Book
1. Find Entry
2. Find Name
3. Add Entry
4. Find Email
5. Add Email

PC-Sync

My Phone

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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.

► Internation 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 (NGRP), Report 86

► Department of Heath and Welfare Canada, Safety Code 6

These standards are based on extensive scientific review. For example, over 120 scientists, engineers, and physicians from universities, government health agencies, and industry reviewed the available body of research to develop the ANSI Standard.

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

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- 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. When the battery is detached from the phone, your batteries are packed with a protective battery cover, 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 answer a call if driving conditions so require.

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

Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacture 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 signal 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 you your vehicle engine.

FDA Consumer Update

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

Why the concern?

Mobile phones emit low levels of radiofrequency energy (i.e., radiofrequency radiation) in the microwave range while being used. They also emit very low levels of radiofrequency energy (RF), considered non-significant, when in the stand-by mode. It is well known that high 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, 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, neuroepithelliomatous tumors. It is possible with multiple comparisons of the same sample that this association occurred by chance. Moreover, the risk did not increase with how often the mobile phone was used, or the length of the calls. In fact, the risk actually decreased with cumulative hours of mobile phone use. Most cancer causing agents increase risk with increased exposure. An ongoing study of brain cancers by the National Cancer Institute is expected to bear on the accuracy and repeatability of these results.

1. 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 Qs & As): http://www.who.int/emf

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

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

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

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

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

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