USER GUIDE

LG-B471

BC

LIMITED WARRANTY STATEMENT

ARBITRATION NOTICE: THIS LIMITED WARRANTY CONTAINS AN ARBITRATION PROVISION THAT REQUIRES YOU AND LG TO RESOLVE DISPUTES BY BINDING ARBITRATION INSTEAD OF IN COURT, UNLESS YOU CHOOSE TO OPT OUT. IN ARBITRATION, CLASS ACTIONS AND JURY TRIALS ARE NOT PERMITTED. PLEASE SEE THE SECTION TITLED "PROCEDURE FOR RESOLVING DISPUTES" BELOW.

Warranty Laws

The following laws govern warranties that arise in retail sales of consumer goods:

- · The California Song-Beverly Consumer Warranty Act [CC §§1790 et seq],
- · The California Uniform Commercial Code, Division Two [Com C §§2101 et seq], and
- · The federal Magnuson-Moss Warranty Federal Trade Commission Improvement Act [15 USC §§2301 et seq; 16 CFR Parts 701– 703]. A typical Magnuson-Moss Act warranty is a written promise that the product is free of defects or a written promise to refund, repair, or replace defective goods. [See 15 USC §2301(6).] Remedies include damages for failing to honor a written warranty or service contract or for violating disclosure provisions. [See 15 USC §2310(d).] Except for some labeling and disclosure requirements, the federal Act does not preempt state law. [See 15 USC §2311.]

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 TWELVE (12) MONTHS beginning on the date of purchase of the product with valid proof of purchase, or absent valid proof of purchase, FIFTEEN (15) MONTHS from date of manufacture as determined by the unit's manufacture date code.

(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.

2

(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. WHAT LG WILL DO:

LG will, at its sole option, either repair, replace or refund the purchase price of any unit that is covered under this limited warranty. LG may choose at its option to use functionally equivalent re-conditioned, refurbished or new units or parts or any units. In addition, LG will not re-install or back-up any data, applications or software that you have added to your phone. It is therefore recommended that you back-up any such data or information prior to sending the unit to LG to avoid the permanent loss of such information.

4. 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 OR FITNESS FOR A PARTICULAR PURPOSE, IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY HEREIN. LG 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 OR FITNESS FOR A PARTICULAR PURPOSE APPLICABLE TO THIS PRODUCT.
Some states do not allow the exclusive 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.

5. HOW TO GET WARRANTY SERVICE:

To obtain warranty service, please call or fax to the following telephone numbers from anywhere in the continental United States:

Tel. 1-800-793-8896 or Fax. 1-800-448-4026

Or visit http://www.lg.com/us/support. Correspondence may also be mailed to:

LG Electronics Service- Mobile Handsets, P.O. Box 240007, Huntsville, AL 35824

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

PROCEDURE FOR RESOLVING DISPUTES:

ALL DISPUTES BETWEEN YOU AND LG ARISING OUT OF OR RELATING IN ANY WAY TO THIS LIMITED WARRANTY OR THE PRODUCT SHALL BE RESOLVED EXCLUSIVELY THROUGH BINDING ARBITRATION, AND NOT IN A COURT OF GENERAL JURISDICTION. BINDING ARBITRATION MEANS THAT YOU AND LG ARE EACH WAIVING THE RIGHT TO A JURY TRIAL AND TO BRING OR PARTICIPATE IN A CLASS ACTION.

Definitions. For the purposes of this section, references to "LG" mean LG Electronics MobileComm U.S.A., Inc., its parents, subsidiaries and affiliates, and each of their officers, directors, employees, agents, beneficiaries, predecessors in interest, successors, assigns and suppliers; references to "dispute" or "claim" shall include any dispute, claim or controversy of any kind whatsoever (whether based in contract, tort, statute, regulation, ordinance, fraud, misrepresentation or any other legal or equitable theory) arising out of or relating in any way to the sale, condition or performance of the product or this Limited Warranty.

Agreement to Binding Arbitration and Class Action Waiver. You and LG agree to resolve any claims between us only by binding arbitration on an individual basis, unless you opt out as provided below. Any dispute between you and LG shall not be combined or consolidated with a dispute involving any other person's or entity's product or claim. More specifically, without limitation of the foregoing, any dispute between you and LG shall not under any circumstances proceed as part of a class or representative

action. Instead of arbitration, either party may bring an individual action in small claims court, but that small claims court action may not be brought on a class or representative basis.

Arbitration Rules and Procedures. To begin arbitration of a claim, either you or LG must make a written demand for arbitration. The arbitration will be administered by the American Arbitration Association (AAA) and will be conducted before a single arbitrator under the AAA's Consumer Arbitration Rules that are in effect at the time the arbitration is initiated (referred to as the "AAA Rules") and under the procedures set forth in this section. The AAA Rules are available online at www.adr.org/consumer. Send a copy of your written demand for arbitration, as well as a copy of this provision, to the AAA in the manner described in the AAA Rules. You must also send a copy of your written demand to LG at LG Electronics, USA, Inc.Attn: Legal Department-Arbitration1000 Sylvan AvenueEnglewood Cliffs, NJ 07632. If there is a conflict between the AAA Rules and the rules set forth in this section, the rules set forth in this section will govern. This arbitration provision is governed by the Federal Arbitration Act. Judgment may be entered on the arbitrator's award in any court of competent jurisdiction. All issues are for the arbitrator to decide, except that issues relating to the scope and enforceability of the arbitration provision and to the arbitrability of the dispute are for the court to decide. The arbitrator is bound by the terms of this provision.

Governing Law: The law of the state of your residence shall govern this Limited Warranty and any disputes between us except to the extent that such law is preempted by or inconsistent with applicable federal law.

Fees/Costs. You do not need to pay any fee to begin an arbitration. Upon receipt of your written demand for arbitration, LG will promptly pay all arbitration filing fees to the AAA unless you seek more than $25,000 in damages, in which case the payment of these fees will be governed by the AAA Rules. Except as otherwise provided for herein, LG will pay all AAA filing, administration and arbitrator fees for any arbitration initiated in accordance with the AAA Rules and this arbitration provision. If you prevail in the arbitration, LG will pay your reasonable attorneys' fees and

expenses to the extent required by applicable law. If the arbitrator finds either the substance of your claim or the relief sought in the demand is frivolous or brought for an improper purpose (as measured by the standards set forth in Federal Rule of Civil Procedure 11(b)), then the payment of all arbitration fees will be governed by the AAA Rules. In such a situation, you agree to reimburse LG for all monies previously disbursed by it that are otherwise your obligation to pay under the AAA Rules. Except as otherwise provided for, LG waives any rights it may have to seek attorneys' fees and expenses from you if LG prevails in the arbitration.

Hearings and Location. If your claim is for $25,000 or less, you may choose to have the arbitration conducted solely on the basis of (1) documents submitted to the arbitrator, (2) through a telephonic hearing, or (3) by an in-person hearing as established by the AAA Rules. If your claim exceeds $25,000, the right to a hearing will be determined by the AAA Rules. Any in-person arbitration hearings will be held at a location within the federal judicial district in which you reside unless we both agree to another location or we agree to a telephonic arbitration.

Opt Out. You may opt out of this dispute resolution procedure. If you opt out, neither you nor LG can require the other to participate in an arbitration proceeding. To opt out, you must send notice to LG no later than 30 calendar days from the date of the first consumer purchaser's purchase of the product by either: (i) sending an e-mail to optout@lge.com, with the subject line: "Arbitration Opt Out" or (ii) calling 1-800-980-2973.You must include in the opt out e-mail or provide by telephone: (a) your name and address; (b) the date on which the product was purchased; (c) the product model name or model number; and (d) the IMEI or MEID or Serial Number, as applicable (the IMEI or MEID or Serial Number can be found (i) on the product box; (ii) on a label on the back of the product beneath the battery, if the batter is removable;or (iii) from the settings menu via the following path: **Settings → Phone Information**). You may only opt out of the dispute resolution procedure in the manner described above (that is, by e-mail or telephone); no other form of notice will be effective to opt out of this dispute resolution procedure. Opting out of this dispute resolution procedure will not affect the coverage of

the Limited Warranty in any way, and you will continue to enjoy the full benefits of the Limited Warranty. If you keep this product and do not opt out, then you accept all terms and conditions of the arbitration provision described above.

Table of contents

Basics

Accessories

There are a variety of accessories available for your mobile phone, some of which may be sold separately. You can select these options according to your personal communication requirements. Visit your local AT&T store or www.att.com/wirelessaccessories for specific offerings.

- Travel Adaptor
- USB Cable
- Battery

NOTE

- Always use genuine LG accessories. The supplied items are designed only for this device and may not be compatible with other devices.
- The items supplied with the device and any available accessories may vary depending on the region or service provider.

Phone layout

Phone Components

Earpiece

Main LCD

Left Soft Key/
Right Soft Key

Alarm Key

Message Key

Navigation Keys

Send Key

Clear/Back Key

TTS Mode Key

OK Key

End/Power Key
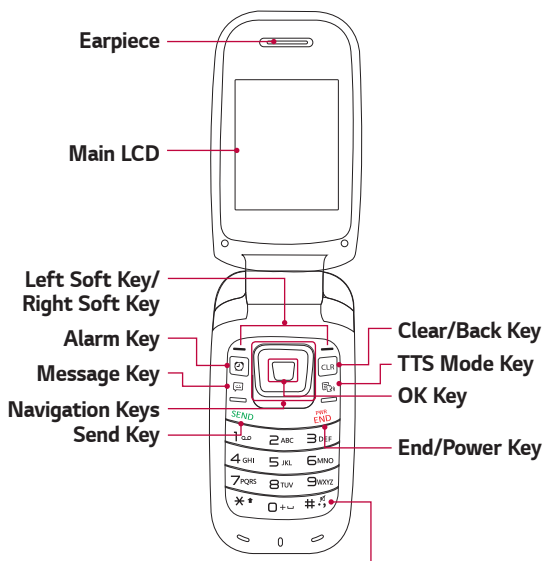
Press and hold to activate/
deactivate Vibrating Mode.

Volume Keys

Charger/USB Port

Earpiece	Lets you hear the caller during a call.
Main LCD	Displays phone status icons, menu items, web items, web information, pictures and more, in full color.
Left Soft Key/ Right Soft Key	Each of these keys perform the functions indicated by the text on the display immediately above them.
Alarm Key	Lets you activate the Alarm Clock.
Message Key	Allows you to create a new message immediately.
Navigation Keys	**Home screen functions:** · ⌷ Games & Apps · ⌷ Contacts · ⌷ Alarm Clock · ⌷ Music Player - **In a menu**: Navigates between menus.

|	
Send Key	Press this key in standby mode to quickly access the most recent missed, dialed, and received calls. Also dials a call when you enter a number.
Clear/Back Key	Allows you to return to the previous screen. Press and hold to activate the Voice Command function.
TTS Mode Key	Lets you turn the Text-To-Speech mode on/off.
OK Key	Select options and menus.
End/Power Key	Allows you to power the phone on or off, end calls, or return to standby mode.
Volume Keys	Allows you to control the Master Volume while in standby mode and the earpiece volume during a call.
Charger/USB Port	Allows you to connect a charger or other supported accessories.

Rear view

Back Cover

Battery
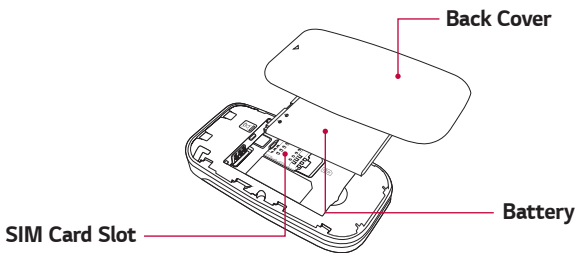
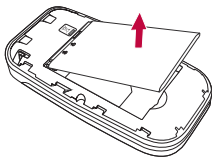**SIM Card Slot**

Installing the SIM card and battery

1 **Remove the back cover**
Place your thumb at the top part of the back cover and slide it downwards to remove it.
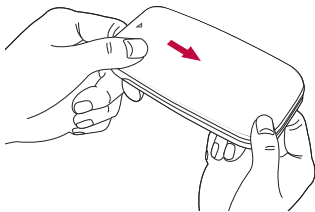
2 **Remove the battery**
Hold the top edge of the phone and use the fingernail cutout near the bottom of the battery to lift the battery from the phone.
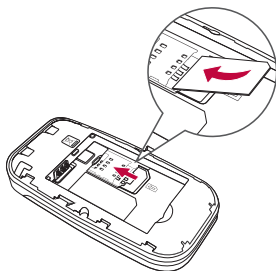
⚠ **WARNING**
• Do not remove the battery when the phone is turned on; this can damage the phone.

3 **Install the SIM card**
Slide the SIM card into the SIM card slot (as shown below). Make sure that the gold contact area on the card is facing downwards. To remove the SIM card, slide it gently in the opposite direction.
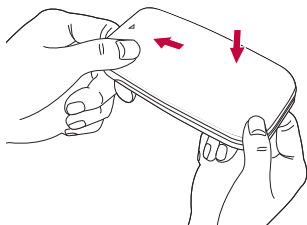
4 **Install the battery**
Insert the top of the battery first into the top edge of the battery compartment. Ensure that the battery contacts align with the terminals on the phone. Press the bottom of the battery down until it snaps into place.
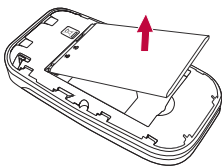
5 **Install the back cover**
Align the back cover on the battery compartment and slide it upwards until it locks into place.

Charging your phone

Locate the Charger/USB Port on the left side of your phone. Insert the charger connector to the phone (the 'B' side of the connector has to be facing up when connecting to the phone) and then plug the other end into the wall socket. Your phone will need to be charged until the Full Battery message appears on the screen.

⚠ **Important!**
- You must insert the battery before charging.
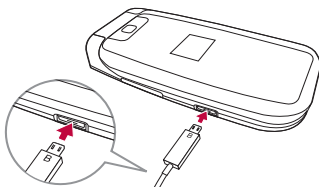
⚠ **Warning**
- Use of unauthorized accessories could damage your phone and void your warranty.

On-Screen Icons

The table below describes various display indicators or icons that appear on the phone's display screen.

Icon	Description	Icon	Description
▫◲	Network signal strength (number of bars will vary)	📶	No network signal
▭	Low Battery	✉	New text message
ⓔ	New email	🕐	An alarm is set

♪	Ring profile in use	🚫	Silent All profile in use
EDGE	EDGE network available	B	Bluetooth is active
🌐	The browser is active	3G	3G network available
📳	Vibrating Mode On	📢	Speakerphone
📞	Call in Progress	📼	Voicemail
🔋	Battery Full	🔋	Battery Charging
✈	Flight Mode On		

General Functions

Before you begin

Remember that you can select the menu icons from the Menu screen using the **Navigation Keys** if you set the option to **Icon**. If you set the Menu Styles option to **List**, you can use the number keys to select the menu icons.

Making a Call

1 Make sure your phone is powered on.
2 Enter a phone number including the area code. To edit a number on the display screen, simply press the **Clear/Back Key** CLR to erase one digit at a time.
   · Press and hold the **Clear/Back Key** CLR to erase the entire number.
3 Press the **Send Key** SEND to call the number.
4 To end the call, press the **End/Power Key** END .

Making a Call with the Send Key

1 Press the **Send Key** SEND to display the most recent missed, dialed and received calls will be displayed.
2 Highlight the desired number by using the Navigation Keys.
3 Press the **Send Key** SEND .

Making International Calls

1 Press and hold the 0+ key and the international access character '+' will appear.
2 Enter the country code, area code, and the phone number.
3 Press the **Send Key** SEND to call the number.

Ending a Call

To end a call, press the **End/Power Key** END .

Making a Call from the Contacts

You can store frequently called names and phone numbers in the SIM card as well as in your Contacts List.

You can dial a number by simply highlighting a name in the Contacts List and pressing the **Send Key** .

1 Press the **Down Navigation Key** to access the Contact List.

2 Highlight the Contact and press the **Send Key** .

Answering a Call

When you receive a call, the phone displays a notification on the screen and rings and/or vibrates. If the caller can be identified, the caller's phone number (or name, if stored in your Contacts) is displayed.

Press the **Send Key** or the **Left Soft Key** **Accept** to answer an incoming call.

If the **Answer Mode** has been set as **Any Key** (**Menu** > **Settings** > **Call** > **Answer Mode**), any key press will answer a call, except for the **End/Power Key** , the **Right Soft Key** or the **Volume Keys**.

3 End the call by pressing the **End/Power Key** .

NOTE

· You can answer a call while using other functions or features.

Adjusting the Volume

Use the **Volume Keys** during a call to adjust the earpiece volume.

While in standby mode, you can adjust the Master Volume using the **Volume Keys**.

Vibrating Mode (Quick)

Vibrating Mode can be activated by pressing and holding down the key.

Signal Strength

If you are inside a building, being near a window may give you better reception. You can see the strength of your signal by the signal indicator on your phone's display screen.

Entering Text

You can enter alphanumeric characters by using the phone's keypad. For example, storing names in the Contacts, writing a message, or scheduling events in the calendar all require text to be entered.

Changing the Text Input Mode

Change the text input mode by pressing $\boxed{*\cdot}$ when in a text entry field. You can check the current text input mode in the upper right corner of the screen.
The following text input modes are available on the phone.

123 Mode (Numbers Mode)

Type numbers using one keystroke per number. To change to 123 mode in a text entry field, press the $\boxed{*\cdot}$ key until 123 mode is displayed in the upper right corner.

Using the 123 (Numbers) Mode

The 123 Mode enables you to enter numbers in a text message (a telephone number, for example) more quickly. Press the keys corresponding to the required digits before manually switching back to the appropriate text entry mode.

Symbol Mode

The Symbol Mode enables you to enter various symbols or special characters. To enter a symbol, press the $\boxed{\#\%}$ key. Use the **Navigation Keys** to highlight the desired symbol and press the **OK Key** $\boxed{\text{OK}}$.

ABC Mode

This mode allows you to enter letters by pressing the key labeled with the required letter.

Using the ABC Mode

Use the alphanumeric keypad to enter your text.

1 Press the key labeled with the required letter.
2 To insert a space, press the ⌷⁰⁻ᵘ⌷ key once. To delete letters, press the **Clear/Back Key** ⌷ᴄʟʀ⌷. Press and hold down the **Clear/Back Key** ⌷ᴄʟʀ⌷ to erase all of the entered text.

NOTE

· Refer to the table below for more information on the characters available using the keys.

Key	Characters in the Order Displayed	
	Upper Case	Lower Case
1	. , ' @ ? ! - : / 1	. , ' @ ? ! - : / 1
2	A B C 2	a b c 2
3	D E F 3	d e f 3
4	G H I 4	g h i 4
5	J K L 5	j k l 5
6	M N O 6	m n o 6
7	P Q R S 7	p q r s 7
8	T U V 8	t u v 8
9	W X Y Z 9	w x y z 9
0	Space Key, 0 (Long press)	Space Key, 0 (Long press)

In-Call Menu

During a Call

Your phone provides a number of control functions that you can use during a call. To access these functions during a call, press the **Left Soft Key** ⌐⁊ **Options**.

Making a Second Call

You can select a number you wish to dial from the Contacts to make a second call.

1 Press the **Left Soft Key** ⌐⁊ **Options**, then select **Contacts**.
2 Highlight the contact, then press the **Send Key** 🔲 to make a second call.

Swapping Between Two Calls

Once the second call has been dialed (or answered), you can switch between the calls by using one of the following three methods:

· Press the **Send Key** 🔲.
· Press the **Left Soft Key** ⌐⁊ **Options** and then select **Swap Calls**.
· Press the up or down **Navigation Keys**.

Answering an Incoming Call

To answer an incoming call when the phone is ringing, simply press the **Send Key** 🔲. The phone is also able to warn you of an incoming call while you are already on a call. A tone sounds in the earpiece and the display will show that a second call is waiting. This feature, known as Call Waiting, is only available if your network supports it.

If Call Waiting is turned on, you can put the first call on hold and answer the second call by pressing the **Send Key** 🔲.

Rejecting an Incoming Call

You can reject an incoming call without answering by simply pressing the **End/Power Key** 🔲 or the **Right Soft Key** ⟍⟞.

Muting the Microphone

You can mute the microphone during a call by pressing the **Right Soft Key** ⌐⟍ **Mute**. The phone can be unmuted by pressing the **Right Soft Key** ⌐⟍ **Unmute**. When the phone is muted, the caller cannot hear you, but you can still hear the caller.

Using the Speakerphone

You can use the integrated Speakerphone during a call by pressing the **OK Key** ⌷OK⌷ **Spk. On**. The loudspeaker is automatically deactivated when you end the call.

⚠ **WARNING**

· Due to increased volume levels, do not place the phone near your ear while the speakerphone is enabled.

Recent Calls

This menu allows you to see the list of recent calls. To access Recent Calls, from the standby screen, press the **Left Soft Key** ⌐⟍ **Menu** and select **Recent Calls** 📞.

You can access the following menus:

All Calls, Missed Calls, Dialed Calls, and Received Calls.

Contacts

Contact List

This menu allows you to save and manage contact address information. The Contact List allows you to add a new address or search saved contact addresses by name.

To access Contact List, from the standby screen, press the **Left Soft Key** ⌐ **Menu**, **Contacts** 🔲 and ⌐1ꟾ Contact List.

ICE - Emergency Contacts

This menu allows you to make a contacts list to call or text, in case of emergency.

To access ICE-Emergency Contacts, from the standby screen, press the **Left Soft Key** ⌐ **Menu**, **Contacts** 🔲 and ⌐2ᴬᴮᶜ **ICE Emergency Contacts**.

To add an ICE contact, press the **Right Soft Key** ⟍ **Add** and choose a contact from the Contact List. You can also press the **Left Soft Key** ⌐ **Options**, ⌐1ꟾ **New Contact**, enter the contact's details, then press the **Right Soft Key** ⟍ **Save**.

AT&T Go Phone contacts

This menu shows the list of default service contacts for AT&T Prepaid devices.

To access AT&T Go phone contacts, from the standby screen, press the **Left Soft Key** ⌐ **Menu, Contacts** 🔲 and ⌐3ᴰᴱᶠ **AT&T Go phone contacts**.

AT&T Service Contacts

This menu shows the list of default service contacts for AT&T Postpaid devices.

To access AT&T Service Contacts, from the standby screen, press the **Left Soft Key** ⌐ **Menu**, **Contacts** 🔲 and ⌐4ᴳᴴᴵ **AT&T Service Contacts**.

New Contact

This menu allows you to add a new contact to the Contact List. You can enter contact address information including name, phone numbers, email addresses, group information items, memos, ring tones, and a contact Picture ID.

To access New Contact, from the standby screen, press the **Left Soft Key** <img> **Menu**, **Contacts** <img> and <img> **New Contact**.

Groups

This menu allows you to manage group information. You can also configure a ring tone for a group so that the group ring tone sounds when a call from a specific contact address within that group is received and there is no ring tone configured for the specific contact address.

To access Groups, from the standby screen, press the **Left Soft Key** <img> **Menu**, **Contacts** <img> and <img> **Groups**.

Speed Dial

This menu allows you to assign a frequently-called contact to the Speed Dial List. You can select a number from 2 to 9 as a speed dial.

To access Speed Dial List, from the standby screen, press the **Left Soft Key** <img> **Menu**, **Contacts** <img> and <img> **Speed Dial**.

SIM Management

This menu allows you to copy information from your SIM card to your phone and vice versa. If a name is duplicated during the copying operation, the information is also duplicated. You can also delete information from the SIM card.

To access SIM Management, from the standby screen, press the **Left Soft Key** <img> **Menu**, **Contacts** <img> and <img> **SIM Management**.

Own Number

This displays your personal phone number.

To access Own Number, from the standby screen, press the **Left Soft Key** ⎚ **Menu**, **Contacts** 🔲 and ⁹ᵂˣʸᶻ **Own Number**.

My Business Card

This displays your business card stored in the phone. You can also edit it.

To access My Business Card, from the standby screen, press the **Left Soft Key** ⎚ **Menu**, **Contacts** 🔲 and ⁰⁺ **My Business Card**.

Messages

This menu includes functions related to SMS (Short Message Service), MMS (Multimedia Message Service), Voicemail as well as the network's service messages.

Create Message

1 From the standby screen, press the **Left Soft Key** ⎚ **Menu**.

2 Select **Messages** 🔲.

3 Press ¹ᵃᵇ **Create Message**.

OR

 You can simply press the **Message Key** 🔲 from the standby screen.

4 Enter the recipient(s).

5 Press the **Right Soft Key** ⎚ **Compose**.

6 After completing a message, press the **OK Key** ᴼᴷ **Send** to send the message.

🔔 NOTE

· If you need more information about adding recipients, please refer to the Adding recipients section in the next page.

· If you insert a picture, audio, or video file while writing a multimedia message, the file loading time will take about 5 seconds. You will not be able to activate any key during the file loading time. When the file loading is complete, you will be able to continue writing your multimedia message.

Adding recipients

The following options are available when adding the recipient(s). For more options, press the **Left Soft Key** ⟍ **Options** in the Recipients screen. In this menu, you can choose from the following options:

- · **Enter Number**: Allows you to enter the phone number using the keypad.
- · **Enter Email**: Allows you to enter an email address instead of a phone number.
- · **Insert Symbol**: Allows you to enter symbols.
- · **Caller Groups**: Displays Contacts Groups.
- · **Recent Messages**: Choose a Contact from Recent Messages.
- · **Recent Calls**: Choose a Contact from Recent Calls.

Editing a message

The following options are available when editing a message.

Using Insert

While entering text, press the **Right Soft Key** ⟍ **Insert** in the Compose screen. The following options are available.

- · **Symbol**: You can insert various symbols into your message. Pressing the **Left Soft Key** ⟍ and **Right Soft Key** ⟍ scrolls through the pages.
- · **Picture**: You can select a picture to insert by using the **Navigation Keys**. You can preview the selected picture by pressing the **Right Soft Key** ⟍ **View**.
- · **Audio**: You can insert an audio file from your saved audio files.
- · **Video**: You can insert a video clip from your saved video clips.
- · **Record New Audio**: You can record a new audio clip by pressing the **OK Key** ⟦OK⟧ **Record**. Press the **Left Soft Key** ⟍ **Options** before you begin recording to set the **Quality** option. After recording a new audio clip, you can delete it by pressing the **Left Soft Key** ⟍ **Discard**.
- · **Template**
  - **Text**: Allows you to easily insert frequently used sentences in the text message.

- **Multimedia**: Preset multimedia templates can be created (
  <img> **Menu** > **Messages** <img> > <img> **Message Settings** > <img>
  Multimedia Message > <img> **Multimedia Templates** > <img> **New**).
- **More**: Allows you to insert vCard, vCalendar, vNote, vTask or Contact.

⊘ NOTE

- vCard, vCalendar, vNote and vTask are created by the Contacts, Calendar, Notepad, and Tasks functions, respectively.

Using Options

While entering text, press the **Left Soft Key** <img> **Options** in the Compose screen.

- **Add Recipient**: Allows you to add the recipient(s).
- **Text Entry Mode**: Sets the text input mode. For more details, refer to Entering Text (page 22).
- **Text Entry Settings**
  - **Text Entry Language**: Allows you to set the text entry language to English or Spanish.
  - **T9 Word Candidate List**: Displays the word candidates as you type.
  - **T9 Next Word Prediction**: Allows the phone to predict the next word when typing in T9 mode.
  - **T9 Dictionary**: Allows you to add, delete, reset, and modify words.
- **Save to Drafts**: Saves the message to Drafts.
- **Cancel Message**: Allows you to exit the text input mode without saving your message.

Inbox

You will be alerted when you receive a message. New messages are stored in the Inbox. In the Inbox, you can identify each message by icons. If you are notified that you have received a multimedia message, you can download the whole multimedia message by selecting it in the Inbox menu. To reach the Inbox, from the standby screen, press the **Left Soft Key** ⬅ **Menu** > **Messages** 💬 > 2ᴬᵇᶜ **Inbox**.

When you press the **Right Soft Key** ⬎ **Reply**, you can reply to the sender of the message.

While viewing the Inbox, press the **Left Soft Key** ⬅ **Options** for the following options:

- **Add to Contact**: You can save the sender's phone number in the Contact List.
- **Delete**: You can delete the selected message.
- **Forward**: You can forward the selected message to another person.
- **Standard View/Conversation View**: Switches the Inbox view mode to Standard view or Conversation View.
- **Copy to SIM/Copy to Phone**: You can copy the message to the phone or SIM card depending on where the text message is stored.
- **Move to SIM/Move To Phone**: You can move the message to the phone or SIM card depending on where the text message is stored.
- **Select Multiple**: You can select multiple messages to delete.
- **Sort By**: Allows you to sort the messages by date, sender, read/unread, or subject.
- **Message Details**: You can view the following information about received messages: Type, Subject, From, and Time.
- **Delete All Read Msg**: You can delete all read messages.

Drafts

Allows you to view and edit the messages saved as drafts. To access drafts, from the standby screen, press the **Left Soft Key** ⬅️ **Menu**, **Messages** 📩, and 🔢 **Drafts**. When you press the **Right Soft Key** 📲 **Delete**, it allows you to delete the message.

While viewing the Drafts, press the **Left Soft Key** ⬅️ **Options** for the following options:

· **Select Multiple**: Allows you to select multiple messages to delete.
· **Message Details**: Allows you to view the details of the message.

Outbox

Outbox is the storage place for recently sent messages. When you press the **Send Key** 📞, you can call the recipient of the selected message. If the message is not sent from the Outbox, you will receive a sound alert along with a Message Sending Failure notice on the screen. Another attempt will be made to send the failed message and after two unsuccessful attempts, the message will no longer be sent automatically.

To access the Outbox, from the standby screen, press the **Left Soft Key** ⬅️ **Menu**, **Messages** 📩, and 🔢 **Outbox**.

The following options are available for the Outbox folder by pressing the **Left Soft Key** ⬅️ **Options**:

· **View Status**: Display the status of message.
· **Delete**: Deletes the selected message.
· **Edit**: Allows you to edit the selected message.
· **Select Multiple**: Allows you to select multiple messages to delete.
· **Sort By**: Allows you to sort the messages by date and recipient.
· **Message Detail**: Allows you to view the details of the message.

Press the **Right Soft Key** 📲 **Forward** to send the selected message to another.

Message Settings

To access and configure your Message Settings, from the standby screen, press the **Left Soft Key** ⬅️ **Menu**, **Messages** 💬, and 5ᴊᴸ **Message Settings**.

Message Alert

Allows you to set the Sounds, Volume, Alert Type, and Alert Interval.

Save To

Allows you to choose whether to save attached files to the SIM Card or the Phone.

Text Message

Allows you to set preferences for text messages.
The following options are available:

- **Text Templates**: Predefined messages that can quickly be sent. Press the **Left Soft Key** ⬅️ **Options** to access the following available options:
  - **Send**: Allows you to send the selected template via Message.
  - **Delete**: Allows you to delete the selected template message.
  - **Edit**: Allows you to edit the selected template message.
  - **Delete All**: Deletes all messages in the folder.
  - **Cancel**: Returns to Text Message menu.
- **Msg Center No.**: Allows you to view and edit the phone number for the Message Center. Do not edit unless instructed to do so by your service provider.

Multimedia Message

Allows you to set your preferences for multimedia messages.
The following options are available:

- **Multimedia Templates**: Allows you to add, edit, and delete multimedia templates. Press the **Right Soft Key** ➡️ **New** to create a new multimedia template. Press the **Left Soft Key** ⬅️ **Options** while creating a message to access the following available options:
  - **Text Entry Mode**: Sets the text input mode. For more details, refer

to Entering Text (page 22).
- **Text Entry Settings**
  - **Text Entry Language**: Allows you to set the text entry language to English or Spanish.
  - **T9 Word Candidate List**: Displays the word candidates as you type.
  - **T9 Next Word Prediction**: Allows the phone to predict the next word when typing in T9 mode.
  - **T9 Dictionary**: Allows you to add, delete, reset, and modify words.
- **Cancel**: Allows you to exit the text input mode without saving your message.
· **Download Options**
  - **Download Without Ask**: Allows multimedia messages to be downloaded automatically.
  - **Ask Always**: You are prompted to download when a multimedia message is received.
  - **Discard**: Enabling this option will block incoming multimedia messages from being received.
· **Message Center**: Allows you to view and edit the phone number for the Message Center. Do not edit unless instructed to do so by your service provider.

Group Messaging

This menu allows you to set the type of message to send when sending to a group of recipients.
The following options are available:
  · **Group conversations**: Allows you to reply to the whole group and send messages as multimedia messages.
  · **Individual messages**: Allows you to reply only to individuals and send messages as text messages.

Voicemail

This menu allows you to set the Voicemail Center Number if this feature is supported. Please check with for details of their service in order to configure the phone correctly.

Email

Sending an email

To send/receive an email, you should first set up an email account.

1 From the standby screen, press the **Left Soft Key** ⬅ **Menu**, select **Email** 🅐 and choose the account you want to use (if necessary).

2 Press the **Left Soft Key** ⬅ **Options** and choose ② or ④ **Write Email** to write an email.

3 Enter the recipient's address in the **To** field. Then use the down Navigation Key to access the Subject and Messages fields.

4 Enter your message using the keypad and press the **OK Key** Ⓞ **Send** to send the email.

Retrieving your email

1 From the standby screen, press the **Left Soft Key** ⬅ **Menu**, and select **Email** 🅐.

2 Select the account you want to use (if necessary).

3 Press the **OK Key** Ⓞ **Refresh** or press the **Left Soft Key** ⬅ **Options** and choose ② **Refresh** to connect to your email account and retrieve your new messages.

Message folders

Open Email, press the **Left Soft Key** ⬅ **Options**, and select `1∞`
Mailbox. The list of folders will be displayed.

- **Write Email**: Create your new message.
- **Inbox**: All the e-mails you receive are placed into your Inbox. From here you can reply, forward and more.
- **Drafts**: If you don't have time to finish writing a e-mail, you can save what you have written so far in here.
- **Outbox**: This is a temporary storage folder while e-mail are being sent or stores the messages that are failed to sent.
- **Sent**: Copies of all the e-mail you send are kept into your Sent folder.
- **Trash**: All the e-mail you remove are placed into your Trash.

Changing your email settings

1 From the standby screen, press the **Left Soft Key** ⬅ **Menu**, choose **Email** `@` > **Left Soft Key** ⬅ **Options** > `1∞` **Mailbox** > ⬅ **Options** > `2ABC` **Settings**.
2 Set any of the following options.
- **Accounts**: You can edit e-mail account settings.
- **Notification**: Choose whether or not to be alerted to new emails.
- **Default Account**: Choose which account to compose e-mail by default.
- **Signature**: Create an email signature and switch this feature on.

Alarm Clock

The alarm function allows you to set up multiple separate alarms. You can also set the time, repetition interval, and alarm tone. If there is no alarm setting, press the **Left Soft Key** **New** to add a new alarm.

To access Alarm Clock, from the standby screen, press the **Left Soft Key** **Menu** and select **Alarm Clock** .

Edit Alarm

· **Time**: Input your desired alarm time by specifying the hour and minutes.
 You can also choose a predefined amount of time (**15 Minutes Later, 30 Minutes Later, 45 Minutes Later, 1 Hour Later, Off**).

· **Repeat**: Select the desired repeat mode (**Once, Daily, Mon ~ Fri, Sat ~ Sun, Select Weekday**).

· **Alarm Tone**: Press the **OK Key** **List** to access the list of available Alarm Tones.

· **Volume**: Press the **OK Key** **List** and then set the volume of the alarm by pressing the up and down **Volume Keys**. Then press the **OK Key** **Set**.

· **Type**: Select the Ring Alert Type between **Ring, Vibrate, Ring & Vibrate** and **Vibrate after Ring**.

· **Memo**: Enter an alarm name.

· **Snooze Interval**: Select the snooze interval between **5 Minutes, 15 Minutes, 30 Minutes, 45 Minutes, 1 Hour** and **Off**.

Press the **Left Soft Key** **Save** to save your new Alarm.

Browser

The Browser is one of the services provided by your network operator and it gives you access to all the cool things you can do with your wireless phone.

NOTE
- Check the availability of services, pricing, and tariffs with your network operator and/or the service provider whose service you wish to use. Service providers will also give you instructions on how to use their services.
- Please contact your service provider to open an Internet account.

Launch the Browser

To launch the browser from the standby screen, press the **Right Soft Key** ⌇▷ **Browser** or press the **Left Soft Key** ⌇ **Menu** and select the **Browser** 🌐 using the **Navigation Keys**.
To exit the browser at any time, press the **End/Power Key** 🔳.

Using the Browser

Once you are connected to the Internet, the following menu options are available when you press the **Left Soft Key** ⌇ **Options**:
- **Zoom**: Allows you to zoom in/out for better look.

NOTE
- You can also adjust the Browser text and image size by pressing the up and down **Volume Keys** to zoom in and out.

- **Home**: Directs you to the homepage.
- **Windows**: You can have several browser windows to navigate different web pages at the same time.
- **Enter URL**: Allows you to enter URL you desire to visit.
- **Send Link**: Allows you to send the URL link in a message.
- **Bookmarks**: You can add or save the current page to Bookmarks or view the list saved under Bookmarks.
- **Navigation Mode**: Allows you to select Back, Forward, and Refresh.
- **Search Text**: Allows you to search the text.

- **Recent Pages**: Allows you to view your history of recently viewed web sites.
- **Settings**: Allows you to set options for web pages and appearance.

Menus for the Browser

You can surf the Internet using either the phone keys or the Browser menu.

Using the Navigation Keys

When surfing the Internet, the Navigation Keys function similarly from when the phone is on standby mode.

myAT&T

myAT&T allows you to manage all of your AT&T accounts, including wireless, internet and home phone, and AT&T U-verse.

· View and pay your bill
· Access to billing and account support
· Check your order status
· View wireless voice and data usage
· Upgrade your account
· Add a line
· and more...

To access myAT&T, from the standby screen, press the **Right Soft Key** **Menu** and then **myAT&T.**

For more information, please visit http://www.att.com/myatt.

Notepad

You can create up to a maximum of 30 memos.

To access Notepad, from the standby screen, press the **Left Soft Key** **Menu** and select **Notepad** .

1 Press the **Left Soft Key** **New** to create a new memo.
2 Input the memo and press the **OK Key** **Save** to save.

Calendar

When you enter this menu, a calendar will be displayed. The red square cursor is used to locate a particular day. The bottom bar on the calendar indicates saved schedules (if any) for that day. This function helps you keep track of your schedule. The phone can sound an alarm tone if it has been set for a specific schedule item.

The chart below shows the keys that can be used to navigate the Calendar.

Key	Description
⌐ / ⌐	Weekly
⌐ / ⌐	Daily
1⌐ / 3⌐	Annually
7⌐ / 9⌐	Monthly

To access Calendar, from the standby screen, press the **Left Soft Key** ⌐ **Menu** and **Calendar** 30.

The following options are available when pressing the **Left Soft Key** ⌐ **Options**:

- **Search**: Allows you to search the saved schedule(s).
- **Set Holiday**: Allows you to set specific dates to display as Holidays on your calendar.
- **View All**: Allows you to view all saved schedules.
- **Week View**: Allows you to view the calendar by week.
- **Go to Date**: Allows you to jump to a specific date.
- **Selective Delete**: Allows you to delete Old Schedules or All Schedules selectively.
- **Settings**: Allows you to set various calendar settings.

My Folder

Audio

To access Audio, from the standby screen, press the **Left Soft Key** ⬅ **Menu**, **My Folder** 📁, and ⌨ **Audio**.

- **Record Voice**: Allows you to record voice notes.
- Saved audio files are displayed in the list.

Music Player

You can access Music by pressing the **Left Soft Key** ⬅ **Menu**, **My Folder** 📁, and ⌨ **Music**.

The following options are available:

- **All Songs**: Allows you to view all the songs in your music library.
- **Playlists**: Allows you to create your own playlists.
- **Artists**: Shows the list of artists of all the songs in your music library, and shows all the songs by a chosen artist.
- **Albums**: Shows the list of albums of all the songs in your music library, and shows all the songs on a chosen album.
- **Genres**: Shows the list of genres of all the songs in your music library, and shows all songs of a specific genre.
- **Shuffle Songs**: Allows you to play all the songs in your music library in random order.

TIP!
- The music player plays formats such as MP3, AAC, AAC+, and WMA.

NOTE
- Music files may be protected by copyright and intellectual property laws. Please ensure that you adhere to the applicable Terms of Use of materials laws prior to downloading or copying files.

Playing Music

To listen to music that you have in your phone, follow these quick easy steps:

1 Press the **Left Soft Key** ⊂⁊ **Menu** and **My Folder** 📁.
2 Select Music and then choose from **Now Playing, All Songs, Playlists, Artists, Albums** and **Genres** or **Shuffle Songs** to shuffle your collection.

   · Press the **OK Key** ⌗ **Play/Pause** to play and pause a selected song. While playing, press the up or down Navigation Keys to change the volume and the left or right Navigation Keys to go to the previous or next song.
   · While playing music, press the **Left Soft Key** ⊂⁊ **Options** to access other functions while music is playing.

Adding Music To Your Phone

Music files can be added to your phone by using one or more of the following methods:

   · Download music and ringtones over the network directly to your device.

NOTE

· Some sites are data intensive (i.e. previews via streaming) so the user should be enrolled in an unlimited data plan before using these services to avoid per-use data charges.Additional charges may apply when downloading music, ringtones, etc.

Pictures

To access Picture, from the standby screen, press the **Left Soft Key** ⊂⁊ **Menu**, **My Folder** 📁 and ⬚ᴰᴱᶠ **Pictures**.

   · The picture files saved on your phone are displayed.

Video

To access Video, from the standby screen, press the **Left Soft Key** ⊂⁊ **Menu**, **My Folder** 📁 and ⬚⁴ᴳᴴ **Video**.

   · The video files saved on your phone are displayed.

NOTE

· Please note that DRM can restrict some functions, such as sending and editing.

Other Files

When you receive files of an undefined format (such as .vcs, .vcf, etc.) via email, the files are saved in this folder.

To access Other Files, from the standby screen, press the **Left Soft Key** ⧼ **Menu**, **My Folder** 🔲 and ⑤ᴶᴷᴸ **Other Files**.

The following options are available by pressing the **Left Soft Key** ⧼ **Options**:

· **Send Via**: Send the selected file via Message, Email, or Bluetooth.
· **Delete**: Allows you to delete the selected file.
· **Move**: Allows you to move the selected file to another folder.
· **Copy**: Allows you to copy the selected file to another folder.
· **Rename**: Allows you to edit the name of the selected file.
· **Select Multiple**: Allows you to select multiple files at once to perform various functions.
· **Sort By**: Allows you to sort the files by Name, Date, and Type.
· **File Information**: Allows you to view information about the selected file or used memory space on your phone.

File Manager

This function allows you to view the content in your internal phone memory.

To access File Manager, from the standby screen, press the **Left Soft Key** ⧼ **Menu**, **My Folder** 🔲 and ⑥ᴹᴺᴼ **File Manager**.

Games & Apps

This menu allows you to download or access the various games.

To access the Games, from the standby screen, press the **Left Soft Key** ⧼ **Menu**, **My Folder** 🔲 and ⑦ᴾ�QᴿS **Games & Apps**.

Tools

Voice Command

Voice Command is the function whereby your phone's voice recognition engine identifies the voice of the user and carries out the requested commands. When the user operates the Voice Command function, there are five possible commands, Call <Name or Number>, Listen Voicemail, Missed Calls, Messages, and Time & Date. To activate the Voice Command function, hold down the **Clear/Back Key** ⌫ while the phone is in standby mode or press the **Left Soft Key** ⬤ **Menu**, **Tools** ▨, and ⌨ **Voice Command**.

1 **Call <Name or Number>**: This function is activated only when the user says the command "Call" followed by the name stored in the address book or say the phone number. Please note that interfering noise might cause a problem displaying candidates. Additionally, the user has the option to select a number type at the end, such as "mobile", "home", or "work".

2 **Listen Voicemail**: This command is activated when the user says "Listen Voicemail". The user will then be automatically connected to voicemail.

3 **Missed Calls**: This command is activated when the user says the words "Missed Calls". The mobile phone presents the missed call list.
   · **Follow-up Commands Available**
     - **Yes**: Make the phone call.
     - **No**: Moves to the next result.
     - **Cancel**: Go back to the main Voice Command menu.
     - **Exit**: Terminate Voice Command.
     - **Next**: Moves to the next result.

4 **Messages**: This command is activated when the user says "Messages". The phone displays details of unread text or multimedia messages.

5 **Time & Date**: This command is activated when the user says "Time & Date". The phone displays the current local time and date.

Voice Command Options

When the Voice Command option is activated, you can press the **Left Soft Key** ⌐⁊ **Options** for the following options:

- **Mode**
  - **Speed**: Voice Command is abbreviated.
  - **Normal**: Voice Command is played normally with prompts.
- Best Match
  - **1 Match**: The most likely match will be displayed when finding a number from the address book.
  - **4 Matches**: The four most likely matched names will be displayed when finding a name from the address book.
- **Sensitivity**
  - **High**: Operation and performance of the voice recognition engine is rarely affected by the user's voice command and surrounding sound.
  - **Medium**: Operation of the voice recognition engine is normally affected by user's voice command and surrounding sound.
  - **Low**: Operation of the voice recognition engine is strongly affected by user's voice command and surrounding sound.
- **Spk. On Mode**
  - **Automatic On**: When this option is selected, the speakerphone is turned on and the sound is loud enough so you can hear the output when the phone is away from the ear, at a distance
  - **Off**: When this option is selected, the speakerphone is turned off and the sound comes from the earpiece, which is quieter and cannot be heard when the phone is away from the ear, at a distance
- **Call Alert**
  - **Ring Only**: The phone rings repeatedly during an incoming call.
  - **Ring After Name**: The phone announces the name or number of the incoming call, then rings repeatedly.
  - **Name Repeat**: The phone announces an incoming call by repeating the name or number of the caller.

Alarm Clock

The alarm function allows you to set up multiple separate alarms. You can also set the time, repetition interval, and alarm tone. If there is no alarm setting, press the **Left Soft Key** ⏿ **New** to add a new alarm.

To access Alarm Clock, from the standby screen, press the **Left Soft Key** ⏿ **Menu**, **Alarm Clock** 🕐 or press the **Left Soft Key** ⏿ **Menu**, **Tools** 🗶, and ⏿ **Alarm Clock**.

For more details, refer to Alarm Clock on page 37.

Notepad

You can create up to a maximum of 30 memos.

To access Notepad, from the standby screen, press the **Left Soft Key** ⏿ **Menu**, **Tools** 🗶, and ⏿ **Notepad**.
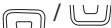
1 Press the **Left Soft Key** ⏿ **New** to create a new memo.

2 Input the memo and press the **OK Key** ⏿ **Save** to save.

Calculator

The Calculator function allows you to calculate simple mathematical equations.

To access Calculator, from the standby screen, press the **Left Soft Key** ⏿ **Menu**, **Tools** 🗶, and ⏿ **Calculator**.

Tasks

This feature allows you to save and manage a task.

To access Tasks, from the standby screen, press the **Left Soft Key** ⏿ **Menu**, **Tools** 🗶, and ⏿ **Tasks**.

1 To add a new task item, press the **Left Soft Key** ⏿ **New**.

2 Input the Due Date, Note, Priority, and Status information for the new Task.

3 Press the **Left Soft Key** ⏿ **Save** to save the Task item.

The following options are available in the Task list by pressing the **Left Soft Key** ⏿ **Options**:

- **Mark 'Complete'**: Allows you to change the status of the selected task as Completed.
- **Edit**: Allows you to edit a saved task.
- **Delete**: Deletes the selected task.
- **Selective Delete**: Allows you to delete All Completed/All Past Tasks selectively.
- **Send Task Via**: Enables the selected task to be sent via Text Message, Multimedia Message, Email, or Bluetooth.
- **Select Multiple**: Allows you to select multiple Tasks.
- **View Calendar**: Allows you to view the Calendar.

Stopwatch

This menu allows you to record the elapsed time of an event. The duration of an individual lap time (up to 20 laps) and the total time can also be displayed.

To access Stopwatch, from the standby screen, press the **Left Soft Key** ⌐ **Menu**, **Tools** ▨, and ⌊6ᴹᴺᴼ⌋ **Stopwatch**.

- **Show Last**: Displays the last time recorded (only available if previous time was not reset).
- **New Time**

1 To start timing, press the **OK Key** ⌊OK⌋ **Start**. The running time is displayed as HH.MM.SS.hh (hours, minutes, seconds, hundredths of a second).

2 During the timing, you can record an individual lap time by pressing the **Right Soft Key** ⌐ **Lap**. Up to 20 lap times can be recorded.

3 You can stop or restart timing by pressing the **OK Key** ⌊OK⌋ again.

4 To reset the stop watch, press the **Right Soft Key** ⌐ **Reset** after stopping the time, or to save the stop watch, press the **Left Soft Key** ⌐ **Options** and then select **Save**.

- **Saved Times**: Allows you to see a list of the saved recorded times.

Tip Calculator

This feature allows you to quickly and easily calculate the tip amount based on the total bill as well as the split of the total bill based on the number of people.

To access Tip Calculator, from the standby screen, press the **Left Soft Key** ⬅ **Menu**, **Tools** ⊠, and ⁊ᵖᵠʳˢ **Tip Calculator**.

1 Enter the **Total Bill ($), Tip (%)**, and **Split** amounts.

2 The **Tip ($) and You Owe ($)** amounts will be automatically calculated.

Unit Converter

This function allows you to convert units of measurement.

There are 6 types of units that can be converted: Area, Length, Weight, Temperature, Volume, and Velocity.

To access Unit Converter, from the standby screen, press the **Left Soft Key** ⬅ **Menu**, **Tools** ⊠, and ⁸ᵀᵁᵛ **Unit Converter**.

Voice Recorder

Allows you to record an audio clip to your phone. The recorded audio file is saved automatically in the Audio menu.

To access Record Voice, from the standby screen, press the **Left Soft Key** ⬅ **Menu**, **Tools** ⊠, and ⁹ʷˣʸᶻ **Voice Recorder**.

The following options are available when you press the **Left Soft Key** ⬅ **Options**:

· **Record Mode**: Sets the recording mode to either MMS Mode or General Mode.

· **Quality**: Allows you to set the quality of an audio clip. You can set it to Fine, Normal, or Economy.

When you press the **Right Soft Key** ⬎ **Gallery**, it will take you to the Audio gallery.

Settings

Audio & Ringtones

This menu allows you to configure the audio and ringtone settings for your phone.

To access Audio & Ringtones, from the standby screen, press the **Left Soft Key** ⌁ **Menu**, **Settings** ⚙ and ⌁ **Audio & Ringtones**.

Ringtone

· **Sounds**: Allows you to set a sound as the ringtone for your phone.
· **Volume**: Allows you to control your Ringtone volume.
· **Alert Type**: Supports 3 ring alert types: Ring, Ring and Vibration, and Ring after Vibration.

⚙ NOTE

· Full length music tracks cannot be set as either ringtones or message tones.

Message Tone

· **Sounds**: Allows you to set a sound as your message tone.
· **Volume**: Allows you to control your Message Tone volume.
· **Alert Type**: Supports 4 message alert types: Silent, Vibrate, Ring Only, Ring & Vibrate.
· **Alert Interval**: Allows you to set the interval alert to Once, Every 2 Min, Every 5 Min, Every 10 Min, or Every 15 Min.

Alert Tone

· **Sounds**: Allows you to select a set of alert tones. Supports 2 alert tone types: Alert Tone 1 and Alert Tone 2.
· **Volume**: This menu allows you to control your Alert Tone volume.
· **Alert Type**: You can select to turn Alert Tones to Ring or Silent.

Keypad Tone

· **Sounds**: Allows you to select a tone that the phone sounds when a key is pressed on the dialpad. You can select an option from Beep and Voice.
· **Volume**: Allows you to control your Keypad Tone volume.

Multimedia

This menu allows you to control your Multimedia volume.

Call

This menu allows you to control your Call volume.

Phone Settings

This menu allows you to configure the Phone Settings. To access Phone Settings, from the standby screen, press the **Left Soft Key** ⌐ **Menu**, **Settings** 🔆 and ⌐2^ABC **Phone Settings**.

Date & Time

· **Set Date**: Allows you to enter the day, month, and year. You can set to Auto Update with the Auto Update menu.
· **Date Format**: Allows you to select the date format.
  ddd, MMM DD (day, month date)
  MM/DD/YYYY (month/date/year)
  DD/MM/YYYY (date/month/year)
  YYYY/MM/DD (year/month/date)
· **Set Time**: Allows you to enter the current time. You can choose the time format via the Time Format menu option.
· **Time Format**: Allows you to choose the time format between 12 Hours and 24 Hours.
· **Auto Update**: Allows you to set the phone to automatically update the time and date according to the current local time zone.

Languages

Allows you to change the language for the display text on your phone. This change will also affect the Language Input mode.

Set Hotkeys

Allows you to change the preferences on the Hotkeys that are currently assigned for your **Navigation Keys** (when in standby mode).

Flight Mode

This allows you to only use the phone's features that do not require the use of the wireless network, excluding emergency calls, when you are in an airplane or in places where the wireless network is prohibited. If you set the flight mode on, the flight mode icon will be displayed on the screen instead of the network signal icon.

· **On**: You cannot make (or receive) calls, excluding emergency calls, or use other features that require network coverage.
· **Off**: You can deactivate the flight mode to access the network.

Security

Various codes and passwords are used to protect the features and settings of your phone.

· **Phone Lock**: You can use a security code to avoid unauthorized use of the phone.
 If you set the Phone Lock to **When Power On**, the phone will request a security code whenever you switch the phone on. If you set the Phone Lock to **When SIM Changed**, your phone will request a security code only when you change your SIM Card. If you set the Phone Lock to **Lock Phone Now**, your phone will lock immediately.
· **PIN Request**: When the PIN Request feature is turned on, you must enter your PIN each time you switch the phone on. Consequently, any person who does not have your PIN cannot use your phone without your approval.

- Before setting the PIN Request feature off, you must enter your PIN.

- **Fixed Dial Number**: This feature allows you to restrict your outgoing calls to selected phone numbers, if supported by your SIM Card. The PIN2 code is required.
  - **FDN On/Off**
    - **On**: You can only call phone numbers stored in the FDN List. You must enter your PIN2 code.
    - **Off**: You can call any number.
  - **FDN List**: Allows you to enter a new FDN entry.
- **Change Codes**: The Change Codes feature allows you to change your current password to a new one. You must enter the current password before you can specify a new one. You can change the access codes for: **Security Code, PIN Code, PIN2 Code**.

- Not all SIM cards have a PIN2 Code. If your SIM card does not, this menu option is not displayed.

Reset Settings

This function allows you to restore factory settings. To do this, you need the security code.

- **Master Reset**: Restores the phone settings (e.g.: Audio, Display, Language, Bluetooth Settings) to default values.
- **Master Clear**: Deletes downloaded/user created contents (e.g.: images, videos) from the phone.
  - **Phone**
    - Deletes all downloaded/user created images and audios from the phone memory.
    - Deletes personal information stored in the phone memory (e.g.: Contacts, Messages, Tasks, Alarm, Calendar Schedules).
    - Restores the settings stored in the phone memory to the default values.

Display

This menu allows you to configure your Display settings.
To access Display, from the standby screen, press the **Left Soft Key** ⬅️ **Menu**, **Settings** 🔅 and ⌨️ **Display**.

Wallpapers

This menu allows you to set a picture or color as your background.

Fonts

You can configure the font size and color of the font that your phone uses.

Clocks & Calendar

This feature allows you to select a Clock or Calendar to display on the standby screen.

Brightness

You can set the brightness of the display screen.

Backlight Timer

Use this to set the duration of the display backlight and keypad.

Menu Styles

You can set the main menu style to Icon or List view.

Call

This menu allows you to configure your Call settings.
To access Call, from the standby screen, press the **Left Soft Key** <img>
Menu, **Settings** <img>, and [4ᴳʰ] **Call**.

Call Forwarding

This menu allows you to select when to forward calls to another number.

Send My Number

This network service allows you to set your phone number to be displayed or hidden from the person you are calling. You can select **Set by Network** if you prefer to have different settings for different service providers.

Auto Redial

If set to On, your phone redials the number you're trying to call up to 10 times after you hear a quick, busy signal. Press the **End/Power Key** [ENDⓍ] to stop the call attempts.
This feature attempts to redial numbers that are engaged due to the wireless network. It does not redial numbers to an engaged party.

NOTE
· There will be no alert indicating the call has been connected. You must stay on the line to hear when the call is connected.

Answer Mode

This allows you to determine how to answer the phone.
· **Any Key**: Allows you to answer an incoming call by pressing any key, except the **End/Power Key** [ENDⓍ], the **Volume Keys**, or the **Right Soft Key** <img> **Silent**.
· **Send Key Only**: Allows you to only answer an incoming call by pressing the **Send Key** [SEND] or the **Left Soft Key** <img> **Accept**.
· **Flip Open**: Allows you to Flip open the phone to answer an incoming call.

Senior Mode

Senior mode is a function that amplifies a sound for seniors to hear the voice well by emphasizing a low voice. It is used for enhancing the speech quality while you are on the phone.
You can set the Senior Mode to On or Off.

Minute Minder

This option allows you to specify whether the phone will beep every minute during a call to keep you informed of the length of the call.

Call Waiting

This menu allows you to activate and deactivate call waiting on your device. You can also view the current Call Waiting status.

Call Reject

This menu allows you to enable or disable call reject for all numbers or just the numbers on the Call Reject List.

- **Call Reject On/Off**: Allows you to activate or deactivate Call Reject. When the **Reject All Calls** option is set, all incoming calls are routed directly to Voicemail. **Reject on List** allows you to enable Call Reject for the numbers saved on your Call Reject List.
- **Call Reject List**: Allows you to view a list of the numbers you wish to reject and add new numbers to the list. You have the option of choosing numbers from your Contact List or adding a new number.

Send DTMF Tones

Allows you to manage DTMF tones. Select from **On** or **Off**.

Accessibility

- **TTY**: Allows you to enable TTY Mode in order to contact other TTY devices. Select from **TTY Full, TTY Talk, TTY Hear, TTY Off**.
- **Hearing Aid**: Allows you to turn the hearing aid functionality on or off.

Accessibility

This menu allows you to easily control various accessibility options.

To access Accessibility, from the standby screen, press the **Left Soft Key** ⌔ **Menu**, **Settings** 🔅, and ⑤ **Accessibility**.

Menu Readout

This option allows the phone to read out menus that are accessed.

Keypad Tone

· **Sounds**: Allows you to select a tone that the phone sounds when a key is pressed on the dialpad. You can select an option from **Beep** and **Voice**.
· **Volume**: Allows you to control your Keypad Tone volume.

Large Text

Allows you to set a large size for text. Select from **On** or **Off**

Invert Color

Allows you to set the color contrast for better screen viewing. Select from **On** or **Off**.

Mono Sound

Allows you to enable or disable the Mono Sound function.

Senior Mode

Allows you to turn the senior mode on or off. Senior mode enhances high frequencies to reduce the effects of hearing loss.

TTY

Allows you to enable TTY Mode in order to contact other TTY devices. Select from **TTY Full, TTY Talk, TTY Hear**, or **TTY Off**.

Hearing Aid

Allows you to enable or disable the Hearing Aid function.

Voice Command

Allows you to set the Voice Command options. Refer to page 45.

Connection

This menu allows you to configure your Connection settings.
To access Connection, from the standby screen, press **Left Soft Key**
Menu, **Settings**, and **Connection**.

Bluetooth

Your phone has built-in Bluetooth wireless technology, which makes it
possible for you to connect your phone wirelessly to other Bluetooth
devices such as a hands-free device, PC, laptop, or other phones.
The devices registered in your phone can only be connected one at a time
(To make a connection to the same type of device or change Bluetooth
preferences, disconnect the existing device first).
You can also exchange, for example, business cards, calendar items, and
pictures.
To access Bluetooth, from the standby screen, press the **Left Soft Key**
Menu, **Settings**, **Connection**, and **Bluetooth**.

Hands-free profile

This appears when the hands-free profile is used between the hands-
free device. This allows you to call using a Bluetooth connection.

A2DP profile

This appears when the A2DP profile is used between the stereo
headset device and the phone. This allows you to listen to an audio clip.
A2DP is the Advanced Audio Distribution Profile, which provides support
for streaming either mono or stereo audio using Bluetooth.

Hands-free + A2DP profile

This appears when both profiles of the hands-free and the A2DP are

used between the compatible device and the phone. This allows you to call and listen to an audio clip using a Bluetooth connection.

When using each device, see the manual that comes with the device.

NOTE

- We recommend that your phone and the Bluetooth device you are communicating with should be no more than 10 meters apart. The connection may be improved if there are no solid objects between your phone and the other Bluetooth device.

Turn On/Off

Allows you to turn your Bluetooth functionality on or off.

Search New Device

This function allows you to search for and add new devices.

My Devices

This function allows you to view the list of all devices that are paired with your phone.

My Bluetooth Info

This menu allows you to configure the profile for Bluetooth.

- **My Device Visibility**: Allows you to set your device to be visible to other Bluetooth devices.
- **Device Name**: Allows you to change the phone's name which can be seen by other Bluetooth devices.
- **Supported Services**: Shows you all services that the phone supports.
- **My Bluetooth Address**: Displays your device's Bluetooth address.

To pair with another device

1 From the standby screen, press the **Left Soft Key** ⬅ **Menu**, **Settings** ⚙ ⁵ᴹᴺᴼ **Connection**, ¹ᵒ **Bluetooth**, and ²ᴬᴮᶜ **Search New Device**.
2 If you want to stop searching, press the **Right Soft Key** ⬎ **Cancel**.
3 All of the devices found are displayed.
4 Select the desired device by pressing the **OK Key** ᴼᴷ **Add** and entering the password.

USB Connection

This menu shows the USB Connection. Allows you to select the USB connection from **Data Service** or **Disable**.

Internet Profiles

This menu shows the Internet Profiles. You can add, delete, and edit Internet Profiles by pressing the **Left Soft Key** ⬅ **Options**.

Access Points

This menu shows the Access Points. You can register, delete, and edit by pressing the **Left Soft Key** ⬅ **Options**.

Memory

This menu allows you to configure your Memory settings.
To access Memory, from the standby screen, press the **Left Soft Key** ⬅ **Menu**, **Settings** 🔧, and ⁷ₚ₍ₛ **Memory**.

Used Space

This function shows the memory status of the phone.

· **Phone Common**
  This function shows the Memory Status of the phone and the memory being used by Audio, Pictures, Video, Multimedia Msg, Email, Java, and Others types of files.

· **Phone Reserved**
  This function shows the status of the reserved memory used by Text Message, Contacts, Calendar, Tasks, and the Notepad.

· **SIM Card**
  This function shows the status of the SIM Card memory.

Applications

This menu allows you to configure application settings

To access Applications, from the standby screen, press the **Left Soft Key** ⌨ **Menu**, **Settings** 🖲, and ⌨ᵀᵂ **Applications**.

Messages

This option allows you to configure the Messaging option.

For more details, refer to Message Settings on page 33.

Browser

This menu allows you to configure the Browser settings.

Accounts

This includes the network information used to connect the Browser to the Internet. Select the desired account by highlighting it and pressing the **Right Soft Key** ⌨ **Activate**. This will activate the account that will be used for future connections.

- **Activate**: Select the account among the list of accounts, so it can be used for future connections.
- **View**: Allows you to see the specific account information.

The following options will be available when you press on the **Left Soft Key** ⌨ **Options**:

- **Edit**: Allows you to change the account information. This option is not available for the default Account.
- **Delete**: Allows you to delete the account.
- **New**: Allows you to create new account.

NOTE

· You cannot edit and delete pre-installed accounts.
· In order to create a new account, please fill in the network information.
  1 Account Name: Name associated with new account.
  2 Homepage: Homepage URL.
  3 Internet Profile: You can choose one from the Internet profiles.
· Creating or editing an account requires caution. The Browser cannot connect
  to the Internet if the account information is incorrect.

Appearance

You can choose the settings of the browser appearance (Text Size,
Character Encoding, Show Image, Java Script).

Cache

The web pages you have accessed are stored in the phone memory. This
menu allows you to manage that function.

· **Clear Cache**: Remove all cached data in the memory.
· **Cache**: Allows you to turn the memory cache on or off.

NOTE

· Cache is a type of buffer memory, which is used to store data temporarily,
  especially when it is online.

Cookies

The information of services you have accessed are stored in what is called
a cookie.
From this menu, you can choose to allow cookies or to delete cookies that
are already on your phone.

Clear Login Info.

You can delete the history of ID or Password information that you have
saved previously.

Screen Settings

You can chage the settings of the browser screen (Rendering mode).

Security

A list of the available certificates is shown.

- **Certificates**: You can see the list of certificates and view them in detail.
- **Clear Session**: Removes the secure session.

Navigation Mode

You can change the methods of browser navigation.

- **4 Way Navigation**: The cursor of the browser moves scroll amounts or follows hyperlinks.
- **Mouse Pointer**: You can move the cursor like a mouse pointer.

Secure Popup

You can activate or deactivate the pop-up which indicates a secure page.

Shortcuts

If set to On, you can use the Browser more quickly and conveniently with the keypad in the phone. If Shortcuts is on, the following shortcuts are available:

1. Enter URL	2. This Page
3. View Bookmarks	4. Info.
5. Full Screen	6. Saved Pages
7. Page Up	8. Recent Pages
9. Zoom In	0. Search Text
*. Page Down	#. Zoom Out

You can adjust the Browser text and image size by pressing the up and down **Volume Keys**.

Software Update

The user can check for the software update using the menu "Check for Update". If the new software does not exist the user can not use this feature in 24 hours.

Before updating new software after downloading it from the network server, users can decide whether they would like to postpone the operation. Reminder times can be set to 4 hours. When the time is up, users are prompted again or users can resume the postponed operation using this menu at any time. The software update can only be postponed three times and will automatically start after the third postpone period expires.

To access Software Update, from the standby screen, press the **Left Soft Key** ⌐ **Menu**, **Settings** , and **Software Update**.

Phone Information

This menu is used to view My Numbers, Manufacturer, Model Name, IMEI, IMEI SV, Hardware Version, Software Version, Language.

To access Phone Information, from the standby screen, press the **Left Soft Key** ⌐ **Menu**, **Settings** and **Phone Information**.

Appendix

Q&A

Please check to see if any problems you have encountered with the phone are described in this section before taking the phone in for a service or calling a service engineer.

Q How do I view the list of outgoing calls, incoming calls, and missed calls? **A** Press the **Send Key** [SEND].	**Q** Why won't the LCD turn on? **A** Remove the battery, then replace it. Then turn on the power. If there is no change, fully charge the battery and try again.
Q Why is the connection inconsistent or not audible in certain areas? **A** When the frequency environment is unstable in a certain area, connection may be inconsistent and inaudible. Relocate to another area and try again.	**Q** Why does the phone heat up? **A** The phone may get hot when there is a very long call duration, when games are played, or even when surfing the Internet for a long time. This has no effect upon the life of the product or performance.
Q Why is the connection inconsistent or abruptly disconnects even when established? **A** When frequency is unstable or weak, or if there are too many users, a connection may be cut off even after it was established. Please try again later or attempt again after relocating to other areas.	**Q** Why does the battery run out so quickly during normal use? **A** This may be due to the user environment, a large number of calls, or a weak signal.
	Q Why is no number dialed when an Address Book entry is recalled? **A** Check that the number has been stored correctly by using the Address book Search feature. Re-store them, if necessary.

More information

Open Source Software Notice Information

To obtain the source code under GPL, LGPL, MPL, and other open source licenses, that is contained in this product, please visit http://opensource. lge.com.

In addition to the source code, all referred license terms, warranty disclaimers and copyright notices are available for download.

LG Electronics will also provide open source code to you on CD-ROM for a charge covering the cost of performing such distribution (such as the cost of media, shipping, and handling) upon email request to opensource@lge.com. This offer is valid for three (3) years from the date on which you purchased the product.

Trademarks

- Copyright ©2015 LG Electronics, Inc. All rights reserved. LG and the LG logo are registered trademarks of LG Group and its related entities.
- Bluetooth® is a registered trademark of Bluetooth SIG, Inc. worldwide.
- All other trademarks and copyrights are the property of their respective owners.

For Your Safety

Important Information

This user 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 guide could void your warranty for this equipment. Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Before You Start

⚠ Warning Violation of the instructions may cause serious injury or death.

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. **Wash hands after handling**.

- Never place your phone in a microwave oven as it will cause the battery to explode.

- When riding in a car, do not leave your phone or set up the hands-free kit near the air bag. If wireless equipment is improperly installed and the air bag is deployed, you may be seriously injured.

- Do not dispose of your phone near fire or with hazardous or flammable waste. You should dispose of your phone in accordance with all applicable laws.

- Do not use the phone in areas where its use is prohibited. (For example: aircraft)

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

- Do not use harsh chemicals (such as alcohol, benzene, thinners, etc.) or detergents to clean your phone. This could cause a fire.

- Do not drop, strike, or shake your phone severely. It may harm the internal circuit boards of the phone.

- Do not use your phone in high explosive areas as the phone may generate sparks.

- Do not damage the power cord by bending, twisting, pulling, or heating. Do not use the plug if it is loose as it may cause electric shock or fire.

- Do not place any heavy items on the power cord. Do not allow the power cord to be crimped as it may cause electric shock or fire.

- Do not handle the phone with wet hands while it is being charged. It may cause an electric shock or seriously damage your phone.

- Do not disassemble the phone.

- Do not place or answer calls while charging the phone as it may short-circuit the phone and/or cause electric shock or fire.

- Do not attempt to repair or modify the device yourself. Your device is equipped with an internal rechargeable battery which should be replaced only by LG or an authorized LG repair center.

  You should never attempt to open or disassemble this device yourself and doing so may cause damage that voids your warranty.

- Make sure that no sharp-edged items, such as animal's teeth or nails, come into contact with the battery. This could cause a fire.

- Be careful that children do not swallow any parts (such as earphone, connection parts of the phone, etc.) This could cause asphyxiation or suffocation resulting in serious injury or death.

- Unplug the power cord and charger during lightning storms to avoid electric shock or fire.

- Only use 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.

- An emergency call can be made only within a service area. For an emergency call, make sure that you are within a service area and that the phone is turned on.

- Your phone is an electronic device that generates heat during normal operation. Extremely prolonged, direct skin contact in the absence of adequate ventilation may result in discomfort or minor burns. Therefore, use care when handling your phone during or immediately after operation.
- Use and store your phone in temperatures between 0°C/32°F and 45°C/113°F, if possible. Exposing your phone to extremely low or high temperatures may result in damage, malfunction, or even explosion.

HAC statement

This phone has been tested and rated for use with hearing aids for some of the wireless technologies that it uses. However, there may be some newer wireless technologies used in this phone that have not been tested yet for use with hearing aids. It is important to try the different features of this phone thoroughly and in different locations, using your hearing aid or cochlear implant, to determine if you hear any interfering noise. Consult your service provider or the manufacturer of this phone for information on hearing aid compatibility. If you have questions about return or exchange policies, consult your service provider or phone retailer.
This mobile phone has a Hearing Aid Mode that, when activated, may reduce interference with some hearing aid models.

FCC RF Exposure Information

WARNING! Read this information before operating the phone.
In August 1996, the Federal Communications Commission (FCC) of the United States, with its action in Report and Order FCC 96-326, adopted an updated safety standard for human exposure to Radio Frequency (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.

Body-worn Operation

This device was tested for typical bodyworn operations with the back of the phone kept 0.59 inches (1.5 cm) between the user's body and the back of the phone. To comply with FCC/IC RF exposure requirements, a minimum separation distance of 0.59 inches (1.5 cm) must be maintained

between the user's body and the back of the phone. Any beltclips, holsters, and similar accessories containing metallic components may not be used. Body-worn accessories that cannot maintain 0.59 inches (1.5 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/IC RF exposure limits and should be avoided.

Caution

Use only the supplied antenna. Use of unauthorized antennas (or modifications to the antenna) could impair call quality, damage the phone, void your warranty and/or violate FCC regulations.

Don't use the phone with a damaged antenna. A damaged antenna could cause a minor skin burn. Contact your local dealer for a replacement antenna.

Consumer Information About Radio Frequency Emissions

Your wireless phone, which contains a radio transmitter and receiver, emits radio frequency energy during use. The following consumer information addresses commonly asked questions about the health effects of wireless phones.

Are wireless phones safe?

Scientific research on the subject of wireless phones and radio frequency ("RF") energy has been conducted worldwide for many years, and continues. In the United States, the Food and Drug Administration ("FDA") and the Federal Communications Commission ("FCC") set policies and procedures for wireless phones. The FDA issued a website publication on health issues related to cell phone usage where it states, "The scientific community at large ... believes that the weight of scientific evidence does not show an association between exposure to radiofrequency (RF) from cell phones and adverse health outcomes. Still the scientific community does recommend conducting additional research to address gaps in knowledge. That research is being conducted around the world and FDA continues to monitor developments in this field. You can access the joint

FDA/FCC website at http://www.fda.gov (under "c"in the subject index, select Cell Phones > Research). You can also contact the FDA toll-free at (888) 463-6332 or (888) INFO-FDA. In June 2000, the FDA entered into a cooperative research and development agreement through which additional scientific research is being conducted. The FCC issued its own website publication stating that "there is no scientific evidence that proves that wireless phone usage can lead to cancer or a variety of other problems, including headaches, dizziness or memory loss." This publication is available at http://www.fcc.gov/cgb/ cellular.html or through the FCC at (888) 225-5322 or (888) CALL-FCC.

What does "SAR" mean?

In 1996, the FCC, working with the FDA, the U.S. Environmental Protection Agency, and other agencies, established RF exposure safety guidelines for wireless phones in the United States. Before a wireless phone model is available for sale to the public, it must be tested by the manufacturer and certified to the FCC that it does not exceed limits established by the FCC. One of these limits is expressed as a Specific Absorption Rate, or "SAR." SAR is a measure of the rate of absorption of RF energy in the body. Tests for SAR are conducted with the phone transmitting at its highest power level in all tested frequency bands. Since 1996, the FCC has required that the SAR of handheld wireless phones not exceed 1.6 watts per kilogram, averaged over one gram of tissue. Although the SAR is determined at the highest power level, the actual SAR value of a wireless phone while operating can be less than the reported SAR value. This is because the SAR value may vary from call to call, depending on factors such as proximity to a cell site, the proximity of the phone to the body while in use, and the use of hands-free devices. For more information about SARs, see the FCC's OET Bulletins 56 and 65 at http://www.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins or visit the Cellular Telecommunications Industry Association website at http://www.ctia.org/consumer_info/index.cfm/AID/10371. You may also wish to contact the manufacturer of your phone.

Can I minimize my RF exposure?

If you are concerned about RF, there are several simple steps you can take

to minimize your RF exposure. You can, of course, reduce your talk time. You can place more distance between your body and the source of the RF, as the exposure level drops off dramatically with distance. The FDA/FCC website states that "hands-free kits can be used with wireless phones for convenience and comfort. These systems reduce the absorption of RF energy in the head because the phone, which is the source of the RF emissions, will not be placed against the head. On the other hand, if the phone is mounted against the waist or other part of the body during use, then that part of the body will absorb more RF energy. Wireless phones marketed in the U.S. are required to meet safety requirements regardless of whether they are used against the head or against the body. Either configuration should result in compliance with the safety limit." Also, if you use your wireless phone while in a car, you can use a phone with an antenna on the outside of the vehicle. You should also read and follow your wireless phone manufacturer's instructions for the safe operation of your phone.

Do wireless phones pose any special risks to children?

The FDA/FCC website states that "the scientific evidence does not show a danger to users of wireless communication devices, including children." The FDA/FCC website further states that "some groups sponsored by other national governments have advised that children be discouraged from using wireless phones at all". For example, the Stewart Report from the United Kingdom ["UK"] made such a recommendation in December 2000. In this report a group of independent experts noted that no evidence exists that using a cell phone causes brain tumors or other ill effects. [The UK's] recommendation to limit cell phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists. A copy of the UK's leaflet is available at http://www.dh.gov.uk (search "mobile"), or you can write to: NRPB, Chilton, Didcot, Oxon OX11 ORQ, United Kingdom. Copies of the UK's annual reports on mobile phones and RF are available online at www.iegmp.org.uk and http://www.hpa.org.uk/radiation/ (search "mobile"). Parents who wish to reduce their children's RF exposure may choose to restrict their children's wireless phone use.

Where can I get further information about RF emissions?

For further information, see the following additional resources (websites current as of April 2005):

U.S. Food and Drug Administration

FDA Consumer magazine

November-December 2000

Telephone: (888) INFO-FDA

http://www.fda.gov (Under "c" in the subject index, select Cell Phones > Research.)

U.S. Federal Communications Commission

445 12th Street, S.W.

Washington, D.C. 20554

Telephone: (888) 225-5322

http://www.fcc.gov/oet/rfsafety

Independent Expert Group on Mobile Phones

http://www.iegmp.org.uk

Royal Society of Canada Expert Panels on Potential Health Risks of Radio Frequency Fields from Wireless Telecommunication Devices

283 Sparks Street

Ottawa, Ontario K1R 7X9

Canada

Telephone: (613) 991-6990

http://www.rsc.ca/index.php?page=Expert_Panels_RF&Lang_id=120

World Health Organization

Avenue Appia 20

1211 Geneva 27

Switzerland

Telephone: 011 41 22 791 21 11

http://www.who.int/mediacenter/factsheets/fs193/en/

International Commission on Non-Ionizing Radiation Protection

c/o Bundesamt fur Strahlenschutz

Ingolstaedter Landstr. 1

85764 Oberschleissheim

Germany

Telephone: 011 49 1888 333 2156
http://www.icnirp.de

American National Standards Institute
1819 L Street, N.W., 6th Floor
Washington, D.C. 20036
Telephone: (202) 293-8020
http://www.ansi.org

National Council on Radiation Protection and Measurements
7910 Woodmont Avenue, Suite 800
Bethesda, MD 20814-3095
Telephone: (301) 657-2652
http://www.ncrponline.org

Engineering in Medicine and Biology Society, Committee on Man and Radiation (COMAR) of the Institute of Electrical and Electronics Engineers
http://ewh.ieee.org/soc/embs/comar/

Consumer Information on SAR
(Specific Absorption Rate)

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 1.6 W/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 values are:

* Head: 0.47 W/kg

* Body (Body-worn): 0.56 W/kg

(Body 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 ZNFB460. Additional information on Specific Absorption Rates (SAR) can be found on the Cellular Telecommunications Industry Association (CTIA) website at http://www.ctia.org/.

* 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.

FCC Hearing-Aid Compatibility (HAC) Regulations for Wireless Devices

On July 10, 2003, the U.S. Federal Communications Commission (FCC) Report and Order in WT Docket 01-309 modified the exception of wireless phones under the Hearing Aid Compatibility Act of 1988 (HAC Act) to require digital wireless phones be compatible with hearing-aids. The intent of the HAC Act is to ensure reasonable access to telecommunications services for persons with hearing disabilities.

While some wireless phones are used near some hearing devices (hearing aids and cochlear implants), users may detect a buzzing, humming, or whining noise. Some hearing devices are more immune than others to this interference noise, and phones also vary in the amount of interference they generate.

The wireless telephone industry has developed a rating system for wireless phones, to assist hearing device users to find phones that may be compatible with their hearing devices. Not all phones have been rated. Phones that are rated have the rating on their box or a label located on the box.

The ratings are not guarantees. Results will vary depending on the user's hearing device and hearing loss. If your hearing device happens to be vulnerable to interference, you may not be able to use a rated phone successfully. Trying out the phone with your hearing device is the best way to evaluate it for your personal needs.

M-Ratings: Phones rated M3 or M4 meet FCC requirements and are likely to generate less interference to hearing devices than phones that are not labeled. M4 is the better/higher of the two ratings.

T-Ratings: Phones rated T3 or T4 meet FCC requirements and are likely to generate less interference to hearing devices than phones that are not labeled. T4 is the better/ higher of the two ratings.

Hearing devices may also be rated. Your hearing device manufacturer or hearing health professional may help you find this rating. Higher ratings mean that the hearing device is relatively immune to interference noise. The hearing aid and wireless phone rating values are then added together.

A sum of 5 is considered acceptable for normal use. A sum of 6 is considered for best use.
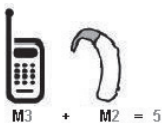
In the above example, if a hearing aid meets the M2 level rating and the wireless phone meets the M3 level rating, the sum of the two values equal M5. This should provide the hearing aid user with "normal usage" while using their hearing aid with the particular wireless phone. "Normal usage" in this context is defined as a signal quality that's acceptable for normal operation.

The M mark is intended to be synonymous with the U mark. The T mark is intended to be synonymous with the UT mark. The M and T marks are recommended by the Alliance for Telecommunications Industries Solutions (ATIS). The U and UT marks are referenced in Section 20.19 of the FCC Rules. The HAC rating and measurement procedure are described in the American National Standards Institute (ANSI) C63.19 standard.

To ensure that the Hearing Aid Compatibility rating for your phone is maintained, secondary transmitters such as Bluetooth® components must be disabled during a call.

For information about hearing aids and digital wireless phones
Wireless Phones and Hearing Aid Accessibility
http://www.accesswireless.org/
Gallaudet University, RERC
http://tap.gallaudet.edu/Voice/
FCC Hearing Aid Compatibility and Volume Control
http://www.fcc.gov/cgb/dro/hearing.html
The Hearing Aid Compatibility FCC Order
http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-03-168A1.pdf
Hearing Loss Association of America [HLAA]
http://hearingloss.org/content/telephones-and-mobile-devices

Caution:
Avoid potential hearing loss.

Prolonged exposure to loud sounds (including music) is the most common cause of preventable hearing loss. Some scientific research suggests that using portable audio devices, such as portable music players and cellular telephones, at high volume settings for long durations may lead to permanent noise-induced hearing loss. This includes the use of headphones (including headsets, earbuds and Bluetooth® or other wireless devices). Exposure to very loud sound has also been associated in some studies with tinnitus (a ringing in the ear), hypersensitivity to sound and distorted hearing. Individual susceptibility to noise-induced hearing loss and other potential hearing problems varies.

The amount of sound produced by a portable audio device varies depending on the nature of the sound, the device, the device settings and the headphones. You should follow some commonsense recommendations when using any portable audio device:

· Set the volume in a quiet environment and select the lowest volume at which you can hear adequately.
· When using headphones, turn the volume down if you cannot hear the people speaking near you or if the person sitting next to you can hear what you are listening to.
· Do not turn the volume up to block out noisy surroundings. If you choose to listen to your portable device in a noisy environment, use noise-cancelling headphones to block out background environmental noise.
· Limit the amount of time you listen. As the volume increases, less time is required before your hearing could be affected.
· Avoid using headphones after exposure to extremely loud noises, such as rock concerts, that might cause temporary hearing loss. Temporary hearing loss might cause unsafe volumes to sound normal.

• Do not listen at any volume that causes you discomfort. If you experience ringing in your ears, hear muffled speech or experience any temporary hearing difficulty after listening to your portable audio device, discontinue use and consult your doctor.

TIA Safety Information

The following is the complete TIA Safety Information for wireless handheld phones.

Exposure to Radio Frequency Signal

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

In August, 1996, the Federal Communications Commissions (FCC) adopted RF exposure guidelines with safety levels for handheld wireless phones. Those guidelines are consistent with the safety standards previously set by both U.S. and international standards bodies:

ANSI C95.1 (1992) *

NCRP Report 86 (1986)

ICNIRP (1996)

* American National Standards Institute; National Council on Radiation Protection and Measurements; International Commission on Non-Ionizing Radiation Protection

Those standards were based on comprehensive and periodic evaluations of the relevant scientific literature. 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 (C95.1).

The design of your phone complies with the FCC guidelines (and those standards).

Antenna Care

Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications, or attachments could damage the phone and may violate FCC regulations.

Tips on Efficient Operation

For your phone to operate most efficiently: Don't 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.

Electronic Devices

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 (6) 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;
- Should turn the phone OFF immediately if there is any reason to suspect that interference is taking place.

Hearing Aids

Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider (or call the customer service line to discuss alternatives).

Other Medical Devices

If you use any other personal medical device, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.

Health Care Facilities

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 use 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 notices so require.

Aircraft

FCC regulations prohibit using your phone while in the air. Switch OFF your phone before boarding an aircraft.

Blasting Areas

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 signs and instructions.

Potentially Explosive Atmosphere

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 often, but not always marked clearly. Potential areas may 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.

For Vehicles Equipped with an Air Bag

An air bag inflates with great force. DO NOT place objects, including either 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.

Part 15.19 statement

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

(1) This device may not cause harmful interference, and
(2) This device must accept any interference received, including interference that may cause undesired operation.

Part 15.21 statement

Changes or modifications that are not expressly approved by the manufacturer for compliance could void the user's authority to operate the equipment.

Part 15.105 statement

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful

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

· Reorient or relocate the receiving antenna.
· Increase the separation between the equipment and receiver.
· Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
· Consult the dealer or an experienced radio/TV technician for help.

Safety Information

Please read and observe the following information for safe and proper use of your phone and to prevent damage.

⚠ Caution

Violation of the instructions may cause minor or serious damage to the product.

· Do not disassemble or open crush, bend or deform, puncture or shred.
· Do not modify or remanufacture, attempt to insert foreign objects into the battery, immerse or expose to water or other liquids, expose to fire, explosion or other hazard. Such conditions may present the risk of fire or explosion.
· Only use the battery for the system for which it is specified.
· Only use the battery with a charging system that has been qualified with the system per CTIA Certification Requirements for Battery System Compliance to IEEE1725. Use of an unqualified battery or charger may present a risk of fire, explosion, leakage, or other hazard.
· Do not short circuit a battery or allow metallic conductive objects to contact battery terminals.

- Replace the battery only with another battery that has been qualified with the system per this standard, IEEE-Std-1725. Use of an unqualified battery may present a risk of fire, explosion, leakage or other hazard. Only authorized service providers shall replace battery (If the battery is non-user replaceable).
- Promptly dispose of used batteries in accordance with local regulations.
- Battery usage by children should be supervised.
- Avoid dropping the phone or battery. If the phone or battery is dropped, especially on a hard surface, and the user suspects damage, take it to a service center for inspection.
- Improper battery use may result in a fire, explosion or other hazard.

Charger and Adapter Safety

- The charger and adapter are intended for indoor use only.
- Insert the battery charger vertically into the wall power socket.
- Only use the LG-approved battery charger. Otherwise, you may cause serious damage to your phone.
- Use the correct adapter for your phone when using the battery charger abroad.

Battery Information and Care

- Always unplug the charger from the wall socket after the phone is fully charged to save unnecessary power consumption of the charger.
- Please read the manual of specified charger about charging method.
- Do not damage the power cord by bending, twisting, or heating. Do not use the plug if it is loose as it may cause electric shock or fire.
- Do not place any heavy items on the power cord. Do not allow the power cord to be crimped as it may cause electric shock or fire.
- Unplug the power cord prior to cleaning your phone, and clean the power plug pin when it's dirty. When using the power plug, ensure that it's firmly connected. If not, it may cause excessive heat or fire. If you put your phone in a pocket or bag without covering the receptacle of the phone (power plug pin), metallic articles (such as a

coin, paperclip or pen) may short-circuit the phone. Always cover the receptacle when not in use.

· Recharge the battery after long periods of non-use to maximize battery life. Battery life will vary due to usage pattern and environmental conditions.

· Please use only an approved charging accessory to charge your LG phone. Improper handling of the charging port, as well as the use of an incompatible charger, may cause damage to your phone and void the warranty.

· Charging temperature range is regulated between 0°C/32°F and 45°C/113°F. Do not charge the battery out of recommended temperature range. Charging out of recommended range might cause the generating heat or serious damage of battery. And also, it might cause the deterioration of battery's characteristics and cycle life.

· Do not use or leave the battery under the blazing sun or in heated car by sunshine. The battery may generate heat, smoke or flame. And also, it might cause the deterioration of battery's characteristics or cycle life.

· The battery pack has protection circuit to avoid the danger. Do not use nearby the place where generates static electricity more than 100V which gives damage to the protection circuit. If the protection circuit were broken, the battery would generate smoke, rupture or flame.

· If the skin or cloth is smeared with liquid from the battery, wash with fresh water. It may cause the skin inflammation.

· Please take your phone to an authorized service center immediately if this occurs.

· Do not handle the phone with wet hands while it is being charged. It may cause an electric shock or seriously damage your phone.

· Do not place or answer calls while charging the phone as it may short-circuit the phone and/or cause electric shock or fire.

· The charger and adapter are intended for indoor use only.

· Talking on your phone for a long period of time may reduce call quality due to heat generated during use.

Explosion, Shock, and Fire Hazards

· Do not put your phone in a place subject to excessive dust and keep the minimum required distance between the power cord and heat sources.
· Unplug the power cord prior to cleaning your phone, and clean the power plug pin when it's dirty.
· When using the power plug, ensure that it's firmly connected. If not, it may cause excessive heat or fire.
· If you put your phone in a pocket or bag without covering the receptacle of the phone (power plug pin), metallic articles (such as a coin, paperclip or pen) may short-circuit the phone and may cause an explosion. Always cover the receptacle when not in use.

General Notice

· Do not place items containing magnetic components such as a credit card, phone card, bank book, or subway ticket near your phone. The magnetism of the phone may damage the data stored in the magnetic strip.
· Talking on your phone for a long period of time may reduce call quality due to heat generated during use.
· When the phone is not used for a long period time, store it in a safe place with the power cord unplugged.
· Using the phone in proximity to receiving equipment (i.e., TV or radio) may cause interference to the phone.
· Do not use the phone if the antenna is damaged. If a damaged antenna contacts skin, it may cause a slight burn. Please contact an LG Authorized Service Center to replace the damaged antenna.
· Do not immerse your phone in water, liquid, or expose to high humidity. Immediately, take it to an LG Authorized Service Center.
· Do not paint your phone.
· The data saved in your phone might be deleted due to careless use, repair of the phone, or upgrade of the software. Please backup your phone numbers. (Ringtones, text messages, voice messages, pictures,

and videos could also be deleted.) The manufacturer is not liable for damage due to the loss of data.

- · When you use the phone in public places, set the ringtone to vibration so you don't disturb others.
- · Do not turn your phone on or off when putting it to your ear.
- · Use accessories, such as earphones and headsets, with caution. Ensure that cables are tucked away safely and do not touch the antenna unnecessarily.

FDA Consumer Update

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

1. Do wireless phones pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless phones. There is no proof, however, that wireless phones are absolutely safe. Wireless phones emit low levels of Radio Frequency (RF) energy in the microwave range while being used. They also emit very low levels of RF when in standby mode. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

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

Under the law, the FDA does not review the safety of radiation-emitting consumer products such as wireless phones before they can be sold, as it does with new drugs or medical devices. However, the agency has authority to take action if wireless phones are shown to emit Radio Frequency (RF) energy at a level that is hazardous to the user. In such

a case, the FDA could require the manufacturers of wireless phones to notify users of the health hazard and to repair, replace, or recall the phones so that the hazard no longer exists.

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

- · Support needed research into possible biological effects of RF of the type emitted by wireless phones;
- · Design wireless phones in a way that minimizes any RF exposure to the user that is not necessary for device function; and
- · Cooperate in providing users of wireless phones with the best possible information on possible effects of wireless phone use on human health.

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

- · National Institute for Occupational Safety and Health
- · Environmental Protection Agency
- · Occupational Safety and Health Administration
- · National Telecommunications and Information Administration

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

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

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

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

The term "wireless phone" refers here to handheld wireless phones with built-in antennas, often called "cell", "mobile", or "PCS" phones. These types of wireless phones can expose the user to measurable Radio Frequency (RF) energy because of the short distance between the phone and the user's head.

These RF exposures are limited by FCC safety guidelines that were developed with the advice of the FDA and other federal health and safety agencies. When the phone is located at greater distances from the user, the exposure to RF is drastically lower because a person's RF exposure decreases rapidly with increasing distance from the source. The so-called "cordless phones," which have a base unit connected to the telephone wiring in a house, typically operate at far lower power levels, and thus produce RF exposures far below the FCC safety limits.

4. What are the results of the research done already?

The research done thus far has produced conflicting results, and many studies have suffered from flaws in their research methods. Animal experiments investigating the effects of Radio Frequency (RF) energy exposures characteristic of wireless phones have yielded conflicting results that often cannot be repeated in other laboratories. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. However, many of the studies that showed increased tumor development used animals that had been genetically engineered or treated with cancer-causing chemicals so as to be pre-disposed to develop cancer in the absence of RF exposure. Other studies exposed the animals to RF for up to 22 hours per day. These conditions are not similar to the conditions under which people use wireless phones, so we do not know with certainty what the results of such studies mean for human health. Three large epidemiology studies have been published since December 2000. Between them, the studies investigated any possible association between the use of wireless phones and primary brain cancer, glioma, meningioma, or acoustic neuroma, tumors of the brain or salivary gland, leukemia, or other cancers. None of the studies demonstrated the existence of any harmful health effects

from wireless phone RF exposures. However, none of the studies can answer questions about long-term exposures, since the average period of phone use in these studies was around three years.

5. What research is needed to decide whether RF exposure from wireless phones poses a health risk?

A combination of laboratory studies and epidemiological studies of people actually using wireless phones would provide some of the data that are needed. Lifetime animal exposure studies could be completed in a few years. However, very large numbers of animals would be needed to provide reliable proof of a cancer promoting effect if one exists. Epidemiological studies can provide data that is directly applicable to human populations, but ten or more years follow-up may be needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop — if they do — may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless phones. Many factors affect this measurement, such as the angle at which the phone is held, or which model of phone is used.

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

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

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

The FDA and the Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research And Development Agreement (CRADA) to do research on wireless phone safety. The FDA provides the

scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts with independent investigators. The initial research will include both laboratory studies and studies of wireless phone users. The CRADA will also include a broad assessment of additional research needs in the context of the latest research developments around the world.

7. How can I find out how much Radio Frequency energy exposure I can get by using my wireless phone?

All phones sold in the United States must comply with Federal Communications Commission (FCC) guidelines that limit Radio Frequency (RF) energy exposures. The FCC established these guidelines in consultation with the FDA and the other federal health and safety agencies. The FCC limit for RF exposure from wireless phones is set at a Specific Absorption Rate (SAR) of 1.6 watts per kilogram (1.6 W/kg). The FCC limit is consistent with the safety standards developed by the Institute of Electrical and Electronic Engineering (IEEE) and the National Council on Radiation Protection and Measurement. The exposure limit takes into consideration the body's ability to remove heat from the tissues that absorb energy from the wireless phone and is set well below levels known to have effects. Manufacturers of wireless phones must report the RF exposure level for each model of phone to the FCC. The FCC website (http://www.fcc.gov/oet/rfsafety) gives directions for locating the FCC identification number on your phone so you can find your phone's RF exposure level in the online listing.

8. What has the FDA done to measure the Radio Frequency energy coming from wireless phones?

The Institute of Electrical and Electronic Engineers (IEEE) is developing a technical standard for measuring the Radio Frequency (RF) energy exposure from wireless phones and other wireless handsets with the participation and leadership of FDA scientists and engineers. The standard, "Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques", sets forth the first consistent test methodology for measuring the rate at which RF

is deposited in the heads of wireless phone users. The test method uses a tissue-simulating model of the human head. Standardized SAR test methodology is expected to greatly improve the consistency of measurements made at different laboratories on the same phone. SAR is the measurement of the amount of energy absorbed in tissue, either by the whole body or a small part of the body. It is measured in watts/kg (or milliwatts/g) of matter. This measurement is used to determine whether a wireless phone complies with safety guidelines.

9. What steps can I take to reduce my exposure to Radio Frequency energy from my wireless phone?

If there is a risk from these products — and at this point we do not know that there is — it is probably very small. But if you are concerned about avoiding even potential risks, you can take a few simple steps to minimize your exposure to Radio Frequency (RF) energy. Since time is a key factor in how much exposure a person receives, reducing the amount of time spent using a wireless phone will reduce RF exposure. If you must conduct extended conversations by wireless phone every day, you could place more distance between your body and the source of the RF, since the exposure level drops off dramatically with distance. For example, you could use a headset and carry the wireless phone away from your body or use a wireless phone connected to a remote antenna. Again, the scientific data does not demonstrate that wireless phones are harmful. But if you are concerned about the RF exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless phone use.

10. What about children using wireless phones?

The scientific evidence does not show a danger to users of wireless phones, including children and teenagers. If you want to take steps to lower exposure to Radio Frequency (RF) energy, the measures described above would apply to children and teenagers using wireless phones. Reducing the time of wireless phone use and increasing the distance between the user and the RF source will reduce RF exposure.

Some groups sponsored by other national governments have advised that children be discouraged from using wireless phones at all. For example,

the government in the United Kingdom distributed leaflets containing such a recommendation in December 2000. They noted that no evidence exists that using a wireless phone causes brain tumors or other ill effects. Their recommendation to limit wireless phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

11. What about wireless phone interference with medical equipment?

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

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

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

12. Where can I find additional information?

For additional information, please refer to the following resources:

FDA web page on wireless phones

(http://www.fda.gov/cellphones/)

Federal Communications Commission (FCC) RF Safety Program

(http://www.fcc.gov/oet/rfsafety)

International Commission on Non-Ionizing Radiation Protection
(http://www.icnirp.de)
World Health Organization (WHO) International EMF Project
(http://www.who.int/emf)
National Radiological Protection Board (UK)
(http://www.hpa.org.uk/radiation/)

Driving

Check the laws and regulations on the use of wireless phones in the areas where you drive and always obey them. Also, if using your phone while driving, please observe the following:

- · 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 or the law require it.

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. 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 voicemail 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. Don't 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 is common sense. Do not 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's 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 can still use your wireless phone to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

The above tips are meant as general guidelines. Before deciding to use your mobile device while operating a vehicle, it is recommended that you consult your applicable jurisdiction's local laws or other regulations regarding such use. Such laws or other regulations may prohibit or otherwise restrict the manner in which a driver may use his or her phone while operating a vehicle.