

# *Introduction*

## *Welcome*

Thank you for choosing your Motorola phone from a global leader in communications technology. All Motorola digital cellular phones are designed and manufactured to meet Motorola's rigorous specifications and world-class quality standards. During development, our laboratory testing team took your cellular phone through rigorous durability tests including temperature, humidity, shock, dust, vibration, and drop tests—and the phone still worked!

We are confident that the phone you purchased will meet your own exacting standards. Enjoy your Motorola phone.





## *Understanding this Manual*

Many of your phone options are accessed by a simple menu system. A full description of the menus and how to move around them is covered in the next section **Menu Navigation**. When the manual describes the use of each menu item, it will be assumed that you are familiar with the menu system.

### **Key Presses**


Key presses are represented in this manual using symbols so that you may locate and use the required sequence quickly. A sequence of key presses may be shown as follows:

This means you should press  followed by , , and then , in sequence, not simultaneously.


### **Prompts and Messages**


Your phone responds to key presses by displaying either easy to understand prompts that guide you to the next action, or simple messages confirming that your action is complete. Prompts and messages are represented in this manual in LCD style, for example:

Enter 1st Letter or Location 

### **Other Symbols**

You will find the following symbols used throughout this manual:

 A Note contains additional information which is relevant to the feature/item.

 A Caution contains important additional information which is relevant to the efficient and/or safe usage of your phone.

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 This symbol indicates a short key sequence for the feature.

---

## ***Menu Navigation***

A large number of your phone's options are accessed by using menus which use a common approach for selection, change and cancellation.

Please read this section carefully before attempting to access a menu option. When you understand the common approach to menu navigation and how the menus are shown on the page, you will be able to access and change options with ease.

### ***Menus and Sub-menus***

A menu is a simple list of options. Some of these options provide access to a further list of options called a sub-menu. When navigating through the menus you may find it is helpful to think in terms of menu levels—the *parent* menu being on one level and its sub-menus being on a lower level.

### ***Entering the Menus***

Press **FCN** then press **1** or the Smart Button (**Ⓢ**) to enter the menu system

### ***Navigating the Menus***

You can navigate through the menu system using the volume keys located on the left side of the phone and the Smart Button (**Ⓢ**) located on the right side of the phone. Use the upper and lower volume keys to scroll to sub-menus. Use the Smart Button to choose menus and functions.

Follow these symbols as a guide for using the keys on the side of your phone:

Press **Ⓢ** to scroll up.

Press **Ⓢ** to scroll down.

Press **Ⓢ** to select.

You can also use your phone's **⏪** and **⏩** keys to scroll through the menu system.

### ***Leaving the Menu***

Press **END** to exit the menu.

### ***Menu Options with Security Codes***

Some options are protected from misuse by requiring you to enter one of the security codes. To use these options, you must enter the requested code before proceeding.

### ***Total Customer Satisfaction***

At Motorola, Total Customer Satisfaction is a top priority. If you have a question, a suggestion or a concern about your Motorola Cellular Phone, Motorola wants to hear from you.

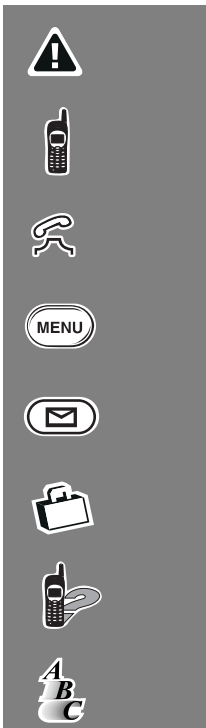
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The Manufacturer reserves the right to make changes in technical and product specifications without prior notice.



# Safety

**Important:** Read this information before using your wireless handheld phone.

## **Exposure to Radio Frequency Signals**

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

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

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

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). For additional information concerning exposure to radio frequency signals, see the statement by the FDA at the end of this user guide.

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

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



## **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.

## **Phone Operation**

### **Normal Operation**

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

### **Tips on Efficient Operation**

Observe the following guidelines to operate your phone most efficiently.

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



## **Batteries**

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

## **Driving**

Check the laws and regulations on the use of wireless telephones in the areas where you drive. Always obey them. Observe the following guidelines when using your phone while driving.

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

## **Electronic Devices**

Most modern electronic equipment is shielded from RF signals. However, certain 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 inches (6") be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are

consistent with the independent research by and recommendations of Wireless Technology Research.

Persons with pacemakers:

- should ALWAYS keep the phone more than six inches from their pacemaker when the phone is turned ON
- should not carry the phone in a breast pocket
- should use the ear opposite the pacemaker to minimize the potential for interference
- should turn the phone OFF immediately if you have 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 hearing aid manufacturer to discuss alternatives.

## **Other Medical Devices**

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

Turn your phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

## **Vehicles**

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



### **Posted Facilities**

Turn your phone OFF in any facility where posted notices so require.

### **Aircraft**

Switch OFF your phone before boarding an aircraft.

Airline regulations prohibit using your phone while in the air. Check and comply with the policy of your airline regarding the use of your phone while the aircraft is on the ground.

### **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 Atmospheres**

Turn your phone OFF, do not remove your battery when you are in any area with a potentially explosive atmosphere, and obey all signs and instructions. Sparks from your battery 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 clearly marked. They include: fueling areas such as gasoline stations; below deck on boats; fuel or chemical transfer or storage facilities; areas where fuel odors are present (for example, if a gas/propane leak occurs in a car or home); areas where the air contains chemicals or particles, such as grain, dust, or metal powders; and any other area where you normally would 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 both installed or portable wireless equipment, in the area over the air bag or in the air bag deployment area. If in-vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.



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# About Your Phone and Battery

## Phone Overview

Your phone includes the following features:

**Fixed Antenna**—Provides superior connectability.


**Earpiece**—Ultra-compact phone speaker.


**Power Connector Port**—Provides the connections for an external power supply and vehicular accessories.


**Headset Jack**—Provides the connection for an optional headset.


**Microphone**—Positioned for convenient conversation.


### Function Keys


—Turns the phone On and Off.


—Acts as a “shift” key to access the secondary functions of other keys.

—Recalls phone numbers from memory.

—Stores phone numbers into memory.


—Clears characters from the screen.


—Ends phone calls.

—Places or answers calls.

 and —Can be used to scroll through memory entries and menu features.

 **Message Center Button**—Allows access to digital messages and voice mail messages.

 **Smart Button**—Use the Smart Button to recall information from memory, place and end calls, select menu features, and toggle features on and off. The Smart Button is on the right side of your phone—easy to feel, easy to find, and easy to use. The symbol \* in your display represents the Smart Button.

 **Volume Keys**—The upper and lower volume keys can adjust keypad, earpiece, and ringer volume. After pressing the Smart Button, the volume keys also scroll through memory entries and menu features.



## Using the Smart Button

Use the Smart Button to recall information from memory, place and end calls, enter menus, toggle features on and off, and select items in the display. The Smart Button is on the right side of your phone. The symbol \* in your display represents the Smart Button.





## Selecting Items in the Display

The most basic use of the Smart Button is for making selections. Whenever you are given a choice such as a ringer setting, press the Smart Button to select the setting you want.

## Toggling Features On and Off

Some of your phone's features toggle on and off. Use the upper or lower volume key to scroll to the desired feature, then press the Smart Button to select it.

## Entering the Menu System

Press , then press  to access the menu. You will see Recent Calls. Then use  and  to scroll through the menu.

 You can also enter the menu system by pressing  .

## Placing and Ending a Call

You can use the Smart Button to place and end a call, as described in "Using Your Phone" on page 17.

## Controlling Volume

Use the upper and lower volume keys to adjust earpiece, keypad, and ringer volume. When you press these keys, the phone's speaker demonstrates the current volume level.

### To adjust earpiece volume during a phone call:

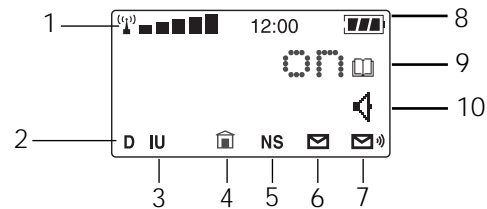
Press to raise or lower the volume.

### To adjust the ringer volume and keypad while not in a phone call

Press to raise or lower the volume.

## The Display

The display on your phone can show alphanumeric characters as well as useful information symbols. The various elements of the display are as follows:



1. **Signal Strength.** The more segments displayed in the bar graph, the better the signal strength.

2. **D** **Digital Indicator.** If you are in a digital coverage area, the digital indicator appears. Your phone operates more efficiently in Digital mode.
3. **IU** **In Use Indicator.** Displayed when a call is in progress.
4. **In-Building Indicator.** The In-Building Indicator lights when the phone accesses an In-Building Cellular System or other non-public system.
5. **NS** **No Service Indicator.** If you travel beyond the range of a cellular system, the No Service Indicator appears to let you know that calls cannot be placed or received from your location.
6. **Short Message Service.** Displayed when the phone has received a message. The symbol will flash when your message storage area is full.
7. **Voicemail Waiting Indicator.** Displayed when you have a voice message waiting. The availability of this feature depends on your service provider.
8. **Battery Charge Indicator.** The more segments displayed, the greater the battery charge.
9. **Phone Book Indicator.** Displayed when editing the Phone Book
10. **Speaker Indicator.** Appears when the ringer is turned on. When the ringer is off, the icon has a slash through it.

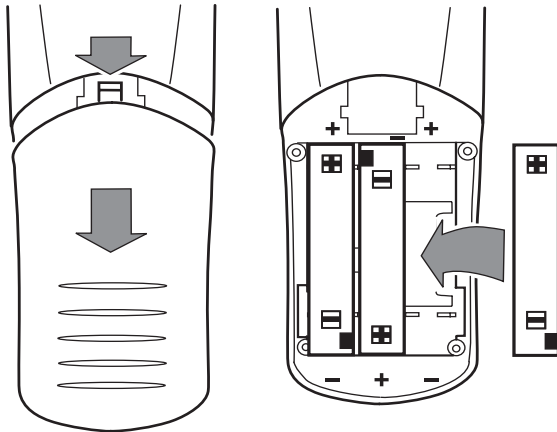
## Your Battery

### Installing the Batteries

New batteries are supplied uncharged and fitted within a protective battery carrier. To remove the batteries, press the release catch on the battery carrier and open the cover.

To install the batteries in your phone:

- 1 Press the release catch of the phone battery cover and slide the battery cover towards the bottom of the phone.
- 2 Align the positive and negative (+ and -) connections on the battery with the positive and negative (+ and -) connections within the phone.
- 3 Press the battery towards the connections and push it downwards until it clicks into place.
- 4 Replace the phone battery cover.



### Important Battery Information

- ⚠ **Always treat your batteries with care. See 'Batteries', at the beginning of this manual.**
- ⚠ **Never leave your battery in extremely high temperatures (over 60°C), for example behind glass in very hot, direct sunlight.**
- ⚠ **Only Motorola Original Accessory batteries can be charged in the phone. This is to protect you and your phone from the risks of incorrect charging.**



### Charging a New Battery

New batteries are supplied in a totally uncharged state.

To ensure maximum battery performance, a new battery (or battery that has not been used for several months) should be charged for at least 14 hours before use.

- 👉 *A new battery will require several full charge/discharge cycles in order to achieve its optimum performance.*
- 👉 *A new battery, or a battery that has not been used for several months, may cause a premature fully charged indication. Ignore this indication and let the battery charge for several more hours, remove and re-insert the battery into the charger, and charge for an additional 14 hours.*
- ⚠ **Your batteries will not charge if they are not matched properly to the phone connection markings (+ and -). Please ensure that you have installed the batteries properly before initiating a charge.**

To ensure that you enjoy maximum battery life and use your battery to its fullest capacity:

- The battery should be at or near room temperature when charging.

### **Battery Performance and Maintenance**

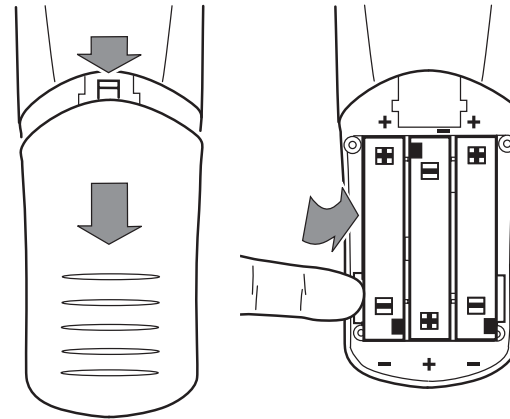
- Best battery performance will be achieved when you regularly charge and discharge batteries as instructed in this manual.
- Battery performance is greatly affected by network coverage.
- If left unused, a fully charged battery will discharge itself in approximately one month.
- When not in use, store your battery uncharged in a cool, dark and dry place.

### **Removing Your Batteries**

**!** *Switch off your phone before removing batteries. Failure to do so may damage your phone memory.*

- 1 Press the release catch of the phone battery cover and slide the battery cover towards the bottom of the phone.

- 2 Remove the batteries.



## Charging Your Battery Using the Travel Charger

The travel charger can power the phone and charge a fitted battery.

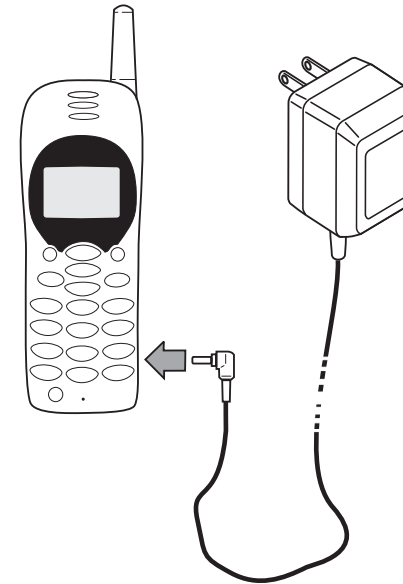
**!** *Ensure that the local mains voltage at your location matches that of your travel charger.*

Install the batteries into your phone (see 'Installing the Batteries').

**!** *Your phone's internal charger is intended only for charging batteries. It does not provide power directly to your phone. You can still place and answer calls while using the internal charger, as long as the phone's batteries have at least a small charge. Remember that charging takes more time when you are actively using the phone.*

To charge your battery:

- 1 Connect the travel charger to the phone.



- 2 Insert the travel charger plug into a suitable power socket.

A beep-tone is heard and the battery icon flashes when charging begins.

**!** *The beep-tone on the phone will not occur if the batteries are installed improperly. The beep-tone may take two minutes to occur with new or fully drained batteries.*

The state of charging is monitored and displayed by your phone. See 'Battery Meter Indicators' later in this section for details.

### Low Battery Warning

When the battery level is low and only a few minutes of talk time remain, a warning signal (two double beeps) will sound, and **Low Battery** will be displayed.

For a detailed battery level reading: Press  .

The more segments filled on the battery gauge (  ), the greater the charge.

When the battery is completely discharged, your phone will turn off.



### Battery Indicators

Your phone monitors and displays information about your battery. The following message will appear on the display, as the condition occurs:


**Low Battery**      The battery charge is low. The battery should be recharged.

### Battery Meter Indicators

The battery meter displays different messages depending on the batteries attached, and whether or not there is an external power source. The battery meter is found in the Call Related Features part of the Options Menu.

**Charging Battery**      The battery is being charged.

**Charging Complete**      Charging is complete.

 *When the battery is completely discharged, you must charge the battery for one minute before you can make or accept a phone call.*

When the battery is charging the display will show a blinking battery icon with the appropriate number of charge bars.



# Using Your Phone

## Placing and Receiving Calls

To turn the phone on, press and hold **⏻** until the display appears and you hear an audible alert.

Press and hold **⏻** again to turn the phone off. *Powering off* will be displayed, and you will hear an audible alert.

### What You Will See

When you turn on your phone, it performs a self-test to let you know it is operational. When the test is completed, the display shows:

- one of several possible greetings, such as:
  - the name of your Service Provider
- or**
- an indication of local or non-local coverage area
- your phone number
- the Digital indicator

### Placing a Call

To place a call:

- 1 Turn the phone on.
- 2 Enter the number you want to call.

If you make a mistake, press **⏮** to erase one digit at a time. Press and hold **⏮** to clear the entire entry.

You can also recall a previously dialed or stored number. (See "Using Phone Memory" on page 19 for details on storing or recalling.)

- 3 Press and hold **⏻** until you hear a second tone.

**or**

Press **⏻** to place the call.

You hear a single-tone alert (if the keypad tones are turned on) and see *Dialing XXXXXX*.

- 4 You can dial phone numbers with up to 32 digits, but only the last 20 digits appear in the display.

Press **⏮** to see the entire phone number.



### Ending a Call

To end a call: Press **⏻**.

**or**

- 1 Press and hold **⏻** until you hear a second tone. You see *Press \* To End Call*.
- 2 Press **⏻** again to end the call.

### Receiving a Call

Your phone must be powered on to receive calls.

Press **⏻**.

### Unanswered Call Indicator

When you cannot take a call, your phone keeps a count of your unanswered calls and alerts you with the message *Missed XX Calls*, where *XX* is the number of missed calls.

Press **⏻** to view missed calls.

## **Redialing a Number**

A fast busy signal indicates that the cellular system is busy. With Automatic Redial, your phone calls continuously for the next four minutes.

When it makes a connection, the phone rings. You can distinguish this ring because it is half as long as the ring for a new incoming call. When the person you are calling answers, you can begin talking.



### **If you hear a fast busy signal:**

- 1 You will see `Redial Call?`  
Press **[END]** or press **[SND]** to redial, or press **[END]** to exit.
- 2 If the call does not go through after four minutes, press **[END]** or **[SND]** to continue the call attempt.  
You see `Redial`.

### **If you hear an ordinary busy signal:**

- 1 Press **[END]** to hang up.
- 2 Press **[END]** or **[SND]** to redial the busy number.  
You see `Dialing 5551234`.

## **Muting the Microphone**

For privacy during a call, mute the microphone. You can hear the person on the other end, but he or she cannot hear you.

- 1 Press **[FCN]** **[6]** to mute the microphone. You see `Mute`.
- 2 Press **[FCN]** **[6]** again to resume normal conversation.

## Using Phone Memory

Use your phone's internal Phone Book to store up to 99 names and numbers for easy access.

In this section you will learn how to:

- store names and numbers into the Phone Book
- recall phone numbers from memory
- clear names and numbers
- dial a number with Speed Dial and Turbo Dial™
- make notes on the scratchpad

### Using Your Phone's Built-in Phone Book

Each phone number in your phone book is stored in a *memory location* numbered 01-99.


Arrange numbers for easy recall by storing related numbers in groups. If you store the numbers you call most in locations 01-09, then you can use Turbo Dial® to call those numbers with a single key. (See "Using the Turbo Dial Function" on page 23 for details.)

You can also store names to identify phone numbers. Later, you can recall a number by the name that corresponds to it.

## Storing Names and Numbers

### How to Store Phone Numbers

- 1 Enter the phone number you want to store.

 You can store up to 32 digits per phone number entry.

- 2 Press **STORE** to begin storing.

The phone displays *Location* \_\_\_\_.

- 3 Enter the two-digit memory location where you want the sequence stored.

or

Press **◀\*** to store the sequence in the first available location.

or

Enter the first digit of a memory location, then press **◀\*** to store the sequence in the first available location beginning with that digit.

- 4 After you enter a location or press **◀\***, the phone displays *Enter Name:*.

Enter a name to identify the phone number. (See the following section for details on entering names.)

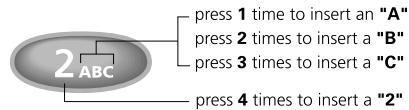
If you press **0** without entering a name, the phone stores the number without a corresponding name.

- 5 If you entered a name, press **0** or **STORE** when you are finished. Your phone confirms your entry by displaying the information you stored.



## How to Enter Letters and Numbers

When your phone displays **Alpha On \***, press the number keys one or more times to produce any letter or number in the alphabet. Use the letters printed on each key as a guide. For example, press **2** to enter "A," "B," "C," or "2" as shown:



## How to Enter a Name

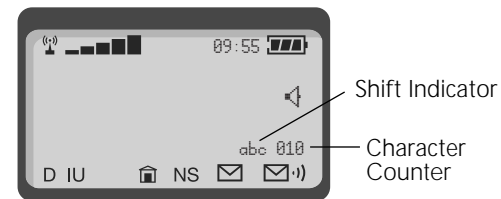
1 Press the appropriate keys to generate the characters shown:

- ① Space . 1 ? ! , @ & ; " ( ) ^ & # \$ % \_
- ② A B C 2  
a b c 2
- ③ D E F 3  
d e f 3
- ④ G H I 4  
g h i 4
- ⑤ J K L 5  
j k l 5
- ⑥ M N O 6  
m n o 6
- ⑦ P Q R S 7  
p q r s 7
- ⑧ T U V 8  
t u v 8
- ⑨ W X Y Z 9  
w x y z 9
- ⑩ + - 0 x \* / = > < # \_

Press the upper or lower volume key first to toggle between upper and lower case letters.

The top line for each key shows the upper case characters, the lower line shows the lower case.

You can use the **FCN** key to toggle among different typing modes. A Shift indicator shows the currently selected typing mode. A counter beside the Shift indicator shows the number of free spaces remaining for input.



FCN Key Presses	Mode Selected	Result When Entering Characters	Shift Indicator Displays
1	lowercase	all characters are lower case	abc
2	Shift	first character is upper case, all following are lower case	Àbc
3	Caps Lock	all characters are upper case	ABC
4	NumLock	all characters are numbers	123

The cursor advances automatically to the next space after you enter a character, or after a short period of inactivity. If you are repeating a character, then press **#** to advance the cursor to the next space.

If you make an error, press **CLEAR** to erase a character.

- 2 Press **0** or **STORE** when you finish entering text.

### **Recalling an Entry by Name**

After storing names and numbers, you can recall them alphabetically and immediately place calls. Use the Smart Button for instant access to the name directory.

- 1 Press **0** once to enter your name directory.
- 2 Press **00** to scroll to the name you are looking for.

**or**

Enter the first letter of the name you want to recall. Your phone displays the first name in the phone book that begins with that letter. If no entry beginning with that letter is found, No A is displayed.

When the name is displayed, the corresponding number is displayed on a third line, and the phone memory location is displayed in the upper right corner.

- 3 Press and hold **0**, or press **SND**, to call the number you selected.

### **Recalling an Entry by Memory Location**

Each name and number you store is placed in a memory location numbered 01-99. Once you have stored names and numbers, you can recall them by memory location:

- 1 Press **RCL**.
- 2 Enter the two-digit memory location of the phone number you want.
- 3 Press and hold **0**, or press **SND**, to call the number you selected.

### **Editing a Memory Location**

After you store names and numbers in the Phone Book, you can edit the information or erase entries at any time.

- 1 Select **Edi+**.
- 2 Recall the entry by location or by name.  
(See "Recalling an Entry by Name" and "Recalling an Entry by Location" on page 28.)
- 3 Press **0** to begin editing the phone number.  
Your phone briefly displays the name, then the phone number.
- 4 Press **CLEAR** to erase one digit at a time.  
Press and hold **CLEAR** to erase the entire number.
- 5 Enter your changes to the phone number.
- 6 Press **0** when you finish editing the phone number.  
Your phone displays the location where the number is currently stored.



- 7 Press **(CLEAR)** to erase the memory location, then enter a new two-digit location.

or

Press **(M)** to keep the phone number in its current location.

Your phone displays the name stored with the phone number you are editing.

- 8 Enter your changes to the name. (See "How to Enter a Name" on page 20.)

Press **(CLEAR)** to erase one letter at a time, or skip to step 9 to leave the name unchanged.

- 9 Press **(M)** when you finish editing the name. Your phone displays the new information.

- 10 Press **(M)** to save your changes.

Your phone confirms your entry by displaying the location, number, and name you stored.

or

Press **(CLEAR)** to leave the information unchanged.

When you see **Location** \_\_\_\_, enter a new two-digit memory location to avoid overwriting the information in the current location.

- 11 Press **(END)** to exit, or scroll to other features.

## ***Clearing a Phone Memory Entry***

### **Clearing an Entry by Name**

- 1 Recall by name the entry that you want to erase. (See "Recalling an Entry by Name" on page 21.)
- 2 Press **(CLEAR)** to clear the entry.  
You see **Clear Entry?**.
- 3 Press **(M)** or **(STORE)** to confirm that you want to erase the entry.  
Your phone displays the numbered location of the cleared entry. Press **(END)** if you don't want to erase the entry.

### **Clearing an Entry by Location Number**

- 1 Recall by location the entry that you want to erase.
- 2 Press **(CLEAR)** to clear the display.
- 3 Press **(STORE)**, then enter the number of the location you want to clear.  
You see **XX Full Change?**
- 4 Press **(STORE)** to confirm that you want to erase the entry.  
To edit an entry in the phone book, see "Editing a Memory Location" on page 21.

## ***Shortcuts for Recalling Phone Book Entries***

### **Using Speed Dial**

If you know the memory location of the number you want to call, try the Speed Dial function:

- 1 Enter the two-digit memory location (01-99).
- 2 Press and hold **(M)** until you hear a two tone alert, or press **(SND)**, to place the call.

### **Using the Turbo Dial Function**

The Turbo Dial<sup>®</sup> function enables you to dial numbers stored in locations 01-09 with the push of a single button:

Press and hold a number **1** - **9** on the keypad. You hear a two-tone alert and then your call is placed.

Your phone's Priority Call feature gives you fast access to any number stored in location 01. To learn more about this feature, see "Activating Priority Calling" on page 45.

### **Making Notes on the Scratchpad**

In addition to your internal phone book, you also have a built-in scratchpad for making quick notes. The scratchpad remembers the last phone number that your phone displays.

#### **Entering a Number in the Scratchpad**

If you are on the phone and your party gives you another number to call, enter the number on the scratchpad so you can place the call later.

- 1 Enter the number into the keypad. (The person on the line can hear tones as you dial.)
- 2 Press **END** to end the current call, if necessary.
- 3 Press **SND** to call the number you saved on the Scratchpad.

#### **Storing Numbers During a Call**

You can also store numbers during a call:

- 1 Enter the number into the keypad. (The person on the line can hear tones as you dial.)
- 2 Press **STORE**, then continue storing with step 3 in "Storing Names and Numbers" on page 19.







# Using the Menu Features

## Using the Menu System

Your cellular phone includes many features to help you be more productive. The phone's user-friendly menu system helps you find what you need quickly and easily.

In this section you will learn:

- what are the main menu features
- how to navigate through the menus
- how to read a menu road map

### Introducing the Menu Features

As you scroll through the menu system, you see the following icons, each representing a high-level menu.



Recent Calls



Phone Book



Time and Date



Timers



Tone Control






Lock Secure



Phone Options




Network Selection


 You can also access the Menu Features by pressing  or .

### Navigating the Menus

You can navigate through the menu system using the volume keys (located on the left side of the phone) and the Smart Button (located on the right side). Use the volume keys to scroll to sub-menu, and use the Smart Button to select menus and functions.

These symbols represent the keys on the side of your phone:

Press  to scroll up.

Press  to scroll down.


Press  to select.



You can also use the  and  keys to scroll through menus.


### Road Maps

To help you navigate through your phone's menu system, each section begins with an easy-to-follow visual "road map." To enter the menu features:


1 Press .

or

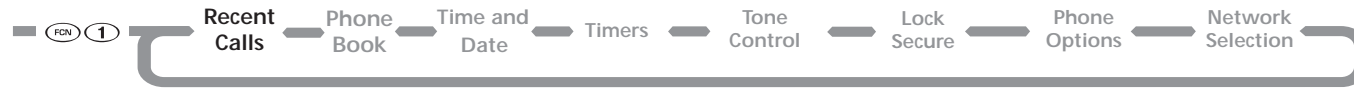
Press .

"MENU" is printed on the  key as a reminder.

2 Press  to scroll through the menu's top level.

3 Press  to exit the menu.

Detailed instructions within each section describe how each feature works.

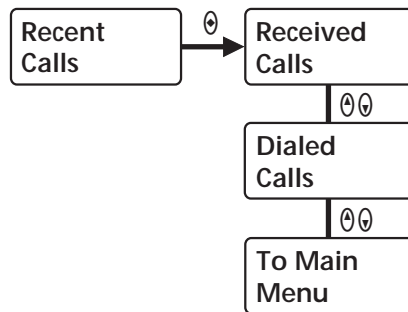


## Managing Recent Calls

The Recent Calls menu option allows you to access your Caller Line ID and review previous calls.

In this section you will learn how to review all calls that you have received or dialed.

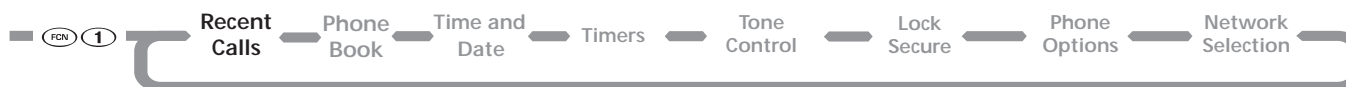
Start:



### About Recent Calls


The Recent Calls menu allows you to review previous calls that you have received or dialed. Following are some useful tips and information about reviewing recent calls.

- Your cellular phone can store the telephone numbers and names of the last thirty incoming calls.
- If the caller's phone number matches a phone number stored in the phone's memory, the phone automatically displays the name associated with that phone number.
- If you subscribe to call waiting and receive a call while another call is in progress, you hear a call waiting tone, and the caller's name and number appear on the display. The name and number are automatically stored and can be viewed after ending the call, using the procedure described in "Reviewing Received Calls" on page 27.
- Caller Line ID allows you to view the name and number of the calling party in the phone's display while the phone is ringing. Caller Line ID is an optional feature that is not available in all markets. Contact your Service Provider for availability information.
- If the caller has restricted transmission of the phone number, your phone displays *Anonymous*. If the Calling Number ID information is not available to the cellular network, your phone displays *Unavailable*.



- You can store any number contained in your Caller Line ID memory to a memory location in the same way you would save any phone number. Once the correct number is displayed, press **STORE** and a memory location, or **STORE** **←** **\*** to autoload. See “Storing with the Menu” on page 30 for more information on storing phone numbers.
- The number of received calls is displayed when you select Received Calls. However, if a call is private or has no Caller Line ID number, then its actual phone number is not displayed and is not included in the count of missed calls.

## Reviewing Received Calls

 Press **RCL** **RCL** to view your received calls. You must hold the second **RCL** until the received call list is displayed.

- 1 Select **Received Calls**. The total numbers of received calls stored is displayed in the upper right corner. If there are no numbers in the Caller Line ID list, you see **00** in the upper right corner.
- 2 Press **0** to access your Caller Line ID list of received calls.
- 3 Press **0/0** to scroll through the list.

Your phone displays the order in which the call was received in the upper right corner, with the phone number and name of the calling party (if available).

The received call list can range from **01** (the most recent previous phone call) to **30** (the least recent phone call).

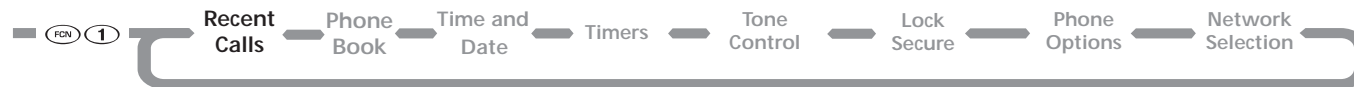
The following symbols appear next to the received calls:

 Answered


 Missed

- 4 Press **SND** to dial the displayed number.






## Reviewing Dialed Calls

 Press **RCL** **0** **0** to enter your dialed calls list.

- 1 Select **Dialed Calls**.  
Your phone displays (below the battery symbol) the total number of dialed calls that are stored. You can view up to the last twenty numbers dialed. If there are no numbers in the Dialed Call list, you see 00.
- 2 Press **0** to enter your dialed calls list.
- 3 Press **0/0** or **←\*/#→** to scroll through the list. The dialed call list can range from 01 (the most recent dialed phone call) to 20 (the least recent dialed phone call).  
Your phone displays the order of the previously dialed phone call in the upper right corner, with the phone number and name (if available) of the party called.
- 4 Press **END** to dial the displayed number.

MENU

## Clearing Caller Line ID

 To erase **all entries**, press and hold **CLEAR**. To erase a **single entry**, press **CLEAR**.

To **erase all entries** saved in your Caller Line ID memory:

- 1 Select **Received Calls**.
- 2 Press and hold **CLEAR** when a Caller Line ID name and number is displayed. You see **Clear All?**.
- 3 Press **0** or **STORE** to clear.

or


Press **END** to leave your Caller Line ID memory intact. You see **Entry Not Cleared**.

To **erase a single entry** saved in your Caller Line ID memory:

- 1 Press **CLEAR** when a Caller Line ID name and number is displayed. You see **Clear Entry?**.
- 2 Press **0** or **STORE** to clear.

or

Press **END** to leave your Caller Line ID memory intact.

 *Caller Line ID is an optional network- and subscription-dependent feature that is not available in all areas.*




## Managing the Phone Book

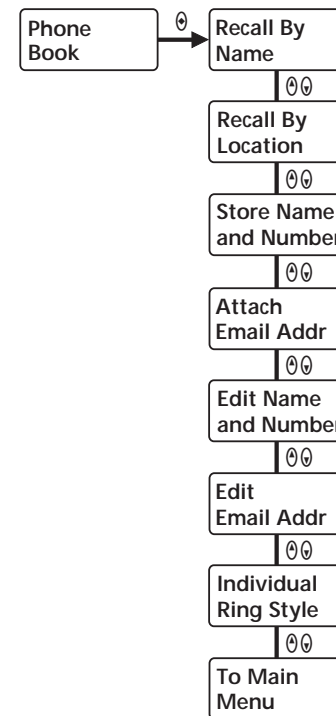
In "Using Your Phone's Built-in Phone Book" you learned how to store and recall phone numbers with the internal Phone Book. You can access the same features, along with several advanced features, using your phone's convenient menu system.

In this section you will learn how to:

- recall and store phone numbers using the menu system
- store numbers with pause dialing
- store calling card sequences for easy access
- attach an email address to a phone book entry
- edit your memory information
- select the individual ringer style

 You can also recall phone numbers without using the Phone Book. See "Recalling an Entry by Name" on page 21 or "Recalling an Entry by Memory Location" on page 21.

Start:





### Recalling an Entry by Name

To recall a stored name with the Phone Book menu:

- 1 Select **Recall By Name**. You see **Enter 1st Letter**.
- 2 Enter the first letter of the name you want to recall. Your phone displays the first name in the phone book that begins with that letter. If no entry beginning with that letter is found, **No A's** is displayed.
- 3 Press **00** to scroll to the name you want.
- 4 Press and hold **0**, or press **END**, to call the number you selected.

You can press **MSG** to send a text message to the selected number. See "Sending Text Messages" on page 65.

### Recalling an Entry by Location

Phone book entries are stored in memory locations numbered 01-99. After storing an entry, you can recall it by memory location with the Phone Book menu:

- 1 Select **Recall By Location**. You see **Location** \_\_\_\_.
- 2 Enter the two-digit memory location of the number you want to recall.
- 3 Press and hold **0**, or press **END**, to call the number you selected.

You can press **MSG** to send a text message to the selected number. See "Sending Text Messages" on page 65.

### Storing with the Menu

Use the menu system to store names and numbers:

- 1 Select **Store Name and Number**. You see **Enter Number**.
- 2 Enter the phone number you want to store. See "How to Enter Letters and Numbers" on page 20.
- 3 When you finish entering the number, press **0**. You see **Location** \_\_\_\_.
- 4 Press **0\*** to store the sequence in the next available location.  
or

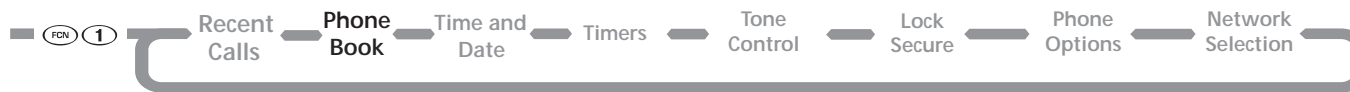
Enter the first digit of a memory location, then press **0\*** to store the number in the first available location beginning with that digit.

or

Enter the two-digit memory location where you want the sequence stored.

If the chosen location is full, press **END**, and restart the storing sequence.

- 5 When you see **Enter Name:**, enter a name to identify the phone number, or skip this step and continue with step 6. (See "How to Enter a Name" on page 20 for details on entering names.)
- 6 When you finish entering the name, press **0**, or **STORE**. Your phone displays the location, number, and name you stored. Proceed with step 7 below, or return to step 2 above to store more numbers.
- 7 Press **END** to exit the menu.



## Storing and Placing Numbers with Pause Dialing

### Entering a Pause in a Number

When you call automated systems, a recorded message prompts you for PIN numbers, Voice Mail numbers, etc.

You can store these numbers in your phone's memory, separated by "pauses"—special characters that tell your phone to wait before sending additional numbers.

- 1 Select **Store Name and Number**. You see **Enter Number**.
- 2 Enter the phone number you use to access the automated system.
- 3 Press **FCN**, then press **SND**.  
You see **Insert Wait**.
- 4 Press **0** to insert a pause (0) into the sequence.
- 5 Enter the next group of numbers (such as an account number or PIN number.)
- 6 Enter any other required symbols (such as \* or #).
- 7 Insert another pause, and enter the next group of numbers by repeating steps 3 through 5 as many times as necessary.  
You can store up to 32 digits, including pauses. Then store the entire sequence as you would any phone number.
- 8 Press **STORE** to begin storing.  
You see **Location** \_\_\_\_.

- 9 Enter the two-digit memory location where you want the sequence stored.
- 10 When you see **Enter Name** :, enter a name for your sequence.  
(See "How to Enter a Name" on page 20 for details on entering names.)
- 11 Press **0** when you finish entering the name.  
Your phone displays the location, number, and name you stored.

### Placing a Call with Pauses

To use your stored sequence:

- 1 Recall the stored number with the pause inserted.
- 2 Press and hold **0**, or press **SND**, to place the call.
- 3 When the recording prompts you for information, press **0** or **SND** to send the next set of stored numbers.
- 4 Press **0** or press **SND** as many times as necessary, to transmit all the numbers.



## Storing and Placing Numbers for Calling Card Information

### Storing Calling Card Information

Like Pause Dialing, you can store calling card access numbers, separated by pauses, for recall later. You can also store a Number Character in the sequence to save a place for the number you call when you use your calling card.

See “Using Lock/Security Features” on page 44 for more information on protecting your calling card information.

- 1 Select **Store Name and Number**. You see **Enter Number**.
- 2 Enter the phone number you use to access your calling card system. (Skip this step if you only dial 0.)
- 3 Press **FCN** **SND**. You see **Insert Wait 0**.
- 4 Press **0** to insert a pause (0) into the sequence.
- 5 Enter the next numbers, if needed. (For example, some long distance carriers require you to dial a 0 first. If no further numbers are needed, skip to step 7.)
- 6 Press **FCN** **SND**.
- 7 Press **0** to scroll to the **Number Character**. You see **Insert Number ^N**.
- 8 Press **0** to insert the ^N Character.  
This special character saves a place for the phone number you will be calling. The number is inserted automatically when you place the call.
- 9 Press **FCN** **SND**.
- 10 Press **0** to insert another pause, as in steps 3 and 4.

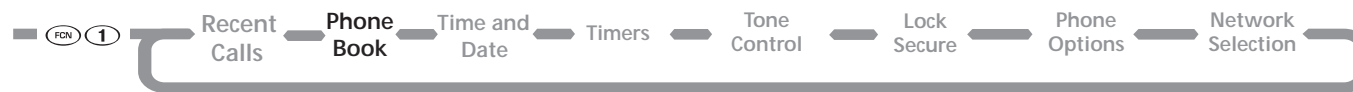
- 11 Enter your calling card PIN number.
- 12 Press **STORE** to store your calling card sequence.  
You see **Location \_\_\_\_**.
- 13 Enter the two-digit memory location where you want the sequence stored.  
You see **Enter Name: .**
- 14 Enter a name for your sequence. (See “How to Enter a Name” on page 20 for details on entering names.)
- 15 Press **0** when you finish entering the name.  
Your phone displays the location, number, and name you stored.

### Placing a Calling Card Call

To recall your stored calling card information:

- 1 Recall the calling card information you stored.  
(See “Recalling an Entry by Name” and “Recalling an Entry by Location” on page 30 for more information on Recalling Numbers.)
- 2 Press **SND** before entering the number you want to call. You see **Enter Number**.
- 3 Enter the phone number, including the area code.  
You can enter the number manually, by location, or recall.
- 4 Press and hold **0**, or press **SND**, to place the call.  
Your phone dials the number to access your long distance provider.





- 5 When prompted, press **OK** or **SEND** to send the next group of numbers.  
The phone automatically inserts the selected number to call at the appropriate time in the sequence.
- 6 Repeat step 5 to send the next group of numbers as many times as necessary.

### Attaching an Email Address to a Phone Book Entry

You can attach email addresses to your phone book entries:

- 1 Select **Attach Email Addr.** Your phone displays **Enter 1st Letter**.
- 2 Enter the first letter of the name of the entry you want to modify. Your phone displays the first entry in the phone book that begins with that letter.

If no entry for that letter is found, **No A's** is displayed.

- 3 Press **UP** to scroll to the name you want, then press **OK** to select it. You see **Enter Email Addr.**

or

Create a new phone book entry:

- a. Enter a name, then press **OK** or **STORE**. (See "How to Enter Letters and Numbers" on page 20 or more information on how to make phone book entries.)
- b. Enter the phone number, then press **OK** or **STORE**.

- c. Press **LEFT** to store the number in the next available location.  
or  
Enter the first digit of a memory location, then press **LEFT** to store the number in the first available location beginning with that digit.

or

Enter the two-digit memory location where you want the sequence stored.



- If the chosen location is full, press **END**, and restart the storing sequence.
- 4 Enter the email address. (See "How to Enter Letters and Numbers" on page 20 for information on making phone book entries.)
  - 5 Attach the email address to the entry by pressing **OK** or **STORE**.  
If the phone book entry does NOT already include an email address, your phone displays **Email Addr Attached**.  
If the phone book entry already contains an email address, your phone displays **Overwrite Address?**.
    - To replace the old email address with the new one, press **OK** or **STORE**. Your phone displays **Email Addr Attached**.
- or
- To leave the phone book entry unchanged, press **END**. The phone restarts the storing sequence.



### Editing a Phone Book Entry

To edit or erase a phone book entry:

- 1 Select **Edit**. You see **Enter 1st Letter**.
- 2 Enter the first letter of the name of the entry you want to modify. Your phone displays the first entry in the phone book that begins with that letter.

If no entry for that letter is found, **No A's** is displayed.

- 3 Press **⏏** to scroll to the name you want, then press **⏏** to select it.  
After briefly displaying the name, your phone displays the number.

- 4 Press **⏏** to delete one digit at a time.  
Press and hold **⏏** to delete the entire number.

- 5 Enter your changes to the phone number.

- 6 When you finish entering the number, press **⏏** or **⏏**.  
The number's memory location is displayed.

- 7 Press **⏏** to delete the memory location, then enter a new two-digit location.

or

Press **⏏** or **⏏** to keep the number in its current location.  
Your phone displays the name stored with that phone book entry.

- 8 Enter your changes to the name. (See "How to Enter a Name" on page 20.)  
To leave the name unchanged, skip to step 10.

- 9 Press **⏏** or **⏏** when you finish editing the name.

- 10 Press **⏏** or **⏏** to save all changes. Your phone displays the new location, phone number, and name.

or

Press **⏏** to cancel the changes.

- 11 Press **⏏** to exit, or scroll to other features.

### Editing an Email Address

To edit an email address that is attached to a phone book entry:

- 1 Select **Edit Email Addr**. You see **Enter 1st Letter**.
- 2 Enter the first letter of the name stored with the entry you want to modify. Your phone displays the first entry in the phone book that begins with that letter.

If no entry for that letter is found, **No A's** is displayed.

- 3 Press **⏏** to scroll to the name you want, then press **⏏** to select it.

You see the current email address that is attached to the entry.

- 4 Press **⏏** to delete one character at a time.  
Press and hold **⏏** to delete the entire number.

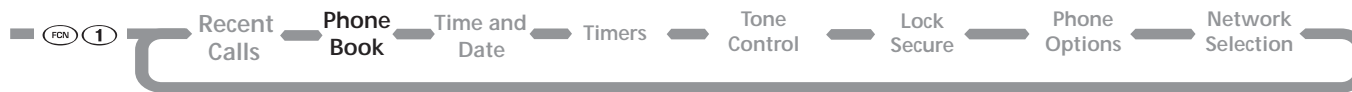
- 5 Enter your changes to the email address.

(Press **1** repeatedly to enter symbols. See "How to Enter Letters and Numbers" on page 20 or more information on how to make phone book entries.)

- 6 When you are finished, press **⏏** or **⏏**. Your phone displays **Email Addr Changed**.

- 7 Press **⏏** to exit, or scroll to other features.

MENU



## Assigning an Individual Ring Style to a Phone Book Entry

Use this feature to assign one of nine ring styles to alert you of an incoming call from a phone number stored in your phone book.

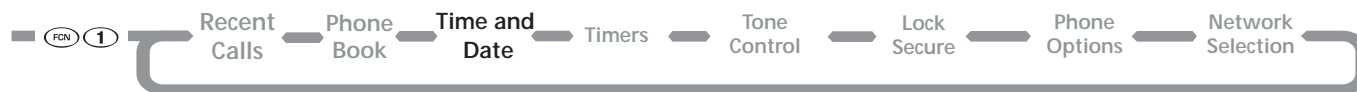
This feature operates only if you subscribe to Caller ID from your service provider. Caller ID is not available in all areas.

- 1 Follow "Adjusting Tone Controls" on page 42 to select Individual Ring Style.
- 2 Select the phone book entry to which you want to assign an individual ring style.
  - a. Enter the first letter of the name stored with the entry.
  - b. Scroll to the desired entry, then press to select it. Your phone displays `Press 0-9, 0=OFF`.
- 3 Press to assign the default ring style to the number.
 

**or**

Press a key from to to select one of the nine ring styles.
- 4 Press or to assign the selected ring style to the number. Your phone confirms the selection by displaying `Ring Style Assigned`.
- 5 Press to exit, or scroll to other features.





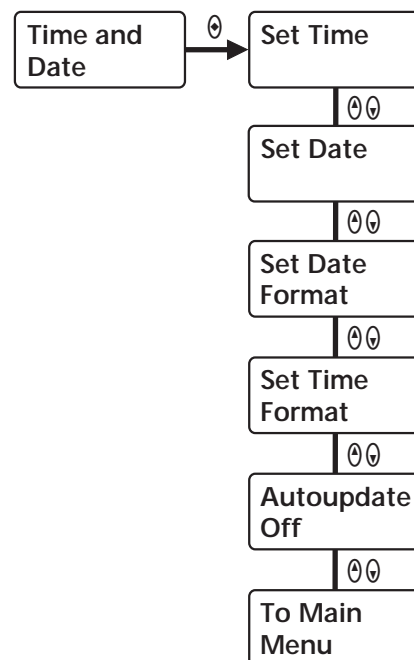
## Setting Time and Date

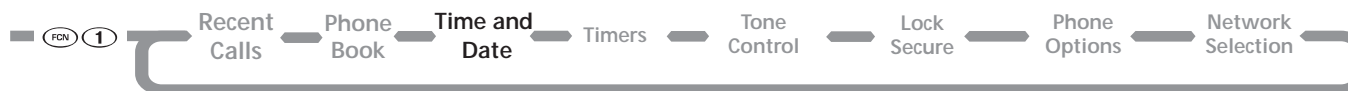
The Time and Date menu enables you to adjust the time and date settings on your phone. Start:

You can set your phone's time and date, change your date format, and set your phone to automatically update with the time and date from the network.

In this section you will learn how to:

- set your phone's time and date
- change the time or date format
- automatically update your time and date





### Setting the Time

To manually set your phone's clock:

- 1 Select **Set Time**. Your phone displays the current Time setting, with the hour field highlighted.
- 2 Press **00** to scroll to the correct hour setting, and press **0** to select it.
- 3 Press **00** to scroll to the correct minute setting, and press **0** to select it.
- 4 Press **00** to scroll to the correct am/pm setting, and press **0** to select it and exit the time setting display.
- 5 Press **END** to exit, or scroll to other features.

### Setting the Date

To manually set your phone's date:

- 1 Select **Set Date**. Your phone displays the current Date setting, with the first field highlighted.
- 2 Press **00** to scroll to the correct date setting, and press **0** to select it. Repeat this step for the next two fields.
- 3 Press **END** to exit, or scroll to other features.

### Changing Your Date Format

Your phone can display dates in a day/month/year format or in a month/day/year format. To select your desired format:

- 1 Select **Set Date Format**.
- 2 Press **00** to scroll to the sample date format you want, and press **0** to select it.
- 3 Press **END** to exit, or scroll to other features.

### Changing Your Time Format

Your phone can display time in a 12-hour or 24-hour format. To select your time format:


- 1 Select **Set Time Format**.
- 2 Press **00** to scroll to 12-hour or 24-hour format, and press **0** to select it.
- 3 Press **END** to exit, or scroll to other features.


### Turning Autoupdate On and Off

When you activate the Autoupdate feature, your phone updates its time and date from the network each time you turn the phone on.



- 1 Select **Autoupdate**.
- 2 Press **0** to toggle Autoupdate on and off.
- 3 Press **END** to exit, or scroll to other features.

 *If you turn Autoupdate off, you must set your phone's clock and date manually. (See "Setting the Time" and "Setting the Date" on page 37).*

 *Autoupdate is an optional network- and subscription-dependent feature that is not available in all areas.*




## Timing Your Calls

Your phone's Call Timers give you a variety of options for managing your time. You can monitor the length of individual calls, set a timer to track monthly usage, or have the phone alert you at intervals that you specify.

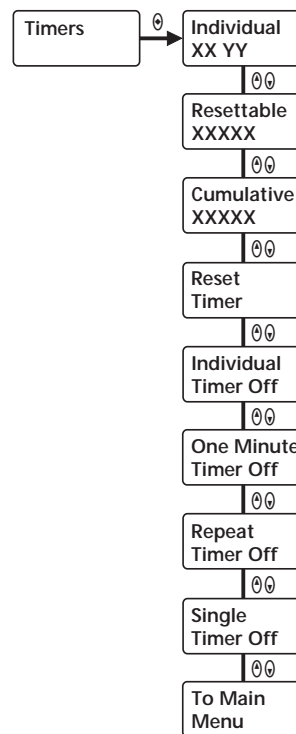
In this section you will learn how to:

- view the timers
- monitor the length of your calls
- set and view the resettable timer for long-term monitoring
- program audible timers for your individual needs

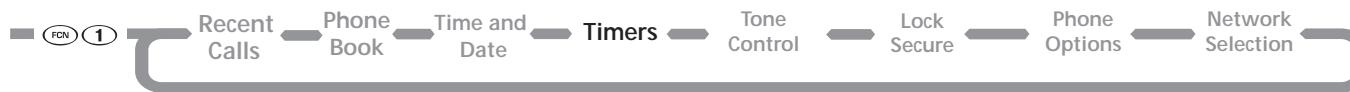
**Network connection time** is the elapsed time, in one-minute intervals, from the moment you connect to your service provider's network to the moment you end the call by pressing . The time includes busy signals and ringing.

The amount of network connection time you track on your resettable timer may not equal the amount of time for which you are billed by your wireless service provider. For billing information, please contact your service provider directly.

Start:



MENU



### Viewing the Individual Call Timer

Press **RCL** **#>** **#>** for a quick look at this timer.

The Individual Call Timer feature enables you to view, at any time, the air-time of the most recent call or of the call in progress. Air time is displayed in minutes and seconds.

This timer resets when you place the next call and when you turn the phone off.

You can also display this timer while calls are in progress. (See “Displaying the Individual Timer Automatically” on page 40.)

- 1 Select **Individual XX YY**. Your phone displays the air-time of your last call in minutes (XX) and seconds (YY).
- 2 Press **END** to exit, or scroll to other features.

### Viewing the Resettable Call Timer

Press **RCL** **#>** **#>** **#>** for a quick look at this timer.

You can track how much air time you have accumulated whenever you want. To view elapsed air-time:

- 1 Select **Resettable XXXX**. Your phone displays, in minutes, the air time accumulated since you last reset the timer.
- 2 Press **END** to exit, or scroll to other features.

### Viewing the Cumulative Timer

Press **RCL** **#>** **#>** **#>** **#>** for a quick look at this timer.

This non-resettable timer keeps track of your phone’s total air time (in minutes).

- 1 Select **Cumulative XXXXX**. Your phone displays, in minutes, the air time accumulated since the phone was activated.
- 2 Press **END** to exit, or scroll to other features.

### Resetting the Timer

By resetting this timer at the beginning of each billing cycle, you can keep a running tab of your monthly usage. After you reset the timer, it continues to keep track of your air time (in minutes) until you reset it again.

- 1 Select **Reset Timer**.
- 2 Press **0** to reset the timer.
- 3 Press **END** to exit, or scroll to other features.





### Displaying the Individual Timer Automatically

Activating the Individual Timer may reduce both standby and talk times.

When this feature is activated, your phone automatically displays your air time in minutes (XX) and seconds (YY) during and after each call.

- 1 Select Individual Timer On/Off (depending on the current state). Once the desired setting is selected, you see Individual Timer Off or Individual Timer On.
- 2 Press to toggle between Individual Timer Off and Individual Timer On.
- 3 Press to exit, or scroll to other features.

### Setting the One-Minute Audible Timer

When you activate this feature, your phone sounds a beep 10 seconds before the end of every minute during a call. The party on the other end does not hear the beeps.

- 1 Select One Minute Timer. You see One Minute Timer Off or One Minute Timer On.
- 2 Press to toggle between One Minute Timer Off and One Minute Timer On.
- 3 Press to exit, or scroll to other features.

### Setting the Repeating Audible Timer

Use this timer to have your phone sound a beep during your calls at an interval that you select—from 11-999 seconds. You hear a beep 10 seconds before the end of each interval, but the party on the other end does not hear the beep.

- 1 Select Repeat Timer. You see Repeat Timer Off or Repeat Timer On.
- 2 Press to toggle between Repeat Timer Off and Repeat Timer On.  
You are prompted to enter seconds **only** if you have turned the feature on. If you have turned it off, you see Repeat Timer Off.
- 3 Enter the number of seconds you want between audible beeps. You see Beep At YYY Secs.
- 4 Press to set the timer. The phone confirms the setting by displaying Set At YYY Secs.
- 5 Press to exit, or scroll to other features.

MENU



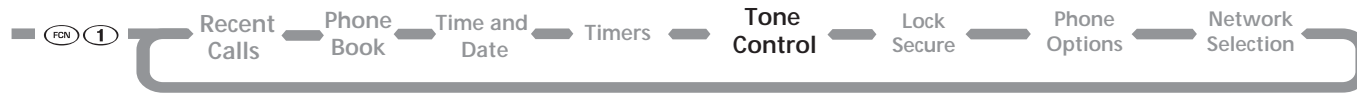


### Setting the Single Timer

Like the Repeating Timer, you can set the Single Timer to sound a beep at a time that you select—from 11-999 seconds. You hear the beep once during each call, 10 seconds before the end of the interval. The party on the other end does not hear the beep.

- 1 Select Single Timer. You see Single Timer Off or Single Timer On.
- 2 Press **Ⓜ** to toggle between Single Timer Off and Single Timer On.  
You are prompted to enter seconds **only** if you have turned the feature on. If you have turned it on, you see Single Timer Off.
- 3 Enter the number of seconds you want between beeps. You see Beep At YYY Secs.
- 4 Press **Ⓜ** to set the timer. The phone confirms the setting by displaying Set At YYY Secs.
- 5 Press **END** to exit, or scroll to other features.





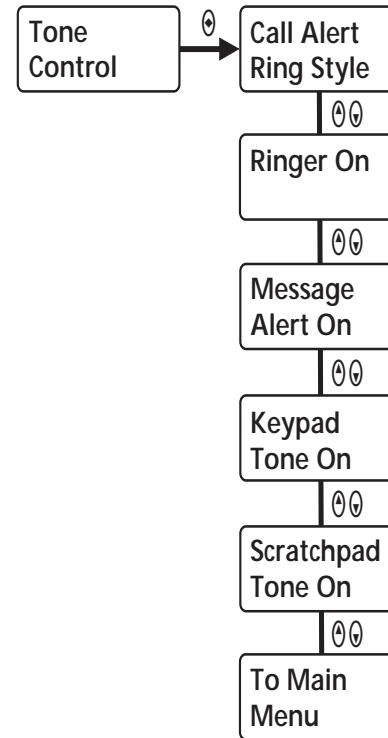
## Adjusting Tone Controls

Use these features to personalize your phone's ringer styles, or turn the ringer off.

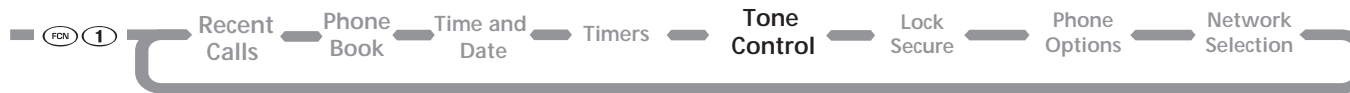
In this section you will learn how to:

- choose from nine different ringer styles
- turn the ringer on or off
- turn the message alert on or off
- silence the keypad
- silence the scratchpad

Start:



MENU



### Selecting a Ring Style

Your phone lets you select any of nine different ring styles. After you choose a style, the phone plays a brief sample of the new style.

- 1 Select Call Alert+ Ring Style.
- 2 Press **1** through **9** to hear the different ring styles, or scroll through the ring styles. Ring Style 1 is the default setting.
- 3 When you have scrolled to the ring style you want, press **0** to select it.

Your phone displays Ring Style X Set.

- 4 Press **END** to exit, or scroll to other features.

### Turning Ringer On and Off

Press **0** to toggle the ringer on or off.

### Turning Message Alert On and Off

Message alerts are the sounds your phone plays when you receive a text or voice mail message. By default, message alerts are turned on. If you want to be discreet, you can silence the audible alerts.

Press **0** to toggle the message alert on or off.

Remember, this menu option is ALWAYS displayed under the Tone Control menu. The Ringer On/Off option is NOT displayed whenever the Pager Mode is set to On (under the Phone Options menu).

### Turning Keypad Tones On and Off

Keypad tones are the sounds your phone plays when you press one of its keys. By default, keypad tones are turned on. If you want to be discreet, you can turn keypad tones off.

*The other party still hears tones.*

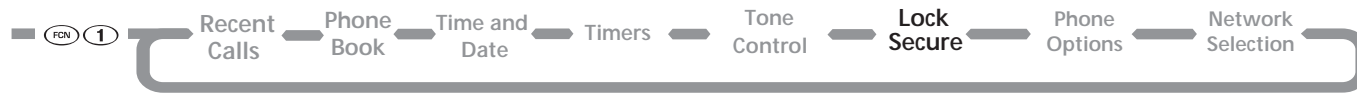
- 1 Select Keypad Tone. You see Keypad Tone On or Keypad Tone Off.
- 2 Press **0** to toggle between Keypad Tone On and Keypad Tone Off.
- 3 Press **END** to exit, or scroll to other features.

### Turning Scratchpad Tones On and Off

Scratchpad tones are tones that your phone sends to access automated calling systems like Voice Mail. By default, scratchpad tones are turned on. If you don't want the other party to hear these sounds when you use the scratchpad, turn the tones off.

- 1 Select Scratchpad Tone. You see Scratchpad Tone On or Scratchpad Tone Off.
  - 2 Press **0** to toggle between Scratchpad Tone On and Scratchpad Tone Off.
  - 3 Press **END** to exit, or scroll to other features.
- If you have turned scratchpad tones off but want to access a tone-activated system like Voice Mail, place the call, enter the numbers you need to transmit, then press **RCL** **END** to send the tones.*





## Using Lock/Security Features

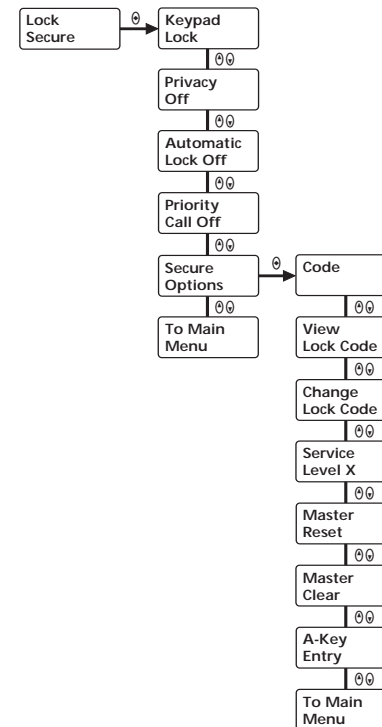
While you probably would not want to leave your phone unattended, your phone has a number of built-in security features to prevent unauthorized use.

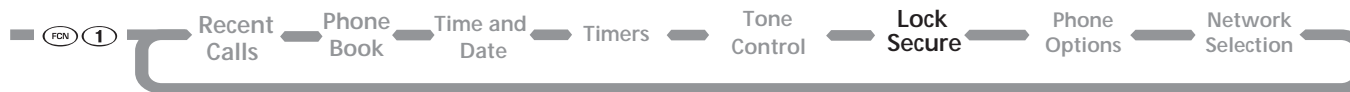
In this section you will learn how to:

- lock and unlock your keypad
- activate the Voice Privacy feature
- lock and unlock your phone
- place priority calls
- change your lock code
- restrict call placement and memory access
- reset or clear your phone's settings

MENU

Start:





## Locking and Unlocking Your Keypad

You can lock and unlock your keypad to prevent accidental key presses.

When the phone is locked and you press any key except **FCN**, Press **FCN** then \* is displayed for two seconds.

### Quick Keypad Lock

Press **FCN** **⏏** to lock your keypad.

### Locking Your Keypad from the Menu

To lock your keypad from the menu:

- 1 Select Keypad Lock.
- 2 Press **STORE** or **0** to lock your keypad. You see Keypad Locked on the display.

### Unlocking the Keypad

When the keypad is locked, press **FCN** **⏏** to unlock it. Keypad Unlocked appears for two seconds to confirm your entry.

### Answering Calls While the Keypad Is Locked

When the keypad is locked, you can still answer incoming calls normally (by pressing and holding **0**, or by pressing **SND**).

If you have set the Multiple Key Answer feature to On and the keypad is locked, you can answer incoming calls only by pressing **SND**.

When you complete the call, the keypad is again locked.

If you do not answer an incoming call, your phone displays a Missed Call message, along with Keypad Locked.

If you have set Automatic Answer to On and the keypad is locked, the call is automatically answered after two rings.

## Handling Incoming Messages While the Keypad Is Locked


You can still receive incoming text and voicemail messages when the keypad is locked.

When your phone receives an incoming message, it alerts you as normal and displays Keypad Locked. (See "Voice Mail Alerts" on page 59 and "How Your Phone Receives Message Alerts" on page 60.)

To read incoming text messages or call voicemail, you must first unlock the keypad.




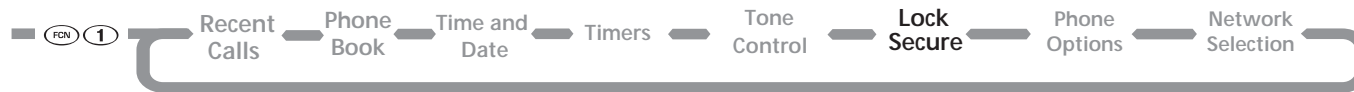
## Activating Voice Privacy

 Network- and subscription-dependent feature. Not available in all areas.

When you activate your phone's Voice Privacy feature, you request your cellular system to search for a Voice Privacy channel with each call. If no Voice Privacy channel is available (or your call is "handed off" to a cell where a Voice Privacy channel is not available), five short beeps alert you that the call is no longer private.

You must select the Voice Privacy feature before you make a call in order for that call to search for a Voice Privacy channel.

 This feature is not available in all markets. Contact your Service Provider for additional information about your service area.




To turn the Voice Privacy feature on or off:

- 1 Select Voice Privacy. You see *Privacy Off* or *Privacy Preferred*.
- 2 Press **⓪** to toggle between *Privacy Off* and *Privacy Preferred*.
- 3 Press **END** to exit, or scroll to other features.

### Locking/Unlocking Your Phone

For your protection, you must enter the six-digit security code to access the features that your phone contains. The factory-programmed lock code for unlocking the phone is 123. The six-digit security code is 000000. These may have been changed when your phone was activated.

#### Locking Your Phone Automatically


 Press **FCN**, the Smart Button, **1** **5**, and continue with step 2.

When you turn this feature on, your phone automatically locks itself each time you turn it off.

- 1 Select *Automatic Lock*. You see *Automatic Lock Off* or *Automatic Lock On*.
- 2 Press **⓪** to toggle between *Automatic Lock Off* and *Automatic Lock On*.
- 3 Press **END** to exit, or scroll to other features.

### Locking Your Phone Manually

You can lock your phone manually at any time to prevent unwanted use. Once you lock the phone, it remains locked whether it is powered on or off.

- 1 Press **FCN**.
  - 2 Press and hold **5** for at least one full second. You see *Lock?*.
-  *"LOCK" is printed on the 5 key, as a reminder.*
- 3 Press **STORE** or **⓪** to lock the phone. You see *Locked*.


### Unlocking Your Phone

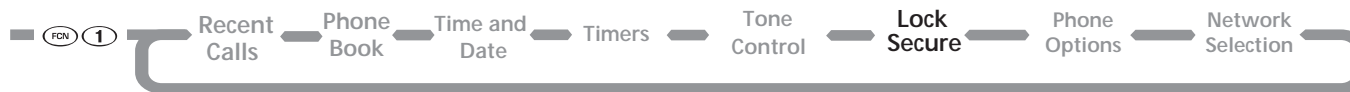
To unlock your phone:

Once your phone is on, **enter your three-digit lock code** to unlock your phone. (See "Viewing the Lock Code" on page 47 and "Changing the Lock Code" on page 47 for more information on your lock code.)

### Answering Calls While the Phone Is Locked

You can still receive calls when the phone is locked. To answer an incoming call:


- 1 Enter your three-digit lock code.
  - 2 Press and hold **⓪**, or press **END**, to receive the call.
-  *If you forget your lock code, try pressing 1 2 3 or the last three digits of your cellular phone number.*



## Activating Priority Calling

 Press **FCN**, the Smart Button, **2** **9**, and continue with step 2.

Priority Call allows the Turbo Dial<sup>®</sup> function to dial from memory location 01—even when the phone is locked. You can store an emergency number or the number of someone you would like to contact in case of emergency.

 *Some cellular systems have their own emergency numbers and deny access to emergency numbers like 911 (not available in some areas). Check with your Service Provider for more information.*


By default, Priority Call is activated. To turn it off or to switch it back on:

- 1 Select **Priority Call**. You see **Priority Call Off** or **Priority Call On**.
- 2 Press **0** to toggle between **Priority Call Off** and **Priority Call On**.
- 3 Press **END** to exit, or scroll to other features.

## Viewing the Lock Code

To display the active three-digit lock code:

- 1 Select **Secure Options**, and enter your six-digit security code.
- 2 Select **View Lock Code**. You see **View Lock Code**.
- 3 Press **0** to display your three-digit lock code. Your phone displays the code for a few seconds.
- 4 Press **END** to exit, or scroll to other features.


 *The Standard Factory default for the six-digit security code is 000000, and for the three-digit lock code it is 123.*

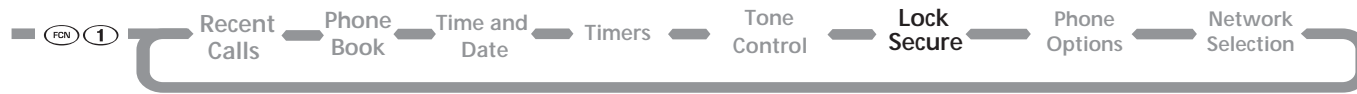


## Changing the Lock Code

To change your three-digit lock code:

- 1 Select **Secure Options**, and enter your six-digit security code.
- 2 Select **Change Lock Code**. You see **Enter Code \_\_\_\_**.
- 3 Enter the new three-digit code. You see **Changed To XXX**.
- 4 Press **END** to exit, or scroll to other features.

 *If you try to change your lock code to 911 or the first three digits of an emergency number, you see **Code Invalid**, and the code you entered **is not** accepted. You will return to step 1 above.*



## Restricting Call Placement

Network- and subscription-dependent feature. Not available in all areas.

You can restrict call placement or hide memory information when loaning your phone to others.

### Selecting a Service Level

- 1 Select **Secure Options**, and enter your six-digit security code.
- 2 Select **Service Level**. The phone displays your current service level. (Refer to the chart on the next page.)
- 3 Press **00** to scroll through the service level settings, then press **0** to select the service level you want.

If you select Level 7, the phone prompts you for the range of memory locations you want to remain active. You see **Range 1---**.

Enter the range of digits memory locations from which calls are allowed. The phone confirms the allowed range, and you see **1-XX Allowed**.

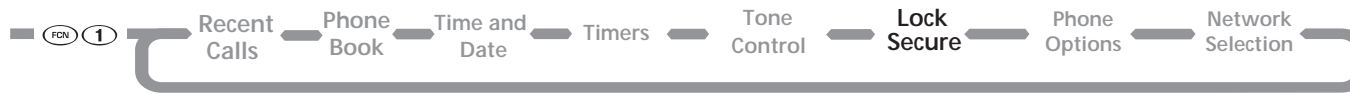
- 4 Press **END** to exit, or scroll to other features.

### Service Level Settings

Each of your phone's eight service levels offers a different combination of access privileges and restriction.

Level	Description	Display
1	<ul style="list-style-type: none"> <li>• Calls can be placed from memory locations 1-10 only.</li> <li>• No dialing from keypad</li> <li>• No memory edit or storage</li> <li>• No access to name directory</li> <li>• No access to last number dialed</li> </ul>	1 Memory 1-10
2	<ul style="list-style-type: none"> <li>• Calls can be placed from all memory locations.</li> <li>• No dialing from keypad</li> <li>• No memory edit or storage</li> <li>• No access to Caller Line ID stack or Last Number Dialed</li> </ul>	2 Memory Only
3	<ul style="list-style-type: none"> <li>• Calls can be placed manually from the keypad only.</li> <li>• No access to memory information</li> <li>• No memory edit or storage</li> <li>• No access to Caller Line ID stack or Last Number Dialed</li> </ul>	3 Keypad Only
4	Standard setting, no restrictions	4 Standard Setting
5	Seven-digit (local) dialing only	5 Local Only





Level	Description	Display
6	<ul style="list-style-type: none"> <li>• Calls can be placed from the keypad and from memory.</li> <li>• No edit or memory storage to memory locations 1-10</li> </ul>	6 No Store 1-10
7	<ul style="list-style-type: none"> <li>• Calls can be placed from a selected memory range only.</li> <li>• Memory edit and storage allowed with the selected range.</li> <li>• No access to name directory</li> </ul>	7 Allow Range
8	No edit, storage, or recall from memory locations 1-9	8 Hide Turbo

### Resetting All Options

Use the Master Reset feature to reset all user-selectable options back to their original factory settings.

*Once you select this feature, the reset process cannot be canceled or reversed.*

- 1 Select **Secure Options**, and enter your six-digit security code.
- 2 Select **Master Reset**.
- 3 Press **0** to reset all options to their factory settings. You see **Standard Setting**.

**or**

If you do **not** want to reset your phone's options, press **END** to exit the menu.

- 4 Press **END** to exit, or scroll to other features.

### Clearing All Stored Information

If you want to start over, use Master Clear to reset all user-selectable options, clear the resettable timer, and erase all Phone Book information.

*Once you select this feature, the process cannot be canceled or reversed.*

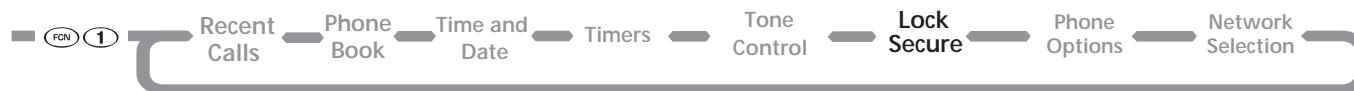
- 1 Select **Secure Options**, and enter your six-digit security code.
- 2 Select **Master Clear**.
- 3 Press **0** to clear the memory and reset all options to their factory settings. You see **Busy**. (This takes a few seconds.)

**or**

If you do **not** want to reset your phone's options, press **END** to exit the menu.

- 4 Press **END** to exit, or scroll to other features.





## Authenticating Users

Your phone is equipped with an authentication feature called the A-Key, which acts like a PIN number and helps prevent unauthorized use of your phone. Contact your Service Provider for your personalized A-Key number.

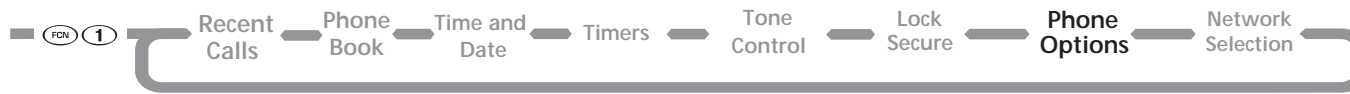
*This feature should only be programmed once.*

- 1 Select **A-Key Entry**. The display shows the phone's active phone number.

If the number displayed is not the number you want for the A-Key, press **< \* >** or **# >** to switch to the second programmed number. Your phone uses this number once you exit this menu.

- 2 Press **OK** to select the number displayed.  
Enter the 6- to 26-digit A-Key number as supplied by your Service Provider. Press **CLEAR** to correct errors.
- 3 Press **OK** or **STORE** to validate the A-Key entry.
  - If you enter the A-Key correctly, you see **Valid**.
  - If you enter the A-key input incorrectly, you see **Invalid**. Re-enter your A-Key.
- 4 Press **END** to exit, or scroll to other features.

MENU



## Customizing Phone Options

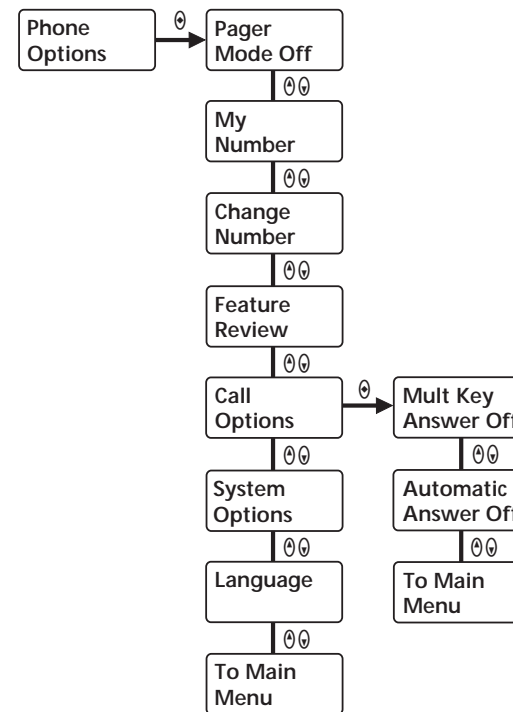
The Phone Options menu lets you customize the way your phone sends and receives calls.

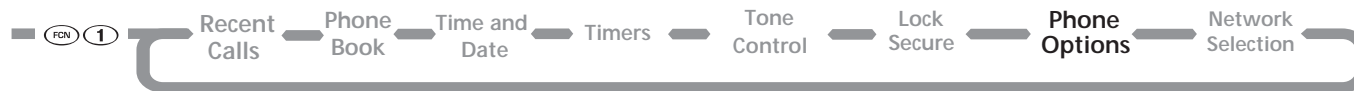
You can tune your phone for optimal performance, view information about the phone, and choose from a number of convenient features.

In this section you will learn how to:

- activate pager mode
- view your own phone number
- switch cellular phone numbers
- review your phone's feature settings
- select features for vehicular use
- display your system identification
- select a language

Start:





### Activating Pager Mode

When Pager Mode is activated, the phone simulates a pager, and:

- Voice call alerts are suppressed.
- Message alerts are allowed.

By default, Pager Mode is turned off. To turn Pager Mode on and off.

- 1 Select **Pager Mode on/off**. Your phone displays the current Pager Mode setting.
- 2 Press **↻** to toggle between Pager Mode on and off.
- 3 Press **END** to exit, or scroll to other features.

### Viewing Your Own Number

**⚡** Press **RCL** **#>** for a quick look at your phone number.

Use this feature to view your phone's currently active phone number. If you have more than one phone number, you can change the active number with the Change Number feature in the Phone Options menu. (See "Switching Between Numbers" on page 52.)

- 1 Select **My Number**.
- 2 Press **↻** to view your own phone number.  
Your phone displays your active phone number for six seconds, then returns to step 1.
- 3 Press **END** to exit, or scroll to other features.

### Switching Between Numbers

Your phone can operate on two different home systems. If you travel often, you can have your phone programmed with two cellular numbers to reduce roaming. You can then change your active number to the one appropriate for the area you are in.

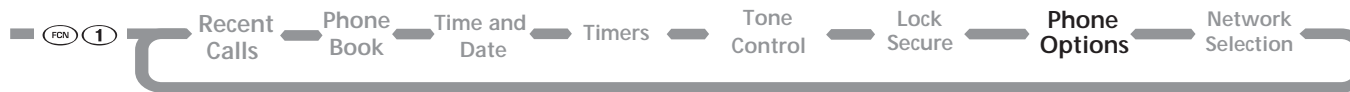
When your phone has two numbers, both are designated as your home system, but only one can be active at a time. Calls are placed and received by the currently active number only. Each time you turn your phone **ON**, you see a message that indicates which phone number and home system are currently active:

Non-wireline type with phone number 1	A1
Non-wireline type with phone number 2	A2
Wireline with phone number 1	B1
Wireline with phone number 2	B2

In most areas, there are two competing cellular carriers, the *wireline* carrier and the *non-wireline* carrier. Your display indicates which type of carrier your home system is as follows:

**non-wireline carrier**—Home system is system A.

**wireline carrier**—Home system is system B.



To switch your phone number:

- 1 Select **Change Number**. The active phone number is displayed (for example, 5155551515).
- 2 Press **⏪** to switch to the other number (for example, 7085551212).
- 3 Press **⏪** to confirm the new setting. You see **Display Set**.
- 4 Press **END** to exit, or scroll to other features.

### Reviewing Feature Settings

Use this feature to review the changes you've made to feature settings.

*While scrolling through Feature Review, you can only review settings. You cannot change them.*

- 1 Select **Feature Review**.
- 2 Press **⏪**, or press **⏪\*** or **#⏩** to scroll through features you changed from their default settings.  
If all features are set to the factory standard settings, your phone displays **Standard Setting**.
- 3 Press **END** to exit the menu.

### Call Options

#### Activating Multiple Key Answer

Turn on the Multiple Key Answer feature to answer calls by pressing the Smart Button or any key on the upper keypad except the power key **⏻**.

- 1 Select **Multi Key Answer**. You see **Multi Key Answer On** or **Multi Key Answer Off**.
- 2 Press **⏪** to toggle between **Multi Key Answer On** and **Multi Key Answer Off**.
- 3 Press **END** to exit, or scroll to other features.

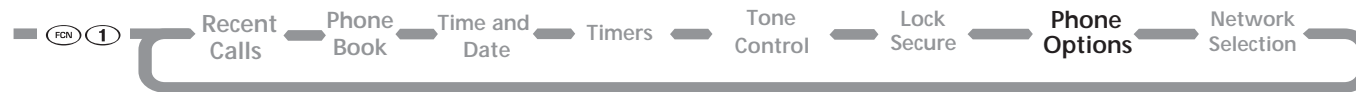


#### Activating Automatic Answer

Turn **Auto Answer** on to have your phone automatically answer incoming calls after two rings.

*Auto Answer does not work if Pager Mode is activated.*

- 1 Select **Automatic Answer**. You see **Automatic Answer On** or **Automatic Answer Off**.
- 2 Press **⏪** to toggle between **Automatic Answer On** and **Automatic Answer Off**.
- 3 Press **END** to exit, or scroll to other features.



### **Displaying System Identification**

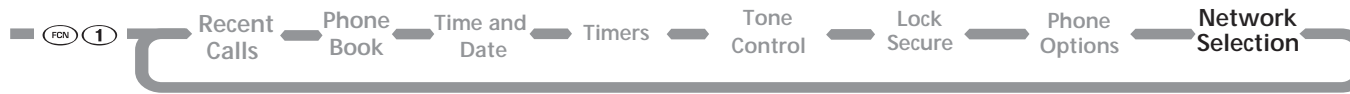
This feature shows the System ID number that identifies the cellular system your phone is currently accessing.

- 1 Select the **System Options** sub-menu. You see **Display SID**.
- 2 Press **⏮** to view the System ID number. After six seconds, the phone goes back to step 1.
- 3 Press **END** to exit, or scroll to other features.

### **Selecting a Language**

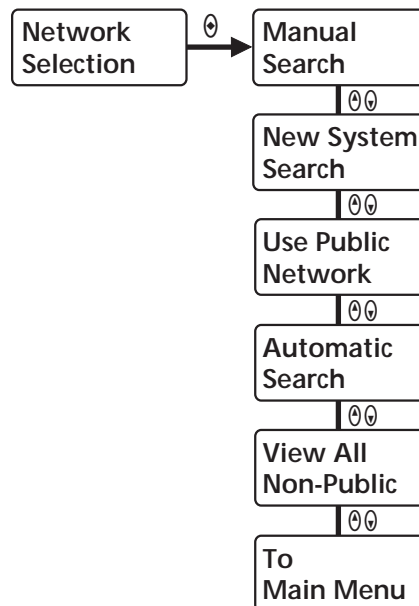
To specify the language in which your phone displays prompts and messages:

- 1 Select the **Language** sub-menu.
- 2 Press **⏮** to scroll through the language options. The choices include English, Spanish, French, Portuguese, Hebrew, and Russian. English, Español, Français, Português, Hebrew, and Russian.
- 3 Press **⏮** to select the language setting you want.
- 4 Press **END** to exit, or scroll to other features.



## Selecting a Network

Start:



If registration is not successful, you see **Not Available**.  
(Registration can fail if you travel outside the network range after you locate the network but before you attempt to

### Performing a Manual Network Search

To perform a manual search for a network:

- 1 Scroll to **Manual Search**, and press **STORE** to activate a search.


Your phone begins to search for all available networks to which you have subscriptions, and phone the name(s) of any network it locates.

- If the phone is registered with a public network when you start the search, it displays the names of all non-public networks first.
- If the phone is registered with a non-public network when you start the search, it displays the names of all public networks first.

If the phone cannot locate an available network, it displays **Not Available**.

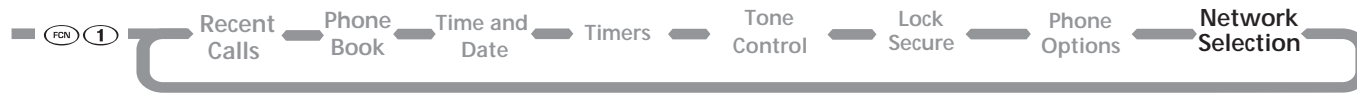
- 2 Press **00** to scroll through the list of available networks.
- 3 Press **STORE** to register with a displayed network.

If registration is successful, your phone displays a confirmation message from the network.

-  *The phone is registered with the selected network until you place or receive a phone call or until you turn the phone on and off.*

register.) Press **UP** to exit, and retry the search later.





### Selecting a Non-Public Network

To select a non-public network:

- 1 Scroll to **New System Search**, and press **STORE** to activate a search.
- 2 Follow the appropriate instructions below:

If You See This Message:	Do the Following:
Search Done : [network ID]	<ul style="list-style-type: none"> <li>• If you want to search for the next best network, press <b>CLEAR</b>. When you see the desired network, go on to step 3.</li> <li>• To cancel the search and exit the menu, press <b>END</b>.</li> </ul>
Search All Bands?	<ul style="list-style-type: none"> <li>• If you want to continue searching for networks in another band, press <b>STORE</b>. When you see the desired network, go on to step 3.</li> <li>• To cancel the search and exit the menu, press <b>CLEAR</b>.</li> </ul>
Not Available	Press <b>END</b> to exit, and retry the search later.

- 3 Press **STORE** to register with the displayed network.  
If registration is successful, your phone displays a confirmation message from the network.

The phone is registered with the selected network until you place or receive a phone call or until you turn the phone on and off.

If registration is not successful, your phone displays **Not Available**. (Registration can fail if you travel outside the network range after you locate the network but before you attempt to register.) Press **UP** to exit, and retry the search later.

### Selecting a Public Network

To search for and select a public network:

Scroll to **Use Public Network**, and press **STORE** to activate a search.

- If the phone finds a public network, it attempts to register. When registration is successful, your phone displays a confirmation message.

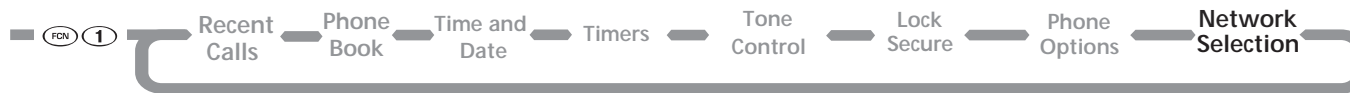
The phone is registered with the selected network until you place or receive a phone call or until you turn the phone on and off.

- If the phone does not find a public network, it displays **Public Not Found**.

Press **END** to exit, or scroll to other features.

To cancel a search, press **CLEAR** or **END**.





### **Specifying an Automatic Search**

To reset the phone to perform an automatic network search (rather than forcing the selection of a public or non-public network):

Scroll to *Automatic Search*, and press **STORE** to select it.

### **Viewing All Non-Public Networks**

You can list up to fifteen non-public networks that your phone has located in previous searches.

To list non-public networks:


- 1 Scroll to *View All Non-Public*, and press **STORE** to select it.  
Your phone displays the first network in the list.
- 2 Press **00** to scroll through the entire list.
- 3 Press **END** to exit, or scroll to other features.




# Using the Message Center

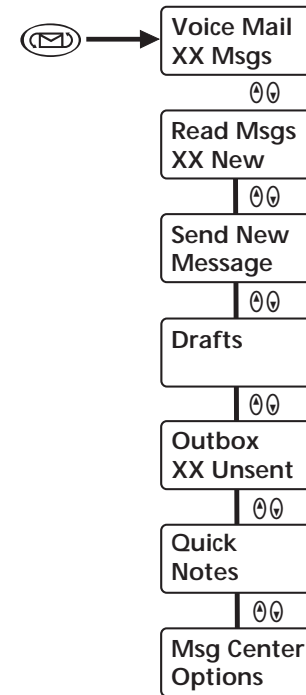
The Message Center gives you easy access to both voice mail and your text messages. In this section you will learn how to:

- use voice mail
- use short messaging services (SMS) to send and receive text messages
- edit a phone number to access voice mail

 *Voice mail and SMS are optional network- and subscription-dependent features that are not available in all areas.*

 *Sending SMS messages to email addresses may not be supported by all networks and carriers.*


Start:



## Voice Mail Alerts

This feature notifies you each time a message is sent to your voice mail number, providing you with real-time information on messages waiting to be retrieved.


When a voice mail message is received:

- Voice Mail XX Msgs appears.
- The  icon appears.
- The phone beeps three times for a message.

## Dialing Voice Mail



You can retrieve your voice mail messages in one of two ways.

### From the Voice Mail Alert Screen

When you receive a voice mail alert and your phone displays Voice Mail XX, press  to dial your voice mail number.

Your phone automatically dials the access number for the voice mail center and displays Dialing XXXXX, where XXXXX is your access number.


### From the Message Center



- 1 Press .
- 2 Press  to dial your voice mail number.

Your phone automatically dials the access number for the voice mail center and displays Dialing XXXXX, where XXXXX is your access number.

## Editing the Voice Mail Number

This feature allows you to enter and save your voice mail access number.


 When you receive your phone, the default voice mail number is your phone number.


- 1 Press  to enter the Message Center.
- 2 Scroll to Msg Center Options, and press  to select it.
- 3 Select Set Voice Mail No.
- 4 Enter your voice mail number.

The digits appear as you enter them.

- 5 Press  or .


A message confirms that your number has been saved.

 If you subscribe to a system that provides a shortcut number for voice mail, enter the complete number—not the shortcut number.

- 6 Press  to exit, or scroll to other features.



## Reading and Managing Text Messages

 *Network- and subscription-dependent feature. Not available in all areas.*

If you subscribe to a Short Message Service (SMS), you may be able to receive alphanumeric messages on your phone, just like a pager. Contact your Service Provider for information about the availability of messaging in your area.

SMS enables your phone to save as many as 1,225 to 7,350 message characters, depending on your model.



Your phone saves all incoming messages. When message memory is full, each new incoming message automatically replaces the oldest, unlocked message.



### How Your Phone Receives Message Alerts

#### New Message Alerts

If your phone is on and receives a new text message, the phone alerts you in two different ways:

- Your phone displays *Message Received* along with the message icon  and you hear three beeps.
- or
- Your phone displays *Urgent Msg Received* or *EMERGENCY MSG RECVD* along with the message icon  and you hear five beeps.

#### Text Message Indicators




If a message is marked "Emergency" or "Urgent," your phone displays message content on one line and either *Urgent* or *Emergency* on the next.

## Reading Text Messages

- 1 Press  to enter the Message Center.
- 2 Press  to scroll to *Read Msgs*, and press  to select.

If you have text messages, you see *Read Msgs XX New*, where *XX* is the number of unread messages. The total number of messages stored, *YY*, is displayed in the upper right corner.

If you have no messages, you see *Read Msgs 00 New*, and *00* in the upper right corner.

- 3 Press  to scroll through a list of message headers. Messages are numbered from oldest to newest. (The oldest is number 1.) Each header includes:
  - the message number
  - the first two lines of the message text
  - a status icon:
    - If the message is locked, you see the lock icon.
    - If the message has been read, you see a check mark.
    - If the message is unread and is normal priority, no status icon is displayed.
    - If the message is unread and its priority is Urgent or Emergency, you see . (This status icon changes to a check mark when the message is read.)
- 4 Press  to select and view the message text, starting on the top line.

- 5 Press **00** to scroll through the message text. After you scroll through the entire message, you return to the list of message headers.

**or**


Press **0** to select **Options**.

- 6 Press **00** to scroll through the **Options** menu, and press **0** to select any of the following:
- **Reply to Message**—See “Message Options—Replying to a Message” on page 61.
  - **Forward Message**—See “Message Options—Forwarding a Message” on page 62.
  - **Message Details**—See “Message Options—Viewing Message Details” on page 62.

To exit the **Options** menu and return to the message, scroll to **Return to Message** and press **0** to select, or press **END** at any time.

- 7 Press **END** to exit the Message Center, or scroll to other features.

### Message Options—Replying to a Message

 *Network- and subscription-dependent feature. Not available in all areas.*

To reply to a message from the messages **Options** menu:

- 1 Scroll to **Reply to Message**, and press **0** to select.
- 2 Press **0** to confirm the reply address.

**or**

Edit the reply address, and press **0** when finished.


- 3 Enter the message text and press **0**. (See “How to Enter Letters and Numbers” on page 20.)
- 4 Press **00** to scroll to **Normal**, **Urgent**, or **Emergency** priority.
- 5 Press **0** to select the priority and send the message.

Your phone:

- sends the message and briefly displays the message **Sending Message**
- saves a copy of the message to the **Outbox**
- exits the Message Center



### Message Options—Forwarding a Message

 *Network- and subscription-dependent feature. Not available in all areas.*

To forward a message from the messages Options menu:

- 1 Press **00** to scroll to **Forward**, and press **0** to select.
- 2 To forward the message to another phone, scroll to **Send to Mobile**, and press **0** to select.

or

To forward the message to an email address, scroll to **Send as Email**, and press **0** to select.

- 3 Enter the phone number or email address, and press **0** when finished.

To send the message to a number or email address stored in your Phone Book, press **0** to open the Phone Book, scroll to an entry, and press **0** to select it.

- 4 Press **0** to send the message text without changes.

or

Edit the message text, as desired:

- a. Press **←\*** or **#→** to scroll through message text. Press **CLEAR** to delete one letter at a time. Press and hold **CLEAR** to delete the entire message. (See “How to Enter Letters and Numbers” on page 20 for more information on entering characters.)
  - b. When you finish editing message text, press **0**.
- 5 Press **00** to scroll to **Normal**, **Urgent**, or **Emergency** priority.

- 6 Press **0** to select the priority and send the message.

Your phone:

- sends the message and briefly displays the message **Sending Message**
- saves a copy of the message to the Outbox
- exits the Message Center

### Message Options—Viewing Message Details

- 1 Press **00** to scroll to **Details**, and press **0** to select

Your phone displays **Sent:**, followed by the time and date stamp. This is the time and date the message was sent to the network (not the time and date that the message was received).

- 2 Press **00** to display the number or email address from which the message was sent.

If the message was sent from another phone, you see **Callback:**, followed by the Call Back Number. If the Call Back Number matches a number in your Phone Book, the name is displayed. If there are multiple numbers in the message, continue scrolling to view them.

or

If the message came from an email address, you see **From:**, followed by the address.



- 3 To store the Call Back number or the originating email address:
  - a. When the Call Back number or email address you want to store is displayed, press **STORE** to begin storing.
  - b. Enter a name to identify the phone number. (See "How to Enter Letters and Numbers" on page 20.)
  - c. Press **OK** when you finish entering the name.  
You see `Number: XXXXX`, where `XXXXX` is the Call Back number or email address.
  - d. Edit the number or email address, if desired. Press **CLEAR** to delete one character at a time. Press and hold **CLEAR** to delete the entire number or email address.  
You see `Location ...`.
  - e. Enter the two-digit memory location where you want the sequence stored.  
**or**  
Press **LEFT/STAR** to store the sequence in the first available location.  
**or**  
Enter the first digit of the memory location, then press **LEFT/STAR** to store the sequence in the first available location beginning with that digit.  
Your phone displays `Stored at XX`, where `XX` is the memory location, and then returns to message details.


- 4 Press **OK** to return to the message text.
- 5 Press **END** to exit, or scroll to other messages.

### Locking and Unlocking a Message


You can lock important messages to ensure their safekeeping for later review. A locked message cannot be deleted until the message is unlocked.

When a message is displayed, press **FCM** **5** to toggle between locked and unlocked.

`Msg Locked` is displayed when a message is locked.

 *If your message memory is full and a new message is received, the oldest unlocked message that has been read is deleted.*


If message memory is full and all messages are locked:

- You cannot receive new messages.
- When you access message headers and then attempt to read a message, you see `Inbox full`.
- The  indicator flashes.



## Clearing Messages

You can erase messages from message memory or from the Outbox.

 You must unlock a locked message before you can clear it. For more information, see "Locking and Unlocking a Message" on page 63.

### Clearing the Current Message

- 1 Press **CLEAR** when the message you want to erase is on the display.

You see `Delete XXX?`, where `XXX` is the number of the message to be cleared.

- 2 Press **0** or **STORE** to clear the message.

You see `Message XX Deleted`, where `XX` is the number of the cleared message.

or

Press **END** or any other key if you do not want to clear the message.

- 3 Press **END** to exit, or scroll to other features.

If you delete an unsent message from the Outbox, your phone does not send it.

### Clearing All Messages

To erase all the messages from a folder at once:

- 1 While in the folder, press and hold **CLEAR**.

You see `Delete All?`.

- 2 Press **0** or **STORE** to verify that you want all the messages cleared.

or

Press **END** if you decide not to clear all the messages. You return to the Message Center.

- 3 Press **END** to exit from the Message Center.

If all messages have been cleared and no locked messages remain, `Msg Center Empty` is displayed.

### Initiating a Call Back

When you are reading a text message, you can call back a number embedded in the text message.

- 1 While viewing message headers, reading message text, or viewing message options, press **SEND** to initiate a Call Back, if the originating phone number or a Call Back number was included in the message.

- 2 Press **0** to dial the number shown.

or

If the text message includes more than one Call Back number, or if there is a Call Back number and an embedded phone number, the phone displays a list of the numbers. Press **00** to scroll to the number you want to call, then press **0** to dial the number shown.





### Storing a Call Back Number into the Phone Book

While reading a text message that includes an embedded phone number, you can store the number as a phone book entry:


- 1 When the Call Back Number is displayed, press **(STORE)**.  
The phone prompts you to **Enter Name:**.
- 2 Enter the name, then press **(OK)** or **(STORE)**. (See "How to Enter Letters and Numbers" on page 20.)  
You see **Enter Number**.
- 3 Enter the phone number you want to store. (See "How to Enter Letters and Numbers" on page 20.)
- 4 When you finish entering the number, press **(OK)**. You see **Location** \_\_\_\_.
- 5 Press **(\*)** to store the sequence in the next available location.

**or**

Enter the first digit of a memory location, then press **(\*)** to store the number in the first available location beginning with that digit.

**or**


Enter the two-digit memory location where you want the sequence stored.

 If the chosen location is full, press **(END)**, and restart the storing sequence.

### Sending Text Messages

If you subscribe to a Short Message Service (SMS), you may be able to send alphanumeric messages from your phone. Contact your Service Provider for information about the availability of messaging in your area.

### Sending a Message from the Message Center

 *Sending SMS messages to email addresses may not be supported by all networks and carriers.*

To send a message from the Message Center:

- 1 Press **(MC)** to enter the Message Center.
- 2 Press **(00)** to scroll to **Send New Message**.  
You see the **Enter Msg:** prompt.
- 3 Press **(00)** to scroll to **Send to a Mobile** or **Send as E-Mail**, and press **(OK)** to select.
- 4 Enter the phone number or email address, and press **(OK)** when finished.

To send the message to a number or email address stored in your Phone Book, press **(OK)** to open your Phone Book, scroll to an entry, and press **(OK)** to select it.

- 5 Enter the message text. (See "How to Enter Letters and Numbers" on page 20.)

**or**

Select text from a message in the Quick Notes folder:

- a. Open the Quick Notes folder by pressing **(OK)**.
- b. Scroll through the message headers and press **(OK)** to select the message you want.



- 6 When you finish entering the message text, press **⓪**.
- 7 Press **⓪⓪** to scroll to Normal, Urgent, or Emergency priority.
- 8 Press **⓪** to select the priority and send the message.

Your phone:

- sends the message and briefly displays the message  
Sending Message
- saves a copy of the message to the Outbox
- exits the Message Center

- 6 Press **⓪** to select the priority and send the message.

Your phone:

- sends the message and briefly displays the message  
Sending Message
- saves a copy of the message to the Outbox
- exits the Message Center

### **Sending a Message from the Phone Book**

To send a text message from your Phone Book:

- 1 Enter the Phone Book, and select the entry to receive the message. (See "Managing the Phone Book" on page 29.)
- 2 Press **⓪⓪** to enter the Message Center.

If the current phone book entry does NOT have an attached email address, you see Enter Msg:.

**or**

If the current phone book entry has an attached email address, press **⓪⓪** to scroll to Send to a Mobile or Send as Email, and press **⓪** to select.

- 3 Enter a new text message.
- 4 When you have finished entering the message, press **⓪**.
- 5 Press **⓪⓪** to scroll to Normal, Urgent, or Emergency priority.

## ***Sending, Creating, Editing, and Deleting Quick Notes***

Quick Notes are pre-written text messages that you can edit and send. You can also create or delete Quick Notes.

### **Sending a Quick Note**

- 1 Press **[MC]** to enter the Message Center.
- 2 Press **[0]** to scroll to **Quick Notes**, and press **[0]** to select it.
- 3 Press **[0]** to scroll to **Send a Quick Note**, and press **[0]** to select it.

You see the Quick Note list.

- 4 Press **[0]** to scroll to the Quick Note text you want to send, and press **[0]** to select it.
- 5 Press **[0]** to select **Send to a Mobile** or **Send as E-mail**, and press **[0]** to select it.
- 6 Enter the phone number or email address, and press **[0]** when finished.

To send the message to a number stored in your Phone Book, press **[0]** to open your Phone Book, scroll to an entry, then press **[0]** to select it.

- 7 Press **[0]** to send the message text without changes.  
**or**

Edit the message text, as desired:

- a. Press **[\*]** or **[#]** to scroll through message text. Press **[CLEAR]** to delete one letter at a time. Press and hold **[CLEAR]** to delete the entire message. (See "How to Enter Letters and Numbers" on page 20 for more information on entering characters.)
  - b. When you finish editing message text, press **[0]**.
- 8 Press **[0]** to scroll to **Normal**, **Urgent**, or **Emergency** priority.
  - 9 Press **[0]** to select the priority and send the message.

Your phone:

- sends the message and briefly displays the message **Sending Message**
- saves a copy of the message to the Outbox
- exits the Message Center



### Creating Quick Notes

You can create Quick Notes that you can select and send later.

- 1 Press **Ⓜ** to enter the Message Center.
- 2 Press **⏪** to scroll to **Quick Notes**, and press **⏩** to select it.
- 3 Press **⏪** to scroll to **Create a Quick Note**, and press **⏩** to select it.

You see **Enter Msg:**.

If your Quick Notes folder is full, you see the message **QuickNotes Full** and cannot create another Quick Note.

- 4 Enter the Quick Note text and press **⏩** to store it.

For instructions on entering text with your keypad, refer to "How to Enter Letters and Numbers" on page 20.

### Editing Quick Notes

- 1 Press **Ⓜ** to enter the Message Center.
- 2 Press **⏪** to scroll to **Quick Notes**, and press **⏩** to select it.
- 3 Press **⏪** to scroll to **Edit a Quick Note**, and press **⏩** to select it.

Your phone displays the Quick Note list.

- 4 Press **⏪** to scroll to the Quick Note text you want to edit, and press **⏩** to select it.
- 5 Edit the Quick Note text and press **⏩** to store it.

For instructions on entering text with your keypad, refer to "How to Enter Letters and Numbers" on page 20.


- 6 Press **Ⓜ** to exit the **Change a Quick Note** menu.

### Deleting Quick Notes

To delete a single Quick Note:

- 1 Press **Ⓜ** to enter the Message Center.
- 2 Press **⏪** to scroll to **Quick Notes**, and press **⏩** to select it.
- 3 Press **⏪** to scroll to **Delete a Quick Note**, and press **⏩** to select it.

Your phone displays the Quick Note list.

 *Any time you are looking at the Quick Notes list, you can delete all Quick Notes by pressing and holding **CLEAR**.*

- 4 Press **⏪** to scroll to the Quick Note you want to delete, and press **⏩** to select it.

You see **Delete XXX?**, where **XXX** is the number of the Quick Note you will delete.

- 5 Press **⏩** to delete the Quick Note.

**or**

- 6 Press **Ⓜ** to exit without deleting the Quick Note
- 7 Press **Ⓜ** to exit the **Delete a Quick Note** menu.






## Reading and Sending Draft Messages

If an incoming call or other event interrupts you while you are entering message text, your phone saves the message to the Drafts Folder.

The Drafts Folder holds one message. This message is erased if you start another new message or turn off your phone.

To open and complete a draft message:

- 1 Press  to enter the Message Center.
- 2 Press  to scroll to **Drafts**, and press  to select it.
- 3 Complete and then send the message. (Refer to "Sending Text Messages" on page 65.)

## Reviewing Messages in Your Outbox






All sent messages are saved in your Outbox. The Outbox contains:

- messages that have been successfully transmitted  
A check mark beside a message indicates that the message has been successfully transmitted.
- messages that are waiting to be transmitted
- messages for which transmission failed

The Outbox holds up to 7,350 characters. When the Outbox is full and a new message is sent, the oldest message that was successfully transmitted is deleted to make room for the new message.

You can review the messages in your Outbox to see if a message has been sent or to retry transmission, if necessary.

To access the messages in your Outbox

- 1 Press  to enter the Message Center.
- 2 Press  to scroll to **Outbox**, and press  to select it.
- 3 Press  to scroll through the list of headers for messages in the Outbox. Each header includes:
  - the message number
  - the beginning of the message text
  - a check mark, if the message has been sent
- 4 Press  to select and view the message text, starting on the top line.



- 5 Press **00** to scroll through the message text. After you scroll through the entire message, you return to the list of message headers.

or

Press **0** to select **Options**.

- 6 Press **00** to scroll through the **Options** menu, and press **0** to select any of the following:

- **Resend Message**—See “Outbox Options—Resending a Message” on page 70.
- **Forward Message**—See “Outbox Options—Forwarding a Message” on page 71.
- **Message Details**—See “Outbox Options—Viewing Message Details” on page 71.

To exit the **Options** menu and return to the message, scroll to **Return to Message** and press **0** to select, or press **END** at any time.

- 7 Press **END** to exit, or scroll to other messages.

#### **Outbox Options—Resending a Message**

To resend a message from the **Outbox Options** menu:

- 1 Scroll to **Resend Message**, and press **0** to select.
- 2 Press **00** to select **Send to a Mobile** or **Send as E-mail**, and press **0** to select it.

- 3 Enter the phone number or email address, and press **0**.

To send the message to a number stored in your Phone Book, press **0** to open the Phone Book, scroll to an entry, and press **0** to select it,

- 4 Press **0** to send the message text without changes.

or

- 5 Press **0** to send the message text without changes.

or

Edit the message text, as desired:

- a. Press **←\*** or **#→** to scroll through message text. Press **CLEAR** to delete one letter at a time. Press and hold **CLEAR** to delete the entire message. (See “How to Enter Letters and Numbers” on page 20 for more information on entering characters.)
- b. When you finish editing message text, press **0**.

- 6 Press **00** to scroll to **Normal**, **Urgent**, or **Emergency** priority.

- 7 Press **0** to select the priority and send the message.

Your phone:

- sends the message and briefly displays the message **Sending Message**
- saves a copy of the message to the **Outbox**
- exits the **Message Center**



### Outbox Options—Forwarding a Message

To forward a message from the Outbox Options menu:

- 1 Press **00** to scroll to **Forward Message**, and press **0** to select.
- 2 To forward the message to another phone, scroll to **Send to a Mobile**, and press **0** to select.

or

To forward the message to an email address, scroll to **Send as Email**, and press **0** to select.

- 3 Enter the phone number or email address, and press **0**.

To send the message to a number stored in your Phone Book, press **0** to open the Phone Book, scroll to an entry, and press **0** to select it.

- 4 Press **0** to send the message text without changes.

or

Edit the message text, as desired:

- a. Press **←\*** or **#→** to scroll through message text. Press **CLEAR** to delete one letter at a time. Press and hold **CLEAR** to delete the entire message. (See "How to Enter Letters and Numbers" on page 20 for more information on entering characters.)
  - b. When you finish editing message text, press **0**.
- 5 Press **00** to scroll to **Normal**, **Urgent**, or **Emergency** priority.

- 6 Press **0** to select the priority and send the message.

Your phone:

- sends the message and briefly displays the message **Sending Message**
- saves a copy of the message to the Outbox
- exits the Message Center

### Outbox Options—Viewing Message Details

- 1 Press **00** to scroll to **Details**, and press **0** to select

Your phone displays **Sent:**, followed by the time and date stamp and the number or email address to which the message was sent.

- 2 Press **0** to return to the message text.
- 3 Press **END** to exit, or scroll to other messages.



### ***Deleting Unsent Messages from the Outbox***

You can cancel any unsent messages that are still in the Outbox:

- 1 Press **CLEAR** when the message you want to delete is displayed.

You see `Delete Entry?`.

- 2 Press **0** to clear the message.


You see `Message XX Deleted`, where `XX` is the number of the deleted message.

**or**

Press **END** or any other key if you do not wish to clear the message.

- 3 Press **END** to exit, or scroll to other features.

If you delete a message in this list, your phone does not send it.

 *If the Outbox is full of unsent messages, you must delete one before you can send any more messages.*






# Accessories

The following accessories have been designed to work with your phone. Additional accessories may be available and are packaged separately. Please refer to your local service provider or retail outlet for more information.


## Travel Charger

The Power Adapter (charger) connects to the phone. When connected directly to the phone, it charges the battery and also provides dead battery operation after one or two minutes.

## Vehicle Power Adapter

 *The use of wireless devices and their accessories ("Devices") may be prohibited or restricted in certain areas. Always obey the laws and regulations on the use of these devices.*

The Vehicle Power Adapter connects to your phone and allows you to charge your phone's battery while driving.

 *In some cars, the engine must be running in order for the cigarette lighter to operate.*

## Belt Clip

The Belt Clip holds the phone while being worn on your belt.

*The belt clip has been designed for your convenience and is not meant to secure your phone under all circumstances.*

## Headset

The convenient headset provides both an earphone and microphone for simple handsfree and private telephone conversations. The headset plugs directly into the jack on the top left of your phone, so that you can wear your phone and move freely.

## PhoneWrap™ Covers

The PhoneWrap™ covers allow you to change the appearance of your phone. Fit the PhoneWrap™ cover over the front of your phone allowing easy access to the phone buttons.

## Hands-Free Accessories...

The following hands-free wireless phone accessories are available today

- Hands-Free - Zero Installation Kit
- Hands-Free - Integrated Installation
- Hands-Free Headset

For information call 1-800-331-6456 or write

Motorola  
Personal Communications Sector  
600 North US Highway 45  
Libertyville, Illinois 60048



## Accessory Limited Warranty Information

We recommend that you use Motorola original batteries and accessories. Under its limited cellular telephone warranty, Motorola specifically disclaims any responsibility for damage caused by the use of portable cellular telephone accessories not manufactured by Motorola.

For details on the complete line of Motorola cellular accessories, see your dealer or visit our Web site at

<http://www.mot.com/>





## What to do if...

<p><b>I pressed the power button, but nothing happened. What's wrong with my phone?</b></p>	<p>Make sure that you press and hold the power button until the display appears and you hear an audible alert. If nothing still happens, then check that you have installed the batteries and that the batteries are fully charged. For more information about batteries and charging see "Your Battery" on page 13.</p>
<p><b>The battery won't charge.</b></p>	<p>Check the alignment of the batteries to ensure that they are installed properly. Make sure the positive (+) and negative (-) marks on the batteries match the markings on the phone.</p> <p><b>Check the charger.</b> Is it properly connected? Is it fully inserted? Are its contacts clean and dry? The phone should provide a beep-tone and the display should read "Charging Battery" within two minutes from the transformer being installed. Check the charger is fully inserted and properly connected. See "Your Battery".</p>
<p><b>My battery didn't last as long as I expected. What can I do to extend battery life?</b></p>	<p>Your battery's "talk-time" and "standby-time" are relative measurements of the battery's capacity. The more you talk on the phone, the less standby-time you have, and vice versa.</p> <p>To get the most from your battery, allow it to charge fully. To charge the battery to 100% of its capacity, leave it charging for an extra hour after the charger's light turns green.</p> <p>Certain features demand power from your battery and reduce battery life. If you have selected the Automatic Display of Individual Call Timer feature, the display uses battery power to remain active during each call. Turn this feature off to conserve battery energy. (See "Displaying the Individual Timer Automatically" on page 40 for more information on this feature.)</p> <p>Make sure that you are using batteries that are compatible with your phone.</p> <p>Exposing your battery to extreme temperatures—below -10°C (14°F) or above 45°C (113°F)—can shorten battery life. Batteries are especially sensitive to high temperature extremes. As a good rule, always take your phone with you when you leave your car.</p>
<p><b>The display says, "Locked." How do I unlock my phone?</b></p>	<p>Enter the last three digits of your cellular number. If that doesn't work, use the factory preset lock code: 123. If all else fails, call your service provider (the company that sends you your monthly cellular bill) for assistance. (See "Using Lock/Security Features" on page 44 for more information on Security Features.)</p>
<p><b>I tried to place a call and received a fast busy signal.</b></p>	<p>This sound means that the cellular system did not process your call. For example, the cellular system may be overloaded with call attempts. To redial the number, press <b>(SND)</b> before ending your call attempt, or press <b>(END)</b> and try the call again later. (See "Redialing a Number" on page 18 for more information on redialing.)</p>



<p><b>I tried to place a call and received an alternating high/low tone.</b></p>	<p>This sound means your call did not reach the cellular system. You may have dialed the number too soon after turning the phone on. Wait until the "NS" light stops blinking before placing a call.</p> <p>An alternating tone may also indicate that your phone's signal is blocked.</p>
<p><b>I tried to listen to my Voice Mail (or use a paging service, a calling card, etc.) but nothing happened.</b></p>	<p>You have probably turned off the Scratchpad tones. Place your call, enter the access numbers when prompted by the recording, then press <b>RCL</b> <b>SND</b>. To avoid this problem in the future, follow the directions "Turning Scratchpad Tones On and Off" on page 43 to turn the Scratchpad tones on.</p>
<p><b>My phone was stolen. What should I report and to whom?</b></p>	<p>Report a stolen phone to the police and to your service provider (the company that sends you your monthly cellular service bills).</p>
<p><b>I tried to place a calling card call using the internal Phone Book, but it didn't work.</b></p>	<p>You may have turned off your Scratchpad tones. Follow the directions in "Turning Scratchpad Tones On and Off" on page 43 to turn the Scratchpad tones on.</p> <p>Check that you stored your calling card information in the correct order, and make sure the groups of numbers are separated by pauses. The easiest way to correct the sequence may be to start from scratch. Follow the instructions on "Storing Calling Card Information" on page 32, enter your calling card information again, and store it in the same memory location as your previous attempt.</p> <p>Also keep in mind that when using your calling card, you must enter the number you are calling with the area code, but without the initial "1." Check with your long distance carrier for details on using your calling card.</p>



# *U.S. Food and Drug Administration (FDA)*



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

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

### **Why the concern?**

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

any adverse health effects associated with the use of mobile phones.

### **What kinds of phones are in question?**

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

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

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

- 1 In a hospital-based, case-control study, researchers looked for an association between mobile phone use and either glioma (a type of brain cancer) or acoustic neuroma (a benign tumor of the nerve sheath). No statistically significant association was found between mobile phone use and acoustic neuroma. There was also no association between mobile phone use and gliomas when all types of types of gliomas were considered

together. It should be noted that the average length of mobile phone exposure in this study was less than three years.

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

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

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

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

- 1 Two groups of 18 people were exposed to simulated mobile phone signals under laboratory conditions while they performed cognitive function tests. There were no changes in the subjects' ability to recall words, numbers, or pictures, or in their spatial memory, but they were able to make choices more quickly in one visual test when they were exposed to simulated mobile phone signals. This was the only change noted among more than 20 variables compared.<sup>3</sup>
- 2 In a study of 209 brain tumor cases and 425 matched controls, there was no increased risk of brain tumors associated with mobile phone use. When tumors did exist in certain locations, however, they were more likely to be on the side of the head where the mobile phone was used. Because this occurred in only a small number of cases, the increased likelihood was too small to be statistically significant.<sup>4</sup>

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

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

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

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

Under the law, FDA does not review the safety of radiation-emitting consumer products such as mobile phones before marketing, as it does with new drugs or medical devices.

However, the agency has authority to take action if mobile phones are shown to emit radiation at a level that is hazardous to the user. In such a case, FDA could require the manufacturers of mobile phones to notify users of the health hazard and to repair, replace or recall the phones so that the hazard no longer exists.

Although the existing scientific data do not justify FDA regulatory actions at this time, FDA has urged the mobile phone industry to take a number of steps to assure public safety. The agency has recommended that the industry:

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

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

- National Institute for Occupational Safety and Health
- Environmental Protection Agency
- Federal Communications Commission
- Occupational Health and Safety Administration

- National Telecommunications and Information Administration
- The National Institutes of Health also participates in this group.

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

If there is a risk from these products--and at this point we do not know that there is--it is probably very small. But if people are concerned about avoiding even potential risks, there are simple steps they can take to do so. For example, time is a key factor in how much exposure a person receives. Those persons who spend long periods of time on their hand-held mobile phones could consider holding lengthy conversations on conventional phones and reserving the hand-held models for shorter conversations or for situations when other types of phones are not available.

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

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

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



### Where can I find additional information?

For additional information, see the following websites:

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

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

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

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

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

- 
- 1 Muscat et al. *Epidemiological Study of Cellular Telephone Use and Malignant Brain Tumors*. In: *State of the Science Symposium: 1999 June 20: Long Beach, California*.
  - 2 Tice et al. *Tests of mobile phone signals for activity in genotoxicity and other laboratory assays*. In: *Annual Meeting of the Environmental Mutagen Society: March 29, 1999, Washington, D.C.; and personal communication, unpublished results*.
  - 3 Preece, AW, Iwi, G, Davies-Smith, A, Wesnes, K, Butler, S, Lim, E, and Varey, A. *Effect of a 915-MHz simulated mobile phone signal on cognitive function in man*. *Int. J. Radiat. Biol.*, April 8, 1999.
  - 4 Hardell, L, Nasman, A, Pahlson, A, Hallquist, A and Mild, KH. *Use of cellular telephones and the risk for brain tumors: a case-control study*. *Int. J. Oncol.*, 15: 113-116, 1999.



## *Patent Information*

Manufactured under one or more of the following patents:

4121218	4127824	4128740	4138681	4193036	4254382	4963812	4963843	4965537	4970475	4972355	4972432
4302845	4312074	4327319	4329666	4369516	4369522	4972455	4975808	4982108	4984219	4989230	D314173
4378603	4390963	4398265	4400584	Re.31470	4431977	4992753	4998289	D315330	D315543	5004992	5008925
4434461	4455534	4462098	4484153	4485486	4486624	5010309	5010570	5014294	5014346	D316859	5017856
4491972	4504834	D278708	4523155	4546329	4549311	5018188	5020076	5020091	5020092	5020093	5023580
4550426	4551696	4564821	D282169	4571595	4573017	5023866	5023911	5025387	5028859	5029233	5036532
4574243	4585957	4602218	D284759	4616314	4617520	5040127	5042071	5045824	5053924	5055800	5055802
4626309	4628529	4629829	4630304	4630305	4633141	5055803	5057762	5058136	5059885	5060264	5060294
4636593	4636741	4644351	D288432	4648125	4649543	5063340	5065408	5067139	5068625	5070310	5077757
D288683	4654655	4654867	4662691	4667333	4668917	5081674	5083304	5093632	D325028	5107487	5109536
4670747	4672502	4692726	4704588	D292578	4706036	5111162	5113400	5113436	5117441	5117449	5121047
D292920	4710724	4711361	4715063	4716319	4716391	5121288	5121412	5122722	D327062	5124889	5127040
4723305	D294257	4727306	4727583	4730195	4734635	5127042	5128834	5130682	5130683	5133010	5136135
4737976	4740794	4741018	4741034	4742562	D295627	5140286	5142551	5142696	5148471	5150075	5150359
D295975	4751737	4761621	4764737	D297734	D297735	5150384	5152006	5152007	5153590	5157693	5159283
D297736	4777564	Re.32768	4783697	D299232	4797929	5160898	5163159	5164652	5166596	5166642	5170173
4798975	4800348	4802236	4803726	4809356	4811377	5170492	5173672	5175759	5175874	5177458	5182749
4811404	4816774	4817157	4823098	D300742	D300827	5185566	5187640	5187809	5192924	5193223	5195106
4827226	4827507	4829274	4829543	4837534	4843621	5195108	5198887	5200655	5201069	5202654	5203009
4845772	4851966	4868576	4872196	4873683	4876552	D334746	5204977	5205751	5208566	5210793	5211581
4876740	D304189	4879533	4885553	4887050	4890199	5212815	5212826	5214675	5214774	5220290	5222078
D305427	4896124	4896361	4897873	D305717	4903327	5222104	5222251	5224122	5230007	5230093	5233506
D306163	4904549	4905288	4905301	D306299	4910470	5233633	5235492	5237257	5237570	5239127	5239294
4912602	4916262	4918403	4918732	4922209	4924194	5241545	5241548	5241592	5241650	5241688	5241693
4930126	D309301	D309451	4945570	4954796	4956854	D338887	5242767	D339127	D339335	D339336	D339337
						5247544	D339578	5249302	5250916	5251331	5253292

5255292	5257414	5259005	5260170	5260988	5261119	5565881	5570453	5572223	5572224	5577267	5577268
5262710	5263052	5263055	5265219	D341589	5271042	D375932	D375952				
D342248	5276685	5276707	5276913	5278527	5278832	Other patents pending					
5278994	5280637	5280644	D343615	D343616	D343834						
D343835	5287553	5287555	5287556	5289505	D344512						
5297142	5299232	5301364	5301365	5308716	5312705						
5321847	5323421	5325429	D348250	D348427	5327642						
D348665	D348666	D348668	5331123	D349273	5336984						
5338909	D350113	D350348	D350349	D350350	5349588						
5351245	D351375	5359696	5361400	5363071	5365549						
D352503	5366826	5367538	5367558	5371791	D353131						
5373101	D353361	5375143	5375258	D353587	D353588						
5379324	5384825	5392000	5392023	5396654	D356309						
5402447	5404120	5404582	5406146	5406562	D357224						
D357457	5410275	5414711	D358148	5420759	5424689						
5428820	5428836	5430416	5432017	5434947	5436589						
5436802	5438684	D361070	5444764	5446763	5448763						
5448770	5448771	5453997	D362840	D362852	5461643						
5463628	5465412	5469177	5475752	D365094	5477192						
D365817	5486843	5487184	5488335	5490177	5493198						
5493700	5493714	5495206	5497126	5497383	D367640						
5499273	5504812	5506490	D368696	5508709	5510693						
5511235	5513078	5513382	D369359	5513996	D369598						
D369797	5519303	5519346	5519506	5519777	D370016						
D370463	5526398	D370672	5530922	5539360	5542103						
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