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Introduction

Congratulations on your purchase of one of the world's most technologically advanced mobile communications systems! Your new Panasonic phone combines the advantages of digital and analog coverage with a variety of time-saving and easy-to-use features. The result: a phone that offers real convenience, dependability, and mobility—in digital *and* analog service areas.

About This Manual

This manual contains comprehensive instructions for each of your phone's features. From making a call to troubleshooting a problem, the answers to most of your questions are here.

Chapter 1: Safety First

Chapter 1 includes important safety and battery information. Whether you are a novice or an experienced cellular user, be sure to read this section *before* operating your phone.

Chapter 2: Getting Started

Chapter 2 describes the basics of setting up and operating your phone. From connecting and charging your battery, describing the phone's keys and display icons, moving through the feature menu, and using the Private Handsfree Headset, this is the place to turn when you are ready to get started.

Chapter 3: Everyday Operations

Chapter 3 covers those features used on a daily basis — placing and ending calls, answering calls, etc....

Chapter 4: Text Entry Operations

Chapter 4 covers the two modes of text entry: letter-by-letter entry and the new WORD T9[®] entry — designed to give you rapid text entry when sending text messages.

Chapter 5: Phonebook Features

Chapter 5 covers how to save names, numbers, and additional information in your phone's memory.

Chapter 6: Advanced Operations

Chapter 6 describes those features that allow you to "customize" your phone according to your own preferences. Would you like to use your phone as an alarm clock with a personalized message? Would you like to secure your phone from unauthorized use? Or maybe you would like to change the language shown on the display? If you answered yes to any of these questions, this is the chapter for you.

Chapter 7: Subscriber Features

Chapter 7 describes how to use features that may be offered by your wireless service provider, such as Caller ID, Call Waiting, Three-Way Calling, Text Messaging, Voice Mail, etc.... Check with your wireless service provider for complete information on available services.

Reference Information: Appendix A: Before Requesting Help

As you begin to take advantage of your phone's features, you may experience minor problems. Don't panic. You can fix most of these problems. This chapter contains a detailed list of solutions to some of the problems you may encounter.

Appendix B: Phone Accessories

Many accessories are available for your phone. Appendix B lists and illustrates each of these accessories. Please contact your wireless service provider to purchase Panasonic Genuine accessories.

Appendix C: Consumer Update

Appendix C contains a recent report published by the U.S. Food and Drug Administration about the safety of mobile phones.

Index

If you are looking for a specific topic and it is not listed in the Table of Contents, the index may point you in the right direction.

Icons Used in This Manual

The following icons indicate critical and time-saving information found throughout this manual. Please take special notice of information included with these icons.



Caution: Calls attention to information that could prevent you from damaging your phone or putting your own safety at risk. Please be sure to read this information.



Note: Information that could have direct impact on how a particular feature or function will operate.



Tip: Points out helpful advice and time-saving shortcuts. Memorizing these tips can save you valuable time.

Safety First

Your new phone is a convenient and effective communications tool, but it can be hazardous when used improperly. To avoid harming yourself or anyone else, please review the following information **before** using your phone.

Batteries

Batteries can cause property damage, injury, or burns if the terminals are touched with a conductive material (i.e., metal jewelry, keys, etc.). Therefore, use caution when handling a charged battery. Additional precautions and notes are listed below:

- 1 Never throw a battery into a fire; it may explode.
- 2 Fully recharge the battery if the battery is low or as soon as the low-battery alert beeps.
- 3 Do not drop the battery.
- 4 Do not bridge battery contacts together with metallic objects.
- 5 Do not remove the battery from the phone while the phone is powered on. Settings you have changed may revert to their previous settings.

Charging Devices

- 1 Use only Genuine Panasonic charging accessories. Use of attachments not recommended by Panasonic or your wireless service provider may result in fire, electrical shock, or injury. Panasonic is not responsible for damages caused by using non-Panasonic accessories.
- 2 Do not expose charging adapters to moisture, water, or the weather.
- **3** Do not use an adapter with a damaged cord.
- When using a DC adapter in an automobile, a small amount of electricity flows through the adapter, even if the phone is turned off. Remove the plug from the cigarette lighter whenever the phone will be left in the vehicle for long periods of time.



The cigarette lighter must have a 12V negative ground socket.

Do not use the adapter in a vehicle that has a positive ground system.

General

- 1 Do not use the phone in extreme temperature or humidity. The specified operating temperature range is -22°F to +140°F (-30°C to +60°C).
- 2 Do not attempt to disassemble the phone. There are no userserviceable parts inside.
- 3 Do not expose the phone to rain or spill liquids on it.
- **4** Do not carry the phone by holding the antenna.
- 5 Do not use any accessories other than those designed for use with your phone.
- 6 Use of attachments not recommended or sold by your wireless service provider may result in fire, electrical shock, or injury.
- 7 Panasonic cannot be held responsible for damages caused by using non-Panasonic accessories.

Availability of Service

This phone, like any wireless phone, operates using radio signals, wireless and landline networks, and user-programmed functions. Because of this, connection in all conditions cannot be guaranteed. Therefore, you should never rely solely on any wireless phone for essential communications (for example, medical emergencies). When operating in analog mode, the service area where you can place and receive calls will be smaller than with other phones.

Emergency (911) Service

If you need to make an emergency (911) call, power the phone on, dial 911, and press (SEND). If you have stored the numbers 911 in memory location number 9, simply press and hold 9, and the emergency call will be placed. Emergency calls can be made regardless of lock setting. Remember, to make or receive any call, the phone must be switched on and in a service area that has adequate signal strength. Emergency calls might not be possible on all wireless phone networks or when certain network service and/or phone features are in use.

Safety Tips

Following the suggestions in this section will help ensure safe and efficient operation of your Panasonic phone.

This Model Phone Meets The Government's Requirements For Exposure To Radio Waves.

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits

for exposure to radiofrequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

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

Before a phone model is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. The highest SAR value for this model phone when tested for use at the ear is 1.49W/kg and when worn on the body, as described in this user guide, is .93W/kg. (Body-worn measurements differ among phone models, depending upon available accessories and FCC requirements). While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement for safe exposure.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF emission guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of http://www.fcc.gov/oet/fccid after searching on FCC ID NWJ10A002A.

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

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



All Panasonic branded accessories are tested and comply with FCC RF exposure requirements. Non-Panasonic accessories may not comply.

Body-worn operation

To maintain compliance with FCC RF exposure guidelines, if you wear your wireless phone on your body while on a voice or data call, always place the phone in a Panasonic supplied or approved carry accessory. Use of non-Panasonic approved accessories may exceed 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 POSITION: Hold the phone as you would any other telephone, with the antenna pointed up and over your shoulder.

FOR EFFICIENT OPERATION: For your phone to operate most efficiently, 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.

Driving

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

- Give full attention to driving—driving safely is your first responsibility;
- Use handsfree 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 electronic equipment may not be shielded against the RF signals from your wireless phone.

• Pacemakers: The Health Industry Manufacturers Association recommends that a minimum separation of 6 inches (6") or 15 centimeters (15 cm) be maintained between a handheld wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with independent research and recommendations of Wireless Technology Research.

Persons with pacemakers:

- Should ALWAYS keep the phone more than six inches from their pacemaker when the phone is turned ON;
- Should not carry the phone in a breast pocket;
- Should use the ear opposite the pacemaker to minimize the potential for interference;
- If you have any reason to suspect that interference is taking place, turn your phone OFF immediately.
- Hearing Aids: Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may want to consult your service provider.
- Other Medical Devices: If you use any other personal medical device, consult the manufacturer of your device to determine if they are adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information.
 - Turn your phone OFF in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.
- Vehicles: RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.
- Posted Facilities: Turn your phone OFF in any facility where posted notices so require.

Aircraft

FCC regulations prohibit using your phone while in the air; switch off your phone before boarding an aircraft unless otherwise advised by airline personnel.

Blasting Areas

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

Potentially Explosive Atmospheres

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

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

For Vehicles Equipped with an Air Bag

An air bag inflates with great force. DO NOT place objects, including both installed or portable wireless equipment, in the area over the air bag or in the air bag deployment area. If invehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

For U.S. Customers: Vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (NFPA-58).

For a copy of this standard, contact the National Fire Protection Association, One Batterymarch Park, PO Box 9101, Quincy, MA 02269.

E-mail address: Custserv@NFPA.org.

Web site: www.nfpa.org.

Refer to Appendix C for the FDA Consumer Update on Mobile Phones published by the U.S. Food and Drug Administration.

Getting Started

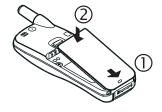
2

If you are looking at your phone and wondering where to go from here, this is the place to start. This chapter is designed to get you started, and to familiarize you with your phone's most basic features and functions.

Battery Use

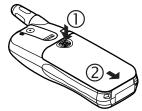
Your phone's battery may not be fully charged when you remove it from the box. The battery must be fully charged before using your phone for the first time. Attach and charge the battery as described in this section.

Attaching the Battery to an EB-TX210 Series Phone



- 1 Insert the bottom edge of the battery along the bottom, back edge of phone.
- **2** Push the top of the battery toward the phone until it clicks into place.

Attaching the Battery to an EB-TX220 Series Phone



- 1 Press down on the battery cover.
- 2 Remove the battery cover.





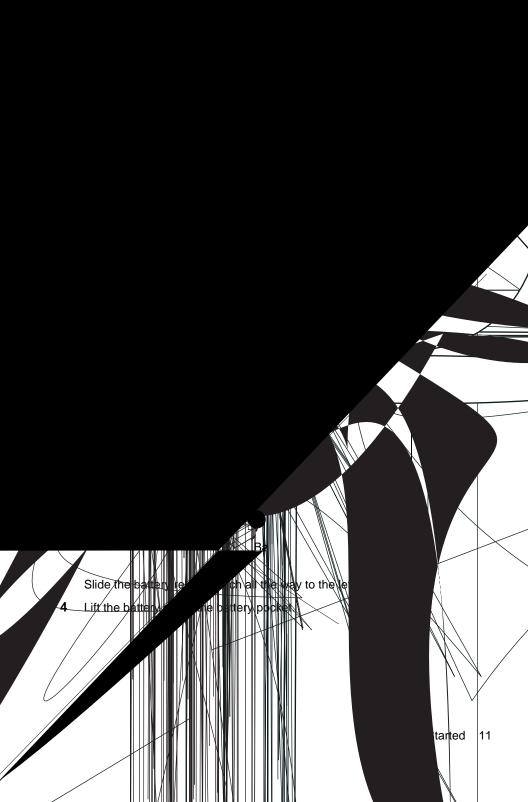
Chapter 2

EB-TX210 Series Battery Specifications

Mode		Talk	Standby	
	(1366) 3(4)11.5(t)	14.8(Tii)/10 .5(um	-)1 4 i8(i) :11.5(on))2 0.702 0.70
Analog	EB-BS210 Standard 650 mAh	Up to 60d 210 S(pprox.T	c0Tm0.0095.92.700.	404394 -(d)-221 3.6

EB-TX220 Series Battery Specifications

Times listed in the tables above may vary depending on usage and charging conditions.



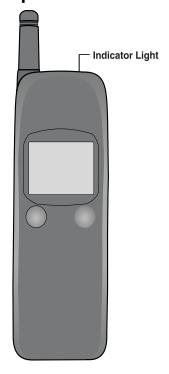
Chapter 2

Low-Battery Warning

The phone periodically beeps when the battery is low. The battery icon () flashes and the **Low Battery** message is displayed.

If your phone is at standby (idle) when the Low Battery message appears, you will not be able to place or receive calls until the battery has been recharged, or until you attach an AC or DC adapter. If you are in a call when you hear the beep and the message appears, quickly end your call or attach an AC or DC adapter.

Phone Description



Accessory Connector

You may enter up to 32 characters by pressing the number keys. The keypad is also used to enter text as described in "Text Entry Operations", Chapter 4.

Display Icons

Icons that appear on the display depend on what features you are using and the options you have selected.

Master Display and Icons



Icon	Indicates	
-	Charged battery.	
	Low battery (flashes).	
<u> </u>	New text message received. When icon is darkened, indicates that text message storage is full.	
99	New voice mail message received.	
0	Digital service available.	
2	Active call is in operation.	
3	Voice privacy feature is on.	
Q	Quiet Mode is on.	
400 / NB	Vibration alert is on. Ring volume is set to 0.	
Tattl	Incoming signal strength (varies by the number of bars shown beside the signal icon): Five bars indicates a strong signal. No bars indicate a weak or no signal.	
ABCDEFGHIJ 1234567890	Display area (shows numbers, text, and symbols).	
MENU	Softkey functions. The function changes depending on the features or modes you are using.	
⇔	Navigation key can be pressed to move in the directions indicated by the displayed arrows.	

Powering Phone On and Off

Powering ON

- 1 Press and hold with until a tone sounds and the backlight lights.
 - The battery indicator and signal icon are displayed.
 - If your Welcome Screen is turned on, the message briefly appears.
- Your wireless service provider's name is displayed if you are within the coverage area.

Powering OFF

Press and hold (F) to power off your phone.

Standby Display

The standby display appears when your phone is on and in an "idle" state. You may return to the standby display at any time (except during a call) by pressing (END).

The backlight turns on automatically for 15 seconds when powering up the phone or when pressing any key.



The backlight remains on when using an optional Handsfree Carmount Kit.

Moving through the Menu

You access the Main Menu from the standby display:



MENU shows on the bottom left side of the display. To access the Main Menu, press the corresponding softkey (ⓐ) on the keypad just below where **MENU** is displayed. After entering the Main Menu, press either softkey (ⓐ or ⓐ) to select the options displayed above them.

Within the menu, the selected feature or function is indicated by an arrow ()). Use the navigation key scroll areas () or) to move up or down through the menu options. When an option is selected using the softkeys, the display changes to offer another level of softkey options. This process continues until you have responded to all display prompts and options for a particular softkey.

Menu Map of Shortcut Keys

Many of the phone's features may be quickly accessed by pressing shortcut keys instead of scrolling through the numbered options on the display. For a complete list of the shortcut keys, refer to the Menu Map on page 17. For example, you can select Key Volume by pressing \Box (MENU), then press $(4^{\Box H})$ (Tone Settings) and $(3^{\Box EF})$ (Key Volume).









Chapter 2

Setting Date and Time

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press

 to scroll to Phone Settings. Press

 (OK).
- 3 Press

 to scroll to Time Settings. Press

 (OK).
 - The arrow points to Date/Time.
- 4 Press (□) (OK).
- **5** Enter the digits for the date in the format: month/day/year.
- 6 Press ♥ to scroll to set the time.
- 7 Enter the digits for the time using a 12-hour clock.
- 8 Press to select the AM/PM setting.
- 9 Press (a) (AM/PM) to switch between AM and PM.
- 10 Press (OK) to select.
 - The display confirms that you adjusted the setting.
- 11 Press any key or wait 3 seconds to return to standby.
 - The standby display shows the date and time, as well as the day of the week.

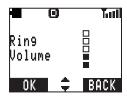
Setting Ring Volume

You may select from six different ring volume settings. (See "Alert Mode" on page 48 for more information about using your phone in special situations such as meetings, theaters, etc.)

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press

 to scroll to Tone Settings. Press

 (OK).
- 3 Press ♥ to scroll to Ring Volume. Press ଢ (OK).



- · The display shows the current ring volume setting.
- **4** Press and hold ♠ to increase ring volume, or ▼ to decrease volume.
 - A ring tone is emitted and the display indicates the current ring volume setting.
 - If you select the lowest setting, the ring volume is muted (silent).
- **5** When the desired ring volume is reached, press (OK).
 - The display confirms the new volume level setting.
- **6** Press any key or wait 3 seconds to return to standby.



When the volume is set to muted (silent), the 🐉 icon is displayed.

Selecting a Ring Alert

You have the option of selecting from 20 different ring alerts.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press to scroll to **Tone Settings**. Press (OK).
- 3 Press to scroll to Ring Alert. Press (OK).



- The current ring alert setting is displayed with an asterisk (*).
- 4 As you scroll through the ring alerts, a sample ring is emitted.
- **5** Scroll to your choice of ring alerts and press (OK).
 - The display confirms the new ring alert setting.
- **6** Press any key or wait 3 seconds to return to standby.



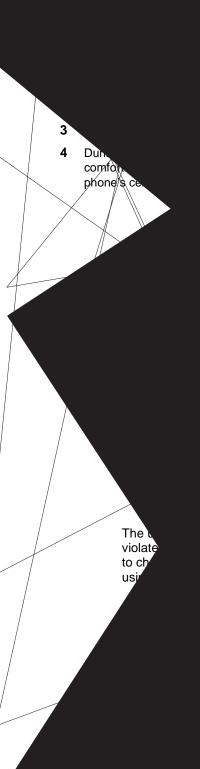
When selecting a new ring alert, it is not possible to hear the sample ring if ring volume has been muted or if you are in a conversation.

Using the Private Handsfree Headset

When the Private Handsfree Headset is plugged into the phone, you can have a phone conversation without holding the phone to your ear. The caller's voice is heard through the Private Handsfree Headset's earpiece. When you speak, your voice is picked up by the Private Handsfree Headset's microphone.

Attach the Private Handsfree Headset to your phone as shown.

 If you are using the EB-TX220 Series phone, you must remove the connector cap from the bottom of the phone before plugging in the Private Handsfree Headset.



Chapter 2

Everyday Operations

3

Your phone comes with a variety of features. In most cases, however, only some of these features will be used on a daily basis. This chapter will familiarize you with most of those "everyday" operations. Descriptions of more advanced features are covered in additional chapters.

Placing Calls

To place a call, power on your phone and confirm that you have a strong signal indication. If you are in a digital service area, the licon appears.

Dialing from the Keypad

- 1 From standby, enter the phone number (up to 32 digits).
- 2 Press (SEND) to place the call.



During conversation, if you press and hold #sp , the speakerphone feature is activated. Do not hold the phone next to your ear when speakerphone is activated.

- If the outgoing phone number matches an entry in the Phonebook, the corresponding name is also displayed with the number.
- 3 When the call connects, Voice Call is displayed.



- The call timer is displayed if the **Current Call** timer is on. (See "Call Timers" on page 47 for more information.)
- 4 Press (FND) to end the call.

Phonebook Dialing, Speed Dialing and Super Speed Dialing

To use these types of dialing, you must first program entries into the Phonebook. See "Phonebook Features", Chapter 5.

Programming Pauses or Waits

This feature is useful when you are placing a call that requires entry of additional digits once the call connects (i.e., voice mail).

- 1 Enter the phone number.
- 2 To enter a Pause or Wait time, press and hold on until a P or a W appears after the entered phone number.
 - If you program a Pause (P), the entered digits are automatically transmitted during a call after a two-second delay.
 - If you program a Wait (W), the entered digits are not transmitted during a call until you press (SEND) or (SEND).
- 3 Continue to enter digits, Pauses, and Waits as needed.



- In this sample display, the first seven digits are the phone number to dial. The W (Wait) indicates that the phone will wait until you press (SEND) to transmit the digits "901". The P (Pause) indicates that the phone will then automatically transmit "3456" two seconds after "901" is transmitted.
- 4 Press (SEND) to place the call.

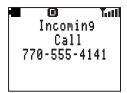
OR

Press (SAVE) to save the entry into the Phonebook. (See Chapter 5, "Phonebook Features", for information on storing entries.)

Answering Calls

The phone must be on to receive calls. It will not ring or vibrate when powered off.

1 When a call is received, the phone rings and/or vibrates.



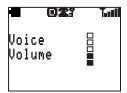
- If you have Caller ID, the caller's phone number is displayed along with Incoming Call.
- If the caller's phone number matches an entry in the Phonebook, the corresponding name appears and the backlight changes color.
- **2** Press SEND or any key except D to answer.
 - Quickly pressing (FND) will stop the ringing and/or vibration alert, but not answer the call.
- 3 When you are ready to end the call, press (iii) to disconnect.

In-Call Features

You can perform several functions while you are in a call.

Voice Volume

1 During a call, press and hold ♠ to increase the volume of the caller's voice, or press ▼ to decrease the volume of the caller's voice.



- The volume level is displayed.
- 2 Release the key when the desired volume is reached.
- **3** The voice call display returns.

one Number During a Call your own phone number.

MENU) to enter the Main Menu.



СК

nebook.

Phonebook.

o Own Number.

our phone number.

oice call display returns.

programmed with more than one only the number currently being ed.

to have a second phone number r your phone, contact your wireless r

UNMUTE

ndicates when the mouthpiece is muted.

outhpiece is muted, you can still hear the on the call, but that person cannot hear you.

IUTE) to unmute and resume conversation.

Scratchpad

This feature allows you to enter a phone number on your phone's display during a call. You may enter up to 32 digits. After ending the call, you may dial the number on the display or save the entry into the Phonebook.

1 During a call, enter numbers by pressing the keys on your keypad.



- 2 After ending the call, the phone number remains on the display.
- **3** Press (SEND) to call the number on the display.

OR

Press (SAVE) to save the number into the Phonebook. (See "Saving a Displayed Phone Number" on page 39 for more information.)

Speakerphone

You can talk on your phone without having to hold the phone to your ear.



Do not hold the phone next to your ear when speakerphone is activated.

1 During a call, press (MENU) to enter the Main Menu. Press (I) (OK) to select Speakerphone.

OR

During a call, press and hold # SP to turn on Speakerphone.

- The display indicates Speakerphone Set to on.
- 2 To turn off the Speakerphone during the call, press any key except (MENU) and (MENU) to enter the Main Menu and press (OK).

OR

Ending the call also turns off the speakerphone.

- Only by pressing
- 1 From standby, press (MENU) to enter the Main Menu.
- **2** Press to scroll to **Phone Settings**. Press (OK).
- 3 Press to scroll to Answer Key. Press (OK).
 - The current setting is displayed with an asterisk ().
- **4** To change the setting, scroll to the other option. Press (OK) to select.
- **5** Press any key or wait 3 seconds to return to standby.

Call Waiting can be answered only by pressing or (ACCEPT), regardless of this setting.

Voice Mail



You must subscribe to voice mail through your wireless service provider before you can retrieve voice mail messages. If your voice mail phone number has not been programmed, contact your wireless service provider. Refer to Chapter 7 for information about additional subscriber features.

Listening to New Voice Mail

- 1 When a new voice mail message is received, an alert sounds and appears on the top of the display.
 - The display indicates the number of new voice mail messages.



2 Press (a) (LISTEN) to automatically dial your voice mail number.

OR

From the standby display, press and hold (until it calls your voice mailbox.

- 3 Follow the recorded instructions for your voice mail.
- 4 Press (to end your call and return to standby.

Resetting the Voice Mailbox Number



Do not reset your voice mailbox number if it is preprogrammed by your wireless service provider. Your voice mail will be inaccessible if an incorrect number is entered. Check with your wireless service provider for specific information.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press **▼** to scroll to **Messages**. Press **□** (OK).
- 3 Scroll to Voice Mail and press (OK).

Your voice mailbox phone number is displayed.



- Press (a) (EDIT) and enter a new voice mailbox phone number.
 - You may also program Pause and Wait times. See "Programming Pauses or Waits" on page 24.
- 5 Press (a) (OK) to save the new phone number.

Redialing Numbers

You may easily redial one of the last ten (10) numbers dialed from your phone. Or, when a system busy signal occurs, your phone can automatically redial the number you are attempting to call.

Redialing One of the Last Ten (10) Numbers Dialed from Your Phone

- From standby, press (SEND) to view the last ten (10) dialed phone numbers.
 - If a dialed number matches an entry in the Phonebook, the corresponding name is also displayed.
- Press or to scroll through the numbers. 2
- 3 Press (SEND) to call.

Automatic Redial

If a call cannot be completed because of a system busy error (or other system problem), your phone can automatically redial the number for you.

1 If your call cannot be completed because of a system error, wait until **Automatic Redial?** is displayed.



Automatic Redial? is displayed only when your call cannot be completed because of a system busy error or some other system problem. **Automatic Redial?** does not display if the called number is busy (i.e., the person you are calling is using the phone).

When your phone is connected to the Private Handsfree Headset or an optional Handsfree Carmount Kit, the phone will automatically redial without prompting for an answer to **Automatic Redial?**

- 2 Press (YES) to automatically redial the number.
 - The phone automatically redials the number up to 15 times or until the call connects.
 - An alert tone sounds when the call connects.

OR

Press (NO) to return to standby.

Vibration Alert

Your phone can alert you to incoming calls with vibration alert.

- From standby, press ((MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to **Tone Settings**. Press © (OK).
- 3 Press ▼ to scroll to **Vibration**. Press © (OK).



- The current setting is displayed with an asterisk (*).
- If selected, the vibration alert icon (🖁) appears on the display.
- To change the setting, scroll to the other option and press (OK).

Text Entry Operations

You can use your phone's keypad to type and store text using letters, numbers and symbols. Typically, you enter text to store names and phone numbers in the phonebook, to update the welcome screen, to create text messages, to edit text messages you receive, and to create a personalized reminder if you are using the phone's alarm.

Text Entry Methods

When a feature requires a text entry, the display prompts you to enter text. The text may be entered using either Letter Entry (ABC) mode or Word Entry (Word T9[®]) mode.

Letter Entry (ABC) mode is the traditional method of entering text in mobile phones. This method is best when entering text that is not commonly found in a dictionary (for example, names of people or places). Letters are entered by pressing a key associated with a desired character once, twice, three times, or four times until the character appears on the display.

Word Entry (Word T9) mode allows you to quickly type text with the aid of a built-in dictionary. Press each key only once for each letter and the dictionary will automatically display probable word choices for you.



In Letter Entry mode, press (ar) briefly to delete the lastentered character. In Word Entry mode, press (ar) briefly to delete the last-entered character or an entered word. In both Letter Entry and Word Entry modes, press and hold (ar) to delete the entire entry.

In Letter Entry mode, the $\underbrace{\mathcal{I}_{-}}$ key is used to enter a space or the number "1". In Word Entry mode, the $\underbrace{\mathcal{I}_{-}}$ key enters a space only.

The (1-) key is not used to enter any letters.

Using Letter Entry (ABC) mode

Letter Entry is the selected mode when the bottom right corner of the display shows AB or . Your phone automatically defaults to Letter Entry uppercase () when text entry is required. To switch between uppercase and lowercase, press

When using Letter Entry mode, press a key once to enter the first letter on the key, press the key twice to enter the second letter on the key, etc.... For example, press letter "**D**", press twice for the letter "**E**", etc....

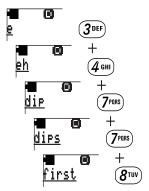
- briefly to delete the last-entered character. Press and hold to delete the entire entry.
- Press to scroll across characters, to or move to the next character space, or to add a blank space.

Refer to the Key Entry Table on page 36 for the complete list of characters for each key.

Using Word Entry (Word T9) mode

Word Entry is the selected mode when the bottom right corner of the display shows word , or word . To select one of the Word Entry modes when text entry is required, press until the desired mode is shown. Once in Word Entry mode, you can switch between initial capitals, uppercase, and lowercase by pressing ***

For example, to enter the word "first" in Word Entry mode, press goes once, press (4 on once, press (7 once, and press (8 once. The word "first" should appear on the screen.



- As letters are entered, the dictionary will display probable words. Several different words can appear on the display during the entering process.
- Press (a) briefly to delete the last-entered character or an entered word. Press and hold (a) to delete the entire entry.

If the first word found in the dictionary (and shown on the display) is not the word you want to enter, press to scroll through the other options for that key sequence. Once the desired word is displayed, press (OK), (1-), or to select it and move to the next word location.



If you have changed your phone's language option, the Word Entry dictionary changes to agree with the selected language.

Using Numbers (NUM) mode

Numbers mode is the selected mode when the bottom right corner of the display shows Num . Numbers mode is used to insert numbers in a text entry. To select Numbers mode, press until Num appears. Then key in the desired number.

Using Symbols (SYM) mode

Symbols mode is the selected mode when the bottom right corner of the display shows SYM . To select Symbols mode, press until SYM appears.

Each number key is associated with several symbols. To select a specific symbol, enter the corresponding number on the keypad. To scroll through additional screens of symbols, press , , , , or , or . The table below shows the letters, numbers, and symbols associated with each keypad key.

Key Entry Table

	Mode						
Key	Letter entry ABC	Letter entry abc	NUM	SYM			
1	ு(space)1 [*]		1	•	÷	=	۲
2	ABCÇÂ2	abcçâ2	2	,	-	%	,
3	DEFÉÈÊ3	deféèê3	3	;	_	\$	^
4	GHI4	ghi4	4		(<	
5	JKL5	jkl5	5	?)	>	\
6	MNO6	mno6	6	!		{	
7	PQRS7	pqrs7	7	@	***	}	
8	TUV8	tuv8	8	/	&	[
9	WXYZ9	wxyz9	9	#	+]	
0	0	0	0	N/A			
*	Switches between upper- case and lowercase		N/A	Moves to next Symbol display			
#	.,;:?!@,	N/A	N/A				

^{*} Press (1-) to enter a space or press (1-) twice to enter a "1".

Phonebook Features

5

The Phonebook has 100 memory locations. Each location can hold a first and last name, up to four associated phone numbers, an email address, and a distinctive ring tone. This chapter includes information related to creating, saving, searching, and accessing your Phonebook entries. For an overview of how to move through the menu and use the shortcut keys, see Chapter 2, "Getting Started".

Creating a Phonebook Entry

1 From standby, press (III) to enter the Phonebook.



2 Press ▼ to scroll to Create. Press © (OK).



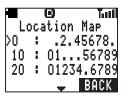
- For each entry, you can enter any or all of the following information: [First] Name, [Last] Name, [W]ork number, [H]ome number, [C]ellphone number, [O]ther number, special ring tone [], email address [@], and memory location number [#].
- If all memory locations are full, Phonebook Full is displayed. You must delete an entry before adding another one. See "Editing/Deleting a Phonebook Entry" on page 42 for more information.
- If the special ring tone is set to standard, the phone will ring at the same ring alert set in Ring Alert.

- 3 Press to scroll to the desired item and press (SELECT).
- 4 Enter the desired information.
 - To enter text or symbols, see Chapter 4, "Text Entry Operations".
 - To delete an entered character, press (a) briefly.
 - To delete an entire line, press and hold (QR).
 - If no name is entered for a phone number in the Phonebook, "----" will indicate there is no name entry when later scrolling through the Phonebook.
- **5** Press (OK) when you complete the information.
- **6** If additional information needs to be added, repeat steps 3 through 5 until the entry is complete.
- 7 To save the entry into memory, press ▼ to scroll to #: [] and press © (SELECT).



OR

- To save the entry as a specific location number, enter a number between 1 and 100 and press (□) (OK). If you want to use Super Speed Dialing for the entry, enter a location number between 1 and 9.
- To determine which location numbers are available, press (MAP). A period "." indicates that the location is already being used. For example, in the following display, locations 1, 3, 9, 12, 13, 14, and 25 are being used. The remaining location numbers are available. Press (BACK) to enter desired memory location number. After entering a number, press (OK).



- 8 When you are finished, press (EXIT).
 - The display asks if you want to save the entry.
- 9 Press (YES) to save.
 - If you have not entered a memory location number, the phone automatically assigns the first available location and displays it for you.
 - If you entered a location number that is already being used, the display asks if you want to overwrite the previously saved entry. For example, the display shows,
 Overwrite John Smith? Press (NO) to enter a different location number. Or, press (YES) to overwrite (delete) the information that was previously saved in that location.

OR

Press (INO) to delete your entry and return to standby.

Saving a Displayed Phone Number

1 When a phone number is displayed, press 🖵 (SAVE).



- You may save the number as a Work Phone #, Home Phone #, Cell Phone #, or Other #.
- 2 Press or to scroll to the desired phone number type.
- **3** Press \bigcirc (OK) to store the phone number.
- 4 To enter additional information and to save your phone number, continue with step 3 from the "Creating a Phonebook Entry" procedure (previous procedure).

Dialing Phonebook Entries

Super Speed Dialing

Super Speed Dialing lets you quickly dial the *first* phone number stored in memory locations 1 through 9.

1 From standby, press and **HOLD** the key (<u>1</u> - <u>9 wn</u>) that corresponds to the memory location number.



- The phone numbers stored in the memory location number display briefly.
- 2 Continue pressing the key to dial the *first* phone number stored in that memory location.



Super Speed Dialing dials only the first phone number stored in the memory location. To dial another number stored at that location, see "Speed Dialing".

Speed Dialing

- 1 From standby, enter the memory location number that contains the phone number you want to call. (For example, to dial a number stored in location 25, press (2^{nac}).)
- 2 Press (# SP) to view the phone numbers stored in the memory location.



- If the entered memory location is empty, the display shows the entered digits and the # sign.
- 3 Press ▼ or ▲ to scroll to the number you want to call.
- 4 Press (SEND) to call.

Dialing a Phonebook Entry by Scrolling

1 From standby, press v or to scroll through the Phonebook entries.



- Depending on your phone's search method setting, the display shows entries alphabetically by first or last name, or by memory location number. To change the search method setting, see "Selecting a Phonebook Search Method".
- To "jump" to a specific section of the alphabet, press the number key that has the desired letter on it.
- When the arrow points to the desired entry, press (VIEW) to view the saved information.
- 3 Press ▼ or ♠ to scroll to the desired phone number and press SEND to call.

Dialing a Phonebook Entry from the Menu

1 From standby, press () to enter the Phonebook.



- 2 Press (OK) to select Search.
 - Depending on your phone's search method setting, the display shows entries alphabetically by first or last name, or by memory location number. To change the search method setting, see "Selecting a Phonebook Search Method".
- 3 Enter the name, a portion of the name, or the memory location number, if desired.
- 4 Press (FIND or OK).

- If needed, press v or to scroll to the number you want to call.
 - · When the list of names appears, the following may indicate there is no name entry: "----"
- When the arrow points to the desired entry, press (VIEW) 6 to view the saved information.
- Press v or to scroll to the desired phone number and 7 press (SEND) to call.

Editing/Deleting a Phonebook Entry

- From standby, press () to enter the Phonebook. 1
- 2 Press (OK) to select **Search**.
 - Depending on your phone's search method setting, the display shows entries alphabetically by first or last name, or by memory location number. To change the search method setting, see "Selecting a Phonebook Search Method".
- 3 Enter the name, a portion of the name, or the memory location number, if desired.
- Press (FIND or OK).
- Press or to scroll to the desired entry to edit or delete. 5
- Press (VIEW) to display details.
- Press (a) (OPTION).



- You have the option to edit the Prefix (adding an area code or prefix numbers), Edit the entry, or delete all of the information in that memory location (Delete Entry).
- Scroll to the desired action, and press (a) (OK).
 - If you select **Prefix**, you may select whether to add an area code, a "1" in front of the area code, or remove them. Dial Setting enables you to change the numbers. You can make a call by pressing (SEND) or ((SEND).

- If you select Edit, all stored information for the entry is displayed. Scroll to the information you want to edit, press
 (SELECT), and enter the change. Press
 (OK). Repeat until all desired changes have been made.
- If you select **Delete Entry**, the display asks if you want to delete the displayed entry. Press (YES) to delete or press (NO) to return to step 7.
- 9 Press (EXIT).
 - The display asks if you want to save the change.
- **10** Press () (YES) to save the change.
 - The display asks if you want to overwrite the previously stored information. Press (YES) again to overwrite and return to standby. Or, press (NO), select a new location number, and press (OK) to return to standby.

OR

Press (NO) to return to standby without saving changes.

Selecting a Phonebook Search Method

Setting the **Search Method** allows you to determine how your phone searches for information stored in the Phonebook. You can set your phone to search for entries by first name, last name, or memory location number.

- 1 From standby, press () to enter the Phonebook.
- 2 Press ▼ to scroll to **Search Method** and press © (OK).



- You have the option of setting your phone to search for an entry by First Name, Last Name, or memory Location #.
- The current setting is displayed with an asterisk (*).
- 3 Press ▼ or ▲ to scroll to the desired setting.
- 4 Press (OK) to save.
 - The display confirms the new setting and returns to standby.

Own Phone Number Review

Your phone can have up to two phone numbers (programmed by your wireless service provider). You can select either phone number to make a call.

- 1 From standby, press () () to enter the Phonebook.
- 2 Press ▼ to scroll to Own Number and press © (OK).



• Your phone number is displayed.



If your phone is programmed with more than one phone number, only the number currently being used is displayed. See "Selecting Your Phone Number (NAM)" on page 75 for information on selecting your other phone number.

Advanced Operations

6

Many advanced features and settings are accessible only through the phone's Menu. This chapter will show you how to use your phone's Menu to get the most from these advanced features. If a particular Menu feature is not listed in this chapter as it appears on the phone's display, please turn to "Phonebook Features" on page 37, or to "Subscriber Features" on page 65 for more information.

For an overview of how to move through the Menu and how to use the shortcut keys, see "Moving through the Menu" and "Menu Map of Shortcut Keys" in Chapter 2.

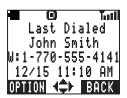
See the "Menu Map of Shortcut Keys" in Chapter 2 for a quick overview of all the Advanced feature options.

Call History

The Call History menu allows you to view and delete information related to calls you have received and placed. It also allows you to reset the timer that monitors your talk time.

Last Dialed Calls

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll down to Call History. Press © (OK).
- 3 Press (a) (OK) to select Last Dialed.



- The last dialed number is displayed.
- If you place a phone call to a number that is contained in your last dialed numbers list, the older call record will be replaced with the newer one.
- Unanswered or Answered Calls can be checked by pressing or .

- **4** Press ▼ or ▲ to scroll through the last 10 dialed numbers.
- To call a number, press (SEND) when the number is displayed. To add a prefix, to delete, or to save the number, press (OPTION) and select the desired action.

Unanswered Calls

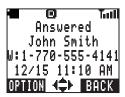
- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Call History. Press © (OK).
- 3 Press ▼ to scroll to Unanswered. Press © (OK).



- The last unanswered number is displayed.
- Last Dialed or Answered calls can be checked by pressing or .
- · A call without caller ID will not be stored.
- 4 Press or to scroll through the last 10 unanswered calls.
- To call a number, press when the number is displayed. To add a prefix, to delete, or to save the number, press (OPTION) and select the desired action.

Answered Calls

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Call History. Press © (OK).
- 3 Press ▼ to scroll to Answered. Press © (OK).



The last answered number is displayed.

- If you receive a phone call from a number that is contained in your answered numbers list, the older record will be replaced with the newer one.
- Last Dialed or Unanswered calls can be checked by pressing [or].
- 4 Press ▼ or ▲ to scroll through the last 10 answered calls.
- To call a number, press when the number is displayed. To add a prefix, to delete, or to save the number, press (OPTION) and select the desired action.

Deleting Call Lists

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Call History. Press © (OK).
- 3 Press ▼ to scroll to Last Dialed, Unanswered, or Answered. Press © (OK).
- 4 Press (OPTION).
- 5 Press to scroll to **Delete Entry** (delete the selected call), or **Delete All** (delete all the calls in the list). Press (a) (OK).



6 Press (YES) to delete the selected list.

Call Timers

The **Last Call** and **All Calls** options allow you to view the time you have spent connected on calls. The **Custom** call option allows you to reset the timer as desired. The **Current Call** option allows you to select whether or not the timer is displayed during conversation.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Call History. Press © (OK).
- 3 Press ▼ to scroll to Call Timers. Press © (OK).
 - You are given four options: Last Call, All Calls, Custom, and Current Call.

To v v the time y
Calls press ▼
(OK) to

OR

To view your ss. to sciel return to st. reset the us

OR

con rent Call an

yed with an asterisk (*). to the other option.

urs:minutes:seconds.

hen **All** on exceeds 999 at large timer with the strength of t

actual time alls by your ser represented e number all ser represente

or set the ws you to select a yed.

has two customizable Alert Modes for discrete updated and the environments. **Normal** mode for typical environments a **quiet** mode for use in meetings, restaurants, movies, e., where a loud audible alert would be disturbing. Once your phone has been set to the mode you want to customize, the following settings can be modified:

Ring Volume (page 19) Message Alert (page 50)
Key Volume (page 49) Vibration (page 32)
Ring Alert (page 20)

In either mode, you can mute all of your phone's audible features except for low battery tone—the low battery warning sounds, regardless of the settings.

To select either **Normal** or **Quiet** mode, press and hold #SP Quiet



OR

- From standby, press (MENU) to enter the Main Menu. 1
- Press ▼ to scroll to **Tone Settings**. Press © (OK). 2
- Press (OK) to select Alert Mode. 3
 - The current setting is displayed with an asterisk (*).
- Press or to scroll to Normal Mode or Quiet Mode. Press ((OK).



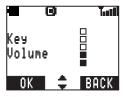
- The display confirms the new mode setting.
- If Quiet Mode is selected, the Quiet Mode icon ($\bar{\mathbb{Q}}$) is displayed.
- 5 Press any key or wait 3 seconds to return to standby.

Ring Volume

See "Setting Ring Volume" in Chapter 2.

Key Volume

- From standby, press (MENU) to enter the Main Menu.
- Press ▼ to scroll to **Tone Settings**. Press (OK). 2
- Press (OK) to select **Key Volume**. 3



- · The display indicates the current key volume setting.
- If you select the lowest setting, the key volume is muted (silent).

- 4 Press and hold ♠ to increase key volume. Press and hold ♥ to decrease key volume.
- 5 When the desired volume is reached, press (OK) to select.



- · The display confirms the new key volume setting.
- **6** Press any key or wait 3 seconds to return to standby.

Ring Alert

See "Selecting a Ring Alert" in Chapter 2.

Message Alert Type

This setting allows you to determine what type of alert you will hear when a text message is received.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Tone Settings. Press © (OK).
- 3 Press ▼ to scroll to Message Alert. Press © (OK).



- The current setting is displayed with an asterisk (*).
- As you scroll through the alert types, a sample alert sounds for each of the 20 types.
- If vibration alert is set to on, the phone also vibrates as you scroll through the alert types.

4 Press ▼ or ♠ to scroll to your desired message alert type. Press ♠ (OK).



- · The display confirms the new message alert type setting.
- **5** Press any key or wait 3 seconds to return to standby.



When selecting a new message alert type, it is not possible to hear the sample alert if ringing is muted (silent).

Phone Settings

The Phone Settings menu allows you to set specific features according to your own preferences.

Display Settings

Backlight

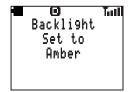
The backlight color can be set as green or amber. If a caller's phone number matches an entry in the Phonebook, the corresponding name is displayed and the backlight changes color.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Phone Settings. Press © (OK).
- 3 Press (OK) to select **Display**.
- 4 Press (OK) to select Backlight.



The current setting is displayed with an asterisk (*).

To change the setting, scroll to the other option. Press
 (□) (OK) to select.

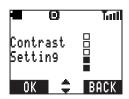


- · The display confirms the new backlight setting.
- **6** Press any key or wait 3 seconds to return to standby.

Display Contrast

The contrast level of the phone's display can be adjusted.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Phone Settings. Press © (OK).
- 3 Press (OK) to select **Display**.
- 4 Press ▼ to scroll to Contrast. Press © (OK).



- The display indicates the current contrast setting.
- 5 Press and hold ♠ to increase the contrast. Press and hold ▼ to decrease the contrast.
- **6** When the desired contrast is set, press (OK).



- · The display confirms the new contrast setting.
- **7** Press any key or wait 3 seconds to return to standby.

Time Settings

Setting Date and Time

See "Setting Date and Time" in Chapter 2.

Setting the Alarm

You can set two types of alarms: a scheduled, one-time alarm or a daily alarm. You can program your phone for up to five alarms, each with its own specific message display.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Phone Settings. Press © (OK).
- 3 Press ▼ to scroll to **Time Settings**. Press © (OK).
- 4 Press ▼ to scroll to Alarm Settings. Press (OK).
- 5 Alarm 1 is displayed. If desired, press ▼ or ▲ to scroll to a different alarm (5 alarms). When the desired alarm is displayed, press ⑤ (SELECT).



- The display indicates if the current alarm is set on or off.
- 6 Press ▼ or ♠ to scroll to the desired setting. Press © (OK).
- 7 Press ▼ or ♠ to select the alarm type (**Daily** or **One Time**). Press ເ (OK).
 - If you selected **Daily**, enter the time using a 12-hour clock.
 - If you selected **One Time**, enter the desired alarm date using a month/day/year format. Press and enter the time using a 12-hour clock.
- 8 Press ▼ to move to the AM/PM setting.
- 9 Press (AM/PM) to switch between AM or PM. Press (DK).

- 10 Press or to select Fixed Form or Text Input from the Input Memo display. Press (OK).
 - If you selected Fixed Form, press or to select one of the following preset messages that will be displayed when your phone's alarm is activated:

Good morning

Do not forget

Call office

Call home

Meeting

Leave office

Take medicine

Pick up

Appointment

- If you selected **Text Input**, enter the message that you want the phone to display when the alarm is activated. See Chapter 4, "Text Entry Operations" for details about entering text.
- 11 Once you have selected or entered the message that will display with the alarm, press (I) (OK).



- · The display confirms the new alarm setting.
- **12** Press any key or wait 3 seconds to return to standby.



When the time for the alarm comes, the alarm alert lasts for 40 seconds. To stop the alarm or clear the message from the display, press any key.

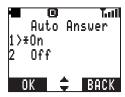
If the phone is turned off at the time of the alarm, no alarm is activated.

Auto Answer (Handsfree Mode Only)

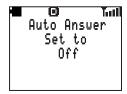
Auto Answer functions only when the phone is used with the Private Handsfree Headset or with the optional Handsfree Carmount Kit.

When Auto Answer is on, the phone automatically answers an incoming call after 6 seconds.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Phone Settings. Press © (OK).
- 3 Press ▼ to scroll to Auto Answer. Press © (OK).



- The current setting is displayed with an asterisk (*).
- **4** To change the setting, scroll to the other option. Press (OK) to select.



- The display confirms the new Auto Answer setting.
- **5** Press any key or wait 3 seconds to return to standby.



This feature works **ONLY** when used with the Private Handsfree Headset or with the optional Handsfree Carmount Kit. This feature automatically deactivates when not being used with either accessory. See "Phone Accessories", Appendix B for accessory information.

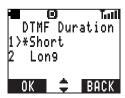
Answer Options

See "Answer Options" in Chapter 3.

DTMF Tone Length

The tone you hear when you press a key on your keypad is called a "DTMF" tone. Most phone services and answering machines require the phone to transmit this tone when a digit key is pressed. This menu setting allows you to shorten or lengthen the time the tone is emitted. DTMF tones are transmitted even when key tones are turned off.

- From standby, press (MENU) to enter the Main Menu.
- Press ▼ to scroll to **Phone Settings**. Press © (OK). 2
- Press to scroll to **DTMF Duration**. Press (OK). 3



- The current setting is displayed with an asterisk (*).
- 4 To change the DTMF setting, scroll to the other option. Press (OK).



- The display confirms the DTMF duration setting.
- 5 Press any key or wait 3 seconds to return to standby.

Warning Tone

This setting allows you to turn warning tones on and off. A warning tone is emitted when the battery charge is low, when attempting to automatically redial a number, and when powering on the phone.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Phone Settings. Press (OK).
- 3 Press ▼ to scroll to Warning Tone. Press © (OK).



- The current setting is displayed with an asterisk (*).
- **4** To change the setting, scroll to the other option. Press (OK) to select.



- The display confirms the Warning Tone setting.
- **5** Press any key or wait 3 seconds to return to standby.



Even when **Warning Tone** is set to off, the low battery tone will be emitted.

Creating a Welcome Screen

You can create a personalized message (up to 64 characters, including spaces) that displays whenever your phone is powered on.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press v to scroll to Phone Settings. Press (OK).
- 3 Press ▼ to scroll to Welcome Screen. Press © (OK).

- 4 Press ♠ or ▼ to scroll to On.
- 5 Press (OK) to select On.
- **6** To delete the current message, if any, press and hold (a).
- 7 Enter a new Welcome Screen message. See Chapter 4, "Text Entry Operations" for details about entering text.
- **8** When the message is complete, press (a) (OK).
 - The display confirms that the Welcome Screen is set to On.
- **9** Press any key or wait 3 seconds to return to standby.

Language

You have the option of setting your phone so that the displayed language is English, Spanish, or French.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press v to scroll to Phone Settings. Press (OK).
- 3 Press ▼ to scroll to Language. Press © (OK).



- The current setting is displayed with an asterisk (*).
- 4 To select another language, scroll to the language of your choice and press (OK).



- The display confirms the new language setting.
- **5** The display returns to standby in the language you selected.
 - All menu options and displayed words appear in the selected language.
 - The phone's internal dictionary (used in WORD T9 Mode

 see Chapter 4 for information on WORD T9) also
 changes to the selected language.

Model Type

To determine the model type of your phone, follow these steps:

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Phone Settings. Press © (OK).
- 3 Press ▼ to scroll to Model Type. Press © (OK).
 - The display indicates your phone's model type.
- 4 Press (OK) to return to standby.

Security Options

The Security Options menu allows you to place restrictions on several of your phone's functions. Options include locking specific features, limiting the types of calls that can be placed and received, and setting your phone so that it automatically locks whenever powered off. A lock code is necessary to activate these features. Panasonic recommends changing the lock code to your own after your phone purchase.

If you ever misplace or forget your lock code — and your phone is locked — contact your wireless service provider. Remember that emergency (911) calls can be placed from your phone even when security features are set.

Changing Lock Code

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Security. Press © (OK).
- 3 Press (OK) to select Lock Code.



- 4 Enter the four-digit lock code (enter **1234** if you have never changed your lock code) and press (a) (OK).
- When prompted, enter a new four-digit lock code and press (a) (OK).

To confirm your new code, re-enter the number and press (OK). If you make a mistake, press (cir) briefly to erase the last digit entered.



- · The display confirms that the new lock code is set.
- 7 Press any key or wait 3 seconds to return to standby.



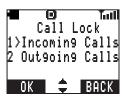
Record your new lock code below, then try to memorize it. This number must be entered every time you reset a security feature.

My lock code number is:

Call Lock

Call Lock allows you to determine what types of incoming or outgoing calls you want to lock or restrict.

- From standby, press (MENU) to enter the Main Menu.
- Press ▼ to scroll to **Security**. Press © (OK). 2
- Press to scroll to Call Lock. Press (OK). 3



- You are given the choice of setting lock features on Incoming and/or Outgoing calls.
- Scroll to your choice. Press (OK).

If Incoming Lock is Selected

(Continued from step 4 under "Call Lock".)



- The current setting is displayed with an asterisk (*).
- You have the option of unlocking or locking all incoming calls.
- 5 To change the setting, scroll to the other option. Press

 (OK).
- 6 Enter the lock code, and press (OK).
 - The display confirms the new setting.
- **7** Press any key or wait 3 seconds to return to standby.

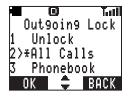


Call Waiting will not function when **Incoming Lock** is On.

If Outgoing Lock is Selected

(Continued from step 4 under "Call Lock".)

You may lock and unlock all outgoing calls, or you may prevent calls from being placed other than using numbers stored in the Phonebook. This feature also lets you limit the number of digits dialed from your phone.



- The current setting is displayed with an asterisk (*).
- You have the option of selecting Unlock, All Calls, Phonebook, or Digit Limit,
- 5 To change the setting, scroll to the desired option and press (□) (OK).

Chapter 6

If you selected **Digit Limit**, move to "If Digit Limit is Selected".

- **6** Enter the lock code and press (OK).
- 7 If you selected **Unlock**, **All Calls**, or **Phonebook**, the display confirms the new setting.
- **8** Press any key or wait 3 seconds to return to standby.

If Digit Limit is Selected

(Continued from step 5 under "If Outgoing Lock is Selected".)

You may limit the number of digits that can be dialed from your phone. For example, to allow only local calls, restrict the digit limit to seven.

6 Enter the lock code. Press (OK).



- The display shows the current setting.
- 7 Press ▼ to increase the digit limit. Press ♠ to decrease the digit limit. The maximum digit limit is 31.
- **8** When the desired digit limit is displayed, press (OK).
- **9** Press any key or wait 3 seconds to return to standby.

Security Lock

When this feature is on, the phone will lock automatically whenever powered off and restricts unauthorized use. When powered on again, you are required to enter the lock code. Turn off this feature to disable it completely.

Turning On Security Lock

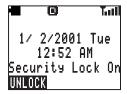
- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Security. Press © (OK).
- 3 Press ▼ to scroll to **Security Lock**. Press © (OK).
 - The current setting is displayed with an asterisk (*).

- 4 Scroll to select the desired setting and press (OK). If you select **On**, enter the lock code and press (a) (OK).
- **5** Press any key or wait 3 seconds to return to standby.

Turning Off Security Lock from Standby

Once Security Lock is activated, turning the phone off/on does not turn this feature off. You can turn off Security Lock temporarily by following these instructions.

The standby display indicates when Security Lock is activated.



- 2 Press (UNLOCK).
- **3** Enter the lock code, and press (OK).
- 4 Security Lock is temporarily turned off (until you turn your phone off/on again).

Disabling Security Lock

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to **Security**. Press © (OK).
- 3 Press ▼ to scroll to Security Lock. Press (OK).
 - The current setting is displayed with an asterisk (*).
- 4 Scroll to select **Off** and press (OK).
- 5 Enter lock code and press (OK).
- **6** Press any key or wait 3 seconds to return to standby.

Key Lock

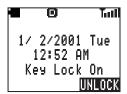
This feature lets you lock the keypad to prevent your phone's keys from being pressed accidentally. You can still receive calls by pressing any key except (iii) and you can place emergency (911) calls even when the key lock is on.

Turning On Key Lock

From standby, press and hold (MENU).



- The key lock is on.
- 2 Press any key or wait 3 seconds to return to standby.



Turning Off Key Lock

- Press (UNLOCK).
- 2 When the display asks whether you would like to Unlock **Keypad?**, press (a) (YES). The keypad is unlocked.

Subscriber Features

Several features on your phone are available only if you subscribe for the particular service from your wireless service provider. If you do not have one of the services listed below, contact your wireless service provider for more information.

Caller ID

This feature displays the phone number of the person calling you. If the caller's phone number matches an entry in the Phonebook, the corresponding name is also displayed.

Call Waiting

1 An alert sounds when you receive an incoming call during conversation.



- The display indicates that a call is waiting.
- If the caller's phone number matches an entry in the Phonebook, the corresponding name is displayed and the backlight changes color.
- 2 Press (ACCEPT) to connect with the incoming call. The first call is put on hold.

OR

Press (IGNORE) if you want to continue your current call.

- 3 Press SEND to switch between the two calls.
- **4** Press to end the current call in conversation.

- 2 Press (VIEW) to view the inbox message list.
 - The display icons indicate the message status:
 - ☑ :Unread message
 - .Locked message
 - :Read message
 - The urgency level of the received message is also displayed:
 - !! :Very urgent message
 - ! :Urgent message
 - * :Normal message
 - ↓ :Bulk message
- 3 If you have one new message, press ◀ or ▶ to scroll through the message, sender, and reception time.

OR

If you have more than one message, press \checkmark or $^\frown$ to scroll through the list of messages. When the arrow points to the desired message, press \checkmark or $^\frown$ to scroll through the message, sender, and reception time.

- **4** Once you finish reading a message, press
 ☐ (REPLY) to reply to the message, or press ☐ (OPTION) and go to step 5.
- 5 Press ▼ or ♠ to scroll to your desired action and press ♠ (OK).
 - If you selected Reply, go to the following section titled "Reply to a Text Message (Inbox Only)".
 - If you selected **Forward**, go to the following section titled "Forward a Text Message".
 - If you selected Edit (Outbox Only), go to the following section titled "Edit a Text Message (Outbox Only)".
 - If you selected Lock/Unlock, go to the following section titled "Lock/Unlock a Text Message".
 - If you selected **Delete**, go to the following section titled "Delete a Text Message".
 - If the message contains a phone number that you want to call back, go to the following section titled "Call Back a Text Message".
 - If you selected Add Sender, go to the following section titled "Add Sender in Phonebook".

Reply to a Text Message (Inbox Only)

(Continued from step 5 under "Reading New Text Messages".)

- 6 Enter your message.
- 7 Press (OK).
- 8 The destination is automatically displayed. Edit the destination, if necessary.
- **9** Press send and (YES) to send the message.
 - The outbox holds up to 20 unsent messages. If the outbox is full, delete or send an outbox message to make more room in the outbox.

Forward a Text Message

(Continued from step 5 under "Reading New Text Messages".)

- 6 Press ▼ or ▲ to scroll to the destination source list.
- **7** Press (OK).
- 8 Enter the destination.
- 9 Press (OK).
 - The message can be edited by pressing or .
- **10** Press (SEND) and (YES) to send the message.

Edit a Text Message (Outbox Only)

You can edit the destination or the messages in the outbox.

(Continued from step 5 under "Reading New Text Messages".)

- 6 Follow the screen prompts.
 - For additional information about text entry, see "Text Entry Operations", Chapter 4.

Lock/Unlock a Text Message

(Continued from step 5 under "Reading New Text Messages".)

- 6 Press (OK) to lock or unlock the message.
 - Even if the message is locked, it can be changed or deleted manually.

Delete a Text Message

(Continued from step 5 under "Reading New Text Messages".)

- 6 Press (OK) to delete the message.
 - The display confirms that you want to delete the message.
- 7 Press (YES) to delete.

Call Back a Text Message

When the text contains a telephone number, you can call that number.

(Continued from step 5 under "Reading New Text Messages".)

- 6 Press ▼ to scroll to the phone number you want to call back. (Phone numbers are automatically inserted.) To call that number, go to step 7.
 - Press (OPTION) to edit the Prefix (adding/deleting area code), or Save. Or, select Dial Setting in Prefix to change the numbers. (This is useful if the phone number is incorrect.)
- 7 Press (SEND) to send the call.

Add Sender in Phonebook

(Continued from step 5 under "Reading New Text Messages".)

- 6 Press ▼ to scroll to Save As (E-mail address, if any, is automatically inserted.)
- 7 Add or edit the additional Phonebook fields as described in "Creating a Phonebook Entry" in Chapter 5.

Accessing Text Messages

1 From standby, press [□].

OR

From standby, press (MENU), scroll to **Messages**, press (OK), and press (OK) again to select **Text Message**.



- Press v or to scroll to your desired selection and press (□) (OK).
 - If you selected **Inbox**, press or to scroll to the desired message, then or to scroll through the message, sender, and the time. After reading through a message, you can select your desired action. Go to Step 4 on page 67.
 - If you selected **Outbox**, press or a to scroll to the desired message, then or to scroll through the message, destination, and the time. After reading through a message, you can select your desired action. Go to Step 4 on page 67.
 - If you selected Create, go to the following section titled "Create a Text Message".
 - If you selected Delete All, press ▼ or ♠ to select delete all Inbox messages, or to select delete all Outbox messages. Press □ (OK). The display confirms your selection. Press □ (YES) to delete all the Inbox or Outbox messages, or press □ (NO) to return to the Delete All display.



You cannot delete Locked messages in **Delete All**.

If a phone number is displayed after **From:** in an Inbox message, pressing (SEND) calls the displayed number.

Create a Text Message

You may type a text message (up to 160 characters including the E-mail address).

(Continued from step 2 under "Accessing Text Messages".)

- 3 Enter a message. You can press (● or (►) to move within the message or to add a space. (See "Text Entry Operations", Chapter 4, for more detail.)
- **4** After entering the message, press (OK).
- 5 Press ▼ or ♠ to select an address source: a Phone No. or an E-mail Address. Press ♠ (OK).
 - You can also select a destination from the Phonebook (follow the display prompts) by pressing ((□).
- 6 Enter a destination. Press
 ☐ (OK). Note that you can switch back and forth between the destination screen and the message screen by pressing (or).
 - If necessary, the message can be edited by pressing
 (EDIT) and using or . (See "Text Entry Operations", Chapter 4).
- **7** Press (OPTION).
- 8 Press or to select **Send** (to send the message), **Save Message** (to store the message in the outbox before sending), or **Abort** (to delete the message).
 - The outbox holds up to 20 unsent messages. If the outbox is full, delete or send an outbox message to make more room in the outbox.
- **9** After you scroll to your selection, press (OK).

Voice Mail

Your voice mail phone number must be programmed into your phone before you can retrieve voice mail messages. If your voice mail phone number has not been programmed, contact your wireless service provider.

Listening to New Voice Mail

- 1 When a new voice mail message is received, an alert sounds and appears on the top of the display.
 - The display indicates the number of new voice mail messages.



2 Press ((LISTEN) to automatically dial your voice mail number.

OR

From the standby display, press and hold (until it calls your voice mailbox.

- 3 Follow the recorded instructions for your voice mail.
- 4 Press (to end your call and return to standby.

Resetting the Voice Mailbox Number



Do not reset your voice mailbox number if it is preprogrammed by your wireless service provider. Your voice mail will be inaccessible if an incorrect number is entered. Check with your wireless service provider for specific information.

- 1 From standby, press ((MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to Messages. Press © (OK).
- 3 Scroll to Voice Mail and press (a) (OK).
 - · Your voice mailbox phone number is displayed.



- 4 Press (a) (EDIT) and enter a new voice mailbox phone number.
 - You may also program Pause and Wait times. See "Programming Pauses or Waits" in Chapter 3.
- **5** Press (a) (OK) to save the new phone number.

System Settings

Voice Privacy Mode

When this feature is on, your conversations and messages are encrypted with a special code that can be interpreted only by your wireless service provider. Voice privacy is available only if offered by your wireless service provider. Contact your wireless service provider for additional information.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to System Setting and press © (OK).
- 3 Press (OK) again to select **Network**.
- 4 Press (OK) again to select Voice Privacy.
 - The current setting is marked with an asterisk (*).



- 5 To change the setting, scroll to the other option and press ☐ (OK).
 - · The display confirms the new voice privacy setting.
 - If you selected On, the encryption icon (₹) is displayed during calls.
- **6** Press any key or wait 3 seconds to return to standby.

Selecting Your Phone Number (NAM)

Your phone can have up to two phone numbers (programmed by your wireless service provider). You can select either phone number to make a call.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to System Setting and press © (OK).
- 3 Press ▼ to scroll to NAM Selection and press © (OK).



- NAM1 is your current phone number setting.
- 4 If you have a second phone number (NAM2), view it by pressing ♥ or ♠.
- 5 To select the other phone number (other than the one you are currently using), make sure the desired phone number (NAM) is displayed and press (□) (OK).



- The display confirms the NAM setting.
- **6** Press any key or wait 3 seconds to return to standby.
 - If you changed the NAM setting, a network search occurs.



If you would like to have a second phone number programmed for your phone, contact your wireless service provider.

Chapter 7

Searching for Available Systems

Your phone's search default is set to **Normal**, which means it automatically searches for available network systems, and then selects the appropriate one. It will default to this setting every time you turn on your phone, even when you have changed the search setting. To search for a particular network, select **Manual**. Up to 16 network names may be displayed. When **New Search** is selected, your phone begins a new search for available systems and asks if you use the network.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to System Setting and press © (OK).
- 3 Press to scroll to **Search** and press (OK).



- The three search settings are displayed.
- **4** Scroll to your preferred search setting and press (OK).
 - If you selected Normal, press any key or wait 3 seconds to return to standby.
 - If you selected Manual, press to scroll to a network you use and press (OK) to select it. Then, press any key or wait 3 seconds to return to standby.
 - If you selected **New Search**, an available network name is displayed. Press (YES) to select it or (NO) to have the phone search for another available network. After you select a network, press any key or wait 3 seconds to return to standby.

Service Priority

Your phone automatically searches for available networks when powered on. To change the **Service Priority** order, follow this procedure. If you are not sure which service you have, contact your wireless service provider.

- 1 From standby, press (MENU) to enter the Main Menu.
- 2 Press ▼ to scroll to System Setting and press © (OK).
- 3 Press ▼ to scroll to SVC Priority and press (OK).



4 Press ▼ to scroll to Custom and press (OK).



- The default search order is Residential (1st), Private (2nd), and Public (3rd).
- 5 Press ▼ or ▲ to change the SVC Priority order.
- 6 When your preferred order is displayed, press (☐) (OK).
 - The display confirms that the Service Priority was updated.
- 7 Press any key or wait 3 seconds to return to standby.

Chapter 7

Before Requesting Help



As you learn how to use all of your phone's features, you may occasionally experience minor problems. Fortunately, you can fix most of these problems yourself. Listed below are some of the problems you might encounter, as well as procedures that may help you arrive at a solution. If your problem persists, please contact your wireless service provider or visit Panasonic's website at www.panasonic.com.

Problem	Possible Cause(s)	Solution(s)	
Phone will not turn on	Battery is too low or not charged.	Recharge the battery. Or, connect the AC or DC adapter.	
	Battery contacts need to be cleaned.	Wipe the battery contacts and phone contacts with a dry cloth.	
	was not pressed long enough.	Try pressing and holding (FW) for at least three seconds.	
"Initialization Error xxxx" or "Run Time Error xxxx" is displayed	Your phone has detected a programming error.	Contact your wireless service provider.	
Phone turns off inadvertently	Battery is too low or will not hold a charge.	Connect an AC or DC adapter and confirm that the battery icon is displayed. If the battery icon does not display, contact your wireless service provider.	

Appendix A

Problem	Possible Cause(s)	Solution(s)
Battery will not recharge	The ambient air temperature exceeds 113°F (45°C) or is less than 32°F (0°C).	Lower or raise the air temperature; allow the phone to cool off or warm up before recharging.
	Contact between your battery and recharger is incomplete.	Disconnect your charger from the phone and then try reconnecting it.
	The battery has not been charged for a long time and has been deeply discharged.	Attempt to recharge the battery. It may take a few minutes for recharging to begin. If the battery will not recharge, replace it.
	The battery is defective.	Replace the battery.
		Note: It's normal for a battery to slowly lose its ability to hold a charge.
"No Service" is displayed	Signal is too weak.	Move to another location, or wait a few minutes if you are traveling in an automobile.
		If you are in a building, move near a window or go outside to send or receive calls.
		Note: If you know you are in a cellular service area and the phone continues to indicate "No Service", contact your wireless service provider.

Problem	Possible Cause(s)	Solution(s)	
Unable to	Phone is off.	Turn on phone.	
receive calls	Security features may be set so that the phone will not receive calls.	Check Call Restriction settings. (See "Call Lock" on page 60 for more information.)	
	Answer Options setting is set to use (SEND) to answer a call.	Press SEND to answer a call or change the Answer Options setting to Any Key. (See "Answer Options" on page 28.)	
	Service is not activated.	Contact your wireless service provider.	
Missing incoming calls	Verify that ring volume is not set to silent.	Set ring volume on.	
Calls dropped/ disconnected inadvertently You are outside of a cellular service area.		Check your wireless service provider's coverage map (including roaming areas) and try to move to a location within the coverage area. If problems persist, contact your wireless service provider.	
	Phone automatically disconnects calls when the battery level is low.	Recharge the battery.	

Appendix A

Problem	Possible Cause(s)	Solution(s)	
Unable to	Phone is off.	Confirm phone is on.	
place calls	Security features may be set so that the phone cannot place calls.	Check Call Restriction settings. (See "Call Lock" on page 60 for more information.)	
	You are outside of a cellular service area.	Check your wireless service provider's coverage map (including roaming areas) and try to move to a location within the coverage area.	
	An error was made dialing the number.	Confirm the number is correct.	
	Service is not activated.	Contact your wireless service provider.	
Unable to access Voice Mailbox	Voice Mail phone number is not programmed into phone.	Program Voice Mail phone number. Refer to additional information from your wireless service provider.	
	DTMF tones may be set to short instead of long.	Set DTMF tones to long. (See "DTMF Tone Length" on page 56 for details.)	
	Voice Mail service is not activated.	Contact your wireless service provider.	
Keys do not Keypad may be locked. work when (The display shows Key Lock On.)		If Key Lock On is displayed, press (a) (UNLOCK) and then (a) (YES) to unlock.	
	Phone may not be on.	Verify that phone is on.	
Lost or forgot lock code		Try entering "1234" as the lock code.	
		Contact your wireless service provider.	

Problem	Possible Cause(s)	Solution(s)
Unable to store entries into Phonebook	The Phonebook is full.	Delete an entry from the Phonebook. (See "Editing/ Deleting a Phonebook Entry" on page 42 for details.)
Unable to enter text as desired when pressing keys	Phone may be in WORD T9 (WORD79) mode instead of Letter (ABC) mode.	If WORDTO shows above the right softkey (), press the right softkey () until ABC appears above it. (See "Text Entry Operations", Chapter 4.)
Unable to set a subscriber feature	The feature you are trying to set is not offered by your wireless service provider.	Contact your wireless service provider for more information.
It is difficult to hear the other party	Your phone's earpiece volume is set too low.	Press during conversation.
You can hear the other party, but the other party can't hear you	Your microphone may be muted.	If the display shows "Muted", press (a) (UNMUTE).

System Warning Tones

If your call cannot be completed because of a wireless system error, you will hear one of the following warning tones:

Dropped Call Warning Tone

A slow busy tone sounds when your call drops because of low signal strength or if a caller hangs up.

Reorder Tone

A fast busy tone sounds when the cellular system is too busy to complete the call.

Intercept Tone

A rapid high/low tone sounds when a call is attempted before service has been established. Before placing a call, confirm that you are within a wireless service provider's coverage area.

Phone Specifications

		EB-TX210	EB-TX220
Sizes	with standard battery	4.6" x 1.7" x .8" (118 mm x 42 mm x 20.7 mm)	N/A
	with extended battery	4.6" x 1.7" x 1.04" (118 mm x 42 mm x 26.7 mm)	4.8" x 1.9" x 1.2" (121 mm x 47 mm x 29.7 mm)
Weight	with standard battery	3.1 oz. (87 g)	N/A
	with extended battery	3.9 oz. (109 g)	4.9 oz. (138 g)
Maximum RF Output		600 mW	600 mW

Phone Accessories

A variety of accessories are available for your Panasonic phone. Contact your local wireless service provider to purchase Genuine Panasonic accessories.

Replacement antennas are available from
Panasonic.
In the U.S., call 1 (800) 833-9626.
In Canada, contact your cellular dealer.

Using non-Panasonic accessories or accessories not recommended by your wireless service provider may result in poor performance of your phone, or even cause an electrical hazard.

EB-TX210 Series Handset Batteries

Standard Battery EB-BS210B (Blue) EB-BS210G (Gold) (Li-lon 650 mAh)

Extended Battery EB-BL210B (Blue) EB-BL210G (Gold) (Li-lon 1400 mAh)

EB-TX220 Series Handset Battery

Internal Battery EB-BL220 (Li-lon 1400 mAh)

EB-TX210 and EB-TX220 Additional Accessories

AC Adapter EB-CA210



DC Adapter EB-CD220



Data Cable EB-RS210



Spare Battery Charger EB-CV210



Private Handsfree Headset EB-EM210



EB-HF210EZ and EB-HF220EZ Handsfree Carmount Kits

Handsfree Unit



Adjustable Angle Bracket



Handset Holder (for EB-TX210 Series Handset)



Handset Holder (for EB-TX220 Series Handset)



Power Supply Cable



Interface Cable



EB-HF210EZ and EB-HF220EZ Handsfree Carmount Kits *(continued)*

Microphone



Speaker





All Panasonic branded accessories are tested and comply with FCC RF exposure requirements. Non-Panasonic accessories may not comply.

Consumer Update



Consumer Update on Mobile Phones

(Published by U.S. Food and Drug Administration, Center for Devices and Radiological Health, October 20, 1999.)

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 kind 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

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the telephone wiring in a house and which operate at far lower power levels and frequencies, has not been questioned.

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

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

In a hospital-based, case-control study, researchers looked for an association between mobile phone use and either glioma (a type of brain cancer) or acoustic neuroma (a benign tumor of the nerve sheath). No statistically significant association was found between mobile phone use and acoustic neuroma. There was also no association between mobile phone use and gliomas when all types of gliomas were considered together. It should be noted that the average length of mobile phone exposure in this study was less than three years.

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

Researchers conducted a large battery of laboratory tests to assess the effect 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 from the RF except for the micronucleus assay, which detects structural effects on the genetic material. The cells in this assay showed changes after exposure to simulated cell phone radiation, but only after 24 hours of exposure. It is possible that exposing the test cells to radiation for this long resulted in heating. Since this assay is known to be sensitive to heating, heat alone could have caused the abnormalities to occur. The data already in the literature on the response of the micronucleus assay to RF are conflicting. Thus, follow-up research is necessary.²

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

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

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

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

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What is known about cases of human cancer that have been reported in users of handheld 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 radiationemitting consumer products such as mobile phones before marketing, as it does with new drugs or medical devices. However, the agency has authority to take action if mobile phones are shown to emit radiation at a level that is hazardous to the user. In such a case, FDA could require the manufacturers of mobile phones to notify users of the health hazard and to repair, replace or recall the phones so that the hazard no longer exists.

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

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

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

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

The National Institutes of Health also participates in this group.

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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 PCD Radio Transmitters"): http://www.fcc.gov/oet/rfsafety

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PANASONIC TELECOMMUNICATION SYSTEMS COMPANY

Division of Matsushita Electric Corporation of America Two Panasonic Way, Panazip 7B-5, Secaucus, NJ 07094 www.panasonic.com

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