



# **SPH-I550**

## **User's Manual**

Please read this manual before operating the phone,  
and keep it for future reference.

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## Importance Safety Precautions

Read these guidelines before using your wireless phone. Failure to comply with these guidelines may be dangerous or illegal.

### **Road safety comes first**

Do not use a hand-held phone while driving; park the vehicle first.

### **Switch off when refueling**

Do not use the phone at a refueling point (service station) or near fuels or chemicals.

### **Switch off on aircraft**

Wireless phones can cause interference. Using them on aircraft is both illegal and dangerous.

### **Switch off in hospital**

Switch off your phone near medical equipment.

Follow any regulations or rules in force.

### **Interference**

All wireless phones may be subject to interference, which could affect performance.

### **Respect special regulations**

Follow any special regulations in force in any area and always switch off your phone whenever it is forbidden to use it, or when it may cause interference or danger (in a hospital for example).

### **Sensible use**

Use only in the normal position (held to the ear). Avoid unnecessary contact with the antenna when the phone is switched on.

### **Emergency call**

Ensure the phone is switched on and in service. Key in the emergency number for your present location, then press the **TALK** key. If certain features are in use, you may need to deactivate those features before you can make an emergency call. Give all the necessary information as accurately as possible. Do not end the call until given permission to do so by the person on the other end of the phone.

**Accessories and batteries**

Use only SAMSUNG-approved accessories and batteries.

**Qualified service**

Only qualified service personnel should install or repair your phone. Failure to do so may invalidate the warranty.

For more detailed safety information, see “Health and Safety Information” on page 17.

## Introduction to SPH-I550

The following features provide a range of user options that make the phone both fun and easy to use.

Phone features : You can use advanced phone capabilities.

PDA features : Address, date book, memo pad , to do list, etc.

Messaging feature : You can receive three kinds of messages - voicemail, text, e-mail.

Camera

MP3 Player

Data Capability : HotSync® technology to synchronize your phone and PC.

Touch Screen

Writing Recognition and On-Screen keyboard and PC input method

# Unpacking

**our package contains the following items:**

■ Basic items

- Handset
- Standard Battery (1150mAh)
- Extended Battery (1700 mAh)
- Travel Charger
- Desk Top Holder ( for Hotsync and Charging)
- Ear-Microphone
- Handstrap
- cd
- Stylus Pen (2EA)
- Holster or Leather Case
- User's Manual
- Graffiti Card

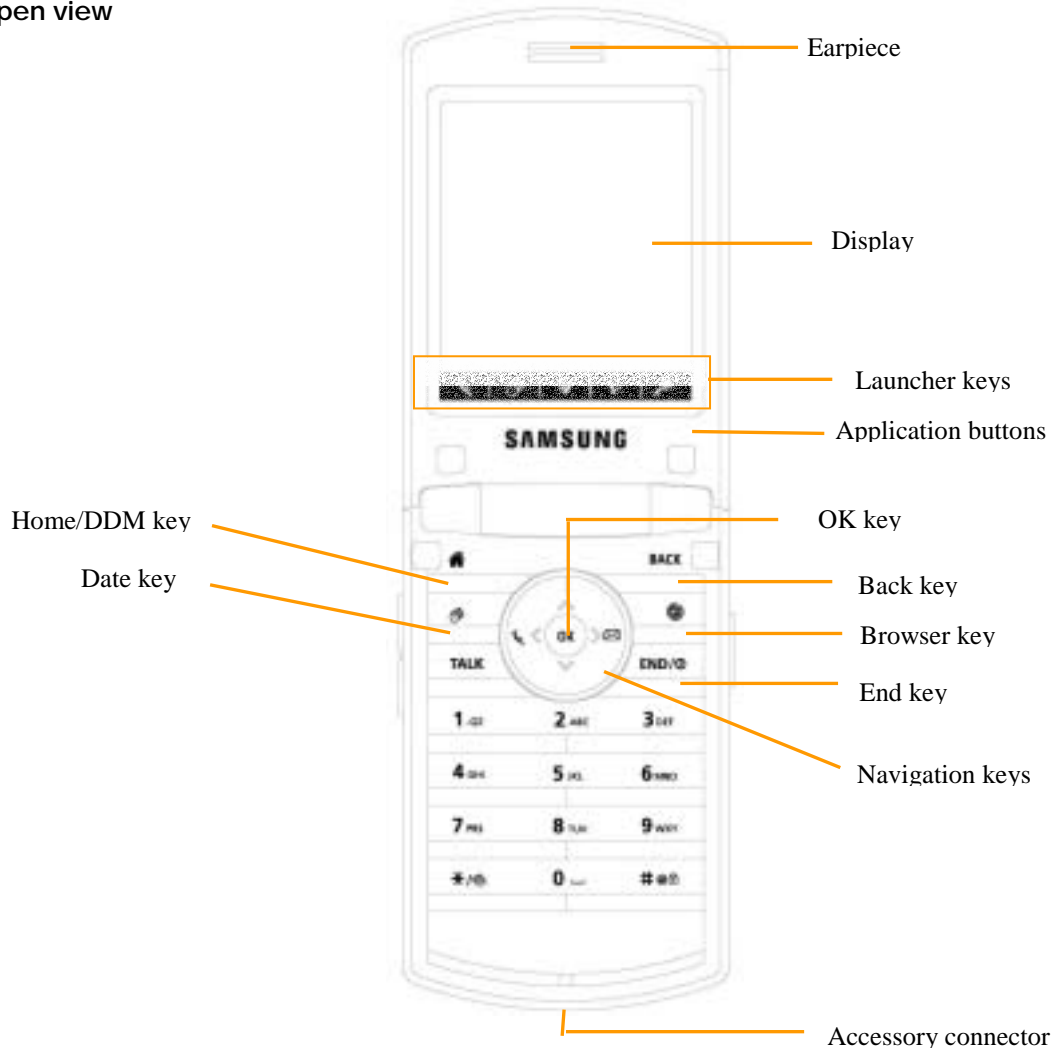
■ Optional items

- Hands Free Kit (Full Duplex)
- Cigarette Light Adapter
- USB Data Communication Cable

# Layout

The following picture shows the main elements of SPH-I550.

## Open view



## Closed view



# Keys and features

## Home Key

- To launch Palm home.

## End Key

- To turn the power on.
- To turn the phone mode on/off when pressed and held.
- To end a call in phone mode.

## Talk Key

- To make or receive a call.
- To display recent call history.
- To redial the last call number.

## OK Key

- To activate a selected application among menu lists.
- Soft key for the primary soft key in display.

## Back Key

- To cancel and go back.
- To erase text in edit mode.
- To go previous step.

## Date Key

- To activate the Date application.

## Browser Key

- To activate the Browser.

## Navigation Keys

- To scroll through the display line by line.
- Left/Right: Users can change key mapping using the **Preference/Button** option.

## Voice Memo Key

- To launch the voice dial mode.
- To record a voice memo by pressing and holding.
- To send a greeting message.



**Volume Keys**

- To adjust voice volume during conversation.
- To adjust key beep volume in standby mode.
- To scroll through the display page by page.

**Camera Key**

- To launch the camera application by pressing and holding.
- To take a picture in camera mode.

**Launcher Key**

- Home: To go to home.
- DDM: To activate the Drop Down Menu.
- Find: To activate Find
- On Screen Graffiti: To activate or deactivate the graffiti mode.
- Soft keyboard: To activate the soft keyboard.

**Accessory connector**

- Connects your phone to the AC adapter to the wall current.

**Soft Key 1**

- Linked with the first soft key.
- Backward in mp3 player mode.
- Activate Function as soft key indicated with graphically on the screen.

**Soft Key 2**

- Linked with second soft key.
- Play/Temporary stop in mp3 player mode.

**Soft Key 3**

- Linked with the third soft key.
- Forward in mp3 player mode.

## Interface

### Tapping and Typing

Like using a mouse to click elements on a computer screen, using the stylus to tap elements on your phone screen is the basic action that gets things done on your phone. Always use the point of the stylus for tapping or making strokes on the phone screen. Never use an actual pen, pencil, or other sharp object to write on the phone screen.

### How To Use Application

When you press the Home key to launch the applications. Tap the icon of the application that you want to open. If you have many applications installed on your phone, to the scroll bar to see all of your applications.

You can open some applications by pressing the keypad and the Launcher buttons on display. You can also open the main applications - Date Book, Address, To Do List, and Memo Pad - with the navigation key application buttons below the display. You can also change them using the "Preference / Buttons" menu.

### Using Menus

Menus on your phone are easy to use. Once you have mastered them in one application, you can use them the same way in all other applications.

-To open the menu bar:

Tap the DDM key on the display.

-To move another menu item

After open the menu bar, press the navigation key.

-To choose an option in the menu list

After you open the menu bar for an application, tap the menu that contains the command you want to use.

The menus and menu commands vary depending on which part of the application you're currently using.

## Entering Text

- Using the on-screen keyboard
- Using Graffiti writing
- Entering or importing data in Palm Desktop software and then synchronizing with your phone.
- Using an external keyboard


## Phone applications

I550 gives you advanced phone capabilities.


To turn on the phone mode, tap the Phone icon in home screen. Or, press and hold the End key.

To turn off the phone mode, press and hold the End key.

### Indicators


 : Shows the received signal strength. The greater the number of bars, the better the signal strength.

 : Appears when a call is in progress.

 : Appears when you are out of your home area and have registered with a different network.

 : Appears when a new text message has been received.


 : Appears when a new voice mail has been received.

 : The phone is set to vibration mode.

 : Shows the level of your battery.

**Phone Off** : Appears when the phone application is off.

 : Text mode indicator

 : TTY

 : Privacy indicator

 : 3G indicator

 : Appears when you set alarm(s).

### Making a call

#### - Dialing with Numeric Keys

1. Enter the digits you want to dial.

When one or two digits entered it shows registered speed dial,

You can make a call to the registered number by pressing the **TALK** key.

Press the **BACK** key to erase the last digit entered, and press and hold the

**BACK** (or **END**) key to erase the entire number.

2. Press the **TALK** key.
- 4 digit dialing
    1. When you enter 4 digits and press the **TALK** key, it looks up Address book entries and displays numbers match last 4 digits.
    2. Scroll through the number you want to dial.
    3. Press the **TALK** key.
  - Direct Dialing with 4 digit number
    1. Enter 4 digits.
    2. Press the **Menu** button.
    3. Press the **Call** option.
  - Abbreviated Dialing
    1. Set the prefix for abbreviated dialing in Phone Preference menu.
    2. Enter 4 digits and press the **Menu** key.
    3. Press the **Abbreviated Dial**.

### Ending a call

Press the **END** key.

If the number is not registered in Address book, you can save it in Address book.

### Answering a call

- When Folder closed: Open the folder.
- When Folder open (Phone mode): Press any key except END key and volume key when you set the any key answer capability.
- When Folder open (PDA mode): A dialog pops up notifying incoming call, and you can choose to answer or not.

### Redialing the last call

Press the **TALK** key twice.

## Emergency calls

When the phone is locked, users can call only 911 and special numbers predefined.

To call 911, just press 9,1,1 and press the **TALK** key.

## In call options

- To mute the microphone, press the **M** soft key (the last application key).
- To silent the key tones, press the **K** soft key (the third application key).
- To use 2 or 3way call, press the **TALK** key during a call, and then enter another number then **TALK** or **2/3** soft key.
- Call waiting: When you get another call during a call, press the **S**(Switch) soft key to switch two calls.

## Call Logs

1. Press the **TALK** key.
2. Choose one of the call logs among All, incoming, outgoing and missed.
3. Press the **TALK** key to make a call to the number. Or,  
Press the **Details** soft key to view the detail information of the number. Or,  
Press the **Done** soft key to go back to the previous screen. Or,  
Press the **Delete All** soft key to delete all items of selected logs.

## Address Search

1. Press the Address application.
2. Choose one of the options among by number, by name or by company.
3. You can make a call to the number or edit the item.

## Phone Preferences

### Sounds

You can adjust the volume, tone or type.

### Display

Backlight: Always On / 7sec / 15 sec / 30 sec / Always Off

Greeting: My Phone Number / Custom (Editable) / Username (NAI)

Idle Screen: Wall Paper / My Special List / Mail Box / Big Clock

### **Setup/Data Service**

Call: Auto Answer/Call Answer/Message popup/Enable auto-off of display during call

Dial: Auto Hyphen/Enable speed dial/Enable 4-digit dial/Enable abbreviated dial

### **Roam/LAI/Location**

Service Mode: Automatic/Sprint PCS/Analog

Call Guard: on/off

Password Prompt: always prompt/never ask

Net Guard: on/off

## **Another Applications**

### **Address Book**

This enables you to keep names, addresses, phone numbers and other information about your personal or business contacts.

To make a call, send e-mail and SMS directly from the Address Book.

Define the contacts to include in the Speed Dial and Voice Dial list.

In Address list, press Talk to connect to displayed number

### **Address search**

You can access this option by pressing the volume up key in Phone idle mode, or select the address search option from the phone menu list.

Users can select one of the search methods, by Number, by Name, by Company.

### **Speed dial**

You can assign up to 98 numbers to speed dial. (except #1: envelope)

The speed dial feature is located in the Address details screen. Speed dial numbers that

already assigned to other Address Book entries are not displayed. They are automatically removed from the list to avoid duplicate numbers.

## **Calculator**

This enables you to perform addition, subtraction, multiplication, and division.

## **Date Book**

This lets you quickly and easily schedule appointments or any kind of activity associated with a time and date.

## **Messages**

Your phone can send and receive SMS, voice mail, and picture message.

## **Memo Pad**

This provides a place to take notes that are not associated with records in Date Book, Address Book, or to Do List.

## **To Do List**

This is a convenient place to create reminders and prioritize the things that you have to do.

## **Security**

Your phone comes with this application so that unauthorized users cannot view the entries you wish to protect.

Lock and turn off your phone so that it does not operate until you enter the correct password.

Make all records that you mark as private so the information appears grayed out.

Hide all records that you mark as private so they do not appear on any screen.

## **Camera**

Camera application has 4 modes.



Camera Preview: to prepare taking a picture, and you can take a picture by press the camera key.

Review: You can review pictures by Expand view or Thumbnail view.

While reviewing pictures, you can send the picture to another phone.

Slide Show: You can review pictures by sliding show.

Online Albums: You can manage taken pictures by categories.

## **MP3 Player**

I550 is also an MP3 player.

You can listen to the music from the play list user made.

## **Using HotSync®**

HotSync® technology enables you to synchronize data between one or more Palm Computing® platform handhelds and Palm Desktop software or another PIM such as Microsoft Outlook. To synchronize data, you must connect your phone and Palm Desktop software. You can synchronize your data either directly or indirectly.

Direct methods include placing your phone in the cradle attached to your computer, or using infrared communications. Indirect methods include using a modem, or using network HotSync technology.

## **Health and Safety Information**

### **Exposure to Radio Frequency (RF) Signals**

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission (FCC) 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 the safety standards that were developed by independent scientific organizations through periodic and through 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\*.

SAR tests 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 operation 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 output of the phone.

Before a new model phone 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. While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure 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 printed in the label on the phone.

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\*In the U.S. 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.

## **For Body Operation**

SAR compliance for body-worn operating configurations is limited to the specific belt-clip/ holster supplied or approved by SAMSUNG, if available. End-users must be informed of the body-worn operating requirements for satisfying RF exposure compliance. The use of accessories that do not satisfy these requirements may not comply with FCC RF exposure compliance and should be avoided. □

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

For more information concerning exposure to radio frequency signals, see the following websites:

Federal Communications Commission (FCC)

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

Cellular Telecommunications Industry Association (CTIA):

<http://www.wow-com.com>

U.S. Food and Drug Administration (FDA)

<http://www.fda.gov/cdrh/consumer>

World Health Organization (WHO)

<http://www.who.int/peh-emf/en>

## Road Safety

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

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

1. Get to know your wireless phone and its features such as speed dial and redial. If available, these features help you to place your call without taking your attention off the road.
2. When it's available, use a hands free device. If possible, add an additional layer of convenience and safety to your wireless phone with one of the many hands free accessories available today.
3. Position your wireless phone within easy reach. Be able to access your wireless phone without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voice mail answer it for you.
4. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, ice, and even heavy traffic can be hazardous.
5. Do not take notes or look up phone numbers while driving. Jotting down a to-do-list or flipping through your address book takes attention away from your primary responsibility, driving safely.
6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan calls when your car will be stationary. If you need to make a call while moving, dial only a few numbers, check the road and your mirrors, then continue.
7. Do not engage in stressful or emotional conversations that may be distracting. Make people you are talking with aware you are driving and suspend conversations that have the potential to divert your attention from the road.
8. Use your wireless phone to call for help. Dial 9-1-1 or other local emergency number

in the case of fire, traffic accident or medical emergencies. Remember, it is a free call on your wireless phone!

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

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

### **Operating Environment**

Remember to follow any special regulations in force in any area and always switch off your phone whenever it is forbidden to use it, or when it may cause interference of danger.

When connecting the phone or any accessory to another device, read its user guide for detailed safety instructions. Do not connect incompatible products.

As with other mobile radio transmitting equipment, users are advised that for the satisfactory operation of the equipment and for the safety of personnel, it is recommended that the equipment should only be used in the normal operating position (held to your ear with the antenna pointing over your shoulder).

### **Electronic Devices**

Most modern electronic equipment is shielded from radio frequency (RF) signals. However, certain electronic equipment may not be shielded against the RF signals from your wireless phone. Consult the manufacturer to discuss alternatives.

### **Pacemakers**

Pacemaker manufacturers recommend that a minimum separation of 6 inches (15 cm) be maintained between a wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent

with the independent research by and recommend actions of Wireless Technology Research.

Persons with pacemakers:

- Should always keep the phone more than 6 inches (15cm) from their pacemaker when the phone is switched 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, switch off your phone immediately.

### **Hearing Aids**

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

### **Other Medical Devices**

If you use any other personal medical devices, 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. Switch off your phone 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**

Switch off your phone in any facility where posted notices so require.

### **Potentially Explosive Atmospheres**

Switch off your phone 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.

Users are advised to switch off the phone while at a refueling point (service station). Users are reminded of the need to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or where blasting operations are in progress.

Areas with a potentially explosive atmosphere are often but not always clearly marked. They include below deck on boats; 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.

### **Emergency Calls**

This phone, like any wireless phone, operates using radio signals, wireless and landline networks as well as user-programmed functions which cannot guarantee connection in all conditions. Therefore, you should never rely solely upon any wireless phone for essential communications (for example, medical emergencies).

Remember, to make or receive any calls the phone must be switched on and in a

service area with adequate signal strength. Emergency calls may not be possible on all wireless phone networks or when certain network services and/or phone features are in use. Check with local service providers.

To make an emergency call:

1. If the phone is not on, switch it on.
2. Key in the emergency number for your present location (for example, 911 or other official emergency number). Emergency numbers vary by location.
3. Press the **TALK** key.

If certain features are in use (keyguard, restrict calls, etc.), you may first need to turn those features off before you can make an emergency call. Consult this document and your local cellular service provider.

When making an emergency call, remember to give all the necessary information as accurately as possible. Remember that your phone may be the only means of communication at the scene of an accident - do not cut off the call until given permission to do so.

### **Other Important Safety Information**

-Only qualified personnel should service the phone, or install the phone in a vehicle.

Faulty

-installation or service may be dangerous and may invalidate any warranty which may apply to the unit.

-Check regularly that all wireless phone equipment in your vehicle is mounted and operating properly.

-Do not store or carry flammable liquids, gases or explosive materials in the same compartment as the phone, its parts or accessories.



-For vehicles equipped with an air bag, remember that an air bag inflates with great force. Do not place objects, including both installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If in, vehicle wireless equipment is improperly installed and the air bag inflates, serious injury could result.

-Switch off your phone before boarding an aircraft. The use of wireless phones in aircraft may be dangerous to the operation of the

### **Care and Maintenance**

Your phone is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you to fulfill any warranty obligations and allow you to enjoy this product for many years. When using your phone, battery, charger, or any accessory:

-Keep it and all its parts and accessories out of small children's reach.

-Keep it dry. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits.

- Do not touch the phone with a wet hand while it is charging. Doing so may cause an electric shock to you or damage to the phone.

-Do not use or store it in dusty, dirty areas as its moving parts can be damaged.

-Do not store it in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.

-Do not store it in cold areas. When the phone warms up (to its normal operating temperature), moisture can form inside the phone, which may damage the phone's electronic circuit boards.

- Do not drop, knock or shake it. Rough handling can break internal circuit boards.
  
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean it. Wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.
  
- Do not paint it. Paint can clog the device moving parts and prevent proper operation.
  
- Use only the supplied or an approved replacement antenna. Unauthorized antennas, modifications of attachments could damage the phone and may violate regulations governing radio devices.
  
- If the phone, battery, charger, or any accessory is not working properly, take it to your nearest qualified service facility. The personnel there will assist you, and if necessary, arrange for service.

## **Acknowledging Special Precautions and the FCC and Industry Canada Notice**

### **Cautions**

Modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### **FCC Compliance Information**

The device complies with Part 15 of FCC rules.

Operation is subject to following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received.

Including interference that may cause undesired operation.

## Information to User

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

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

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

## **Appendix A: CERTIFICATION INFORMATION (SAR)**

THIS MODEL PHONE MEETS THE GOVERNMENT REQUIREMENTS FOR EXPOSURE TO RADIO WAVES.

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on safety 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 (SAR). The SAR limit set by the FCC is 1.6 W/kg. SAR Tests are conducted using standard operating positions accepted 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 new model phone is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model.

The highest SAR values for this model phone as reported to the FCC are Head: 1.20W/Kg, Body-worn: 0.618W/Kg.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure 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 A3LSPHI550.

In the United States and Canada, the SAR limit for mobile phones used by the public is 1.6 watts/kilogram(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.

## **Appendix B: Guide to Safe and Responsible Wireless Phone Use**

### Cellular Telecommunications & Internet Association

”Safety is the most important call you will ever make.”

A Guide to Safe and Responsible Wireless Phone Use

TENS OF MILLIONS OF PEOPLE IN THE U.S. TODAY TAKE ADVANTAGE OF THE UNIQUE COMBINATION OF CONVENIENCE, SAFETY AND VALUE DELIVERED BY THE WIRELESS TELEPHONE. QUITE SIMPLY, THE WIRELESS PHONE GIVES PEOPLE THE POWERFUL ABILITY TO COMMUNICATE BY VOICE-ALMOST ANYWHERE, ANYTIME-WITH THE BOSS, WITH A CLIENT, WITH THE KIDS, WITH EMERGENCY PERSONNEL OR EVEN WITH THE POLICE. EACH YEAR, AMERICANS MAKE BILLIONS OF CALLS FROM THEIR WIRELESS PHONES, AND THE NUMBERS ARE RAPIDLY GROWING.

But an important responsibility accompanies those benefits, one that every wireless phone user must uphold. When driving a car, driving is your first responsibility. A wireless phone can be an invaluable tool, but good judgment must be exercised at all times while driving a motor vehicle-whether on the phone or not.

The basic lessons are ones we all learned as teenagers. Driving requires alertness, caution and courtesy. It requires a heavy dose of basic common sense-keep your head up, keep your eyes on the road, check your

mirrors frequently and watch out for other drivers. It requires obeying all traffic signs and signals and staying within the speed limit. It means using seatbelts and requiring other passengers to do the same.

But with wireless phone use, driving safely means a little more. This brochure is a call to wireless phone users everywhere to make safety their first priority when behind the wheel of a car. Wireless telecommunications is keeping us in touch, simplifying our lives, protecting us in emergencies and providing opportunities to help others in need. When it comes to the use of wireless phones, safety is your most important call.

#### Wireless Phone “Safety Tips”

Below are safety tips to follow while driving and using a wireless phone which should be easy to remember.

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

5. Do not take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a “to do” list while driving a car, you are not watching where you are going. It? common sense. Don? get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.

6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into traffic. Try to plan your calls before you begin your trip or attempt to coincide your calls with times you may be stopped at a stop sign, red light or otherwise stationary. But if you need to dial while driving, follow this simple tip-dial only a few numbers, check the road and your mirrors, then continue.

7. Do not engage in stressful or emotional conversations that may be distracting. Stressful or emotional conversations and driving do not mix-they are distracting and even dangerous when you are behind the wheel of a car. Make people you are talking with aware you are driving and if necessary, suspend conversations which have the potential to divert your attention from the road.

8. Use your wireless phone to call for help. Your wireless phone is one of the greatest tools you can own to protect yourself and your family in dangerous situations-with your phone at your side, help is only three numbers away. Dial 9-1-1 or other local emergency number in the case of fire, traffic accident, road hazard or medical emergency. Remember, it is a free call on your wireless phone!

9. Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity to be a “Good Samaritan” in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other local emergency number, as you would want others to do for you.

10. Call roadside assistance or a special wireless non-emergency assistance number when necessary. Certain situations you encounter while driving may require attention, but are not urgent enough to merit a call for emergency services. But you still can use your wireless phone to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

Careless, distracted individuals and people driving irresponsibly represent a hazard to everyone on the road. Since 1984, the Cellular Telecommunications Industry Association and the wireless industry have conducted educational outreach to inform wireless phone users of their responsibilities as safe drivers and good citizens. As we approach a new century, more and more of us will take advantage of the benefits of wireless telephones. And, as we take to the roads, we all have a responsibility to drive safely.

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

Cellular Telecommunications & Internet Association

For more information, please call 1-888-901-SAFE.

For updates: <http://www.wow-com.com/consumer/issues/driving/articles.cfm?ID=85>

## **Appendix C: Consumer Update on Wireless Phones**

U.S. Food and Drug Administration

### 1. What kinds of phones are the subject of this update?

The term wireless phone refers here to hand-held wireless phones with built-in antennas, often called cell, mobile, or PCS phones. These types of wireless phones can expose the user to measurable radio frequency energy (RF) because of the short distance between the phone and the user's head. These RF exposures are limited by Federal Communications Commission safety guidelines that were developed with the advice of FDA and other federal health and safety agencies. When the phone is located at greater distances from the user, the exposure to RF is drastically lower because a person's RF exposure decreases rapidly with increasing distance from the source. The so-called "cordless phones", which have a base unit connected to the telephone wiring in a house, typically operate at far lower power levels, and thus produce RF exposures well within the FCC's compliance limits.

### 2. Do wireless phones pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless phones. There is no proof, however, that wireless phones are absolutely safe. Wireless phones emit low levels of radio frequency energy (RF) in the microwave range while being used. They also emit very low levels of RF when in the stand-by mode. Whereas high levels of RF can produce health effects



(by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

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

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

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

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

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

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

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

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

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

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

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

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

FDA and the Cellular Telecommunications & Internet Association (CTIA) have a formal Cooperative Research and Development Agreement (CRADA) to do research on wireless phone safety. FDA provides the scientific oversight, obtaining input from experts in government, industry, and academic organizations. CTIA-funded research is conducted through contracts to independent investigators. The initial research will include both laboratory studies and studies of wireless phone users. The CRADA will also include a broad assessment of additional research needs in the context of the latest research developments around the world.

5. What steps can I take to reduce my exposure to radio frequency energy from my wireless phone?

If there is a risk from these products-and at this point we do not know that there is-it is probably very small. But if you are concerned about avoiding even potential risks, you can take a few simple steps to minimize your exposure to radio frequency energy (RF). Since time is a key factor in how much exposure a person receives, reducing the amount of time spent using a wireless phone will reduce RF exposure.

If you must conduct extended conversations by wireless phone every day, you could place more distance between your body and the source of the RF, since the exposure level drops off dramatically with distance. For example, you could use a headset and carry the wireless phone away from your body or use a wireless phone connected to a remote antenna

Again, the scientific data do not demonstrate that wireless phones are harmful. But if you are concerned about the RF exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless phone use.

6. What about children using wireless phones?

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

Some groups sponsored by other national governments have advised that children be discouraged from using wireless phones at all. For example, the government in the United Kingdom distributed leaflets containing such a recommendation in December 2000. They noted that no evidence exists that using a wireless phone causes brain tumors or other ill effects. Their recommendation to limit wireless phone use by children was strictly precautionary; it was not based on scientific evidence that any health hazard exists.

7. Do hands-free kits for wireless phones reduce risks from exposure to RF emissions?

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that hands-free kits reduce risks. Hands-free kits can be used with wireless phones for convenience and comfort. These systems reduce the absorption of RF energy in the head because the phone, which is the source of the RF emissions, will not be placed against the head. On the other hand, if the phone is mounted against the waist or other part of the body during use, then that part of the body will absorb more RF energy. Wireless phones marketed in the U.S. are required to meet safety requirements regardless of whether they are used against the head or against the body. Either configuration should result in compliance with the safety limit.

8. Do wireless phone accessories that claim to shield the head from RF radiation work?

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that accessories that claim to shield the head from those emissions reduce risks. Some products that claim to shield the user from RF absorption use special phone cases, while others involve nothing more than a metallic accessory attached to the phone. Studies have shown that these products generally do not work as advertised. Unlike “hand-free” kits, these so-called “shields” may interfere with proper operation of the phone. The phone may be forced to boost its power to compensate, leading to an increase in RF absorption. In February 2002, the Federal Trade Commission (FTC) charged two companies that sold devices that claimed to protect wireless phone users from radiation with making false and unsubstantiated claims. According to FTC, these defendants lacked a reasonable basis to substantiate their claim.

9. What about wireless phone interference with medical equipment?

Radio frequency energy (RF) from wireless phones can interact with some electronic devices. For this reason, FDA helped develop a detailed test method to measure electromagnetic interference (EMI) of implanted cardiac pacemakers and defibrillators from wireless telephones. This test method is now part of a standard sponsored by the Association for the Advancement of Medical Instrumentation (AAMI). The final draft, a joint effort by FDA, medical device manufacturers, and many other groups, was completed

in late 2000. This standard will allow manufacturers to ensure that cardiac pacemakers and defibrillators are safe from wireless phone EMI.

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

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

#### 10. What are the results of the research done already?

The research done thus far has produced conflicting results, and many studies have suffered from flaws in their research methods. Animal experiments investigating the effects of radio frequency energy (RF) exposures characteristic of wireless phones have yielded conflicting results that often cannot be repeated in other laboratories. A few animal studies, however, have suggested that low levels of RF could accelerate the development of cancer in laboratory animals. However, many of the studies that showed increased tumor development used animals that had been genetically engineered or treated with cancer-causing chemicals so as to be pre-disposed to develop cancer in the absence of RF exposure. Other studies exposed the animals to RF for up to 22 hours per day. These conditions are not similar to the conditions under which people use wireless phones, so we don't know with certainty what the results of such studies mean for human health.

Three large epidemiology studies have been published since December 2000. Between them, the studies investigated any possible association between the use of wireless phones and primary brain cancer, glioma, meningioma, or acoustic neuroma, tumors of the brain or salivary gland, leukemia, or other cancers. None of the studies demonstrated the existence of any harmful health effects from wireless phone RF exposures. However, none of the studies can answer questions about long-term exposures, since the average period of phone use in these studies was around three years.

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

A combination of laboratory studies and epidemiological studies of people actually using wireless phones would provide some of the data that are needed. Lifetime animal exposure studies could be completed in a few years. However, very large numbers of animals would be needed to provide reliable proof of a cancer promoting effect if one exists. Epidemiological studies can provide data that is directly applicable to human populations, but 10 or more years follow-up may be needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop - if they do - may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless phones. Many factors affect this measurement, such as the angle at which the phone is held, or which model of phone is used.

12. Which other federal agencies have responsibilities related to potential RF health effects?

Additional information on the safety of RF exposures from various sources can be obtained from the following organizations.

FCC RF Safety Program:

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

Environmental Protection Agency (EPA):

<http://www.epa.gov/radiation/>

Occupational Safety and Health Administration? (OSHA):

<http://www.osha-slc.gov/SLTC/radiofrequencyradiation/index.html>

National Institute for Occupational Safety and Health (NIOSH):

<http://www.cdc.gov/niosh/emfpg.html>

World health Organization (WHO):

<http://www.who.int/peh-emf/>

International Commission on Non-Ionizing Radiation Protection:

<http://www.icnirp.de>

National Radiation Protection Board (UK):

<http://www.nrpb.org.uk>

Updated 4/3/2002: US Food and Drug Administration <http://www.fda.gov/cellphones>