* Depending on the software installed or your service provider or country, some of the description in this guide may not match your phone.
* Depending on your country, your phone and accessories may appear different from the illustrations in this guide.

SAMSUNG ELECTRONICS

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DRAFT

SGH-E690
User's Guide

Important safety **precautions**

☑ Failure to comply with the following precautions may be dangerous or illegal.

Drive safely at all times

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

Switch off the phone when refuelling

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

Switch off in an aircraft

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

Switch off the phone near all medical equipment

Hospitals or health care facilities may be using equipment that could be sensitive to external radio frequency energy. Follow any regulations or rules in force.

Interference

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

Be aware of special regulations

Meet 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.

Water resistance

Your phone is not water-resistant. Keep it dry.

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

Key in the emergency number for your present location, then press .

Keep your phone away from small children

Keep the phone and all its parts, including accessories, out of the reach of small children.

Accessories and batteries

Use only Samsung-approved batteries and accessories, such as headsets and PC data cables. Useof any unauthorised accessories could damage you or your phone and may be dangerous.

- The phone could explode if the battery is replaced with an incorrect type.
- Dispose of used batteries according to the manufacturer's instructions.

At very high volumes, prolonged listening to a headset can damage your hearing.

Qualified service

Only qualified service personnel may repair your phone.

For more detailed safety information, see "Health and safety information" on page 24.

Contents

Overview of menu functions

To access Menu mode, press <**Menu**> in Idle mode.

1 Call log

1 Recent contacts
2 Missed calls
3 Dialled calls
4 Received calls
5 Delete all
6 Call time
7 Call costs*

2 Phonebook

1 Contact list
2 FDN contacts
3 Create contact
4 Group
5 Speed dial
6 My namecard
7 Own number
8 Management
9 Service number*

3 Applications

1 Music Player
2 Voice recorder
3 Image editor
4 Decision maker
5 Bluetooth
6 Java world
7 FM radio
8 SIM-AT*

4 Browser

1 Home
2 Bookmarks
3 Enter URL
4 Clear cache
5 Profile settings
6 Current profile

5 Messages

1 Create new message
2 My messages
3 Templates

5 Messages (continued)

4 Delete all
5 Settings
6 SOS message
7 Broadcast messages
8 Memory status

6 My files

1 Images
2 Videos
3 Music
4 Sounds
5 Other files
6 Memory status

7 Planner

1 Alarm
2 Calendar
3 Memo
4 World time
5 Calculator
6 Convertor
7 Timer
8 Stopwatch

8 Camera

1 Take photo
2 Record video
3 Go to My photos
4 Go to My video clips

9 Settings

1 Time and date
2 Phone settings
3 Display settings
4 Sound settings
5 Light settings
6 Network services
7 Security
8 Memory status
9 Reset settings

* Shows only if supported by your SIM card.

Unpack

Your package contains the following items.

- Handset
- Battery
- Travel Adapter
- User's Guide

In addition, you can obtain various accessories from your local Samsung dealer.

- Standard Battery
- Extended Battery
- Battery Charger
- Headset
- PC Data Link Kit
- Car Charger/Adaptor

☑ The items supplied with your phone and the accessories at your Samsung dealer may vary, depending on your country or service provider.

Get started

First steps to operating your phone

SIM card information

When you subscribe to a cellular network, you receive a plug-in SIM (Subscriber Identity Module) card loaded with your subscription details, such as your PIN, and available optional services.

Install and charge the phone

1. Remove the battery.
   - ☑ If the phone is already on, first turn it off by holding [ ].
2. Insert the SIM card.
   - ☑ Make sure that the gold-coloured contacts on the card face down into the phone.
3. Install the battery.
4. Plug the travel adapter into the phone.
5. Plug the adapter into a standard AC wall outlet.
6. When the phone is completely charged (the battery icon becomes still), unplug the adapter from the power outlet.
7. Remove the adapter from the phone.

Low battery indicator

When the battery is low:

- a warning tone sounds,
- the battery low message displays, and
- the empty battery icon ( ) blinks.

If the battery level becomes too low, the phone automatically turns off. Recharge your battery.

Power on or off

Switch on	1. Open the phone.
	2. Press and hold [ ] to turn on the phone.
Do not turn on the phone when mobile phone use is prohibited.	3. If necessary, enter the PIN and press <**OK**>.
Switch off	1. Open the phone.
	2. Press and hold [ ].

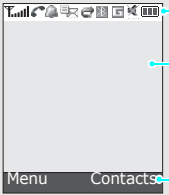
Keys and display

Key(s)	Description
Soft keys	Perform the function indicated on the bottom line of the display.
Navigation keys	In Idle mode, access your favourite menus, directly. In Menu mode, scroll through the menu options.
Cingular key	In Idle mode, launch the web browser. In Menu mode, select the highlighted menu option.
Cancel key	Delete characters from the display. In Menu mode, return to the previous menu level.

SEND key	Send or answer a call. In Idle mode, retrieve the recent numbers dialled, missed, or received.
END key	End a call. Press and hold to switch the phone on and off. In Menu mode, cancel input and return the phone to Idle mode.
Numeric keys	Enter numbers, letters, and some special characters. In Idle mode, press and hold [**1**] to access your voicemail server. Press and hold [**0**] to enter the international call prefix.
***** key	In Idle mode, press and hold [✱] to enter a pause between numbers.
# key	Press and hold [#] to activate or deactivate Quiet mode.
Volume keys	Adjust the phone volume. In Idle mode, with the phone open, adjust the keypad tone volume. With the phone closed, press and hold to activate the external display.

Display

Layout



Icons
display various icons.

Text and graphics
display messages, instructions, and information you enter.

Soft key function indicators
show the current functions assigned to the two soft keys.

Icons*

- Received signal strength
- Call in progress
- Out of your service area; you cannot send or receive calls
- Alarm set
- New text message
- New voicemail
- New multimedia message
- New e-mail
- One of the message Inboxes is full
- Call diverting feature active
- Bluetooth active ▸ p. 44
- Synchronised with a PC
- GPRS network
- EDGE network
- Home Zone, if registered for the appropriate service
- Office Zone, if registered for the appropriate service
- Ringer type
  - None: Melody
  - : Vibration
  - : Melody and vibration
  - : Vibration then melody
  - : Melody then vibration
- Silent mode
- Battery power level

* Depending on your country or service provider, the icons shown on the display may vary.

Menu functions

All menu options listed

Call log *(Menu 1)*

Use this menu to view the calls you have dialled, received, or missed, and the length of the calls. You can also check the cost of your calls, if the SIM card supports this function.

To access this menu, press <**Menu**> in Idle mode and select **Call log**.

Recent contacts *(Menu 1.1)*

This menu displays the most recent calls dialled, received, or missed.

Missed calls *(Menu 1.2)*

This menu displays the most recent received calls that you did not answer.

Dialled calls *(Menu 1.3)*

This menu displays the most recent calls you have dialled.

Received calls *(Menu 1.4)*

This menu displays the most recent calls you have received.

Delete all *(Menu 1.5)*

Use this menu to delete all of the records in each call type.

Call time *(Menu 1.6)*

This menu displays the time log for calls made and received. The actual time invoiced by your service provider will vary.

- **Last call time**: check the length of your last call.
- **Total sent**: check the total length of all the calls you have dialled.
- **Total received**: check the total length of all the calls you have received.
- **Reset timers**: reset the call timers. You need to enter the phone password.

  ☑ The password is preset to **00000000**. You can change this password.

Call costs *(Menu 1.7)*

This network feature displays the cost of calls. This menu is available only if your SIM card supports this feature. Note that this is not intended to be used for billing purposes.

- **Last call cost**: check the cost of your last call.
- **Total cost**: check the total cost of all your calls. If the total cost exceeds the maximum cost set in **Set max cost**, you must reset the counter before you can make another call.
- **Max cost**: check the maximum cost limit set in **Set max cost**.
- **Reset counters**: reset the cost counters.
- **Set max cost**: set the maximum cost authorised for your calls.
- **Price/Unit**: set the price per unit that is applied when the cost of your calls is calculated.

Phonebook *(Menu 2)*

You can store phone numbers on your SIM card and in your phone's memory. The SIM card and phone's memory are physically separate, but they are used as a single entity called Phonebook.

To access this menu, press <**Menu**> in Idle mode and select **Phonebook**.

Contact list *(Menu 2.1)*

Use this menu to search for contacts in Phonebook.

☑ You can quickly access this menu by pressing <**Contacts**> in Idle mode.

FDN contacts *(Menu 2.2)*

Use this menu to create a list of contacts to be used in FDN (Fixed Dialling Number) mode, in which the phone allows outgoing calls only to the specified phone numbers, if your SIM card supports this feature. You can activate FDN mode in the **FDN mode** menu.

Create contact *(Menu 2.3)*

Use this menu to add a new contact to Phonebook.

Group *(Menu 2.4)*

Use this menu to organise your contacts in caller groups.

Speed dial *(Menu 2.5)*

Use this menu to assign speed dial numbers (2 to 9) for 8 of your most frequently dialled numbers.

My namecard *(Menu 2.6)*

Use this menu to create a name card and send it to other people.

Own number *(Menu 2.7)*

Use this feature to check your phone numbers, or to assign a name to each of the numbers. Changes made here do not affect the actual subscriber numbers on your SIM card.

Management *(Menu 2.8)*

Use this menu to manage Phonebook.

Service number *(Menu 2.9)*

Use this menu to view the list of Service Dialling Numbers (SDN) assigned by your service provider, including emergency numbers and numbers for directory enquiries. This menu is available if your SIM card supports SDN.

1. Scroll to the number you want.
2. Press <**Dial**> or [ ].

Applications *(Menu 3)*

Use this menu to play Java applications, play music files, or edit photos.

To access this menu, press <**Menu**> in Idle mode and select **Applications**.

Music Player *(Menu 3.1)*

Use this menu to enjoy music. First, you need to save music files in your phone's memory. To enjoy high quality music, you can use an optional Bluetooth stereo headset.

☑ Normal headsets and Bluetooth mono headsets are not compatible with the music player.

Voice recorder *(Menu 3.2)*

Use this menu to record voice memos. A voice memo can be up to one hour long.

Image editor *(Menu 3.3)*

Use this menu to edit your photos using an assortment of editing tools.

Decision maker *(Menu 3.4)*

This menu helps you make decisions when you are not sure what to do in given situations.

Bluetooth *(Menu 3.5)*

Using Bluetooth wireless, you can connect the phone wirelessly to other Bluetooth devices and exchange data with them, talk hands-free, or control the phone remotely.

Bluetooth technology allows free wireless connections between all Bluetooth-compliant devices within a range of 10 metres. Since the devices communicate using radio waves, they do not need to be in line of sight to each other.

- If there are obstacles between the devices, the maximum operating distance may be reduced.
- It is recommended that you do not use the Bluetooth feature while using multimedia features such as voice recorder, camera, and music player, or vice versa, for better performance.
- Some devices may not be compatible with your phone.

Java world *(Menu 3.6)*

Use this menu to access the embedded Java games and downloaded Java applications.

FM radio *(Menu 3.7)*

Use this menu to access the FM radio on your phone. First, you must connect your phone with the headset, which serves as a radio antenna.

SIM-AT *(Menu 3.8)*

This menu is available if you use a SIM-AT card that supports SIM Application Toolkit menus and provides additional services, such as news, weather, sports, entertainment, and location services. Available services may vary, depending on your service provider's plans. For details, see your SIM card instructions or contact your service provider.

Browser *(Menu 4)*

The Wireless Application Protocol (WAP) on your phone allows you to access the wireless web. Using the web browser, you can access up-to-date information and a wide variety of media content, such as wallpapers, ringtones, and music files.

To access this menu, press <**Menu**> in Idle mode and select **Browser**.

Home *(Menu 4.1)*

Use this menu to connect your phone to the network and load the homepage of the wireless web service provider. You can also press [OK/*i*] in Idle mode.

Bookmarks *(Menu 4.2)*

Use this menu to save URL addresses in order to quickly access web pages, or access the preset bookmarks.

Enter URL *(Menu 4.3)*

Use this menu to manually enter the URL address of a website and access the website.

Clear cache *(Menu 4.4)*

Use this menu to clear the cache, which is a temporary memory site that stores recently accessed web pages.

Profile settings *(Menu 4.5)*

Use this menu to set up servers for the web browser. Contact your service provider for details about your setting options.

Current profile *(Menu 4.6)*

Use this menu to activate one of the proxy servers you have set up.

Messages *(Menu 5)*

Use the **Messages** menu to send and receive short messages, multimedia messages, and e-mails. You can also access push messages, voicemails, and cell broadcast messages.

To access this menu, press <**Menu**> in Idle mode and select **Messages**.

Create new message *(Menu 5.1)*

Use this menu to create and send text messages, multimedia messages, or e-mails.

My messages *(Menu 5.2)*

Use this menu to access messages you have received, sent, or which have failed in sending.

Templates *(Menu 5.3)*

Use this menu to make and use templates of frequently used messages.

TDelete all *(Menu 5.4)*

Use this menu to delete all messages in each message type at once.

Settings *(Menu 5.5)*

Use this menu to set up various options for using the messaging service.

SOS message *(Menu 5.6)*

In emergency, you can send SOS messages to your family or friends for help. You can also receives SOS messages from other people who are in an emergency. Use this menu to specify options for sending and receiving SOS message.

Broadcast messages *(Menu 5.6)*

The cell broadcast service delivers short messages on various topics such as the weather or traffic.

Use this menu to change the settings for the service and to access broadcast messages.

Memory status *(Menu 5.7)*

Use this menu to view the amount of memory currently in use in each message folder.

My files *(Menu 6)*

The **My files** menu allows you to access images, videos, music files, and sound files stored in the phone's memory.

To access this menu, press <**Menu**> in Idle mode and select **My files**.

☑ As a result of the Digital Rights Management (DRM) system, some of the media items you download from the Internet or receive by MMS may require a license key to access them.

Images *(Menu 6.1)*

This menu displays photos you have taken and images you have downloaded, received in messages, or imported from a computer.

Videos *(Menu 6.2)*

This menu displays video clips you have recorded, downloaded, received in messages, or imported from a computer.

☑ Video clips recorded on other devices, such as camcorders, may not play correctly.

Music *(Menu 6.3)*

This menu displays MP3 music files you have downloaded, or imported from a computer.

Sounds *(Menu 6.4)*

This menu displays the voice memos you have recorded, and sound files you have downloaded, received in messages, or imported from a computer.

Other files *(Menu 6.5)*

Files that you have received but which are not supported by your phone are stored in this folder. You cannot open these files on the phone.

Memory status *(Menu 6.6)*

You can check the total amount of memory and the amount of memory currently in use in each media box.

Planner *(Menu 7)*

Use this menu to keep track of your schedule. You can also use convenient features, such as an alarm clock, a memo pad, calculator, converter, timer, and stopwatch.

To access this menu, press <**Menu**> in Idle mode and select **Planner**.

Alarm *(Menu 7.1)*

Use this menu to set alarms. The alert type for a normal alarm corresponds to the call alert type settings. A wake-up alarm is not affected by your sound settings.

Calendar *(Menu 7.2)*

Use this menu to keep track of your schedule.

Memo *(Menu 7.3)*

You can create a list of memos.

World time *(Menu 7.4)*

Use this menu to find out the current time in another part of the world.

Calculator *(Menu 7.5)*

Use this menu to perform basic arithmetic functions, such as addition, subtraction, multiplication, and division.

Convertor *(Menu 7.6)*

Use this menu for common conversions, such as currency and temperature.

Timer *(Menu 7.7)*

Use this menu to set a period of time for the phone to count down. The phone sounds an alarm when the specified period of time has expired.

Stopwatch *(Menu 7.8)*

Use this menu to measure elapsed time. The maximum time is 10 hours.

Camera *(Menu 8)*

You can use the camera module embedded in your phone to take photos and record videos.

To access this menu, press <**Menu**> in Idle mode and select **Camera**, or press [📷] in Idle mode.

- Do not take photos of people without their permission.
- Do not take photos in a place where cameras are not allowed.
- Do not take photos in a place where you may interfere with another person's privacy.

Take photo *(Menu 8.1)*

The camera produces JPEG photos.

When you take a photo in direct sunlight or in bright conditions, shadows may appear on the photo.

Record video *(Menu 8.2)*

You can record a video of what is displayed on the camera screen and save it.

Go to My photos *(Menu 8.3)*

Use this menu to access a list of photos you have taken. ▶ p. 16

Go to My video clips *(Menu 8.4)*

Use this menu to access a list of videos you have recorded. ▶ p. 17

Settings *(Menu 9)*

The **Settings** menu provides you with various setting options to customise the phone to your preferences and needs. You can also reset the settings to their default values.

To access this menu, press <**Menu**> in Idle mode and select **Settings**.

Time and date *(Menu 9.1)*

Use this menu to set the current time and date on your phone.

Phone settings *(Menu 9.2)*

Many different features of your phone's system can be

Display settings *(Menu 9.3)*

Use this menu to change settings for the display and light.

Sound settings *(Menu 9.4)*

Use this menu to customise various sound settings.

Light settings *(Menu 9.5)*

Use this menu to change settings for light.

Network services *(Menu 9.6)*

Use this menu to access network services. Please contact your service provider to check their availability and subscribe to them, if you wish.

Security *(Menu 9.7)*

Use this menu to protect the phone against unauthorised use by managing the several access codes of your phone and SIM card.

☑ If you enter an incorrect PIN/PIN2 three times in succession, the SIM card is blocked. To unblock it, you need to enter your PUK/PUK2 (Personal Unblocking Key). The codes are supplied by your network operator.

.Memory status *(Menu 9.8)*

Use this menu to check the amount of memory being used for storing data in Messages, My files, Calendar, Phonebook, JAVA world, and Memo. You can also view the amount of shared memory.

Reset settings *(Menu 9.9)*

Use this menu to reset the phone's settings you have changed.

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 phones employs a unit of measurement known as Specific Absorption Rate (SAR). The SAR limit recommended 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 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 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.

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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.

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.

For body operation

For body worn operation, this model phone has been tested and meets the FCC RF exposure guidelines when used with a Samsung-supplied or approved accessory designated for this product or when used with and accessory that contains no metal and that positions the handset a minimum from the body.

The minimum distance for this model phone is written in the FCC certification information from the body. None compliance with the above conditions may violate FCC RF exposure guidelines.

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

Federal Communications Commission (FCC)
http://www.fcc.gov

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

Precautions when using batteries

Never use any charger or battery that is damaged in any way.

Use the battery only for its intended purpose.

If you use the phone near the network's base station, it uses less power; talk and standby time are greatly affected by the signal strength on the cellular network and the parameters set by the network operator.

Battery charging time depends on the remaining battery charge, the type of battery and the charger used. The battery can be charged and discharged hundreds of times, but it will gradually wear out. When the operation time

(talk time and standby time) is noticeably shorter than normal, it is time to buy a new battery.

If left unused, a fully charged battery will discharge itself over time.

Use only Samsung-approved batteries and recharge your battery only with Samsung-approved chargers. When a charger is not in use, disconnect it from the power source. Do not leave the battery connected to a charger for more than a week, since overcharging may shorten its life.

Extreme temperatures will affect the charging capacity of your battery: it may require cooling or warming first.

Do not leave the battery in hot or cold places, such as in a car in summer or winter conditions, as you will reduce the capacity and lifetime of the battery. Always try to keep the battery at room temperature. A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged. Li-ion batteries are particularly affected by temperatures below 0 °C (32 °F).

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes a direct connection between the + and – terminals of the battery (metal strips on the battery), for example when you carry a spare battery in a pocket or bag. Short-circuiting the terminals may damage the battery or the object causing the short-circuiting.

Dispose of used batteries in accordance with local regulations. Always recycle. Do not dispose of batteries in a fire.

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, one that every user must uphold.

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

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.

When available, use a hands-free device. If possible, add an extra layer of convenience and safety to your wireless

phone with one of the many hands-free accessories available today.

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, let your voice mail answer it for you.

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.

Do not take notes or look up phone numbers while driving. Jotting down a To Do list or flipping through your Address Book takes your attention away from your primary responsibility, driving safely.

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.

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

Use your wireless phone to call for help. Dial the emergency number in the case of fire, traffic accident or medical emergencies. Remember, it is a free call on your wireless phone!

Use your wireless phone to help others in emergencies. If you see a car accident, crime in progress or other serious emergency where lives are in danger, call the emergency number, as you would want others to do for you.

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 any 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 or danger.

When connecting the phone or any accessory to another device, read its user's 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 distance of 15 cm (6 inches) be maintained between a wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research and recommendations of Wireless Technology Research.

Persons with pacemakers:

should always keep the phone more than 15 cm (6 inches) 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 potential 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 wish 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 it is 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. 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 require you to do so.

Potentially explosive environments

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 the areas 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 on any wireless phone for essential communications (medical emergencies, for example).

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:

If the phone is not on, switch it on.

Key in the emergency number for your present location (for example, 911 or other official emergency number). Emergency numbers vary by location.

Press .

If certain features are in use (call barring, for example), you may first need to deactivate those features 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 end the call until given permission to do so.

FCC Notice and Cautions

FCC Notice

- The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- 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 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 receiveing 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.

The phone may cause TV or radio interference if used in close proximity to receiving equipment. The FCC can require you to stop using the phone if such interference cannot be eliminated.

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 Battery march Park, Quincy, MA 02269, Attn: Publication Sales Division.

Cautions

Changes or modifications made in the radio phone, not expressly approved by Samsung, will void the user's authority to operate the equipment.

Only use approved batteries, antennas and chargers. The use of any unauthorized accessories may be dangerous and void the phone warranty if said accessories cause damage or a defect to the phone.

Although your phone is quite sturdy, it is a complex piece of equipment and can be broken. Avoid dropping, hitting, bending or sitting on it.

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 applicable to the device.

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 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 is illegal and may be dangerous to the aircraft's operation.

Failure to observe these instructions may lead to the suspension or denial of telephone services to the offender, or legal action, or both.

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 fulfill any warranty obligations and allow you to enjoy this product for many years:

Keep the phone and all its parts and accessories out of the reach of small children's.

Keep the phone dry. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits.

Do not use the phone with a wet hand. Doing so may cause an electric shock to you or damage to the phone.

Do not use or store the phone in dusty, dirty areas, as its moving parts may be damaged.

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

Do not store the phone 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 the phone. Rough handling can break internal circuit boards.

Do not use harsh chemicals, cleaning solvents or strong detergents to clean the phone. Wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.

Do not paint the phone. Paint can clog the device's moving parts and prevent proper operation.

Do not put the phone in or on heating devices, such as a microwave oven, a stove or a radiator. The phone may explode when overheated.

Use only the supplied or an approved replacement antenna. Unauthorized antennas or modified accessories may damage the phone and 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

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

This device may not cause harmful interference, and

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'S REQUIREMENTS FOR EXPOSURE TO RADIO WAVES.

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on 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 exposure limit established by the FCC. Tests for each model phone are performed in positions and locations (e.g. at the ear and worn on the body) as required by the FCC.

The highest SAR values for this model phone as reported to the FCC are: GSM1900 Head: 0.5 W/kg, GPRS1900 Body-worn: 0.619 W/Kg.

For body worn operation, this model phone has been tested and meets the FCC RF exposure guidelines whenused with a Samsung accessory designated for this product or when used with an accessory that contains no metal and that positions the handset a minimum of 1.5 cm from the body. Non-compliance with the above restrictions may result in violation of FCC RF exposure guidelines.

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 A3LSGHE690.

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 ma gin 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 seat belts 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:

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.

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.

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.

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.

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's common sense. Don't get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.

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.

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.

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!

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.

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

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.

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.

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.

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.

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.

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.

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.

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.

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 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.

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, gioma, 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.

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.

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's (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