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

SAMSUNG ELECTRONICS

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SGH-X650
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 accessories and batteries. Use of any unauthorised accessories could damage 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.

Qualified service

Only qualified service personnel may repair your phone.

For more detailed safety information, see "Health and safety information" on page 69.

About this Guide

This User's Guide provides you with condensed information about how to use your phone. To quickly learn the basics for your phone, please refer to "Get started" and " Step outside of the phone."

In this guide, the following instruction icons appear:

☑	Indicates that you need to pay careful attention to the subsequent information regarding safety or phone features.
▶	Indicates that you can get more information on the referenced page.
→	Indicates that you need to press the Navigation keys to scroll to the specified option and then select it.
[ ]	Indicates a key on the phone. For example, [OK/*i*]
< >	Indicates a soft key, whose function is displayed on the phone screen. For example, <**Menu**>

- **Camera**
  Use the camera module on your phone to take a photo.

Special features of your phone

- **IrDA**
  Send and receive images, sounds, other personal data via an infrared port.

- **Web browser**
  Access the wireless web to get up-to-the-minute information and a wide variety of media content.

- **Phonebook**
  Store home, office, or cellular phone numbers for your contacts.

- **Name card**
  Create name cards with your number and profile. Whenever introducing yourself to others, use this convenient electronic name card.

- **Multimedia Message Service (MMS)**
  Send and receive MMS messages with a combination of text, images, video, and audio.

- **FM radio**
  Listen to your favourite FM radio stations anytime, anywhere.

- **Java game**
  Enjoy Java™-based embedded games and download new games.

- **Calendar**
  Keep track of your daily, weekly, and monthly schedule.

- **Voice recorder**
  Record memos or sounds.

- **Alarm**
  Use your phone as an alarm clock to wake you up in the morning or notify you of an impending event.

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Overview of menu functions

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

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Press <**Phonebook**> in Idle mode.

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4 Copy all to phone	▶ p.31
5 Delete all	▶ p.31
6 Own number	▶ p.31
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8 Memory status	▶ p.32
9 Service directory*	▶ p.32

* Shows only if supported by your SIM card.

Unpack

Make sure you have each item

Phone

Travel Adapter

Battery

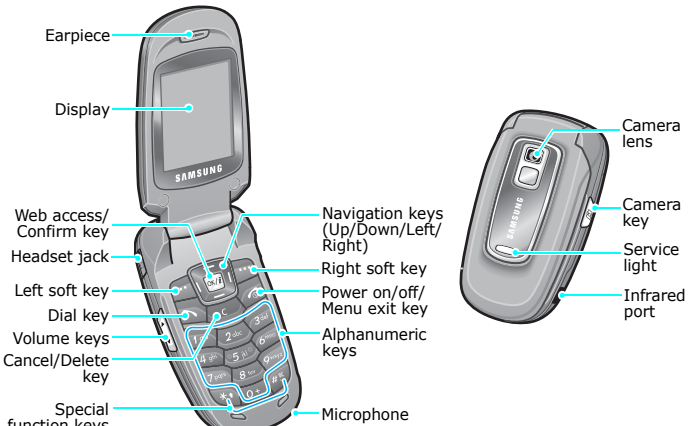
User's Guide

You can obtain various accessories from your local Samsung dealer.

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

Your phone

Keys, features, and locations



Get started

First steps to operate your phone

SIM card information

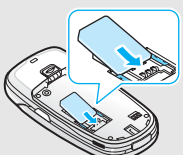
When you subscribe to a cellular network, you receive a plug-in SIM (Subscriber Identity Module) card loaded with your subscription details, such as your PIN, and available optional services.

Install and charge the phone

1 Remove the battery.

☑ If the phone is already on, first turn it off by pressing and holding [ ].

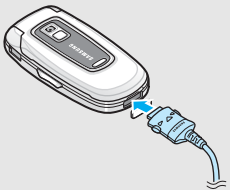
2 Insert the SIM card.



☑ Make sure that the gold-coloured contacts on the card are face down.

3 Reattach 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 [ ].

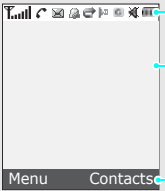
Keys and display

Keys

	Perform the function indicated on the bottom line of the display.
	In Idle mode, access the following menus directly: • Up: **Camera** • Down: **FM radio** • Left: **Create** in **Short messages** • Right: **Calendar** In Menu mode, scroll through menu options.
	In Idle mode, launch the web browser.
	Make or answer a call. In Idle mode, retrieve numbers recently dialled, received, or missed.
	Delete characters from the display. In Menu mode, return to the previous menu level. In Idle mode, enter the **New memo** menu when held down.
	Press and hold to switch the phone on and off. End a call. In Menu mode, cancel input and return the phone to Idle mode.
	Enter numbers, letters, and some special characters. In Idle mode, press and hold [**1**] to access your voicemail server.
	Enter special characters. In Idle mode, press and hold [#] to activate or deactivate Quiet mode.
	Adjust the phone volume. In Idle mode, with the phone open, adjust the keypad tone volume. With the phone closed, press and hold to turn on the backlight.
	In Idle mode, press and hold to turn on the camera. In Capture mode, take a photo.

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 soft keys.

Icons

- Received signal strength
- Call in progress
- Out of your service area; you cannot send or receive calls
- GPRS network
- Home Zone, if you have registered for the appropriate service
- Office Zone, if you have registered for the appropriate service
- New SMS message
- New MMS message
- New voicemail
- Alarm set ▶ p. 57
- Call diverting feature active ▶ p. 34
- Infrared port active ▶ p. 66
- Set to vibrate call ringer ▶ p. 37
- Quiet mode ▶ p. 38
- Battery power level

Access menu functions

Use the soft keys

The roles of the soft keys vary depending on the function you are using. The bottom line of the display indicates their current role.

Press the left soft key to select the highlighted option.

Press the right soft key to return to the previous menu level.

Select an option

1. Press a desired soft key.
2. Press the Navigation keys to move to the next or previous option.
3. Press <**Select**> or [OK/*i*] to confirm the function displayed or option highlighted.
4. To exit, choose either of the following methods:
   - Press <↺> or [**C**] to move up one level.
   - Press [ ] to return to Idle mode.

Use shortcuts

Press the number key corresponding to the option you want.

Customise your phone

Display language

1. In Idle mode, press <**Menu**> and select **Phone settings** → **Language** → **Text language**.
2. Select a language.

Call ringer melody

1. In Idle mode, press <**Menu**> and select **Sound settings** → **Incoming calls**.
2. Select a ringtone category, **Default melodies** or **My sounds**.
3. Select a ringtone.

Idle mode Wallpaper

You can set wallpaper for the idle screen on the display.

1. In Idle mode, press <**Menu**> and select **Phone settings** → **Display** → **Wallpaper**.
2. Select an image category, **Default wallpaper**, **Photos**, or **Downloaded images**.
3. Select an image.

Menu mode Skin colour

You can change the colour for the display components, such as title bars and highlight bars.

1. In Idle mode, press <**Menu**> and select **Phone settings** → **Display** → **Skin**.
2. Select a colour pattern.

Quiet mode

You can switch the phone to Quiet mode to avoid disturbing other people with your phone sounds.

Press and hold [#] in Idle mode.

Phone lock

You can protect the phone against unauthorised use with a phone password. The phone will require the password on power-up.

1. In Idle mode, press <**Menu**> and select **Phone settings** → **Security** → **Change password**.
2. Enter the default password, **00000000**, and press <**OK**>.
3. Enter a new 4- to 8- digit password and press <**OK**>.
4. Enter the new password again and press <**OK**>.
5. Select **Phone lock**.
6. Select **Enable**.
7. Enter the password and press <**OK**>.

Make/Answer calls

Make a call

1. Enter an area code and phone number.
2. Press [ ].
3. To end the call, press [ ].

Answer a call

1. When the phone is ringing, press [ ].
2. To end the call, press [ ].

Adjust the volume during a call

Press [▲/▼].

Step outside of the phone

Begin with your camera, the web, and other special features

Use the camera

Take a photo

1. In Idle mode, press and hold [Up] or [ ] to turn on the camera.
2. Aim the lens at the subject and make any desired adjustments.
3. Press [OK/i], the left soft key, or [ ] to take a photo. The photo is saved automatically.
4. Press [**C**] to take another photo.

View a photo

1. In Idle mode, press [Up] and select **My photos**.
2. Select the photo you want.

Listen to the FM radio

Listening to the radio

1. Plug the connector of the supplied headset into the jack on the left side of the phone.
2. In Idle mode, press [Down].
3. Press <**Options**> and select **Power on**.
4. Press [Left] or [Right] to find available radio stations.
5. To turn off the radio, disconnect the headset from the phone.

Storing a radio station

1. Plug the connector of the supplied headset into the jack on the left side of the phone.
2. From the FM Radio screen, press <**Options**> and select **Power on**.
3. Scroll to an empty location.
4. Press [Left] or [Right] to find the radio station you want.
5. Press <**Options**> and select **Add**.
6. Enter the title of the station and press <**OK**>.
7. Press <**OK**> when the frequency for the selected radio station displays.

Browse the web

Using a built-in web browser, you can easily access the wireless web to get a variety of up-to-date services and information and to download web content.

Launch the web browser

In Idle mode, press [OK/*i*].

Navigate the web

- To scroll through browser items, press [Up] or [Down].
- To select an item, press < ✓ >.
- To return to the previous page, press <**Back**> or [**C**].
- To use options, press [*] or select the on the top of the screen.

Use Phonebook

Add a contact

To the phone's memory:

1. In Idle mode, enter a phone number and press <**Save**>.
2. Select **Phone** → a number type.
3. Enter a name and press <**OK**> to save the contact.
4. To save additional information, press <**Options**> and select **Edit number**, press <**Edit**>, or press <**Options**> in each field.
5. Enter a number or e-mail address, or select a ringtone or caller ID image.
6. Press <**OK**> or <**Select**>.

To the SIM card:

1. In Idle mode, enter a phone number and press <**Save**>.
2. Select **SIM**.
3. Enter a name and press <**OK**>.
4. If necessary, change a location number.
5. Press <**OK**> to save the contact.

Find a contact

1. In Idle mode, press <**Phonebook**> and select **Find name**.
2. Enter the first few letters of the name you want.
3. Select an entry.
4. Scroll to a number and press [ ] to dial.

Send messages

Send a text message (SMS)

1. In Idle mode, press <**Menu**> and select **Messages** → **Short messages** → **Create**.
2. Enter the message text.
3. Press [OK/*i*].
4. Enter destination numbers and press <**OK**>.
5. Press <**Send**> to send the message.

Send a multimedia message (MMS)

1. In Idle mode, press <**Menu**> and select **Messages** → **Multimedia messages** → **Create**.
2. Select **Subject**.
3. Enter the message subject and press <**OK**>.

Send a multimedia message (MMS) (continued)

4. Select **Picture** and add an image file.
5. Select **Sound** and add a sound file.
6. Select **Message** and enter the message text.
7. Press <**Opt.**> and select **Done**.
8. When you have finished, press <**Opt.**> and select **Send**.
9. Select an empty location.
10. Select **Number** or **E-mail** and enter destination numbers or addresses.

    Otherwise, select **Phonebook** to retrieve one from your Phonebook.
11. Press <**Send**> to send the message.

View messages

View a text message

When a notification appears:

1. Press <**View**>.
2. Select the message from the Inbox.

From the Inbox:

1. In Idle mode, press <**Menu**> and select **Messages** → **Short messages** → **Inbox**.
2. Select a message.

View a multimedia message

When a notification appears:

1. Press <**View**>.
2. Press <**Options**> and select **Retrieve**.
3. Select the message from the Inbox.

From the Inbox:

1. In Idle mode, press <**Menu**> and select **Messages** → **Multimedia messages** → **Inbox**.
2. Select a message.

Access a voicemail

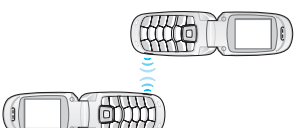
1. Press and hold [**1**] in Idle mode.
2. Follow the instructions from the system.

Use infrared

Your phone has an infrared port, that allows you to send or receive data from different types of IrDA-compliant devices.

Send data

1. Access an application, **Phonebook**, **Camera**, or **Media box**.
2. Select an item.
3. Press <**Options**> and select **Send via infrared**.
4. Align the infrared ports on the phone and the other device.



Receive data

1. Turn the infrared feature to **On** (the IrDA icon displays on the top line).
2. Align the infrared port on your phone, with the infrared port of the device you want to share information with.
3. When you have received data from another device, you are prompted to save the files.
4. Select **Yes** to save the file in the corresponding folder.

Manage your schedule

Create a memo

1. In Idle mode, press and hold [**C**].
2. Enter the memo contents and press <**OK**>.
3. Select a memo type.
4. Select a date from the calendar.
5. For **Call**, enter a phone number you need to dial and press <**OK**>.

   For **Anniversary**, skip to step 7.
6. Enter the time for the schedule and press <**OK**>.
7. Press <**Yes**> to set an alarm.

8. Enter the time for the alarm to sound and press <**OK**>.
9. Select an alarm tone. The memo is saved.

Access your schedule

1. In Idle mode, press [Right].
2. Select a date.
3. Press [Left] or [Right] to access the other items scheduled for the selected day.

Enter text

ABC, T9, Number, and Symbol modes

You can enter text for some features such as messaging, Phonebook, or Organiser, using ABC mode, T9 mode, Number mode, and Symbol mode.

Changing the text input mode

- Press and hold the right soft key to switch between T9 mode and ABC mode.
- Press and hold [#] to switch to Number mode.
- Press and hold [*] to switch to Symbol mode.

Using ABC mode

Press the appropriate key until the character you want appears on the screen.

Key	Characters in order displayed	
	Upper case	Lower case
1	. , - ? ! ` @ : 1	
2	A B C 2	a b c 2
3	D E F 3	d e f 3
4	G H I 4	g h i 4
5	J K L 5	j k l 5
6	M N O 6	m n o 6
7	P Q R S 7	p q r s 7
8	T U V 8	t u v 8
9	W X Y Z 9	w x y z 9
0	0	

(Creating an SMS message with GSM-alphabet encoding)

Other ABC mode operations

- To enter the same letter twice or to enter a different letter on the same key, wait for the cursor to move to the right automatically or press [Right]. Then, enter the next letter.
- Press [#] to insert a space.
- Press [*] to change case. Lower case (No indicator), Initial capital (⬆), and Capital lock (⬆) are available.
- Press [Left] or [Right] to move the cursor.
- Press [**C**] to delete characters one by one. Press and hold [**C**] to clear the display.

Using T9 mode

T9 is a predictive text input mode that allows you to key in any character using single keystrokes.

Entering a word in T9 mode

1. Press [**2**] to [**9**] to start entering a word. Press each key once for each letter.

   For example, press [**4**], [**3**], [**5**], [**5**], and [**6**] to enter *HELLO* in T9 mode.

   T9 predicts the word that you are typing, and it may change with each key that you press.
2. Enter the whole word before editing or deleting characters.
3. When the word displays correctly, go to step 4. Otherwise, press [**0**] to display alternative word choices for the keys that you have pressed.

   For example, *OF* and *ME* use [**6**] and [**3**].
4. Press [#] to insert a space and enter the next word.

Other T9 mode operations

- Press [**1**] to enter periods or apostrophes automatically.
- Press [*] to change case. Lower case (No indicator), Initial capital (⬆), and Capital lock (⬆) are available.
- Press [Left] or [Right] to move the cursor.
- Press [**C**] to delete characters one by one. Press and hold [**C**] to clear the display.

Adding a new word to the T9 dictionary

This feature may not be available for some languages.

1. Enter the word that you want to add.
2. Press [**0**] to display alternative words for your key presses. When there are no more alternative words, **Spell** appears on the bottom line.
3. Press <**Spell**>.
4. Enter the word you want using ABC mode and press <**OK**>.

Using Number mode

Number mode enables you to enter numbers.

Press the keys corresponding to the digits you want.

Using Symbol mode

Symbol mode enables you to insert symbols.

To	Press
display more symbols	[Up] or [Down].
select a symbol	the corresponding number key.
clear the symbol(s)	[**C**].
insert the symbol(s)	<**OK**>.

Call functions

Advanced calling features

Making a call

1. In Idle mode, enter the area code and phone number.

   - Press [**C**] to clear the last digit or press and hold [**C**] to clear the whole display. You can move the cursor to edit an incorrect digit.
   - Press and hold [*] to enter a pause between numbers.

2. Press [ ].
3. To end the call, press [ ].

Making an international call

1. In Idle mode, press and hold [**0**]. The **+** character appears.
2. Enter the country code, area code, and phone number, then press [ ].

Redialling recent numbers

1. In Idle mode, press [ ] to display the list of recent numbers.
2. Scroll to the number you want and press [ ].

Making a call from Phonebook

Once you have stored a number in Phonebook, you can dial the number by selecting it from Phonebook. ▶ p. 29

You can also use the speed dial feature to assign your most frequently called numbers to specific number keys. ▶ p. 30

You can quickly dial a number from the SIM card using its location number assigned when stored.

1. In Idle mode, enter a location number and press [#].
2. Scroll through other numbers, if necessary.
3. Press <**Dial**> or [ ] to dial the number you want.

Answering a call

When you receive an incoming call, the phone rings and displays the incoming call image.

Press <**Accept**> or [ ] to answer the call.

Tips for answering a call

- When **Anykey answer** is active, you can press any key to answer a call, except for [ ] and [▲/▼]. ▶ p. 66
- When **Active folder** is active, you can simply open the phone. ▶ p. 66
- Press [ ] to reject a call.
- Press and hold [▲/▼] to reject a call or mute the ringer, depending on the **Side key** setting. ▶ p. 66

Viewing missed calls

If you have missed calls, the screen displays how many calls you have missed.

1. Press <**Missed**>.
2. If necessary, scroll through the missed calls.
3. Press [ ] to dial the number you want.

Using the headset

Use the headset to make or answer calls without holding the phone.

Connect the headset to the jack on the left side of the phone. The button on the headset works as follows:

To	Press
redial the last call	the button twice.
answer a call	and hold the button.
end a call	and hold the button.

Options during a call

You can access a number of functions during a call.

Adjusting the volume during a call

Use [▲/▼] to adjust the earpiece volume during a call.

Press [▲] to increase the volume level and [▼] to decrease the volume level.

Making a second call

You can make another call if your network supports this function.

1. Press <**Options**> and select **Hold** to put the call on hold.
2. Make the second call in the normal way.
3. Press <**Options**> and select **Swap** to switch between the calls.
4. Press <**Options**> and select **End held call** to end the call on hold.
5. To end the current call, press [ ].

Answering a second call

You can answer an incoming call while already on the phone, if your network supports this function and you have activated the call waiting feature. ▶ p. 35

1. Press [ ] to answer the call. The first call is automatically put on hold.
2. Press <**Options**> and select **Swap** to switch between the calls.
3. Press <**Options**> and select **End held call** to end the call on hold.
4. To end the current call, press [ ].

Using In-call options

Press <**Options**> to access the following options during a call:

- **Hold**/**Retrieve**: place the current call on hold, or retrieve the call.
- **Swap**: switch between the current call and a call on hold during a multi-party call.
- **Join**: set up a multi-party call by adding a caller on hold to a currently active call. You can include up to 5 people on a multi-party call.
- **Split**: have a private conversation with one multi-party call participant. The other participants can converse with each other. After the private conversation, select **Join** to return both all private participant to the multi-party call.

- **Mute**/**Unmute**: switch off the phone's microphone so that the other person on the phone cannot hear you, or switch it back on.
- **Conv. record**: record your conversation.
- **Phonebook**: access the contact list.
- **Message**: access SMS messages in the Inbox. You can also create and send a new SMS message.
- **Mute keys**/**Send keys**: switch the key tones off or on.

  ☑ To communicate with answering machines or computerised telephone systems, **Send keys** must be selected.

- **Send DTMF**: send the DTMF (Dual tone multi-frequency) tones as a group. The DTMF tones are the tones used in phones for tone dialling, sounding when you press the number keys. This option is helpful for entering a password or an account number when you call an automated system, like a banking service.
- **Transfer**: transfer the currently active call to a caller on hold. The two callers can talk to each other, but you are disconnected from the call.
- **Voiceclarity on**/**Voiceclarity off**: remove extraneous noise and increases call quality so that the person with whom you are speaking can hear you clearly event if you are in a noisy place.
- **End held call**: disconnect the call currently on hold.
- **Remove**: remove one multi-party call participant.
- **SIM AT**: access additional services provided by your SIM card, such as news, weather forecast, sports, entertainment, and location services. This option is available if you use a SIM card supporting SIM Application Toolkit menus.

Menu functions

All menu options listed

Phonebook

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 <**Phonebook**> in Idle mode.

Find name

Use this menu to search for numbers in Phonebook.

Finding an entry

1. Enter the first few letters of the name that you want to find.
2. Select the name from the list.
3. Scroll to a number and press [ ] to dial.

Using Phonebook options

While viewing contact details, press <**Options**> to access the following options:

- **Edit number**: edit contact information.
- **Change name**: change the contact name.
- **Send message**: send an SMS message to the selected number.
- **Copy**: copy the selected number to the phone's memory or SIM card.
- **Send via infrared**: send the contact via infrared port.
- **Delete entry**: delete the contact.

Add entry

Use this menu to add a new contact to Phonebook.

Storing a contact in the phone's memory

1. Enter a phone number and press <**Save**>.
2. Select **Phone** → a number type.
3. Enter a name and press <**OK**>.

4. To save additional information, press [Left] or [Right] to scroll to the field you want.
5. Enter information or change settings.
   - **Mobile**/**Home**/**Office**/**Fax**/**Other**: press <**Options**> and select **Edit number** and add a number in any category.
   - **E-Mail**: press <**Edit**> and assign an e-mail address.
   - **Note**: press <**Edit**> and add a memo about the person.
   - **Group**: press <**Options**> and assign the contact to a caller group.
   - **Graphic**: press <**Options**> and assign an image as a caller ID image to alert you to a call from the person.
   - **Alert**: press <**Options**> and assign a ringtone to alert you to a call from the person.
6. Press <**OK**> or <**Select**>.

Storing a contact on the SIM card

1. Enter a phone number and press <**Save**>.
2. Select **SIM**.
3. Enter a name and press <**OK**>.
4. If necessary, change a location number.
5. Press <**OK**> to save the contact.

Speed-dial list

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

Assigning speed dial entries

1. Select a key location from **2** to **9**. Key **1** is reserved for your voicemail server.
2. Select **Edit number**
3. Enter a phone number or press <**Phonebook**> to select one from Phonebook.
4. Press <**OK**>.

Managing speed dial entries

From the Speed dial screen, press <**Select**> to access the following options:

- **Edit number**: enter a number or assign a different number to a key.
- **Change name**: change the contact name.
- **Delete**: clear the speed dial setting for a key.

Dialling speed dial numbers

In Idle mode, press and hold the appropriate key.

Copy all to phone

Use this menu to copy all of the contacts stored on the SIM card to the phone's memory, or vice versa.

Delete all

Use this menu to delete all contacts stored on the SIM card or in the phone's memory.

1. Press <**Select**> to select the memory locations to be cleared.
2. Press <**OK**>.
3. Press <**Yes**> to confirm the deletion.

Own number

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.

Group setting

Use this menu to change the properties of caller groups.

From each caller group, the following options are available:

- **Melody**: select a ringtone to alert you when a call comes in from a member of the group.
- **Change name**: change the group name.
- **View image**: check the group ID image to alert you to a call from a member of the group.

Memory status

Use this menu to check the number of contacts you have stored in the phone's memory and on the SIM card.

Service directory

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.

Scroll to the number you want and press <**Dial**> or [ ].

SIM-AT MENU *(Menu 1)*

This menu is available if you use a SIM-AT card that 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.

To access this menu, press <**Menu**> in Idle mode and select **SIM-AT MENU**.

Call records *(Menu 2)*

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 your SIM card supports this function.

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

Missed calls *(Menu 2.1)*

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

Accessing a call record

1. Press [Up] or [Down] to scroll through the call list.
2. Press [OK/*i*] to view the details of a call, press [ ] to dial a number.

Using call record options

While viewing call details, press <**Options**> to access the following options:

- **Call back**: dial the selected number.
- **Send message**: send an SMS message to the selected number.
- **Edit**: edit the number.
- **Delete**: delete the selected number.
- **Delete all**: delete all call records.

Received calls *(Menu 2.2)*

This menu displays the most recent calls you have received.

Dialled calls *(Menu 2.3)*

This menu displays the most recent calls you have dialled.

Delete all *(Menu 2.4)*

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

1. Press <**Select**> to select the call types to be cleared.
2. Press <**OK**>.
3. Press <**Yes**> to confirm the deletion.

Call time *(Menu 2.5)*

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. ▶ p. 65

Call costs *(Menu 2.6)*

This network feature displays the cost of calls. This menu is available only if supported by your SIM card. 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 of 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.

Network services *(Menu 3)*

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

Call diverting *(Menu 3.1)*

This network service reroutes incoming calls to a phone number that you specify.

1. Select a call diverting option:
   - **Divert always**: divert all calls.
   - **Busy**: divert calls when you are on another call.

- **No reply**: divert calls when you do not answer the phone.
- **Unreachable**: divert calls when you are not in an area covered by your service provider or when your phone is switched off.
- **Cancel all**: cancel all call diverting options.

2. Select the type of calls to be diverted.
3. Press <**Activate**>. To deactivate call diverting, press <**Remove**>.
4. Enter the number to which calls are to be diverted and press <**OK**>.
5. If you selected **No reply**, select the length of time the network delays before diverting a call and press <**Select**>.

Call barring *(Menu 3.2)*

This network service allows you to restrict your calls.

1. Select a call barring option:
   - **All outgoing**: prohibit all outgoing calls.
   - **International**: prohibit international calls.
   - **International except to home**: only allow calls to numbers within the current country when you are abroad, and to your home country.
   - **All incoming**: prohibit incoming calls.
   - **Incoming while abroad**: prohibit incoming calls when you use your phone outside of your home service area.
   - **Cancel all**: cancel all call barring settings, allowing to be sent and received normally.
   - **Change barring password**: change the call barring password obtained from your service provider.
2. Select the type of calls to be barred.
3. Press <**Activate**>. To deactivate call barring, press <**Deactivate**>.
4. Enter the call barring password supplied by your service provider and press <**OK**>.

Call waiting *(Menu 3.3)*

This network service informs you when someone is trying to reach you while you are on another call.

1. Select the type of calls to which the call waiting option will apply.
2. Press <**Activate**>. To deactivate call waiting, press <**Deactivate**>.

Network selection *(Menu 3.4)*

This network service allows you to manually select the network to be used while roaming outside of your home area, or to let the network be chosen automatically.

You can select a network other than your home network only if there is a valid roaming agreement between the two.

Caller ID *(Menu 3.5)*

This network service allows you to prevent your phone number from being displayed on the phone of the person being called. If you select **Default**, the phone will use the default setting provided by the network.

☑ Some networks may not allow you to change this setting.

Band selection *(Menu 3.6)*

For the phone to make and receive phone calls, it must register with an available network. Your phone can handle any of the following types of networks: GSM 1900, Combined GSM 900/1800, and Triple band (GSM 900/1800/1900).

The country where you purchased your phone determines the default band that it uses. When you travel abroad, you may need to change to an appropriate band.

Active line *(Menu 3.7)*

Some SIM cards may be used with two subscriber numbers. If your SIM card supports this function, use this menu to select the line that is used to make calls. Calls can be answered on both lines, regardless of the selected line.

Sound settings *(Menu 4)*

Use this menu to customise various sound settings, such as the call ringer, message ringer, and alert sounds to be used in various situations.

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

Incoming calls *(Menu 4.1)*

Use this menu to change the sound settings for incoming calls.

- **Default melodies**: select one of the default melodies to be used as your ringtone.
- **My sounds**: select a downloaded melody to be used as your ringtone.
- **Ring volume**: select a ringtone volume.
- **Alert type**: specify how you are to be informed of incoming calls.

Messages *(Menu 4.2)*

Use this menu to change the sound settings for incoming SMS messages or MMS messages.

- **Tone**: select one of several message tones.
- **Alert type**: specify how you are informed of any incoming messages.
- **Repetition**: specify how often the phone informs you of a new message.

Power on/off *(Menu 4.3)*

Use this menu to turn on or off the melody that the phone sounds when it is switched on or off.

Connection tone *(Menu 4.4)*

Use this menu to set the phone to beep when an outgoing call is connected to the system.

Key tone *(Menu 4.5)*

Use this menu to select the tone that the phone sounds when you press a key.

> ☑ You can adjust the keypad tone volume using [▲/▼] in Idle mode.

Minute minder *(Menu 4.6)*

Use this menu to set the phone to beep every minute during a call to keep you informed of the length of your call.

Quiet mode *(Menu 4.7)*

Use this menu to set how the phone acts to alert you to a specific event while in Quiet mode.

Alerts on call *(Menu 4.8)*

Use this menu to set the phone to beep when you receive a new message or when the time for an alarm comes during a call.

Messages *(Menu 5)*

Use the **Messages** menu to send and receive text messages or multimedia messages. You can also use push message, voicemail, and broadcast message features.

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

Short messages *(Menu 5.1)*

Short Message Service (SMS) allows you to send or receive text messages including pictures, audio clips, and animated images.

Create *(Menu 5.1.1)*

Use this menu to create and send an SMS message.

> ☑ You can quickly access this menu by pressing [Left] in Idle mode.

1. Enter your message.

   ☑ The maximum number of characters allowed in a message varies by service provider. If your message exceeds the maximum number of characters, the phone will split the message.

2. Press <**Options**> to access the following options:
   - **Send**: send the message.
   - **Text**: change the text attributes.
   - **Add media**/**Add emoticon**: add a picture, animated image, a melody, or emoticon into text.
   - **Preset messages**: insert a text template into text.
   - **Save message**: save the message in the Outbox.
3. When you have finished, press <**Options**> and select **Send**.
4. Enter a destination number or press <**Phonebook**> to select one from your Phonebook, and press <**OK**>.

   To send the message to more than one recipient, fill in additional destination fields.
5. Press <**Send**> to send the message.

Inbox *(Menu 5.1.2)*

Use this menu to access SMS messages you have received.

While viewing a message, press <**Options**> to access the following options:

- **Delete**: delete the message.
- **Message reply**: reply to the sender.
- **Call back**: dial the sender's phone number.
- **Cut address**: extract URLs, e-mail addresses, or phone numbers from the message.
- **Send**: forward the message to other people.
- **Edit**: edit the message.
- **Extract media**: save media items from the message to your phone's memory.
- **Transfer**: move the message between the SIM card and the phone's memory.

Outbox *(Menu 5.1.3)*

Use this menu to access SMS messages you have sent or saved to send at a later time.

While viewing a message, press <**Options**> to access the following options:

- **Delete**: delete the message.
- **Cut address**: extract URLs, e-mail addresses, or phone numbers from the message.
- **Send**: send or resend the message.
- **Edit**: edit the message.
- **Transfer**: move the message between the SIM card and the phone's memory.

Emoticon templates *(Menu 5.1.4)*

Your phone provides preset emoticons so that you can retrieve and insert them when composing an SMS message. Use this menu to create or edit emoticons.

Creating an emoticon

1. Select **My emoticons**.
2. Press <**Options**> and select **Add**.
3. Enter an emoticon and press <**OK**>.

Using emoticon options

From the **My emoticons** screen, press <**Options**> to access the following options:

- **Edit**: edit the emoticon.
- **Send**: create and send a text message using the emoticon.
- **Delete**: delete the emoticon.

Delete all *(Menu 5.1.5)*

Use this menu to delete all of your messages in each message box.

1. Press <**Select**> to select the message boxes to be cleared.
2. Press <**OK**>.
3. Press <**Yes**> to confirm the deletion.

Multimedia messages *(Menu 5.2)*

Multimedia Message Service (MMS) delivers messages containing a combination of text, image, voice, and sound from phone to phone or from phone to e-mail.

Create *(Menu 5.2.1)*

Use this menu to create and send an MMS message.

1. Select the **Subject** line.
2. Enter the message subject and press <**OK**>.
3. Select the **Picture** or **Sound** line and add an image or sound file.

   ☑
   - The maximum size allowed for a message can differ, depending on your service provider.
   - Depending on the file type or DRM (Digital Rights Management) system, some files may not be able to be forwarded.

4. Select the **Message** line and enter the message text.
5. Press <**Opt.**> and select **Done**.
6. Press <**Opt.**> to access the following options:
   - **Preview**: view the message as it will be shown on the recipient's phone.
   - **Send**: send the message.
   - **Add page**: add pages. Move to each page by pressing [Left] or [Right] on the message screen.
   - **Page timing**: change the duration of page display. After the specified time, the display automatically scrolls to the next page.
   - **Text effect**: change the text attributes.
   - **Clear subject**/**Clear picture**/**Clear sound**/ **Clear message**: remove an added item.
   - **Delete page**: delete an added page.
   - **Save message**: save the message in the **Draft** or **My folder** box.
7. When you have finished, press <**Opt.**> and select **Send**.

8. Select an empty destination field.
9. Select **Number** or **E-mail** to enter a phone number or e-mail address. Otherwise, select **Phonebook** to select one from your Phonebook.

   To send the message to more than one recipient, fill in additional destination fields.
10. Press <**Send**> to send the message.

Inbox *(Menu 5.2.2)*

Use this menu to access MMS messages that you have received. The following icons may appear on the message list to show the message status:

- MMS notification
- MMS message

> Depending on the DRM (Digital Rights Management) system, messages having web content may not be able to be forwarded.

While viewing a message, press <**Opt.**> to access the following options:

- **Delete**: delete the message.
- **Replay**: replay the message.
- **Reply**: reply to the sender.
- **Reply all**: send a reply to the sender and all of the other recipients.
- **Forward**: forward the message to other people.
- **Call back**: dial the sender's phone number.
- **Cut media**: save media items from the message to your phone's memory.
- **Cut address**: extract URLs, e-mail addresses, or phone numbers from the message.
- **Properties**: access the message properties.
- **Move to My folder**: move the message to the **My folder** box.

Outbox *(Menu 5.2.3)*

Use this menu to access MMS messages that the phone has sent or has failed to send.

The following icons are available to show the message status:

- currently being sent
- sent

- retry sending
- sending failed
- opened by the recipient

While viewing a message, press <**Opt.**> to access the following options:

- **Delete**: delete the message.
- **Replay**: replay the message.
- **Send**: send or resend the message.
- **Properties**: access the message properties.
- **Move to My folder**: move the message to the **My folder** box.

Draft *(Menu 5.2.4)*

Use this menu to access MMS messages you have saved to send at a later time.

While viewing a message, press <**Opt.**> to access the following options:

- **Send**: send the message.
- **Replay**: replay the message.
- **Delete**: delete the message.
- **Properties**: access the message properties.

My folder *(Menu 5.2.5)*

Use this menu to save the message you have saved using the **Move to My folder** option while reading a message.

Delete all *(Menu 5.2.6)*

Use this menu to delete all of the messages in each message box.

1. Press <**Select**> to check the message boxes to be cleared.
2. Press <**OK**>.
3. Press <**Yes**> to confirm the deletion.

Push messages *(Menu 5.3)*

Use this menu to access messages received from the web server.

- **Inbox**: access push messages you have received.
- **Settings**: determine whether or not your phone receives push messages.

  Always: the phone receives push messages.

Never: the phone rejects push messages.

Optional: the phone receives push messages from the specified web server.

- **Delete all**: delete all of the push messages.

Preset messages *(Menu 5.4)*

Use this menu to make text templates of frequently used messages so that you can retrieve and insert them when composing a message.

1. Select an empty location.
2. Enter the message and press <**OK**>.

Voice mail *(Menu 5.5)*

Use this menu to set the number of the voicemail server and access your voicemails.

> ☑ You must enter the voicemail server number before you can access your voicemails. Your service provider can give the voicemail server number.

- **Connect to voice mail**: connect to the voicemail server to allow you to listen to your messages.
- **Voice server number**: change or delete the voicemail server name and number.

Broadcast *(Menu 5.6)*

The Cell Broadcast (CB) service delivers SMS 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.

- **Read**: access broadcast messages you have received.

  The **Temporary** box saves network messages until the phone is switched off. Press <**Options**> and select **Save** when a text notification appears to save to the **Archive** box.

  The **Archive** box saves network messages indefinitely.
- **Receive**: select to receive broadcast messages, or not.

- **Channel**: indicate the channels from which you wish to receive broadcast messages. Please contact your service provider for further details.
- **Language**: select the preferred languages in which broadcast messages display.

Settings *(Menu 5.7)*

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

Short messages *(Menu 5.7.1)*

You can configure SMS settings.

- **Service centre**: store or change the number of your SMS server.
- **Validity period**: set the length of time your messages are stored in the SMS server.
- **Message type**: set the default message type. The network can convert the messages into the selected format.
- **Reply path**: allow recipients to reply to you through your SMS server.
- **Delivery report**: set the network to inform you when your messages have been delivered.
- **Character support**: select a character encoding type. When you select **Automatic**, the phone switches the encoding type from GSM-alphabet to Uni-code if you enter a Unicode character. Use of Unicode encoding will reduce the maximum number of characters in a message to about half. If this menu is not shown, your phone provides automatic character encoding by default.

Multimedia messages *(Menu 5.7.2)*

You can configure MMS settings.

- **Send settings**: set up the options for sending MMS messages:

  Priority: set the priority level of messages.

  Validity period: set the length of time messages are stored in the MMS server.

  Delivery after: set a time delay before messages are sent.

Address hiding: set your address to be hidden from the recipient's phone.

Delivery report: set the network to inform you when your messages have been delivered.

Read reply: send a read-reply request along with your messages.

- **Receive settings**: set up the options for receiving MMS messages.

  Msg. reception: set how you receive a message.

  - **Manual**: the phone downloads new messages from the MMS server by using the **Retrieve** option.
  - **Automatic**: the phone automatically downloads new messages from the MMS server.
  - **Reject**: the phone rejects new messages.

  Anonymous reject: reject messages from unknown senders.

  Adverts reject: reject advertisements.

  Report allowed: set the network to inform the sender when a message has been delivered to you.

- **MMS profiles**: configure required network settings for MMS.

  ☑ Check with your service provider before you change any MMS settings on your phone.

  Current profile: select a profile.

  Profile setting: customise the options for each profile:

  - **Profile name**: assign a name to the MMS profile.
  - **Server URL**: enter the address of your MMS server.
  - **Proxy use**: activate or deactivate the proxy server.
  - **GPRS setting**: customise the settings required for connecting to the GPRS network.

    *When **Proxy use** is set to **Enable**:*

    IP address: enter the gateway address.

    IP port: enter the port number.

    APN: enter the access point name of the GPRS network gateway.

Login ID: enter the user ID.

Password: enter the password.

*When **Proxy use** is set to **Disable**:*

DNS1: enter the primary DNS address.

DNS2: enter the secondary DNS address.

APN: enter the access point name of the GPRS network gateway.

Login ID: enter the user ID.

Password: enter the password.

Memory status *(Menu 5.8)*

Use this menu to access memory information for SMS and MMS messages.

Fun box *(Menu 6)*

The **Fun box** menu allows you to use the web browser, play Java games, access images and sounds stored in the phone's memory, and listen to the FM radio.

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

WWW services *(Menu 6.1)*

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

Home *(Menu 6.1.1)*

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.

Navigating the web browser

To	Press
scroll through browser items	[Up] or [Down].
select a browser item	< ✓ >.
return to the previous page	< ↺ > or [**C**].

Using browser options

From any web, press [*] or select the on the top of the screen to access the following options:

- **Back**: return to the previous page.
- **Home**: return to the homepage.
- **Exit**: exit the web browser.
- **Reload**: reload the current page with updated information.
- **Show URL**: display the URL address of the current web page. You can also set the current page as the homepage for the web browser.
- **About...**: view version information for the web browser.

Accessing other phone menus

From any web page, press [#] to access the following options:

- **Goto URL**: enter a URL address manually.
- **Bookmark**: switch to the **Bookmark** menu.
- **Messages**: access SMS messages in the Inbox. You can also create and send a new SMS message.
- **Media box**: switch to the **Media box** menu.

Exiting the web browser

Press [ ] to end the network connection and exit the browser.

Bookmark *(Menu 6.1.2)*

Use this menu to save URL addresses in order to quickly access web pages.

Adding a bookmark

1. Select an empty location.
2. Enter a URL address and press <**OK**>.
3. Enter a title for the bookmark and press <**OK**>.

Using bookmark options

After saving an item, press <**Select**> to access the following options:

- **Go**: access the bookmarked web page.
- **Edit**: edit the URL address and title of the bookmark.
- **Delete**: delete the bookmark.

Go to URL *(Menu 6.1.3)*

Use this menu to manually enter a URL address and access the associated web page.

Clear cache *(Menu 6.1.4)*

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

Proxy settings *(Menu 6.1.5)*

Use this menu to set up connection profiles to be used for the web browser. The profile accessed last is automatically activated for accessing the wireless web.

☑ Check with your service provider before you change any browser settings on your phone.

For each server, set the following parameters:

- **Profile name**: enter a profile name.
- **Home URL**: enter the URL address of the page to be used as your homepage.
- **Bearer**: select the network bearer type.
- **Proxy use**: activate or deactivate the proxy server.
- **GPRS setting**: customise the following GPRS network settings:

  *When **Proxy use** is set to **Enable**:*

  IP address: enter the IP address of the proxy server.

  IP port: enter the port number.

  APN: enter the access point name of the GPRS network gateway.

  Login ID: enter the user ID.

  Password: enter the password.

*When **Proxy use** is set to **Disable**:*

DNS1: enter the primary DNS address.

DNS2: enter the secondary DNS address.

APN: enter the access point name of the GPRS network gateway.

Login ID: enter the user ID.

Password: enter the password.

- **GSM setting**: customise the following GSM network settings:

  *When **Proxy use** is set to **Enable**:*

  IP address: enter the IP address of the proxy server.

  IP port: enter the port number.

  Dial Number: enter the PPP phone number.

  Login ID: enter the user ID.

  Password: enter the password.

  Data call type: select a call type for data transmission.

  *When **Proxy use** is set to **Disable**:*

  DNS1: enter the primary DNS address.

  DNS2: enter the secondary DNS address.

  Dial Number: enter the PPP phone number.

  Login ID: enter the user ID.

  Password: enter the password.

  Data call type: select a call type for data transmission.

Current proxy *(Menu 6.1.6)*

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

Media box *(Menu 6.2)*

Use this menu to access images, voice memos, and sound clips stored in your phone's memory.

Photos *(Menu 6.2.1)*

Use this menu to access photos you have taken.

While reviewing a file, press <**Options**> to access the following options:

- **Send**: send the file via MMS.
- **Send via infrared**: send the file via the infrared port.
- **Rename**: change the file name.
- **Delete**: delete the file.
- **Move to album**: move the file to one of the **My album** folder.
- **Set as**: set the image as wallpaper for the idle screen or as a caller ID image for a Phonebook entry.
- **Protection**: protect the file from being deleted.
- **Properties**: access the file properties.

Downloaded images *(Menu 6.2.2)*

Use this menu to access images you have downloaded from the wireless web or received in messages.

While reviewing a file, press <**Options**> to access the following options:

- **Send**: send the file via MMS.
- **Send via infrared**: send the file via the infrared port.
- **Rename**: change the file name.
- **Delete**: delete the file.
- **Set as wallpaper**: set the image as wallpaper for the idle screen.
- **Properties**: access the file properties.

Sounds *(Menu 6.2.3)*

Use this menu to access voice memos you have recorded, or sound clips you have downloaded from the wireless web or received in messages.

While reviewing a file, press <**Options**> to access the following options:

- **Send**: send the file via MMS.
- **Send via infrared**: send the file via the infrared port.
- **Rename**: change the file name.
- **Delete**: delete the file.
- **Set as ringtone**: set the sound clip as your ringtone.

- **Properties**: access the file properties.

Delete all *(Menu 6.2.4)*

Use this menu to delete all media items in each media box.

Memory status *(Menu 6.2.5)*

Use this menu to check the total amount of memory for media items and the amount of memory currently in use in each media box.

JAVA world *(Menu 6.3)*

Use this menu to access and play Java games and to change the network setting required for accessing the Java server.

Downloads *(Menu 6.3.1)*

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

Accessing an embedded game

Select a game from the game list and follow the onscreen instructions. The procedure may differ from game to game.

Using Java application options

From the application list, press <**Options**> to access the following options:

- **Launch**: launch the selected application.
- **Delete**: delete the selected application.
- **Properties**: access the application properties.

Internet settings *(Menu 6.3.2)*

Use this menu to set up the network settings required for accessing the Java server.

- **APN**: enter the access point name.
- **Login ID**: enter the user ID.
- **Password**: enter the password.
- **DNS settings**: enter a DNS address.

Memory status *(Menu 6.3.3)*

Use this menu to check the amount of memory currently being used and memory available for Java applications.

FM radio *(Menu 6.4)*

Use this menu to listen to music or news via the FM radio on your phone.

Turning on and listening to the radio

First, you must connect your phone with the headset, which serves as a radio antenna.

1. Plug the connector of the supplied headset into the jack on the left side of the phone.
2. From the FM Radio screen, press <**Options**> and select **Power on**.
3. Press [Left] or [Right] to find the radio station you want.

   You can also press and hold [Left] or [Right] to scan through available radio stations.

> ☑
> - Press [▲/▼] to adjust the volume.
> - You can answer an incoming call or use other phone functions while listening to the radio.
> - The quality of the radio broadcast depends on the radio station's coverage in that particular area.

Setting up a radio station list

You can store your favourite radio stations to quickly access them without searching through noisy frequencies.

1. Plug the connector of the supplied headset into the jack on the left side of the phone.
2. From the FM Radio screen, press <**Options**> and select **Power on**.
3. Scroll to an empty location.
4. Press [Left] or [Right] to find the radio station you want.

   You can also press and hold [Left] or [Right] to scan through available radio stations.
5. Press <**Options**> and select **Add**.
6. Enter the title for the station and press <**OK**>.
7. Press <**OK**> when the frequency for the selected radio station displays.

To listen to the stored stations, press [Up] or [Down] from the FM Radio screen.

Turning off the radio

To turn off the radio, press <**Options**> from the radio screen and select **Power off** or disconnect the headset.

Using radio options

On the FM radio screen, press <**Options**> to access the following options:

- **Power on**/**Power off**: turn the radio on or off.
- **Add**: add a radio station.
- **Edit**: edit the title or frequency for a saved radio station.
- **Self tuning**: let the phone automatically scan through and save available radio frequencies.
- **Remove**: remove the selected station or all stations.
- **Speaker on**/**Earphone on**: change the audio mode to the phone's speaker or headset.
- **Volume**: select the radio volume.

Organiser *(Menu 7)*

The Organiser feature enables you to keep track of your schedule, make a list of tasks, or set alarms. You can also use the phone as a voice recorder, world clock, calculator, converter, and stopwatch.

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

New memo *(Menu 7.1)*

Use this menu create a new item.

☑ You can quickly access this menu by pressing and holding [**C**] in Idle mode.

1. Enter the content and press <**OK**>. If there is any memos already stored, press <**Options**> and select **Add memo**.
2. Select a memo type.
3. Select a date on the calendar.
4. For **Call**, enter a phone number you need to dial and press <**OK**>.

   For **Anniversary**, skip to step 7.

5. Enter the time for the memo and press <**OK**>.
6. Press <**Yes**> to set an alarm.
7. Enter the time for the alarm to sound and press <**OK**>.
8. Select an alarm tone.

Calendar *(Menu 7.2)*

Use this menu to keep track of your monthly schedule.

Consulting the calendar

When you access this menu, the calendar in Month view appears with today's date indicated by a blue box.

Selecting a day

- Press [Left] or [Right] to move by day.
- Press [Up] or [Down] to move by week.
- Press and hold [Up] or [Down] to move by month.
- Press and hold [Left] or [Right] to move by year.

Using calendar options

From the calendar, press <**Options**> to access the following options:

- **Add memo**: add a new item. ▶ p. 54
- **Go to date**: enter the date you want to access.
- **View all**: view all items stored on the calendar. Press [Left] or [Right] to scroll through the items.
- **Delete day**: delete the items stored for the currently selected date.
- **Delete all**: delete all items on the calendar.

Viewing an item

Once you have scheduled things, the following icons and the number of items for a specific day appear at the bottom of the calendar.

- Schedule items
- Tasks
- Calls
- Anniversaries

Using options

While viewing an item, press <**Options**> to access the following options:

- **Add**: add a new item.
- **Delete**: delete the item.
- **Edit**: edit the item.
- **Move**: move the item to a different date.
- **Copy**: copy the item to a different date.

To do list *(Menu 7.3)*

Use this menu to access tasks you have created on the calendar.

The following icons on the list indicate the task status:

- Uncompleted task
- Completed task

While viewing a task, press <**Options**> to access the following options:

- **Add**: add a new task.
- **Mark**: change the task status.
- **Edit**: edit the task.
- **Move**: move the task to a different date.
- **Copy**: copy the task to a different date.
- **Delete**: delete the task.
- **Delete all**: delete all tasks.

Clock *(Menu 7.4)*

Use this menu to change the time and date displayed on your phone. Before setting the time and date, specify your time zone in **Set world time**.

- **Set time**: enter the current time.
- **Set date**: enter the current date.
- **Set world time**: set your local time zone and find out what time it is in another part of the world.

  To apply daylight savings time to time zones, press <**Set**> and select **Set DST**.

- **Set format**: select time and date format.

Alarm *(Menu 7.5)*

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 profiles.

Setting an alarm

1. Select the type of alarm.
2. Press <**Options**> and select **Alarm day**.
3. Press <**Select**> to select the days on which the alarm sounds and press <**OK**>.
4. Enter the time for the alarm to sound and press <**OK**>.
5. Press <**Options**> and select **Alarm tone**.
6. Select an alarm tone.

Stopping an alarm

- For a non-wake-up alarm, press <**Confirm**>.
- For a wake-up alarm, press <**Confirm**>.

  Press <**Snooze**> to cause it to sound again after 5 minutes. You can do this a maximum of 5 times.

Deactivating an alarm

1. Select the alarm you want to deactivate.
2. Press <**Options**> and select **Remove alarm**.

Setting the alarm to sound even if the phone is off

From the Alarm screen, select **Auto power** → **On**.

If the phone is off when it is time for the alarm to sound, the phone switches on and sounds the alarm.

Voice recorder *(Menu 7.6)*

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

Record *(Menu 7.6.1)*

Use this menu to record a voice memo.

1. Select to start recording.
2. Speak into the microphone.
   - Select to pause the recording.
   - Select to resume the recording.

3. When you have finished, select . The voice memo is automatically saved.
4. Select to review the voice memo.

Voices *(Menu 7.6.2)*

Use this menu to access the list of voice memos you have recorded.

Playing a voice memo

From the list, select a voice memo.

During playback:

- Use the following buttons on the display:

Buttons	Function
	Pauses playback.
	Resumes playback.
	Moves backward.
	Moves forward.
	Stops playback.

- Press [▲/▼] to adjust the volume.

Delete all *(Menu 7.6.3)*

Use this menu to delete all voice memos in the phone's memory.

Settings *(Menu 7.6.4)*

Use this menu to delete all voice memos you have recorded.

- **Recording time**: select a voice recording mode.

  Normal: record a voice memo within the limit of the currently available memory.

  Limit size(for MMS): record a voice memo for adding to an MMS message.
- **Volume**: select a volume level for recording a voice memo.
- **Default name**: change the default prefix for file names.

Memory status *(Menu 7.6.5)*

You can access memory information for voice memos.

Calculator *(Menu 7.7)*

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

1. Enter the first number.

   Press [*] to insert a decimal point or press [#] until a bracket displays.
2. Press [#] to access the math function you want.
3. Enter the second number.
4. Press <**Equal**> to view the result.
5. If necessary, repeat from step 2 to confirm the calculation.

Conversion *(Menu 7.8)*

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

1. Select a converter.
2. Enter the value to be converted and press [Down].
   - Press [*] to insert a decimal point.
   - Press [#] to change the temperature to above zero (+) or below zero (-).
3. Press [Left] or [Right] to select the original unit and press [Down].
4. Press [Left] or [Right] to select the unit to which you want to convert.
5. Press <**OK**>.

   The equivalent value for the amount you entered displays.

Timer *(Menu 7.9)*

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

Starting the timer

1. Press <**Set**>.
2. Enter the length of time you want to count down and press <**OK**>.
3. Press <**Start**> to start counting down.

Stopping the timer

- Press any key to stop the timer when it rings.
- Press <**Stop**> on the Timer screen to stop the timer before it rings.

Stopwatch *(Menu 7.10)*

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

1. Press <**OK**> to start the timer.
2. Press <**OK**> to check an interval. You can repeat this step for a total of 4 intervals.

Camera *(Menu 8)*

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

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

- 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 photos *(Menu 8.1)*

You can take photos in various modes. The camera produces JPEG photos.

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

Taking a photo

1. Access the **Take photos** menu to turn on the camera and switch the phone to Capture mode. You can also press and hold [📷] or [Up] in Idle mode.
2. Make any desired adjustments.
   - Press <🗀> to use camera options. ▶ p. 61

- Use the keypad to change the camera settings or switch to other modes. ▶ p. 61

3. Press [OK/i], the left soft key, or [📷] to take a photo. The photo is saved in the **My photos** folder.

4.

To	Press
use photo options	<**Options**>. ▶ p. 62
delete the photo	<**Delete**>.
return to Capture mode	[**C**].

Using camera options in Capture mode

In Capture mode, press <🗀> to access the following options:

- **Mode**: take a photo in the following modes:

  Normal shot: take a photo in the normal mode.

  Multi-shot: take a series of action stills. Select the number of photos the camera will take.

  Night mode: take a high quality photo in low lighting conditions.

  Capture only: set the phone to automatically return to Capture mode after taking a photo.
- **Effects**: change the colour tone or apply a special effect.
- **Rotation**: show the mirror image or flip the image vertically.
- **Timer**: set a time delay before the camera takes a photo.
- **Settings**: change the default settings for taking a photo. ▶ p. 63
- **Help**: view the functions of the keys you can use in Capture mode.

Using the keypad in Capture mode

You can use the keypad to customise your camera settings in Capture mode.

Key	Function
Left/Right	Adjusts the brightness.
Up/Down	Zooms in or out.

Key	Function
▲	Flips the image vertically.
▼	Shows the mirror image.
1	Changes the preview screen.
2	Changes the image size.
3	Changes the image quality.
4	Changes the shooting mode.
5	Changes the colour tone or applies a special effect.
6	Changes the default camera settings. ▶ p. 63
7	Sets the timer.
8	Accesses the **My photos** folder.
9	Shows the help.

Using photo options

After saving a photo, press <**Options**> to access the following options:

- **Send**: send the photo via MMS.
- **Send via infrared**: send the photo via the infrared port.
- **Rename**: change the photo name.
- **Go to my photos**: access the **My photos** folder. ▶ p. 50
- **Set as**: set the photo as wallpaper for the idle screen or as a caller ID image for a Phonebook entry.
- **Protection**: protect the photo from being deleted.
- **Properties**: access the photo properties.

My photos *(Menu 8.2)*

Use this menu to access photos you have taken.
▶ p. 50

My albums *(Menu 8.3)*

Use this menu to organise your photos in a separate album. ▶ p. 50

Delete all *(Menu 8.4)*

Use this menu to delete photos in each folder and all photos at one time.

1. Press <**Select**> to select the photo categories to be cleared.
2. Press <**OK**>.
3. Press <**Yes**> to confirm the deletion.

Settings *(Menu 8.5)*

Use this menu to change the default settings for taking a photo.

- **Photo size**: select an image size.
- **Photo quality**: select an image quality.
- **Shutter sound**: select the sound that you hear when you press the shutter release.
- **Default name**: set the default prefix for file names.

Memory status *(Menu 8.6)*

Use this menu to check the amount of memory currently being used and memory available for the camera.

Phone settings *(Menu 9)*

Use this menu to customise your phone settings. You can also reset the settings to their default values.

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

Display *(Menu 9.1)*

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

Wallpaper *(Menu 9.1.1)*

You can set up the idle screen on the display.

- **Default wallpapers**: select one of the default images to be displayed.
- **Photos**: select one of the photos you have taken.
- **Downloaded images**: select a downloaded image to be displayed.
- **Text position**: select a text position. If you do not want text to display in Idle mode, select **Off**.
- **Text style**: select a font style or colour.

Skin *(Menu 9.1.2)*

You can select a skin colour pattern for Menu mode.

Backlight time *(Menu 9.1.3)*

You can select the length of time the backlight or display stays on.

- **On**: select the length of time the backlight stays on.
- **Dim**: select the length of time the display stays on in Dim mode after the backlight turns off. After a specified time, the display turns off.

LCD brightness *(Menu 9.1.4)*

Use this menu to adjust the brightness of the display.

LCD contrast *(Menu 9.1.5)*

Use this menu to adjust the contrast of the display. Adjusting the contrast help you see the display clearly in different lighting conditions.

Dialing font colour *(Menu 9.1.6)*

Use this menu to select a font colour for the numbers entered while dialling.

Service light *(Menu 9.1.7)*

Use this menu to activate or deactivate the use of the service light on the front of the phone. The service light blinks at regular intervals when your network is available.

Greeting message *(Menu 9.2)*

Use this menu to enter the greeting that is displayed briefly when the phone is switched on.

Language *(Menu 9.3)*

Use this menu to select one of several languages for the display text and T9 input mode, separately.

Security *(Menu 9.4)*

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.

PIN check *(Menu 9.4.1)*

The 4- to 8-digit PIN (Personal Identification Number) protects your SIM card against unauthorised use. When this feature is enabled, the phone requires your PIN each time it is switched on.

Change PIN *(Menu 9.4.2)*

Use this menu to change your PIN. The PIN check feature must be enabled to change the PIN.

Phone lock *(Menu 9.4.3)*

Use this menu to lock the phone from unauthorised use. When this feature is enabled, you must enter a 4- to 8-digit phone password each time the phone is switched on.

The password is preset to **00000000**. To change the password, use the **Change password** menu.

Change password *(Menu 9.4.4)*

Use this menu to change your phone password.

Privacy *(Menu 9.4.5)*

Use this menu to lock access to messages, files, or all menu functions on the phone, except for call functions. When a privacy option is enabled, you must enter the phone password to access the locked items or functions.

SIM lock *(Menu 9.4.6)*

This menu allows your phone to work only with the current SIM card by assigning a SIM lock code. You must enter the SIM lock code to use a different SIM card.

FDN mode *(Menu 9.4.7)*

If supported by your SIM card, Fixed Dialling Number (FDN) mode restricts your outgoing calls to a limited set of phone numbers. When this feature is enabled, you can make calls only to phone numbers stored on the SIM card.

Change PIN2 *(Menu 9.4.8)*

If supported by your SIM card, use this menu to change your current PIN2.

Auto redial *(Menu 9.5)*

Use this menu to set the phone to make up to 10 attempts to redial a phone number after an unsuccessful call.

Voice clarity *(Menu 9.6)*

Use this menu to increase the microphone's sensitivity to allow the other person on the phone to hear your voice clearly, even though you may be whispering.

Anykey answer *(Menu 9.7)*

Use this menu to answer an incoming call by pressing any key, except [ ]. When this option is set to **Off**, you must press <**Accept**> or [ ] to answer a call.

Active folder *(Menu 9.8)*

Use this menu to answer an incoming call by opening the phone.

Side key *(Menu 9.9)*

Use this menu to set whether the phone mutes the call ringer or rejects a call if you press and hold [▲/▼] when a call comes in.

Infrared activation *(Menu 9.10)*

Use this menu to activate the infrared port on your phone to receive data from another IrDA-compatible device.

Reset settings *(Menu 9.11)*

Use this menu to reset the phone settings, and sound settings individually. You can also reset all the settings in your phone at the same time.

1. Press <**Select**> to select the setting categories to be reset.
2. Press <**Yes**>.
3. Enter the phone password and press <**OK**>.

> ☑ The password is preset to **00000000**. You can change this password. ▶ p. 65

Solve problems

Help and personal needs

To save the time and expense of an unnecessary service call, perform the simple checks in this section before contacting a service professional.

When you switch on your phone, the following messages may appear:

"Insert SIM"

- Be sure that the SIM card is correctly installed.

"Enter password"

- The automatic locking function has been enabled. You must enter the phone's password before you can use the phone.

"Enter PIN"

- You are using your phone for the first time. You must enter the PIN supplied with the SIM card.
- The PIN check feature is enabled. Every time the phone is switched on, the PIN has to be entered. To disable this feature, use the **PIN check** menu.

"Enter PUK"

- The PIN has been entered incorrectly three times in succession, and the SIM card is now blocked. Enter the PUK supplied by your service provider.

"No service," "Network failure," or "Not done" displays

- The network connection has been lost. You may be in a weak signal area. Move and try again.
- You are trying to access an option for which you have no subscription with your service provider. Contact the service provider for further details.

You have entered a number but it was not dialled

- Be sure that you have pressed [ ].
- Be sure that you have accessed the right cellular network.
- Be sure that you have not set an outgoing call barring option.

Your correspondent cannot reach you

- Be sure that your phone is switched on. ([ ] pressed for more than one second.)
- Be sure that you are accessing the correct cellular network.
- Be sure that you have not set an incoming call barring option.

Your correspondent cannot hear you speaking

- Be sure that you have switched on the microphone.
- Be sure that you are holding the phone close enough to your mouth. The microphone is located at the bottom of the phone.

The phone starts beeping and "Low battery" flashes on the display

- Your battery is insufficiently charged. Recharge the battery.

The audio quality of the call is poor

- Check the signal strength indicator on the display ( ). The number of bars indicates the signal strength from strong ( ) to weak ( ).
- Try moving the phone slightly or moving closer to a window if you are in a building.

No number is dialled when you re-call a Phonebook entry

- Use the **Find name** menu to ensure the number has been stored correctly.
- Re-store the number, if necessary.

The battery doesn’t charge properly or the phone sometimes turns itself off

- Wipe the charging contacts both on the phone and on the battery with a clean soft cloth.

If the above guidelines do not help you to solve the problem, take note of:

- The model and serial numbers of your phone
- Your warranty details
- A clear description of the problem

Then contact your local dealer or Samsung after-sales service.

Exposure to Radio Frequency (RF) Signals

Certification Information (SAR)

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the exposure limits for radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. government. These FCC exposure limits are derived from the recommendations of two expert organizations, the National Counsel on Radiation Protection and Measurement (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF energy.

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 has reported to the FCC are head 0.711 W/Kg, Body-worn: 0.104 W/Kg.

For Body-worn operations, this model phone has been tested and meets the FCC RF exposure guidelines when used 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 1.5 cm from the body.

Non-compliance with the above restrictions may result in violation of FCC RF exposure guidelines.

SAR information on this and other model phones can be viewed on-line at www.fcc.gov/oet/fccid. This site uses the phone FCC ID number, A3LSGHXXXX. Sometimes it may be necessary to remove then battery pack to find the number. Once you have the FCC ID number for a particular phone, follow the instructions on the website and it should provide values for typical or maximum SAR for a particular phone. Additional product specific SAR information can also be obtained at www.fcc.gov/cgb/sar.

Consumer Information on Wireless Phones

The U.S. Food and Drug Administration (FDA) has published a series of Questions and Answers for consumers relating to radio frequency (RF) exposure from wireless phones. The FDA publication includes the following information:

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 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 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 phones 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 ten or more years' follow-up may be needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop - if they do - may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless phones. Many factors affect this measurement, such as the angle at which the phone is held, or which model of phone is used.

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 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 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.

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/