* 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.

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# SGH-E376
# User’s Guide

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

# 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 calls

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

## Keep your phone away from small children

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

## Accessories and batteries

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

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

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

## Qualified service

Only qualified service personnel may repair your phone.

For more detailed safety information, see "Health and safety information" on page 88.

# 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 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 and camcorder**
  Use the camera module on your phone to take a photo or record a video.

## *Special features of your phone*

- **MP3 player**
  Play MP3 music files using your phone as an MP3 player.

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

- **Bluetooth**
  Send photos, images, videos, and other personal data, and connect to other devices using free, wireless Bluetooth technology.

- **Get personal with photo caller ID**
  See who's calling you when the phone displays their very own photo displays.

- **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.

- **E-mail**
  Send and receive e-mails with images, video, and audio attachments.

- **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.

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# Overview of menu functions

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


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* Shows only if supported by your SIM card.

# Unpack

*Make sure you have each item*

Phone

Travel Adapter

Battery

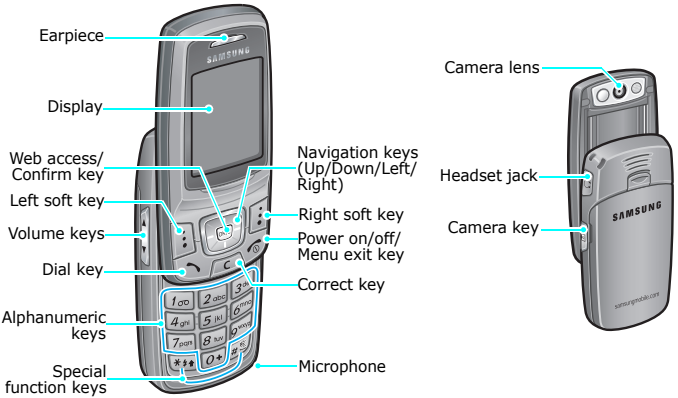
User's Guide

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 operating your phone*

### SIM card information

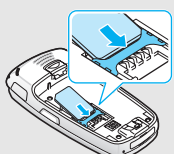
When you subscribe to a cellular network, you receive a plug-in SIM (Subscriber Identity Module) card loaded with your subscription details, such as your PIN, and available optional services.

## Install and charge the phone

1 Remove the battery.

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

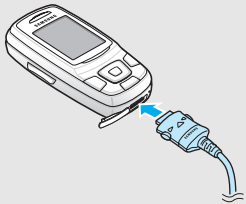
2 Insert the SIM card.



☑ Make sure that the gold-colored 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, 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 [ ]. |
| 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 [ ]. |

### Keypad lock

When you close the phone, the keypad lock feature locks the exposed keys so that nothing will happen if the keys are accidentally pressed.

To unlock the keypad, press <**Unlock**> and press <**OK**>.

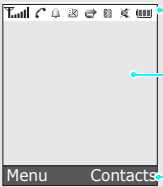
# Keys and display

## Keys

| | |
|---|---|
| | Perform the function indicated on the bottom line of the display. |
| | In Idle mode, access your favorite menus directly. ▶ p. 75<br>In Menu mode, scroll through menu options. |
| | In Idle mode, launch the web browser.<br>In Menu mode, select the highlighted menu option. |
| | Delete characters from the display or an item in an application. |
| | Make or answer a call.<br>In Idle mode, retrieve numbers recently dialled, missed, or received. |
| | Press and hold to switch the phone on and off.<br>End a call.<br>In Menu mode, cancel input and return the phone to Idle mode. |
| | Enter numbers, letters, and some special characters.<br>In Idle mode, press and hold [**1**] to access your voicemail server. Press and hold [**0**] to enter an international call prefix. |
| | Enter special characters.<br>In Idle mode, press and hold [#] to activate or deactivate Quiet mode. Press and hold [*] to insert a pause between numbers. |
| | Adjust the phone volume.<br>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.<br>In Camera mode, take a photo or start recording a video. |

## 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
- Home Zone, if you have registered for the appropriate service
- New text message
- New multimedia message
- New e-mail
- New voicemail
- Call diverting feature active ▶ p. 80
- Bluetooth active ▶ p. 82
- Alarm set ▶ p. 40
- Call ringer settings ▶ p. 78
  - No indicator: Melody
  - : Vibration
  - : Vibration then melody
  - : Melody then vibration
- Quiet mode
- Battery power level

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

# 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.<br> <br><br>Press the left soft key to select the highlighted option.<br>Press the right soft key to return to the previous menu level. |

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

| | |
|---|---|
| **Use shortcuts** | Press the number key corresponding to the option you want. |

## customize your phone

### Display language

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

### Call ringer melody

1. In Idle mode, press <**Menu**> and select **Settings** → **Sound settings** → **Incoming call** → **Ring tone**.
2. Select a ringtone category.
3. Select a ringtone.
4. Press <**Save**>.

### Idle mode wallpaper

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

1. In Idle mode, press <**Menu**> and select **Settings** → **Display settings** → **Wallpaper**.
2. Select an image category.
3. Select an image.

### Menu mode skin color

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

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

## Menu shortcuts

You can set the Navigation keys to function as shortcuts to access your favorite menus.

1. In Idle mode, press <**Menu**> and select **Settings** → **Phone settings** → **Short cut**.
2. Select a key.
3. Select a menu to be assigned to the key.

## Quiet mode

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

Press and hold [#] in Idle mode.

## Phone lock

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

1. In Idle mode, press <**Menu**> and select **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. In Idle mode, enter an area code and phone number.
2. Press [ ].
3. To end the call, press [ ].

**Answer a call**

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

**Adjust the volume during a call**

Press [▲/▼].

# Step outside the phone

*Begin with your camera, the Music player, the web, and other special features*

## Use the camera

**Take a photo**

1. Open the phone.
2. In Idle mode, press and hold [ ] to turn on the camera.
3. Aim the lens at the subject and make any desired adjustments.
4. Press [OK/i] or [ ] to take a photo. The photo is saved automatically.
5. Press <**Back**> to take another photo.

**View a photo**

1. In Idle mode, press <**Menu**> and select **File manager** → **Images** → **Photos**.
2. Select the photo you want.

**Record a video**

1. In Idle mode, press and hold [ ] to turn on the camera.
2. Press [**1**] to switch to Record mode.
3. Press [OK/i] or [ ] to start recording.
4. Press [OK/i], < >, or [ ] to stop recording. The video is saved automatically.
5. Press < > to record another video.

**Play a video**

1. In Idle mode, press <**Menu**> and select **File manager** → **Videos** → **Videos**.
2. Select the video you want.

## Play music

**Copy MP3 files to the phone**

Use these methods:

- Download from the wireless web ▶ p. 42
- Download from a computer using Samsung PC Studio ▶ Samsung PC Studio User's Guide
- Receive via Bluetooth ▶ p. 84

**Create a play list**

1. In Idle mode, press <**Menu**> and select **Applications** → **Music Player**.
2. Press <**Options**> and select **Add to list** → **Add all** or **Add a file**.
3. For **Add a file**, press [OK/i] to select the files you want and press <**Add**>.

4. Press <**Back**> to return to the Music player screen.

**Play MP3 file**

1. From the Music player screen, press [OK/i].
2. During playback, use the following keys:
   - OK/i: pauses/resumes playback.
   - Left: returns to the previous file. Moves backward in a file when held down.
   - Right: skips to the next file. Skips forward in a file when held down.
   - Up: opens the play list.
   - ▲/▼: adjusts the volume.
   - Down: stops playback.

## 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 the Navigation keys.
- To select an item, press <✓>.
- To return to the previous page, press <**Back**> or [**C**].
- To return to the homepage, press and hold [**C**].
- To access options, press [*] or select on the top of the screen.

# Use Phonebook

## Add an entry

To the phone's memory:

1. In Idle mode, enter a phone number and press <**Save**>.
2. Select **Phone** → a number type.
3. Specify contact information: First name, Last name, Mobile, Home, Office, Fax, Other, Email, Graphic ID, Alert, Group, and Notes.
4. Press [OK/i] to save the entry.

To the SIM card:

1. In Idle mode, enter a phone number and press <**Save**>.
2. Select **SIM**.
3. Enter a name.
4. Press [OK/i] to save the entry.

## Find an entry

1. In Idle mode, press <**Contacts**>.
2. Enter the first few letters of the name you want.
3. Select an entry.
4. Scroll to a number, and press [ ] to dial or press [OK/i] to edit contact information.

## Create and send a name card

1. In Idle mode, press <**Menu**> and select **Phonebook** → **My name card**.
2. Specify your contact information.
3. Press [OK/i] to save the name card.
4. To send the name card to other people, press <**Options**> and select **Send via** → a sending method.

## Send messages

### Send a text message (SMS)

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

### Send a multimedia message (MMS)

1. In Idle mode, press <**Menu**> and select **Messages** → **Create new message** → **Multimedia message**.
2. Select **Subject**.
3. Enter the message subject and press [OK/i].
4. Select **Picture & Video** or **Sound** and add an image, video clip, or sound clip.
5. Select **Message**.
6. Enter the message text and press [OK/i].
7. Press <**Options**> and select **Send**.
8. Enter destination numbers or addresses.
9. Press [OK/i] to send the message.

**Send an e-mail**

1. In Idle mode, press <**Menu**> and select **Messages** → **Create new message** → **Email**.
2. Select **Subject**.
3. Enter the e-mail subject and press [OK/i].
4. Select **Message**.
5. Enter the e-mail text and press [OK/i].
6. Select **File attach**.
7. Add image, video, sound, or music files.
8. Press <**Options**> and select **Send**.
9. Enter e-mail addresses.
10. Press [OK/i] to send the e-mail.

## 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** → **My messages** → **Inbox**.
2. Select an SMS message.

**View a multimedia 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** → **My messages** → **Inbox**.
2. Select an MMS message.

**View an e-mail**

1. In Idle mode, press <**Menu**> and select **Messages** → **My messages** → **Email box**.
2. Press <**Select**> when **Check new mail** is highlighted to retrieve an e-mail or a header.
3. Select an e-mail or a header.
4. If you selected a header, press <**Options**> and select **Retrieve**.

## Use Bluetooth

Your phone is equipped with Bluetooth technology, enabling you to connect the phone wirelessly to other Bluetooth devices and exchange data with them, talk hands-free, or control the phone remotely.

**Turn on Bluetooth**

In Idle mode, press <**Menu**> and select **Settings** → **Bluetooth** → **Activation** → **On**.

**Search for and pair with a Bluetooth device**

1. In Idle mode, press <**Menu**> and select **Settings** → **Bluetooth** → **My devices** → **Search new device**.
2. Select a device.
3. Enter a Bluetooth PIN or the other device's Bluetooth PIN, if it has one, and press <**OK**>.

   When the owner of the other device enters the same code, pairing is complete.

**Send data**

1. Access an application, **Phonebook**, **File manager**, or **Calendar**.
2. Select an item.
3. Press <**Options**> and select **Send via** → **Bluetooth**.
4. Select **Search new device**.
5. Select a device.
6. If necessary, enter the Bluetooth PIN and press <**OK**>.

**Receive data**

To receive data via Bluetooth, your phone's Bluetooth feature must be active.

If necessary, press <**Yes**> to confirm that you are willing to receive.

## Quickly launch menus by number

The dialing screen provides you with shortcuts to certain menus you can use with an entered number. With those shortcuts, you can quickly send an SMS message, set an alarm, perform a conversion/calculation, or schedule an appointment after entering a number.

**Access menus**

1. Enter an appropriate number for the action you want in Idle mode.
   For example, enter the time you want as 4-digits to set an alarm or the date you want as 4-digits to enter your schedule.
2. Press one of the Navigation keys.

**Access menus**
(continued)

You can access the following applications by default:

- Up: **Alarm** ▸ p. 40
- Down: **Converter** ▸ p. 41
- Left: **Text message** ▸ p. 46
- Right: **Calendar** ▸ p. 66

☑ You can change the shortcuts in **Advanced shortcut**. ▸ p. 76

# Enter text

*ABC, T9, Number, and Symbol modes*

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

## Changing the text input mode

- Press and hold [∗] to switch between T9 and ABC modes.
- Press [∗] to change case or 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 Ä Å Æ Ç Γ 2 | a b c ä à å æ ç Γ 2 |
| 3 | D E F É Δ Φ 3 | d e f è é Φ 3 |
| 4 | G H I Θ Ψ 4 | g h i ì Ψ 4 |
| 5 | J K L Λ 5 | j k l Λ 5 |
| 6 | M N O Ñ Ö Ø 6 | m n o ñ ö ò ø 6 |
| 7 | P Q R S Π Σ Ξ 7 | p q r s ß Σ Ξ 7 |
| 8 | T U V Ü 8 | t u v ü ù 8 |
| 9 | W X Y Z Ω 9 | w x y z Ω 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 the Navigation keys 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 insert a space.
- Press the Navigation keys 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 <**Add**>.

## 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 entered 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.
   - Press and hold [*] to insert a pause between numbers.

2. Press [ ].
3. When you want 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 [ ].

### Redialing 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. 31

You can also use the speed dial feature to assign your most frequently dialed numbers to specific number keys. ▶ p. 34

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

1. In Idle mode, enter the location number for the phone number you want and press [ #].
2. Find the number you want.
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, except for <**Reject**> and [ ]. ▶ p. 77
- Press <**Reject**> or [ ] to reject a call.
- Press and hold [▲/▼] to reject a call or mute the ringer, depending on the **Volume key** setting. ▶ p. 76

## Viewing missed calls

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

1. Press <**View**>.
2. Scroll through the missed calls, if necessary.
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 right side of the phone. The button on the headset works as follows:

| To | Press |
|---|---|
| redial the last call | the button and then press and hold it again. |
| 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.

### Using the speakerphone feature

Use the phone as a speakerphone to talk and listen with the phone a short distance away.

1. During a call, plug the speaker into the phone.
   Speaker mode is automatically activated.
2. Press [OK/i] to return to normal phone mode.

### Placing a call on hold/Retrieving

Press <**Hold**> or <**Retrieve**> to place a call on hold or retrieve the call.

### Making a second call

You can make another call if your network supports function.

1. Press <**Hold**> to put the call on hold.
2. Make the second call in the normal way.
3. Press <**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. 81

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

## Using In-call options

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

- **Voice clarity on**/**Voice clarity off**: remove extraneous noise and increase call quality so that the person with whom you are speaking can hear you clearly even if you are in a noisy place.
- **Mute**/**Unmute**: switch off the phone's microphone so that the other person on the phone cannot hear you, or switch it back on.
- **Mute keys**/**Send keys**: switch the key tones on or off.

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

- **Phonebook**: access the contact list.
- **Send DTMF**: send the DTMF (Dual tone multi-frequency) tones as a group. The DTMF tones are the tones used in phones for tone dialing, 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.
- **Message**: send a new message or access received messages.
- **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.
- **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.

- **End held call**: disconnect the call currently on hold.
- **Split**: have a private conversation with one multiparty call participant. The other participants can converse with each other. After the private conversation, select Join to return both all private participants to the multi-party call.
- **Remove**: disconnect one multi-party call participant.
- **Switch to headset**/**Switch to phone**: switch the call to a Bluetooth stereo headset or hands-free car kit or back to the phone.
- **SIM service**: access special services, such as news, weather forecasts, entertainment, and location services, provided by your SIM card. This option is available when you use a SIM card supporting SIM Application Toolkit menus, and may be differently displayed depending on your service provider.

# *Menu functions*

*All menu options listed*

## Call records *(Menu 1)*

Use this menu to view the calls you have dialed, 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**.

### Recent contacts *(Menu 1.1)*

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

#### Accessing a call record

1. Press [Left] or [Right] to move to another call type.
2. Press [Up] or [Down] to scroll through the call list.

3. Press [OK/i] to view the details of a call, or press [ ] to dial a number.

### Using call record options

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

- **Save as contacts**: save the number in Phonebook.
- **Send message**: send an SMS or MMS message to the selected number.
- **Delete**: delete the selected call record or all records.

## Missed calls *(Menu 1.2)*

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

## Dialled calls *(Menu 1.3)*

This menu displays the most recent calls you have dialed.

## Received calls *(Menu 1.4.)*

This menu displays the most recent calls you have received.

## Delete all *(Menu 1.5)*

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

1. Press [OK/i] to select the call types to be cleared.
2. Press <**Delete**>.
3. Press <**Yes**> to confirm the deletion.

## Call time *(Menu 1.6)*

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

- **Last call time**: check the length of your last call.
- **Total sent**: check the total length of all the calls you have dialed.
- **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. 85

## Call costs *(Menu 1.7)*

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 authorized for your calls.
- **Price/Unit**: set the price per unit that is applied when the cost of your calls is calculated.

# Phonebook *(Menu 2)*

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

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

## Contact list *(Menu 2.1)*

Use this menu to search for contacts in Phonebook.

☑ Press <**Contacts**> in Idle mode to quickly access this menu.

### Finding a contact

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 or press [OK/i] to edit contact information.

### Using Phonebook options

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

- **Edit**: edit contact information.
- **Send message**: send an SMS or MMS message to the selected number, or an e-mail to the selected address.
- **Copy**: copy the contact to the phone's memory, the SIM card, or FDN list.
- **Send via**: send the contact via SMS, MMS, e-mail, or Bluetooth.
- **Delete**: delete the selected contact.
- **Print via Bluetooth**: print the contact information via a Bluetooth-compatible printer.

## FDN list *(Menu 2.2)*

Use this menu to create a list of contacts to be used in FDN (Fixed Dialing Number) mode, in which the phone allows outgoing calls only to the specified phone numbers, if your SIM card supports this feature. You can activate FDN mode in the **FDN mode** menu. ▶ p. 85

### Adding a contact

1. Press <**Options**> and select **Add**.
2. Enter your PIN2 and press <**OK**>.
3. Enter information.
   - **Name**: assign a name.
   - **Phone number**: add a phone number.
   - **Location**: assign a location number.
4. Press <**Save**> to save the contact.

### Using contact options

Scroll to a contact and press <**Options**> to access options. ▶ "Using Phonebook options"

## Add new contact *(Menu 2.3)*

Use this menu to add a new contact to Phonebook.

### Storing a contact in the phone's memory

1. Select **Phone**.
2. Change the settings or enter information about the contact.
   - **First name**/**Last name**: assign a name.

- **Mobile**/**Home**/**Office**/**Fax**/**Other**: add a number in any type.
- **Email**: assign an e-mail address.
- **Graphic ID**: assign an image to alert you to a call from the person.
- **Alert**: assign a ringtone to alert you to a call from the person.
- **Group**: assign the contact to a caller group.
- **Notes**: add a memo about the person.

3. Press <**Save**> to save the contact.

### Storing a contact on the SIM card

1. Select **SIM**.
2. Enter information about the contact.
   - **Name**: assign a name.
   - **Phone number**: add a number.
   - **Location**: assign a location number.

   ☑ To assign a caller ID image, ringtone, or group, the contact must be saved to the phone's memory.

3. Press <**Save**> to save the contact.

## Group *(Menu 2.4)*

Use this menu to organize your contacts in caller groups.

### Adding members to a caller group

1. Select a group.
2. Press <**Add**>.
3. Select a contact to be added.

### Managing caller groups

While viewing the group list, press <**Options**> to access the following options:

- **View**: display the members of the selected group.
- **Add**: add a new group.
- **Edit**: change the properties of the selected group.
- **Send message**: send an SMS, MMS, or e-mail message to the group members you want.
- **Delete**: delete the selected group. Group members, however, will not be deleted from Phonebook.

## Speed dial *(Menu 2.5)*

Use this menu to assign a speed dial number (2 to 9)* for 8 of your most frequently dialed numbers.

### Assigning speed dial numbers

1. Select a key location from **2** to **9**. Key **1** is reserved for your voicemail server. (It may vary, depending on your country or service provider.)
2. Select a contact from the contact list.
3. Select a number, if the contact has more than one number.

### Managing speed dial entries

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

- **Add**: assign a number to an unassigned key.
- **View**: check the name and number assigned to a key.
- **Change**: assign a different number to a key.
- **Remove**: clear the speed dial setting for a key.

* The amount of memory available for speed dialing depends on the carrier's requirements.

### Dialing speed dial numbers

In Idle mode, press and hold the appropriate key.

## My namecard *(Menu 2.6)*

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

### Saving your name card

The procedure for creating your name card is the same as the one for saving a phone number in the phone's memory. ▶ p. 32

### Using name card options

After saving your name card, press <**Options**> to access the following options:

- **Edit**: edit the name card.
- **Send via**: send the name card via SMS, MMS, e-mail, or Bluetooth.
- **Exchange namecard**: exchange name cards with another person via Bluetooth.
- **Remove**: delete the name card.

- **Print via Bluetooth**: print your contact information via a Bluetooth-compatible printer.

### Own number *(Menu 2.7)*

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

### Management *(Menu 2.8)*

Use this menu to manage contacts in Phonebook.

- **Default saving**: select a default memory location to save contacts. If you select **Ask on saving**, the phone will ask you to select a memory location each time you save a number.
- **Copy all to**: copy all of the contacts stored on your SIM card to your phone's memory, or vice versa.
- **Sort by contacts**: change the sort order of contacts.
- **Delete all**: delete all of the contacts from your phone's memory, SIM card, or FDN list.
- **Memory status**: check the number of contacts you have stored in your phone's memory and on the SIM card.

### Service number *(Menu 2.9)*

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

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

## Applications *(Menu 3)*

Use this menu to play Java games or play music files. You can also use convenient features, such as a voice recorder, alarm clock, calculator, converter, and stopwatch.

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

## Music Player *(Menu 3.1)*

Use this menu to enjoy music. First, you need to save music files into your phone's memory.

### Downloading or receiving music files

Use these methods to save music files to your phone's memory:

- Download from the wireless web ▶ p. 42
- Download from a computer using the Samsung PC Studio program ▶ Samsung PC Studio User's Guide
- Receive via an active Bluetooth connection ▶ p. 84

The downloaded or received files are stored in the **Music** folder. ▶ p. 64

### Creating a play list

1. From the Music player screen, press <**Options**> and select **Add to list**.
2. Select either of the following options:
   - **Add all**: add all of the files in the phone's memory to the play list.
   - **Add a file**: add specific files to the play list.
3. If you selected **Add a file**, press [OK/*i*] to select the files you want and press <**Add**>.
4. Press <**Back**> to go back to the Music player screen.

### Playing music files

From the Music player screen, press [OK/*i*].

During playback, use the following keys:

| Keys | Function |
|---|---|
| OK/*i* | Pauses or resumes playback. |
| Left | Returns to the previous file. Moves backward in a file when held down. |
| Right | Skips to the next file. Moves forward in a file when held down. |
| Up | Opens the play list. |
| Down | Stops playback. |
| ▲/▼ | Adjusts the volume level. |
| **2** | Changes the playback animation. |
| **3** | Changes the repeat mode. |

| Keys | Function |
|---|---|
| **6** | Turns Shuffle mode on or off. |

### Using Music player options

During playback, press <**Options**> to access the following options:

- **Pause**/**Play**: pause or begin playback.
- **Open play list**: access the play list.
- **Remove**: remove the selected file from the play list.
- **Settings**: change the default settings for playing music files.

  **Repeat mode**: select a repeat mode.

  **Shuffle**: set the Music player to play music in random order.

  **Visualization**: change the playback animation.

  **Volume**: select a volume level.
- **Details**: access the file properties.

### Accessing the play list

From the Music player screen, press [Up] to access the play list.

Press <**Options**> to access the following options:

- **Play**: play the currently selected file.
- **Add to list**: add files to the play list.
- **Change order**: move the selected file to the position you want within the play list.
- **Remove**: remove the selected file or all files from the play list.

## Voice recorder *(Menu 3.2)*

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

### Recording a voice memo

1. Press [OK/i] to start recording.
2. Speak into the microphone.

   Press [OK/i] to pause or resume the recording.
3. Press <**Save**> or [Down] to end the recording. The voice memo is saved automatically.

4. Press [OK/i] to review the voice memo, or press [Up] to record a new memo.

### Playing a voice memo

1. From the Voice recorder screen, press <**Options**> and select **Go to voice list**.
2. Select a voice memo.

During playback, use the following keys:

| Keys | Function |
|---|---|
| OK/i | Pauses or resumes playback. |
| Left | Moves backward in a memo. |
| Right | Moves forward in a memo. |
| Up | Switches to Record mode for a new voice memo. |
| Down | Stops playback. |
| ▲/▼ | Adjusts the volume. |

### Changing voice recorder settings

You can change the default settings for the voice recorder. From the Voice recorder screen, press <**Options**> and select **Settings** to access the following options:

- **Recording time**: select a maximum recording time.
- **Volume**: select a volume level.
- **Default name**: change the default prefix of voice memos.

## Java world *(Menu 3.3)*

Use this menu to access and play Java games and to change the network settings for accessing Java services.

### Accessing a 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:

- **Start**: launch the selected application.
- **Delete**: delete the selected application.
- **Details**: access the application properties.
- **Permission**: set permission settings for services charging you additional costs, such as network access and SMS.
- **Protection**: lock the application to protect it from being deleted, or unlock the application.
- **Upgrade**: upgrade the application to the latest version, except for embedded games.
- **Send information via SMS**: send the URL containing the application via SMS, except for embedded games.
- **Memory status**: access memory information for applications.
- **Network settings**: set up a connection profile to be used for applications requiring network access. The following options are available:

  **APN**: enter the access point name.

  **Login ID**: enter the user ID.

  **Password**: enter the password.

  **Proxy**: select whether or not you use a proxy server to access network services. Depending on this setting, options in **Proxy settings** vary.

  **Proxy settings**: provide you with the following options:

  *When the proxy is set to **Enable**:*

  - **IP address**: enter the HTTP proxy address.

  - **Port**: enter the port number.

  *When the proxy is set to **Disable**:*

  - **DNS1**: enter the primary DNS address.

  - **DNS2**: enter the secondary DNS address.

## World time *(Menu 3.4)*

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

### Viewing world time

1. From the world map, press [Left] or [Right] to scroll to the city you want. As the time line moves, the time and date of the given zone display.
2. Press [OK/i] to save the time zone.

### Applying daylight savings time

1. From the world map, press <**Options**> and select **Set daylight saving time**.
2. Press [OK/i] to select the time zones you want.
3. Press <**Save**>.

## Alarm *(Menu 3.5)*

Use this menu to set alarms to sound at specific times.

### Setting an alarm

1. Select the type of alarm.
2. Set each alarm option:
   - **Alarm**: activate the alarm.
   - **Alarm time**: enter the time for the alarm to ring.
   - **AM/PM**: set **AM** or **PM** in 12-hour format.
   - **Alarm day**: select the days on which you want the alarm to sound. If you select **Once alarm**, the alarm sounds at the specified time and then is deactivated.
   - **Alarm tone**: select an alarm tone.
3. Press <**Save**>.

### Stopping an alarm

- For a non-wake-up alarm, press any key.
- For a wake-up alarm, press <**OK**> or [OK/i].

  Press any key, except <**OK**> and [OK/i], to stop the alarm and cause it to sound again after 5 minutes. You can do this a maximum of five times.

### 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 ring, the phone is switched on and sounds the alarm.

### Deactivating an alarm

1. Select the alarm you want to deactivate.
2. Select **Off** on the Alarm line.
3. Press <**Save**>.

## Calculator *(Menu 3.6)*

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 bracket.
   - Press [*] or [#] to move the cursor.
2. Press one of the Navigation keys to access the math function you want.
3. Enter the second number.
4. Press [OK/i] to view the result.
5. If necessary, repeat from step 2 to continue the calculation.

## Converter *(Menu 3.7)*

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

### Performing a conversion

1. Select a converter.
2. Press [Left] or [Right] to select the original unit and press [Down].
3. 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 (-).
4. Press [Left] or [Right] to select the unit to which you want to convert.

   The equivalent value for the amount you entered displays.

### Using converter options

Press <**Options**> to access the following options:

- **Clear**: clear the current values.
- **Reverse**: reverse the conversion.

## Timer *(Menu 3.8)*

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

### Starting the timer

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

### Stopping the timer

- Press any key when the timer rings.
- Press [OK/i] on the Timer screen to stop the timer before it rings.

## Stopwatch *(Menu 3.9)*

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

1. Press [OK/i] to start the stopwatch.
2. Press [OK/i] to check an interval. You can repeat this step for a total of 4 intervals.

## SIM AT *(Menu 3.10)*

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

# Browser *(Menu 4)*

The Wireless Application Protocol (WAP) 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.

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

## Home *(Menu 4.1)*

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

### Navigating the web browser

| To | Press |
|---|---|
| scroll through browser items | [Up] or [Down]. |
| select a browser item | <✓> or [OK/i]. |
| return to the previous page | <**Back**> or [**C**]. |
| return to the homepage | and hold [**C**]. |

### Using browser options

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

- **Back**: go back 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.
- **About...**: access 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.
- **Bookmarks**: access the bookmark list.
- **Messages**: send SMS messages or view the messages stored on the phone.
- **File manager**: access the **File manager** menu.

### Exiting the browser

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

## Bookmarks *(Menu 4.2)*

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 name for the bookmark and press [Down].
3. Enter a URL address and press [OK/i].

### Accessing a bookmarked page

Selecting a bookmark item launches the web browser and accesses the associated web page.

### Using bookmark options

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

- **Go**: access the bookmarked web page.
- **Edit**: edit the address and name of the bookmark.
- **Delete**: delete the selected bookmark or all bookmarks.

## Goto URL *(Menu 4.3)*

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

## Clear cache *(Menu 4.4)*

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

## Profile settings *(Menu 4.5)*

Use this menu to select a connection profile to be used for accessing the wireless web. Contact your service provider for details about your settings options.

For each profile, the following options are available:

- **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**: activate or deactivate the proxy server.

- **GPRS settings**: customize the following GPRS network settings:

  *When the proxy is set to **Enable**:*

  **Proxy IP**: enter the HTTP proxy server address.

  **Proxy 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 the proxy is set to **Disable**:*

  **DNS1**: enter the primary address.

  **DNS2**: enter the secondary address.

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

  **Login ID**: enter the user ID.

  **Password**: enter the password.
- **GSM settings**: customize the following GSM network settings:

  *When the proxy is set to **Enable**:*

  **Proxy IP**: enter the HTTP proxy server address.

  **Proxy port**: enter the port number.

  **Dial number**: enter the PPP server phone number.

  **Login ID**: enter the user ID.

  **Password**: enter the password.

  **Data call type**: select a data call type.

  *When the proxy is set to **Disable**:*

  **DNS1**: enter the primary address.

  **DNS2**: enter the secondary address.

  **Dial number**: enter the PPP server phone number.

  **Login ID**: enter the user ID.

  **Password**: enter the password.

  **Data call type**: select a data call type.

## Current profile *(Menu 4.6)*

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

# Messages *(Menu 5)*

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

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

## Create new message *(Menu 5.1)*

Use this menu to create and send messages.

### Text message *(Menu 5.1.1)*

Short Message Service (SMS) allows you to send or receive text messages that may include pictures, animated images, and melodies.

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.
   - You can use various options by pressing <**Options**>. ▶ next section

2. When you have finished, press <**Options**> and select **Send only** or **Save and send**.
3. Enter a destination number.

   To send the message to more than one recipient, fill in additional destination fields.
4. Press [OK/i] to send the message.

### Using options while composing an SMS message

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

- **Send only**: send the message.
- **Save and send**: save the copy of the message and send it.
- **Insert**: add a template, Phonebook entry, or bookmark into text.
- **Add picture**/**Add animation**/**Add melody**: attach a simple image, animated image, or melody.
- **Attach**: add a name card or calendar data as data format attachments.

- **Save to**: save the message in the **Draft** or **My folder** box.
- **Language select**: change the language used in T9 input mode.
- **Text style**: change the text attributes.

### Multimedia message *(Menu 5.1.2)*

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

1. Select the **Subject** line.

   ☑ You can use various options by pressing <**Options**> in each field. ▶ next section

2. Enter the message subject and press [OK/i].
3. Select the **Picture & Video** or **Sound** line and add an image, a video, or a 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.
5. Enter the message text and press [OK/i].
6. When you have finished, press <**Options**> and select **Send**.
7. Enter a phone number or e-mail address.

   To send the message to more than one recipient, fill in additional destination fields.

8. Press [OK/i] to send the message.

### Using options while composing an MMS message

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

- **Add**: add the message subject or message text.
- **Edit**: edit the subject or text of your message.
- **Change image**/**Change video**/**Change sound**: replace an added item.
- **Add image**/**Add video**/**Add sound**: add an image, a video, or a sound file.
- **Preview**: view the message as it will be shown on the recipient's phone.

- **Send**: send the message.
- **Save to**: save the message to the **Draft** or **My folder** box, or save it as a template.
- **Add page**: add pages. Move to each page by pressing [Left] or [Right].
- **Delete page**: delete an added page.
- **Edit page**: change the duration of page display or move the page forward or backward among the other pages.
- **Attach**: attach name cards or calendar data as data format attachments, or a document file stored in the **Other files** folder.
- **Remove subject**/**Remove media**/**Remove sound**/**Remove message**: remove an added item.

### Email *(Menu 5.1.3)*

You can create and send e-mails that include text, audio, and images. To use this feature, you need to subscribe to an e-mail service and set up your e-mail account and profile. ▶ p. 59, p. 60

1. Select the **Subject** line.

   ☑ You can use various options by pressing <**Options**> in each field. ▶ next section

2. Enter the subject of your e-mail and press [OK/i].
3. Select the **Message** line.
4. Enter the e-mail text and press [OK/i].
5. Select the **File attach** line and add media files.

   ☑ Depending on the file type or DRM (Digital Rights Management) system, some files may not be able to be forwarded.

6. When you have finished, press <**Options**> and select **Send**.
7. Enter an e-mail address.

   To send the e-mail to more than one recipient, fill in additional destination fields.

8. Press [OK/i] to send the e-mail.

### Using options while composing an e-mail

While composing an e-mail, press <**Options**> to access the following options:

- **Add**: add the subject of your e-mail or e-mail text.
- **Edit**: edit the subject or text.
- **Add image**/**Add videos**/**Add sounds**/**Add music**: add media files stored in the phone's memory.
- **Other files**: add document files stored in the **Other files** folder.
- **View**: play an added item.
- **Send**: send the message.
- **Save to**: save the message in the **Draft** or **My folder** box.
- **Attach**: attach name cards or calendar data as data format attachments.
- **Remove subject**/**Remove message**: clear the subject or text.
- **Remove**: delete the selected attachment or all attachments.
- **Remove all attachments**: delete all attachments.

## My messages *(Menu 5.2)*

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

### Inbox *(Menu 5.2.1)*

This folder stores all of the messages you have received, except for e-mails.

### Viewing a message

The following icons may appear on the message list; depending on the message type or status, icons may vary:

- SMS / Delivery report
- MMS
- MMS notification ( : Being retrieved, : Failed to be retrieved)
- Push message from web servers

- Depending on the DRM (Digital Rights Management) system, messages having web content may not be able to be forwarded.
- A **!** icon next to a message means that the message is of high priority. A grey-colored message icon indicates low priority.

### Using message options

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

**SMS messages**

- **Reply via**: reply to the sender via SMS or MMS.
- **Forward**: forward the message to other people.
- **Delete**: delete the message.
- **Move to phone**/**Move to SIM**: move the message between the SIM card and the phone's memory.
- **Add to block list**: add the sender's number to the blocking list to reject the messages from the sender.
- **Cut address**: extract URLs, e-mail addresses, or phone numbers from the message.
- **Cut media**: save media content from the message into your phone's memory.
- **Print via Bluetooth**: print the message via a Bluetooth-compatible printer.
- **Protection**: protect the message from being deleted.

**MMS messages**

- **Retrieve**: retrieve the MMS message from the MMS server.
- **Reply via SMS**: reply to the sender via SMS.
- **Reply via MMS to**: reply to the sender via MMS.
- **Forward**: forward the message to other people.
- **Delete**: delete the message.
- **Add to block list**: add the sender's number to the blocking list to reject the messages from the sender.
- **Cut address**: extract URLs, e-mail addresses, or phone numbers from the message.

- **Cut media**: save media content from the message into your phone's memory.
- **Protection**: protect the message from being deleted.
- **Details**: access the message properties.

**Push messages**

- **Go to URL**: connect to the URL specified in the message.
- **Delete**: delete the message.
- **Cut address**: extract URLs, e-mail addresses, or phone numbers from the message.

**Configuration message**

- **Install**: apply the configuration specified in the message to your phone.
- **Cut address**: extract URLs, e-mail addresses, or phone numbers from the message.
- **Delete**: delete the message.
- **Protection**: protect the message from being deleted.

**Delivery report messages**

- **Delete**: delete the message.

### Draft *(Menu 5.2.2)*

This folder stores messages you have saved to send at a later time.

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

- **View**: open the message.
- **Edit**: edit the message.
- **Send**: send the message.
- **Delete**: delete the selected message or all messages.
- **Move to my folder**: move the message to the **My folder** box.
- **Move to phone**/**Move to SIM**: move the message between the SIM card and the phone's memory.
- **Sort by**: change the sort order of the message list.

- **Protection**: protect the message from being deleted.
- **Details**: access the message properties.

**Outbox** *(Menu 5.2.3)*

This folder stores messages that the phone is attempting to send or has failed to send.

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

- **Send again**: send the message again.
- **Open file**: open the attached file.
- **Save file**: save the attached file in the phone's memory.
- **Forward**: forward the message to other people.
- **Delete**: delete the message.
- **Move to phone**/**Move to SIM**: move the message between the SIM card and the phone's memory.
- **Print via Bluetooth**: print the message via a Bluetooth-compatible printer.
- **Protection**: protect the message from being deleted.
- **Details**: access the message properties.

**Sentbox** *(Menu 5.2.4)*

This folder stores messages that you have sent.

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

- **Open file**: open the attached file.
- **Save file**: save the attached file in the phone's memory.
- **Forward**: forward the message to other people.
- **Delete**: delete the message.
- **Move to phone**/**Move to SIM**: move the message between the SIM card and the phone's memory.
- **Print via Bluetooth**: print the message via a Bluetooth-compatible printer.
- **Protection**: protect the message from being deleted.
- **Details**: access the message properties.

### **Email box** *(Menu 5.2.5)*

This folder stores e-mails that you have received.

1. Select an e-mail account.
2. Press <**Select**> when **Check new mail** displays. The phone checks for new e-mails and downloads received e-mails.

   The following icons may appear on the list to show the e-mail status:

   - : Retrieved from the server
   - : Being retrieved
   - : Failed to be retrieved

   > ☑ A **!** icon next to a message means that the message is of high priority. A grey-colored message icon indicates low priority.

3. Select an e-mail or a header.
4. If the e-mail has more than one page, press [▲/▼] to scroll through pages one by one.

   Press and hold [▲/▼] to move to the first or last page.
5. Select an attached file to view or play it.
6. Press [*] or [#] to move to the previous or next e-mail.

### Using e-mail options

While viewing the e-mail or header, press <**Options**> to access the following options:

- **Retrieve**: retrieve one or all of the e-mails from the e-mail server.
- **Open file**: open the attached file.
- **Save file**: save the attached file in the phone's memory.
- **Reply to**: send a reply to the sender or to all of the other recipients.
- **Forward**: forward the e-mail to other people.
- **Delete**: delete the selected e-mail.
- **Add to block list**: add the sender's e-mail address or subject to the blocking list to reject e-mails from the address or containing that subject.
- **Cut address**: extract URLs, e-mail addresses, or phone numbers from the message.

- **Cut attachment**: save media content from the message to your phone's memory.
- **Print via Bluetooth**: print the e-mail via a Bluetooth-compatible printer.
- **Protection**: protect the e-mail from being deleted.
- **Details**: access the e-mail properties.

### My folder *(Menu 5.2.6)*

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

## Templates *(Menu 5.3)*

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

### Text template *(Menu 5.3.1)*

You can create SMS templates with the sentences you use frequently so that you can retrieve and insert them when composing an SMS message.

**Creating a template**

1. Select an empty location.
2. Enter a message and press [OK/i].

**Using template options**

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

- **Edit**: edit the selected template.
- **Send message**: create and send a new message using the template.
- **Delete**: delete the selected template.

### MMS template *(Menu 5.3.2)*

You can access embedded MMS templates or ones you have saved so that you can use them in composing an MMS message.

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

- **View**: open the selected template.
- **Send message**: send a new message using the template.

- **Edit**: edit the template.
- **Add new**: add a new template.
- **Delete**: delete the selected template or all templates, except for the embedded ones.

## Delete all *(Menu 5.4)*

Use this menu to delete all of the messages in each message folder at once. You can also select messages in message type you want to delete.

1. Press [OK/i] to select the message folders or message types to be cleared.
2. Press <**Delete**>.
3. Press <**Yes**> to confirm the deletion.

## Settings *(Menu 5.5)*

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

### Text message *(Menu 5.5.1)*

You can configure SMS settings.

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

  **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 **Auto**, the phone switches the encoding type from GSM-alphabet to Unicode 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.

  **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.

  **Service centre**: store or change the number of your SMS server.
- **Block number**: store the phone numbers from which you want to reject messages.

**Multimedia message** *(Menu 5.5.2)*

You can configure MMS settings.

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

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

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

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

  **Priority**: set the priority level of messages.

  **Expiry Date**: set the length of time messages are stored in the MMS server.

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

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

  **Anonymous reject**: reject messages from unknown senders.

  **Advert allowed**: accept advertisements.

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

  **Home reception**: determine if your phone retrieves new messages automatically when you are in your home service area.

  **Roaming reception**: determine if your phone retrieves new messages automatically when you are roaming in another network.

  Reception within home network or abroad has the following options:

  - **Automatic**: the phone automatically retrieves messages from the server.
  - **Reject**: the phone rejects all messages.
  - **Manual**: the phone displays notifications. Use the **Retrieve** option to manually download new messages.

- **MMS profiles**: set up a connection profile and select a profile to be used for MMS.

  **Current profile**: select a profile.

**Profile settings**: set up the following options for each profile.

- **Profile name**: assign a name to the MMS profile.
- **Server URL**: enter the URL address of your MMS server.
- **Proxy**: connect to the GPRS network using the proxy server.
- **GPRS settings**: customize the settings required for connecting to the GPRS network.

  *When the proxy is set to **Enable**:*

  **IP address**: enter the IP address.

  **Port**: enter the port number.

  **APN**: enter the access point name used for the address of the GPRS network.

  **Login ID**: enter the user ID.

  **Password**: enter the password.

  *When the proxy is set to **Disable**:*

  **DNS1**: enter the primary address.

  **DNS2**: enter the secondary address.

  **APN**: enter the access point name used for the address of the GPRS network.

  **Login ID**: enter the user ID.

  **Password**: enter the password.

- **Version**: select an available OMA version and maximum size limit for sending or receiving messages.

> ☑ Depending on your service provider, it may not be possible to support the maximum limit 300KB. In this case, try again after changing the setting to 100KB.

- **Block number**: specify phone numbers from which messages will not be accepted. Numbers specified here are also included in the SMS blocking list.
- **Message class**: set up the options creating MMS messages:

  **Message class**: select the type of message content you will add or how the message size.

  - **Text**: you can add only text of up to 30 KB.

- **Image basic**: you can add any type of item, except for video, of up to 30 KB.
- **Image rich**: you can add any type of item, except for video, of up to 100 KB.
- **Video basic**: you can add any type of item of up to 100 KB.
- **Video rich**: you can add any type of items of up to 300 KB.

**Creation mode**: select an MMS creation mode.

- **Free**: you can create a message with any type of contents and of any size.
- **Restricted**: you can create a message with the type of content and size specified in Message class.
- **Warning**: you can create a message with any type of content and of any size, but the phone will inform you when the content and size have exceeded the maximum.

## Email *(Menu 5.5.3)*

You can configure e-mail settings.

☑ You cannot change e-mail profile and account settings while an e-mail is being sent or retrieved.

- **Send settings**: set up the options for sending e-mails:

  **Send copy to self**: send a copy of your e-mails to your e-mail account.

  **Delivery confirm**: set the network to inform you when your e-mails have been delivered.

  **Read confirm**: send a read-reply request along with e-mails.

  **Priority**: select the priority level of e-mails.

  **Include signature**: attach your name, phone number, a simple memo, or a tag line to your e-mails.

  **Edit name**: enter the name in your signature.

  **Edit telephone number**: enter the phone number in your signature.

  **Edit note**: enter the tag line in your signature.

- **Receive settings**: set up the options for receiving e-mails.

  **Check interval**: determine how often the phone checks the server for incoming e-mails. If you select **Not used**, use the **Check new mail** option to receive new e-mails manually.

  **Read reply**: determine whether or not the phone sends a read-reply for incoming e-mails. If you select **Announce**, the phone asks you to send a read-reply.

  **Retrieve option**: set whether the phone downloads e-mail headers only or the complete e-mail.

  **Delete option**: determine whether e-mails are deleted immediately or the next time you connect to the server.

  **Reject if over**: determine the maximum size for incoming e-mails. Your phone will reject e-mails that exceed the specified size.

  **Leave a copy of messages on the server**: leave copies of e-mails on the e-mail server after retrieving.

- **Email account**: set up an e-mail account and select an account to be used.

  **Current account**: select an account.

  **Account settings**: configure e-mail accounts using different e-mail servers. Press <**Options**> and select **Create**:

  - **In use**: activate the current e-mail account.
  - **Account name**: enter a name for the currently selected account.

  To access the following options, press [OK/i], or press <**Options**> and select **Next**.

  - **User name**: enter a user name.
  - **Email address**: enter your e-mail address.
  - **Reply address**: enter the e-mail address to which you want recipients to send reply messages.

  To access the following options, press [OK/i], or press <**Options**> and select **Next**.

  - **SMTP server**: enter the IP address or host name of the outgoing e-mail server.
  - **SMTP port**: enter the SMTP port number.

- **SMTP user ID**: enter the SMTP user ID.
- **SMTP password**: enter the SMTP password.
- **Secure connection (SMTP)**: use a secure connections for e-mail service.
- **Retrieve server type**: select the protocol for the incoming e-mail server. The remaining options depend on the protocol type setting.

*When the protocol type is **POP3**:*

- **POP3 server**: enter the IP address or host name of the server that receives your e-mail.
- **POP3 port**: enter the POP3 port number.
- **Same ID and password**: select to use the same SMTP user ID and password with incoming server.
- **POP3 user ID**: enter the POP3 user ID.
- **POP3 password**: enter the POP3 password.
- **Secure connection (POP3)**: use a secured connection for the POP3 protocol.
- **APOP login**: connect to the server by using the APOP login scheme.

*When the protocol type is **IMAP4**:*

- **IMAP4 server**: enter the IP address or host name of the server that receives your e-mail.
- **IMAP4 port**: enter the IMAP4 port number.
- **Same ID and password**: select to use the same SMTP user ID and password with incoming server.
- **IMAP4 user ID**: enter the IMAP4 user ID.
- **IMAP4 password**: enter the IMAP4 password.
- **Secure connection (IMAP4)**: use a secured connection for the IMAP4 protocol.
- **Include attachments**: select this option to receive attachments with e-mails.
- **Email retrieval limit**: set the number of headers you will retrieve from the server.

• **Email profile**: configure the network settings required to send or receive e-mails.

**Current profile**: select a profile.

**Profile settings**: configure up to five e-mail profiles.

- **Profile name**: enter a profile name.
- **APN**: enter the access point name.
- **Login ID**: enter user ID.
- **Password**: enter the password.
- **DNS1**: enter the primary DNS address.
- **DNS2**: enter the secondary DNS address.

- **Block list**: set up an e-mail blocking list.

  **Address list**: specify e-mail addresses to reject e-mails from those addresses.

  **Subject list**: specify subjects to reject e-mails which contain those subjects.

### Push message *(Menu 5.5.4)*

You can change the settings for receiving push messages from the wireless web server.

- **Receive**: set how your phone receives push messages.
- **Service centre**: enter the address of the server from which you want to receive push messages, when the **Receive** option is set to **SMS-C specific**.

## Broadcast messages *(Menu 5.6)*

You can change the settings for receiving broadcast messages.

- **Read**: open received messages.

  The **Temporary** box saves network messages until the phone is switched off.

  The **Archive** box saves network messages indefinitely. Press <**Options**> and select **Save** when a text notification appears. The message is saved in the **Archive** box.
- **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.

### Memory status *(Menu 5.7)*

Use this menu to view the maximum memory and available memory for each message type. You can also view the amount of memory currently in use in each folder.

## File manager *(Menu 6)*

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

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

> According to the DRM (Digital Rights Management) system, web content may not be able to be forwarded. The content is indicated by .

### Images *(Menu 6.1)*

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

#### Viewing an image

1. Select an image folder.
2. Select an image.

#### Viewing a slide show

You can view your photos as a slide show, a sequential presentation of each photo in the current folder.

1. Select **Photos**.
2. Press <**Options**> and select **Slide show**.
3. Select an interval option. The slide show begins.
4. Press <**Cancel**> to stop the slide show.

#### Using image options

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

- **List**: return to the image list.
- **Send via**: send the file via MMS, e-mail, or Bluetooth.
- **Set as**: set the image as wallpaper for the displays or as a caller ID image for a Phonebook entry.

- **Edit**: add emoticons, frames, or effects to the image.
- **Delete**: delete the file.
- **Rename**: change the file name.
- **Move to** (**favourite images**): move the file to another folder.
- **Slide show**: view all images as a slide show.
- **Share for Bluetooth**: share the file with other Bluetooth devices.
- **Print via Bluetooth**: print the image via a Bluetooth-compatible printer.
- **Protection**: protect the file from being deleted.
- **Details**: access the file properties.

## Videos *(Menu 6.2)*

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

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

### Playing a video clip

1. Select a video folder.
2. Select a video clip.

During playback, use the following keys.

| Keys | Function |
|---|---|
| OK/*i* | Pauses or resumes playback. |
| Left | Moves backward in the file. |
| Right | Skips forward in a file. |
| ▲/▼ | Adjusts the volume. |
| Down | Stops playback. |

### Using video options

While viewing the file list, press <**Options**> to access the options.

- **Play**: play the video clip.
- **Send via**: send the file via MMS, e-mail, or Bluetooth.
- **Delete**: delete the selected file or all files.

- **Rename**: change the file name.
- **Move to (favourite videos)**: move the file to another folder.
- **Share for Bluetooth**: share the file with other Bluetooth devices.
- **Protection**: protect the file from being deleted.
- **Details**: access the file properties.

## Music *(Menu 6.3)*

This menu displays music files you have downloaded, received in messages, or imported from your computer.

### Playing a music file

Scroll to a file and press [OK/i]. ▶ p. 36

### Using music options

While viewing the file list, press <**Options**> to access the following options:

- **Play**: play the music file.
- **Send via**: send the file via e-mail or Bluetooth.
- **Add play list**: add the selected file to the current play list.
- **Set as**: set the music file as your call ringtone, a ringtone for a Phonebook entry, or an alarm tone.
- **Delete**: delete the selected file or all files.
- **Settings**: change the default settings for playing music files.

  **Repeat mode**: select a repeat mode.

  **Shuffle**: set the MP3 player to play music at random.

  **Visualization**: select a playback animation.

  **Volume**: select a volume level.
- **Rename**: change the file name.
- **Share for Bluetooth**: share the file with other Bluetooth devices.
- **Protection**: protect the file from being deleted.
- **Details**: access the file properties.

## Sounds *(Menu 6.4)*

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

### Playing a sound clip

1. Select a sound folder.
2. Select a sound clip. For a voice memo, see **Voice recorder**. ▶ p. 38

### Using sound options

While viewing the file list, press <**Options**> to access the following options:

- **Play**: play the sound clip.
- **Send via**: send the file via MMS, e-mail, or Bluetooth.
- **Set as**: set the sound file as your call ringtone, a ringtone for a Phonebook entry, or an alarm tone.
- **Delete**: delete the selected file or all files.
- **Rename**: change the file name.
- **Move to favourite sounds**/**Move to voice list**/**Move to downloaded sounds**:: move the file to another folder.
- **Share for Bluetooth**: share the file with other Bluetooth devices.
- **Protection**: protect the file from being deleted.
- **Details**: access the file properties.

## Other files *(Menu 6.5)*

Files that you receive but which are not supported by your phone are stored in this folder. These unsupported file formats include *.doc, *.hwp, *.ppt, *.txt.

While viewing the file list, press <**Options**> to access the following options:

- **Send via**: send the file via MMS, e-mail, or Bluetooth.
- **Delete**: delete the selected file or all files.
- **Rename**: change the name of the file.
- **Share for Bluetooth**: share the file with other Bluetooth devices.

- **Protection**: protect the file from being deleted.
- **Details**: access the file properties.

### Memory status *(Menu 6.6)*

Use this menu to view memory information for media items in the phone's memory.

## Calendar *(Menu 7)*

The **Calendar** menu enables you to keep track of your schedule.

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

### Selecting a day on the calendar

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

- Press [Left] or [Right] to move by day.
- Press [Up] or [Down] to move by week.
- Press [▲/▼] to move by month.

### Creating an item

You can store schedule items, anniversaries, and To-do items on the calendar. More than one event per day can be stored.

#### Entering a schedule item or miscellaneous item

1. Select a date on the calendar.
2. Press <**Options**> and select **Create** → **Schedule** or **Miscellaneous**.
3. Enter information or change the settings:
   - **Subject**: enter the title of the item.
   - **Details**: enter item details.
   - **Start date** and **Start time**: enter the starting date and time for the item.
   - **AM/PM**: select **AM** or **PM** in the 12-hour time format.
   - **End date** and **End time**: enter the ending date and time for the item.
   - **AM/PM**: select **AM** or **PM** in the 12-hour time format.

- **Location**: (for **Schedule**) enter information about the item location.
- **Alarm**: set an alarm for the item.
- **before**: set how long before the item the alarm is to alert you.
- **Alarm tone**: select an alarm tone.
- **Repeat**: (for **Schedule**) select to set the item to recur and select a unit of time to repeat.
- **until**: (for **Schedule**) if the item will recur, set an ending date.

4. Press <**Save**> to save the item.

### Entering an anniversary

1. Select a date on the calendar.
2. Press <**Options**> and select **Create** → **Anniversary**.
3. Enter information or change the settings:
   - **Occasion**: enter information about the anniversary.
   - **Date**: enter the date.
   - **Alarm**: select to set an alarm for the anniversary.
   - **before**: set how long before the event the alarm is to alert you.
   - **Alarm time**: enter the time for the alarm to sound.
   - **AM/PM**: select **AM** or **PM** in the 12-hour time format.
   - **Alarm tone**: select an alarm tone.
   - **Repeat every year**: select to set the phone to remind you of the anniversary every year.
4. Press <**Save**> to save the anniversary.

### Entering a To-do item

1. Select a date on the calendar.
2. Press <**Options**> and select **Create** → **To do**.
3. Enter information or change the settings:
   - **To do**: enter information about the item.
   - **Start date**: enter the starting date.
   - **Due date**: enter the ending date.
   - **Priority**: select a priority level.
4. Press <**Save**> to save the item.

## Consulting the calendar

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

- Schedule item
- To-do item
- Anniversary
- Miscellaneous item

### Viewing an item

1. Select a date on the calendar to display the items for the day.
2. Select an item to view its details.
3. Press [Left] or [Right] to access the other items scheduled for the selected day.

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

- **Edit**: edit the item.
- **Create**: add a new item.
- **Send via**: send the item via SMS, MMS, e-mail, or Bluetooth.
- **View mode**: change the view mode of the calendar.
- **Done**/**Undone**: mark the To-do item as done, or not.
- **Delete**: delete the item.
- **Print via Bluetooth**: print item details via a Bluetooth-compatible printer.

### Using calendar options

Press <**Options**> to access the following options:

- **View mode**: change the view mode of the calendar. ▶ p. 69
- **Create**: add a new item. ▶ p. 66
- **Go to**: select today's date or enter the specific date you want to access.
- **Sort by**: sort items by the type of items.
- **Delete**: delete the items stored on the calendar by using various deleting options.
- **Missed alarm events**: view events whose alarms you have missed.
- **Memory status**: access memory information for the event items stored on the calendar.

## Viewing items in different mode

You can change the calendar display to Day view or Week view. Press <**Options**> and select **View mode** → a view mode.

### Day view

You can view items for the selected date. Select an item to view its details.

The following icons may display to indicate the item status:

- Alarm set
- Recurring event
- Completed to-do
- To-do priority (Red: high, Blue: normal, and Grey: low)

### Week view

You can view items for the selected week. A cell on the timetable indicates the presence of a scheduled item. Select a cell in the day you want.

## Viewing a missed alarm item

When you are unable to acknowledge an alarm for a schedule item, anniversary, or miscellaneous item, the phone stores the missed alarm item until you confirm it.

1. Press <**Options**> and select **Missed alarm events**.
2. Select an item.
3. Press <**Confirm**> to confirm and delete the item.

# Camera *(Menu 8)*

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

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

- 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.

## Taking a photo

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.

1. Access the **Camera** menu to turn on the camera and switch the display to Capture mode. You can also press and hold [ 📷 ] in Idle mode.
2. Make any desired adjustments.
   - Press < > to access camera options.
     ▶ next section
   - Use the keypad to change camera settings or switch to other modes. ▶ p. 71
3. Press [ OK/i ] or [ 📷 ] to take a photo. The photo is saved in the **Photos** folder.
4.

| To | Press |
|---|---|
| use photo options | <**Options**>. ▶ p. 71 |
| delete the photo | [**C**] and then <**Yes**>. |
| return to Capture mode | <**Back**> or [ OK/i ]. |

## Using camera options in Capture mode

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

- **Record video**: switch to Record mode.
- **Shooting mode**: take a photo in the following modes:

  **Single shot**: take a photo in normal mode.

  **Multi shot**: take a series of action stills. Select the number of photos the camera will take and the rate at which the photos are taken.
- **Effects**: change the color tone or apply a special effect.
- **Frames**: apply a decorative frame.
- **Flash**: determine the use of the flash.
- **Timer**: set a time delay before the camera takes a photo.
- **Go to photos**: access the **Photos** folder.
- **Settings**: change the default settings for taking a photo.

  **Size**: select an image size.

**Quality**: select an image quality.

**View finder**: select a preview screen.

**Shutter sound**: select the sound that you hear when you press the shutter release.

**Zoom sound**: turn on or off the sound that you hear when zooming in or out.

**Brightness sound**: turn on or off the sound that you hear when adjusting the image brightness.

**Default name**: change the default prefix of file names.

- **Camera short cuts**: view the functions of the keys you can use in Capture mode.

### Using the keypad in Capture mode

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

| Key | Function |
|---|---|
| Left/Right | Adjusts the brightness. |
| Up/Down | Zooms in or out. |
| ▲ | Flips the image vertically. |
| ▼ | Shows the mirror image. |
| **1** | Switches to Record mode. ▶ p. 72 |
| **2** | Changes the image size. |
| **3** | Changes the image quality. |
| **4** | Changes the camera mode. |
| **5** | Changes the color tone or applies a special effect. |
| **7** | Selects a decorative frame. |
| **8** | Sets the timer. |
| * | Determines the flash use. |
| **0** | Goes to the **Photos** folder. |
| # | Changes the preview screen. |

### Using photo options

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

- **Take another**: return to Capture mode.
- **Send via**: send the file via MMS, e-mail, or Bluetooth.
- **Set as**: set the photo as wallpaper for the displays or as a caller ID image for a Phonebook entry.
- **Multi shot delete all**: delete all of the multi-shot photos.
- **Delete**: delete the file.
- **Rename**: change the file name.
- **Go to photos**: access the **Photos** folder. ▶ p. 62
- **Share for Bluetooth**: share the file with other Bluetooth devices.
- **Print via Bluetooth**: print the image via a Bluetooth-compatible printer.
- **Protection**: protect the file from being deleted.
- **Details**: access the file properties.

## Recording a video

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

1. In Capture mode, press [**1**].
2. Make any desired adjustments.
   - Press < > to access camera options. ▶ next section
   - Use the keypad to change camera settings or switch to other modes. ▶ p. 73
3. Press [OK/i] or [ ] to start recording.
4. Press [OK/i], < >, or [ ] to stop recording. The video is saved in the **Videos** folder.
5.

| To | Press |
|---|---|
| play back the video clip | [OK/i]. |
| use video options | < >. ▶ p. 74 |
| delete the video clip | [**C**] and then <**Yes**>. |
| access the **Videos** folder | [Up]. ▶ p. 63 |
| return to Record mode | < >. |

## Using camera options in Record mode

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

- **Take a photo**: switch to Capture mode.
- **Effects**: change the color tone or apply a special effect.
- **Flash**: determine the use of the flash.
- **Timer**: set a time delay before the camera starts recording.
- **Go to videos**: access the **Videos** folder.
- **Settings**: change the following settings for recording a video:

  **Recording mode**: select a video recording mode.

  - **Limit of MMS**: record a video suitable for MMS messages.
  - **Limit of Email**: record a video suitable for e-mails.
  - **Normal**: record a video within the limit of the currently available memory.

  **Size**: select a file size.

  **Quality**: select an image quality.

  **Audio rec.**: record audio with a video clip.

  **Zoom sound**: turn the sound effect for zooming on or off.

  **Brightness sound**: turn the sound effect for brightness adjustment on or off.

  **Default name**: change the default prefix of file names.
- **Camcorder short cuts**: view the functions of the keys you can use in Record mode.

## Using the keypad in Record mode

You can use the keypad to customize your camera settings in Record mode:

| Keys | Function |
|---|---|
| Left/Right | Adjusts the brightness. |
| Up/Down | Zooms in or out. |
| ▲ | Flips the image vertically. |
| ▼ | Shows the mirror image. |

| Keys | Function |
|---|---|
| **1** | Switches to Capture mode. ▶ p. 70 |
| **2** | Changes the frame size. |
| **3** | Changes the image quality. |
| **4** | Changes the video recording mode. |
| **5** | Changes the color tone or applies a special effect. |
| **7** | Mutes or unmutes the audio. |
| **8** | Sets the timer. |
| * | Determines the flash use. |
| **0** | Goes to the **Videos** folder. |

### Using video options

After saving a video clip, press < > to access the following options:

- **Record another**: return to Record mode.
- **Send via**: send the file via MMS, e-mail, or Bluetooth.
- **Delete**: delete the file.
- **Rename**: change the file name.
- **Go to videos**: access the **Videos** folder. ▶ p. 63
- **Share for Bluetooth**: share the file with other Bluetooth devices.
- **Protection**: protect the file from being deleted.
- **Details**: access the file properties.

## Settings *(Menu 9)*

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

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

### Time & Date *(Menu 9.1)*

Use this menu to change the time and date displayed on your phone. Before setting the time and date, specify your time zone in **Home zone**. ▶ p. 39

- **Time**: enter the current time.
- **Home zone**: 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, select **Set daylight saving time**.

- **AM/PM**: select **AM** or **PM** in 12-hour time format.
- **Time format**: select a time format.
- **Set date**: enter the current date.
- **Date format**: select a date format.
- **Week start day**: set which day of the week the calendar starts with.

## Phone settings *(Menu 9.2)*

Many different features of your phone's system can be customized to suit your preferences.

### Language *(Menu 9.2.1)*

Use this menu to select a language for the display text.

### Greeting message *(Menu 9.2.2)*

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

### Slide settings *(Menu 9.2.3)*

Use this menu to set how the phone reacts when you open it for an incoming call, and when you close it while using a function.

- **Up**: set whether or not to answer a call by opening the phone.
- **Down**: set whether or not the phone maintains the menu you are using when you close the phone.

  ☑ When you set **Down** to **Continue operation**, the keypad lock works just in Idle mode.

### Short cut *(Menu 9.2.4)*

You can use the Navigation keys as shortcuts to access specific menus directly from Idle mode. Use this menu to assign a shortcut to a key.

**Assigning a shortcut menu**

1. Select a key to be used as a shortcut key.
2. Select the menu to be assigned to the key.

### Using shortcut options

Press <**Options**> to access the following options:

- **Change**: assign or change a shortcut menu.
- **Remove**: deactivate the shortcut assignment to the selected key.
- **Remove all**: deactivate all shortcut assignments.

## Advanced shortcut *(Menu 9.2.5)*

Use this menu to activate the Advanced shortcut feature. You can quickly access the text message, alarm, calculator, calendar, and converter applications from the dialing screen.

### Activating the Advanced shortcut feature

1. From the Advanced screen, select **On**.
2. Press <**Save**>.

### Changing an Advanced shortcut key

1. Select a key to be changed as a shortcut key.
2. Select the menu that will be assigned to the key.

### Using Advanced shortcut options

Press <**Options**> to access the following options:

- **Change**: assign or change a shortcut menu.
- **Remove**: deactivate the shortcut assignment to the selected key.
- **Remove all**: deactivate all shortcut assignments.

## Volume key *(Menu 9.2.6)*

Use this menu to change the volume key settings.

- **Volume key function**: set whether the phone mutes the call ringer or rejects a call if you press and hold [▲/▼] when a call comes in. You can also set whether the phone sends an SMS message to the caller when a call is rejected.
- **Text message**: enter a message to be sent to the caller when a call is rejected.

## Extra settings *(Menu 9.2.7)*

You can turn the automatic redialing or answering feature on or off and activate the voice clarity feature.

- **Auto redial**: set the phone to make up to ten attempts to redial a phone number after an unsuccessful call.
- **Anykey answer**: answer an incoming call by pressing any key, except <**Reject**> and [ ].

  When this option is not selected, you must press <**Accept**> or [ ] to answer a call.
- **Voice clarity**: increase the microphone's sensitivity to allow the other person on the phone to hear your voice clearly, even though you may be whispering.

## Display settings *(Menu 9.3)*

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

### Wallpaper *(Menu 9.3.1)*

You can change the background image that is displayed in Idle mode.

### Text display *(Menu 9.3.2)*

You can change the display settings for the text displayed on the idle screen.

- **Text position**: select a text position. If you don't want to display text in Idle mode, select **Off**.
- **Text style**: select a font style.
- **Text colour**: select a font color.

### Dialling display *(Menu 9.3.3)*

Use this menu to select a font color and size for the numbers entered and the background color of the display while dialing.

### Calendar *(Menu 9.3.4)*

Use this menu to display the current calendar on the idle screen.

### Skin *(Menu 9.3.5)*

Use this menu to select a skin color for Menu mode.

### LCD brightness *(Menu 9.3.6)*

You can adjust the brightness of the display for varying lighting conditions.

### Show caller information *(Menu 9.3.7)*

Use this menu to have a caller's phone number, or name if saved in Phonebook, shown on the main display after you have missed a call.

## Sound settings *(Menu 9.4)*

Use this menu to customize various sound settings.

### Incoming call *(Menu 9.4.1)*

Use this menu to select a volume and alert type for incoming calls.

- **Alert type**: specify how you are to be informed of incoming calls.

  **Melody**: the phone rings using the selected ringtone.

  **Vibration**: the phone vibrates but not rings.

  **Vibration then melody**: the phone vibrates three times and then starts ringing.

  **Melody then vibration**: the phone rings and then vibrates.
- **Ring tone**: select a ringtone for the call ringer.
- **Volume**: select a ringer volume.

### Keypad tone *(Menu 9.4.2)*

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.

### Message tone *(Menu 9.4.3)*

Use this menu to change the sound settings for incoming SMS messages, MMS messages, e-mails individually.

- **Tone**: select one of several message tones.
- **Alert type**: specify how you are to be informed when a message comes in.
- **Repetition**: specify how often the phone informs you of a new message.

### Power on/off *(Menu 9.4.4)*

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

### Slide tone *(Menu 9.4.5)*

Use this menu to select the tone that the phone sounds when you open or close the phone.

### Quiet mode *(Menu 9.4.6)*

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

### Extra tones *(Menu 9.4.7)*

Use this menu to customize additional tones for the phone.

- **Minute minder**: set the phone to beep every minute during an outgoing call to keep you informed of the length of your call.
- **Connection tone**: set the phone to beep when an outgoing call connects to the system.
- **Alerts on call**: set the phone to beep when you receive a new message or when the time for an alarm comes during a call.
- **Indicative tones**: set the phone to beep when a pop-up window displays.

## Light settings *(Menu 9.5)*

Use this menu to change the settings for backlight.

### Backlight *(Menu 9.5.1)*

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.

### Keypad light *(Menu 9.5.2)*

You can select the keypad backlight setting.

- **Use at any time**: flash the backlight when you press any key.
- **Use at night time**: flash the backlight only between 05:00 PM and 09:00 AM.
- **Use at custom time**: flash the backlight during the period time you have specified.

## Network services *(Menu 9.6)*

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

### Call diverting *(Menu 9.6.1)*

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 a service area or when your phone is switched off.
   - **Cancel all**: cancel all call diverting options.
2. Select the type of calls to be diverted.
3. Select **Activate**. To deactivate call diverting, select **Deactivate**.
4. Move to the **Divert to** line.
5. Enter the number to which calls are to be diverted.
6. If you selected **No reply**, move to the **Sec** line and select the length of time the network delays before diverting a call.
7. Press <**Select**>.

### Call barring *(Menu 9.6.2)*

This network service allows you to restrict your calls.

1. Select a call barring option:
   - **All outgoing**: prohibit outgoing calls.
   - **International**: prohibit international calls.
   - **International except 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 calls 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. Select **Activate**. To deactivate call barring, select **Deactivate**.
4. Enter the call barring password supplied by your service provider and press <**Select**>.

### Call waiting *(Menu 9.6.3)*

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 call waiting option will apply.
2. Select **Activate** and press <**Select**>.

   To deactivate call waiting, select **Deactivate**.

### Network selection *(Menu 9.6.4)*

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 9.6.5)*

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.

### Voice mail server *(Menu 9.6.6)*

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

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

- **Connect to voice mail**: connect to the voicemail server to listen to your messages.
- **Voice server number**: enter the voicemail server name and number.

### Band selection *(Menu 9.6.7)*

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 1800, Combined GSM 850/1900, and Tri band (GSM 850/1800/1900).

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.

## Bluetooth *(Menu 9.7)*

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

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

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

### Setting up the Bluetooth feature

The **Bluetooth** menu provides the following options:

- **Activation**: activate or deactivate the Bluetooth feature.
- **My devices**: search for connectable Bluetooth devices.
- **My phone's visibility**: allow other Bluetooth devices to search for your phone.
- **My phone's name**: assign a Bluetooth device name to your phone, which is then displayed on other devices.

- **Secure mode**: determine if the phone asks for your confirmation when other devices access your data.
- **Bluetooth services**: display available Bluetooth services.

### Searching for and pairing with a Bluetooth device

1. From the **Bluetooth** menu, select **My devices**.
2. Select **Search new device**.

   After searching, a list of devices to which you can connect displays. The following icons indicate the type of device:

   - Headset
   - Computer
   - Mobile phone
   - Printer
   - PDA
   - Unknown device

   The color of the icon indicates the status of the device:

   - Grey for unpaired devices
   - Blue for paired devices
   - Red for devices that are currently connected to your phone
3. Select a device.
4. Enter a Bluetooth PIN and press <**OK**>. This code is used just once and you don't need to memorize it.

   When the owner of the other device enters the same code, pairing is complete.

> ☑ Some devices, especially headsets or hands-free car kits, may have a fixed Bluetooth PIN, such as **0000**. If the other device has a code, you must enter it.

### Using device options

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

- **Connect**: connect to a headset or hands-free car kit.
- **Disconnect**: end the connection with the connected device.
- **Browse files**: search for data from the device and import data directly to your phone.

- **Service list**: access the Bluetooth service list of the device.
- **Rename**: rename the paired device.
- **Authorize device/Unauthorize device**: determine whether or not the phone asks you to permit connection when other devices try to connect to your phone.
- **Delete**: remove the selected device or all devices from the list.

### Sending data via Bluetooth

1. Activate the Bluetooth feature.
2. Select the application in which the item you want to send is stored.
3. Select the item you want
4. Press <**Options**> and select **Send via** → **Bluetooth**.
5. Select **Search new device**.

   The phone searches for devices within range and displays a list of available devices.
6. Select a device.
7. If necessary, enter the Bluetooth PIN needed for pairing and press <**OK**>.

### Receiving data via Bluetooth

To receive data via Bluetooth, your phone's Bluetooth feature must be active.

1. If an unauthorized Bluetooth device sends data to your phone, press <**Yes**> to allow the device to access your phone.
2. Press <**Yes**> to receive data.

## Security *(Menu 9.8)*

Use this menu to protect the phone against unauthorized 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 9.8.1)*

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

### Change PIN *(Menu 9.8.2)*

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

### Phone lock *(Menu 9.8.3)*

Use this menu to lock the phone from unauthorized 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 9.8.4)*

Use this menu to change your phone password.

### Privacy *(Menu 9.8.5)*

Use this menu to lock access to messages, media files, Phonebook, or call records, 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 9.8.6)*

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 9.8.7)*

If supported by your SIM card, Fixed Dialing 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 9.8.8)*

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

## Memory status *(Menu 9.9)*

Use this menu to check the amount of memory for messages, media items, calendar items, contacts, and Java applications. You can also check the shared memory for MMS, Email, and File manager.

## Reset settings *(Menu 9.10)*

Use this menu to reset the phone settings, display settings, and sound settings individually.

1. Press [OK/i] to select the setting categories to be reset
2. Press <**Reset**>.
3. Press <**Yes**> to confirm the reset.
4. Enter the phone password and press <**OK**>.

> ☑ The password is preset to **00000000**. You can change this password. ▶ p. 85

# 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 card"

- Be sure that the SIM card is correctly installed.

"Phone lock"

- 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 dialed

- 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 "Battery low" 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 dialed when you re-call a Phonebook entry

- Use the **Contact list** 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.

# Health and safety information

## Exposure to radio frequency (RF) signals

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission (FCC) of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on the safety standards that were developed by independent scientific organizations through periodic and through evaluation of scientific studies.

The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure standard for wireless phones employs a unit of measurement known as Specific Absorption Rate (SAR). The SAR limit set by the FCC is 1.6W/kg*.

SAR tests are conducted using standard operating positions specified by the FCC with the phone transmitting at its highest certified power level in all tested frequency bands. Although the SAR is determined at the highest certified power level, the actual SAR level of the phone while operating can be well below the maximum value. This is because the phone is designed to operate at multiple power levels so as to use only the power required to reach the network. In general, the closer you are to a wireless base station antenna, the lower the power output of the phone. Before a new model phone is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government-adopted requirement for safe exposure. The tests are performed in positions and locations (e.g., at the ear and worn on the body) as required by the FCC for each model. While there may be differences between the SAR levels of various phones and at various positions, they all meet the government requirement.

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

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

## For body operation

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

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

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

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

Cellular Telecommunications Industry Association (CTIA):
http://www.ctia.org

U.S.Food and Drug Administration (FDA)
http://www.fda.gov/cdrh/consumer

World Health Organization (WHO)
http://www.who.int/peh-emf/en

## Precautions when using batteries

- Never use any charger or battery that is damaged in any way.
- Use the battery only for its intended purpose.
- If you use the phone near the network's base station, it uses less power; talk and standby time are greatly affected by the signal strength on the cellular network and the parameters set by the network operator.
- Battery charging time depends on the remaining battery charge and the type of battery and charger used. The battery can be charged and discharged hundreds of times, but it will gradually wear out. When the operation time (talk time and standby time) is noticeably shorter than normal, it is time to buy a new battery.
- If left unused, a fully charged battery will discharge itself over time.
- Use only Samsung-approved batteries and recharge your battery only with Samsung-approved chargers. When a charger is not in use, disconnect it from the power source. Do not leave the battery connected to a charger for more than a week, since overcharging may shorten its life.
- Extreme temperatures will affect the charging capacity of your battery: it may require cooling or warming first.
- Do not leave the battery in hot or cold places, such as in a car in summer or winter conditions, as you will reduce the capacity and lifetime of the battery. Always try to keep the battery at room temperature. A phone with a hot or cold battery may temporarily not work, even when the battery is fully charged. Li-ion batteries are particularly affected by temperatures below 0° C (32° F).
- Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object (coin, clip or pen) causes a direct connection between the + and -. terminals of the battery (metal strips on the battery), for example when you carry a spare battery in a pocket or bag. Short-circuiting the terminals may

damage the battery or the object causing the short-circuiting.

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

## Road safety

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

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

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

8. Use your wireless phone to call for help. Dial the emergency number in the case of fire, traffic accident or medical emergencies. Remember, it is a free call on your wireless phone!
9. Use your wireless phone to help others in emergencies. If you see a car accident, crime in progress or other serious emergency where lives are in danger, call the emergency number, as you would want others to do for you.
10. Call roadside assistance or a special nonemergency wireless assistance number when necessary. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured, or a vehicle you know to be stolen, call roadside assistance or any other special nonemergency wireless number.

## Operating environment

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

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

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

## Electronic devices

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

### Pacemakers

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

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

Persons with pacemakers:

- Should always keep the phone more than 15 cm (6 inches) from their pacemaker when the phone is switched on
- Should not carry the phone in a breast pocket
- Should use the ear opposite the pacemaker to minimize potential interference

If you have any reason to suspect that interference is taking place, switch off your phone immediately.

## Hearing aids

Some digital wireless phones may interfere with some hearing aids. In the event of such interference, you may wish to consult your hearing aid manufacturer to discuss alternatives. Other Medical Devices If you use any other personal medical devices, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information. Switch off your phone in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

## Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles. Check with the manufacturer or its

representative regarding your vehicle. You should also consult the manufacturer of any equipment that has been added to your vehicle.

## Posted facilities

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

## Potentially explosive environments

Switch off your phone when in any area with a potentially explosive atmosphere and obey all signs and instructions. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Users are advised to switch off the phone while at a refueling point (service station).

Users are reminded of the need to observe restrictions on the use of radio equipment in fuel depots (fuel storage and distribution areas), chemical plants or where blasting operations are in progress.

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

## Emergency calls

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

Remember, to make or receive any calls the phone must be switched on and in a service area with adequate signal strength. Emergency calls may not be possible on all wireless phone networks or when certain network services and/or phone features are in use. Check with local service providers.

To make an emergency call:

1. If the phone is not on, switch it on.
2. Key in the emergency number for your present location (for example, 112 or any other official emergency number). Emergency numbers vary by location.
3. Press [ ].

If certain features are in use (call barring, for example), you may first need to deactivate those features before you can make an emergency call. Consult this document and your local cellular service provider.

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

## FCC Notice and Cautions

### FCC Notice

- The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
- This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiveing antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

Vehicles using liquefied petroleum gas (such as propane or butane) must comply with the National Fire Protection Standard (NFPA-58). For a copy of this standard, contact the National Fire Protection Association, One Battery march Park, Quincy, MA 02269, Attn: Publication Sales Division.

### Cautions

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

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

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

## Other important safety information

- Only qualified personnel should service the phone or install the phone in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty applicable to the device.
- Check regularly that all wireless phone equipment in your vehicle is mounted and operating properly.
- Do not store or carry flammable liquids, gases, or explosive materials in the same compartment as the phone, its parts, or accessories.
- For vehicles equipped with an air bag, remember that an air bag inflates with great force. Do not place objects, including both installed or portable wireless equipment in the area over the air bag or in the air bag deployment area. If wireless equipment is improperly installed and the air bag inflates, serious injury could result.
- Switch off your phone before boarding an aircraft. The use of wireless phones in aircraft may be dangerous to the operation of the aircraft, and is illegal.
- Failure to observe these instructions may lead to the suspension or denial of telephone services to the offender, or legal action, or both.

## Care and maintenance

Your phone is a product of superior design and craftsmanship and should be treated with care. The suggestions below will help you fulfill any warranty obligations and allow you to enjoy this product for many years.

- Keep your phone and all its parts and accessories out of the reach of small children and pets. They may accidentally damage these things or choke on small parts.
- Keep the phone dry. Precipitation, humidity, and liquids contain minerals that will corrode electronic circuits.
- Do not use the phone with a wet hand. Doing so may cause an electric shock to you or damage to the phone.
- Do not use or store the phone in dusty, dirty areas, as its moving parts may be damaged.
- Do not store the phone in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the phone in cold areas. When the phone warms up to its normal operating temperature, moisture can form inside the phone, which may damage the phone’s electronic circuit boards.
- Do not drop, knock, or shake the phone. Rough handling can break internal circuit boards.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the phone. Wipe it with a soft cloth slightly dampened in a mild soap-and-water solution.
- Do not paint the phone. Paint can clog the device’s moving parts and prevent proper operation.
- Do not put the phone in or on heating devices, such as a microwave oven, a stove, or a radiator. The phone may explode when overheated.
- When the phone or battery gets wet, the label indicating water damage inside the phone changes colour. In this case, phone repairs are no longer guaranteed by the manufacturer's warranty, even if the warranty for your phone has not expired.
- If your phone has a flash or light, do not use it too close to the eyes of people or animals. This may cause damage to their eyes.

- Use only the supplied or an approved replacement antenna. Unauthorized antennas or modified accessories may damage the phone and violate regulations governing radio devices.
- If the phone, battery, charger, or any accessory is not working properly, take it to your nearest qualified service facility. The personnel there will assist you, and if necessary, arrange for service.

## Acknowledging special precautions and the FCC and Industry Canada Notice

### Cautions

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

### FCC compliance information

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

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

### Information to user

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

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

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

# Appendix A: CERTIFICATION INFORMATION (SAR)

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

Your wireless phone is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government. These limits are part of comprehensive guidelines and establish permitted levels of RF energy for the general population. The guidelines are based on safety standards that were developed by independent scientific organizations through periodic and thorough evaluation of scientific studies. The standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

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

Before a new model phone is available for sale to the public, it must be tested and certified to the FCC that it does not exceed the limit established by the government adopted requirement for safe exposure. The tests are performed in positions and locations(e.g., at the ear and worn on the body) as required by the FCC for each model.

The highest SAR values for this model phone as reported to the FCC are:

GSM850 Head: 0.665 W/kg, Body-worn: 0.390 W/kg;
GSM1900 Head: 0.406 W/kg, Body-worn: 0.782 W/kg.

Body-worn operations are restricted to Sam sung supplied, approved or none Samsung designated accessories that have no metal and must provide at least 1.5 cm separation between the device, including its

antenna whether extended or retracted, and the user's body. None compliance to the above restrictions may violate FCC RF exposure guidelines.

The FCC has granted an Equipment Authorization for this model phone with all reported SAR levels evaluated as in compliance with the FCC RF exposure guidelines. SAR information on this model phone is on file with the FCC and can be found under the Display Grant section of http://www.fcc.gov/oet/fccid after searching on FCC ID A3LSGHE376.

## Appendix B: Guide to safe and responsible wireless phone use

Cellular Telecommunications & Internet Association

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

### A guide to safe and responsible wireless phone use

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

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

The basic lessons are ones we all learned as teenagers. Driving requires alertness, caution and courtesy. It requires a heavy dose of basic common sense-keep your head up, keep your eyes on the road, check your mirrors frequently and watch out for other drivers. It requires obeying all traffic signs and signals and staying within the speed limit. It means using seat belts and requiring other passengers to do the same.

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

## Wireless phone "safety tips"

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

1. Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable features most phones offer, including automatic redial and memory. Also, work to memorize the phone keypad so you can use the speed dial function without taking your attention off the road.
2. When available, use a hands free device. A number of hands free wireless phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.
3. Position your wireless phone within easy reach. Make sure you place your wireless phone within easy reach and where you can grab it without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voicemail answer it for you.
4. Suspend conversations during hazardous driving conditions or situations. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow and ice can be hazardous, but so is heavy traffic. As a driver, your first responsibility is to pay attention to the road.
5. Do not take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a "to do" list while driving a car, you are not watching where you are going. It's common sense. Don't get caught in a dangerous situation because you are reading or writing and not paying attention to the road or nearby vehicles.
6. Dial sensibly and assess the traffic; if possible, place calls when you are not moving or before pulling into

traffic. Try to plan your calls before you begin your trip or attempt to coincide your calls with times you may be stopped at a stop sign, red light or otherwise stationary. But if you need to dial while driving, follow this simple tip-dial only a few numbers, check the road and your mirrors, then continue.

7. Do not engage in stressful or emotional conversations that may be distracting. Stressful or emotional conversations and driving do not mix-they are distracting and even dangerous when you are behind the wheel of a car. Make people you are talking with aware you are driving and if necessary, suspend conversations which have the potential to divert your attention from the road.
8. Use your wireless phone to call for help. Your wireless phone is one of the greatest tools you can own to protect yourself and your family in dangerous situations-with your phone at your side, help is only three numbers away. Dial 9-1-1 or other local emergency number in the case of fire, traffic accident, road hazard or medical emergency. Remember, it is a free call on your wireless phone!
9. Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity to be a “Good Samaritan” in your community. If you see an auto accident, crime in progress or other serious emergency where lives are in danger, call 9-1-1 or other local emergency number, as you would want others to do for you.
10. Call roadside assistance or a special wireless non emergency assistance number when necessary. Certain situations you encounter while driving may require attention, but are not urgent enough to merit a call for emergency services. But you still can use your wireless phone to lend a hand. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured or a vehicle you know to be stolen, call roadside assistance or other special non-emergency wireless number.

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

we take to the roads, we all have a responsibility to drive safely.

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

Cellular Telecommunications & Internet Association For more information, please call 1-888-901-SAFE.
For updates: http://www.wow-com.com/consumer/issues/driving/articles.cfm?ID =85

## Appendix C: Consumer update on wireless phones

### U.S. Food and Drug Administration

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

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

2. Do wireless phones pose a health hazard?

The available scientific evidence does not show that any health problems are associated with using wireless phones. There is no proof, however, that wireless phones are absolutely safe. Wireless phones emit low levels of radio frequency energy (RF) in the microwave range while being used. They also emit very low levels of RF when in the stand-by mode. Whereas high levels of RF can produce health effects (by heating tissue), exposure to low level RF that does not produce heating effects causes no known adverse health effects. Many studies of low level RF exposures have not found any biological effects. Some studies have suggested that some biological effects may occur, but such findings have not been confirmed by additional research. In some cases, other researchers have had difficulty in reproducing those studies, or in determining the reasons for inconsistent results.

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

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

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

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

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

- National Institute for Occupational Safety and Health
- Environmental Protection Agency Federal Communications Commission
- Occupational Safety and Health Administration
- National Telecommunications and Information Administration
- The National Institutes of Health participates in some interagency working group activities, as well.

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

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

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

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

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

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

4. 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.

5. 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.

6. 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.

7. 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.

8. What about wireless phone interference with medical equipment?

Radio frequency energy (RF) from wireless phones can interact with some electronic devices. For this reason, FDA helped develop a detailed test method to measure electromagnetic interference (EMI) of implanted cardiac pacemakers and defibrillators from wireless telephones. This test method is now part of a standard sponsored by the Association for the Advancement of Medical instrumentation (AAMI). The final draft, a joint effort by FDA, medical device manufacturers, and many other groups, was completed in late 2000. This standard will allow manufacturers to ensure that cardiac pacemakers and defibrillators are safe from wireless phone EMI.

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

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

testing to assess the interference and work to resolve the problem.

9. What are the results of the research done already?

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

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

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

A combination of laboratory studies and epidemiological studies of people actually using wireless phones would provide some of the data that are needed. Lifetime animal exposure studies could be completed in a few years. However, very large numbers of animals would be needed to provide reliable proof of a cancer promoting effect if one exists. Epidemiological studies can provide data that is directly applicable to human populations, but 10 or more years follow-up may be needed to provide answers about some health effects, such as cancer. This is because the interval between the time of exposure to a cancer-causing agent and the time tumors develop - if they do -

may be many, many years. The interpretation of epidemiological studies is hampered by difficulties in measuring actual RF exposure during day-to-day use of wireless phones. Many factors affect this measurement, such as the angle at which the phone is held, or which model of phone is used.

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

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

FCC RF Safety Program:
http://www.fcc.gov/oet/rfsafety/

Environmental Protection Agency (EPA):
http://www.epa.gov/radiation/

Occupational Safety and Health Administration's (OSHA):
http://www.osha-slc.gov/SLTC/radiofrequencyradiation/index.html

National Institute for Occupational Safety and Health (NIOSH):
http://www.cdc.gov/niosh/topics/emf/

World health Organization (WHO):
http://www.who.int/peh-emf/

International Commission on Non-Ionizing Radiation Protection:
http://www.icnirp.de

Health Protection Agency (UK)
http://www.hpa.org.uk/radiation/*

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

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