

- * Some of the contents of this manual may not match from your phone, depending on the software installed, your service provider or country.
- * Depending on your country, your phone and accessories may appear different from the illustrations in this manual.

SAMSUNG ELECTRONICS



World Wide Web
<http://www.samsungmobile.com>

Printed in Korea
Code No.:GH68-xxxxA
English. 05/2005. Rev 1.0



Draft
2005. 05. 24
E860BUED2

SGH-E860V

User's Manual



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 accessories and batteries. Use of any unauthorised accessories could damage your phone and may be dangerous.



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

Qualified service







Only qualified service personnel may repair your phone.

For more detailed safety information, see "Health and safety information" on page 90.

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, 
-  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



- **Media player**
Play media files on your phone.



- **IrDA**
Send and receive Phonebook and organiser data and media files via an infrared port.



- **Bluetooth**

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



- **Web browser**

Access the wireless web and access various services and current information.



- **Get personal with photo caller ID**

See who's calling you when 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**

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.

Contents

Unpack 6

Make sure you have each item

Your phone 6

Buttons, features, and locations

Get started 7

First steps to operating your phone

Install and charge the phone 7

Power on or off 8

Keys and display 9

Access menu functions 11

Customise your phone 12

Make/Answer calls 14

Step outside the phone 14

Begin with your camera, music, and other special features

Use camera 14

Play media files 15

Browse the web 17

Use Contacts 17

Send messages 19

View messages 21

Use Bluetooth 22

Enter text 23

AB, T9, Number, and Symbol mode

Call functions 25

Advanced calling features

Menu functions 29

All menu options listed

Solve problems 88

Help and personal needs

Health and safety information 90

Index 97

Overview of menu functions

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

1 Entertainment	▶ p.29	5 Messaging	▶ p.41	7 Organiser&Tools	▶ p.61	9 Settings	▶ p.75
2 Vodafone live!	▶ p.30	1 Create	▶ p.41	1 Vodafone	▶ p.61	1 Phone settings	▶ p.75
1 Vodafone live!	▶ p.30	2 Inbox	▶ p.44	2 Applications	▶ p.62	2 Display settings	▶ p.78
2 Enter URL	▶ p.31	3 Email box	▶ p.47	3 Alarms	▶ p.62	3 Messaging settings	▶ p.79
3 Bookmarks	▶ p.32	4 Drafts	▶ p.48	4 Calendar	▶ p.62	4 Call settings	▶ p.79
4 History	▶ p.32	5 Sent messages	▶ p.49	5 Voice recorder	▶ p.65	5 Contact settings	▶ p.81
5 Browser settings	▶ p.32	6 Voicemail	▶ p.49	6 World time	▶ p.67	6 live! Cast name settings	▶ p.82
6 What's New	▶ p.32	7 Message archive	▶ p.49	7 PIM sync	▶ p.67	7 Streaming settings	▶ p.82
7 Game	▶ p.32	8 Templates	▶ p.50	8 Calculator	▶ p.68	8 Connectivity	▶ p.82
8 Ringtones	▶ p.33	9 Delete all	▶ p.50	9 Converter	▶ p.68	9 Security	▶ p.87
9 Pictures	▶ p.33	0 Messaging settings	▶ p.50	0 Timer	▶ p.69	0 Memory status	▶ p.88
0 News	▶ p.33	* Memory status	▶ p.55	* Stopwatch	▶ p.69		
* Sports	▶ p.33	# Media album	▶ p.55	# Memory status	▶ p.69		
3 Media player	▶ p.33	6 My files	▶ p.56	8 Contacts	▶ p.69		
1 Music	▶ p.33	Pictures	▶ p.56	1 Contacts list	▶ p.70		
2 Video	▶ p.35	Videos	▶ p.57	2 Add contact	▶ p.70		
4 Camera	▶ p.36	Music	▶ p.58	3 Groups	▶ p.71		
		Ringtones	▶ p.58	4 Call log	▶ p.72		
		Games	▶ p.59	5 Speed dialing	▶ p.73		
		Applications	▶ p.60	6 My contact details	▶ p.74		
		Themes	▶ p.60	7 My numbers	▶ p.74		
		Other documents	▶ p.60	8 Settings	▶ p.74		
		Memory status	▶ p.61	9 Service number*	▶ p.75		

*Shows only if supported by your SIM card.

Unpack

Make sure you have each item



Phone



Travel Adapter



Battery



User's Manual

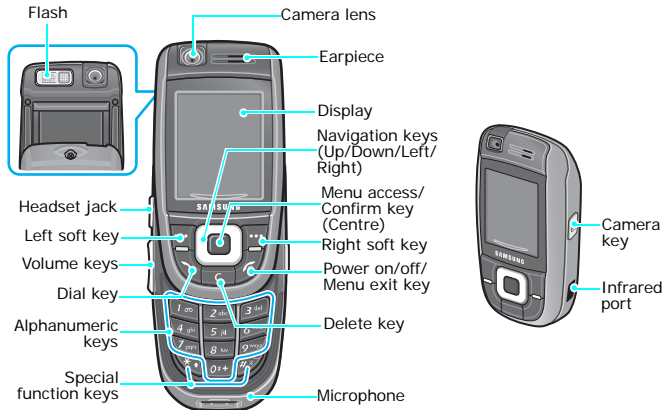
You can obtain various accessories from your local Samsung dealer.



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

Your phone

Buttons, 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.

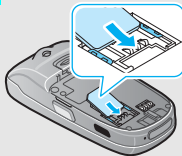
Install and charge the phone

- 1** Remove the battery.



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

- 2** Insert the SIM card.



✓ Make sure that the gold-coloured contacts on the card face down into the phone.

- 3** Install the battery.



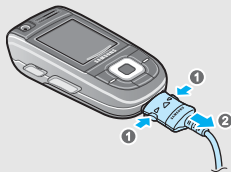
- 4** Plug the travel adapter into the phone.



- 5** Plug the adapter into a standard AC wall outlet.


- 6** When the phone is completely charged (the battery icon steps blinking), 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

Do not turn on the phone when mobile phone use is prohibited.

1. Open the phone.
2. Press and hold [] to turn on the phone.
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



Perform the function indicated on the bottom line of the display.



In Idle mode, access your favourite menus directly. ► p. 77

In Menu mode, scroll through the menu options.



In Idle mode, access Menu mode.
In Menu mode, select the highlighted menu option.



Delete characters from the display and selected item in an application.



Send or answer a call.
In Idle mode, retrieve the recent numbers dialled, missed, or received.



End a call.
Hold down to switch the phone on and off.
In Menu mode, cancel input and return the phone to Idle mode.



Enter numbers, letters, and some special characters.

In Idle mode, hold [1] down to access your voice mail server. Hold [0] down to enter an international call prefix.



Enter special characters.

In Idle mode, hold [#] down to activate or deactivate the Silent profile. Hold [*] down to enter a pause between numbers.



Adjust the phone volume.

In Idle mode, adjust the keypad tone volume. With the phone closed, hold down to turn on the backlight.

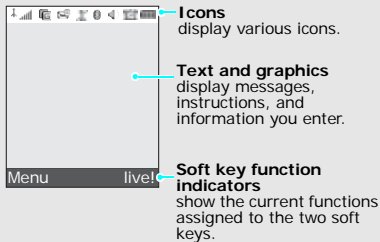


In Idle mode, hold down to turn on the camera.

In Camera mode, take a photo or record a video.

Display

Layout

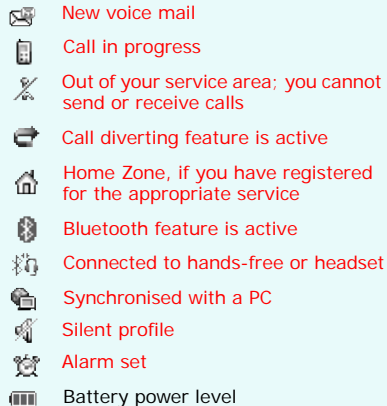


Icons*



Icons

(continued)

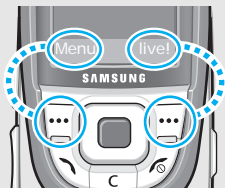


* The icons shown on the display may vary, depending on your country or service provider.

Access menu functions

Use the soft keys

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



Press the left soft key to access Menu mode.

Press the right soft key to launch the web browser.

Select an option

1. Press the appropriate soft key.
2. Press the Navigation keys to move to the next or previous option.
3. Press **<Select>** or [Centre] to confirm the function displayed or option highlighted.
4. To exit, choose either of the following methods.
 - Press **<Back>** to move up one level.
 - Press [↻] to return to Idle mode.

Use shortcuts

Press the number key corresponding to the option you want.

Customise your phone

Display language

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

Call ringer melody

1. In Idle mode, press <Menu> and select **Settings** → **Phone settings** → **Assign ringtone** → **Voice call ringtone** → **Music** or **Ringtones**.
2. Select a ringer melody.
3. Press <Save>.

Idle mode wallpaper

You can set a wallpaper for the idle screen.

1. In Idle mode, press <Menu> and select **Settings** → **Display settings** → **Wallpaper** → **Main display** → **Pictures** or **Videos**.
2. Select an image.
3. Press <Add>.
4. Press <Save>.

Silent mode

You can activate the Silent profile to avoid disturbing other people with your phone sound.

Press and hold [#] in Idle mode.

Menu shortcuts

You can use the Navigation keys as shortcut keys to access specific menus directly from Idle mode.

To assign a shortcut menu:

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.

Phone lock

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

1. In Idle mode, press <**Menu**> and select **Settings** → **Security** → **Change phone 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 is ringing, press [↵].
2. To end the call, press [⏏].

Adjust the volume during a call

Press [⏮/⏭].

Step outside the phone

Begin with your camera, music, and other special features

Use camera

Take a photo

1. Open the phone.
2. In Idle mode, press and hold [📷] to turn on the camera.
3. Adjust the image by rotating the camera lens and aiming it at the subject.



4. Press [Centre] to take a photo. The photo is saved automatically.
5. Press <Preview> to take another photo.

View a photo

1. In Idle mode, press <Menu> and select **My files** → **Pictures**.
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 [Centre] to start recording.
4. Press [Centre] to stop recording. The video is saved automatically.
5. Press <Preview> to record another video.

Play a video

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

Play media files

Copy media files to the phone

Use these methods:

- Download from the wireless web ► p. 56
- Download from a computer using Samsung PC Studio
► Samsung PC Studio User's Guide
- Receive via IrDA or Bluetooth
► p. 82, p. 85

Create a music play list

1. In Idle mode, press <Menu> and select **Media player** → **Music**.
2. Press <Options> and select **Create playlist**.
3. Enter a name for the play list and press <OK>.
4. Select the playlist you created.

Create a music play list

(continued)

5. Press <**Options**> and select **Add music**.
6. Check the files you want and press <**Select**>.

Play MP3 file

1. From the playlist, select the file you want.
2. During playback, use the following keys:
 - Centre: pauses or resumes playback.
 - Left: goes back 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.

Play MP3 file

- Up: opens the play list.
- \swarrow/\searrow : adjusts the volume.
- Down: stops playback.

Play video file

1. In Idle mode, press <**Menu**> and select **Media player** → **Video**.
2. Select the file you want.
3. During playback, use the following keys:
 - Centre: pauses or resumes playback.
 - Left: moves backward in a file.
 - Right: skips forward in a file.
 - \swarrow/\searrow : adjusts the volume.

Browse the web

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

Launch the browser

In Idle mode, press <live!>.

Navigate with the web browser

- To scroll through browser items, press [Up] or [Down].
- To select an item, press <Select>.
- To return to the previous page, press <Back>.
- To access browser options, press <Options>.

Use Contacts

Add an entry

To the phone's memory

1. In Idle mode, enter a phone number and press <Options>.
2. Select **Save contact** → **Phone** → a number type.
3. Specify the contact information: First name, Last name, Mobile, Home, Office, Fax, Other, Email, Caller ID, Ringtones, Groups, Memo, Additional info, Street, City, Postal code, State/Province, Country, and Url.
4. Press <Save> to save the entry.

Add an entry

(continued)

To the SIM card

1. In Idle mode, enter a phone number and press **<Options>**.
2. Select **Save contact** → **SIM**.
3. Enter a name.
4. Press **<Save>** to save the entry.

Find an entry

1. In Idle mode, press **<Menu>** and select **Contacts** → **Contacts list**.
2. Select an entry.
3. Select a number and press [****] to dial, or press **<Options>** to access options.

Create and send a name card

1. In Idle mode, press **<Menu>** and select **Contacts** → **My contact details**.
2. Specify your contact information.
3. Press **<Save>** to save the name card.
4. To send the name card to other people, press **<Options>** and select **Send** → the sending method you want.

Send messages

Send a text message (SMS)

1. In Idle mode, press <Menu> and select **Messaging** → **Create** → **SMS**.
2. Enter the message text.
3. Press <Options> and select **Send**.
4. Enter destination numbers.
5. Press <Options> and select **Send** to send the message.

Send a multimedia message (MMS)

1. In Idle mode, press <Menu> and select **Messaging** → **Create** → **MMS**.
2. Enter the message text.

3. Press <Options> to access the following options:
 - **Add item/Create item:** add a media item.
 - **Add subject:** add a message subject.
 - **Insert entry:** retrieve a template, contact entry, or bookmark item.
 - **Attach details:** add a name card or a calendar memo.
 - **Page duration:** set the page duration.
4. When you have finished, press <Options> and select **Send**.
5. Enter destination numbers.
6. Press <Options> and select **Send** to send the message.

Send a Postcard

1. In Idle mode, press <Menu> and select **Messaging** → **Create** → **Postcard**.
2. Enter a message text.
3. Press <Options> to access the following options:
 - **Add picture**: retrieve a photo.
 - **Take picture**: add a new photo.
 - **Insert template**: retrieve a template.
4. When you have finished, press <Options> and select **Send**.
5. Specify the recipient's information: Name, Additional info, Street, City, Postal code, State/Province, and Country.
6. Press <Options> and select **Send** to send the postcard.

Send an e-mail

1. In Idle mode, press <Menu> and select **Messaging** → **Create** → **Email**.
2. Enter the e-mail text.
3. Press <Options> to access the following options:
 - **Attach item/Create item**: add a media item.
 - **Add subject**: enter the email subject.
 - **Insert entry**: retrieve a template, contact, or bookmark memo.
 - **Attach detail**: add a name card or a calendar memo.
4. When you have finished, press <Options> and select **Send**.
5. Enter e-mail addresses.
6. Press <Options> and select **Send** to send the e-mail.

View messages

View a text message

1. In Idle mode, press <Menu> and select **Messaging** → **Inbox**.
2. Select a text message.

View a multimedia message

When a notification appears:

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

From the Inbox

1. In Idle mode, press <Menu> and select **Messaging** → **Inbox**.
2. Select an MMS message.

View an e-mail

1. In Idle mode, press <Menu> and select **Messaging** → **Email box**.
2. Select an account.
3. Press <Options> and select **Download** to retrieve an e-mail or a header.
4. Select an e-mail or a header.
5. If you selected a header, press <Options> and select **Retrieve**.

Use Bluetooth

Your phone is equipped with Bluetooth technology which enables 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** → **Connectivity** → **Bluetooth** → **Activation** → **On**.

Search for and pair with a Bluetooth device

1. In Idle mode, press <Menu> and select **Settings** → **Connectivity** → **Bluetooth** → **My devices** → **Search new device**.
2. Select a device.
3. Enter a Bluetooth PIN code or the other device's Bluetooth PIN code, 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.
2. Scroll to an item.
3. Press <Options> and select **Send** → **via Bluetooth**.
4. Select a device.
5. 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 the reception twice.

Enter text

AB, T9, Number, and Symbol mode

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

Changing the text input mode

The text input mode indicator appears when the cursor is in a text field.

- Press and hold [*****] to switch between T9 (**T9 AB**) and AB modes (**AB AB**). Depending on your country, you may also be able to access an input mode for your specific language.
- Press [*****] to change case or switch to Number mode (**1 2 3**).
- Press and hold [**#**] to switch to Symbol mode (**SYM**).

Using AB mode

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

Keys	Characters in order displayed	
	Upper case	Lower case
1	. , - ? ! @ : () / _ 1	
2	A B C 2 Ä Å Æ Ç Γ	a b c 2 à ä å æ Γ
3	D E F 3 É Δ Φ	d e f 3 è é Φ
4	G H I 4 Θ Ψ	g h i 4 ì Ψ
5	J K L 5 Λ	j k l 5 Λ
6	M N O 6 Ñ Ø Ö ö	m n o 6 ñ ø ò ö
7	P Q R S 7 Π Σ Ξ	p q r s 7 ρ Σ Ξ
8	T U V 8 Ü ü	t u v 8 ù ü
9	W X Y Z 9 Ω	w x y z 9 Ω
0	Space + = < > € £ \$ % & ¥ ¤ 0	

Tips for using AB mode

- 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 [Left] or [Right] to move the cursor.
- Press [C] to delete characters one by one. Press and hold [C] to clear the display.

Using T9 mode

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

Entering a word in T9 mode

1. Press [2] to [9] to start entering a word. Press each key once for each letter.
For example, press [4], [3], [5], [5], and [6] to enter HELLO in T9 mode.
T9 predicts the word that you are typing, and it may change with each key that you press.
2. Enter the whole word before editing or deleting characters.
3. When the word displays correctly, go to step 4. Otherwise, press [0] to display alternative word choices for the keys that you have pressed.
For example, OF and ME use [6] and [3].

4. Press [#] to insert a space and enter the next word.

Tips for using T9 mode

- Press [1] to enter periods or apostrophes automatically.
- Press [#] to insert a space.
- Press [Left] or [Right] to move the cursor.
- Press [C] to delete characters one by one. Press and hold [C] to clear the display.

Adding a new word to the T9 dictionary

This feature may not be available for some languages.

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

Using Number mode

Number mode enables you to enter numbers.
Press the keys corresponding to the digits you want.

Using Symbol mode

Symbol mode enables you to insert symbols.

To	Press
display more symbols	[Up] or [Down].
select a symbol	the corresponding number key.
clear the 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.
2. Press [\].

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

Making an international call

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

Redialling recent numbers

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

Making a call from Contacts

Once you have stored a number in Contacts, you can dial the number by selecting it from Contacts. ► p. 70

You can also use the speed dial feature to assign your most frequently called numbers to specific number keys. ► p. 73

Dialling a number from the SIM card

1. In Idle mode, enter the location number for the phone number you want and press [#].
2. Press [Left] or [Right] to scroll through other numbers.
3. Press <Dial> or [↵] to dial the number you want.

Ending a call

Close the phone or press [⏏].

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** in the **Phone settings** menu is active, you can press any key, except for <Reject> or [⏏]. ► p. 78
- Press <Reject> or [⏏] to reject a call.
- With the phone closed, press and hold [⏏/↵] to reject a call.

Viewing missed calls

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

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

Using the headset

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

Connect the headset to the jack on the left side of the phone.

The button on the headset works as listed below:

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

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 it.

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 it 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. Press **<Options>** and select **End held call** to end the call on hold.
4. To end the current call, press [].

Using the loudspeaker feature

Use the loudspeaker feature to talk and listen with the phone a short distance away.

Press [Centre] to activate the loudspeaker feature.
Press the key again to switch back to the earpiece.

Using In-call options

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

- **New:** make a new call.
- **Switch to headset/Switch to phone:** switch the call to a Bluetooth headset or back to the phone.
- **Menu:** access the phone's menu functions.
- **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 computerised telephone systems, **Send keys** must be selected.

- **Send DTMF:** send the DTMF (Dual tone multi-frequency) tones as a group. The DTMF tones are the tones used in phones for tone dialling, sounding when you press the number keys. This option is helpful for entering a password or an account number when you call an automated system, like a banking service.
- **Phonebook:** access the contact list.
- **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 Tool kit menus.
- **End held call:** disconnect the call currently on hold.

- **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.
- **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.
- **Private:** have a private conversation with one multi-party call participant. The other participants can converse with each other. After the private conversation, select Join to return to the multi-party call.
- **Remove:** disconnect one multi-party call participant.

Menu functions

All menu options listed

Entertainment *(Menu 1)*

Use this menu to download Java games and play them.

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

Playing a game

1. Select a game, **Bobby Carrot**, **Airship Racing**, **Arch Angel**, or **Freekick**.
2. Follow the onscreen instructions.



The game versions that come with the phone are trial versions. The full version can be downloaded from the VF portal by selecting the corresponding menu item in the game menu.

Using Java game options

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

- **Go to url:** go to the specified URL address.
- **Play:** launch the selected game.
- **Details:** access the game properties.
- **Permissions:** set permission settings for services requiring cost charges, such as Internet access, SMS, and application update.
- **Settings:** activate a connection profile to be used for accessing a Java server. You can also make or edit a profile. ► p. 86

Downloading new games

1. Select **More games**.
2. Search for a game and follow the onscreen instructions to download it.

Vodafone live! *(Menu 2)*

The web browser on your phone allows you to access the wireless web. Using the web browser, you can access up-to-date information and a wide variety of media content, such as wallpapers, ring tones, and music files.

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

Vodafone live! *(Menu 2.1)*

Use this menu to connect your phone to the network and load the home page of the wireless web service provider. You can also press **<live!>** in Idle mode.

Navigating the web browser

To	Press
scroll through browser items	[Up] or [Down].
select a browser item	<Select> .
return to the previous page	<Back> .

Using web page options

From any web page, press <**Options**> to access the following options:


- **Go to homepage:** send you back to the homepage.
- **Enter URL:** manually enter the URL address of the web page you want to access.
- **Reload:** reload the current page with updated information.
- **Bookmarks:** add the current page to your bookmark list and view the bookmark list.
- **History:** show URLs previously visited.
- **Send URL:** send the URL via SMS or e-mail.
- **To DesktopView/To SmartFitView:** switch to between DesktopView mode and SmartFitView mode.

For **To DesktopView**, the web page is displayed in actual size.

For **To SmartFitview**, the phone automatically resizes the web page to fit on the phone screen.

- **Save image:** save the image of the current page.
- **Page properties:** access the properties of the current page.
- **Browser options:** access the browser settings.
Empty cache: delete cache.
Cookies: change the cookie settings and delete cookies.
Preferences: select the method to view a web page.
About browser: access version and copyright information of the web browser.

Exiting the web browser

Press [] to exit the browser.

Enter URL *(Menu 2.2)*

You can enter the URL of a web page in order to quickly access the page.

Bookmarks (Menu 2.3)

Use this menu to save the preset URL addresses in order to quickly access websites.

Adding a bookmark

1. Press <**Options**> and select **Add bookmark**.
2. Enter a name for the bookmark and press [Down].
3. Enter a URL address and press <**Save**>.

Accessing a bookmarked page

Scroll to a bookmark item and press [Centre].

Using bookmark options

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

- **Go to:** go to the specific link.
- **Go to homepage:** go back to the homepage.
- **Edit bookmark:** edit the bookmark you have added.
- **Enter URL:** access the bookmarked website.
- **Add Bookmark:** add a new bookmarked item.
- **Send URL:** send the URL via SMS or e-mail.

- **Delete all:** delete all bookmarked items.
- **Delete:** delete the bookmark you have added.

History (Menu 2.4)

You can access the list of pages you have accessed recently.

Browser settings (Menu 2.5)

Use this menu to select a connection profile to be used for connecting to the Internet. You can also make or edit a profile. ► p. 86

What's New (Menu 2.6)

Use this menu to access the website preset by Vodafone to get new information or download new applications.

Game (Menu 2.7)

Use this menu to access the website preset by Vodafone and download games.

Ringtones (Menu 2.8)

Use this menu to access the website preset by Vodafone and download ringtones.

Pictures (Menu 2.9)

Use this menu to access the website preset by Vodafone and download pictures.

News (Menu 2.0)

Use this menu to access the website preset by Vodafone and download recent news.

Sports (Menu 2. *)

Use this menu to access the website preset by Vodafone and download sports news.

Media player (Menu 3)

Use this menu to enjoy media files, such as MP3 music, ringtones, or video clips.

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

Downloading or receiving media files

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

- Download from the wireless web ► p. 56
- Download from a computer using the Samsung PC Studio program ► Samsung PC Studio User's Guide
- Receive via IrDA or Bluetooth ► p. 85, p. 82

Music (Menu 3.1)

Use this menu to play music files.

Creating a play list

1. From the MP3 player screen, press <**Options**> and select **Create playlist**.

2. Enter a name for the play list and press <OK>.
3. Select the play list you created.
4. Press <Options> and select **Add music**.
5. Check the file(s) you want by pressing [Centre] and press <Select>.

Playing music files

From the play list, select the file you want. The selected file plays.

During playback, use the following keys:

Keys	Function
Centre	Pauses or resumes playback.
Left	Goes to the previous file.
Right	Skips to the next file.
Up	Opens the play list.
↖/↗	Adjusts the volume level.
1	Turns the 3D sound on or off.
2	Changes the skin type.

Keys	Function
3	Changes the repeat mode
4	Changes the equalizer mode
6	Turns Shuffle mode on or off.
Down	Stops playback.

Using music player options

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

- **Pause/Play:** pause or resume playback.
- **Stop:** stop playback.
- **View playlist:** display the play list.
- **Create MMS:** send the selected file via MMS.
- **Send:** send the select file via Bluetooth. You can also send the file to the online media album.
- **Set as:** set the file as your ringtone or as a caller alert melody for a Contacts entry.
- **Details:** access the properties of the file.

- **Player settings:** change the default settings for playing music files.
Repeat mode: select a repeat mode.
Shuffle: set the MP3 player to play music in random order.
Lock volume key: set whether or not you use the volume keys while playing music with the phone closed.
Equalizer: select an equalizer setting.
3D sound: turn 3D sound on or off.
Skin: select a skin type.
Volume: select a volume level.

Using file options

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

- **Play:** play the selected file.
- **Add music:** add music files to a play list.
- **Create MMS:** send the file via MMS.

- **Send:** send the file via Bluetooth. You can also send the file to the online media album.
- **Move in playlist:** move the file to the position you want in the current play list.
- **Set as:** set the music file as your ringtone or as a caller alert melody for a Contact entry.
- **Remove:** remove the file from the play list.
- **Details:** access the file properties.

Video *(Menu 3.2)*

Use this menu to play video clips.

Playing a video file

From the file list, select the file you want. The selected file plays.

During playback, use the following keys:

Keys	Function
Centre	Pauses or resumes playback.
Left	Moves backward in a file.

Keys	Function
Right	Skips forward in a file.
↵/↵	Adjusts the volume.

Using video player options

You can use the video player options by pressing <**Options**> from the video player screen. ► p. 34

Using file options

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

- **Play**: play the selected file.
- **Create MMS**: send the file via MMS.
- **Send**: send the file via Bluetooth. You can also send the file to the online media album.
- **Details**: access the properties of the file.

Camera (Menu 4)

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 using the phone. The camera produces JPG 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. The image to be captured appears on the display.
2. Adjust the image by rotating the camera lens and aiming it at the subject.

- Press the left soft key to access the camera options. See the next section.
 - Use the keypad to change the camera settings or switch to other modes. ► p. 38
3. Press [Centre] to take a photo. The photo is saved in the **Pictures** folder.

4. To	Press
use photo options	< Options >. ► p. 38
delete the photo	[C] and then < Yes >.
return to Capture mode	< Preview >.

Using camera options in Capture mode

In Capture mode, press the left soft key to access the following options:

- **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. You can select the number of still images the camera will take.

Mosaic shot: take several stills and save them in one frame. You can select the layout.

- **Effects:** change the colour tone or apply a special effect to photos to be taken in normal mode.
- **Frames:** apply a decorative frame.
- **Flash:** set the flash setting.
- **Timer:** set a time delay before the camera takes a photo.
- **Brightness:** display the brightness control bar.
- **Record video:** switch to Record mode.
- **Zoom:** display the zoom control bar.
- **Go to Photos:** go to the **Pictures** folder.
- **Settings:** change the default settings for taking a photo.

Size: select an image size.

Quality: select an image quality setting.

View finder: select a preview mode, either Full screen mode or Standard ratio mode.

Shutter sound: select the sound that you hear when you press the shutter release, [⏏] or [Centre].

- **Short cuts:** view the functions of the keys you can use.

Using the keypad in Capture mode

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

Key	Function
↶	Flips the image vertically.
↷	Shows the mirror image.
Up/Down	Zooms in or out.
1/Right	Switches to Record mode. ► p. 39
2	Changes the image size.
3	Changes the image quality.
4	Changes the shooting mode and the number of photos for multi shots.
5	Changes the colour tone or applies a special effect to the photo.

Key	Function
6	Reduces the distortion on the image to maximise detail and sharpness.
7	Selects a decorative frame.
8	Sets the timer.
9	Goes to the Pictures folder.
0	Set the flash setting.
*	Changes the preview screen.

Using photo options

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

- **Take picture:** return to Capture mode.
- **Create message:** send the photo via MMS or postcard.
- **Delete:** delete the photo.
- **Set as:** set the photo as your wallpaper for the displays or as a caller ID image for a Contacts entry.

- **Rename:** change the name of the photo.
- **Send:** send the photo via Bluetooth. You can also send the file to the online media album.
- **Go to Pictures:** go to the **Pictures** folder.
- **Lock/Unlock:** lock the photo to prevent it from being deleted, or unlock the file.
- **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. Adjust the image by rotating the camera lens and aiming it at the subject.
 - Press the left soft key to access the camera options. See the next section.
 - Use the keypad to change the camera settings or switch to other modes. ► p. 40
3. Press [Centre] to start recording.

4. Press [Centre] or the right soft key to stop recording. The video is automatically saved in the **Videos** folder.

To	Press
play back the video clip	[Centre].
use the video options	<Options>. ► p. 41
delete the video clip	[C] and then <Yes>.
return to Record mode	<Preview>.

Using camera options in Record mode



In Record mode, press the left soft key to access the following options:

- **Record video:** start recording.
- **Take picture:** switch to Capture mode.
- **Effects:** change the colour tone or apply a special effect to a video.
- **Flash:** set the flash setting.
- **Timer:** set a time delay before the camera starts recording.

- **Brightness:** display the brightness control bar.
- **Zoom:** display the zoom control bar.
- **Go to Videos:** go to the **Videos** folder.
- **Settings:** change the following settings for recording a video:
 - Recording mode:** select a video recording mode. Select **Normal** to record a video within the limit of the currently available memory.
 - Select **Limit for MMS** to record a video suitable for an MMS or e-mail message. The video clip is saved in 3GP format.
 - Size:** select a frame size.
 - Quality:** select an image quality setting.
 - View finder:** select a preview mode, either Full screen mode or Standard Ratio mode.
 - Audio record:** turn the audio on or off.
- **Short cuts:** view the functions of the keys you can use.

Using the keypad in Record mode

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

Keys	Function
	Flips the image vertically.
	Shows the mirror image.
Up/Down	Zooms in or out.
1/Left	Switches to Capture mode. ► p. 36
2	Changes the frame size.
3	Changes the image quality.
4	Changes the video recording mode.
5	Changes the colour tone or applies a special effect to the photo.
6	Reduces the distortion on the image to maximise detail and sharpness.
7	Mutes or unmutes the audio.
8	Sets the timer.

Keys	Function
9	Goes to the Video clips folder.
0	Determines the flash use.
*	Changes the preview screen.

Using video options

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

- **Play:** playback the video.
- **Record another:** return to Record mode.
- **Create MMS:** send the file via MMS.
- **Delete:** delete the video clip.
- **Set as wallpaper:** set the video clip, if saved for adding it to MMS messages or e-mails, as your wallpaper for the idle screen.
- **Rename:** change the name of the video clip.
- **Send:** send the video clip via Bluetooth. You can also send the file to the online media album.
- **Go to Videos:** go to the **Videos** folder.
- **Details:** access the file properties.

Messaging *(Menu 5)*

Use the **Messaging** menu to send and receive text messages, multimedia messages, postcards, and e-mails. You can also use push message, and cell broadcast message features.

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

Create *(Menu 5.1)*

Use this menu to create and send SMS, MMS, postcards, or e-mail messages.

MMS *(Menu 5.1.1)*

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. Enter the message text.
2. Add text or subject, or media files by pressing **<Options>** to access the following options:

- **Add item/Create item:** add text or media files.

☒ The maximum size allowed for an MMS message can differ depending on the country. If you cannot attach another file, add another page.

- **Add subject:** add a message subject.
 - **Insert entry:** retrieve a template, contact entry, or bookmark.
 - **Attach details:** add your name card or a calendar memo.
 - **Page duration:** set the page duration.
 - **Change picture/Change video/Change sound:** change the picture, video, or sound to another one.
 - **Remove subject/Remove picture/Remove text/Remove video/Remove sound:** clear the subject, image, text, or sound.
3. When you have finished, press **<Options>** and select **Send**.
 4. Enter a phone number or e-mail address.

To send the message to more than one recipient, press [Down] and fill in additional destination fields.

5. Press **<Options>** and select **Send**.

SMS (Menu 5.1.2)

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

☒ The maximum number of characters allowed in a text message varies by Vodafone. If your message exceeds the maximum number of characters, the phone will split the message.

1. Enter your message.
2. Add media files or calendar memo by pressing **<Options>** to access the following options:
 - **Insert entry:** retrieve a template, contact entry, or bookmark.
 - **Attach details:** add a name card or a calendar memo.
 - **Add:** add an icon, animated image, or melody.

3. When you have finished, press <**Options**> and select **Send**.
4. Enter a destination number.
To send the message to more than one recipient, press [Down] and fill in additional destination fields.
5. Press <**Options**> and select **Send** to send the message.

Postcard (Menu 5.1.3)

You can send photos as a postcard along with simple greeting.

1. Enter message text.
2. Add an image or text by pressing <**Options**> to access the following options:
 - **Add picture/Take picture:** add an image.
 - **Insert template:** retrieve a message template.
 - **Change picture:** change the image to another one.
 - **Remove picture:** remove the added image.

3. When you have finished, press <**Options**> and select **Send**.
4. Specify the recipient's information: Name, Additional info, Street, City, Postal code, State/Province, and Country.
5. Press <**Options**> and select **Send** to send the postcard.

Email (Menu 5.1.4)

You can 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. 53

1. Enter the e-mail text.
2. Add media files, name cards, or calendar memos by pressing <**Options**> to access the following options:
 - **Attach item/Create item:** add media files.
 - **Add subject:** add e-mail subject.
 - **Remove subject:** remove the subject.
 - **Insert entry:** retrieve a text template, contact entry, or bookmark.

Menu functions

- **Attach detail:** add a name card or calendar memo.
 - **View attach:** open the attached file.
 - **Remove attach:** remove the attached file.
 - **Remove all attach:** remove all attachments.
3. When you have finished, press <**Options**> and select **Send**.
4. Enter an e-mail address.
To send the e-mail to more than one recipient, press [Down] and fill in additional destination fields.
5. Press <**Options**> and select **Send** to send the e-mail.

Inbox (Menu 5.2)


This folder stores all types of messages you have received, except for e-mails. MMS, SMS, voicemail, push messages from the web server, configuration messages, and delivery report messages are stored here.

Configuration messages, which are sent from Vodafone, contains network parameters to let you easily apply the network settings to your phone.


Viewing a message

On the message list, the following icons are available, depending on the message type.

- | | |
|--|---|
| •  SMS | •  MMS |
| •  MMS notification | • ??? Configuration |
| •  Push | •  Broadcast |
| •  Delivery report | • ??? Voicemail |

- ✓ According to the DRM (Digital Rights Management) system, messages having web content may not be able to be forwarded. They are indicated by .
- A ! icon next to a message means that a message is of high priority. A grey-coloured message icon is of low priority.

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

 Options may vary depending on your country or service provider.

- **View:** open the message. For MMS notifications, you can access the message properties.
- **Retrieve:** retrieve the MMS message from the server.
- **Reply via:** send a reply to the sender via SMS or MMS.
- **Forward:** send the message to other people.
- **Send to media album:** send the message to the online media album.
- **Delete:** delete the message.
- **Move to archive:** move the selected message or all messages to the **Message archive** folder.
- **Move to:** move the message between the SIM card and the phone's memory.
- **Sort by:** change the sort order of the list.
- **Lock/Unlock:** lock the message to prevent it from being deleted, or unlock the message.

- **Details:** access the message properties.

Using message options

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

SMS messages

- **Call/Go to URL:** dial the highlighted phone number or access the highlighted web link.
- **Create:** send an e-mail to the highlighted e-mail address.
- **Reply via:** send a reply to the sender via SMS or MMS.
- **Forward:** forward the message to other people.
- **Delete:** delete the message.
- **Move to archive:** move the messages to the **Message archive** folder.
- **Move to phone/Move to SIM:** move the message between the SIM card and the phone's memory.
- **Save to:** extract URLs, e-mail addresses, or phone numbers from the message.

- **Save media items:** save media content from the message into your phone's memory.
- **Lock/Unlock:** lock the message to prevent it from being deleted, or unlock the message.

MMS notifications/messages

- **Retrieve:** retrieve the MMS message from the server.
- **Call/Go to URL:** dial the highlighted phone number or access the highlighted web link.
- **Create:** send an e-mail to the highlighted e-mail address.
- **Reply via MMS to:** send a reply message via MMS.
- **Reply via SMS:** send a reply message via SMS.
- **Forward:** forward the message to other people.
- **Send to media album:** send the message to the online media album.
- **Activate key:** get a new license key when the key for the selected DRM file expires.

- **Reactivate key:** get another license key even when the key for the selected DRM file has not expired.
- **Delete:** delete the message or all messages.
- **Move to archive:** move the message to the **Message archive** folder.
- **Save media items:** save media content from the message into your phone's memory.
- **Save to:** extract URLs, e-mail addresses, or phone numbers from the message.
- **Lock/Unlock:** lock the message to prevent it from being deleted, or unlock the message.
- **Details:** access the message properties.

Configuration messages

- **Install:** apply the configuration specified in the message to your phone.
- **Delete:** delete the message.

Push messages

- **Go to URL:** connect to the URL specified in the message.

- **Delete:** delete the message.
- **Save to:** extract URLs, e-mail addresses, or phone numbers from the message.
- **Move to archive:** move the message to the **Message archive** folder.
- **Lock/Unlock:** lock the message to prevent it from being deleted, or unlock the message.

CB messages

- **Save:** save the message to the phone's memory.
- **Delete:** delete the message.
- **Save to:** extract URLs, e-mail addresses, or phone numbers from the message.

Delivery report messages

- **Delete:** delete the message.
- **Save to:** extract URLs, e-mail addresses, or phone numbers from the message.
- **Move to archive:** move the message to the **Message archive** folder.
- **Lock/Unlock:** lock the message to prevent it from being deleted, or unlock the message.

Email box (Menu 5.3)






This folder stores e-mails that you have received.



Viewing received e-mails

1. Select an e-mail account.
2. Press <**Options**> and select **Download** to get new e-mails from the server.

The phone checks for new e-mails and retrieves received e-mails.

The following icons may appear on the message list; depending on the e-mail status, icons may vary:

-  has not been read
-  has been retrieved from the server
-  has not been retrieved;  indicates that an e-mail is being retrieved from the server and  indicates that an e-mail has failed to retrieve.

 A  icon next to a message means that a message is of high priority. A grey-coloured message icon is of low priority.

3. Scroll to an e-mail or header and press [Centre].

4. If the e-mail has more than one page, press [↖/↗] to scroll through pages one by one.
Press [Left] or [Right] to move to the first or last page.
5. Select an attached file to view or play it.

Using e-mail options

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

☒ Options may vary depending on the status of the e-mail.

- **View:** open the selected item.
- **Check E-mail:** retrieve new e-mails from the server.
- **Retrieve:** retrieve one or all of the e-mails from the e-mail server.
- **Reply to sender:** send a reply to the sender.
- **Reply to all:** send a reply to all recipients.
- **Forward:** forward the e-mail to other people.
- **Download:** retrieve new e-mails or headers from the e-mail server.

- **Delete:** delete the currently selected item.
- **Block:** add the sender's e-mail address or e-mail subject to the Block list.
- **Save to:** extract URLs, e-mail addresses, or phone numbers from the e-mail.
- **Save media items:** save media content from the message to your phone's e-mail.
- **Move to archive:** move the e-mail to the **Message archive** folder.
- **Sort by:** change the sort order of the list
- **Lock/Unlock:** lock the e-mail to prevent it from being deleted, or unlock the e-mail.
- **Details:** access the e-mail properties.

Drafts *(Menu 5.4)*

This folder stores messages you have saved to send at a later time while creating messages or have tried to send.

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

- **View:** open the selected message.

- **Edit:** edit the message.
- **Forward:** send the message to other people.
- **Send/Send again:** resend the message.
- **Delete:** delete the message or all messages.
- **Move to archive:** move the selected message or all messages to the **Message archive** folder.
- **Sort by:** change the sort order of the list.
- **Lock/Unlock:** lock the message to prevent it from being deleted, or unlock the message.
- **Details:** access the message properties.

Sent messages *(Menu 5.5)*

This folder stores messages that you have sent.

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

- **View:** open the message.
- **Forward:** forward the message to other people.
- **Save to:** extract URLs, e-mail addresses, or phone numbers from the message.

- **Move to phone/Move to SIM:** move the message between the SIM card and the phone's memory.
- **Delete:** delete the message or all messages.
- **Move to archive:** move the selected message or all messages to the **Message archive** folder.
- **Sort by:** change the sort order of the list.
- **Lock/Unlock:** lock the message to prevent it from being deleted, or unlock the message.
- **Details:** access the message properties.

Voicemail *(Menu 5.6)*

Use this menu to access the voicemails you have received.

Message archive *(Menu 5.7)*

Use this menu to save the message you have saved in this folder while reading a message.

You can use the message options by pressing **<Options>** from the message list. Refer to "Sent messages."

Templates (Menu 5.8)

Use this menu to create, edit, and send text templates and MMS templates.

MMS templates (Menu 5.8.1)

When you access this menu, you can view the list of templates you have saved.

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

- **View**: open the template.
- **Edit**: change the selected template.
- **Send**: send the template as an MMS message.
- **Delete**: delete the template.

SMS templates (Menu 5.8.2)

Use this menu to preset frequently used messages.

Select an empty location and enter the message text.

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

- **Edit**: change the selected template.
- **Send**: send the template as an SMS message.

- **Add new**: add a new template.
- **Delete**: delete the template.

Delete all (Menu 5.9)

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

1. Press [Centre] to check the message box(es) you want.
2. Press <**Delete**>.
3. If you want to delete the protected messages, press [Centre].
4. Press <**Yes**> to confirm the deletion.

Messaging settings (Menu 5.0)

Use this menu to set up various options.

MMS (Menu 5.0.1)

You can configure default MMS settings.

- **Send settings**: set up the following options for sending a multimedia message:

Delivery report: set the network to inform you when your message has been delivered.

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

Read reply: determine whether or not the phone sends a read-reply request.

Priority: set the priority level of your messages.

Expiry date: set the length of time your messages are stored in the message centre.

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

Send size: select a maximum size of attached items allowed for an MMS message.

- **Retrieve settings:** set up the following options for receiving a multimedia message:

Anonymous reject: reject messages from unknown senders.

Advert allowed: accept advertisements.

Information allowed: accept information messages.

Personal allowed: accept personal messages.

Report allowed: send a delivery report from the network to the sender.

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.

Home reception and Roaming reception have the following options:

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

- **MMS profile:** select a connection profile to be used for sending and receiving MMS messages. You can also make or edit a profile. ► p. 86

☒ You cannot change MMS profile settings while an MMS message is sent or retrieved.

SMS (Menu 5.0.2)

You can configure default SMS settings.

- **Send settings:** set up the following options for sending a text message:
 - Reply path:** allow the recipient to reply to you through your message centre.
 - Delivery report:** set the network to inform you when your message has been delivered.
 - Character support:** select a character encoding type. If you select **Automatic**, the phone switches the encoding type from **GSM-alphabet** to **Uni-code** if you enter an **Uni-code** character. Use of **Uni-code** encoding will reduce the maximum number of characters in a message to about half. If this menu is not shown, your phone provides the **Automatic** character encoding by default.
 - Bearer selection:** select either **GSM** or **GPRS preferred**, depending on your network.
- **Common profile:** select a profile.
- **Profile settings:** set the following properties in a profile:

Service centre: store or change the number of your message centre.

Default destination: enter the default destination. It will be displayed in the first field on the Recipients field.

Default type: set the default message type. The network can convert the messages into the selected format.

Default validity: set the length of time your messages are stored in the SMS centre while attempts are made to deliver them.

Setting name: enter a profile name.

Email (Menu 5.0.3)

You can configure default e-mail settings.



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

- **Send settings:** set up the following options for sending an e-mail:
 - Delivery receipt:** set the network to inform you when your e-mail has been delivered.

Read receipt: set the network to send a request for a reply along with your e-mail to the recipient.

Priority: select the priority level of your e-mail.

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

Edit name: edit the name in your signature.

Edit telephone number: edit the phone number in your signature.

Edit note: edit the tag line in your signature.

- **Receive settings:** set up the following options for receiving an e-mail:

Check interval: determine how often the phone checks the server for incoming e-mails.

If you set this option to **Not used**, you can use the **Check new Email** feature to check your e-mail manually.

Read reply: determine whether or not the phone sends a read-reply request.

When this option is set to **If requested**, the phone reminds you to send a read-reply request with your e-mail address.

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

Download method: set the phone to retrieve headers only or bodies of e-mails from the server.

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

- **Block list:** specify e-mail addresses or subjects to reject messages from the address or containing the subjects.
- **Email account:** set up an e-mail account and select an account to be used.

Current account: select an account.

Account settings: configure up to five e-mail accounts using different e-mail servers. The following options are available for each account:

- **Account name:** enter a name for the currently selected account.
- **User name:** enter a user name.
- **Email address:** enter your e-mail address.
- **User ID:** enter your e-mail ID.

- **Password:** enter your e-mail password.
- **SMTP authentication: same as POP3:** select if you want the SMTP server to have the same parameters as the POP3.
- **SMTP server:** enter the SMTP server name.
- **SMTP port:** enter the SMTP port number.
- **SMTP ID:** enter the SMTP user name.
- **SMTP password:** enter the SMTP password.
- **SMTP server:** enter the IP address or domain name of the outgoing e-mail server.
- **SMTP port:** enter the SMTP port number.
- **Protocol 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 domain name of the server that receives your e-mail.
- **POP3 port:** enter the POP3 port number.
- **APOP login:** connect to the server by using the APOP login scheme when this option is selected.

When the protocol type is **IMAP4**:

- **IMAP4 server:** enter the IP address or domain name of the server that receives your e-mail.
- **IMAP4 port:** enter the IMAP4 port number.
- **Include attachments:** select this option to receive attachments with e-mails.
- **Max retrieve Email:** set the number of headers you will retrieve from the server.
- **Secured connection:** set whether or not you use the secured connection mode.
- **Email profile:** select a network connection profile to be used for sending and receiving e-mails. You can also make or edit a profile. ► p. 86
- **Vodafone mail setting:** access the Vodafone mail settings.
- **About Email:** access the product name, vendor, version, and features information of the e-mail service.

Push message *(Menu 5.0.4)*

You can change the settings for receiving push messages from the wireless web server. The following options are available:

- **Receive:** set how your phone receives push messages.
- **Service centre:** enter the address of the server from which you want to receive push messages.

Broadcast *(Menu 5.0.5)*

You can change the settings for receiving CB messages. The following options are available:

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

Set voicemail number *(Menu 5.0.6)*

Use this menu to store the number of the voice mail server and access your voice mails.



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

- **Connect to voice server:** connect to the voice mail server to allow you to listen to your messages.
- **Voice server number:** enter the voice mail server number.

Memory status *(Menu 5.*)*

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


Media album *(Menu 5.#)*

Use this menu to access the **Media Album** service, with which you can organise your own online media album, adding media content and messages via the wireless web. This menu is only available if supported by your service provider.

My files (Menu 6)

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

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

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

Pictures

This menu displays photos you have taken and images downloaded or received in messages.

Viewing an image

1. Select an image.
2. Press [Left] or [Right] to scroll to other images.

Using image options

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

- **Create message:** send the file via MMS or postcard.
- **Delete:** delete the selected file.
- **Set as:** set the image as your wallpaper for the display or a caller ID image for a Contacts entry.
- **Rename:** change the name of the file.
- **Edit:** edit the image and save it as a different file.
- **Send:** send the file via Bluetooth. You can also send the file to the online media album.
- **Lock/Unlock:** lock the file to prevent it from being deleted, or unlock the file.
- **Activate key:** get a new license key when the key for the selected DRM file expires.
- **Reactivate key:** get another license key even when the key for the selected DRM file has not expired.
- **Details:** access the file properties.
- **Share via Bluetooth:** share the file(s) with other Bluetooth devices, or hide the file(s) so that other Bluetooth devices cannot access it.

- **Print:** print the selected photo by connecting the phone to a printer via Bluetooth.

Downloading images

1. Select **More pictures**. You are connected to a preset website.
2. Search for an image and follow the onscreen instructions to download it.

Videos

This menu displays video clips you have recorded, downloaded, or received in messages.

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

Playing a video clip

Select the video clip you want. ► p. 35

Using video options

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

- **Play:** play the file.
- **Create MMS:** send the file via MMS.

- **Delete:** delete the selected file or all file.
- **Set as wallpaper:** (for 3pg files) set the image as your wallpaper.
- **Record video:** switch to Record mode.
- **Rename:** change the name of the file.
- **Send:** send the file via Bluetooth. You can also send the file to the online media album.
- **Lock/Unlock:** lock the photo to prevent it from being deleted, or unlock the file.
- **Activate key:** get a new license key when the key for the selected DRM file expires.
- **Reactivate key:** get another license key even when the key for the selected DRM file has not expired.
- **Details:** access the file properties.
- **Visible to Bluetooth:** share the file(s) with other Bluetooth devices, or hide the file(s) so that other Bluetooth devices cannot access it.

Music

This menu displays MP3 files you have downloaded, received in messages, or imported from your computer.

Playing a music file

Scroll to a file and press [Centre]. ► p. 34

Using music options

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

- **Play:** begin playback.
- **Add to playlist:** add a file to the play list.
- **Create MMS:** send the file via MMS.
- **Delete:** delete the selected file or all files.
- **Set as:** set the file as your ringtone or as a caller alert melody for a Contacts entry.
- **Rename:** change the name of the file.
- **Send:** send the file via Bluetooth. You can also send the file to the online media album.
- **Lock/Unlock:** lock the file to prevent it from being deleted, or unlock the file.

- **Activate key:** get a new license key when the key for the selected DRM file expires.
- **Reactivate key:** get another license key even when the key for the selected DRM file has not expired.
- **Details:** access the file properties.
- **Visible to Bluetooth:** share the file(s) with other Bluetooth devices, or hide the file(s) so that other Bluetooth devices cannot access it.

Downloading music files

1. Select **More music**.
2. Search for a music file and follow the onscreen instructions to download it.

Ringtones

This menu displays sound files you have recorded, downloaded, or received in messages.

Playing a sound clip

Scroll to a clip and press [Centre].

During playback, you can use the following keys:

Keys	Description
Up/Down/ ↖/↗	Adjusts the volume.
Left	Goes to the previous file.
Right	Skips to the next file.
Centre	Access the option list.

Using sound options

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

- **Play**: play the sound file.
- **Create MMS**: send the file via MMS.
- **Delete**: delete the selected file or all files.
- **Set as**: set the file as your ringtone or as a caller ID ringer for a Contacts entry.
- **Rename**: change the name of the file.
- **Send**: send the file via Bluetooth. You can also send the file to the online media album.

- **Lock/Unlock**: lock the photo to prevent it from being deleted, or unlock the file.
- **Activate key**: get a new license key when the key for the selected DRM file expires.
- **Reactivate key**: get another license key even when the key for the selected DRM file has not expired.
- **Details**: access the file properties.
- **Share via Bluetooth**: share the file(s) with other Bluetooth devices, or hide the file(s) so that other Bluetooth devices cannot access it.

Downloading ringtones

1. Select **More ringtones**.
2. Search for a ringtones and follow the onscreen instructions to download it.

Games

Use this menu to download Java games and play them. ► p. 32

Applications

Use this menu to download Java MIDlets (Java applications running on mobile phones). ► p. 32

Themes

Use this menu to view the theme images you have downloaded, or received in messages. You can also set an image as your theme.

Changing a theme

1. Select an image.
2. Press <Set>.

Using image options

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

- **Set (Apply) Theme:** set the file as your theme.
- **Delete:** delete the selected file or all files.
- **Rename:** change the name of the file.
- **Send:** send the file via Bluetooth. You can also send the file to the online media album.

- **Lock/Unlock:** lock the file to prevent it from being deleted, or unlock the file.
- **Activate key:** get a new license key when the key for the selected DRM file expires.
- **Reactivate key:** get another license key even when the key for the selected DRM file has not expired.
- **Details:** access the file properties.
- **Share via Bluetooth:** share the file(s) with other Bluetooth devices, or hide the file(s) so that other Bluetooth devices cannot access it.

Downloading theme images

1. Select **More themes**.
2. Search for a theme and follow the onscreen instructions to download it.

Other documents

Use this menu to view the document files stored in your phone.

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

- **View:** open the selected file.
- **Delete:** delete the selected file or all files.
- **Rename:** change the name of the file.
- **Send:** send the file via Bluetooth. You can also send the file to the online media album.
- **Lock/Unlock:** lock the file to prevent it from being deleted, or unlock the file.
- **Activate key:** get a new license key when the key for the selected DRM file expires.
- **Reactivate key:** get another license key even when the key for the selected DRM file has not expired.
- **Details:** access the file properties.
- **Share via Bluetooth:** share the file(s) with other Bluetooth devices, or hide the file(s) so that other Bluetooth devices cannot access it.

Memory status

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

Organiser&Tools *(Menu 7)*

The Organiser&Tools feature enables you to keep track of your schedule and to-do list, to view missed alarm events, and to make a memo. You can record a voice memo, set time zone, or use the phone as a calculator, converter, timer, or stopwatch.

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

Vodafone *(Menu 7.1)*

This menu is available if you use a SIM card that supports SIM Application Tool Kit 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.

Applications (Menu 7.2)

Use this menu to download Java games and applications and play them. ► p. 32

Alarms (Menu 7.3)

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

Setting an alarm

1. Select the type of alarm.
2. Scroll to **On** on the **Alarm** line and press [Down].
3. Enter the time for the alarm to sound and press [Down].
4. Select **AM** or **PM** in 12-hour time format and press [Down].
5. Select a repeat option from the **Repeat** line.
6. Select the **Alarm tone** line and select an alarm melody.
7. Select tone volume from the **Tone volume** line.
8. Press <**Save**>.

Stopping an alarm

When an alarm sounds, choose either of the following options to stop the alarm:

- Press any key to confirm the alarm.
- Press <**Snooze**> to stop the wake-up alarm for 5 minutes. You can also this a maximum of 5 times.

Setting the alarm to ring 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.

Calendar (Menu 7.4)

Use this menu to keep track of your monthly schedule.

Consulting the calendar

When you enter the **Calendar** menu, the calendar in Week view appears with the timetable.

A cell on the timetable indicates the presence of event information.

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

- **View mode:** change the view mode of the calendar.
- **Create:** add a new event.
- **Go to:** go to the current date or the specific date.
- **Missed alarm events:** view events whose alarms you have missed.
- **Sort by:** sort items by the type of event.
- **Delete:** delete item(s) stored on the calendar by using various deleting options.

Entering a new scheduled event

1. Scroll to a date on the calendar.
2. Press **<Options>** and select **Create** → **Schedule**.
3. Enter information or change the settings in the following entry fields:
 - **Subject:** enter the title of the event.
 - **Details:** enter event details.
 - **Start date** and **Start time:** enter the starting date and time for the event.
 - **AM/PM:** select **AM** or **PM** in 12-hour time format.

- **End date** and **End time:** enter the ending date and time for the event.
- **AM/PM:** select **AM** or **PM** in 12-hour time format.
- **Location:** enter information about the event location.
- **Alarm:** select to set an alarm for the event, set the time for the alarm, and select an alarm tone.
- **Repeat:** select to set the event to recur. You can select a repeat unit and set the date to end repeating.

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

Entering a new anniversary

1. Scroll to a date on the calendar.
2. Press **<Options>** and select **Create** → **Anniversary**.
3. Enter information or change the settings in the following entry fields:
 - **Occasion:** enter information about the anniversary.

- **Date:** enter the date.
- **Alarm:** select to set an alarm for the anniversary. You can set the number of days before the event date and the time for the alarm to sound. You can also set the time for the alarm and 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 event.

Entering a memo

1. Scroll to a date on the calendar.
2. Press <**Options**> and select **Create** → **Memo**.
3. Enter a memo and press <**Save**>.

Entering a to-do item

1. Scroll to a date on the calendar.
2. Press <**Options**> and select **Create** → **To do**.
3. Enter information or change the settings in the following entry fields:
 - **To do:** enter information about the item.
 - **Start date:** enter the starting date.
 - **Due date:** enter the ending date.

- **Select priority:** select a priority level.

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

Viewing an event

1. Select a date on the calendar to display the events for the day.
2. Select an event to view its details.

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

- **View:** display the event details.
- **Create:** add a new event.
- **Create message:** send the event via MMS or SMS.
- **Send:** send the event via Bluetooth or infrared port.
- **View mode:** change the view mode of the calendar.
- **Missed alarm events:** view events whose alarms you have missed.
- **Sort by:** sort items by the type of event.

- **Delete:** delete item(s) stored on the calendar by using various deleting options.

Viewing an event in different mode

By default, the calendar appears in Week view mode.





Press <**Options**> and select **View mode** to change the mode.

Day view

You can view events for the selected date.

Select an event to view its details.





The following icons will be displayed according to the event's type and status:

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

Month view

You can view events for the selected month.

The number of events for the specific day appears at the bottom of the calendar. The following icons indicate the type of event:

-  Scheduled event
-  Anniversary
-  To-do item
-  Memo

Viewing missed event alarms

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

1. From the Calendar, press <**Options**> and select **Missed event alarm**.
2. Select an event.
3. Press <**Confirm**> to confirm and delete the event.

Voice recorder *(Menu 7.5)*

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

Recording a voice memo

1. Press [Centre] to start recording.
2. Speak into the microphone.

Press [Centre] to pause or resume the recording.

3. When you finish, press <**Stop**>. The voice memo is saved automatically.

Playing a voice memo

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

On the player screen, use the following keys:

Keys	Function
Centre	Pauses or resumes playback.
Up	Switches to play mode (⏮⏭) or back to Record mode (⏮⏭).
Left	Moves backward in a file.
Right	Moves forward in a file.
⏮/⏭	Adjusts the volume.
Down	Stops playback.

Using voice memo options

From the Voice recorder screen, press <**Options**> to access the following options:

- **Play**: play the voice memo.
- **Record**: record a new voice memo.
- **Create MMS**: send the file via MMS.
- **Go to Ringtones**: go to the list of voice memos you have recorded.
- **Send**: send the file via Bluetooth. You can also send the file to the online media album.
- **Delete**: delete the file.
- **Rename**: change the name of the file.
- **Share via Bluetooth**: share the file(s) with other Bluetooth devices, or hide the file(s) so that other Bluetooth devices cannot access it.
- **Activate key**: get a new license key when the key for the selected DRM file expires.
- **Reactivate key**: get another license key even when the key for the selected DRM file has not expired.

- **Lock/Unlock:** lock the file to prevent it from being deleted, or unlock the file.
 - **Details:** access the file properties.
 - **Setting:** select a recording time setting.
- Limit for MMS:** record a voice memo for adding to an MMS message.
- Limit for Email:** record a voice memo for adding to an e-mail.
- Max 1 hour:** record a voice memo for up to one hour.

World time *(Menu 7.6)*

Use this menu to set your local time zone and find out what time it is in another part of the world.

Setting your local time zone

1. From the world map, press [Left] or [Right] to select the city that corresponds to your home time zone. As the time line moves, the time and date of the given zone display.
2. Press <**Options**> and select **Save** to save the time zone.

Applying Daylight Savings Time

1. From the world map, press <**Options**> and select **Set daylight saving time**.
2. Press [Centre] to check the time zone(s) you want.
3. Press <**Save**>.

PIM sync *(Menu 7.7)*

Use this menu to synchronise personal data with corresponding PC applications via the optional WideSync programme.

To use the PIM sync feature, you first need to create a synchronisation profile. ► p. 85

Starting synchronisation

1. Make sure that your PC has MS Outlook and the WideSync program installed, and the phone and the PC are connected by a USB cable or an active Bluetooth connection.
2. Open MS Outlook.
3. From the PIM sync screen, scroll to the synchronisation method you want.

4. Press <**Options**> and select **Start sync**.

Using synchronisation options

From the PIM sync screen, press <**Options**> to access the following options:

- **Start sync**: start a synchronisation for the selected profile.
- **View result**: show the result of the last synchronisation.

Calculator *(Menu 7.8)*

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

1. Enter the first number.
 - Press the left soft key to insert a decimal point or bracket.
 - Press [*****] or [**#**] to move the cursor.
2. Enter the operation for your calculation by pressing the Navigation keys.
3. Enter the second number.

4. Press [Centre] to view the result.

Converter *(Menu 7.9)*

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

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 you want to convert to.

The equivalent value for the amount you entered displays.



For the currency converter, you can view and set up the rates by pressing <**View rate**>.

Timer (Menu 7.0)

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

Starting the timer

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

Stopping the timer

- Press <**Exit**> or any key when the timer rings.
- Press [Centre] on the Timer screen to stop the timer before it rings.

Stopwatch (Menu 7.*)

Use this menu to measure elapsed time. The precision of the stopwatch is one one-hundredth of a second. The maximum measurement time is 10 hours.

1. Press [Centre] to start the stopwatch.

2. Press [Centre] to check an interval. You can repeat this step for a total of 4 intervals.
3. To reset the stopwatch, press <**Reset**>.

Memory status (Menu 7.#)

This menu displays the number of events of each type you have created, and the total number of events you can store.

Contacts (Menu 8)

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 Contacts.

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

Contacts list (Menu 8.1)

Use this menu to search for numbers in Contacts.

Finding an entry

1. Enter the first few letters of the name that you want to find.
2. Select the name you want from the list.
3. Press [\] to dial the number, or <**Options**> to access Contacts options.

Using Contacts options

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

- **View:** display details about the contact.
- **Call:** make a voice call.
- **Create message:** send an SMS, MMS, or e-mail message.
- **Edit:** edit the contact information.
- **Synchronise:** synchronise the contact information with a PC.
- **Add new contact:** add a new contact to Contacts.

- **Copy to phone/Copy to SIM:** copy the contact to the SIM card or the phone's memory or voice versa.
- **Send:** send the contact via SMS, MMS, Bluetooth, or infrared port.
- **Delete:** delete the selected contact or all contacts.

Add contact (Menu 8.2)

Use this menu to add a new contact to Contacts.

Storing a number 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 category.
 - **Email:** assign an e-mail address.
 - **Caller ID:** assign an image as a caller ID image to alert you to a call from the number.
 - **Ringtones:** assign a ringtone to alert you to a call from the number.

- **Group:** assign the number to a caller group.
 - **Memo:** add a memo about the person.
 - **Additional info:** enter additional information about the person.
 - **Street:** enter the street name.
 - **City:** enter the city name.
 - **Postal code:** enter the postal code.
 - **State/Province:** enter state or province name.
 - **Country:** enter the country name.
 - **URL:** enter a URL address.
3. Press <**Save**> to save the contact.

Storing a number on the SIM card

1. Select **SIM** and enter a name.
2. Press [Down] and enter a phone number.
3. Press [Down] and change the location number, if necessary.
4. Press <**Save**> to save the contact.

Groups *(Menu 8.3)*

Use this menu to organise your contacts in caller groups.

Creating a new caller group

1. Press <**Options**> and select **Add**.
2. Enter a name for the group.
3. Select the Caller ID line and select an image.
4. Select the Ringtones line and select a melody.
5. Press <**Save**> to save the group.

Adding members to a caller group

1. Select a group.
2. Press <**Add**>. The list of contacts stored in your phone's memory is displayed.
3. Press [Centre] to check the contacts you want.
4. Press <**Select**>.

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.
- **Create message:** send an SMS or MMS message to the member(s) you want.
- **Delete:** delete the selected group or all groups. Group members, however, are not deleted from Contacts.

Call log *(Menu 8.4)*

Use this menu to view the calls you have dialled, received, or missed, the length of your calls, and the cost of your calls.

All calls *(Menu 8.4.1)*

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

Accessing a call record

1. Press [Left] or [Right] to select a call type.
2. Press [Up] or [Down] to scroll through the call list.
3. Press [Centre] to view the details of a call, or [↵] to dial a number.

Using call record options

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

- **Detail:** access the details of the selected call.
- **Call:** dial the selected number.
- **Go to contacts:** access the contact of the selected number.
- **Save contact:** save the number to Contacts.
- **Create message:** send an SMS or MMS message.
- **Delete:** delete the selected call record or all records.

Missed calls *(Menu 8.4.2)*

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

Dialled calls *(Menu 8.4.3)*

This menu displays the most recent calls you have dialled.

Received calls *(Menu 8.4.4)*


This menu displays the most recent calls you have received.

Call time (Menu 8.4.5)

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

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

To reset the call timers, press <**Reset**>.

 The password is preset to **00000000**. You can change this password. ► p. 87

Call cost (Menu 8.4.6)

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

- **Last call cost:** check the cost of your last call.
- **Total cost:** check the total cost of all of your calls. If the total cost exceeds the maximum cost set in

Set max cost, you must reset the counter before you can make another call.

- **Max cost:** check the maximum cost limit set in **Set max cost**.
- **Reset counters:** reset the cost counters.
- **Set max cost:** set the maximum cost authorised for your calls.
- **Price/Unit:** set the price per unit that is applied when the cost of your calls is calculated.

Data counter (Menu 8.4.7)

Use this menu to view the amount of the last sent or received data and the total amount of the sent or received data. You can also reset all counters.

Speed dialing (Menu 8.5)

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

Assigning speed dial numbers

1. Select a key location from **2** to **9**. Key [**1**] is reserved for your voice mail server.
2. Select a contact you want from the contact list.

3. Scroll to a number, if it has more than one number.
4. Press <**Select**>.

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**: show the number assigned to the key.
- **Change**: assign a different number to the assigned key.
- **Remove**: clear the speed dial setting.

Dialling speed dial entries

Press and hold the appropriate key in Idle mode.

My contact details *(Menu 8.6)*

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. 70

Using name card options

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

- **Edit**: edit the name card.
- **Send**: send the name card via SMS, MMS, Bluetooth, or infrared port.
- **Exchange contact details**: exchange name cards with another person via Bluetooth.
- **Remove**: delete the name card.

My numbers *(Menu 8.7)*

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.

Settings *(Menu 8.8)*

Use this menu to manage Contacts.

- **Save new contacts to**: select a default memory location to save contacts.

If you select **Ask each time**, the phone will ask you to select a memory location when saving a number.

- **Copy all to phone:** copy all of the contacts stored on the SIM card to the phone's memory.
- **Copy all to SIM:** copy all of the contacts stored in the phone's memory to the SIM card.
- **Delete all:** delete all of the contacts from your phone's memory, your SIM card, or both.
 1. Press [Centre] to check the location(s) to be cleared.
 2. Press <**Delete**>.
 3. Enter the phone password and press <**OK**>.

☒ The password is preset to **00000000**. You can change this password. ► p. 87
 4. Press <**Yes**> again to confirm the deletion.
- **Memory status:** display the number of contacts you have stored in Contacts.

Service number *(Menu 8.9)*

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

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

Settings *(Menu 9)*

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

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

Phone settings *(Menu 9.1)*

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

Phone profiles (Menu 9.1.1)

Use this menu to adjust and customise the phone tone for different events or situations.

Editing a profile

1. Scroll to the profile you want.
2. Press <**Options**> and select **Edit**.
3. Change the sound settings:
 - **Call alert type**: select an alert type for the call ringer.
 - **Voice call ringtone**: press [Centre] and select a ringtone for the call ringer of voice calls.
 - **Tone volume**: adjust the volume for the call ringer.
 - **Msg. alert type**: select an alert type for the message ringer.
 - **Msg. alert tone**: press [Centre] and select a ringtone for the message ringer.
 - **Msg. alert repetition**: select if the phone repeats reminding you of a new message.
 - **Phone sounds**: press [Centre] and turn the various sounds on the phone on or off.

All on: enable all tones.

Minute minder: cause the phone to beep every minute during an outgoing call to keep you informed of the length of your call.

Call connect tone: cause the phone to beep when a call is connected to the system.

Power on: cause the phone to beep when you turn on the phone.

Slider tone: cause the phone to sound when you open or close the phone.

Alert on call: cause the phone to beep when you receive a new message or when the time for an alarm comes during a call.

All off: disable all tones.

- **Key tones**: press [Centre] and select a tone which sounds when you press a key.
- **Key tone volume**: adjust the volume of the key tones.
- **Call answer mode** (for Car): Press [Centre] and select how to answer an incoming call when the phone is connected to a hands-free car kit.

4. When you have finished, press **<Options>** and select **Activate**.

Changing an active profile

Select the profile you want.

Phone language *(Menu 9.1.2)*

Use this menu to select one of several languages for the display text.

Assign ringtones *(Menu 9.1.3)*

Use this menu to change the alert type and assign a ringtone for each event on your phone, separately from profile settings. ► p. 76

Short cut *(Menu 9.1.4)*

You can use the Navigation keys as shortcut keys 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 and press **<Options>** and select **Change**.
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.

Time & date *(Menu 9.1.5)*

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

► p. 67

- **Set time**: enter the current time.
- **AM/PM**: select **AM** or **PM** in 12-hour time format.
- **Time format**: select time format.
- **Set date**: enter the current date.
- **Starting day of calendar**: set whether the calendar starts with Sunday or Monday.

Greeting message (Menu 9.1.6)

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


Slide settings (Menu 9.1.7)


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 only in Idle mode.

Anykey answer (Menu 9.1.8)

Use this menu to answer an incoming call by pressing any key, except [>] or <**Reject**>.

When this option is not selected, you must press [>] or <**Accept**> to answer a call.

Alert on game (Menu 9.1.9)

Use this menu to set the phone to inform you of incoming messages, or alarm alerts while playing a game.

Reset settings (Menu 9.1.0)

Use this menu to reset the phone to its default settings.

Enter the phone password and press <**OK**>.

☒ The password is preset to **00000000**. You can change this password ► p. 87

Display settings (Menu 9.2)

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

Wallpaper (Menu 9.2.1)

You can change the settings for the Idle screen.

- **Main display:** select an image or video clip to be displayed on the main display.
- **Text mode:** select a text mode.
- **Text colour:** select the text colour.

- **Graphic logo:** set the phone to display a graphic icon instead of the service provider's logo on the Idle screen. This option is only available if a graphic icon has been received in a message.

LCD brightness (Menu 9.2.2)

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

Backlight time (Menu 9.2.3)

You can select the length of time the backlight stays on and the display is on in Dim mode, in which the backlight is off.

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

Dialing font colour (Menu 9.2.4)

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

Service light (Menu 9.2.5)

Use this menu to activate or deactivate the feature of the service light.

Messaging settings (Menu 9.3)

Use this menu to change the default settings for using the message feature. ► p. 45

Call settings (Menu 9.4)

Use this menu to set options for call functions.

Show my number (Menu 9.4.1)

This network service allows you to prevent your phone number from being displayed on the phone of the person being called. However, some networks do not allow the user to change this setting.

- **By network:** use the default setting provided by the network.
- **Hide number:** ensure your number does not display on the other person's phone.
- **Send number:** send your number each time you make a call.

Diverts (Menu 9.4.2)

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

1. Select a call diverting option:
 - **Always:** divert calls.
 - **Busy:** divert calls when you are on another call.
 - **No reply:** divert calls when you do not answer the phone.
 - **Not unreachable:** divert calls when you are not in an area covered by your service provider or when your phone is switched off.
 - **Cancel all:** cancel all call diverting options.
2. Select the type of calls to be diverted.
3. To activate call diverting, select **Activate**. Otherwise, select **Deactivate**.
4. Move to the **Divert to** line.
5. Enter the number to which calls are to be diverted and press **<Select>**.
6. If you selected **No reply**, move to the **Seconds** line and select the length of time the network delays before diverting a call.

Restrict calls (Menu 9.4.3)

This network service allows you to restrict your calls.

1. Select a call barring option:
 - **All outgoing calls:** prohibit all outgoing calls.
 - **Outgoing int'l calls:** prohibit international calls.
 - **Int'l call exc. Home:** only allow calls to numbers within the current country when you are abroad, and to your home country.
 - **All incoming call:** prohibit incoming calls.
 - **Incoming calls when roaming:** prohibit incoming calls when you use your phone outside of your home country.
 - **Cancel all:** cancel all call barring settings, allowing calls to be sent and received normally.
 - **Change restrict 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 9.4.4)

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**.

Auto redial (Menu 9.4.5)

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

Closed user group (Menu 9.4.6)

Use this menu to set incoming and outgoing calls to be restricted to a selected user group. For details about how to create a closed user group, contact your service provider.

- **Index list:** add, delete, or activate CUG index numbers. Press **<Options>** to access the options for setting up an index list.

- **Outside access:** enable calls to numbers other than those in the Closed user group. This feature depends on the nature of your CUG subscription.
- **Default group:** enable the default CUG, if you have set one with your service provider. When making a call, you are given the option of using your default CUG, instead of selecting one from the list.
- **Deactivate:** deactivate the CUG function, if the default group is enabled or a CUG index is selected.

Contact settings (Menu 9.5)

Use this menu to change the settings for using Contacts.

- **Speed dialing:** check the speed dial settings.
► p. 73
- **Sort contacts by:** select a sort order of the Contacts list.
- **Save new contacts to:** select a default memory location to save contacts.

If you select **Ask each time**, the phone will ask you to select a memory location when saving a number.

- **View contacts from:** select a default memory location to retrieve the contacts you have stored in Contacts.
- **Privacy:** set whether or not the phone displays sender's information with notifications when you receive calls or messages.

live! Cast name settings *(Menu 9.6)*

Use this menu to change the settings for using the Live! Cast feature.

- **Switch live!cast on/off:** set whether or not the phone receives Live! Cast messages from the Live! Cast server.
- **Edit channel list:** edit the channels from which the phone receives Live! Cast messages.
- **Ticker settings:** change the settings for the ticker.
 - **Ticker speed:** set the speed at which the Live! Cast headlines scroll across the screen.

- **Num of messages:** set the number of headlines the thicker will display.

Streaming settings *(Menu 9.7)*

Use this menu to activate a connection profile to be used for accessing streaming servers to use VOD services. You can also make or edit a profile. ► p. 86

Connectivity *(Menu 9.8)*

Use this menu to set options for connection available on your phone.

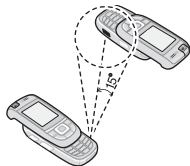
Infrared activate *(Menu 9.8.1)*

Use this feature to send and receive data to or from IrDA-compatible computers or phones through the infrared port. To use an infrared connection, you must do the following:

- Select the device type you want to use.
- Configure and activate an IrDA-compliant infrared port on the other device.
- Activate the infrared feature on your phone.

- Align the IrDA port on the phone with the IrDA port on the other device.

If there is no communication between your phone and the other IrDA-compliant device within 60 seconds of activating the feature, it is automatically deactivated.



Bluetooth (Menu 9.8.2)

Use this menu to activate the Bluetooth feature.

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 maximum operating distance may be reduced.
- You cannot use the Bluetooth feature while using multimedia features such as voice recorder, camera, and media player, or vice versa.
- 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 setting options, 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 kind of device:

- | | |
|---|--|
| •  Hands-free or headset | •  Mobile phone |
| •  Computer | •  PDA |
| •  Printer | •  Unknown device |

The colour 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 code and press **<OK>**. This code is used just once and you don't need to memorise 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:

- ☒ Options may vary depending on the paired device.
- **Connect:** connect to the currently selected device.
- **Disconnect:** end the connection with the device.
- **Browse files:** search for data from the device and import data directly to your phone.
- **Service list:** refresh the Bluetooth service list.

- **Rename:** rename the paired device.
- **Authorize device/Unauthorized 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 device 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. Scroll to the item you want and press <**Options**>.
4. Select **Send** → **via Bluetooth**.

The phone searches for devices within range and displays a list of available devices.

5. Select a device.
6. 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.

If an unauthorised Bluetooth device sends data to your phone, the phone displays a confirmation message. To receive data, press <**Yes**>.

Synchronise (Menu 9.8.3)

You can set up the synchronisation profile.

- **Sync Server Address:** set the server address.
- **User ID:** set the user ID.
- **Password:** set the user password.
- **DB Name:** set the DB name.
- **DB Login ID:** set the DB user ID.
- **Sync server:** activate a synchronisation profile.

Select network (Menu 9.8.4)

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

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

Band selection (Menu 9.8.5)

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

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.

Connections (Menu 9.8.6)

You can set up information about your network connection. In most cases, you don't need to change the settings. In case of problems, please contact your service provider.

Adding a connection profile

Press <**Options**> and select **Add new connection**. The following options are available:

- **Profile name:** enter the profile name.
- **Home URL:** enter your homepage address.
- **Proxy:** select to set the phone to use the proxy server.


- **IP address/Port:** set the proxy server address and port.
- **Linger time:** set a time period after which the network is disconnected if there has been no new data traffic in that time.
- **Bearer:** select a bearer type, **GPRS** or **GSM**.
- **Advanced settings:** provide you with the following options:
 - APN:** (for GPRS) enter the access point name.
 - Dial number:** (for GSM) enter the PPP server phone number.
 - Login ID:** enter the user ID.
 - Password:** enter the user password.
 - Data call type:** (for GSM) select a data call type.

Managing browser profiles

On the list of connection profiles, scroll to a profile and press <**Options**> to access the following options:

- **Edit:** edit the selected connection.
- **Delete:** delete the selected connection.

- **Add new connection:** add a new connection.


 You cannot edit or delete the default connections.

Browser settings *(Menu 9.8.7)*

Use this menu to activate a browser profile to be used for connecting to a wireless web. ► p. 86

Security *(Menu 9.9)*

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

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

Phone lock *(Menu 9.9.1)*

This feature locks the phone from unauthorised use.

When this feature is enabled, you must enter a 4- to 8-digit phone password each time the phone is switched on.

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

SIM lock *(Menu 9.9.2)*

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

PIN lock *(Menu 9.9.3)*

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

Fixed dialling mode *(Menu 9.9.4)*

If supported by your SIM card, Fixed Dialling Number (FDN) mode restricts your outgoing calls to a limited set of phone numbers. When this feature is enabled, you can make calls only to phone numbers stored in the SIM card. To use this feature, you must enter your PIN2.

Change phone password *(Menu 9.9.5)*

Use this menu to change your phone password. The password is preset to **00000000**.

Privacy lock (Menu 9.9.6)

Use this menu to lock all menu functions on the phone, except for call functions.

When this feature is enabled, you must enter the phone password to access menu functions. The password is preset to **00000000**.

Change PIN code (Menu 9.9.7)

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

Change PIN2 code (Menu 9.9.8)

If supported by your SIM card, the change PIN2 code feature changes your current PIN2.

Memory status (Menu 9.0)

Use this menu to check the amount of memory being used for storing data, such as games, messages, media files, calendar items, and contacts.

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.

"Enter password"

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

"Enter PIN"

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


"Enter PUK"

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


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

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

You have entered a number but it was not dialled

- Be sure that you have pressed [].
- Be sure 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 your phone is switched on. ([] pressed for more than one second.)
- Be sure 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 you have switched on the microphone.
- Be sure 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 warning "Low battery" flashes on the display

- Your battery is insufficiently charged. Recharge the battery.

The audio quality of the call is poor

- Check the signal strength indicator on the display (). The number of bars indicates the signal strength from strong () to weak ().

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 *.



*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.

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.

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.

FCC certification information for this model phone is attached separation paper.

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 an 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/rfsafety>

Cellular Telecommunications Industry Association (CTIA):

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

U.S.Food and Drug Administration (FDA)

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

World Health Organization (WHO)

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

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 voice mail answer it for you.
4. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow, ice and even heavy traffic can be hazardous.
5. Do not take notes or look up phone numbers while driving. Jotting down a To Do list or flipping through your 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 non-emergency wireless assistance number when necessary. If you see a broken-down vehicle posing no serious hazard, a broken traffic signal, a minor traffic accident where no one appears injured, or a vehicle you know to be stolen, call roadside assistance or any other special non-emergency wireless number.

Operating Environment

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

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

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

Electronic Devices

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

Pacemakers

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

Wireless Technology Research.

Persons with pacemakers:

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

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

Hearing Aids

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

Other Medical Devices

If you use any other personal medical devices, consult the manufacturer of your device to determine if it is adequately shielded from external RF energy. Your physician may be able to assist you in obtaining this information. Switch off your phone in health care facilities when any regulations posted in these areas instruct you to do so. Hospitals or health care facilities may be using equipment that could be sensitive to external RF energy.

Vehicles

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

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

Posted Facilities

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

Potentially Explosive Atmospheres

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

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

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

Emergency Calls

This phone, like any wireless phone, operates using radio signals, wireless and landline networks as well as user-programmed functions, which cannot guarantee connection in all conditions. Therefore, you should never rely solely 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, proceed as follows.

1. If the phone is not on, switch it on.
2. Key in the emergency number for your present location. Emergency numbers vary by location.
3. Press the <SEND> key.

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 cut off the call until given permission to do so.

Other Important Safety Information

- Only qualified personnel should service the phone or install the phone in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty 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 the phone and all its parts and accessories out of the reach of small children's.
- Keep the phone dry. Precipitation, humidity and liquids contain minerals that will corrode electronic circuits.
- Do not touch the phone with a wet hand while it is charging. Doing so may cause an electric shock to you or damage to the phone.
- Do not use or store 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 it. Paint can clog the device's moving parts and prevent proper operation.
- Do not put the phone in or on heating devices, such as a microwave oven, a stove or a radiator. The phone may explode when overheated.
- Use only the supplied or an approved replacement antenna. Unauthorized antennas or modified accessories may damage the phone and violate regulations governing radio devices.
- If the phone, battery, charger or any accessory is not working properly, take it to your nearest qualified service facility. The personnel there will assist you, and if necessary, arrange for service.

Acknowledging Special Precautions and the FCC and Industry Canada Notice

Cautions

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

This device complies with Part 15 of FCC Rules.

Operation is subject to the following two conditions:

- (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 Head: 0.298W/Kg, Body-worn: 0.280W/Kg. Body-worn operations are restricted to Samsung-supplied, approved or none Samsung designated accessories that have no metal and must provide at least 1.5cm 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 A3LSGHE860V.

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

Appendix B: Guide to Safe and Responsible Wireless Phone Use

Cellular Telecommunications & Internet Association

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

A Guide to Safe and Responsible Wireless Phone Use

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

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

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

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

Wireless Phone "Safety Tips"

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

1. Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable features most phones offer, including automatic redial and memory. Also, work to memorize the phone keypad so you can use the speed dial function without taking your attention off the road.
2. When available, use a hands free device. A number of hands free wireless phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.
3. Position your wireless phone within easy reach. Make sure you place your wireless phone within easy reach and where you can grab it without removing your eyes from the road. If you get an incoming call at an inconvenient time, if possible, let your voice mail answer it for you.

4. Suspend conversations during hazardous driving conditions or situations. Let the person you are speaking with know you are driving; if necessary, suspend the call in heavy traffic or hazardous weather conditions. Rain, sleet, snow and ice can be hazardous, but so is heavy traffic. As a driver, your first responsibility is to pay attention to the road.

5. Do not take notes or look up phone numbers while driving. If you are reading an address book or business card, or writing a "to do" list while driving a car, you are not watching where you are going. It'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 radiofrequency 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 radiofrequency 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 radiofrequency energy (RF) at a level that is hazardous to the user. In such a case, FDA could require the manufacturers of wireless phones to notify users of the health hazard and to repair, replace or recall the phones so that the hazard no longer exists.

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

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

best possible information on possible effects of wireless phone use on human health

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

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

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

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

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

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

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

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

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

5. What steps can I take to reduce my exposure to radiofrequency 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 radiofrequency energy (RF). Since time is a key factor in how much exposure a person receives, reducing the amount of time spent using a wireless phone will reduce RF exposure.

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

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

6. What about children using wireless phones?

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

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

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

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

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

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

9. What about wireless phone interference with medical equipment?

Radiofrequency 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.

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

The research done thus far has produced conflicting results, and many studies have suffered from flaws in their research methods. Animal experiments investigating the effects of radiofrequency 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 do not know with certainty what

the results of such studies mean for human health.

Three large epidemiology studies have been published since December 2000. Between them, the studies investigated any possible association between the use of wireless phones and primary brain cancer, glioma, meningioma, or acoustic neuroma, tumors of the brain or salivary gland, leukemia, or other cancers. None of the studies demonstrated the existence of any harmful health effects from wireless phone RF exposures.

However, none of the studies can answer questions about long-term exposures, since the average period of phone use in these studies was around three years.

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

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

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

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

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

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

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

National Institute for Occupational Safety and Health (NIOSH):
<http://www.cdc.gov/niosh/emfpg.html>

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

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

National Radiation Protection Board (UK):
<http://www.nrpb.org.uk>

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