Nokia 3120 classic User Guide

9207764 Issue 1

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Your device may cause TV or radio interference (for example, when using a telephone in close proximity to receiving equipment). The FCC or Industry Canada can require you to stop using your telephone if such interference cannot be eliminated. If you require assistance, contact your local service facility. This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference

received, including interference that may cause undesired operation. Any changes or modifications not expressly approved by Nokia could void the user's authority to operate this equipment.

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SAFETY

Read these simple guidelines. Not following them may be dangerous or illegal. Read the complete user guide for further information.



SWITCH ON SAFELY
Do not switch the device on when wireless
phone use is prohibited or when it may cause interference or danger.



ROAD SAFETY COMES FIRST Obey all local laws. Always keep your hands free to operate the vehicle while driving. Your first consideration while driving should be road safety.



INTERFERENCE

All wireless devices may be susceptible to interference, which could affect performance.

$\mathsf{S}\,\mathsf{A}\,\mathsf{F}\,\mathsf{E}\,\mathsf{T}\,\mathsf{Y}$



SWITCH OFF IN RESTRICTED AREASFollow any restrictions. Switch the device off in aircraft, near medical equipment, fuel, $chemicals, or \ blasting \ areas.$



QUALIFIED SERVICE Only qualified personnel may install or repair this product.



ENHANCEMENTS AND BATTERIES
Use only approved enhancements and batteries.
Do not connect incompatible products.



WATER-RESISTANCE Your device is not water-resistant. Keep it dry.

General information

■ About your device

The wireless device described in this guide is approved for use on the WCDMA 900 and 2100, and GSM 850, 900,1800, and 1900 networks. Contact your service provider for more information about networks.

When using the features in this device, obey all laws and respect local customs, privacy and legitimate rights of others, including copyrights.

Copyright protection may prevent some images, music, and other content from being copied, modified, or transferred.

Your device may have preinstalled bookmarks and links for third-party internet sites. You may also access other third-party sites through your device.

General information

Third-party sites are not affiliated with Nokia, and Nokia does not endorse or assume liability for them. If you choose to access such sites, you should take precautions for security or content.



Warning: To use any features in this device, other than the alarm clock, the device must be switched on. Do not switch the device on

when wireless device use may cause interference or danger.

Remember to make back-up copies or keep a written record of all important information stored in your device.

When connecting to any other device, read its user guide for detailed safety instructions. Do not connect incompatible products.

■ Network services

To use the phone you must have service from a wireless service provider. Many of the features require special network features. These features are not available on all networks; other networks may require that you make specific arrangements with your service provider before you can use the network services. Your service provider can give you instructions and explain what charges will apply. Some networks may have limitations that affect how you can use network services. For instance, some networks may not support all language-dependent characters and services.

Your service provider may have requested that certain features be disabled or not activated in your phone. If so, these features will not appear on your phone menu. Your phone may also have a special configuration such as changes in menu names, menu

General information

order, and icons. Contact your service provider for more information.

This device supports WAP 2.0 protocols (HTTP and SSL) that run on TCP/IP protocols. Some features of this device, such as multimedia messaging (MMS), browsing, e-mail application, instant messaging, remote synchronisation, and content downloading using the browser or MMS, require network support for these technologies.

■ Enhancements



Warning: Use only batteries, chargers, and enhancements approved by Nokia for use with this particular model. The use of any other types may invalidate any approval or warranty, and may be dangerous.

For availability of approved enhancements, please check with your dealer. When you disconnect the power cord of any enhancement, grasp and pull the plug, not the cord.

■ Access codes

Select **Menu** > *Settings* > *Security* to set how your phone uses the access codes and security settings.

• To prevent accidental key presses, use the keypad lock (keyguard).

Select Menu > Settings > Phone > Automatic keyguard or Security keyguard > On or Off. If the Security keyguard is set On, enter a security code of your choice when requested.

To unlock the keys, select **Unlock**, and press the * key

To answer a call when the keyguard is on, press the call key. When you end or reject the call, the keys are automatically locked.

• The security code helps to protect your phone against unauthorised use.

General information

- The PIN code, supplied with the SIM card, helps to protect the card against unauthorised use.
- The PIN2 code, supplied with some SIM cards, is required to access certain services.
- PUK and PUK2 codes may be supplied with the SIM card. If you enter the PIN or PIN2 code incorrectly three times in succession, you will be asked for the PUK or PUK2 code. If you do not have them, contact your service provider.
- The barring password (four digits) is required when using the *Call barring service* to restrict calls to and from your phone (network service).
- To view or change the security module settings, if installed, select Menu > Settings > Security > Security module sett..

■ Software updates



Important: Use only services that you trust and that offer adequate security and protection against harmful software.

Nokia may produce software updates that may offer new features, enhanced functions, or improved performance. You may be able to request these updates through the Nokia Software Updater PC application. To update the device software, you need the Nokia Software Updater application and a compatible PC with Microsoft Windows 2000, XP, or Vista operating system, internet access, and a compatible data cable to connect your device to the PC.

To get more information and to download the Nokia Software Updater application, visit www.nokia.com/ softwareupdate or your local Nokia website.

Downloading software updates may involve the transmission of large amounts of data through your service provider's network. Contact your service provider for information about data transmission charges.

General information

Make sure that the device battery has enough power, or connect the charger before starting the update.

If software updates over the air are supported by your network, you may also be able to request updates through the device. See "Phone," p. 69.

■ Download content

You may be able to download new content (for example, themes) to your phone (network service).

For the availability of different services, pricing, and tariffs, contact your service provider.



Important: Use only services that you trust and that offer adequate security and protection against harmful software.

■ Nokia support

Check www.nokia.com/support or your local Nokia website for the latest guides, additional information,

downloads, and services related to your Nokia product.

On the website, you can get information on the use of Nokia products and services. If you need to contact customer service, check the list of local Nokia contact centres at www.nokia.com/customerservice.

For maintenance services, check your nearest Nokia service centre at www.nokia.com/repair.

1. Get started

■ Install SIM card and battery

Always switch the device off and disconnect the charger before removing the battery.

The SIM card and its contacts can easily be damaged by scratches or bending, so be careful when handling, inserting, or removing the card. Insert the SIM card

with the gold-coloured contact area facing down (6-7).





■ Charge the battery

Charging the BL-4U battery with the AC-3 charger takes approximately 2 hours 15 minutes while the phone is in the standby mode.

- 1. Connect the charger to a wall socket.
- 2. Connect the lead from the charger to the charger connector at the bottom of your phone.



If the battery is completely discharged, it may take several minutes before the charging indicator appears on the display or before any calls can be made.

■ Switch the phone on and off

- 1. Press and hold the power key as shown.
- 2. If the phone asks for a PIN or a UPIN code, enter the code (for example, displayed as ****), and select **OK**.

When you switch on your phone for the first time, and the phone is in the standby mode, you are asked to obtain the configuration settings from your service provider (network service). Confirm or decline the query. See "Configuration," p. 71, and "Configuration settings service," p. 23.

■ Set the time, zone, and date

When you switch on your phone for the first time, the phone is in the standby mode, and you are asked to set the time and date. Fill in the fields, and select **Save**.

To access Date and time later, select Menu > Settings > Date and time > Date & time settings, Date and time format, or Auto-update of time (network service) to change the time, time zone, and date settings.

■ Configuration settings service

To use some of the network services, such as mobile internet services, MMS, Nokia Xpress audio messaging, or remote internet server synchronisation, your phone needs the correct configuration settings. For more information on availability, contact your network operator, service

provider, nearest authorised Nokia dealer, or visit the support area on the Nokia website, www.nokia.com/support.

When you have received the settings as a configuration message, and the settings are not automatically saved and activated, *Configuration settings received* is displayed. Select **Show** > **Save**. If required, enter the PIN code supplied by the service provider.

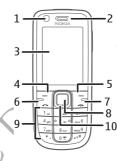
■ Antenna

Your device may have internal and external antennas. As with any radio transmitting device, avoid touching the antenna area unnecessarily while the antenna is transmitting or receiving. Contact with such an antenna affects the communication quality

affects the communication quality and may cause the device to operate at a higher power level than otherwise needed and may reduce the battery life.

■ Keys and parts

- 1. Front camera lens
- 2. Earpiece
- 3. Display
- 4. Left selection key
- 5. Right selection key
- 6. Call key
- 7. End key
- 8. Middle selection key
- 9. Keypad
- 10.Navi™ key (herein referred to as scroll key)

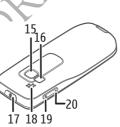




- 12.Charger connector
- 13.Enhancements connector
- 14. USB connector



- 15. Camera lens
- 16.Camera flash
- 17. Power key
- 18.Loudspeaker19.Volume up key/PTT
- 20. Volume down key



■ microSD memory card

The microSD memory card, inserted in your phone, can be loaded with data such as ringing tones, themes, tones, images and videos. If you delete, reload, or replace this card, these functions and features may not function properly.

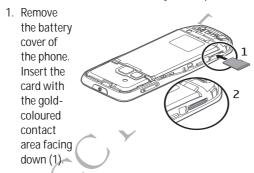
You can remove or replace a microSD card during phone operation without switching the phone off.

Use only compatible microSD cards approved by Nokia for use with this device. Nokia uses approved industry standards for memory cards, but some brands may not be fully compatible with this device. Incompatible cards may damage the card and the device and corrupt data stored on the card.



Important: Do not remove the memory card in the middle of an operation when the card is being accessed. Removing the card in the middle of an

operation may damage the memory card as well as the device, and data stored on the card may be corrupted.



2. Press the card into the slot until it clicks into place (2). Replace the battery cover.

■ Standby mode

When the phone is ready for use, and you have not entered any characters, the phone is in the standby mode.

- 1. 3G indicator
- 2. Signal strength of the cellular network
- 3. Battery charge level
- 4. Indicators. See "Indicators," p. 31.
- 5. Name of the network or the operator logo
- 6. Clock
- 7. Display
- 8. The left selection key is **Go to** or a shortcut to a function that you have selected. See "Left selection key," p. 60.

- 9. The middle selection key is **Menu**.
- 10. The right selection key may be **Names** to access the list of contacts in the *Contacts* menu, an operator-specific name to access an operator-specific website, or a shortcut to a function that you have selected. See "Right selection key," p. 60.

Indicators

- You have unread messages.
- The phone registered a missed call. See "Log," p. 54.
- The keypad is locked. See "Access codes," p. 15.
- The phone does not ring for an incoming call or text message when Incoming call alert

and Message alert tone are set to Off. See "Tones," p. 57.

- The alarm clock is set to **On**
- The alarm clock is 300. C.

 The packet data connection mode, Always

 The packet data and the packet data online is selected and the packet data service is available, the indicator is shown.
- $^{f \Box}$, $^{f E}$ A GPRS or EGPRS connection is established.
- $f \delta$, $m {\mathcal E}$ The GPRS or EGPRS connection is suspended (on hold).
- Bluetooth connectivity is activated. See * "Connecting with Bluetooth," p. 62.

■ Flight profile

You can deactivate all radio frequency functions and still have access to offline games, calendar, music player, and phone numbers. Use the flight profile in

radio sensitive environments—on board aircraft or in hospitals. When the flight profile is active, is shown.

Select **Menu** > *Settings* > *Profiles* > *Flight* > *Activate* or *Personalise*.

To set the phone to ask every time it is switched on whether to use the flight profile, select **Menu** > Settings > Phone > Flight query > On or Off.

To deactivate the flight profile, select any other profile.

In the offline or flight profiles, you may need to unlock the device and change to the calling profile before making a

Warning: With the flight profile you cannot make or receive any calls, including emergency calls, or use other features that require network coverage.

To make calls, you must first activate the phone function by changing profiles. If the device has been locked, enter the lock code. If you need to make an emergency call while the

Calls

device is locked and in the flight profile, you may be also able to enter an official emergency number programmed in your device in the lock code field and select 'Call'. The device will confirm that you are about to exit flight profile to start an emergency call.

2. Calls

■ Make a voice call

Do one of the following:

Enter the phone number, including the area code
if required, and press the call key.
 For international calls, press * twice for the
international prefix (the + character replaces the
international access code), enter the country
code, the area code without the leading 0, if
necessary, and the phone number.

- To list the last called numbers, press the call key once. To call one of the numbers, select it, and press the call key.
- Call a number saved in *Contacts*. See "Contacts," p. 51.

To increase or decrease the volume during a call, press the volume key up or down.

■ Answer or reject a call

To answer a call, press the call key. To end the call, press the end key.

To reject a call, press the end key.

To mute the ringing tone, select **Silence**.

■ Speed dialling

To assign a number to one of the speed-dialling keys, **3** to **9**:

Calls

- 1. Select **Menu** > *Contacts* > *Speed dials*.
- 2. Scroll to the speed-dialling number that you want.
- 3. Select **Assign**, or if a number has already been assigned to the key, select **Options** > *Change*.
- 4. Select **Search** and the contact you want to assign.

If the *Speed dialling* function is off, the phone asks whether you want to activate it.

Select **Menu** > *Settings* > *Call* > *Speed dialling* > *On* or *Off*.

To call a number, press and hold a speed-dialling key until the call begins.

■ Options during a call

Many of the options that you can use during a call are network services. For availability, contact your service provider.

Possible options that your service provider may offer include conference calls, video sharing and placing calls on hold.

■ Make a video call

- To start a video call, enter the phone number in the standby mode, or select **Contacts** and a contact.
- 2. Press and hold the call key, or select **Options** > *Video call*.

Starting a video call may take a while. *Video call* and an outgoing animation is shown. If the call does not succeed (for example, video calls are not supported by the network, or the receiving device is not compatible), you are asked if you want to try a voice call or send a message instead.

To increase or decrease the volume during a call, press the volume key up or down.

Calls

3. To end the call, press the end key.

When you make a video call, you send a real-time video to the recipient of the call. The video image captured by the camera on the front of your phone is shown to the video call recipient.

To make a video call, you must have a USIM card and be connected to a WCDMA network. For availability of and subscription to video call services, contact your network operator or service provider. A video call can only be made between two parties. The video call can be made to a compatible phone or an ISDN client. Video calls cannot be made while another voice, video, or data call is active.

During extended operation such as an active video call and high speed data connection, the device may feel warm. In most cases, this condition is normal. If you suspect the device is not working properly, take it to the nearest authorised service facility.

3. Messaging

■ Write and send a text message

- 1. Select Menu > Messaging > Create message > Message.
- 2. Enter one or more phone numbers in the *To:* field. To retrieve a phone number from a memory, select **Add**.
- Write your message in the *Text*: field.
 To use a text template, scroll down, and select Insert.
- 4. Select Send.

Messaging

■ Write and send a multimedia message

- Select Menu > Messaging > Create message > Message.
- 2. Enter one or more phone numbers or e-mail addresses in the *To:* field. To retrieve a phone number or e-mail address from a memory, select Add
- 3. Write your message. To add a file, scroll down, and select Insert.
- 4. To view the message before sending it, select **Options** > *Preview*.
- 5. Select **Send**.

Only devices that have compatible features can receive and display multimedia messages. The appearance of a message may vary depending on the receiving device.

The wireless network may limit the size of MMS messages. If the inserted picture exceeds this limit, the device may make it smaller so that it can be sent by MMS.

To check availability and to subscribe to the multimedia messaging service (MMS, network service), contact your service provider.

■ Read and reply to a message

- To view a received message, select Show.
 To read the message later, select Menu > Messaging > Inbox.
- 2. To reply to a message, select **Reply**. Write the reply message.
- 3. Select Send.



Important: Exercise caution when opening messages. Messages may contain malicious software or otherwise be harmful to your device or PC

Messaging

■ E-mail application

To activate the e-mail settings, select **Menu** > *Messaging* > *Message settings* > *E-mail messages*.

To use the e-mail function on your phone, you need a compatible e-mail system.

You may receive the e-mail configuration settings as a configuration message.

E-mail setup wizard

Select **Menu** > *Messaging* > *E-mail* and enter your e-mail address.

The e-mail application requires an internet access point without a proxy. WAP access points normally include a proxy and do not work with the e-mail application.

Write and send e-mail

You can write your e-mail message before connecting to the e-mail service; or connect to the service first, then write and send your e-mail.

- 1. Select Menu > Messaging > Create message > E-mail
 - If more than one e-mail account is defined, select the account from which you want to send the email.
- 2. Enter the recipient's e-mail address, write the subject, and enter the message. To attach a file to the e-mail, select **Options** > *Insert*.
 - To save your e-mail, select **Options** > *Save message*. To edit or continue writing your e-mail later, select *As draft message*.
- 3. To send the e-mail message, select **Send**.

Messaging

To send an e-mail from a draft folder, select **Menu** > **Messaging** > **Drafts** and the desired message.

Read and reply to e-mail

- 1. Select **Menu** > *Messaging*, the account name, and the desired message.
- 2. To reply to an e-mail, select **Options** > *Reply*. Confirm or edit the e-mail address and subject, and create your reply.
- To send the message, select **Send**.
 To end the e-mail session, select **Options** > *Disconnect*.



Important: Exercise caution when opening messages. Messages may contain malicious software or otherwise be harmful to your device or PC.

■ Message settings

General settings

General settings are common for text and multimedia messages.

Select **Menu** > *Messaging* > *Message settings* > *General settings* and from the following options:

Save sent messages — to save the sent messages in the Sent items folder

Overwrite sent items — to overwrite the old sent messages with the new ones when the message memory is full. This setting is shown only if you selected Save sent messages.

Favourite recipient — to define easily available message recipients or groups when sending messages

Font size — to select the font size used in messages

Messaging

Graphical smileys — to replace character-based smileys with graphical ones

Text messages

The text message settings affect the sending, receiving, and viewing of text messages.

Select **Menu** > *Messaging* > *Message settings* > *Text messages*, and from the following options:

Delivery reports — to receive delivery reports about your messages (network service)

Message centres — to add a message centre that is required for sending text messages. You receive the phone number of the message centre from your service provider.

Msg. centre in use — to select the message centre in use

Message validity — to select the length of time for which the network attempts to deliver your message

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Messages sent via — to select the format of the messages to be sent: Text, Paging, or Fax (network service)

Use packet data — to set GPRS as the preferred SMS bearer

Character support — to select how characters in the messages are sent. Select *Full* to send the characters as they are viewed.

Rep. via same centre—to allow the recipient of your message to send you a reply using your message centre (network service)

Multimedia messages

The message settings affect the sending, receiving, and viewing of multimedia messages. You may receive the configuration settings for multimedia messaging as a configuration message. See "Configuration settings service," p. 23. You can also

Messaging

enter the settings manually. See "Configuration," p. 71.

Select Menu > Messaging > Message settings > Multimedia messages and from the following options:

Delivery reports — to receive delivery reports about your messages (network service)

MMS creation mode — to restrict or allow various types of multimedia to be added to messages

Image size in MMS — to set the image size in multimedia messages

Default slide timing — to define the default time between slides in multimedia messages

Allow MMS receptn. — to allow or block a multimedia message. If you select *In home network*, you cannot receive multimedia messages when outside your home network. The default setting is generally *In*

home network. The availability of this menu depends on your phone.

Incoming MMS msgs. — to decide how multimedia messages are retrieved. This setting is not shown if *Allow MMS receptn.* is set to *No*.

Allow adverts — to receive or reject advertisements. This setting is not shown if Allow MMS receptn. is set to No, or Incoming MMS msgs. is set to Reject.

Configuration sett. — to view the configurations that support multimedia messaging. Select a service provider, Default, or Personal config. for multimedia messaging. Select Account and a MMS account contained in the active configuration settings.

E-mail messages

The e-mail settings affect the sending, receiving, and viewing of e-mail. You may receive the settings as a configuration message. See "Configuration settings"

Messaging

service," p. 23. You can also enter the settings manually. See "Configuration," p. 71.

Select **Menu** > *Messaging* > *Message settings* > *E-mail messages*, and from the following options:

New e-mail notif. — to select whether a notification is shown when new e-mail is received

Allow mail reception — to select whether e-mail can be received when you are outside your home network

Reply with orig. msg. — to select whether the original message is included in the reply

Image size in e-mail — to select the size of images in e-mail

Edit mailboxes — to add new mailboxes or edit one in use

4. Contacts

You can save names and phone numbers (contacts) in the phone memory and in the SIM card memory.

■ Save names and phone numbers

Select **Menu** > *Contacts* > *Names* > **Options** > *Add new contact*. Names and numbers are saved in the phone memory.

■ Add contact details

Select **Menu** > **Contacts** > **Settings**, and ensure that the **Memory in use** is **Phone** or **Phone and SIM**. In the phone memory, you can save different types of phone numbers, a tone or a video clip, and short text items for a contact.

Contacts

Search for the contact to which you want to add a detail, and select **Details** > **Options** > *Add detail*. Select from the available options.

■ Search for a contact

Select **Menu** > *Contacts* > *Names*. Scroll through the list of contacts, or enter the first characters of the name you are searching for.

■ Copy or move contacts

You can move and copy contacts from the phone memory to the SIM card memory or vice versa. The SIM card can save names with one phone number attached to them.

To move or copy all contacts, select **Menu** > Contacts > Move contacts or Copy contacts.

To move or copy contacts one by one, select Menu > Contacts > Names. Scroll to the contact, and select Options > Move contact or Copy contact.

To move or copy multiple contacts, select Menu > Contacts > Names. Scroll to a contact, and select Options > Mark. Mark the other contacts, and select Options > Move marked or Copy marked.

■ Edit contacts

Select **Menu** > *Contacts* > *Names*. Scroll to the contact, and select **Options** > *Edit*, and scroll to the details you want to change.

■ Groups

Select **Menu** > **Contacts** > **Groups** to arrange the names and phone numbers into caller groups with different ringing tones and group images.

■ Contact settings

Select **Menu** > *Contacts* > *Settings*, and from the following options:

Memory in use — See "Add contact details," p. 51.

Contacts view — to select how the names and numbers in *Contacts* are displayed

Name display — to select whether the contact's first or last name is displayed first

Font size — to set the font size for the list of contacts

Memory status — to view the free and used memory capacity

5. Log

Select **Menu** > Log > Missed calls, Received calls, or Dialled numbers. To view your recent missed and received calls and dialled numbers chronologically, select *All calls*. To view the contacts to whom you most recently sent messages, select Msg. recipients.

To view how many text and multimedia messages you have sent and received, select Menu > Log > Message log.



Note: The actual invoice for calls and services from your service provider may vary, depending on network features, rounding off for billing, taxes, and so forth.

Settings 6.

■ Profiles

Select Menu > Settings > Profiles, the desired profile, and from the following options:

Activate — to activate the selected profile

Personalise — to customise the profile with ringing tones, ringing volume, vibrating alerts, light effects, and message alert tones.

Timed — to set the profile to be active for a certain time up to 24 hours. After this time the previous profile becomes active.

■ Themes

Select **Menu** > *Settings* > *Themes*, and from the following options:

Select theme — to set a theme. A list of folders in *Gallery* opens. Open the *Themes* folder, and select a theme.

Theme downloads — to open a list of links to download more themes

■ Tones

Select Menu > Settings > Tones.

Select **Options** > *Save* to save the settings or *Cancel* to leave the settings unchanged.

If you select the highest ringing tone level, the ringing tone reaches its highest level after a few seconds.

■ Display

To personalise your display view, adjust the display settings.

Standby mode settings

Select **Menu** > **Settings** > **Display**, and from the following options:

Wallpaper — to set your phone to display an image or a slide as wallpaper in the standby mode. Select

Wallpapers > Image or Slide set, scroll to a folder, and select an image or slide set.

Active standby — to select whether the active standby mode is used.

Standby font colour — to select the colour for the texts on the display in the standby mode

Navigation key icons — to display the icons of the current scroll key shortcuts in the standby mode when active standby is off

Notification details — to show or hide details such as contact information, in both missed call and message received notifications

Screen saver — to display a shifting pattern or image when no function of the phone is used for a certain time.

Powersaver— to save battery power, a digital clock is displayed when no function of the phone is used for a certain time

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 ${\it Sleep \, mode}$ — to save battery power, the display turns black when no function of the phone is used for a certain time

Font size — to set the font size for reading and writing messages, and viewing contacts and web pages

Operator logo — to set your phone to display or hide the operator logo, if available

Cell info display — to receive information from the network operator depending on the network cell used (network service)

■ Date and time

Select Menu > Settings > Date and time > Date & time settings, Date and time format, or Auto-update of time (network service) to change the time, time zone, and date settings.

■ My shortcuts

Personal shortcuts give you quick access to frequently used functions of the phone.

Left selection key

To select a function from the list, select **Menu** > Settings > My shortcuts > Left selection key.

Right selection key

To select a function from the list, select **Menu** > Settings > My shortcuts > Right selection key.

Navigation key

To assign other phone functions from a predefined list to the scroll key, select **Menu** > **Settings** > **My shortcuts** > **Navigation key**

Active standby key

To select a function from the list, select **Menu** > Settings > My shortcuts > Active standby key.

■ Sync and backup

Select **Menu** > **Settings** > **Sync and backup**, to synchronise or copy data between your phone and another phone or remote server (network service).

Phone switch — to synchronise or copy data between two phones

Create backup — to create a backup of selected content and store it to your phone memory

Restore backup — to restore content previously backed up on your phone memory

Server sync— to synchronise data between your phone and a server

■ Connectivity

You can connect your phone to a compatible device using Bluetooth wireless technology or a USB data cable.

Connecting with Bluetooth

This device is compliant with Bluetooth Specification 2.0 supporting the following profiles: advanced audio distribution, audio video remote control, dial-up networking, file transfer, géneric access, generic object exchange, generic audio/video distribution9, hands-free, headset, object push phonebook access, serial port, service discovery application, and SIM access. To ensure interoperability between other devices supporting Bluetooth technology, use Nokia approved enhancements for this model. Check with the manufacturers of other devices to determine their compatibility with this device. Bluetooth technology allows you to connect your phone to a compatible Bluetooth phone within a 10

meter (33 feet) range. Since phones using Bluetooth technology communicate using radio waves, your phone and the other phones do not need to be in direct line of sight, although the connection can be subject to interference from obstructions, such as walls, or from other electronic devices.

Features using Bluetooth technology increase the demand on battery power and reduce the battery life.

Activate a Bluetooth connection

Select Menu > Settings > Connectivity > Bluetooth > On

Select *My phone's name*, to set or change the name of your phone that is visible to other Bluetooth devices.

Indicates that Bluetooth is active. Remember that Bluetooth uses battery power and may reduce battery life.

Connect a Bluetooth device

Select **Menu** > **Settings** > **Connectivity** > **Bluetooth** > **Connect audio enhan.** and the device that you want to connect to.

View a list of your Bluetooth connections

Select Menu > Settings > Connectivity > Bluetooth > Active devices.

Send data to a Bluetooth device

Select Menu > Settings > Connectivity > Bluetooth > Paired devices. Select the device that you want to connect to, and enter a passcode. To connect to another device, you must agree on a passcode (up to 16 characters) to use. You only use the passcode once to set up the connection and begin transferring data.

If you do not see the device on the list, select **New** to list Bluetooth devices in range.

Hide your Bluetooth device from others

Select **Menu** > *Settings* > *Connectivity* > *Bluetooth* > *My phone's visibility.* Select *Hidden*, or turn off Bluetooth completely.

Synchronise from a compatible PC

To synchronise data from calendar, notes, and contacts, install the Nokia PC Suite software for your phone on a compatible PC. Use Bluetooth wireless technology or a USB data cable, for the synchronisation, and start the synchronisation from the PC.

Synchronise from a server

To use a remote internet server, subscribe to a synchronisation service. For more information and the settings required for this service, contact your service provider.

USB data cable

You can use the USB data cable, CA-101, to transfer data between the phone and a compatible PC or a printer supporting PictBridge. You can also use the USB data cable with Nokia PC Suite.

Ask on conn. — to set your phone to ask whether to accept a connection

PC Suite — to use your phone to interact with applications on a PC that has Nokia PC Suite

Printing & Media — to use your phone with a PictBridge compatible printer, or to connect your

phone to a PC to synchronise it with Windows Media Player (music, video)

Data storage — to connect to a PC that does not have Nokia software and use your phone for data storage To change the USB mode, select Menu > Settings > Connectivity > USB data cable > Ask on conn., PC Suite, Printing & Media, or Data storage.

■ Call

Select **Menu** > *Settings* > *Call*, and from the following options:

Call divert — to divert your incoming calls (network service). You may not be able to divert your calls if some call barring functions are active. See Call barring service in "Access codes," p. 15.

Anykey answer > On — to answer an incoming call by briefly pressing any key, except the power key, the left and right selection keys, or the end key

Automatic redial — to make a maximum of 10 attempts to connect the call after an unsuccessful call attempt

Voice clarity — to enhance speech intelligibility, especially in noisy environments

Speed dialling — See "Speed dialling," p. 35.

Call waiting — to receive a notification when you have an incoming call while you are on a call (network service).

Summary after call — to display the approximate duration and cost (network service) of the call after each call

Send my caller ID — to show your phone number to a person you are calling (network service). To use the setting agreed upon with your service provider, select Set by network.

Video sharing — to define video sharing settings

■ Phone

Select **Menu** > *Settings* > *Phone*, and from the following options:

Language settings — to set the display language of your phone, select *Phone language. Automatic* selects the language according to the information on the SIM card. To select the USIM card language, select *SIM language*. To set a language for the voice playback, select *Recognition lang*..

Memory status — to view the amount of used and available phone memory

Automatic keyguard — See "Access codes," p. 15.

Security keyguard — See "Access codes," p. 15.

Voice recognition — to make a phone call by saying the name that is saved in Contacts.

Flight query — See "Flight profile," p. 32.

Welcome note — to write the note that is shown when the phone is switched on

Phone updates — to update your phone software if there is an update available

Network mode — to select dual mode (UMTS or GSM). You cannot access this option during an active call.

Operator selection — to set the phone to automatically select one of the cellular networks available in your area, select Automatic. With Manual, you can select a network that has a roaming agreement with your service provider.

Help text activation — to select whether the phone shows help texts

Start-up tone — to select whether the phone plays a tone when it is switched on

■ Enhancements

This menu or the following options are shown if the phone is, or has been, connected to a compatible mobile enhancement.

Select **Menu** > **Settings** > **Enhancements**. Select an enhancement and, depending on the enhancement, from the following options:

Default profile — to select the profile that you want to be automatically activated when you connect to the selected enhancement

Automatic answer — to set the phone to answer an incoming call automatically after 5 seconds. If Menu > Settings > Tones > Incoming call alert is set to Beep once or Off, automatic answer is off.

■ Configuration

You can configure your phone with settings that are required for certain services to function correctly.

Your service provider may also send you these settings as a configuration message.

Select **Menu** > *Settings* > *Configuration* and from the following options:

Default config. sett. — to view the service providers saved in the phone. To set the configuration settings of the service provider as default settings, select Options > Set as default.

Activ. def. in all apps. — to activate the default configuration settings for supported applications

Preferred access pt. — to view the saved access points. Scroll to an access point, and select **Options** > Details to view the name of the service provider, data bearer, and packet data access point or GSM dial-up number.

Connect to support — to download the configuration settings from your service provider

Personal config. sett.—to add new personal accounts for various services manually, and to activate or delete them. The parameters differ according to the selected service type.

■ Restore factory settings

To reset some of the menu settings to their original values, select **Menu** > *Settings* > *Rest. factory sett.* Enter the security code. The names and phone numbers saved in *Contacts* are not deleted.

■ Phone software updates

Your service provider may send phone software updates over the air directly to your device. This option may not be available, depending on your phone.

PC connectivity

Warning: If you install a software update, you cannot use the device, even to make emergency calls, until the installation is completed and the device is restarted. Be sure to back up data before accepting installation of an update.

7. PC connectivity

You can send and receive e-mail, and access the internet when your phone is connected to a compatible PC through a Bluetooth connection or a data cable. You can use your phone with a variety of PC connectivity and data communications applications.

■ Nokia PC Suite

With Nokia PC Suite, you can synchronise contacts, calendar, notes, and to-do notes between your phone

and a compatible PC or a remote internet server (network service). You may find more information and PC Suite at www.nokia.com/support or your local Nokia website.

■ Data communication applications

For information on using a data communication application, refer to the documentation provided with it.

Making or answering phone calls during a computer connection is not recommended, as it might disrupt the operation.

For better performance during data calls, place the phone on a stationary surface with the keypad facing downward. Do not move the phone by holding it in your hand during a data call.

Media

8. Media

You can take photos or record live video clips with the built-in 2.0-megapixel camera.

■ Camera

The camera produces pictures in .jpg format, and you can digitally zoom up to eight times.

Take an image

Select **Menu** > *Media* > *Camera* > **Capture**. To take another image, select **Back**; to send the image as a multimedia message, select **Send**. Your phone saves the image in *Gallery* > *Images*.

To zoom in or out, press the volume key up or down.

■ Video

You can record video clips in .3gp or .mp4 format.

To set the quality of your video clips, select Menu > Media > Video > Options > Settings > Video clip quality > High, Normal, or Basic.

To select the file size limit, select Menu > Media > Video > Options > Settings > Video clip length.

Record a video clip

Select **Menu** > *Media* > *Video* > **Record**. To zoom in or out, press the volume key up or down.

■ Music player

Your phone includes a music player for listening to music tracks, recordings, or other MP3, MPEG4, AAC, eAAC+, or WMA music files that you have transferred

Media

to the phone with the Nokia Audio Manager application, which is part of Nokia PC Suite.

To open the music player, select Menu > Media > Music player.

<u>Radio</u>

The FM radio depends on an antenna other than the wireless device antenna. A compatible headset or enhancement needs to be attached to the device for the FM radio to function properly.



Warning: Listen to music at a moderate level.
Continuous exposure to high volume may damage your hearing. Do not hold the device near your ear when the loudspeaker is in use, because the volume may be extremely loud.

Select Menu > Media > Radio. To use the graphical keys ▲, ▼, ◄, or ▶ on the display, scroll left or right to the key you want, and select it.

Save stations

- To search for radio stations, select and hold ◀ or ►. To change the radio frequency in 0.05 MHz steps, press ◄ or ►.
- 2. To save the station to a memory location 1 to 9, press and hold the corresponding number key.
- 3. To save the station in a memory location from 10 to 20, press 1 or 2, and press and hold a number key from 0 to 9.
- 4. Enter the name of the station, and select \mathbf{OK} .

Listen

- 1. Select Menu > Media > Radio.
- 2. To scroll to the radio station you want, select ${\color{red} \triangle}$ or ${\color{red} \nabla}$, or press the headset key.
- 3. To select a radio station location, briefly press the corresponding number keys.
- 4. Select **Options** and one of the following options:

Media

Switch off — to turn off the radio

Save station — to save a new radio station by entering the station's name. This option is only displayed when the selected radio station is not saved.

Stations — to select a saved station from the list. It is only possible to enter the station list if the selected station has been previously saved.

Search all stations — to search for all radio stations that the phone can receive

Set frequency — to enter the frequency of the radio station.

Settings — to change the Radio Data System (RDS) settings, select RDS on or RDS off. When RDS is on, you can select Auto-freq. change on to change to another frequency containing the same radio station when the original signal becomes weak.

Station directory— to open the Visual Radio service using a web link to a radio station guide

Visual Radio — to set whether the Visual Radio application is used. Some radio channels may send text or graphical information that you can view using Visual Radio.

Enable visual service — to set whether the Visual Radio application starts automatically when you turn on the radio

You can normally make a call or answer an incoming call while listening to the radio. During the call, the volume of the radio is muted.

When an application using a packet data or HSCSD connection is sending or receiving data, it may interfere with the radio.

Your device is powered by a rechargeable battery. The battery intended for use with this device is BL-4U. This device is intended for use when supplied with power from the following chargers: AC-3. The battery can be charged and discharged hundreds of times, but it will eventually wear out. When the talk and standby times are noticeably shorter than normal, replace the battery. Use only Nokia approved batteries, and recharge your battery only with Nokia approved chargers designated for this device. Use of an unapproved battery or charger may present a risk of fire, explosion, leakage, or other hazard.

If a battery is being used for the first time or if the battery has not been used for a prolonged period, it may be necessary to connect the charger, then disconnect and reconnect it to begin charging the battery. If the battery is completely discharged, it may take several minutes before

the charging indicator appears on the display or before any calls can be made.

Always switch the device off and disconnect the charger before removing the battery.

Unplug the charger from the electrical plug and the device when not in use. Do not leave a fully charged battery connected to a charger, since overcharging may shorten its lifetime. If left unused, a fully charged battery will lose its charge over time.

Always try to keep the battery between 15°C and 25°C (59°F and 77°F). Extreme temperatures reduce the capacity and lifetime of the battery. A device with a hot or cold battery may not work temporarily. Battery performance is particularly limited in temperatures well below freezing.

Do not short-circuit the battery. Accidental short-circuiting can occur when a metallic object such as a coin, clip, or pen causes direct connection of the positive (+) and negative (-) terminals of the battery. (These look like metal strips on the battery.) This might happen, for example, when you carry a spare battery in your pocket or purse. Short-

circuiting the terminals may damage the battery or the connecting object. $\,$

Do not dispose of batteries in a fire as they may explode. Batteries may also explode if damaged. Dispose of batteries according to local regulations. Please recycle when possible. Do not dispose as household waste.

Do not dismantle, cut, open, crush, bend, deform, puncture, or shred cells or batteries. In the event of a battery leak, do not allow the liquid to come in contact with the skin or eyes. In the event of such a leak, flush your skin or eyes immediately with water, or seek medical help.

Do not modify, remanufacture, attempt to insert foreign objects into the battery, or immerse or expose it to water or other liquids.

Improper battery use may result in a fire, explosion, or other hazard. If the device or battery is dropped, especially on a hard surface, and you believe the battery has been damaged, take it to a service centre for inspection before continuing to use it.

Use the battery only for its intended purpose. Never use any charger or battery that is damaged. Keep your battery out of the reach of small children.

Nokia battery authentication guidelines

Always use original Nokia batteries for your safety. To check that you are getting an original Nokia battery, purchase it from an authorised Nokia dealer, and inspect the hologram label using the following steps:

Successful completion of the steps is not a total assurance of the authenticity of the battery. If you have any reason to believe that your battery is not an authentic, original Nokia battery, you should refrain from using it, and take it to the nearest authorised. Nokia service point or dealer for assistance. Your authorised Nokia service point or dealer will inspect the battery for authenticity. If authenticity cannot be verified, return the battery to the place of purchase.

Authenticate hologram



1. When you look at the hologram on the label, you should see the Nokia connecting hands symbol from one angle and the Nokia Original Enhancements logo when looking from another angle.



2. When you angle the hologram left, right, down and up, you should see 1, 2, 3 and 4 dots on each side respectively.

What if your battery is not authentic?

If you cannot confirm that your Nokia battery with the hologram on the label is an authentic Nokia battery, please do not use the battery. Take it to the nearest authorised

Nokia service point or dealer for assistance. The use of a battery that is not approved by the manufacturer may be dangerous and may result in poor performance and damage to your device and its enhancements. It may also invalidate any approval or warranty applying to the device.

To find out more about original Nokia batteries, visit www.nokia.com/battery.

Care and maintenance

Your device is a product of superior design and craftsmanship and should be treated with care. The following suggestions will help you protect your warranty coverage.

- Keep the device dry. Precipitation, humidity, and all types of liquids or moisture can contain minerals that will corrode electronic circuits. If your device does get wet, remove the battery, and allow the device to dry completely before replacing it.
- Do not use or store the device in dusty, dirty areas. Its moving parts and electronic components can be damaged.
- Do not store the device in hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.
- Do not store the device in cold areas. When the device returns to its normal temperature, moisture can form inside the device and damage electronic circuit boards.

Care and maintenance

- Do not attempt to open the device other than as instructed in this guide.
- Do not drop, knock, or shake the device. Rough handling can break internal circuit boards and fine mechanics.
- Do not use harsh chemicals, cleaning solvents, or strong detergents to clean the device.
- Do not paint the device. Paint can clog the moving parts and prevent proper operation.
- Use a soft, clean, dry cloth to clean any lenses, such as camera, proximity sensor, and light sensor lenses.
- Use only the supplied or an approved replacement antenna. Unauthorised antennas, modifications, or attachments could damage the device and may violate regulations governing radio devices.
- Use chargers indoors.
- Always create a backup of data you want to keep, such as contacts and calendar notes.
- To reset the device from time to time for optimum performance, power off the device and remove the battery.

Care and maintenance

These suggestions apply equally to your device, battery, charger, or any enhancement. If any device is not working properly, take it to the nearest authorised service facility for service.



Disposal

The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that all electrical and electronic products,

batteries, and accumulators must be taken to separate collection at the end of their working life. This requirement applies to the European Union and other locations where separate collection systems are available. Do not dispose of these products as unsorted municipal waste.

By returning the products to collection you help prevent uncontrolled waste disposal and promote the reuse of material resources. More detailed information is available from the product retailer, local waste authorities, national producer responsibility organizations, or your local Nokia representative. For the product Eco-Declaration or instructions for returning your obsolete product, go to country-specific information at www.nokia.com.

■ Small children

Your device and its enhancements may contain small parts. Keep them out of the reach of small children.

■ Operating environment

This device meets RF exposure guidelines when used either in the normal use position against the ear or when positioned at least 1.5 centimeters (5/8 inch) away from the body. When a carry case, belt clip, or holder is used for body-worn operation, it should not contain metal and should position the device the above-stated distance from your body.

To transmit data files or messages, this device requires a quality connection to the network. In some cases, transmission of data files or messages may be delayed until such a connection is available. Ensure the above separation distance instructions are followed until the transmission is completed.

Parts of the device are magnetic. Metallic materials may be attracted to the device. Do not place credit cards or other magnetic storage media near the device, because information stored on them may be erased.

■ Medical devices

Operation of any radio transmitting equipment, including wireless phones, may interfere with the functionality of inadequately protected medical devices. Consult a physician or the manufacturer of the medical device to determine if they are adequately shielded from external RF energy or if you have any questions. Switch off your device 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.

Implanted medical devices

Manufacturers of medical devices recommend that a minimum separation of 15.3 centimeters (6 inches) should be maintained between a wireless device and an implanted

medical device, such as a pacemaker or implanted cardioverter defibrillator, to avoid potential interference with the medical device. Persons who have such devices should:

- Always keep the wireless device more than 15.3 centimeters (6 inches) from the medical device when the wireless device is turned on.
- Not carry the wireless device in a breast pocket.
- Hold the wireless device to the ear opposite the medical device to minimise the potential for interference.
- Turn the wireless device off immediately if there is any reason to suspect that interference is taking place.
- Read and follow the directions from the manufacturer of their implanted medical device.

If you have any questions about using your wireless device with an implanted medical device, consult your health care provider.

Hearing aids

Some digital wireless devices may interfere with some hearing aids. If interference occurs, consult your service provider.

■ Vehicles

RF signals may affect improperly installed or inadequately shielded electronic systems in motor vehicles such as electronic fuel injection systems, electronic antiskid (antilock) braking systems, electronic speed control systems, and air bag systems. For more information, check with the manufacturer, or its representative, of your vehicle or any equipment that has been added.

Only qualified personnel should service the device or install the device in a vehicle. Faulty installation or service may be dangerous and may invalidate any warranty that may apply to the device. Check regularly that all wireless device 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 device, its parts, or enhancements. For vehicles equipped with an

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

Using your device while flying in aircraft is prohibited. Switch off your device before boarding an aircraft. The use of wireless teledevices in an aircraft may be dangerous to the operation of the aircraft, disrupt the wireless telephone network, and may be illegal.

■ Potentially explosive environments

Switch off your device when in any area with a potentially explosive atmosphere, and obey all signs and instructions. Potentially explosive atmospheres include areas where you would normally be advised to turn off your vehicle engine. Sparks in such areas could cause an explosion or fire resulting in bodily injury or even death. Switch off the device at refuelling points such as near gas pumps at service stations. Observe restrictions on the use of radio equipment

in fuel depots, 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 and areas where the air contains chemicals or particles such as grain, dust, or metal powders. You should check with the manufacturers of vehicles using liquefied petroleum gas (such as propane or butane) to determine if this device can be safely used in their vicinity.

■ Emergency calls



Important: This device operates using radio signals, wireless networks, landline networks, and user-programmed functions. If your device

supports voice calls over the internet (internet calls), activate both the internet calls and the cellular phone. The device will attempt to make emergency calls over both the cellular networks and through your internet call provider if both are activated. Connections in all conditions cannot be guaranteed. You should never rely solely on any wireless

device for essential communications like medical emergencies.

To make an emergency call:

- If the device is not on, switch it on. Check for adequate signal strength. Depending on your device, you may also need to complete the following:
 - Insert a SIM card if your device uses one.
 - Remove certain call restrictions you have activated in your device.
 - Change your profile from offline or flight profile mode to an active profile.
- 2. Press the end key as many times as needed to clear the display and ready the device for calls.
- 3. Enter the official emergency number for your present location. Emergency numbers vary by location.
- 4. Press the call key.

When making an emergency call, give all the necessary information as accurately as possible. Your wireless device

may be the only means of communication at the scene of an accident. Do not end the call until given permission to do so.

■ Certification information (SAR)

This mobile device meets guidelines for exposure to radio waves.

Your mobile device is a radio transmitter and receiver. It is designed not to exceed the limits for exposure to radio waves recommended by international guidelines. These guidelines were developed by the independent scientific organization ICNIRP and include safety margins designed to assure the protection of all persons, regardless of age and health

The exposure guidelines for mobile devices employ a unit of measurement known as the Specific Absorption Rate or SAR. The SAR limit stated in the ICNIRP guidelines is 2.0 watts/kilogram (W/kg) averaged over 10 grams of tissue. Tests for SAR are conducted using standard operating positions with the device transmitting at its highest certified power level in all tested frequency bands. The actual SAR level of an operating device can be below the

maximum value because the device is designed to use only the power required to reach the network. That amount changes depending on a number of factors such as how close you are to a network base station. The highest SAR value under the ICNIRP guidelines for use of the device at the ear is 0.86 W/kg.

Use of device accessories and enhancements may result in different SAR values. SAR values may vary depending on national reporting and testing (equirements and the network band. Additional SAR information may be provided under product information at www.nokia.com.

Your mobile device is also designed to meet the requirements for exposure to radio waves established by the Federal Communications Commission (USA) and Industry Canada. These requirements set a SAR limit of 1.6 W/kg averaged over one gram of tissue. The highest SAR value reported under this standard during product certification for use at the ear is 0.88 W/kg and when properly worn on the body is 0.96 W/kg.

APPENDIX

■ A message from the CTIA

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. Ouite 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.

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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"

 Get to know your wireless phone and its features such as speed dial and redial. Carefully read your instruction manual and learn to take advantage of valuable

features most phones offer, including automatic redial and memory. Also, work to memorize the phone keypad so you can use the speed dial function without taking your attention off the road.

- When available, use a hands free device. A number of hands free wireless phone accessories are readily available today. Whether you choose an installed mounted device for your wireless phone or a speaker phone accessory, take advantage of these devices if available to you.
- 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
- 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

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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 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.
- 9. 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!
- 10. Use your wireless phone to help others in emergencies. Your wireless phone provides you a perfect opportunity

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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.

11. Call roadside assistance or a special wireless nonemergency 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.

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

■ Message from the FDA

See http://www.fda.gov/cellphones/ for updated information.

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.

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.

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.

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

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exposure from these products, you can use measures like those described above to reduce your RF exposure from wireless phone use.

What about children using wireless phones?

The scientific evidence does not show a danger to users of wireless phones, including children and teenagers. If you want to take steps to lower exposure to 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.

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

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

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

Since there are no known risks from exposure to RF emissions from wireless phones, there is no reason to believe that accessories that claim to shield the head from

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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 "handfree" 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.

How does FCC Audit Cell Phone RF?

After FCC grants permission for a particular cellular telephone to be marketed, FCC will occasionally conduct "post-grant" testing to determine whether production versions of the phone are being produced to conform with FCC regulatory requirements. The manufacturer of a cell phone that does not meet FCC's regulatory requirements

may be required to remove the cell phone from use and to refund the purchase price or provide a replacement phone, and may be subject to civil or criminal penalties. In addition, if the cell phone presents a risk of injury to the user, FDA may also take regulatory action. The most important postgrant test, from a consumer's perspective, is testing of the RF emissions of the phone. FCC measures the Specific Absorption Rate (SAR) of the phone, following a very rigorous testing protocol. As is true for nearly any scientific measurement, there is a possibility that the test measurement may be less than or greater than the actual RF emitted by the phone. This difference between the RF test measurement and actual RF emission is because test measurements are limited by instrument accuracy, because test measurement and actual use environments are different, and other variable factors. This inherent variability is known as "measurement uncertainty." When FCC conducts post-grant testing of a cell phone, FCC takes into account any measurement uncertainty to determine whether regulatory action is appropriate. This approach

ensures that when FCC takes regulatory action, it will have a sound, defensible scientific basis.

FDA scientific staff reviewed the methodology used by FCC to measure cell phone RF, and agreed it is an acceptable approach, given our current understanding of the risks presented by cellular phone RF emissions. RF emissions from cellular phones have not been shown to present a risk of injury to the user when the measured SAR is less than the safety limits set by FCC (an SAR of 1.6 w/kg). Even in a case where the maximum measurement uncertainty permitted by current measurement standards was added to the maximum permissible SAR, the resulting SAR value would be well below any level known to produce an acute effect. Consequently, FCC's approach with measurement uncertainty will not result in consumers being exposed to any known risk from the RF emitted by cellular telephones. FDA will continue to monitor studies and literature reports concerning acute effects of cell phone RF, and concerning chronic effects of long-term exposure to cellular telephone RF (that is, the risks from using a cell phone for many years). If new information leads FDA to believe that a change to

FCC's measurement policy may be appropriate, FDA will contact FCC and both agencies will work together to develop a mutually-acceptable approach.

Updated July 29, 2003