# Network

## OPERATOR SELECTION

Choose **Automatic** to set the phone to automatically search for and select one of the cellular networks available in your area.

Or, choose **Manual** if you want to select the desired network manually from a list of networks. If the connection to the manually selected network is lost, the phone will sound an error tone and ask you to select a network again. The selected network must have a roaming agreement with your home network, that is, the operator whose SIM card is in your phone.

## CELL INFO DISPLAY

Select **On** to set the phone to indicate when it is used in a cellular network based on Micro Cellular Network (MCN) technology and to activate cell info reception.

# Enhancement

Scroll to an enhancement folder and open the settings:

- Select **Default profile** to select the profile you want to be activated each time when you connect a certain enhancement to your phone. See "Change the profile" on page 78.

- Select **Automatic answer** to set the phone to answer an incoming call automatically after five seconds time. If the **Incoming call alert** is set to **Beep once** or **Silent**, automatic answer cannot be used, and you must answer the phone manually.

- If you are using an enhancement such as a loopset, headset, or TTY adapter, you must activate it separately by selecting **Menu** > **Tools** > **Settings** > **Enhancement** > **Enhancement in use** > **Headset**, **Loopset**, or **TTY**. If you have activated a loopset, the headset will use the same settings as the loopset.

See also "Enhancement indicators" on page 15.

# Security

## PHONE AND SIM

If your phone requests a security code, refer to the following explanations to determine what you should enter:

- **PIN code (4 to 8 digits)**—The PIN (Personal Identification Number) code protects your SIM card against unauthorized use. The PIN code is usually supplied with the SIM card.

  After three consecutive incorrect PIN code entries, the PIN code is blocked. If the PIN code is blocked, you need to unblock the PIN code before you can use

the SIM card again. See also the information below about the PUK code.

- **PIN2 code (4 to 8 digits)**—The PIN2 code is supplied with some SIM cards and is required to access some functions, such as fixed dialing numbers (FDN).

- **Lock code (5 digits)—**The lock code can be used to lock the phone and keypad to avoid unauthorized use.

> **Note:** The factory setting for the lock code is **12345**. To avoid unauthorized use of your phone, change the lock code. Keep the new code secret and in a safe place separate from your phone.

- **PUK and PUK2 codes (8 digits)**—The PUK (Personal Unblocking Key) code is required to change a blocked PIN code. The PUK2 code is required to change a blocked PIN2 code. If the codes are not supplied with the SIM card, contact the operator whose SIM card is in your phone for the codes.

You can change the following codes: lock code, PIN code, and PIN2 code. These codes can only include the numbers from **0** to **9**.

> **Note:** Avoid using access codes similar to emergency numbers, such as 911, to prevent accidental dialing of the emergency number.

**PIN code request**—When the PIN code request is active, the code is requested each time the phone is switched on. Note that deactivating the PIN code request may not be allowed by some SIM cards.

**PIN code / PIN2 code / Lock code**—Open this setting if you want to change the code.

**Autolock period**—You can set an autolock period, a time-out after which the phone is automatically locked and can be used only if the correct lock code is entered. Key in a number for the time-out in minutes or select **None** to turn off the autolock period.

To unlock the phone, key in the lock code.

> **Note:** When the phone is locked, calls may be possible to the emergency number programmed into your phone (e.g. 911 or other official emergency number).

**Lock if SIM changed**—Select **Yes** if you want the phone to ask for the lock code when an unknown, new SIM card is inserted into your phone. The phone maintains a list of SIM cards that are recognized as the owner's cards.

**Fixed dialing**—You can restrict your outgoing calls to selected phone numbers, if supported by your SIM card. You need the PIN2 code for this function. When this function is active, you can only call those phone numbers that are included in the fixed dialing list or which begin with the same digit(s) as a phone number on the list.

Press the joystick to set **Fixed dialing** on.

Options in the Fixed dialing view: *Open*, *Call*, *Activ. fixed dialing*/*Deact. fixed dialing*, *New contact*, *Edit*, *Delete*, *Add to Contacts*, *Add from Contacts*, *Find*, *Mark/ Unmark*, *Help*, and *Exit*.

> **Note:** When fixed dialing is activated, calls still may be possible to the official emergency number programmed into your phone.

To add new numbers to the Fixed dialing list, select **Options > New contact** or **Add from Contacts**.

**Closed user group** (network service)—You can specify a group of people whom you can call and who can call you. For more information, contact your network operator or service provider. Select **Default** to activate the default group agreed on with the network operator, **On** if you want to use another group (you need to know the group index number), or **Off**.

> **Note:** When calls are limited to closed user groups, calls still may be possible to the official emergency number programmed into your phone.

**Confirm SIM services** (network service)—Sets the phone to display confirmation messages when you are using a SIM card service.

**Restore server**—To reset your connection settings allowing you to receive new settings from your service provider.

## CERTIF. (CERTIFICATE) MANAGEMENT

Options in the certificate management main view: *Certificate details*, *Delete*, *Trust settings*, *Mark/Unmark*, *Help*, and *Exit*.

In the Certif. management main view, you can see a list of authority certificates that have been stored in your phone. Scroll right to see a list of personal certificates, if available.

Authority certificates are used by some browser services, such as banking services, for checking signatures or server certificates or other authority certificates.

Server certificates are used to improve security in the connection between the phone and the gateway. The phone receives the server certificate from the service provider before the connection is established, and its validity is checked using the authority certificates saved in the phone. Server certificates are not saved.

Server certificates may be needed, for example, when you:

- Want to connect to an online bank or another site or remote server for actions that involve transferring confidential information.

- Want to decrease the risk of viruses or other malicious software and be sure of the authenticity of software when downloading and installing software.

**Important:** Even if the use of certificates makes the risks involved in remote connections and software installation considerably smaller, they must be used correctly in order to benefit from increased security. The existence of a certificate does not offer any protection by itself; the certificate manager must contain correct, authentic, or trusted certificates for increased security to be available.

**Important:** Certificates have a restricted lifetime. If **Expired certificate** or **Certificate not valid yet** is shown even if the certificate should be valid, check that the current date and time in your phone are correct.

### CHANGE THE TRUST SETTINGS OF AN AUTHORITY CERTIFICATE

Scroll to an authority certificate and select **Options > Trust settings**. Depending on the certificate, a list of the applications that can use the selected certificate is shown. For example:

- **Application manager / Yes**—The certificate is able to certify the origin of new software.

- **Internet / Yes**—The certificate is able to certify e-mail and imaging servers.

**Important:** Before changing these settings, you must make sure that you really trust the owner of the certificate and that the certificate really belongs to the listed owner.

# • FILE MANAGER

Select **Menu > Tools > File Mngr**.

Options in the File manager main view: *Open*, *Send*, *Delete*, *Move to folder*, *Copy to folder*, *New folder*, *Mark/Unmark*, *Rename*, *Find*, *Receive via infrared*, *View details*, *Memory details*, *Help*, and *Exit*.

In File manager you can browse, open, and manage files and folders in the phone memory or on the memory card, if you use one.

Open File manager to see a list of the folders in the phone memory. Scroll right to see the folders on the memory card, if you use one.

You can browse, open, and create folders, mark, copy and move items to folders. See "Actions common to all applications" on page 18.

# View memory consumption

If you have a memory card installed on your phone, you will have a choice of two memory views, one for the phone memory and one for the memory card.

Scroll right or left to move from one memory tab to another.

To check memory consumption of the current memory select **Options >Memory details**.

The phone calculates the approximate amount of free memory for storing data and installing new applications.

In the memory views, you can view the memory consumption of the different data groups: **Calendar**, **Contacts**, **Documents**, **Messages**, **Images**, **Sound files**, **Video clips**, **Applications**, **Mem. in use**, and **Free memory**.

> **Note:** If the phone memory is getting low, remove some files, or move them to the memory card. See "Troubleshooting" on page 119.

# 9    Personalization

## • PROFILES

Select **Menu > Profiles**.

In Profiles, you can adjust and customize the phone tones for different events, environments, or caller groups.

You can see the currently selected profile at the top of the display in the standby mode. If the General profile is in use, only the current date is shown.

Options in the Profiles main view: *Activate*, *Personalize*, *Create new*, *Delete profile*, *Tone download*, *Help*, and *Exit*.

### Change the profile

1   Select **Menu > Profiles**. A list of profiles opens.
2   In the Profiles list, scroll to a profile and select **Options > Activate**.

**Shortcut:** To change the profile in the standby mode, press the **Power** key briefly, scroll to the profile you want to activate, and press **OK**.

### Offline profile

Offline profile lets you use features on the phone without connecting to the GSM wireless network.

**Important:** In Offline profile you cannot make any calls, including emergency calls, or use other features that require network coverage.

When you activate the Offline profile GSM is turned off, as indicated by the ⬛ icon in the signal strength indicator. All GSM wireless phone signals to and from the phone are prevented.

**Note:** In areas where mobile phone use is prohibited, use of a Bluetooth connection may also be prohibited. Therefore, consult the relevant authorities before using a Bluetooth connection.
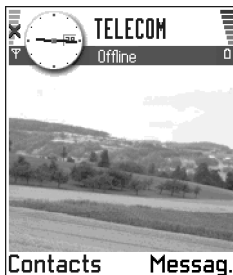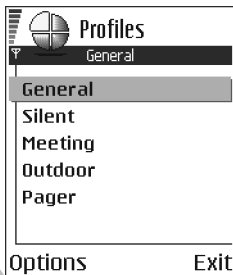
## Customize profiles

1 To modify a profile, scroll to the profile in the Profiles list and select **Options > Personalize**.

   A list of profile settings opens.

2 Scroll to the setting you want to change and press the joystick to open the choices:

   • **Ringing tone**—Sets the ringing tone for voice calls, choose a ringing tone from the list. Press any key to stop the sound. If a memory card is used, tones stored on it have the ▣ icon next to the tone name. Ringing tones use shared memory. See "Shared memory" on page 3. You can also change ringing tones in Contacts. See "Add a ringing tone for a contact card or group" on page 29.

   • **Ringing type**—When **Ascending** is selected, the ringing volume starts from level one and increases level by level to the set volume level.

   • **Ringing volume**—Sets the volume level for the ringing and message alert tones.

   • **Message alert tone**—Sets the tone for messages.

   • **IM alert tone**—Sets the tone for instant messages.

   • **Vibrating alert**—Sets the phone to vibrate at incoming voice calls and messages.

   • **Keypad tones**—Sets the volume level for keypad tones.

   • **Warning tones**—Instructs the phone to sound a warning tone, for example, when the battery is running out of power.

   • **Alert for**—Sets the phone to ring only upon calls from phone numbers that belong to a selected contact group. Phone calls coming from people outside the selected group will have a silent alert. You can select **All calls**, or you can select items from a list of contact groups, if you have created them. See "Creating contact groups" on page 32.

   • **Profile name**—You can rename a profile and give it any name you want. The General and Offline profiles cannot be renamed.
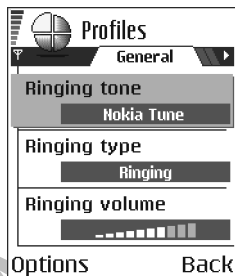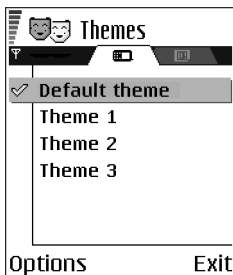
# • THEMES

Select **Menu > Themes**.

You can change the look of your phone display by activating a theme. A theme can include the idle screen wallpaper, color palette, screen saver, and icons and background image in 'Go to'. Edit a theme for more detailed personalization.

When you open **Themes** you will see a list of the available themes. The currently active theme is indicated by a check mark. Scroll right to see the themes on the memory card, if you use one.

To preview a theme, scroll to the theme and select **Options > Preview**. Press the **Left selection** key to activate the theme. You can activate the theme without previewing it by selecting **Options > Apply** from the main view.

Options in the Themes main view: *Preview*, *Apply*, *Edit*, *Copy to mem. card*, *Copy to phone mem.*, *Theme downloads*, *Delete*, *Help*, and *Exit*.

# Edit themes

To personalize themes further, you can group together elements from other themes or images from the Gallery:

1  Scroll to a theme, select **Options > Edit.**

2  Scroll to the following items, and select **Options > Change** to modify them:

- **Wallpaper** to choose an image to use as a background image in the standby mode. You can select an image from one of the available themes or from the Gallery, where your own images are saved.
- **Color palette** to change the color used on the display.
- **Screen savers** to select what is shown on the screen saver bar: the time and date or text you have written yourself. The location and background color of the screen saver bar changes in one minute intervals. Also, the screen saver changes to indicate the number of new messages or missed calls. You can set the time that elapses before the screen saver is activated. See "Standby mode" on page 67.
- **Icons** to select a different icon set from any one of the themes.

    **Note:** All pre-installed themes have the same icon set.
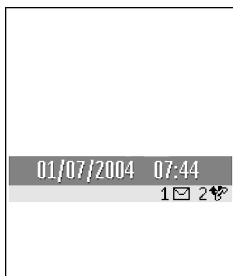
- **Image in 'Go to'** to choose an image to use as a background image in 'Go to'. You can select an image from one of the available themes or from the Gallery, where your own images are saved.

3 Select **Options > Set** to select the current setting. You can also preview the selected item by selecting **Options > Preview**. Note that you cannot preview all elements.

## Restore themes

To restore the currently selected theme back to its original settings, select **Options > Restore orig. theme** when editing a theme.

# • GO TO

Press **Go to** (**Right selection** key) in the standby mode or select **Menu > Go to**.

Use 'Go to' for storing shortcuts, links to your favorite photos, video clips, notes, Recorder sound files, browser bookmarks, and saved browser pages.

Options in the 'Go to' main view: *Open*, *Edit shortcut name*, *Shortcut icon*, *Delete shortcut*, *Move*, *List view* | *Grid view*, *Help*, and *Exit*.

The default shortcuts:

     opens the Notes editor

     opens the Calendar to the current date

     opens the Messaging Inbox

Shortcuts can be added only from pre-installed applications and functions. Not all applications have this functionality.

1 Open the application and scroll to the item that you want to add as a shortcut to 'Go to'.

2 Select **Options > Add to 'Go to'** and press **OK**.

> **Note:** A shortcut in 'Go to' is automatically updated if you move the item to which it is pointing, for example, from one folder to another.

Hints on using shortcuts:

- **To open a shortcut**, scroll to the icon and press the joystick. The file is opened in the corresponding application.

- **To delete a shortcut**, scroll to the shortcut you want to remove and select **Options > Delete shortcut**. Removing a shortcut does not affect the file to which it refers.

- **To change the shortcut name**, select **Options > Edit shortcut name**. Write the new name. This change affects only the shortcut, not the file or item to which the shortcut refers.
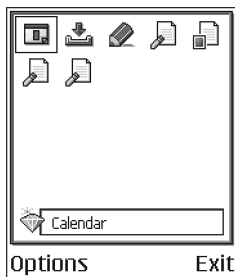
# 10 Extras

## • WALLET

Select **Menu** > **Extras** > **Wallet**.

Wallet provides you with a storage area for your personal information, such as credit and debit card numbers, addresses, and other useful data (for example, user names and passwords).

The information stored in the wallet can be easily retrieved while browsing to automatically fill in online forms on browser pages, for example, when the service asks for credit card details. Data in the wallet is encrypted and protected with a wallet code that you define.

You can group wallet data into profiles that can be accessed, for example, for making purchases online.

Because of the nature of the wallet, it will automatically close after 5 minutes. Enter the wallet code to regain access to the contents. You can change this automatic time-out period, if required. See "Wallet settings" on page 85.

Options in the wallet main view: *Open*, *Settings*, *Help*, and *Exit*.
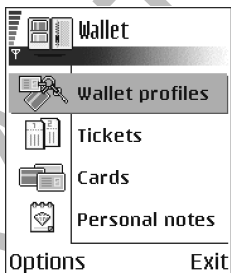
### Enter the wallet code

Each time you open the wallet you will be prompted for a wallet code.

When you open the wallet for the first time, you must create your own access code:

**1** Enter a code of your choice (4–10 alphanumeric characters) and press **OK**.

You will be prompted to verify the code.

**2** Enter the same code and press **OK**.

Do not give your wallet code to anyone else.

> **Note:** If you enter the wallet code incorrectly on three consecutive attempts, the wallet application is blocked for five minutes. The block time increases if further incorrect wallet codes are entered.

> **Important:** If you forget your wallet code, you will have to reset the code, and you will lose all information stored in the wallet. See "Reset the wallet and wallet code" on page 86.

# Store personal card details

Options when viewing or editing card details: *Delete*, *Help*, and *Exit*.

1 Select the **Cards** category from the main wallet menu.

2 Select a type of card from the list:

- **Payment cards**—Credit and debit cards.
- **Loyalty cards**—Membership and store cards.
- **Online acc. cards**—Personal user names and passwords to online services.
- **Address cards**—Basic contact details for home/office.
- **User info cards**—Customized personal preferences for online services.

3 Select **Options > Create new**. An empty form opens.

4 Fill in the fields and press **Done**.

You can also receive card information directly to the phone from a card issuer or service provider (if they offer this service). You will be notified to which category the card belongs. Save or discard the card. You can view and rename a saved card, but you cannot edit it.

You can open, edit, or delete the fields in the card. Any changes will be saved upon exiting.

# Create personal notes

Personal notes are a means of storing sensitive information, for example, a bank account number. You can access the data in a personal note from the browser. You can also send a note as a message.

1 Select the **Personal notes** category from the main wallet menu.

2 Select **Options > Create new**. An empty note opens.

3 Press any key from **1** to **0** to start writing. Press the **Clear** key to clear characters. Press **Done** to save.

# Create a wallet profile

Once you have stored your personal details, you can combine them together into a wallet profile. Use a wallet profile to retrieve wallet data from different cards and categories to the browser.

1 Select the **Wallet profiles** category from the main wallet menu.

2 Select **Options > Create new**. A new wallet profile form opens.

3 Fill in the fields as indicated below and press **Done**.

   Some of the fields must contain data selected from the wallet. You must save the data under the relevant category before creating a wallet profile or else the profile cannot be created.

- **Profile name**—Choose and enter a name for the profile.
- **Payment card**—Select a card from the Payment card category.
- **Loyalty card**—Select a card from the Loyalty card category.
- **Online access card**—Select a card from the Online acc. card category.
- **Shipping address**—Select an address from the Address card category.
- **Billing address**—By default this is the same as the Shipping address. If you require a different address, select one from the Address card category.
- **User info card**—Select a card from the User info card category.
- **Receive e-receipt**—Select a destination from the Address card category.
- **Deliver e-receipt**—Select **To phone**, **To e-mail**, or **To pho. & e-mail**.
- **Phone ID sending**—Set to **On** or **Off**. Defines whether or not your unique phone identification is sent with the wallet profile (for future development dependent on RFID-based ticketing).

# Retrieve information from wallet to your browser

When using online mobile services supporting the wallet functionality, you can upload the data stored in your wallet to automatically enter your details into an online form. For example, by uploading your payment card details, you do not need to key in the card number and expiration date each time you need them (depending on the content being browsed). Also, you can retrieve your user name and password stored as an access card when connecting to a mobile service that requires authentication. See "Purchase an item" on page 103.

# View ticket details

You can receive notifications of tickets purchased online with the browser. Received notifications are stored in the wallet. To view the notifications:

1 Select the **Tickets** category from the main wallet menu.

2 Select **Options > View**.

Options in the Tickets main view: *View*, *Delete*, *Rename*, *Mark* / *Unmark*, *Help*, and *Exit*.

> **Note:** None of the fields within the notification can be modified.

# Wallet settings

Select **Options > Settings** from the main wallet menu to modify the following items:

- **Wallet code**—Change your wallet code. You will be prompted to enter the current code, create a new code, and verify the new code.

- **Phone ID**—Set the phone ID code, type, and sending options (for future development dependent on RFID-based ticketing).

- **Automatic close**—Change the automatic time-out period (1–60 minutes). After the time-out period has elapsed, the wallet code must be re-entered to gain access to the contents.

## Reset the wallet and wallet code

**Important:** This operation erases all contents of the wallet.

To reset both the contents of the wallet and the wallet code:

1 Key in *#7370925538# in the standby mode.
2 Enter the phone lock code, and press **OK**. See "Security" on page 73.
3 You will be asked to confirm the erasing of data. Press **OK**.

When opening the wallet again, you must enter a new wallet code. See "Enter the wallet code" on page 83.

# • CALCULATOR

Select **Menu > Extras > Calculator**

Options in Calculator: *Last result*, *Memory*, *Clear screen*, *Help*, and *Exit*.

1 Enter the first number of your calculation.

- To add a decimal, press the **#** key.
- Press the **Clear** key to erase a mistake in the number.

2 Scroll to an arithmetic function and press the joystick to select it.
3 Enter the second number.
4 To execute the calculation, scroll to ▭ and press the joystick.

- Press and hold the **Clear** key to clear the result of the previous calculation.
- Use ▨ and ▨ to view previous calculations and move in the sheet.

**Note:** This calculator has limited accuracy and is designed for simple calculations.

# • CONVERTER

Select **Menu > Extras > Converter**.

In Converter, you can convert measures such as **Length** from one unit to another, for example, **Yards** to **Meters**.

**Note:** The Converter has limited accuracy and rounding errors may occur.

# Convert units

Options in Converter: *Conversion type*, *Currency rates* (not applicable to other units), *Help*, and *Exit*.

> **Note:** To make currency conversions, you must first set the exchange rate. See "Set a base currency and exchange rates" on page 87.

    **1** Scroll to the **Type** field and press the joystick to open a list of measures.

**2** Scroll to the measure you want to use and press **OK**.

**3** Scroll to the first **Unit** field and press the joystick to open a list of available units.

**4** Select the unit **from** which you want to convert and press **OK**.

**5** Scroll to the next **Unit** field and select the unit **to** which you want to convert.

**6** Scroll to the first **Amount** field and key in the value you want to convert.

Press the **#** key to add a decimal and press the **\*** key to insert the **+**, **–** (for temperature), and **E** (exponent) symbols.

The other **Amount** field changes automatically to show the converted value.

> **Note:** The conversion order changes if you write a value in the second **Amount** field. The result is shown in the first **Amount** field.

# Set a base currency and exchange rates

Before you can make currency conversions, you need to choose a base currency (usually your domestic currency) and add exchange rates.

> **Note:** The rate of the base currency is always 1. The base currency determines the conversion rates of the other currencies.

**1** Select **Currency** as the measure type and select **Options > Currency rates**. A list of currencies opens and you can see the current base currency at the top.

**2** To change the base currency, scroll to the currency (usually your domestic currency), and select **Options > Set as base curr.**.

> **Important:** When you change base currency, all previously set exchange rates are reset to zero and you must enter new rates.

**3** Add exchange rates, scroll to the currency, and key in a new rate, that is, how many units of the currency equal one unit of the base currency you have selected.

**4** After you have inserted all the needed exchange rates, you can make currency conversions. See "Convert units" on page 87.

# • NOTES

Select **Menu > Extras > Notes**.

You can link notes to 'Go to' and send them to other devices. Plain text files (TXT format) you receive can be saved to Notes.

Press any key from **1** to **0** to start to write. Press the **Clear** key to clear letters. Press **Done** to save.

# • CLOCK

Select **Menu > Extras > Clock**.

Options in Clock: *Set alarm*, *Reset alarm*, *Remove alarm*, *Settings*, *Help*, and *Exit*.

## Change clock settings

To change the time or date, select **Options > Settings** in Clock.

## Set an alarm

1  To set a new alarm, select **Options > Set alarm**.
2  Enter the alarm time and press **OK**. When the alarm is active, the 🔔 indicator is shown.

To cancel an alarm, select **Clock** and select **Options > Remove alarm**.

## Stop an alarm

Press **Stop** to turn off the alarm.

Press any key or **Snooze** to stop the alarm for five minutes, after which it will resume. You can do this a maximum of five times.

If the alarm time is reached while the phone is switched off, the phone switches itself on and starts sounding the alarm tone. If you press **Stop**, you receive a message asking whether you want to activate the phone for calls. Press **No** to switch off the phone or **Yes** to make and receive calls.

> **Note:** Do not press **Yes** when wireless phone use is prohibited or when it may cause interference or danger.

## Personalize the alarm tone

1  To personalize the alarm tone, select **Options > Settings**.
2  Select **Clock alarm tone**.

   When you scroll through the list of tones, you can stop on a tone to listen to

it before you make your selection.

**3** Press **Select** to select the current tone.

# • RECORDER

Select **Menu > Extras > Recorder**.

Options in Recorder: *Record sound clip*, *Delete*, *Rename sound clip*, *Send*, *Go to Gallery*, *Settings*, *Add to 'Go to'*, *Help*, and *Exit*.

> **Note:** Obey all local laws governing recording of calls. Do not use this feature illegally.

The voice recorder allows you to record telephone conversations and voice memos. If you are recording a telephone conversation, both parties will hear a tone every five seconds during recording.

Recorded files are stored in the Gallery. See "Gallery" on page 45.

Select **Options > Record sound clip** and scroll to a function and press the joystick to select it. Use:

|  |  |  |  |
|---|---|---|---|
| ● | to record | ►► | to fast forward |
| ❚❚ | to pause | ◄◄ | to fast rewind |
| ■ | to stop | ► | to play an opened sound file |

> **Note:** The recorder cannot be used when a data call or GPRS connection is active.

# • VOICE COMMANDS

Select **Menu > Tools > Voice com.**.

Options in the Voice commands main view: *Add voice command*, *Open*, *New application*, *Playback*, *Change*, *Delete*, *Delete all*, *Help*, and *Exit*.

You can use Voice commands to start applications and profiles, and to dial numbers from Contacts, without having to look at your phone display. You record a word, or words, (voice command) and then say this voice command to open an application, activate a profile, or dial a number.

> **Note:** You can have only one voice command per item.

Any spoken word(s) can be a voice command.

When recording, hold the phone at a short distance away from your mouth. After the starting tone, say clearly the word, or words, you want to record as a voice command.

Before using voice commands, note that:

- Voice commands are not language dependent. They are dependent on the speaker's voice.

- Voice commands are sensitive to background noise. Record and use them in a quiet environment.

- Very short voice commands are not accepted. Use longer words and avoid similarities between different voice commands.

> **Note:** You must say the voice command exactly as you said it when you recorded it. This may be difficult in, for example, a noisy environment or during an emergency, so you should not rely solely upon voice commands in all circumstances.

## Add a voice command to an application

> **Note:** To add a voice command to a profile, the Profiles folder must be opened and a specific profile selected.

1 In the Voice commands main view, scroll to the application to which you want to add a voice command, and select **Options > Add voice command**.

The text **Press 'Start', then speak after tone** is displayed.

2 Press **Start** to record a voice command. The phone sounds a starting tone and the note **Speak now** is displayed.

3 Say the voice command. The phone will stop recording after approximately 5 seconds.

4 After recording, the phone plays the recorded command and the note **Playing voice command** is displayed. If you do not want to save the recording, press **Quit**.

5 When the voice command has been successfully saved, the note **Voice command saved** is displayed and a beep sounds. A symbol 🗭 can be seen next to the application.

### ADD AN APPLICATION TO THE LIST

You can assign voice commands to other applications that are not listed in the Voice commands main view.

1 In the Voice commands main view, select **Options > New application**.

Available applications are displayed.

2 Scroll to the application that you want to add and press **Select**.

3 Add a voice command to the new application. See "Add a voice command to an application" on page 90.

## Use a voice command to start an application

1 In the standby mode, press and hold the **Right selection** key.

A short tone is played and the note **Speak now** is displayed.

2 When you are starting an application by saying a voice command, hold the phone at a short distance away from your mouth and say the voice command clearly.

3 The phone plays the original voice command and starts the application.

If the phone plays the wrong voice command, press **Retry**.

## Replay, erase, or change a voice command

To replay, erase, or change a voice command, scroll to the item that has a voice command (indicated by 🐝), select **Options >**:

• **Playback** to listen to the voice command again.

• **Delete** to erase the voice command.

• **Change** to record a new voice command. Press **Start** to record.

# • INSTANT MESSAGING (IM) (NETWORK SERVICE)

Select **Menu > IM**.

Options in the IM main view: *Open*, *Login*, *Logout*, *Settings*, *Help*, and *Exit*.

**Instant messaging**

**Conversations**

**IM contacts**

**IM groups**

Options          Exit

IM allows you to converse with other people using instant messages and join discussion forums (IM groups) with specific topics. Once you have registered with an IM service, you can log in to the service provider's IM server.

> **Note:** Check the availability of IM services, pricing, and tariffs with your network operator and/or service provider. Service providers will also give you instructions on how to use their services.

This User Guide shows examples of IM icons and their descriptions. The icons and display text may appear differently on your phone, depending on which IM service you use. If you have any questions about the differences in the various IM service providers' display text and icons, contact your wireless service provider

## Before using IM

To access an IM service you need to save the settings for that service. You may receive the settings from the network operator or service provider that offers the service. See "Smart messages" on page 56. You can also key in the settings manually. See "IM servers" on page 96.

## Connect to an IM server

1  Go to **Menu > IM** to connect to an IM server. You can change the default IM server. See "IM servers" on page 96.

2  Once the connection has been established, key in your user ID and password and press the joystick, or press **Cancel** to stay offline. When you are offline, your phone is not connected to the IM server and you cannot send or receive messages. To log in later, select **Options > Login**.

3  To log out, select **Options > Logout**.

> **Note:** You obtain the user ID and password from your service provider.

## Modify your IM settings

Select **Options > Settings > IM settings** from the main IM menu screen.

- **Use screen name**—Select **Yes** to key in a nickname (max. 10 characters).

- **IM presence**—To prevent others from seeing if you are online, select **Not active**.

- **Reload user status**—To choose how to update information about whether your IM contacts are online or offline. Select **Automatically** or **Manually**. When you select **Automatically**, you must then select the contacts on which you want

to receive automatic status updates.

- **Block invitations**—To block all IM invitations sent to you, select **Yes**. IM invitations are sent by IM users who want you to join their IM groups.

- **Message speed**—Select the speed at which new messages are displayed.

- **Login type**—To choose whether to log in to a IM server automatically or by entering your user ID and password manually each time you start IM.

## Join and leaving an IM group

Go to the **IM groups** view. A list of IM groups that you have saved or are currently joined to is shown. The icon next to a group indicates whether it is:

- A group that you have saved and are currently joined to.

- A group that you have saved but are not currently joined to.

- A group that you are currently joined to but have not saved.

Options in the IM groups view: *Open*, *Join group*, *Create new group*, *Leave IM group*, *IM group*, *Search*, *Settings*, *Help*, and *Exit*.

**To join an IM group:** Scroll to a group on the list and press the joystick. To join an IM group not on the list but for which you know the group ID, select **Options > Join group**. Key in the group ID and press the joystick.

**To leave the IM group:** Select **Options > Leave IM group**.

You can scroll to a group, press **Options > IM group** and then select: **Save as favorite**, **Remove group**, **View members** to see who are currently joined to the group, **IM group info** to see the group ID, topic, members, editing rights in the group, and whether sending private messages is allowed in the group, and **IM group settings** to view and edit the IM group's settings. See "Edit IM group settings" on page 96.

## Search for IM groups and users

Go to the **IM groups** view and select **Options > Search > Groups** or **Users**.

- You can search for **Groups** by **Group name**, **Topic**, and **Members** (user ID). For groups that you have found you can select **Join** and **Save group**.

- You can search for **Users** by **User's name**, **User ID**, **Phone number**, and **E-mail address**. For users that you have found, you can select **Add to IM contacts** to save the contact, and **Add to blocked list** to block (or unblock) messages from the contact.

When the search result is displayed, you can select **Options > New search**, **More results** from the same search, and **Previous results** to see your previous search result.

# Chat in an IM group

Once you have joined an IM group, you can view the messages that are exchanged in the group, and send your own messages.

Options while in an IM group chat: *Send*, *Send invitation*, *Send private message*, *Reply*, *Leave IM group*, *IM group*, *Record convers./Stop recording*, *Help*, and *Exit*.

- To send a message, write the message and press the joystick.
- To send a private message to a member (if allowed in the group), select **Options > Send private message**, select the recipient, write the message, and press the joystick.
- To reply to a private message sent to you, select **Options > Reply**.

To invite IM contacts who are online to join the IM group (if allowed in the group), select **Options > Send invitation**, select the contacts you want to invite, write the invitation message, and press the joystick.

## RECORD MESSAGES

To record the messages that are exchanged in an IM group or during an individual conversation, select **Options > Record convers.**. Key in the name for the message file and press the joystick. To stop recording, select **Options > Stop recording**.

The recorded message files are saved to Notes. See "Notes" on page 88.

## BLOCK MESSAGES

To prevent receiving messages from certain IM users, select **Options > Blocking options** and then select:

- **Add to blocked list**—To block messages from the currently selected user.
- **Add ID to list manually**—Key in the user ID of the user and press the joystick.
- **View blocked list**—To see the users whose messages are blocked.
- **Unblock**—Select the user that you want to remove from the blocked list and press the joystick.

# Start and view individual conversations

Go to the **Conversations** view for a list of the IM users with whom you have an ongoing conversation.

Options in the Conversations view: *Open*, *Add to IM contacts*, *New conversation*, *IM group*, *Blocking options*, *End conversation*, *Settings*, *Help*, and *Exit*.

To start a new conversation, select **Options > New conversation** and then select:

- **Select recipient**—To see a list of your saved IM contacts that are currently online. Scroll to the contact and press the joystick.

- **Enter user ID**—Key in the user ID and press the joystick. The user ID is provided by the service provider to those who register to the service.

Options while having a conversation: *Send*, *Add to IM contacts*, *Record convers.*/*Stop recording*, *Blocking options*, *End conversation*, *Settings*, *Help*, and *Exit*

To view an ongoing conversation, scroll to the user and press the joystick. To continue the conversation, write your message and press the joystick. To return to the conversations list without closing the conversation, press **Back**.

To close the conversation, select **Options > End conversation**.

**Icon:** next to a user indicates that you have received a new message from that user.

**Note:** Ongoing conversations are automatically closed when you exit IM.

To save a user to your IM contacts, scroll to the user and select **Options > Add to IM contacts**.

To send automatic replies to incoming messages, select **Options > Set auto reply on**. Key in the text and press **Done**. You can view received messages normally.

## IM contacts

Go to the **IM contacts** view to see a list of your saved IM contacts. is shown next to contacts that are currently online, and for contacts that are offline.

Options in the IM contacts view: *Open*, *View conversation*, *Switch tracking on*, *Belongs to groups*, *New IM contact*, *Edit*, *Delete*, *Reload user status*, *Blocking options*, *Search*, *Settings*, *Help*, and *Exit*.

To create a new contact, select **Options > New IM contact**. Fill in the **Nickname**, **Name**, and **User ID** fields and press **Done**.

You can scroll to a contact and press the joystick to view contact details. Press **Options** and select:

- **Edit**—To edit the contact's details.
- **View conversation**—To start a new conversation or continue an ongoing conversation with the contact.
- **Switch tracking on**—To be notified every time the IM contact goes online or offline.
- **Belongs to groups**—To see which groups the IM contact has joined.
- **Reload user status**—To update information about whether the contact is online or offline. This option is not available if you have set the **Reload user status** to **Automatically** in **IM settings**.

# Edit IM group settings

You can edit the settings for an IM group if you have created the group or if the creator of the group has given you editing rights. Go to the **IM groups** view, scroll to the desired group and select **Options > IM group > IM group settings**.

## CREATE A NEW IM GROUP

Go to the **IM groups** view and select **Options > Create new group**. Key in the settings for the group:

- **Group name**, **Group topic**, and a **Welcome note** that the participants see when they join the group.
- **Group ID** is created automatically and cannot be changed.
- **Group size** is the maximum number of members allowed to join the group.
- **Allow search** defines whether others can find the IM group by searching.
- **Editing rights** designates which contacts have permission to invite other contacts to join the group. Select the IM group members to whom you want to give editing rights.
- **Group members** - See "Restrict access to an IM group" on page 96.
- **Allow private msgs.** - To allow or prevent private messaging between members.

## RESTRICT ACCESS TO AN IM GROUP

You can make an IM group closed by creating a **Group members** list. Only the users on the list are allowed to join the group. Go to the **IM groups** view, scroll to the group and select **Options > IM group > IM group settings > Group members > Selected only**.

- To add a user to the list, select **Add** and **IM contact** or **Enter user ID**.
- To remove a user from the list, scroll to the user and select **Remove**.
- To clear the list and allow all IM users to join the group again, select **Remove all**.

# IM servers

Select **Options > Settings > Server settings**. You may receive the settings as a smart message from the service provider that offers the IM service.

- To change the IM server you wish to connect to, select **Server in use**.
- To add a new server to your list of IM servers, select **IM servers > Options > Create new server**. Key in or select the settings: **Server name** and **Access point in use** to connect to the server, **URL address** of the IM server, your **User ID**, and login **Password**. See "Connection" on page 68.

**Note:** You obtain the user ID and password from your service provider when you register to the service. If you do not know your user ID or password, contact your service provider.

# • MEMORY CARD

Select **Menu > Extras > Memory**.

Options in the memory card: *Backup phone mem.*, *Restore from card*, *Format mem. card*, *Memory card name*, *Set password* | *Change password* | *Remove password*, *Memory details*, *Help*, and *Exit*.

If you have a memory card, you can use it to backup information from phone memory and to store your multimedia files such as video clips, sound files, photos, messaging data, etc.

Only use MMC cards with this device. Other memory cards, such as Secure Digital (SD) cards, do not fit in the MMC card slot and are not compatible with this device. Attempts to use a non-compatible memory card may damage the memory card as well as the phone, and data stored on the non-compatible card may be corrupted.

For details on inserting a memory card into the phone, see "Insert the memory card" on page 10. Details on how you can use the memory card with other features and applications of your phone are given in the sections describing these features and applications.

The memory card in the sales package may contain promotional material of third parties, which you can delete.

**Important:** Keep all memory cards out of the reach of small children.

## Format memory card

**Important:** When a memory card is formatted, all data on the card is permanently lost.

Some memory cards are supplied pre-formatted and others require formatting. Consult your retailer to find out if you must format the memory card before you can use it.

Select **Options > Format mem. card.**, and select **Yes** to confirm.

When formatting is complete, key in a name for the memory card (max. 11 letters or numbers).

## Back up and restoring information

To back up information from phone memory to the memory card, select **Options > Backup phone mem.**.

To restore information from the memory card to phone memory, select **Options > Restore from card**.

> **Note:** You can only backup the phone memory and restore it to the same model of phone.

## Lock the memory card

You can set a password to lock your memory card against unauthorized use. Select **Options > Set password**.

You will be asked to enter and confirm your password. The password can be up to eight characters long.

> **Note:** The password is stored in your phone and you don't have to enter it again while you are using the memory card on the same phone. If you want to use the memory card on another phone, you will be asked for the password.

## Unlock a memory card

If you insert another password protected memory card in your phone, you will be prompted to enter the password of the card. To unlock the card, select **Options > Unlock memory card**.

> **Note:** Once the password is removed, the memory card is unlocked and can be used on another phone without a password.

## Check memory consumption

You can check the memory consumption of different data groups and the available memory for installing new applications or software on your memory card. Select **Options > Memory details**.

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# 11 Web Browser and Applications

## • WEB (MOBILE BROWSER)

Select **Menu > Web** or press and hold the **0** key in the standby mode.

Various service providers maintain pages specifically designed for mobile phones, offering services that can be, for example, news, weather reports, banking, travel information, entertainment, and games. With the mobile browser you can view these services as WAP pages written in WML, XHTML pages written in XHTML, or a mixture of both.

> **Note:** Check the availability of services, pricing, and tariffs with your network operator and/or service provider. Service providers will also give you instructions on how to use their services.

### Basic steps for accessing

- Save the settings that are needed to access the browser service that you want to use. See "Set up the phone for the browser service" on page 99.
- Make a connection to the service. See "Make a connection" on page 100.
- Start browsing the web pages. See "Browse" on page 101.
- End the connection to the service. See "End a connection" on page 104.

```
┌─────────────────────────┐
│ (◉) Bookmarks           │
│ Ψ      ◉◉    ◉▯   ►     │
│ ◈ Nokia            ▯    │
│ ◈ Mobile           G    │
│ ◢ Java             ▯*    │
│ ◢ Tunes            ▯    │
│ ◢ Video            ▯    │
│ ◈ mobile.nokia.com      │
│ Options          Exit   │
└─────────────────────────┘
```

### Set up the phone for the browser service

#### RECEIVE SETTINGS IN A SMART MESSAGE

You may receive service settings in a special text message, a so-called smart message, from the network operator or service provider that offers the service. See "Smart messages" on page 56. For more information, contact your network operator or service provider.

#### KEY IN THE SETTINGS MANUALLY

Follow the instructions given to you by your service provider.

1 Select **Settings > Connection settings > Access points** and define the settings for an access point. See "Connection" on page 68.

2    Select **Web > Options > Add bookmark**. Write a name for the bookmark and
     the address of the browser page defined for the current access point.

## Make a connection

Once you have stored all the required connection settings, you can access browser
pages.

There are three different ways to access browser pages:

- Select the homepage ( 🐱 ) of your service provider.
- Select a bookmark from the Bookmarks view.
- Press the keys **2–9** to start to write the address of a browser service. The 'Go
  to' field at the bottom of the display is immediately activated and you can
  continue writing the address there.

After you have selected a page or written the address, press the joystick to start
downloading the page.

## View bookmarks

> **Note:** Your phone may have some pre-installed bookmarks for sites not
> affiliated with Nokia. Nokia does not warrant or endorse these sites. If you
> choose to access them, you should take the same precautions for security
> or content, as you would with any site.

In the Bookmarks view, you can see bookmarks pointing to different kinds of
browser pages. Bookmarks are indicated by the following icons:

🐱   The starting page defined for the browser access point. If you use
     another browser access point for browsing, the starting page is
     changed accordingly.

↖   The last visited page. When the phone is disconnected from the service,
     the address of the last visited page is kept in memory until a new page
     is visited during the next connection.

     When you scroll through bookmarks, you can see the address of the
     highlighted bookmark in the 'Go to' field at the bottom of the display.

↗   A bookmark showing the title.

↗   An adaptive bookmark. See "Bookmarks added automatically" on
     page 101.

Options in the Bookmarks view (when a bookmark or folder is selected): *Open*, *Download*, *Back to page*, *Send*, *Go to web address* | *Find bookmark*, *Add bookmark*, *Edit*, *Delete*, *Read service msgs.*, *Disconnect*, *Move to folder*, *New folder*, *Mark/ Unmark*, *Rename*, *Clear cache*, *Details*, *Add to 'Go to'*, *Settings*, *Help*, and *Exit*.

## ADD BOOKMARKS MANUALLY

1  In the Bookmarks view, select **Options > Add bookmark**.

2  Start to fill in the fields. Only the address must be defined. The default access point is assigned to the bookmark if no other one is selected. Press the **\*** key to enter special characters such as **/**, **.**, **:**, and **@**. Press the **Clear** key to clear characters.

3  Select **Options > Save** to save the bookmark.
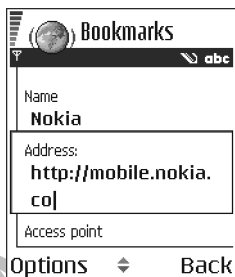
## BOOKMARKS ADDED AUTOMATICALLY

When you visit a web page, your browser automatically saves a bookmark in the Adaptive Bookmarks folder ( ), which is located in the list of bookmarks when you open the **Web** application. Adaptive bookmarks can be renamed and deleted, but they cannot be moved. To modify adaptive bookmarks settings, select **Options > Preferences > Adaptive Bookmarks**, and select **On**, **Hide Folder**, or **Off**.

# Browse

On a browser page, new links appear underlined in blue and previously visited links in purple. Images that act as links have a blue border around them.

Options when browsing: *Open*, *Service options*, *Bookmarks*, *History*, *Go to web address*, *View image*, *Read service msgs.*, *Save as bookmark*, *Send bookmark*, *Reload*, *Disconnect*, *Normal display* | *Vertical display*, *Show images*, *Clear cache*, *Save page*, *Find*, *Details*, *Settings*, *Help*, and *Exit*.

## KEYS AND COMMANDS USED IN BROWSING

- To open a link, press the joystick.

- To scroll the view, use the joystick.

- To enter letters and numbers in a field, press the **0–9** keys. Press the **\*** key to enter special characters such as **/**, **.**, **:**, and **@**. Press the **Clear** key to clear characters.

- To go to the previous page while browsing, press **Back**. If **Back** is not available, select **Options > History** to view a chronological list of the pages you have visited during a browsing session. The history list is cleared each time a session is closed.

- To check boxes and make selections, press the joystick.

- To retrieve the latest content from the server, select **Options > Reload**.

- To open a sublist of commands or actions for the currently open browser page, select **Options > Service options**.

- Press and hold the **End** key to disconnect from a browser service and to quit browsing.

## SAVE BOOKMARKS

- To save a bookmark while browsing, select **Options > Save as bookmark**.

- To save a bookmark received in a smart message, open the message in the Inbox in Messaging and select **Options > Save to bookmarks**. See "Smart messages" on page 56.

## VIEW SAVED PAGES

Options in the Saved pages view: *Open*, *Back to page*, *Reload*, *Delete*, *Read service msgs.*, *Disconnect*, *Move to folder*, *New folder*, *Mark/Unmark*, *Rename*, *Clear cache*, *Details*, *Add to 'Go to'*, *Settings*, *Help*, and *Exit*.

If you regularly browse pages containing information which doesn't change very often, you can save and then browse them when offline.

To save a page, while browsing select **Options > Save page**.

Saved pages are indicated by the ⬚ icon. In the saved pages view you can also create folders to store your saved browser pages.

Folders containing saved browser pages are indicated by the ⬚ icon. To open the Saved pages view, scroll right in the Bookmarks view. In the Saved pages view, press the joystick to open a saved page.

To start a connection to the browser service and to retrieve the page again, select **Options > Reload**.

**Note:** The phone stays online after you reload the page.

## Download

You can download items such as ringing tones, images, operator logos, software, and video clips through the mobile browser. These items can be provided free or you can purchase them.

Once downloaded, items are handled by the respective applications on your phone (for example, a downloaded photo will be saved in the Gallery).

> **Note:** Only install software from sources that offer adequate protection against harmful software.

## CLEAR THE CACHE

The information or services you have accessed are stored in the cache memory of the phone. A cache is a buffer memory that is used to store data temporarily. If you have tried to access or have accessed confidential information requiring passwords (for example, your bank account), empty the cache after each use. The information or services you have accessed are stored in the cache. To empty the cache, select **Options > Clear cache**.

## PURCHASE AN ITEM

To download the item:

1  Scroll to the link and select **Options > Open**.

2  Choose the appropriate option to purchase the item, for example, **Buy**.

Carefully read all the information provided.

If the online content is compatible, you can use your wallet information to make the purchase:

1  Select **Open wallet**. You will be prompted for your wallet code. See "Enter the wallet code" on page 83.

2  Select the appropriate card category from your wallet.

3  Select **Fill in**. This will upload the selected wallet information.

If the wallet does not contain all information necessary for the purchase, you will be requested to enter the remaining details manually.

> **Note:** Copyright protections may prevent some images, ringing tones, and other content from being copied, modified, transferred, or forwarded.

## CHECK AN ITEM BEFORE DOWNLOADING

You can see details about an item before you download it. Details about an item may include the price, a brief description, and size.

1 Scroll to the link and select **Options > Open**. Details about the item are displayed on your phone.

2 If you want to continue with the downloading, press **Accept**, or if you want to cancel the download, press **Cancel**.
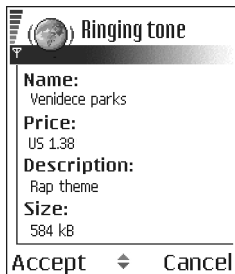
## End a connection

Select **Options > Disconnect**, or press and hold the **End** key to quit browsing and to return to the standby mode.

> **Note:** If you have accessed confidential information during browsing, you should clear the cache. See "Clear the cache" on page 103.

## Browser settings

Select **Options > Settings**, and then select one of the following options:

- **Default access point**—If you want to change the default access point, press the joystick to open a list of available access points. The current default access point is highlighted. See "Connection" on page 68.

- **Show images**—Choose if you want to view pictures when you are browsing. If you choose **No**, you can later load images during browsing by selecting **Options > Show images**.

- **Text wrapping**—Choose **Off** if you don't want the text in a paragraph to automatically wrap, or **On** if you do. If text is not wrapped, the ends of lines may be truncated.

- **Font size**—You can choose five text sizes in the browser: **Smallest**, **Small**, **Normal**, **Large**, and **Largest**.

- **Default encoding**—To make sure your browser pages display text characters correctly, select one of the following: **ISO8859-1** for Western European languages, **ISO8859-2** for Central European languages, **ISO8859-4** for Baltic languages, **ISO8859-5** for Cyrillic-based languages, **ISO8859-7** for Greek language, **ISO8859-9** for Turkish language.

- **Adaptive bookmarks**—You can select **On**, **Hide Folder,** or **Off**. When you select **Hide Folder**, bookmarks are still added automatically to the Adaptive Bookmarks folder. See "Bookmarks added automatically" on page 101.

- **Full screen**–Select **Normal**, **Softkeys only**, or **Full screen**.

- **Cookies**—**Allow /Reject**. You can enable or disable the receiving and sending of cookies (a means of content providers to identify users and their preferences for frequently used content).

- **Security notifications**—Choose to **Hide** or **Show** security notifications.

- **Sent DTMF**—**Always / First sending only**. Choose whether you want to confirm before the phone sends DTMF tones during a voice call. For example, you can make a voice call while you are viewing a browser page, send DTMF tones while a voice call is in progress, and save in Contacts a name and phone number from a browser page. See "Options during a call" on page 23.

- **Wallet**—Choose **On** if you want the wallet to open automatically when a compatible browser page is opened.

## • CONFIGURATION MANAGER

The configuration manager service helps you easily configure your phone connection settings. Configuration manager directs you to a WAP site where you select the type of connection settings you want to request (WAP, MMS, E-mail, or Internet). You enter information that the site needs to process your request, for example, your country, network (i.e., service provider), phone model (Nokia 6620), etc. Your request is then processed, and the settings are sent to you in a smart message. When you open the message, your settings are automatically configured in your phone. You must then select **Options > Save settings**.

For more information on configuring settings in your phone, see "Connection" on page 68 and "Set up the phone for the browser service" on page 99.

> **Note:** There is no charge for using the configuration manager service, but the normal WAP connection and SMS charges do apply. Contact your service provider for details.

To use the configuration manager service:

**1** Select **Menu > Configs**.

The Configurations window is displayed.

**2** Read through the Configuration info message, and select **OK** to continue.

The Help screen is displayed.

> **Note:** Selecting **OK** in the Configuration info message means that you acknowledge that you will not be charged for using the configuration manager service itself but that you will be charged for the WAP connection and also the incoming smart message in some cases. If you are unsure about how you are charged for these services, select **Cancel** on the Configuration info screen, and contact your service provider for details before proceeding any further.

**3** Read through the Help screen, and select **OK**. If your phone requests permission to make a connection to the server, select **Yes**.

Your phone establishes a WAP connection to the Nokia OTA tool site.

**4** Scroll down and highlight the configuration settings you want to request (WAP, MMS, E-mail, or Internet), and press the joystick.

**5** Follow the screen prompts to enter all information that is necessary for the configuration manager service to identify the settings you need. Scroll to the different fields and buttons, and press the joystick to select screen items.

The items you are prompted to define depend on whether you are requesting settings for WAP, MMS, E-mail, or Internet. The last screen prompts you to enter your mobile phone number so that the service knows where to send your settings message.

**6** When you receive the settings message, simply open the message, and the settings will be automatically configured in your phone.
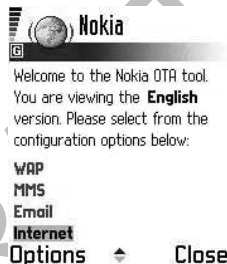
# • APPLICATION MANAGER

Select **Menu > Tools > App. Mngr**

In Application manager you can install new Symbian operating system applications (SIS files) and Java™ applications (Java MIDlets and MIDlet suites). You can also update and uninstall applications from the phone and monitor the installation history.

Applications in Application manager use shared memory. See "Shared memory" on page 3.

Options in the Application manager main view: *Install*, *View details*, *View certificate*, *Update*, *Go to web address*, *Remove*, *View log*, *Send log*, *Settings*, *App. downloads*, *Help*, and *Exit*.

When you open Application manager, you can see a list of:

- Applications saved in Application manager.

- Partially installed applications (indicated by □).

- Fully installed applications that you can remove (indicated by □).

> **Note:** You can only use Symbian operating system applications with a .SIS extension.

> **Note:** Your phone supports J2ME™Java applications. Do not download PersonalJava™ applications to your phone; they cannot be installed.

## Install applications—general information

You can install applications that are specifically intended for this phone and suitable for the Symbian operating system.

> **Note:** If you install an application that is not intended specifically for this phone, it may function and look different from what was originally intended.

Applications may be downloaded to your phone during browsing, received as attachments in multimedia messages or e-mails, or received by Bluetooth connection or by infrared from another device, for example a phone or a compatible PC. If you are using PC Suite to transfer the application, place it in the Installs folder in the File manager.

> **Important:** Only install applications from sources that offer adequate protection against viruses and other harmful software.

To increase protection, the application installation system uses digital signatures and certificates for applications. Do not install the application if Application manager gives a security warning during installation.

> **Important:** If you install an application that contains an update or repair to an existing application, you can only restore the original application if you have the original application or a full backup copy of the removed application. To restore the original application, first remove the updated or repaired application and then install again from the original application or the backup copy.

During installation, the phone checks the integrity of the application to be installed. The phone shows information about the checks being carried out, and you are given options on whether to continue or cancel the installation. Once the phone has checked the integrity of the application, it is installed on your phone.

### INSTALL APPLICATIONS

Open Application manager, scroll to the application, and select **Options > Install** to start the installation.

You can also search the phone memory or the memory card, select the application, and press the joystick to start the installation.

Some applications may give the option of partial installation, allowing you to select the particular components of an application that you want to install.

If you are installing an application without a digital signature or a certificate, the phone warns you of the risks. Continue installation only if you are absolutely sure of the origin and contents of the application.

### INSTALL JAVA™ APPLICATIONS

The .JAR file is required for installation. If it is missing, the phone may ask you to download it. If there is no access point defined for Application manager, you will be asked to select one. When you are downloading the .JAR file, you may need to enter a user name and password to access the server. You obtain these from the supplier or manufacturer of the application.

- To start a data connection and to view extra information about the application, scroll to it and select **Options > Go to web address**.

- To start a data connection and check if there is an update available for the application, scroll to it and select **Options > Update**.

### JAVA SETTINGS

To change the default access point that a Java application uses for downloading extra data, select **Options > Settings > Access point**. See "Access points" on page 68.

To change the security settings that determine the actions that a Java application is permitted to do, select **Options > Settings**.

**Note:** Not all Java applications permit you to change the security settings.

## Remove an application

1  Scroll to the application and select **Options > Remove**.
2  Press **Yes** to confirm the removal.

**Important:** If you remove an application, you can only re-install it if you have the original application or a full backup of the removed application. If you remove an application, you may no longer be able to open documents created with that application. If another application depends on the application that you removed, the other application may stop working. Refer to the documentation of the installed application for details.

# 12 Connectivity

## • BLUETOOTH CONNECTION

Select **Menu > Connect. > Bluetooth**

> **Note:** There may be restrictions on using Bluetooth devices in some locations. Check with your local authorities or service provider.

> **Note:** This phone is designed to be compliant with and to adopt Bluetooth Specification 1.1. However, interoperability between the phone and other products with Bluetooth wireless technology depends also on the profiles and protocols used. For more information on the compatibility between Bluetooth devices, please consult your dealer.

Bluetooth technology enables cost-free wireless connections between electronic devices within a maximum range of 10 metres. A Bluetooth connection can be used to send images, videos, texts, business cards, calendar notes, or to connect wirelessly to devices using Bluetooth technology, such as computers.

Since devices using Bluetooth technology communicate using radio waves, your phone and the other devices do not need to be in direct line-of-sight. The two devices only need to be within a maximum of 10 metres of each other, although the connection can be subject to interference from obstructions such as walls or from other electronic devices. Using Bluetooth technology consumes the battery and the phone's operating time will be reduced. Take this into account when performing other operations with your phone. There may be restrictions on using devices using Bluetooth technology. Check with your local authorities.

When you activate a Bluetooth connection for the first time, you are asked to give a name to your phone.
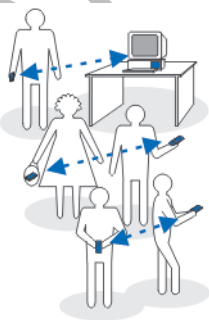
## Bluetooth connection settings

- **Bluetooth**—Select **On** if you want to use a Bluetooth connection. If you select **Off**, all active Bluetooth connections are ended, and Bluetooth connection cannot be used for sending or receiving data.

- **My phone's visibility**—If you select **Shown to all**, your phone can be found by other devices during device search. If you select **Hidden**, your phone cannot be found by other devices.

- **My phone's name**—Define a name for your phone.
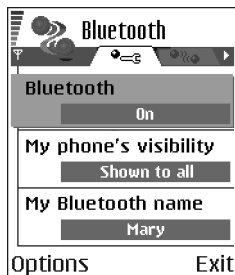
> **Note:** After you have set your Bluetooth connection to active and changed **My phone's visibility** to **All**, your phone and this name can be seen by other devices.

## Send data by Bluetooth connection

> **Note:** Your phone can only have one active Bluetooth connection at a time.

1 Open an application where the item you wish to send is stored. For example, to send a photo to another device, open the Gallery application.

2 Scroll to the item you want to send, and select **Options > Send > Via Bluetooth**.

   The phone starts to search for devices within range. Devices using Bluetooth technology that are within range start to appear on the display one by one. You can see a device icon, the device name, the device type, or a short name.

   Paired devices are shown with . A paired device is one where a Bluetooth connection already exists between your phone and the other device.

   To interrupt the search, press **Stop**. The device list freezes and you can start to form a connection to one of the devices already found.

> **Note:** When searching for devices, some devices may show only the unique device addresses. To find out the unique address of your phone, enter the code **\*#2820#** in the standby mode.

**Note:** If you have searched for devices earlier, a list of the devices that were found previously is shown first. To start a new search, select **More devices**. If you switch off the phone, the list of devices is cleared and the device search needs to be started again before sending data.

3  Scroll to the device with which you want to connect and press **Select**. The item you are sending is copied to Outbox and the note **Connecting** is shown.

4  **Pairing** (if not required by the other device, go to step 5.)

   • If the other device requires pairing before data can be transmitted, a tone sounds and you are asked to enter a passcode.
   • Create your own passcode (1-16 characters long, numeric) and agree with the owner of the other device to use the same code. This passcode is used only once and you do not have to memorize it.
   • After pairing, the device is saved to the Paired devices view.

   **Note:** Pairing means authentication. The users of the devices using Bluetooth technology should agree together what the passcode is, and use the same passcode for both devices in order to pair them. Devices that do not have a user interface have a preset passcode. See "Paired devices view" on page 113.

5  When the connection has been successfully established, the note **Sending data** is shown.

Data received by Bluetooth connection can be found in the Inbox folder in Messaging. See "Inbox—receiving messages" on page 55.

**Icons for different devices:**

—Computer

—Phone

—Audio/video

—Bluetooth device

   **Note:** If sending fails, the message or data will be deleted. The Drafts folder in Messaging does not store messages sent by Bluetooth connection.

# Check the status of the Bluetooth connection

When  is shown in the standby mode, Bluetooth connection is active.

When  is blinking, your phone is trying to connect to the other device.

When  is shown continuously, the Bluetooth connection is active.

## Paired devices view

Pairing with a device makes device searches easier and quicker. Paired devices are easier to recognize; they are indicated by ■ in the search result list. In the Bluetooth connection main view, scroll right to open a list of paired devices ( ●％ ).

- **To pair with a device:** Select **Options > New paired device**. The phone starts a device search. Scroll to the device with which you want to pair and press **Select**. After you exchange passcodes, the device is added to the Paired devices list.

- **To cancel pairing:** Scroll to the device whose pairing you want to cancel and press the **Clear** key or select **Options > Delete**. If you want to cancel all pairings, select **Options > Delete all**.

    **Note:** If you are currently connected to a device and you delete the pairing with that device, the pairing is removed and the device connection is terminated, but the Bluetooth connection remains active.

- **To set a device to be authorized or unauthorized:** Scroll to the device, select **Options**, and then select one of the following:

    - **Set as authorized**—Connections between your phone and this device can be made without your knowledge. No separate acceptance or authorization is needed. Use this status for your own devices, for example, your PC, or devices that belong to someone you trust. The icon 🖬 is added next to authorized devices in the Paired devices view.
    - **Set as unauthorized**—Connection requests from this device need to be accepted separately every time.

## Receive data by Bluetooth connection

When you receive data by Bluetooth connection, a tone is played, and you are asked if you want to accept the message. If you accept, the item is placed in the Inbox folder in Messaging. Messages received by Bluetooth connection are indicated by ■. See "Inbox—receiving messages" on page 55.

## Close the Bluetooth connection

A Bluetooth connection is disconnected automatically after sending or receiving data.

# • INFRARED CONNECTION

Select **Menu > Connect. > Infrared**

By infrared, you can send or receive data such as business cards and calendar notes to and from a compatible phone or data device.

Do not point the IR (infrared) beam at anyone's eye or allow it to interfere with other IR devices. This device is a Class 1 laser product.

> **Note:** Making or answering phone calls during a computer connection is not recommended because it might disrupt the operation.

## Send and receive data by infrared

All items that are received by infrared are placed in the Inbox folder in Messaging. New infrared messages are indicated by ⬛. See "Inbox—receiving messages" on page 55.

1   Make sure that the infrared ports of the sending and receiving devices are pointing at each other and that there are no obstructions between the devices. The preferable distance between the two devices is one meter at most. To find the infrared port, see "Nokia 6620 phone at a glance" on page v.

2   The user of the receiving device activates the infrared port.

    To activate your phone infrared port to receive data, select **Menu > Connect. > Infrared** and press the joystick.

3   The user of the sending device selects the desired infrared function to start data transfer.

    To send data by infrared, select **Options > Send > Infrared** in an application.

If data transfer is not started within one minute after the activation of the infrared port, the connection is cancelled and must be started again.

> **Note:** When using Windows 2000 and you want to use infrared to transfer files between your phone and a compatible computer, select Control Panel and select Wireless Link. In the Wireless Link File Transfer tab, check the box for "Allow others to send files to your computer using infrared."

## Check the status of the infrared connection

When ▪▪▪◖ blinks, your phone is trying to connect to the other device or a connection has been lost.

When ▪▪▪◖ is shown continuously, the infrared connection is active and your phone is ready to send and receive data by its infrared port.

# • USB CONNECTION

If you use the DKU-2 data cable, connect the cable to the USB port on your computer and to the connector on your phone. Start using the data communications application on the computer.

> **Note:** Making or answering phone calls during a computer connection is not recommended because it might disrupt the operation.

# • CONNECTION MANAGER

Select **Menu > Connect. > Connection manager**

In Connection manager you can identify the status of multiple data connections, view details on the amount of data sent and received, for example, and end unused connections.

> **Note:** You can view details of data connections only. Voice calls are not listed.

When you open Connection manager, you can see a list of:

- Open data connections:
  - 📘 **Data call**
  - 📗 **GPRS**
- The status of each connection.
- Amount of data uploaded and downloaded for each connection (GPRS connections only).
- The duration of each connection (GSM and high-speed data connections only).

> **Note:** The actual time invoiced for calls by your service provider may vary, depending upon network features, rounding-off for billing, and so forth.

Options in the Connection manager main view when there are one or more connections: *Details*, *Disconnect*, *Disconnect all*, *Help*, and *Exit*.

## View connection details

To view the details of a connection, scroll to a connection and select **Options > Details**. The following information is displayed:

- **Name**—The name of the Internet access point (IAP) in use, or 'Modem connection' if the connection is a dial-up connection.
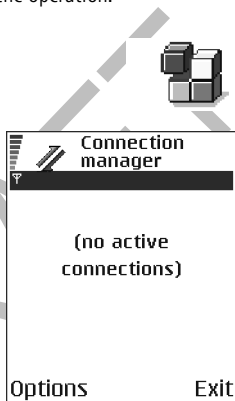
- **Bearer**—The type of data connection: **Data call**, **High sp. GSM**, or **GPRS**.

- **Status**—The current status of the connection.

- **Received**—The amount of data, in bytes, received to the phone.

- **Sent**—The amount of data, in bytes, sent from the phone.

- **Duration**—The length of time that the connection has been open.

- **Speed**—The current speed of both sending and receiving data in kB/s (kilobytes per second).

- **Dial-up** (GSM)—The dial-up number used, or **Name** (GPRS)—access point name used.

- **Shared** (not displayed if the connection is not shared)—The number of applications using the same connection.

## End connections

Scroll to a connection and select **Options > Disconnect** to end that connection only, or select **Options > Disconnect all** to close all currently open connections.

# • CONNECT YOUR PHONE TO A COMPATIBLE COMPUTER

For further information on how to make a connection to a compatible computer by infrared, USB, or Bluetooth connection, and how to install PC Suite, see the *Installation Guide for PC Suite* on the CD-ROM in the 'Install' section. For further information on how to use PC Suite, see the help function on PC suite.

## Use the CD-ROM

The CD-ROM should launch itself after you have inserted it into the CD-ROM drive of your compatible PC. If not, proceed as follows:

1 Click the Window Start button and select Programs > Windows Explorer.

2 On the CD-ROM drive, locate a file called setup.exe and double-click it. The CD-ROM interface opens.

3 You can find PC Suite in the 'Install' section. Double-click 'PC Suite for Nokia 6620'. The installation wizard will guide you through the installation process.

## Use your phone as a modem

Use your phone as a modem to connect to the Internet with a compatible PC, or to send and receive faxes. Select **Menu > Connect. > Modem**.

Detailed instructions can be found in *Quick Guide for Modem Options for Nokia 6620* on the CD-ROM supplied with the phone.

# • SYNC—REMOTE SYNCHRONIZATION

Select **Menu > Sync**.

The Sync application enables you to synchronize your calendar or contacts with various calendar and address book applications on a compatible computer or on the Internet. Synchronization takes place over a GSM data call or packet data connection.

The synchronization application uses SyncML technology for synchronization. For information on SyncML compatibility, please contact the supplier of the calendar or address book application with which you want to synchronize your phone data.
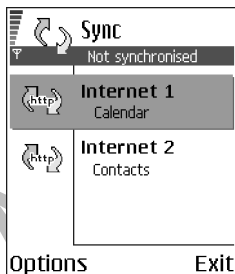
## Create a new synchronization profile

Options in the Sync main view: *Synchronize*, *New sync profile*, *Edit sync profile*, *Delete*, *View log*, *Help*, and *Exit*.

1   If no profiles have been defined, the phone asks you if you want to create a new profile. Select **Yes**.

    To create a new profile in addition to existing ones, select **Options > New sync profile**. Choose whether you want to use the default setting values or copy the values from an existing profile to be used as the basis for the new profile.

2   Define the following:

    **Sync profile name**—Write a descriptive name for the profile.

    **Access point**—Select the access point you want to use for the data connection.

    **Host address**—Contact your service provider or system administrator for the correct values.

    **Port**—Contact your service provider or system administrator for the correct values.

    **User name**—Your user ID for the synchronization server. Contact your service provider or system administrator for your correct ID.

    **Password**—Write your password. Contact your service provider or system

administrator for the correct value.

3   Scroll right to select:

**Calendar**—Select **Yes** if you want to synchronize your calendar.

**Remote calendar**—Enter a correct path to the remote calendar on the server. Must be defined if the previous setting **Calendar** has been set to **Yes**.

**Contacts**—Select **Yes** if you want to synchronize your contacts.

**Remote contacts**—Enter a correct path to the remote address book on the server. It must be defined if the previous setting **Contacts** has been set to **Yes**.

4   Press **Done** to save the settings.

## Synchronize data

In the Sync main view, you can see the different profiles, and what kind of data will be synchronized: Calendar, Contacts, or both.

1   In the main view, scroll to a profile and select **Options > Synchronize**. The status of the synchronization is shown at the bottom of the screen.

    To cancel synchronization before it is finished, press **Cancel**.

    You are notified when the synchronization has been completed.

2   After synchronization is complete, press **View log**, or select **Options > View log** to open a log file showing the synchronization status (**Complete** or **Incomplete**) and how many calendar or contact entries have been added, updated, deleted, or discarded (not synchronized) in the phone or on the server.

# 13 Troubleshooting

## • SIM CARD

A SIM (Subscriber Identity Module) card is required for your Nokia GSM phone to operate. The SIM card is supplied by your service provider and has your mobile phone number and all subscriber account information programmed on it.

You can save contact information from your Contacts list on the SIM card so that when you use the SIM card in another GSM phone or terminal, your phone number and contacts will be available to you on the SIM card rather than stored in phone memory.

The SIM card in the Nokia 6620 phone is located under the battery in the top left corner. The SIM card must be inserted under the hood and the gold contacts on the card must make direct contact with the gold contacts in the card slot. See "Insert the SIM card" on page 9.

## • MEMORY LOW

When one of the following notes is shown, the phone memory is low and you must delete some data: **Not enough memory to perform operation. Delete some data first.** or **Memory low. Delete some data.** To view what kind of data you have and how much memory the different data groups consume, select **Tools > File Mngr > Options > Memory details**.

**You may want to delete the following items regularly to avoid memory getting low:**

- Messages from the Inbox, Drafts, and Sent folders in Messaging.
- Retrieved e-mail messages from the phone memory.
- Saved browser pages.
- Images, video clips, and sound clips in the Gallery.

If you want to delete contact information, calendar notes, call timers, call cost timers, game scores, or any other data, go to the respective application to remove the data.

If you are deleting multiple items and one of the following notes is shown again: **Not enough memory to perform operation. Delete some data first.** or **Memory low. Delete some data.**, try deleting items one by one (starting from the smallest item).

## Clear calendar memory

To remove more than one event at a time, go to the Month view and select **Options > Delete entry** and one of the following:

- **Before date**—To delete all calendar notes which take place before a certain date. Enter the date before which all calendar notes will be deleted.

- **All entries**—To delete all calendar notes.

## Erase log information

To erase all the log contents, Recent calls register, and Messaging delivery reports permanently, go to Logs, scroll right, and select **Options > Clear log** or select **Settings > Log duration > No log**.

# • DIFFERENT WAYS TO STORE DATA

- Use PC Suite to make a backup copy of all data to your computer. See "Connect your phone to a compatible computer" on page 116.

- Send images to your e-mail address and then save the images to your computer.

- Send data by infrared or Bluetooth connection to another compatible device.

- Store data on a compatible memory card.

# • Q&A

## Phone display

**Q. Why do missing, discolored or bright dots appear on the screen every time I turn on my phone?**

A. This is a characteristic of this type of display. Some displays may contain pixels or dots that remain on or off. This is normal, not a fault.

## Camera

**Q. Why do images look smudgy?**

A. Check that the camera lens protection window is clean. See "Care and maintenance" on page 128.

# Bluetooth connection

**Q. Why can't I end a Bluetooth connection?**

A. If another device is pairing with your phone but not sending data, and leaves the device connection open, then the only way to disconnect it is to deactivate the Bluetooth link altogether. Select **Menu > Connect. > Bluetooth** and select the setting **Bluetooth > Off**.

**Q. Why can't I find a device using Bluetooth technology.**

A. Check that both have activated their Bluetooth connections.

Check that the distance between the two devices is not over 10 meters or that there are no walls or other obstructions between the devices.

Check that the other device is not in 'Hidden' mode.

Check that both devices are compatible.

# Multimedia messaging

**Q. What should I do when the phone tells me that it cannot receive a multimedia message because memory is full?**

A. The amount of memory needed is indicated in the error message: **Not enough memory to retrieve message. Delete some data first.** To view what kind of data you have and how much memory the different data groups consume, select **Tools > File Mngr > Options > Memory details**.

**Q. How can I end the data connection when the phone starts a data connection again and again? The notes: Retrieving message or Trying to retrieve message again are shown briefly. What is happening?**

A. The phone is trying to retrieve a multimedia message from the multimedia messaging center.

Check that the settings for multimedia messaging have been defined correctly and that there are no mistakes in phone numbers or addresses. Select **Messaging > Options > Settings > Multimedia message**.

To stop the phone from making a data connection, you have the following options. Select **Messaging** and select **Options > Settings > Multimedia message**, and then:

Select **On receiving msg. > Defer retrieval** if you want the multimedia messaging center to save the message to be retrieved later, for example, after you have checked the settings. After this change, the phone still needs to send information notes to the network. When you want to retrieve the message, select **Retr. immediately**.

Select **On receiving msg. > Reject message** if you want to reject all incoming

multimedia messages. After this change, the phone needs to send information notes to the network and the multimedia messaging center will delete all multimedia messages that are waiting to be sent to you.

Select **Multimedia reception > Off** if you want to ignore all incoming multimedia messages. After this change the phone will not make any network connections related to multimedia messaging.

## Messaging

**Q.   Why can't I select a contact?**

A.   If you cannot select a contact in the Contacts directory, the contact card does not have a phone number or an e-mail address. Add the missing information to the contact card in the Contacts application.

## Calendar

**Q.   Why are the week numbers missing?**

A.   If you have changed the Calendar settings so that the week starts on a day other than Monday, then the week numbers will not be shown.

## Browser services

**Q.   No valid access point defined. Define one in Web settings.**

A.   Insert the proper browser settings. Contact your service provider for instructions.

## Log

**Q.   Why does the log appear empty?**

A.   You may have activated a filter, and no communication events fitting that filter have been logged. To see all events in Logs, select **Options > Filter > All communication**.

## PC connectivity

**Q.   Why do I have problems in connecting the phone to my PC?**

A.   Make sure that PC Suite is installed and running on your PC. See the Installation guide for PC Suite on the CD-ROM in the 'Install' section. For further information on how to use PC Suite, see the help function of PC suite.

## Security codes

**Q.   What is my password for the lock code, PIN code, or PUK code?**

A.   The default lock code is **12345**. If you forget or lose the lock code, contact your phone dealer.

If you forget or lose a PIN or PUK code or if you have not received such a code, contact your service provider.

For information about passwords, contact your access point provider, for example, a commercial Internet service provider (ISP), service provider, or network operator.

## Application not responding

**Q. How do I close an application that is not responding?**

A. Open the application switching window by pressing and holding the **Menu** key. Then scroll to the application, and press the **Clear** key to close the application.

# 14  Reference information

## • BATTERY INFORMATION

Your device is powered by a rechargeable battery. The full performance of a new battery is achieved only after two or three complete charge and discharge cycles. 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, buy a new battery. Use only Nokia approved batteries, and recharge your battery only with Nokia approved chargers designated for this device.

Unplug the charger from the electrical plug and the device when not in use. Do not leave the battery connected to a charger. Overcharging may shorten its lifetime. If left unused, a fully charged battery will lose its charge over time. Temperature extremes can affect the ability of your battery to charge.

Use the battery only for its intended purpose. Never use any charger or battery that is damaged.

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.

Leaving the battery in hot or cold places, such as in a closed car in summer or winter conditions, will reduce the capacity and lifetime of the battery. Always try to keep the battery between 59°F and 77°F (15°C and 25°C). A device with a hot or cold battery may not work temporarily, even when the battery is fully charged. Battery performance is particularly limited in temperatures well below freezing.

Do not dispose of batteries in a fire! Dispose of batteries according to local regulations. Please recycle when possible. Do not dispose as household waste.

## • ENHANCEMENTS

A few practical rules about accessories and enhancements:

- Keep all accessories and enhancements out of the reach of small children.
- When you disconnect the power cord of any accessory or enhancement, grasp and pull the plug, not the cord.
- Check regularly that enhancements installed in a vehicle are mounted and are operating properly.

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- Installation of any complex car enhancements must be made by qualified personnel only.

# • ENHANCEMENTS, BATTERIES, AND CHARGERS

Check the model number of any charger before use with this device. This device is intended for use when supplied with power from ACP-12U or LCH-12.

⚠️ **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.

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

## Battery

The 850 mAh, Li-Ion based BL-5C battery provides power in a thin and light package. It provides a talk time of up to 2–4 hours and up to 150–200 hours standby time. Charging time is 1 hour and 35 minutes.

Variation in operation times will occur depending on SIM card, network and usage settings, usage style and environments. Talk time is reduced by 5 percent if Enhanced Full Rate is active, and increased by up to 30 percent if Half Rate is active.

## Chargers

The Nokia 6620 uses the ACP-12U standard charger and mobile chargers LCH-9 and LCH-12. The LCH-12 mobile charger can be used with 12 Vdc or 24 Vdc. The Nokia 3620 and Nokia 3660 phones are also compatible with the ACP-12U and ACP-8U travel chargers.

**ACP-12U**

## Other compatible enhancements

Headset audio

- Standard headset (HS-5)
- Stereo headset (HDS-3)
- Retractable headset (HS-10)
- Boom headset (HDB-4)
- FM radio headset (HS-2R)
- Wireless Headsets (HDW-2 and HS-3W)
- Inductive loopset (LPS-4) (See "Inductive Loopset LPA-4" on page 127.)
- Phone adapter (HDA-10) (See "Phone Adapter HDA-10" on page 127.)

Car

- Mobile charger (LCH-12)
- Mobile holder (MBC-19)
- Wireless Car Kit (CK-1W)
- Headrest Handsfree (BHF-3)

Data

- Connectivity cable (DKU-2)
- Memory card 128 MB (DTS-128)

Imaging

- Nokia Image Viewer (SU-2)
- Picture Frame (SU-4)
- Nokia Digital Pen (SU-1B)

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## INDUCTIVE LOOPSET LPA-4

**T**he LPA-4 Loopset gives people with T-coil equipped hearing aids the ability to make and receive calls without noise interference.

The Loopset is easy to use and gives hearing-impaired users clear access to digital telephony. You wear the Loopset around your neck, connect it to your phone, and speak directly toward the microphone.

If you are using a Loopset, you must activate it on your mobile phone by selecting **Menu** > **Tools** > **Settings** > **Enhancement** > **Enhancement in use** > **Loopset**.

**Note:** The Loopset can be purchased separately as an enhancement. For operating instructions, refer to the booklet that comes with the LPA-4.
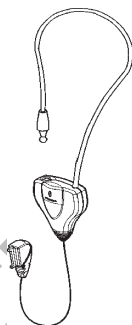
For more information, see "Accessibility solutions" on page 6.

## PHONE ADAPTER HDA-10

The HDA-9 Phone Adapter is a Nokia enhancement that allows you to connect your mobile phone to a Telecommunications Device for the Deaf (TTY/TDD) to make a call in digital mode.

**18 in.**

If you are using a Phone Adapter, you must activate it on your mobile phone by selecting **Menu** > **Tools** > **Settings** > **Enhancement** > **Enhancement in use** > **TTY.**

In addition to the Nokia 6620 phone, you'll need the following for TTY/TDD communication:

- A TTY/TDD device that is "cellular ready" or "cellular compatible"
- A cable for connecting the TTY/TDD to your phone, usually supplied by the manufacturer of the TTY/TDD device
- The Phone Adapter (HDA-10), which can be purchased separately as an accessory at **www.nokia.com**

For more information, see "Accessibility solutions" on page 6.
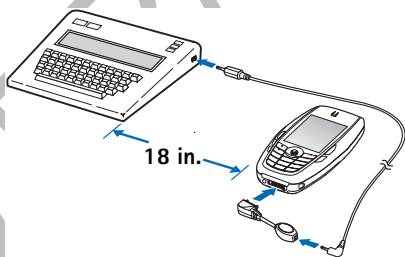
# • CARE AND MAINTENANCE

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

- 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.
- 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. Unauthorized antennas, modifications, or attachments could damage the device and may violate regulations governing radio devices.

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

# • ADDITIONAL SAFETY INFORMATION

## Operating environment

Remember to follow any special regulations in force in any area and always switch off your device when its use is prohibited or when it may cause interference or danger. Use the device only in its normal operating positions. To maintain

compliance with radio frequency exposure guidelines only use accessories approved by Nokia for use with this device. When the device is on and being worn on the body, always use an approved carrying case.

Parts of the device are magnetic. Metallic materials may be attracted to the device, and persons with a hearing aid should not hold the device to the ear with the hearing aid. Always secure the device in its holder, because metallic materials may be attracted by the earpiece. 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 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.

## PACEMAKERS

Pacemaker manufacturers recommend that a minimum separation of 6 in (15.3 cm) be maintained between a wireless phone and a pacemaker to avoid potential interference with the pacemaker. These recommendations are consistent with the independent research by and recommendations of Wireless Technology Research. To minimize the potential for interference, persons with pacemakers should

- Always keep the device more than 6 in (15.3 cm) from their pacemaker when the device is switched on
- Not carry the device in a breast pocket
- Hold the device to the ear opposite the pacemaker

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

## HEARING AID

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, 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 an 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.

## 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, vehicles using liquefied petroleum gas (such as propane or butane), and areas where the air contains chemicals or particles such as grain, dust or metal powders.

FCC regulations prohibit using your wireless device while in the air. The use of wireless telephones in an aircraft may be dangerous to the operation of the aircraft, disrupt the wireless telephone network, and may be illegal.

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

# • EMERGENCY CALLS

**Important:** Wireless phones, including this phone, operate using radio signals, wireless networks, landline networks, and user-programmed functions. Because of this, connections in all conditions cannot be guaranteed. You should never rely solely on any wireless phone for essential communications like medical emergencies.

To make an emergency call:

1  If the phone is not on, switch it on. Check for adequate signal strength. Some networks may require that a valid SIM card is properly inserted in the phone.
2  Press the **End** key as many times as needed to clear the display and ready the

phone for calls.

3   Key in the official emergency number for your present location. Emergency numbers vary by location.

4   Press the **Send** key.

If certain features are in use, you may first need to turn those features off before you can make an emergency call. Consult this guide or your service provider. When making an emergency call, give all the necessary information as accurately as possible. Your wireless phone may be the only means of communication at the scene of an accident. Do not end the call until given permission to do so.

# • 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 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, or SAR. The SAR limit set by the FCC is 1.6W/kg.* Tests for SAR 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 phone model 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 (for example, at the ear and worn on the body) as required by the FCC for each model.

The highest SAR value for this model phone as reported to the FCC when tested for use at the ear is 1.06 W/kg, and when worn on the body, as described in this user guide, is 1.22 W/kg. (Body-worn measurements differ among phone models, depending upon available enhancements and FCC requirements).

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 **QURNHL-12**.

For body worn operation, this phone has been tested and meets the FCC RF exposure guidelines for use with a carry case, belt clip, or holder that contains no metal and that positions the handset a minimum of 5/8 inch (1.5 cm) from the body. Use of other carry cases, belt clips, or holders may not ensure compliance with FCC RF exposure guidelines. If you do not use a body-worn accessory and are not holding the phone at the ear, position the handset a minimum of 5/8 inch (1.5 cm) from your body when the phone is switched on.

*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. SAR values may vary depending on national reporting requirements and the network band. For SAR information in other regions please look under product information at **www.nokia.com**.

# • NOKIA 6620 TECHNICAL INFORMATION

| Feature | Specification |
|---|---|
| **Weight** | 4.4 oz (124 g) with 900-mAh Li-Ion battery |
| **Size** | 117 cc |
| **Frequency Range** | Lowband 850<br>824–849 MHz (TX)<br>869–894 MHz (RX)<br>Highband 1800<br>1710–1785 MHz (TX)<br>1805–1880 MHz (RX)<br>Highband 1900<br>1850–1910 MHz (TX)<br>1930–1990 MHz (RX) |
| **Transmitter Output Power** | Lowband up to 2 W<br>Highband up to 1 W |
| **Battery Voltage** | 3.7 V nominal |
| **Operating Temperature** | 14°F to + 131°F<br>(-10°C to + 55°C) |
| **Memory Locations** | Up to |

FCC DRAFT

# • Nokia ONE–YEAR LIMITED WARRANTY

Nokia Inc. ("Nokia") warrants that this cellular phone ("Product") is free from defects in material and workmanship that result in Product failure during normal usage, according to the following terms and conditions:

1. The limited warranty for the Product extends for ONE (1) year beginning on the date of the purchase of the Product. This one year period is extended by each whole day that the Product is out of your possession for repair under this warranty.
2. The limited warranty extends only to the original purchaser ("Consumer") of the Product and is not assignable or transferable to any subsequent purchaser/end-user.
3. The limited warranty extends only to Consumers who purchase the Product in the United States of America.
4. During the limited warranty period, Nokia will repair, or replace, at Nokia's sole option, any defective parts, or any parts that will not properly operate for their intended use with new or refurbished replacement items if such repair or replacement is needed because
of product malfunction or failure during normal usage. No charge will be made to the Consumer for any such parts. Nokia will also pay for the labor charges incurred by Nokia in repairing or replacing the defective parts. The limited warranty does not cover defects in appearance, cosmetic, decorative or structural items, including framing, and any non-operative parts. Nokia's limit of liability under the limited warranty shall be the actual cash value of the Product at the time the Consumer returns the Product for repair, determined by the price paid by the Consumer for the Product less a reasonable amount for usage. Nokia shall not be liable for any other losses or damages. These remedies are the Consumer's exclusive remedies for breach of warranty.
5. Upon request from Nokia, the Consumer must prove the date of the original purchase of the Product by a dated bill of sale or dated itemized receipt.
6. The Consumer shall bear the cost of shipping the Product to Nokia in Melbourne, Florida. Nokia shall bear the cost of shipping the Product back to the Consumer after the completion of service under this limited warranty.
7. The Consumer shall have no coverage or benefits under this limited warranty if any of the following conditions are applicable:
   a) The Product has been subjected to abnormal use, abnormal conditions, improper storage, exposure to moisture or dampness, unauthorized modifications, unauthorized connections, unauthorized repair, misuse, neglect, abuse, accident, alteration, improper installation, or other acts which are not the fault of Nokia, including damage caused by shipping.
   b) The Product has been damaged from external causes such as collision

with an object, or from fire, flooding, sand, dirt, windstorm, lightning, earthquake or damage from exposure to weather conditions, an Act of God, or battery leakage, theft, blown fuse, or improper use of any electrical source, damage caused by computer or internet viruses, bugs, worms, Trojan Horses, cancelbots or damage caused by the connection to other products not recommended for interconnection by Nokia.

**c)** Nokia was not advised in writing by the Consumer of the alleged defect or malfunction of the Product within fourteen (14) days after the expiration of the applicable limited warranty period.

**d)** The Product serial number plate or the enhancement data code has been removed, defaced or altered.

**e)** The defect or damage was caused by the defective function of the cellular system or by inadequate signal reception by the external antenna, or viruses or other software problems introduced into the Product.

**8** Nokia does not warrant uninterrupted or error-free operation of the Product. If a problem develops during the limited warranty period, the Consumer shall take the following step-by-step procedure:

**a)** The Consumer shall return the Product to the place of purchase for repair or replacement processing.

**b)** If "a" is not convenient because of distance (more than 50 miles) or for other good cause, the Consumer shall ship the Product prepaid and insured to:
Nokia Inc., Attn: Repair Department
795 West Nasa Blvd.
Melbourne, FL 32901

**c)** The Consumer shall include a return address, daytime phone number and/ or fax number, complete description of the problem, proof of purchase and service agreement (if applicable). Expenses related to removing the Product from an installation are not covered under this limited warranty.

**d)** The Consumer will be billed for any parts or labor charges not covered by this limited warranty. The Consumer will be responsible for any expenses related to reinstallation of the Product.

**e)** Nokia will repair the Product under the limited warranty within 30 days after receipt of the Product. If Nokia cannot perform repairs covered under this limited warranty within 30 days, or after a reasonable number of attempts to repair the same defect, Nokia at its option, will provide a replacement Product or refund the purchase price of the Product less a reasonable amount for usage. In some states the Consumer may have the right to a loaner if the repair of the Product takes more than ten (10) days. Please contact the Customer Service Center at Nokia at the telephone

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number listed at the end of this warranty if you need a loaner and the repair of the Product has taken or is estimated to take more than ten (10) days.

**f)** If the Product is returned during the limited warranty period, but the problem with the Product is not covered under the terms and conditions of this limited warranty, the Consumer will be notified and given an estimate of the charges the Consumer must pay to have the Product repaired, with all shipping charges billed to the Consumer. If the estimate is refused, the Product will be returned freight collect. If the Product is returned after the expiration of the limited warranty period, Nokia's normal service policies shall apply and the Consumer will be responsible for all shipping charges.

**9** You (the Consumer) understand that the product may consist of refurbished equipment that contains used components, some of which have been reprocessed. The used components comply with Product performance and reliability specifications.

**10** ANY IMPLIED WARRANTY OF MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OR USE, SHALL BE LIMITED TO THE DURATION OF THE FOREGOING LIMITED WRITTEN WARRANTY. OTHERWISE, THE FOREGOING LIMITED WARRANTY IS THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. NOKIA SHALL NOT BE LIABLE FOR SPECIAL, INCIDENTAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF ANTICIPATED BENEFITS OR PROFITS, LOSS OF SAVINGS OR REVENUE, LOSS OF DATA, PUNITIVE DAMAGES, LOSS OF USE OF THE PRODUCT OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT OR FACILITIES, DOWNTIME, THE CLAIMS OF ANY THIRD PARTIES, INCLUDING CUSTOMERS, AND INJURY TO PROPERTY, RESULTING FROM THE PURCHASE OR USE OF THE PRODUCT OR ARISING FROM BREACH OF THE WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT, OR ANY OTHER LEGAL OR EQUITABLE THEORY, EVEN IF NOKIA KNEW OF THE LIKELIHOOD OF SUCH DAMAGES. NOKIA SHALL NOT BE LIABLE FOR DELAY IN RENDERING SERVICE UNDER THE LIMITED WARRANTY, OR LOSS OF USE DURING THE PERIOD THAT THE PRODUCT IS BEING REPAIRED.

11  Some states do not allow limitation of how long an implied warranty lasts, so the one year warranty limitation may not apply to you (the Consumer). Some states do not allow the exclusion or limitation of incidental and consequential damages, so certain of the above limitations or exclusions may not apply to you (the Consumer). This limited warranty gives the Consumer specific legal rights and the Consumer may also have other rights which vary from state to state.

12  Nokia neither assumes nor authorizes any authorized service center or any other person or entity to assume for it any other obligation or liability beyond that which is expressly provided for in this limited warranty including the provider or seller of any extended warranty or service agreement.

13  This is the entire warranty between Nokia and the Consumer, and supersedes all prior and contemporaneous agreements or understandings, oral or written, relating to the Product, and no representation, promise or condition not contained herein shall modify these terms.

14  This limited warranty allocates the risk of failure of the Product between the Consumer and Nokia. The allocation is recognized by the Consumer and is reflected in the purchase price.

15  Any action or lawsuit for breach of warranty must be commenced within eighteen (18) months following purchase of the Product.

16  Questions concerning this limited warranty may be directed to:
Nokia Inc.
Attn: Customer Service
7725 Woodland Center Blvd., Ste. 150
Tampa, FL 33614
Telephone: 1-888-NOKIA-2U (1-888-665-4228)
Facsimile: (813) 287-6612
TTY/TDD Users Only: 1-800-24-NOKIA (1-800-246-6542)

17  The limited warranty period for Nokia supplied attachments and accessories is specifically defined within their own warranty cards and packaging.

# Appendix A

## Message from the CTIA (Cellular Telecommunications & Internet Association) to all users of mobile phones.

*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.*

For more information, please call 1-888-901-SAFE.

For updates: http://www.wow-com.com/consumer/issues/driving/ articles.cfm?ID=85

# Appendix B

## Message from the FDA (U.S. Food and Drug Administration) to all users of mobile phones.

July 18, 2001 ........ For updates: http://www.fda.gov/cdrh/phones

## Consumer Update on Wireless Phones

U.S. Food and Drug Administration

### 1. 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.

### 2. 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 subject of the safety questions discussed in this document.

### 3. 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 far below the FCC safety limits.

### 4. 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 don't know with certainty what the results of such studies mean for human health.

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

### 5. 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.

**6.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.

**7. How can I find out how much radiofrequency energy exposure I can get by using my wireless phone?**

All phones sold in the United States must comply with Federal Communications Commission (FCC) guidelines that limit radiofrequency energy (RF) exposures. FCC established these guidelines in consultation with FDA and the other federal health and safety agencies. The FCC limit for RF exposure from wireless telephones is set at a Specific Absorption Rate (SAR) of 1.6 watts per kilogram (1.6 W/kg). The FCC limit is consistent with the safety standards developed by the Institute of Electrical and Electronic Engineering (IEEE) and the National Council on Radiation Protection and Measurement. The exposure limit takes into consideration the body's ability to remove heat from the tissues that absorb energy from the wireless phone and is set well below levels known to have effects.

Manufacturers of wireless phones must report the RF exposure level for each model of phone to the FCC. The FCC website (http://www.fcc.gov/oet/rfsafety) gives directions for locating the FCC identification number on your phone so you can find your phone's RF exposure level in the online listing.

**8. What has FDA done to measure the radiofrequency energy coming from wireless phones?**

The Institute of Electrical and Electronic Engineers (IEEE) is developing a technical standard for measuring the radiofrequency energy (RF) exposure from wireless phones and other wireless handsets with the participation and leadership of FDA scientists and engineers. The standard, Recommended Practice for Determining the Spatial-Peak Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques, sets forth the first consistent test methodology for measuring the rate at which RF is deposited in the heads of wireless phone users. The test method uses a tissue-simulating model of the human head. Standardized SAR test methodology is expected to greatly improve the consistency of measurements made at different laboratories on the same phone. SAR is the measurement of the amount of energy absorbed in tissue, either by the whole body or a small part of the body. It is measured in watts/kg (or milliwatts/g) of matter. This measurement is used to determine whether a wireless phone complies with safety guidelines.

**9. 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.

**10. 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.

**11. 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 accompanied 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.

## 12. Where can I find additional information?

For additional information, please refer to the following resources:

- FDA web page on wireless phones
  http://www.fda.gov/cdrh/phones/index.html
- Federal Communications Commission (FCC) RF Safety Program
  http://www.fcc.gov/oet/rfsafety
- International Commission on Non-Ionizing Radiation Protection
  http://www.icnirp.de
- World Health Organization (WHO) International EMF Project
  http://www.who.int/emf
- National Radiological Protection Board (UK)
  http://www.nrpb.org.uk/

July 18, 2001For updates: http://www.fda.gov/cdrh/phones

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