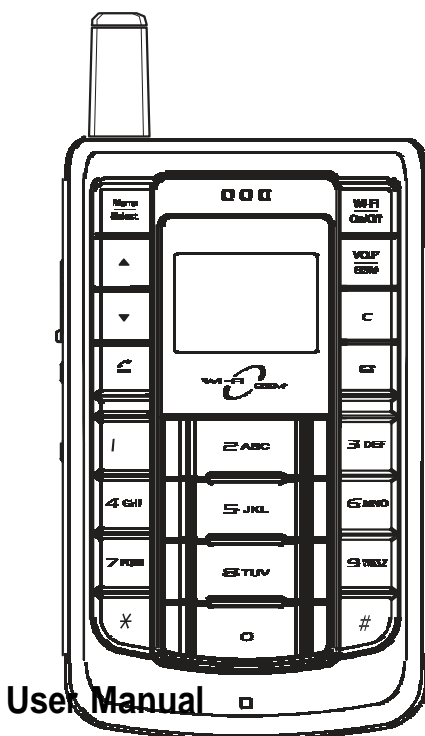


# G-Tek PWG-500



# TABLE OF CONTENTS



## Welcome

---

Overview of the PWG-500 .....	1
Features .....	1
Front view .....	2
Side views.....	4
Display indicators .....	6
Package contents .....	8
Specifications .....	9
Using the menu.....	12
Menu map .....	12

## Getting started

---

Inserting the SIM cards and battery .....	18
Charging the battery .....	21
Connecting the wired earphones .....	22
Turning the phone on/off .....	22
Locking/unlocking the keypad.....	23
Entering text.....	23

## Making calls

---

Making a call .....	25
Selecting the call type.....	25
Using the keypad to dial .....	26
Using the phone book to dial.....	26
Making an international call .....	27
Adjusting the volume .....	27
Answering or rejecting a call.....	27
Redialing a number .....	28
Speed dialing a number .....	28
Making an emergency call .....	29
Call logs.....	30
Returning a missed call .....	31



Deleting call logs .....	31
Call options.....	32
Using the speaker phone.....	32
Putting a call on hold.....	32
Answering/rejecting a waiting call.....	33
Conducting a conference call.....	33
Transferring a call .....	33
Call waiting.....	34
Call forwarding.....	34
Call barring .....	34
Caller ID .....	35
DTMF.....	35
Prefix dialing .....	35

## Using the phone book

---

Adding contacts .....	36
Creating a new entry.....	36
Storing a number .....	36
Searching for a contact .....	37
Modifying contact information.....	37
Assigning a speed dial number .....	38
Deleting contacts.....	38

## Sending messages

---

Writing a message .....	39
Reading messages .....	39
Replying to a message.....	40
Forwarding messages.....	40
Deleting messages.....	40
Viewing message details.....	41

## Setting tones

---

Selecting a profile .....	42
Personalizing a profile.....	42
Saving a profile .....	43



## Configuring the settings

---

General settings .....	44
Outgoing calls .....	44
Language .....	44
Power saving mode .....	44
Keypad light .....	45
LCD sleep interval .....	45
Backlight .....	45
Alarm clock .....	45
Wi-Fi settings .....	46
General settings .....	46
Profiles .....	46
VoIP settings .....	49
General settings .....	49
Call control .....	49
Profiles .....	49
GSM settings .....	50
GPRS settings .....	51
Bluetooth settings .....	51
Clock settings .....	52
Saving settings .....	52

## Viewing the status

---

Using the status menu .....	53
-----------------------------	----

## Advanced features

---

Connecting to the PC .....	55
Installing the USB drivers and WIM .....	56
Upgrading the firmware .....	56
Using WIM .....	57
Browsing the Internet from the PC .....	66
Connecting to a PDA .....	67
Using GPRS to browse the Internet .....	68
Using Wi-Fi to browse the Internet .....	72



## Appendix

---

Additional information .....	73
FCC regulations .....	73
European regulations .....	75
RF exposure regulation (SAR) .....	76

# 1. WELCOME



Congratulations on your purchase of the wireless PWG-500, a VoIP (Voice over Internet Protocol) and GSM (Global System for Mobile communications) phone that also functions as your personal wireless gateway for connecting to wireless networks. Read this user manual carefully to understand how to operate the product and take advantage of its useful features.

## Overview of the PWG-500

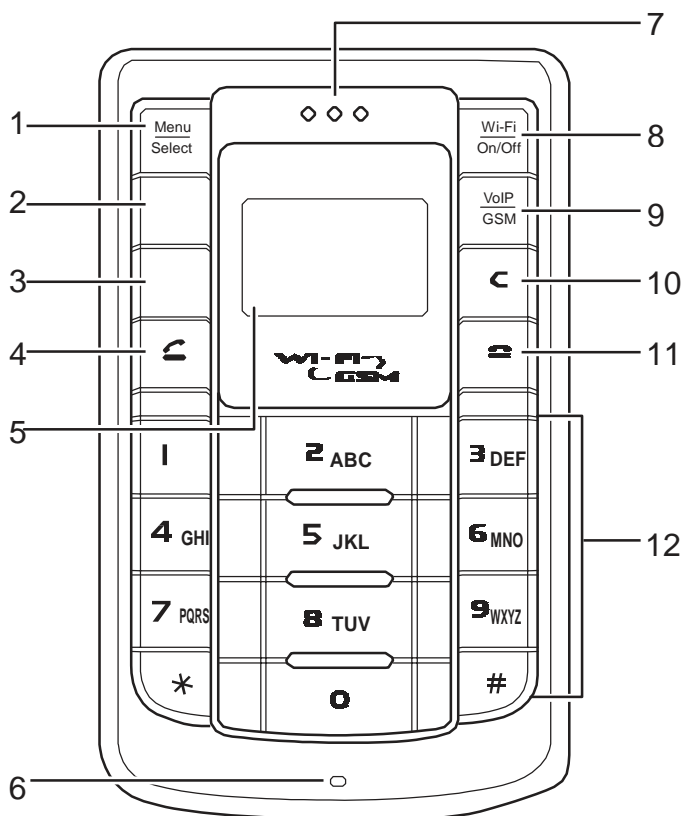
The PWG-500 enables you to make phone calls using GSM or VoIP networks. Moreover, you can also connect to Wi-Fi (Wireless Fidelity) (802.11b) or GPRS (General Packet Radio Service) networks using the PWG-500 as a modem or using Bluetooth.

### Features

- Seamless voice and data communication
- Dual mode functionality of mobile phone (GSM) and personal wireless gateway (Wi-Fi)
- Connectivity with various networks such as GSM, GPRS, VoIP, Wi-Fi, as well as Bluetooth devices
- Standalone mode lets you use the PWG-500 as a GSM phone or as a Wi-Fi phone to make and receive phone calls without using a PDA or portable computer
- Bluetooth wireless modem for PDA and portable PC
- USB port to connect to PC or PDA for phone applications and high-speed data transfer
- Mobile extension for IP-PBX IP telephony





## Front view



Name		Description
1.	Menu/Select key	Press to access the menu or select an option from the menu.
2.	Up arrow key ↖	<ul style="list-style-type: none"><li>• Press to scroll up through menu items.</li><li>• From standby mode, press to display the phone book.</li></ul>
3.	Down arrow key ↗	Press to scroll down through menu items.



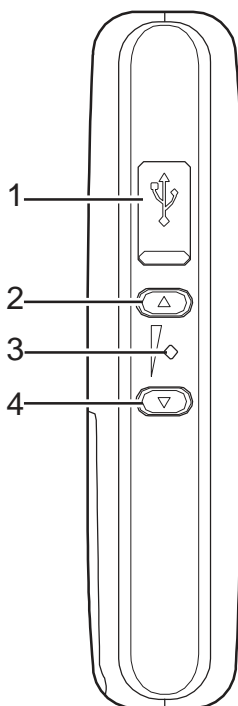
Name		Description
4.	Send/Answer key 	<ul style="list-style-type: none"><li>• Press to dial a phone number.</li><li>• Press to answer an incoming call.</li><li>• From standby mode, press to display a list of recently dialed numbers.</li></ul>
5.	Display screen	Displays call and status information.
6.	Microphone	For talking during phone calls.
7.	Speaker	For listening to phone calls.
8.	Wi-Fi On/Off key	Press to activate the Wi-Fi mode.
9.	VoIP/GSM key	Press to switch between VoIP ( <b>V</b> ), GSM ( <b>G</b> ), and Auto ( <b>A</b> ) mode.
10.	Clear/Delete key	<ul style="list-style-type: none"><li>• Press to cancel your selection and go to the previous menu.</li><li>• While entering text or numbers, press to erase characters.</li></ul>
11.	End/Reject key 	<ul style="list-style-type: none"><li>• Press to end a call.</li><li>• Press to reject an incoming call.</li><li>• In menu mode, press to cancel your selection and return to standby mode.</li></ul>
12.	Alphanumeric keypad	Use these keys to enter phone numbers and text.



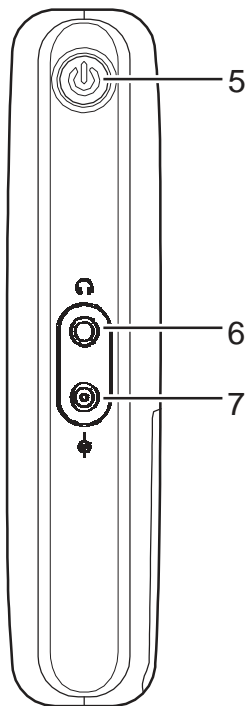


## Side views

Left view



Right view



Name	Description
1. USB port	Connect to USB port of your PC using USB cable.
2. Volume up key	Press to increase the volume.
3. Reset button	Use a small pointed object such as a pin to reset the PWG-500 if it locks up.
4. Volume down key	Press to decrease the volume.

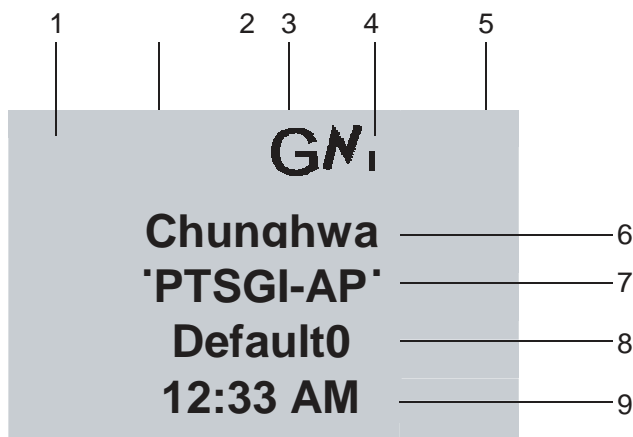


		Name	Description
5.	Power button		Press to turn the PWG-500 on or off.
6.	Earphone socket		Connect the provided earphones here.
7.	Power in		Connect the power adapter to this socket to charge the battery.



## Display indicators

In standby mode, the PWG-500 screen displays the following icons:



	Name	Description
1.	Battery charge	Displays the charge level of the battery. Five bars indicate that the battery is fully charged or has 100% charge.
2.	GSM signal strength	Displays the signal strength of GSM in the current location.
3.	VoIP/GSM mode	Displays VoIP or GSM option for outgoing calls. <b>G</b> indicates that the current outgoing call option is GSM while <b>V</b> indicates that the outgoing call option is set to VoIP. <b>A</b> indicates that the outgoing call option is Automatic.

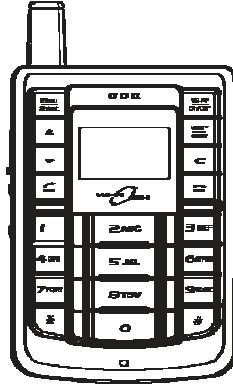


	Name	Description
4.	VoIP bandwidth	Displays the available bandwidth for VoIP.
5.	Wi-Fi signal strength	Displays the signal strength for Wi-Fi networks available at the current location. Five bars indicate maximum signal strength.
6.	GSM carrier	Displays the current GSM carrier service.
7.	Wi-Fi access point	Displays the name of the Wi-Fi access point.
8.	VoIP profile	Displays the name of the current VoIP profile.
9.	Time	Displays the current time.



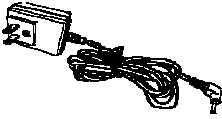
## Package contents

---

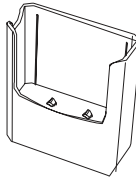


PWG-500

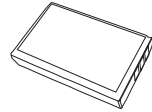
---



AC adapter



desktop charger

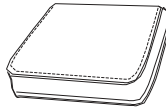


Li-ion battery

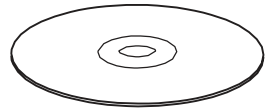
---



wired headset

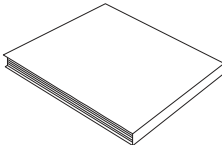


pouch

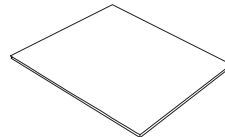


utility CD

---



user manual



quick start guide

---

# Specifications



## **GSM characteristics**

- Quad-band GSM 850, GSM 900, DCS 1800, PCS 1900, EGSM
- Output power: GSM 850: 29 dBm / GPRS 850: 28dBm / GSM 1900: 26 dBm / GPRS 1900: 26 dBm
- GPRS: Mobile station class B, multi-slot class 10
- GSM voice: HR/FR/EFR/AMR
- CSD up to 14.4kbps, SMS MT/MO/CB, G3 fax class 2.0
- SIM application tool kit class 1/2/3
- 2 SIM slots supported
- SMS, EMS, messaging

## **Wi-Fi characteristic**

- IEEE 802.11b
- Frequency range: 2412MHz ~ 2612MHz
- Wireless output power: Max. 14 dBm
- Operating range: Outdoor up to 300m; in-door up to 75m
- Supports infrastructure (public) mode and Ad-hoc mode (optional)
- QoS support TOS/DiffServ

## **Bluetooth characteristics**

- Bluetooth V1.1, class II compliant
- Frequency range: 2.402 ~ 2.480 MHz
- Power modes: Park, sniff, hold, and deep sleep
- Net capabilities: Pico-net and Scatter-net support
- Profiles: SPP, DUN, HSP

## **VoIP features**

- Codec supported: G.711a, G.711u, G.723.1, G726, and G.729ab
- Adaptive jitter buffer and echo cancellation
- G.168 echo cancellation
- Silence suppression
- Voice Activity Detection (VAD)
- Comfort Noise Generation (CNG)
- DTMF detection and relay



## **Network and protocols**

- SNMP manager
- DHCP or static configuration option
- Alternate TFTP support
- SIP (RFC 3261) version 2
- SDP (RFC2327)
- RTCP (RFC1890)
- Supports outbound proxy for NAT traversal
- Site survey, trace route (hidden feature), seamless secure roaming, and VLAN support

## **Security**

- IEEE 802.1x authentication: Optional password prompt at power up
- 40 and 128 bit static Wired Equivalent Privacy (WEP)
- Optional phone lock password

## **Power**

- Replaceable and rechargeable 1300 mAH Li-ion battery
- Talk time: 4 hours talk time, 72 hours standby
- AC adapter 100~240V, 50~60Hz, 5V 650mA DC output

## **Calling features**

- Caller ID display, call waiting, call forward, Call transfer
- Pre-dialing before sending
- Call mute
- Redial
- Call hold/resume
- Call park
- Call divert between 2 SIMs
- Conference call

## **User interface**

- Color STN display 96 x 64 RGB pixels with LED backlight, 4K color resolution, pixel size: 0.219mm x 0.219mm



- Four multi-function soft keys provide easy user operation dynamically
- Keys: Power, Volume, Menu/Select, Send/End, 12 keys dialer pad
- Selection of menu, user profiles, languages, and ring types by soft keys
- Hotkey for keypad lock
- Hotkey for voice mail access, call logs
- Ten configurable speed dial numbers
- Idle/call state-based soft keys
- Local phone book
- Time/date display
- Keypad lock, vibration icon indicators
- RF level and battery gas gauge indication
- Polyphonic ringer, vibrator, and visual display alert
- Pocket PC 2002/2003; Windows-based WIM management and network configuration utility

### **Physical specifications**

- Dimensions (H x W x D): 100mm x 60mm x 22mm
- Weight (with standard battery): 128g
- Built-in speaker/MIC
- Built-in real time clock (RTC) in 12/24-hour format
- USB 2.0 slave
- Jacks for headset and DC charging
- Certifications: FCC, CE, BQB
- Accessories: AC adapter, desktop charger, Li-ion battery, wired headset, pouch, utility CD, user manual, quick start guide

### **Environmental specifications**

- Operating temperature: 32~113°F (0~45°C)
- Storage temperature: -22~140°F (-30~60°C)
- Relative humidity: 10~95% (non-condensing)
- Thermal shock: -30C, 24 hours to +70C, 24 hours





## Using the menu

The PWG-500's menu lets you access the product settings and set up the device according to the network conditions. The menu is set up in a simple and easy-to-understand manner. Follow these steps to access the menu and menu items.

1. In standby mode, press the **Menu/Select** key to access the menu. The first menu option, **Phone Book**, is displayed.
2. Scroll through the main menu options using the  $\nabla$  or  $\wedge$  arrows keys and press the **Menu/Select** key to view the submenu. For example, scroll to **Messages** and press **Menu/Select** to view text messages.
3. Repeat the previous step to browse through the menu items, submenus and options. For instance, to write a text message, select **Messages** and then **Create New**.
4. To choose a menu setting, press the **Menu/Select** key to save it.

## Menu map

- **Phone Book**
  - Search
  - Add
  - Edit
  - Delete
    - Delete One by One
    - Delete All
  - Assign Speed Dial
    - Modify
    - View
    - Delete



- **Messages**
  - Create New
  - Inbox
    - Forward
    - Delete
    - Details
  - Outbox
    - Forward
    - Delete
    - Details
- **Call Logs**
  - Missed Calls
  - Received Calls
  - Dialed Calls
  - Recent Calls

The following submenu options are available when you select a number from any of the Call Logs:

- Call
  - Delete
  - Save
- Delete Recent Calls
  - All
  - Missed Calls
  - Dialed Calls
  - Received Calls
- **Tones**
  - General
  - Silent
  - Meeting
  - Outdoor
  - Pager



The following submenu options are available for each of the Tones:

- Activate
- Personalize
  - Ringtone
  - Ring Volume
  - Alert Type
  - Key Beep
- Edit Name
- Save to Flash
- **Settings**
  - General
    - Out Going Call
    - Language
    - Power saving
    - Keypad Light
    - LCD Sleep Interval
    - Backlight On/Off
    - Alarm Clock
  - Wi-Fi
    - General
      - Wi-Fi On/Off
      - Wi-Fi Connectivity
    - Profiles
      - Manual
  - Personalize
    - Configuration
      - Operating Mode
      - Channel
      - User Name
      - Password
      - ESSID
      - Auth. Protocol
    - Encryption
      - Protocol



- WEP Key
  - Advanced
    - Power Saving
    - RTS/CTS Threshold
    - Frag. Threshold
    - Transfer Rate
    - Use DHCP (If you select No, the following options are available for modification: IP Address, Subnet Mask, Default Gateway, Primary DNS, Alternate DNS)
  - Restore defaults
- Default
  - Activate
  - Personalize
  - Edit Profile Name
- VoIP
  - General
    - VoIP On/Off
    - Stun Server
    - Speaker Volume
    - Microphone Volume
    - Preferred Codec
  - Call control
    - Call Waiting
    - Call Forward
      - When Busy
      - No Reply
      - Unconditional
    - Call Barring
    - Caller ID
    - DTMF
    - Prefix Dial



- Profiles
  - Default 0-9
    - Activate
    - Personalize
      - User Number
      - Password
      - Registrar
      - Domain Name
      - Outbound Proxy
      - Mail Address
      - Restore Defaults
    - Edit Profile Name
- GSM
  - GSM On/Off
  - SIM Switch
  - Speaker Volume
  - Microphone volume
- GPRS
  - Access Point Name
  - IP Address
- SMS settings
  - Validity Period
  - Message Indication
  - Message Format
    - Text
    - PDU
  - Preferred Storage
    - Local
    - SIM
- Bluetooth
  - Headset
    - Find Headset
    - Pair Headset
- Clock
  - Set Time
  - Set Date

- Set Time Format
- Set Date Format
- Save to Flash

- **Status**

- GSM Status
- Wi-Fi Strength
- Channel
- Transfer Rate
- SSID
- Wi-Fi Home
- Link Quality
- Network Mode
- Encryption Status
- MAC Address
- Battery Strength
- Auth. Status
- VoIP Strength
- Bluetooth Strength
- GPRS Data Account
- Version Number





## 2. GETTING STARTED

Refer to this section to learn more about setting up the PWG-500 before you start using it.

### Inserting the SIM cards and battery

The PWG-500 supports dual SIM cards and the slots are placed underneath the battery. One of the SIM cards is used for activating and authenticating your GSM account. The other SIM card can be used for Wi-Fi authentication if required.

When you subscribe to a service provider, you are given a SIM card. This card stores your phone number and entitles you to additional services included with your subscription. Your personal address book is also stored on the SIM card. The SIM card lock protects your subscription from unauthorized use.

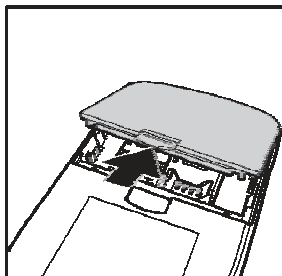
Most SIM cards are locked at the time of purchase. If the SIM card lock is on, you have to enter a PIN (Personal Identity Number) each time you turn on the PWG-500. If you enter the PIN incorrectly three times in succession, the SIM card is blocked. To unblock the SIM card, you must enter the PUK (Personal Unblocking Key). The network service provider supplies the PIN and the PUK details.

**Note: The SIM card lock only protects the subscription and does not protect the PWG-500 from unauthorized use.**

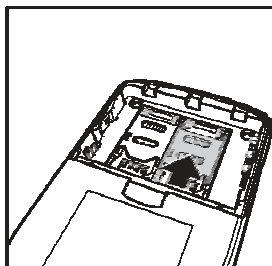
The PWG-500 is equipped with a rechargeable Li-ion battery that can be charged using the supplied battery charger.

To insert the SIM cards and battery, do the following:

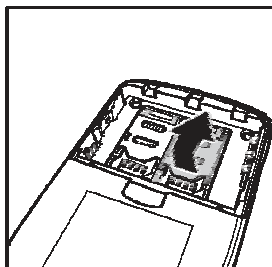
1. Push down the tab on the back to remove the battery cover as shown.



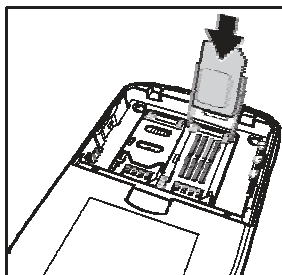
2. Move the SIM card slot in which you want to insert the first SIM card, in the direction shown to unlock it.



3. Lift up the SIM card slot.



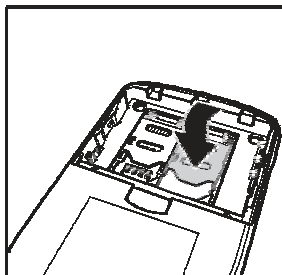
4. Slide in the SIM card in the card holder with the gold contacts facing down.



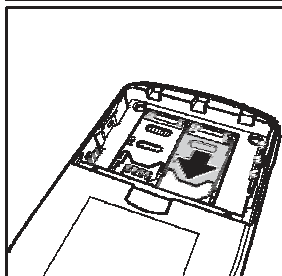




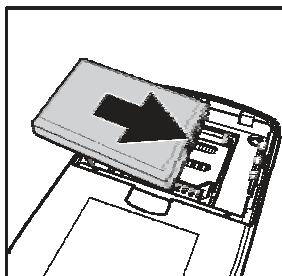
5. Place the SIM card holder back in place.



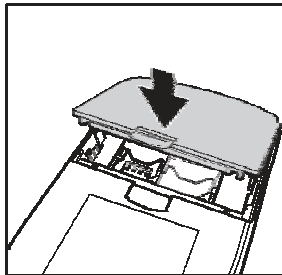
6. Slide the SIM card holder upwards to lock the card in place.



7. Repeat steps 2 through 6 to insert the second SIM card.
8. Place the battery in the battery slot with the metal contacts properly aligned.



9. Replace the back cover as shown and snap into place.

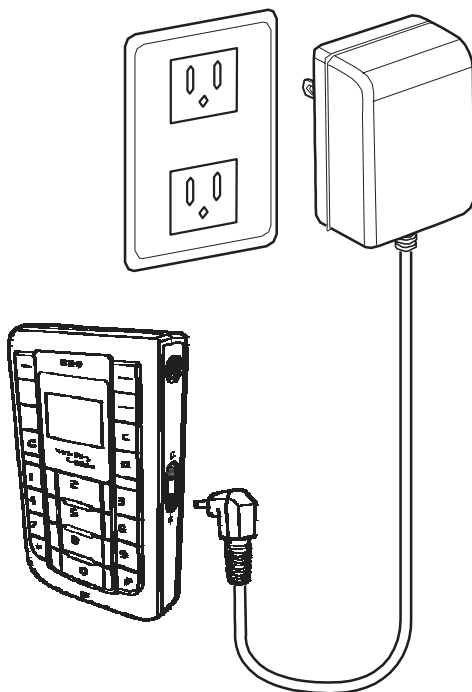


## Charging the battery



The PWG-500 is provided with a rechargeable Li-ion battery with 4 hours talk time and 72 hours standby time.

To charge the battery, connect the battery charger to the Power in slot and insert the power connector into a power outlet.

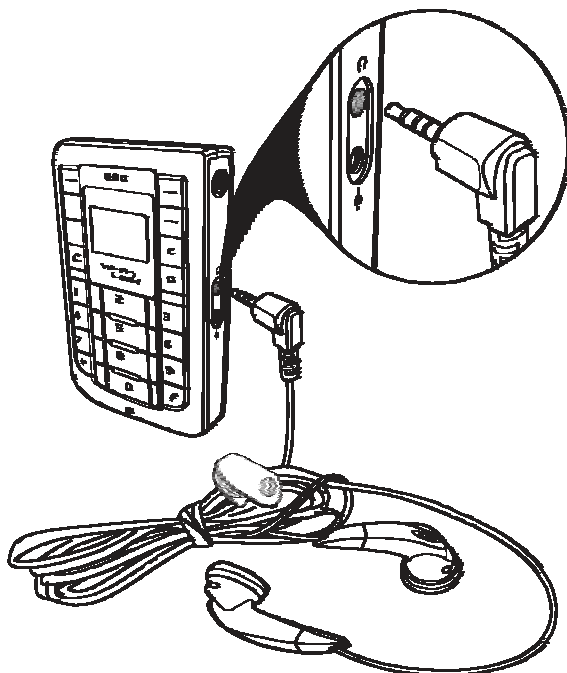


**Note:** You can also charge the battery using the desktop charger after connecting it to the power outlet. Insert the PWG-500 in the charger making sure that the contacts touch those of the charger.



## Connecting the wired earphones

Connect the wired earphones to the earphone jack to enjoy handsfree operation, and answer or place calls with ease.



**Note:** If the PWG-500 is paired with a Bluetooth-enabled head- set, the wired headset will not work.

## Turning the phone on/off

Press the **Power** button on the right side of the PWG-500 to turn the device on or off.

# Locking/unlocking the keypad



You can lock the keypad to prevent the keys from being pressed accidentally, for example, when your phone is in a bag or in the pocket.

- To lock the keypad, press the **Menu/Select** key and then press the **\*** key.
- When the keypad is locked, press the **Menu/Select** key and then press **\*** to unlock the keypad.

## Entering text

The PWG-500 has an alphanumeric keypad for keying in the numbers you are dialing, typing your text messages, and adding contact information to your phone book.

Each key represents a combination of letters and numbers. The following table shows the character representation for the alphanumeric keys:

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



Key	Characters
*	* +
#	Switch between lower case (abc), upper case (ABC), and numeric (123) characters.

To enter text, follow these guidelines:

1. Enter the numbers and characters as desired from the keypad, using the preceding table for your reference.
2. The characters **123**, **ABC**, or **abc** are displayed at the bottom of the screen indicating the current mode for text entry. To switch between lower case (**abc**), upper case (**ABC**), and numeric (**123**) characters, press the **#** key at any time. The type of text entry changes.
3. Press the **Menu/Select** button when you are done entering text.

## 3. MAKING CALLS



Now that you are familiar with the PWG-500, you are ready to start making calls and take full benefits of its calling features.

### Making a call

The PWG-500 supports GSM as well as VoIP calls. It can use a GSM network to make/receive calls and can also make use of other services offered by the network. The SIM card provides authentication over the GSM network. Alternatively, in VoIP mode, the PWG-500 offers voice connectivity to users over the Internet with the help of a VoIP server.

#### Selecting the call type



Do one of the following to specify the type of the phone call you wish to make:

- Press the **VoIP/GSM** key to switch between VoIP, GSM, or Auto mode.
- Press **Menu/Select** to view the menu and then scroll to **Settings, General, Out Going Call**. Choose an option from GSM, VoIP, or Auto.

If you select the Auto option, the PWG-500 first searches for a Wi-Fi hotspot in the vicinity to enable a VoIP call. If Wi-Fi is not available, a GSM network is used to make an outgoing call.



## Using the keypad to dial

1. Key in the phone number using the keypad. If you key in an incorrect digit, press the **Clear/Delete (C)** key to delete the character to the left of the cursor.
2. Press the **Send/Answer**  key to call the number.
3. Press the **End/Reject**  key to terminate the call after you finish talking.



**Note:** You can also end a call by pressing **Menu/Select** and then selecting **End**.

## Using the phone book to dial

You can call your contacts using the contact information from the phone book. To make a call to a person from the phone book, do the following:



1. Press the **Menu/Select** key to display the menu.
2. Select **Phone Book**, **Search**, and press the **Menu/Select** key to locate a contact. The **Search** screen is displayed.
3. Key in the first few letters of the name. Press the **Menu/Select** key to search for the contact. A list of names that correspond most closely to your search criteria is displayed.

**Note:** If the current mode of text entry is set to numeric, you may have to change the text entry mode. See “Entering text” on page 23.

4. Scroll through the list till you find the contact you want to call.
5. Press the **Send/Answer**  key to call the number.
6. Press the **End/Reject**  key to terminate the call after you finish talking.

## Making an international call

To dial an international number, you need to know the country code of the international location.



1. Press the \* key twice to enter the **+** character.
2. Key in the country code followed by the phone number.
3. Press the **Send/Answer**  key to call the number.
4. Press the **End/Reject**  key to terminate the call after you finish talking.

## Adjusting the volume

While talking on the PWG-500, use the **Volume up/down** keys to increase or decrease the volume according to your preference. You can also adjust the ring tone using the keys when not talking on the phone. For adjusting microphone or speaker volume separately, see “Wi-Fi settings” on page 46 and “GSM settings” on page 50.

## Answering or rejecting a call

An incoming call is indicated by a ringing tone and a vibration if selected. Choose one of the following options:



- Press the **Send/Answer**  key to answer an incoming call.
- Press the **End/Reject**  key to reject an incoming call. The call is forwarded or transferred if you have activated call forwarding. See “Call forwarding” on page 34.





## Redialing a number



To quickly dial a number that you have dialed recently, do the following:

1. Press the **Send/Answer**  key from standby mode. A list of your most recent calls is displayed.
2. Press  $\swarrow$  and  $\nearrow$  to scroll through the numbers to select the number you wish to call.
3. Press the **Send/Answer**  key to call the number again.

## Speed dialing a number

You can assign a speed dial number from the keypad to the most commonly dialed numbers in your phone book and use that number to dial the number quickly instead of keying in the complete number. See “Assigning a speed dial number” on page 38.

To call a number using speed dialing, do the following:

1. Press the number or hotkey that has been assigned to the phone number from the numeric keypad.
2. Press the **Send/Answer**  key to call the number.
3. Press the **End/Reject**  key to terminate the call.

**Note:** You can also speed dial a number by pressing and hold- ing down the hotkey.

# Making an emergency call



You can make an emergency call to a number that has been set in the SOS numbers setting. You can save up to three emergency numbers using the WIM application's configuration feature from your PC or PDA. See "Config. Stat" on page 66.

To make an emergency call, do the following:

1. Press and hold the **Volume up** and **Volume down** keys simultaneously for three seconds.
2. The first SOS number is dialed. If the call is answered, the call gets established and you can have a voice conversation with the called party.

One of the following may take place when a call does not get established:

- If the call remains unanswered by the called party, the second SOS number is dialed. If the second SOS call also remains unanswered, the third SOS number is dialed. If the call to the third number remains unanswered, the emergency call operation is cancelled. Repeat the same procedure to initiate the emergency call again.
- If the GSM carrier service for the currently inserted SIM card is unable to establish a call, then the second SIM card is activated automatically. The PWG-500 tries to make an outgoing call to the first SOS number through the GSM carrier service for the second SIM card. If the GSM carrier service is unable to establish the call, the emergency call operation is cancelled. Repeat the same procedure to initiate the emergency call again.

# Call logs



The PWG-500 stores information about all calls made or received. Your phone keeps lists of the calls you recently received and dialed, even if the calls did not connect.

The lists are sorted from newest to oldest entries. The oldest entries are deleted as new entries are added.

Press **Menu/Select** and then select the **Call Logs** menu to view call information. The following calls are listed:

- Missed Calls
- Received Calls
- Dialed Calls
- Recent Calls

Up to 20 calls can be saved for each of the missed, received, and dialed call logs.



The **Recent Calls** list consists of the most recent calls from the missed, received, and dialed call logs. Up to 250 calls can be saved. The recently dialed numbers, received numbers, and missed numbers are indicated by different icons.

Select a call from a call log and press the **Menu/Select** key. Select one of the following options:

- **Call:** call the selected number
- **Delete:** delete the number from the call log.
- **Save:** save the number to your phone book.

## Returning a missed call

If you miss a call, it is indicated on the screen. To return a missed call, do one of the following:

- Press the **Menu/Select** key when you see the missed call indication on the screen. The missed call log is displayed. Select the missed call and press the **Send/Answer**  key to call the number.
- Press the **Menu/Select** key and then select **Call Logs**, Missed Calls. Select the missed call and press the **Send/Answer**  key to call the number.

## Deleting call logs

You can delete any of the call logs that are not needed. To delete call logs, press **Menu/Select** and then select **Call Logs**, Delete Recent Calls. Choose the type of calls that you want to delete from the following options:

- All
- Missed Calls
- Dialed Calls
- Received Calls



# Call options

While a call is in progress, a number of additional options are available. Press the **Menu/Select** key to view these options.


## Using the speaker phone

For handsfree operation, you can use the built-in speaker to talk on the phone. Do one of the following to use the speaker phone.

- Press the **Clear/Delete (C)** key to enable the speaker phone. Press the key again to disable the speaker phone.
- While talking on the phone, press **Menu/Select** and then select **Speaker On** from the options. The speaker is enabled. To disable the speaker phone, either terminate the call or press **Menu/Select** and **Speaker Off**.

## Putting a call on hold


You may want to put a call on hold temporarily while doing some work or attending to a second incoming or outgoing call. To put a call on hold, do one of the following:

- Press **Menu/Select** and select **Hold**.
- When you receive a second call, press the **Send/Answer**  key to attend to the new call. The first call is automatically put on hold.
- Dial a call using the keypad. The first call is automatically put on hold.

## Answering/rejecting a waiting call

If you have enabled call waiting, you can answer a second incoming call while the first one is still in progress.


The new incoming call is indicated by a beeping tone.

Press the **Send/Answer**  key to answer the incoming call.

Press the **End/Reject**  key to reject the call.


## Conducting a conference call

The call waiting and holding functions also help you to conduct a conference call using the PWG-500 as follows:

1. Call the first participant of the conference call as described in “Making a call” on page 25.
2. Put the first participant on hold as described in “Putting a call on hold” on page 32.
3. Call the second participant of the call.
4. Press **Menu/Select** and then select **Conference** to include all participants in the call.
5. Press the **End/Reject**  key to end the call.


## Transferring a call

To transfer a call to another phone number, do the following:

1. While a call is in progress, press **Menu/Select** and select **Transfer** from the options.
2. Dial the number to which you want to transfer the call and then press the **End/Reject**  key to hang up and transfer the call.



## Call waiting

You can answer a call while you have another call in progress if you activate the call waiting function. To answer the call waiting press the **Send/Answer**  key. The first call is put on hold.

To activate the call waiting function, press **Menu/Select** and then select **Settings, VoIP, Call Control, Call Waiting, and Enable**.

## Call forwarding

If you do not answer a call or reject a call, the call can be forwarded to a specified number.

To activate the call forwarding feature, do the following:

1. Press **Menu/Select** and then select **Settings, VoIP, Call Control, and Call Forward**.
2. Select an option from the following options:
  - **When Busy**: to forward calls when your phone is busy.
  - **No Reply**: to forward calls when you do not answer the phone.
  - **Unconditional**: to forward all incoming numbers.
3. Key in the number to which the selected calls are to be forwarded.

## Call barring

You can enable call barring of all incoming or outgoing calls. This may be useful to block all incoming calls when roaming.

To activate call barring, press **Menu/Select** and then select **Settings, VoIP, Call Control, and Call Barring**. Select **Incoming** or **Outgoing** calls and then select **On** to enable call barring.

## Caller ID

To enable the display of the number when you receive an incoming call, press **Menu/Select** and then select **Settings, VoIP, Call Control, Caller Id**, and **Enable**. The number is displayed on the screen.

## DTMF

You can select DTMF (Dual Tone Multi Frequency) for your outgoing calls depending on the type of network being used by the recipient. To select DTMF options, press **Menu/Select** and then select **Settings, VoIP, Call Control, DTMF** to choose from one of the following options:

- **Inband:** Select this option if the person you are calling uses only PSTN networks.
- **Outband:** Select this option if the person you are calling links to a VoIP server.

## Prefix dialing

The prefix dial is a useful feature if you dial numbers in an international location frequently. The prefix dial function memorizes the prefix required for dialing the calls and appends them to all outgoing calls. Thus you do not need to key in the prefix every time you make a call.

To activate the prefix dial, press **Menu/Select** and then select **Settings, VoIP, Call Control, Prefix Dial**, and **Enable**. Key in the prefix and press **Menu/Select** to save the prefix.







## 4. USING THE PHONE BOOK

The phone book is an important component of the PWG-500 for storing contact information about your friends, relatives, and colleagues. This eliminates the need for you to memorize important phone numbers.

**Note:** The storage capacity of the phone book depends on the SIM card memory.

### Adding contacts

The phone book feature enables you to create new entries for your contacts and edit their contact information. It also enables you to store a number from a missed or received call in your phone book.

#### Creating a new entry

1. Press **Menu/Select** and then select **Phone Book, Add** to add a new entry to the phone book.
2. Type the name of the new contact. See “Entering text” on page 23.
3. Press **Menu/Select** to save the name.
4. Enter the phone number of the new contact.
5. Press **Menu/Select** to save the number.

#### Storing a number

To store a number from your received, missed, or dialed call logs, do the following:

1. Select the number you want to store from the call log and press **Menu/Select**. See “Call logs” on page 30.
2. Select **Save** from the options.
3. Key in the name of the new contact and press **Menu/Select**.


4. The selected number is displayed again. Make sure that the number is correct or edit it if required and press **Menu/Select**.



The selected number and corresponding contact name is stored in the phone book.

## Searching for a contact

1. Press **Menu/Select** and then select **Phone Book, Search** to start searching for contacts.
2. Key in the first few letters of the contact that you are looking for and press **Menu/Select**.

Phone book entries that closely match your search criteria are displayed. For example, if you key in the letters **SU** while searching, the first phone book entry starting with **SU** and successive entries are displayed. Press **Send/Answer**  to dial the entry or press **Menu/Select** and select an option from **Edit, Delete, or Call** as required.

## Modifying contact information

1. Press **Menu/Select** and then select **Phone Book** to view the phone book entries.
2. Scroll through the phone book to select an entry or use **Search** to locate the entry you want to modify.
3. Press **Menu/Select** and select **Edit** to make changes to the phone book entry.
4. Change the name and phone number as required and press **Menu/Select** to save the entry to the phone book.



## Assigning a speed dial number

You can use speed dialing to assign a shortcut or

(2~9) to the phone numbers that you dial most frequently. You can then press the speed dial number to quickly dial a number instead of keying in the entire phone number or searching for the contact number from the phone book. See “Speed dialing a number” on page 28.

1. Press **Menu/Select** and then select **Phone Book** and **Assign Speed Dial**. A list of phone book entries with the speed dialing number assigned to each entry is displayed. The keys that haven't been assigned to a phone number are displayed as **Empty**.
2. Select a hotkey entry and press **Menu/Select**, **Modify** to change the speed dial key assigned to a number. Press the new speed dial number to assign it to the phone book entry.
3. Select an **Empty** hotkey and press **Menu/Select**. The list of contacts is displayed. Select a contact and press **Menu/Select** to assign a hotkey to that contact. Press the new speed dial number to assign it to the phone book entry.

**Note:** You can also select **View** to view the hotkey details or **Delete** to delete a hotkey.

## Deleting contacts

You can delete all the contacts in the phone book one at a time or all at once as follows:

1. Press **Menu/Select** and then select **Phone Book**.
2. Press **Menu/Select** and then select **Delete**.
3. Select **Delete One by One** to delete entries one at a time.
4. Select **Delete All** to delete all entries.

**Note:** You can also select an entry from the phone book and press **Menu/Select**, **Delete** to delete the current entry.

## 5. SENDING MESSAGES



The PWG-500 enables you to send SMS (Short Message Service) messages to your friends and relatives. Refer to this section to learn how to send and receive instant text messages.

### Writing a message

1. Click **Menu/Select** and then select **Messages, Create New** to start creating a new text message.
2. Key in the message using the alpha-numerical keypad. See "Entering text" on page 23.
3. Press **Menu/Select** after you finish writing the message and a list of contacts is displayed. Select the contact to whom you want to send the message and press **Menu/Select** to send the message.
4. Alternatively, you can key in the number of the recipient of the SMS and press **Menu/Select** to send the message.

The sent messages are saved in the outbox automatically.

### Reading messages

When you receive an SMS message, a new message icon is displayed on the PWG-500's screen. To read your messages, do the following:

1. Press **Menu/Select** and then select **Messages, Inbox** to view a list of messages received. If the message is received from a person in the phone book, the person's name is displayed. Otherwise, the phone number of the sender of the SMS is displayed.
2. Scroll and press **Menu/Select** to read the newest messages.



## Replying to a message

To reply to a message, do the following:

1. Select and view the message from the Inbox that you want to reply to, using the **Messages** menu.
2. Press **Menu/Select** and select **Reply** to write a reply to the message.
3. Key in the message. See “Entering text” on page 23.
4. Press **Menu/Select** to send the message.

## Forwarding messages

To forward a received message to your friends, do the following:

1. Select and view the message from the Inbox that you want to forward, using the **Messages** menu.
2. Press **Menu/Select** and select **Forward**.
3. Key in the recipient's number to whom you want to forward the message. Alternately, use the **Search** option to locate a number from the phone book. See “Searching for a contact” on page 37.
4. Press **Menu/Select** to forward the message to the recipient.

## Deleting messages

To delete messages, do the following:

1. Select and view the message you want to delete, using the **Messages** menu.
2. Press **Menu/Select** and select **Delete** to delete the message.

# Viewing message details



To view details about your received or sent messages, do the following:

1. Using the **Messages** menu, Select and view a message from the **Inbox** (received message) or **Outbox** (sent message).
2. Press **Menu/Select** and select **Details** to view details of the message. The sender's phone number and the time at which the message was received or sent are displayed.

## 6. SETTING TONES

The PWG-500 has a set of profiles, each customized for different scenarios of usage. For example, you can use the Silent profile when in a movie theatre, the Meeting profile while attending business meetings, or the Out-door profile when travelling outdoors or in a noisy environment. You can also personalize each profile and change the tone settings to suit your preferences.

### Selecting a profile

To select a profile, do the following:

1. Press **Menu/Select** and select **Tones**. A list of the profiles is displayed.
2. Select the profile you want to use and press **Menu/Select**.
3. Select the **Activate** option and press **Menu/Select** to set the profile for the PWG-500.

### Personalizing a profile

Each profile has a specific ringtone, ring volume, and alert tone. You can customize your profile and change the various sound tones according to your preferences as follows:

1. Press **Menu/Select** and select **Tones** to display a list of profiles.
2. Select the profile that you want to modify and press **Menu/Select**.
3. Select **Personalize** and press **Menu/Select** to change the profile. The following options can be changed when personalizing:
  - **Ringtone:** change the ringing tone that alerts you when you receive an incoming call.
  - **Ring volume:** adjust the ring tone volume.

- **Alert type:** specify the type of alert for receiving instant messages. For instance, you can choose a combination of vibration and audio to alert you when you receive a message.
  - **Key beep:** enables or disables the tone sounded every time you press a key.
4. Select an option from the list above and use **Menu/Select** to modify each option. When you change the ringtone or the alert type, you can hear the current ringtone or alert tone to help you choose a tone.
  5. Return to previous menu (Actions) and select **Edit Name** to change the name of the current profile. Use the keypad to change the name and press **Menu/Select** when done.

## Saving a profile

To save a profile to the PWG-500's internal flash memory, do the following:

1. Press **Menu/Select** and select **Tones** to display a list of profiles.
2. Select the profile that you want to save and press **Menu/Select**.
3. Select **Save to Flash** and press **Menu/Select** to save the profile to the phone's internal memory.





## 7. CONFIGURING THE SETTINGS

The settings menu provides a number of options to configure the PWG-500, its mode of operation, network settings, and preferences. Read this section carefully to learn how to configure your phone.

### General settings

The general settings provide options to customize the PWG-500 according to your preferences.

#### Outgoing calls

Press **Menu/Select** and select **Settings, General, Outgoing Call** to specify if you want to use GSM or VoIP for making calls. See “Selecting the call type” on page 25.

#### Language

Use the language setting to specify the interface language. Press **Menu/Select** and select **Settings, General, Language**. Select the language of your choice from these options: English, Spanish, German, and Chinese.

#### Power saving mode

The power saving mode prevents excess use of power. Press **Menu/Select** and then select **Settings, General, Power Saving, and On** to enable power saving mode.

**Note:** Power saving mode is only enabled when Wi-Fi mode is disabled.

## Keypad light

The keypad lights can be disabled to prevent excess use of power. Press **Menu/Select** and then select **Settings, General, Keypad Light**, and **Off** to disable the keypad lights. The keypad lights are useful when you want to use the phone in the dark.

## LCD sleep interval

The LCD can be disabled after a specific time interval to prevent excess use of power. To specify the time interval, press **Menu/Select** and select **Settings, General, LCD Sleep Interval**. Then select the time interval from the time options ranging from 20 seconds through 160 seconds.

## Backlight

The LCD screen backlight can be disabled when not in use to conserve power. To disable the backlight, press **Menu/Select**, and select **Settings, General, Backlight On/ Off**, and **Off when Inactive**. Alternatively, select the **Always On** option to always keep the backlight enabled.

## Alarm clock

The PWG-500 has a real time clock that keeps track of the time and also lets you set an alarm. To set an alarm, press **Menu/Select** and select **Settings, General, Alarm**. If an alarm has been set before, the previous alarm time setting is displayed. Press **Menu/Select** and choose the **Adjust** option. Use the arrow and **Menu/Select** keys to adjust the time setting. If you want to disable the alarm, select the **Off** option.

# Wi-Fi settings

The Wi-Fi settings enable you to set up the PWG-500 for wireless mode. Use this setup to specify and personalize a wireless profile and security settings.

## General settings

The general settings for Wi-Fi mode specify the type of wireless connectivity and enable you to turn on Wi-Fi mode. Press **Menu/Select** and choose **Settings, Wi-Fi, General** and choose one of the following options:

- Select **Wi-Fi On/Off** and select **On** to enable Wi-Fi mode.
- Select **Wi-Fi Connectivity** and select **Automatic** to connect to a wireless network in the vicinity automatically. The PWG-500 scans for wireless hotspots automatically. Alternatively, select **Manual** to connect to a wireless network manually. A list of hotspots is displayed. Select a hotspot to connect to the corresponding wireless network.

## Profiles

The Wi-Fi profiles are sets of wireless parameters that can be used for different networks. You may want to create separate profiles with different security settings for use in different networks, each of which may have its own security settings. Press **Menu/Select** and choose **Settings, Wi-Fi, and Profiles** to view and modify the profiles.

The PWG-500 provides three **Default** profiles which you can activate and personalize as needed. Select **Default** and then **Personalize** to adjust the settings or **Activate** to activate the profile. You can also use the **Manual** profile to individually set up each parameter needed for wireless setup.

Each profile has the following parameters that can be further set up as desired.

## Configuration:

This option provides various options to set up the basic wireless configuration as follows:

- **Operating mode:** specifies the mode of operation for wireless connectivity. Choose **Ad Hoc** to connect to a wireless node or access point directly. Choose **Infrastructure** to become a part of a wireless network.
- **Channel:** specifies the channel to be used for the wireless network. Fourteen channels are available.
- **User Name:** specifies the user name used when signing into a wireless network. Use the keypad to edit the name. See “Entering text” on page 23.
- **Password:** specifies the password for authentication while logging into a network. Use the keypad to edit the name. See “Entering text” on page 23.
- **ESSID (Extended Service Set Identification):** specifies the unique ID assigned to the device for communicating with other wireless devices.
- **Auth. Protocol:** specifies the protocol or communication criteria used for authentication when joining a wireless network. Choose from **Off**, **Sim1 Based**, **Sim2 Based**, **EAP-MD5**, and **EAP-MSCHAPv2**.

## Encryption

This specifies the encryption settings to allow entry into an encrypted or secure wireless network. Encryption provides an additional level of security for wireless networks, protecting them from data corruption. The following options are available for modification:

- **Protocol:** specifies the encryption protocol. Select from **Disable**, **64 Bit Open**, **128 Bit Open**, **64 Bit WEP**, and **128 Bit WEP**.
- **WEP Key:** specifies the WEP (Wired Equivalent Privacy) key. Choose from **Key #1** through **Key # 4**.

## Advanced

This option enables you to make advanced settings for the wireless mode. The following options are available:

- **Power Saving:** Select the **On** option to enable power saving when the PWG-500 is connected in Wi-Fi mode.
- **RTS/CTS Threshold:** specifies the threshold for RTS and CTS parameters. Key in a numeric value using the keypad.
- **Frag. Threshold:** specifies the fragment threshold. Key in a numeric value using the keypad.
- **Transfer Rate:** specifies the rate at which data transfer takes place. Select Auto to let the PWG-500 to set the transfer rate automatically.
- **Use DHCP:** Select this option to set the DHCP protocol parameters. Select **Yes** if you want to use DHCP and a DHCP server in the network assigns IP addresses dynamically to the device. Select **No** if there is no DHCP server or if you want to assign the IP properties manually. The following parameters have to be set:
  - IP Address
  - Subnet Mask
  - Default Gateway
  - Primary DNS
  - Alternate DNS

## Restore Defaults

Choose this option to restore all settings to their default factory values.

# VoIP settings

The VoIP settings are provided to set up the VoIP parameters.

## General settings

These settings provide the basic setup for VoIP mode. Press **Menu/Select** and select **Settings, VoIP, and General** to configure these settings as follows:


- **VoIP On/Off:** enables or disables VoIP mode.
- **Stun Server:** specifies the Stun server for VoIP mode. Key in the server name using the keypad. See “Entering text” on page 23.
- **Speaker Volume:** Adjusts the speaker volume in VoIP mode. Choose from **Level 1** through **Level 10**.
- **Microphone Volume:** Adjusts the microphone volume in VoIP mode. Choose from **Level 1** through **Level 10**.
- **Preferred Codec:** specifies the codec to be used for VoIP calls. Select from **GSM, a Law, H Law, G726, G729, and G723.1**.

## Call control

The call control options set up the call waiting, call barring, call forwarding, caller ID, DTMF, and prefix dialing options for the phone. See “Call options” on page 32 for details about these options.

## Profiles

The PWG-500 provides ten default profiles for the VoIP mode. Select a profile and press **Activate** to make the selected profile active. Press **Personalize** to change the profile settings. Press **Edit Profile Name** to change the profile name.



If you select the **Personalize** option, the following parameters can be modified:

- **User Number:** specifies the number used to make VoIP calls. You must enter a number to be able to make calls.
- **Password:** specifies the password for VoIP authentication.
- **Registrar:** specifies the registrar name for the VoIP mode.
- **Domain Name:** specifies the domain name through which VoIP calls are made.
- **Outbound Proxy:** specifies the proxy server for outward VOIP calls.
- **Mail Address:** specifies the mail address for VoIP mode.
- **Restore Default:** restores all settings to their factory default values.

**Note:** For more information about VoIP settings, consult your service provider.

## GSM settings

The GSM settings are used to customize the GSM parameters when making GSM phone calls. Press **Menu/ Select** and select **Settings, GSM** to configure the GSM settings. The following options are available:

- **GSM On/Off:** Enables GSM mode. Select **On** to enable GSM.
- **SIM Switch:** Switches between the two SIM cards.
- **Speaker Volume:** Adjusts speaker volume in GSM mode. Choose from **Level 1** through **Level 10**.
- **Microphone Volume:** Adjusts speaker volume in GSM mode. Choose from **Level 1** through **Level 10**.

## GPRS settings



GPRS is a network service that allows you to use your phone for sending and receiving data over an IP network. The GPRS settings enable you to set up the PWG-500 for GPRS mode. Press **Menu/Select** and select **Settings, GPRS** to configure the GPRS settings. The following options are available:

- **Access Point Name:** Key in the name of the access point to be used for GPRS mode.
- **IP Address:** Key in the IP address of the access point to be used for GPRS mode.

## Bluetooth settings


The PWG-500 is equipped with Bluetooth compatibility enabling it to connect and communicate with a Bluetooth device in the vicinity. For instance, you can pair the PWG-500 with a Bluetooth headset using Bluetooth technology and create a communication channel between the two devices. The Bluetooth settings enable you to configure the PWG-500 for Bluetooth operation.

**Note: If you are pairing a new device with the PWG-500 for the first time, you have to pair it twice consecutively before trying to establish a connection with the device.**

To pair a headset with the PWG-500, do the following:

1. Press **Menu/Select** and select **Settings, Bluetooth, and Headset**.
2. Select **Find Headset** to locate a Bluetooth-equipped headset in the vicinity. A list of available headsets in the vicinity is displayed.
3. Select a headset from the list and press **Menu/Select** to connect to it.
4. Enter the PIN number required for pairing (refer to headset documentation for details) and press **Menu/Select**. The pairing information is saved.





Alternatively, select **Paired Headset** after step 1 to see which headset has been paired with the PWG-500.

## Clock settings

The clock settings enable you to set the time and date on the PWG-500. The PWG-500 displays the time on the screen after the LCD sleep interval if the power saving mode is set. If the power saving mode is disabled, the screen remains blank. Press **Menu/Select** and select **Settings**, Clock to view the clock settings. The following options are available:

- **Set Time:** sets the time. Use the arrow keys to move between the hour, minute and AM/PM fields. Use the keypad to key in the time.
- **Set Date:** sets the date. Use the arrow keys to move between the day, month and year fields. Use the keypad to key in the time.
- **Set time format:** specifies the time format. Choose from **12 hours** and **24 hours** format.
- **Set date format:** specifies the date format. Choose from **MMD/DD/YYYY**, **DD/MM/YYYY**, **YYYY/MM/DD**, and **YYYY/DD/MM**.

## Saving settings

To save all the changes to the PWG-500's internal flash memory, press **Menu/Select** and then choose **Settings**, **Save to Flash**. All settings are saved.

## 8. VIEWING THE STATUS

### Using the status menu

The **Status** menu enables you to view the status of all the **PWG-500**'s configuration settings at a single glance.

To view the PWG-500's status, press **Menu/Select** and then select **Status**. A list of the configuration settings is displayed. Scroll to the required setting and press **Menu/ Select** to view the status of the setting. The following settings are displayed:

- **GSM Strength:** displays strength of GSM signal.
- **Wi-Fi Status:** displays the status of the Wi-Fi network.
- **Channel:** displays current Wi-Fi channel. Wi-Fi is available in various frequency bands and in different channels.
- **Transfer Rate:** Displays the rate of data transfer.
- **SSID:** Displays the SSID or identification tag of the device. This is null when you are not connected to a Wi-Fi network. A unique SSID or tag is required for identifying the device in Wi-Fi networks.
- **Wi-Fi Strength:** Displays the strength of the Wi-Fi signal.
- **Link Quality:** Displays the quality of the link.
- **Network Mode:** Displays the networking mode.
- **Enc Status:** Displays the wireless encryption status. If this is **Open**, it means that the connection is not encrypted and is open to all persons accessing it. If it is **Closed**, it means that the encryption has been enabled to prevent unauthorized users from accessing the network.
- **Device MAC Addr:** Displays the MAC address of the PWG-500.
- **AP MAC Address:** Displays the MAC address of the access point in the wireless network.





- **Battery Strength:** Displays current battery strength.
- **Auth Status:** Displays if the communication channel is authenticated or not.
- **VoIP Strength:** Displays the intensity of the available VoIP signal.
- **Bluetooth Strength:** Displays the strength of the Bluetooth network.
- **GPRS Data Count:** Displays number of data units sent and received.
- **Version Number:** Displays current firmware version.
- **IMEI Number:** Displays the IMEI number.
- **BT Address:** Displays the BT address.

## 9. ADVANCED FEATURES

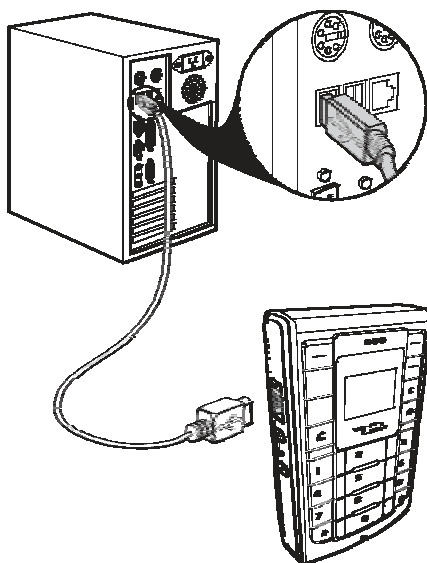


The PWG-500 is designed to act as a wireless or USB modem for your PDA or PC, thus enabling Internet connectivity.

You can connect the PWG-500 to your PC using a USB cable and use the device to connect to the GPRS network for Internet access. Alternatively, you can connect the PWG-500 to a Bluetooth-enabled PDA and use it to connect to wireless or GPRS networks. This section provides details about how to use the PWG-500 with your PC or PDA.

### Connecting to the PC

Use a mini USB cable to connect the PWG-500 to the PC as shown.





## Installing the USB drivers and WIM

To use the PWG-500 as a USB modem for your PC, you need to install the drivers for the device. When you connect the device to the PC, the PC detects the new hardware and starts the **New Hardware Found Wizard**.

Follow the instructions on the screen to locate and install the USB drivers for the PWG-500 on the PC. The USB driver files can be found on the utility CD provided in your package.

WIM (Wireless in Motion) is an application that helps you in configuring and using the PWG-500. The utility CD contains two versions of WIM, one for your PC and one for your PDA (Pocket PC only). Select the appropriate version of WIM from the utility CD and double-click **Setup.exe**. Follow the instructions on the screen to install the software. Refer to your PDA documentation for details about installing software on your PDA.

## Upgrading the firmware

You can upgrade the firmware of the PWG-500 if required, from the PC using the USB cable. The following files are needed to upgrade the firmware:

- Firmware file called **bundle.bin**
- Firmware application called **uploader\_usb.exe**



Follow these instructions to upload the new firmware to the PWG-500:

1. Press the Volume down key before you turn on the PWG-500, and then press the reset button. The phone enters the USB download mode. A message titled **Firmware upgrade (USB)** appears on the screen.
2. Connect the PWG-500 to your PC using the USB cable. If you have not installed the USB drivers on your PC, you are prompted to install them now. See "Installing the USB drivers and WIM" on page 56.
3. Make a note of the COM port number being used for connecting the PWG-500 to the PC. This can be obtained by checking the **Device Manager** under **System** on your PC. The COM port number appears under the **Ports** item.
4. Open the command prompt, type uploader\_usb.exe COM port number and press **Enter** to start the upload.

The upload status is shown on the screen. Wait till the screen shows **Initializing** before using the phone.

**CAUTION: Do not remove the battery, turn off the device, or operate the device while the firmware upgrade is in process.**

## Using WIM

The WIM application is a useful interface that lets you set up and configure the PWG-500 from your PC or PDA. You can select GSM, VoIP, GPRS, and Wi-Fi profiles and personalize them according to your network specifications. You can also use the application to download ringtones, configure SOS numbers for the phone, and make any setup changes for the phone.

Double-click the WIM icon to start the application from your PC or PDA.

The following screen is displayed when you open the WIM Desktop application.



Please wait for a few seconds while the device is being located. You can start using the application once the device is found.

If there is a problem connecting to the device the following screen is displayed.



When the device is found, the following screen is displayed.

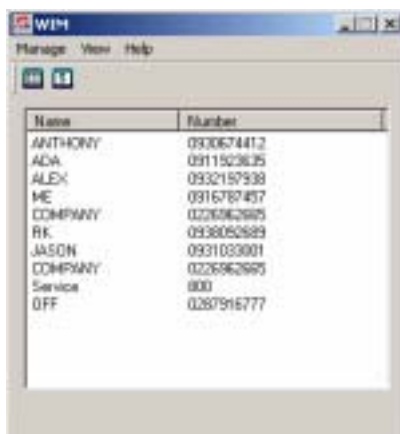


## Phone book

### Local Phone book

This phonebook is saved on the PC or PPC.

Click **Phone Book** on the WIM start screen. By default, the local phone book is displayed. You can view the local contacts by selecting **Local contacts** from the **View** menu.



The following options are displayed when you click the **Manage** menu:

- **Add contact:** Click **Add contact** and enter the name, the office number, the home number, and the cell number of the contact and click **Save**. Click **DTMF** for each number to specify the DTMF code while dialing the number.
- **Edit:** Click **Edit** and enter the name, the office number, the home number, and the cell number of the selected contact and click **Save**.
- **Delete:** Select the contact to be deleted from the list shown in the screen and click **Delete** to delete the contact.

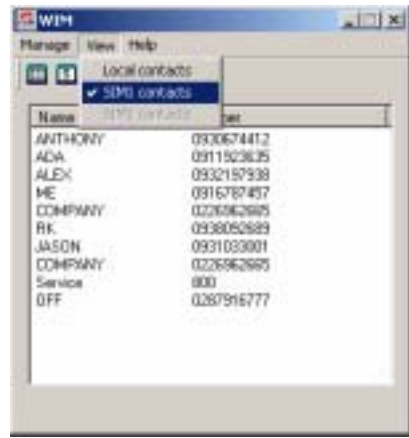




- **Find:** Click **Find** and enter the name of the contact to be searched. Click the **Match whole word** check box to search for a specific word. Alternatively, if you type only the first few letters of the name you are looking for, the find operation will display all matching entries.
- **Copy:** Click **Copy** to copy details of a selected contact to the local drive or to the SIM card.
- **Paste:** Click **Paste** to paste details of a contact that has been copied.
- **Assign ring tone:** Click **Assign ring tone** to assign a ring tone to a selected contact. Assign the ring tone from those displayed.
- **Dial:** Click **Dial** to call the selected contact.
- **Change local contacts path:** Click this option to change the folder or directory where the local phone book is stored on your PC.

**Note:** The home, cell, and office number fields are available only for local contacts. If you select SIM1 or SIM2 for the phone book, you can only add a single number for each name.

Click the **View** menu. The submenus as shown in the following screen are displayed:



The description of the submenus is as follows:

**Local contacts:** Select this option to view the details of contacts saved in the PC memory.

### **SIM 1 contacts:**

Select this option to view contacts saved on the first SIM card.

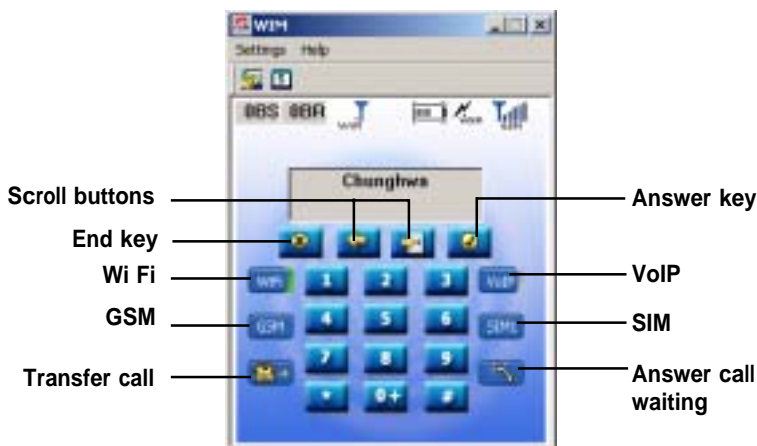
### **SIM 2 contacts:**

Select this option to view contacts saved on the second SIM card.

## **Dialer**

Click the **Dialer** button on the WIM start screen as shown in Figure 2.

The dialer screen is displayed as follows:



The description of the various keys is given below:

- **Scroll keys:** Click this key to move the cursor to the previous or the next menu.
- **Answer key:** Click this key to answer an incoming call or to dial a phone number.
- **End key:** Click this key to terminate a call or to reject an incoming call.
- **Wi-Fi:** Click this key to start using Wi-Fi.
- **VoIP:** Click this key to start using VoIP.
- **GSM:** Click this key to start using GSM.
- **SIM Card selection key:** Click this key to select SIM 1 or SIM 2.
- **Transfer call:** Click to transfer current call to another number.
- **Answer call waiting:** Click to answer a call waiting on the second line during a current call in progress.

Click the **Settings** menu on the Dialer screen. A list of submenus is displayed as shown below.



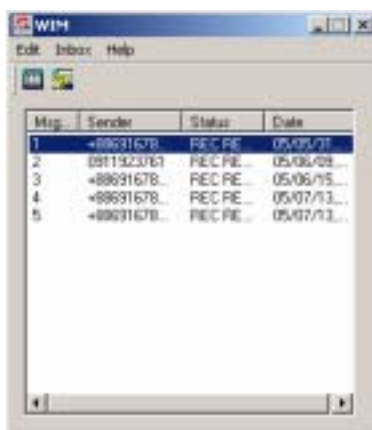


The description of the submenus is as follows:

- **Ringtones:** Select this menu to change the ring tone of the PWG-500. You can choose from the given list of ring tones for voice calls and text messages. Click **Play** to test the selected ring tone.
- **Skins:** Click the **Skin** submenu to change the color of the dialer screen. There are two skins to choose from.
- **Gain settings:** Select the **Gain settings** option to change the volume of the speaker or the microphone for VoIP and GSM modes.
- **Call log:** Click the **Call log** submenu to view details of dialed calls, missed calls, and received calls. Select a number and click **Dial** to call the number.
- **Speed dial:** Click the **Speed dial** submenu to speed dial a preset number. Edit the **Name**, **Number**, and **Hotkey** fields and click **Add** to add speed dial numbers.
- **Call answer:** Click the **Call answer** submenu to specify ways to answer incoming calls or transfer them to voice mail.
- **Call selection:** Click this option to quickly make a VoIP or GSM call by entering a phone number.

## Messages

Click **SMS** on the WIM start screen to send and receive SMS messages. The screen shown here is displayed.



## Viewing SMS details

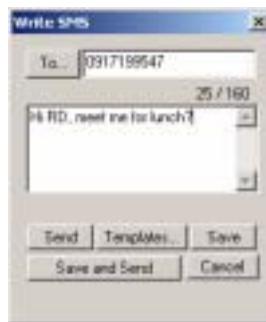
Select a message and click to view details about the message. The following screen is displayed:



- **Reply:** Click **Reply** to reply to the message.
- **Delete:** Click **Delete** to delete the message.
- **Edit:** Click **Edit** to edit the message.
- **Forward:** Click **Forward** to forward the message.
- **Save to Local Memory:** Click this button to save the message in the PC memory.
- **Cancel:** Click **Cancel** to close the screen.

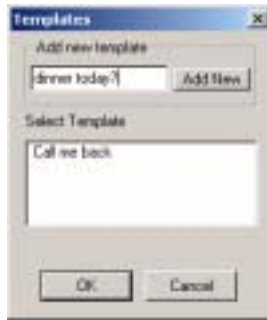
## Writing an SMS

Click **Write Message** on the **Edit** menu shown. The following screen is shown:





- Enter the receiver's number in the **To...** field.
- Type the message (not more than 160 characters) in the field as shown in the screen above.
- Click **Send** to send the message.
- Click **Save** to save the message.
- Click **Save and Send** to save and send the message.
- Click **Cancel** to close the screen.
- Click **Templates** to send a message from the pre-defined templates. The following screen is displayed:



- Select a template that you want to send and click **OK**.
- Key in a short message and click **Add New** to create a new template.

## Config. Stat

To configure WIM, click the **Config.Stat** button.

This brings up the WIM configuration utility. Select a pro- file from the options and click **Edit Profile, Personalize** to mod- ify the profile set- tings. Alternatively, click **General** to mod- ify the general setup.



When you edit a profile, all the options and settings rele- vant to the profile are displayed and are available for modification. For instance, if you select the **GSM-GPRS** option, you can configure the GSM calling settings such as the default SIM, SOS numbers, call waiting options and GPRS configuration parameters such as access point name and IP address. These options have been described under “Configuring the settings” on page 44.

## Browsing the Internet from the PC

You can use the PWG-500 to browse the Internet or check e-mails using a Wi-Fi network or a GPRS network.

If Wi-Fi has been enabled and a wireless hotspot is avail- able in the vicinity, then Internet connectivity is auto- matically achieved through the Wi-Fi network. If Wi-Fi is unavailable, GPRS is automatically selected for Internet connectivity.



To connect to the Internet, follow these steps:

1. Connect the PWG-500 to your PC using a USB cable. Make sure that the device drivers have been installed correctly. See “Installing the USB drivers and WIM” on page 56.
2. Set up a dial-up network connection as follows:
  - Click the **Start** button on the task bar and then select **Settings | Network and Dial-up Connections**.
  - Double-click the **Make New Connection** icon. The Network Connection Wizard guides you through the steps for setting up a dial-up connection.
  - Select the correct port during the set-up process. To see the port, open the **Device Manager** under **System** on your PC. The COM port number appears under the **Ports** item.
  - Enter your **User name** and **Password** to connect to the Dial-up service. Consult your local service provider for this information.
3. When the dial-up connection has been set up, double-click the connection icon to dial into the network and access the Internet.

## Connecting to a PDA

The PWG-500 can be used along with Bluetooth enabled devices (like PDAs) that conform to the Serial and Dial-up Networking profiles. When the PWG-500 interfaces with the PDA, you can use it to make and receive calls, browse the Internet, chat using MSN, and send SMS messages. It is recommended that the distance between the PWG-500 and the other Bluetooth device be less than 10 meters away. Make sure that there are no other devices between these two devices that may interfere with transmission and reception.





Pairing is a process of associating Bluetooth devices with each other such that they can automatically connect when they are within range of each other. The PWG-500 can be paired with an unlimited number of Bluetooth devices.

You can pair the PWG-500 with your PDA by adding the PWG-500 to the list of paired devices using the Bluetooth manager. For pairing, you have to enter the pass-key or PIN (Personal Identification Number). The default pass-key is **1**. This can be changed using the WIM configuration-status utility.

**Note: If you are pairing a new device with the PWG-500 for the first time, you have to pair it twice consecutively before trying to establish a connection with the device.**

To connect the PWG-500 to your PDA, do the following:

1. Using **Bluetooth Manager** from your PDA, scan and locate all Bluetooth devices in the vicinity. A list of devices is displayed.
2. Select the PWG-500 from the list of devices displayed.
3. Pair the PDA with the PWG-500. Enter the PIN when prompted.

When paired with a PDA, you can use the PWG-500 with Wi-Fi or GPRS networks to access the Internet

## **Using GPRS to browse the Internet**

In order to use GPRS to connect to the Internet, you have to first set up a dial-up connection to the GPRS network. GPRS settings differ for different area networks. Consult your service provider for additional information about your local GPRS settings.

1. To create a dial-up network, click **Start | Programs | Settings | Connections | Modify | New**.



2. A **Make New Connection** screen is displayed. Enter the name, modem, and baud rate in the corresponding fields. Specify the modem as **Bluetooth Dialup Modem**.



3. Click **Next**.
4. In the **My Connection** screen, enter the country code, area, code, and phone number to connect to the GPRS number. Consult your service provider for this information. Click **Next | Finish** to complete creating the connection.

5. Under the **Internet Settings**, a new item called **My Connection** is now displayed.

6. Open **Bluetooth Manager** and set up a dial-up networking connection to the PWG-500. Select this new connection that you just created and click **OK** to connect. A login screen is displayed.



7. Enter the user name and password for the GPRS network and click **OK**. The PWG-500 connects to the GPRS network and the PDA in turn is also connected.



After you are connected to the network, you can browse the Internet or check e-mails as needed.

**Note:** The steps described above for creating a dial-up network connection and connecting to it may differ according to the PDA and your service provider settings.

## Using Wi-Fi to browse the Internet

In order to browse the Internet using Wi-Fi, you have to set up and enable Wi-Fi on the PWG-500. This can be done directly from the PWG-500 as described under “Wi-Fi settings” on page 46 or from the PDA using the WIM configuration utility. Set up the wireless connection mode, security settings, and authentication parameters such as user name, password, and ESSID from the PWG-500.

After you set up the wireless parameter, connect to a wireless network manually or automatically using the PWG-500. Set up a dial-up connection from the PDA to the PWG-500 as described in the previous section and connect to the PWG-500. When the connection is established, open Internet Explorer to start browsing the Internet.

**Note:** To browse the Internet using Wi-Fi, use the same user name and password that were entered for the Wi-Fi parameters.

# 10.APPENDIX



## Additional information

The use of this equipment may be subject to local rules and regulations. The following rules and regulations may be relevant in some or all areas.

### FCC regulations

This model phone complies with part 15 of the FCC Rules. Operation is subject to the condition that this device does not cause harmful interference.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.



However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

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

This Transmitter has been demonstrated co-location compliance requirements with Bluetooth / Model No: UB1 - 1112 and WLAN/Model No.:PWG-500. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This EUT is in compliance with SAR for general population uncontrolled exposure limits in ANSI/IEEE C95.1-1999 and has been tested in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C.

# European regulations



Products with the CE mark comply with the Radio & Telecommunication Terminal Equipment Directive (1999/5/EEC), the Electromagnetic Compatibility Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) - as amended by Directive 93/68/ECC - issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Standards:

- 1999/5/EEC Radio & Telecommunication Terminal Equipment Directive (R&TTE) EN 301 511
- Specific Absorption Rate (SAR) Standard: EN 50360, EN 50361
- 73/23/EEC Low Voltage Directive (LVD) Standard: EN 60950:2000
- 89/336/EEC Electromagnetic Compatibility (EMC-Directive) Standard: EN301489-1/7
- The manufacturer cannot be held responsible for modifications made by the user and the consequences thereof, which may alter the conformity of the product with the mark.





## RF exposure regulation (SAR)

This model phone meets the government's requirements for exposure to radio waves. This phone 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.

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. The highest SAR value for the model phone as reported to the FCC when tested for use at the ear is 0.818 W/kg and when worn on the body, as described in this user guide, is 0.803 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 [tap://www.fcc.gov/oet/fccid](http://tap://www.fcc.gov/oet/fccid) after searching on FCC ID: Q3MPWG.

For body worn operation, this phone has been tested and meets the FCC RF exposure guidelines for use with an accessory that contains no metal and positions the handset a minimum of 1.5 cm from the body. Use of other enhancements 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 1.5 cm from your body when the phone is switched on.