EDGE PC Card

Sony Ericsson EDGE PC Cards GC82, GC83 and GC85

User Guide

Sony Ericsson

Content

Sony Ericsson EDGE PC Cards GC82, GC83 and GC85

First edition (April 2004)

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Introduction

Congratulations and thank you for buying a Sony ericsson EDGE PC Card. EDGE PC Cards are standard size type II PC cards, they enable laptop users to have mobile access to the internet or corporate network with flexibility and high speed, including 'always online' capability via GPRS/ EDGE. The EDGE PC Card is very simple to install and use; the software provided allows you to select the best data service available so that the EDGE PC Card is always available for data transfer.

Edge PC Card	Band	Countries supported
GC82	GSM/GPRS/EDGE 850/1900	North and South America
GC83	GSM/GPRS/EDGE 850/1800/1900	North and South America; includes capability to roam on 1800 networks in Europe and Asia.
GC85	GSM/GPRS/EDGE 900/1800/1900	Rest of world, includes ability to roam in North and South America on 1900.

The EDGE PC Card enables your laptop PC to:

- Browse the Internet
- Send and receive e-mails
- Receive information services in real time
- Access files, databases and discussion groups
- Send and receive SMS text messages
- Edit SIM card entries

    Note:
    Before using your EDGE PC Card you MUST read *Guidelines for Safe and Efficient Use* on page 47.

Hardware Overview

The EDGE PC Card is a standard type II Cardbus PC card. The card is standard length and only the antenna protrudes outside the PC card slot.

The amount of power drawn from the laptop battery is dependant upon a number of factors including status, distance to the base station and number of timeslots used. See *Technical Specifications* on page 50 for a general guide to power consumption.

Before you can start using the EDGE PC Card you need to put the hardware together. You will also need a SIM card.

SIM Card
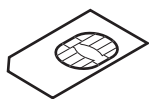
When you subscribe to a mobile network operator, you are issued with a SIM card (Subscriber Identity Module card). The SIM contains your personal subscriber data. You need a SIM to use the EDGE PC Cards.

Software Overview

Wireless Manager

You can use the Wireless Manager to:

- Display EDGE PC Card status information

- Create or modify connection settings

- Connect to the Internet or a corporate network

- Manage EDGE PC Card settings

- Manage SIM card and PC phone books

- Send and receive SMS messages

Using the EDGE PC Card with your Applications

Data Programs
You can use the EDGE PC Card as a modem to provide Intranet/Internet connectivity for a wide range of applications.

GC82 Only	**Fax Programs**
	You can use the GC82 as a fax provided you have the correct software, e.g. Microsoft Fax (Windows 2000 and XP).

Documentation

The EDGE PC Card's documentation is designed to enhance your understanding of its capabilities. The following guides are provided:

- A printed Quick Start Guide aimed at getting you operational as quickly as possible.

- An online User's Guide (this document) containing a comprehensive description of the EDGE PC Card functionality. You can read the guide on the computer screen or print it on to either European A4 or American Letter sized paper.

The User's Guide is located on EDGE PC Card CD-ROM as Adobe Acrobat PDF files. The EDGE PC Card CD-ROM also contains Adobe Acrobat Reader® which you can install if necessary.

Illustrations

The illustrations in this manual were obtained using the EDGE PC Card on a Microsoft Windows® 2000 operating system. The dialogs that appear on your PC may differ depending on the version of Windows® in use.

Getting Started

Checklist

Make sure the following items are in the box when you unpack it:

- **Aluminium protective case for storing the EDGE PC Card and its antenna**
- **GC82, GC83 or GC85 PC Card**
- **Antenna**
- **Quick Start Guide**
- **CD-ROM**
  The CD contains; drivers, software, documentation and a readme file.

System Requirements

This section lists the network subscriptions, hardware and software requirements for running the EDGE PC Card.

Network and Subscription

The network subscription you use in conjunction with your EDGE PC Card depends on the subscriptions your network operator can provide. Contact your network operator or service provider to make sure the options you require are available. Make sure that data options are included in your subscription, as these are usually optional services.

Note:
Mobile operators often provide a number of connectivity options via GPRS such as WAP and Internet, so check that the Internet or VPN service you require is enabled for your subscription.

The functionality of the different subscriptions available from networks operators are discussed below:

Circuit Switched Data (CSD)

CSD is the original GSM network data transfer method, used in the past for WAP. Almost all GSM networks have this capability at 9.6 kbps. It is possible for the network to upgrade the speed to 14.4 kbps. The EDGE PC Card operates at this higher speed where available.

Note:
GC85 does not have CSD connectivity. An upgrade will be available to add this functionality to the GC85, contact your service operator for more details.

General Packet Radio Service (GPRS)

GPRS is a new network connection which provides "always on" mobility. The connection set up is fast and, once connected, applications may send and receive data whenever required. In today's GPRS networks, the EDGE PC Card receives data at speeds up to 53.6 kbps and transmits at speeds up to 26.8 kbps.

Enhanced Data Rates for Global Evolution (EDGE)

EDGE enhances GPRS by increasing data throughput by a factor of 3. GPRS networks enhanced with EDGE are often referred to as E-GPRS (Enhanced GPRS) networks. EDGE provides the "always on" capability of GPRS but with greater speed. EDGE technology is transparent, simply make a GPRS connection as usual and benefit from the increase in speed where EDGE is available in a network.

Short Message Service (SMS)

The PC can send and receive SMS text messages using the SMS Messages screen in the Wireless Manager, see *Wireless Manager SMS Messages Screen* on page 33, for more details.

Hardware

You will need:

*   **A PC that has the minimum specification recommended by Microsoft to run the version of Windows® installed on it.**

*   **A 16 bit type II PC Card slot.**

*   **A Sony Ericsson EDGE PC Card (GC82, GC83 or GC85)**

*   **a SIM card**

Software

You will need:

*   **Windows® 98SE, Me, 2000 (SP4) or XP.**

*   **Sony Ericsson Wireless Manager CD-ROM.**

Services Available Over the Internet

The Sony Ericsson web site contains support to facilitate easy communications and rapid information retrieval, wherever you are. It gives you access to on-line customer services, on-line user manuals, software downloads, and useful information. The address is:

http://www.SonyEricsson.com/support

Sony Ericsson's home page address is:

http://www.SonyEricsson.com

Installation

The Wireless Manager CD-ROM contains the software required to operate your EDGE PC Card. The software is simple to set up and operate, but before you begin you will need to make sure that the services you require are included on your SIM card subscription. For an explanation of the services that are available see *Network and Subscription* on page 7. Contact the organization that supplied you with your SIM card and request that the specific services (EDGE, GPRS, CSD or SMS) you require are added to your subscription.

The CD-ROM contains the following software:

*   Wireless Manager
*   User Documentation
*   On-line Help
*   ReadMe text file containing the latest information about the EDGE PC Card

EDGE PC Card Hardware Set Up

1. Collect your EDGE PC Card, antenna and SIM card together.
2. Insert your SIM card into the slot on the back of EDGE PC Card, with the gold contacts facing downwards

    Note:
    The cut corner of the SIM card must be placed into the PC card as demonstrated below, the gold contacts should face downwards.

3. Connect the antenna to the end of the EDGE PC Card.
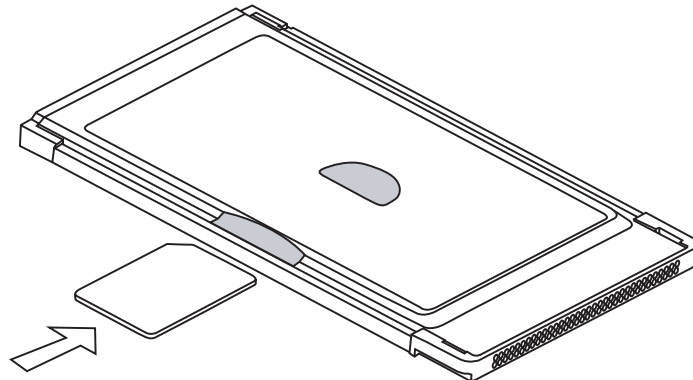
If the antenna is obstructing your use of the keyboard you can turn it to a horizontal position and still connect to the network.

If you want to use your other PC card port remove the EDGE PC Card whilst you insert the other card. See *Safe Removal of the EDGE PC Card* on page 13 for more details.

When the EDGE PC Card isn't in use it is recommended that you store it in the protective carrier box provided. The unit, especially the antenna could be damaged if it remains in PC.

Important!
Do not insert the card into the laptop until you have installed the software from the CD-ROM.
Simply cancel the **New Hardware** wizard if the card is accidentally inserted prior to software
installation.

Installing the Software

1. Insert the EDGE PC Card CD-ROM in your CD drive.

   After a few seconds a Sony Ericsson splash screen is displayed.

   Note:
   If the CD-ROM does not autorun, select **Start** ➡ **Run** and type *D:\Setup.exe* into the Run
   dialog. (Where *D* is your CD drive.)

2. The **Choose Language** dialog opens. Click on the drop down list and select the installation
   language for your EDGE PC Card Software. Click **OK**.

3. The InstallShield Wizard for Sony Ericsson Wireless Manager opens; follow the instructions
   on screen. When installation is complete click **Finish**.

4. Insert the EDGE PC Card. Make sure the EDGE PC Card is fully inserted.

5. After a few seconds, the New Hardware Wizard opens and installs the necessary drivers onto
   your PC from the EDGE PC Card CD. The wizard may require you to locate a specific driver file.
   If this happens a dialog opens, click Browse and select:

Component	EDGE PC Card CD-ROM Location
EDGE/GPRS Drivers on a Windows 98SE or ME machines	D:\Driver\Driver9x
EDGE/GPRS Drivers on a Windows 2000/XP machine	D:\Driver\Driver2k

   In the above table D is referred to as your CD drive.

   Note:
   When installing on Windows 98SE, Windows may prompt for the original Windows 98
   CD-ROM to be inserted. If the CD-ROM is not inserted when requested, Windows will

subsequently reboot with error messages relating to missing files. Therefore, it is strongly recommended that the Windows 98SE CD-ROM is available before installation starts.

6. Select the driver file requested by the Wizard and click **Open**. The Hardware Wizard finishes the installation.

   Note:
   If you are prompted to reboot the laptop during software installation, you may find that the Wireless Manager attempts to start before all of the drivers are installed. The scenario is that the New Hardware Wizard is still busy installing the 3 device drivers, the Wireless Manager splash screen appears, followed by a warning dialog saying "You *must have a EDGE PC Card Wireless Modem installed to run this application. Please install a EDGE PC Card Wireless Modem and try again".* Click **OK**. Wait for the New Hardware Wizard to complete, rebooting the laptop if required, then start the PC Card Manager using the icon on the desktop or via **Programs ➡ Sony Ericsson ➡ Wireless Manager**.

7. Select **Programs ➡ Sony Ericsson ➡ Wireless Manager** to start using your EDGE PC Card.

8. The EDGE PC Card and Wireless Manager are ready for use.

Start Using Wireless Manager

1. To start Wireless Manager select **Start** ➡ **Programs** ➡ **Sony Ericsson** ➡ **Wireless Manager** or select your desktop shortcut.

2. If requested, enter your SIM Card/Phone Lock PIN and click **OK**. It is only necessary to enter the PIN number once during a PC session.

   You are allowed three attempts to enter the correct PIN code. If you fail to enter the SIM PIN correctly it is blocked and if you fail to enter the Phone Lock PIN correctly your EDGE PC Card is locked. Contact your network operator for an unblock code (PUK). Enter the unblock code into the Card Blocked dialog and enter a new PIN code and confirm it.

   To set the SIM Card PIN and Phone Lock PIN, see *Locks* on page 28.

3. The Radio dialog opens, select the required state for your EDGE PC Card radio transmission. See *Wireless Manager Preferences* on page 15 for more details.

4. The Wireless Manager opens, displaying the **Status** screen. Connectivity details are displayed on this screen, the current signal strength and GPRS availability should be listed. See *Wireless Manager Status Screen* on page 25, for more details.

5. The **Wireless Manager Icon** is displayed in the system tray of your PC.

Wireless Manager Icon

The **Wireless Manager Icon** shows the current status of the EDGE PC Card, which is typically the current network signal strength and the GSM/GPRS/EDGE service status, similar to a mobile phone display. If you right click on the **Wireless Manager Icon** a menu is displayed, see *The Wireless Manager Icon Menus* on page 14 for details on the menu options.

Place your mouse cursor over the **Wireless Manager Icon** to display text indicating:

- GSM or GPRS/EDGE Service availability
- Network name
- Connection information

Three standard Windows® operating system icons also appear in the system tray when the EDGE PC Card is inserted in your PC and connected. They are the **Sony Ericsson Wireless WAN Adapter** icon, **Dial-up Networking** icon and the **PC card** icon.
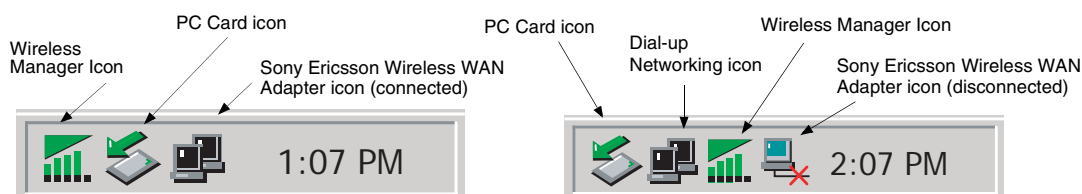
- **Making Windows Network Connections Visible**
  The Windows connection icons, displayed in the system tray, normally disappear once a connection is made. This means that you may not necessarily see a icon corresponding to each of the icons for your GPRS/EDGE and CSD.
  To make the icon visible, follow the steps described below.

  - Right click the appropriate icon and select **Open Network Connections**. Alternatively select **Start ➡ Settings ➡ Network Connections**.

  - A dialog opens displaying all the network and dial-up connections available on your PC. Right click the one you want to edit.

  - Click the **Show icon in taskbar when connected** box. Click **OK** to close the dialog. When you have an active connection use your mouse to hover over the icon to view connectivity details.

- **PC Card icon**
  Indicates that a PC card is present and allows the user to see certain properties and also to stop/remove the card.

Safe Removal of the EDGE PC Card

You must stop the EDGE PC Card before attempting to remove it.

1. Close any active EDGE PC Card Networking Connections.

2. Exit Wireless Manager.

3. Click on the **PC Card** icon. A list of currently connected PC Cards is displayed. Select **Stop Sony Ericsson EDGE Wireless Card**.

4. A dialog is displayed telling you it is safe to remove the card.

5. The EDGE PC Card can now be removed safely.

   Important!
   Incorrect removal of the EDGE PC Card can damage the card.

Wireless Manager Icon Status

The **Wireless Manager Icon** displays the status of the EDGE PC Card network connection.

Radio is set to off or the **Wireless Manager** has disconnected the EDGE PC Card

The radio transmitter is enabled, but there is no GSM or GPRS service available

The EDGE PC Card has GSM service and indicates a signal strength of 3 out of 5 bars. CSD, SMS and fax (GC82 only) may be used, provided these are supported by the subscription. GPRS/EDGE is not available

The EDGE PC Card has GSM and GPRS/EDGE service.
If EDGE connectivity is available there is no visible indication of this in the Wireless Manager.

Wireless Manager is waiting for the EDGE PC Card to be inserted.

The Wireless Manager Icon Menus

Right click one of the following icons to see the EDGE PC Card GPRS/EDGE menu options.

The **EDGE PC Card GPRS/EDGE** menu is displayed.

or

or

or

| Open GC82 Manager |
| Turn Radio Off |
| Connect to MyGPRSservice |
| Help |
| About GC82 Manager |
| Hide to tray |
| Exit |

Note:
Some of these menu options are disabled, depending on the current state of the EDGE PC Card.

Note:
EDGE capability is not indicated by the EDGE PC Card GPRS/EDGE icons.

The **Wireless Manager Icon** menu options are described below.

Open Wireless Manager
Select **Open Wireless Manager** or double click on the Wireless Manager icon to open the **Wireless Manager**.

Radio Status
This menu option is dynamic. It monitors the current state of the EDGE PC Card radio transmitter and gives you the option to switch to the opposite state, for example, if your EDGE PC Card Radio transmitter is on the menu option reads **Turn Radio Off**.

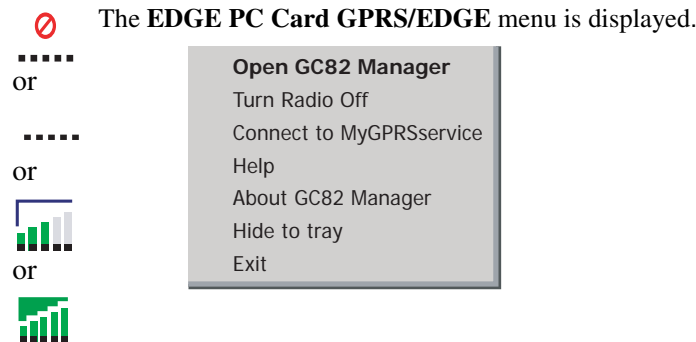You can also set the status of the radio transmitter by selecting **Turn Radio On/Off** in the **EDGE PC Card Manager File** menu.

Connect/Disconnect
If you are currently disconnected the menu gives you the option to connect to the most recently used EDGE PC Card connection. If you are connected the menu gives you the option to disconnect.

Help
Opens the Wireless Manager Online Help. You can also launch the Online Help from the **Wireless Manager** Help Menu. Pressing **F1** in any of the **Wireless Manager** dialogs opens the relevant help screen.

About
Displays a dialog that contains Wireless Manager software information.

Hide to Tray
Select the **Hide to Tray** option to visually close Wireless Manager leaving only the Wireless Manager Icon visible in the system tray. Use the **Open Wireless Manager** to view the software again.

Exit

Closes the **Wireless Manager** application, the Wireless Manager Icon will remain in the system tray if you have set it to run in the background. See *Wireless Manager Preferences* below for more details.

Wireless Manager Preferences

You can change the general behavior of the Wireless Manager by selecting specific options in the **Preferences...** dialog.

1. Select **Preferences...** in the **File** menu. The Preferences dialog opens, the **Radio Power** tab is displayed.
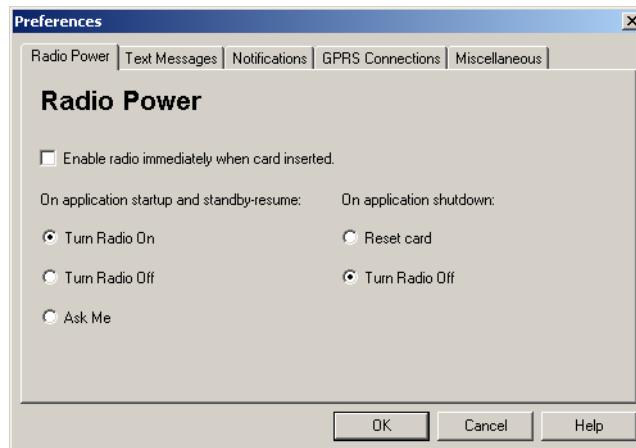
Radio Power Tab

You can use this tab to manage the state of the radio transmitter.

Enable Radio immediately when card inserted	You should normally leave this checkbox turned off. When enabled, the Windows driver turns the radio transmitter on when the card is inserted and leaves it enabled even when the card is not in use. You should check this option if your Windows logon requires you to log on using a dial-up connection, see *Windows Log on Using GPRS/EDGE Dial-up Connection* on page 19 for more details. When you click **OK** to activate this option the Wireless Manager displays the following dialog.
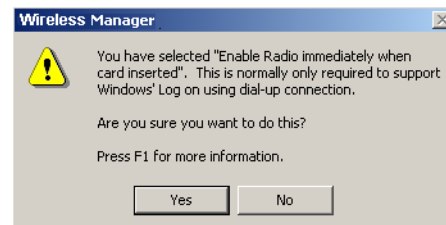
When this option is selected, the Wireless Manager radio power startup and shutdown choices are disabled.

The radio mode you specify at Wireless Manager start-up appears selected on the Radio tab.

On	When the Wireless Manager is running in radio on mode it is registered to the network and connections can be made and SMS sent and received. The radio can be enabled in several ways; • Select **Radio On** when the Wireless Manager starts. • Specify the required radio state in **Preferences** ➡ **Radio Power.** See *Wireless Manager Preferences* on page 15 for more details.
Off	**Radio Off** indicates that the EDGE PC Card will not register to the mobile network. You may perform non-communication related activities such as phone book maintenance, but you must turn on the radio in order to make a connection or to send/receive SMS.
Ask Me	Triggers a dialog to be displayed every time the PC is turned on. The dialog asks you if the radio transmitter should be turned on or off during the active PC session. This is also called Aeroplane mode, because it prevents the radio transmitter automatically turning on. This is a useful feature in areas where radio transmitters are not allowed; aircrafts, hospitals or blasting areas. Your EDGE PC Card is set to **Ask** by default.
Turn Radio Off	At shutdown the radio is turned off.
Reset card	Turns the radio off and resets the card.

Text Messaging Tab

You can use this tab to enable reception of specific message classes from the SMS Cell Broadcast service and to set the SMS received audio alarm to on or off. Select the radio buttons to activate the options.

Example of SMS Cell Broadcast message types:

Code:	Cell Broadcast Message
000	Index
010	News Flashes
020	Hospitals
030	Long-distance road reports
040	Weather

To enter multiple SMS Cell Broadcast message types separate each entry with a comma, for example, 000, 034, 076.

Note:
SMS Cell Broadcast message types are network operator specific. Contact your network operator for more details.

This screen also allows you to set a validity period for the SMS messages that you are sending. If your message can not be delivered, for example, if the recipient hasn't inserted their EDGE PC Card, the validity period tells your service centre how long to keep trying to send the message.

Notifications Tab

Click the **Notifications** tab. You can decide if you want to display a splash screen every time Wireless Manager is opened or closed and a program end confirmation box. Select the radio buttons to activate the options.

GPRS Connection Tab

Establish GPRS connection at startup

Select this option to automatically connect to your chosen network when Wireless Manager is started. Wireless Manager waits until GPRS is registered and then it establishes the specified GPRS connection.

Simply select the name of the connection to be established from the drop down list.

To automatically connect when you start or restart your PC see the example below. If you need to connect at Windows log on see *Windows Log on Using GPRS/EDGE Dial-up Connection* on page 19.

Example: If you want your EDGE PC Card to be available and a GPRS internet connection to be automatically established when you boot your laptop:
- Set **Preferences** ➡ **Miscellaneous** ➡ **Run this program when Windows Starts**
- Set **Preferences** ➡ **GPRS Connection** ➡ **Establish GPRS Connection At Startup** and select the GPRS connection required.

Miscellaneous Tab

Click the **Miscellaneous** tab.
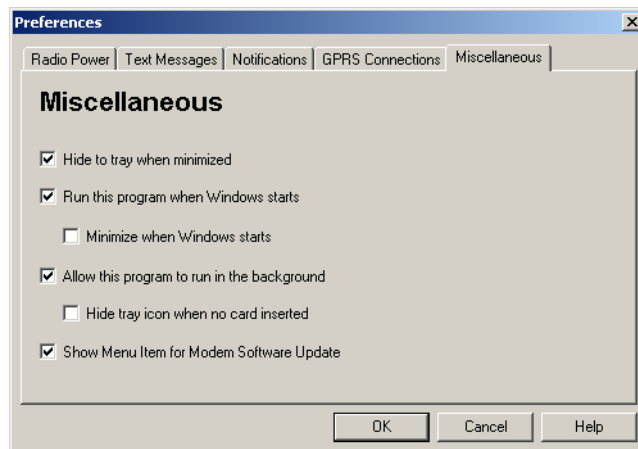
- **Hide to tray when minimized**
  If enabled, when the Wireless Manager is minimized, it removes any window from the taskbar, and only shows the small icon in the system tray. To re-open the main window, double-click the tray icon, or select **open** from the icon menu.

- **Run this program when Windows starts**
  If enabled, the Wireless Manager starts when Windows is started. If a EDGE PC Card is detected, the Wireless Manager runs. If not, the program closes (and runs in the background if permitted).
  When used with **Establish GPRS connection** at startup, this allows a GPRS session to be automatically connected when the user logs on, see *Windows Log on Using GPRS/EDGE Dial-up Connection* on page 19 for more details.

- **Minimize when Windows starts**
  If enabled, the Wireless Manager starts when a user logs on to Windows, it appears as an icon in the task bar only. If a EDGE PC Card is detected, the Wireless Manager runs and connects. If not, the program closes (and runs in the background if permitted).

- **Allow this program to run in the background**
  If enabled, the Wireless Manager runs in the background, waiting for a EDGE PC Card to be inserted. When the card is detected, the Wireless Manager automatically opens and begins normal operations.
  When the close box, or **File ➡ Exit** is selected, the Wireless Manager closes but does not exit. It releases control of the card, so it may be stopped and removed, and runs in the background. You can start the program again from the **Start** menu, double-clicking the system tray icon, or by re-inserting the EDGE PC Card.
  You can stop Wireless Manager running in the background by right clicking on the PC screen and selecting **Exit**.
  If you attempt to start Wireless Manager with no EDGE PC Card inserted a warning dialog is displayed, informing you that the EDGE PC Card is not present, and Wireless Manager switches back to background mode.

- **Hide tray icon when no card inserted**
  If this option is selected, Wireless Manager runs in background mode, the Wireless Manager icon is not displayed in the system tray. If the card is inserted, the icon reappears and the Wireless Manager is started.

- **Show menu item for Modem Software Update**
  If this option is checked, a **File ➡ Modem Software Update...** menu item is enabled. Selecting this menu command prepares the modem to receive a software update from the Sony Ericsson Update Service. More information about this service can be found at http://www.sonyericsson.com/updateservice/EDGE PC Card/.

  Examples: If you want to activate your EDGE PC Card when the laptop is booted, so that it is ready to make a connection and send/receive SMS:
  - Set **Preferences ➡ Miscellaneous ➡ Run this program when Windows Starts**.

  If you want your EDGE PC Card to be available and a GPRS internet connection to be automatically established when you boot your laptop:
  - Set **Preferences ➡ Miscellaneous ➡ Run this program when Windows Starts**.
  - Set **Preferences ➡ GPRS Connections ➡ Establish GPRS Connection At Startup**.
  - Select the GPRS connection required.

  If you remove the EDGE PC Card during usage and want it to be automatically reactivated when you re-insert it:

- Set **Preferences** ➡ **Miscellaneous** ➡ **Allow this program to run in the background**.
Note: If you have Establish GPRS connection at Startup set, then the connection will also be automatically established when you insert the card.

If you want to start the laptop with the EDGE PC Card removed and have it automatically activated when it is later inserted:
- Set **Preferences** ➡ **Miscellaneous** ➡ **Run this program when Windows Starts**.
- Set **Preferences** ➡ **Miscellaneous** ➡ **Allow this program to run in the background**.

Windows Log on Using GPRS/EDGE Dial-up Connection

The EDGE PC Card supports the Windows **Log on using dial-up connection** feature.

To log on to Windows using a dial-up connection the EDGE PC Card must be inserted and the radio enabled before you log on. To enable the radio prior to logon, select **Enable radio immediately when card inserted** checkbox on the **Radio Power** preferences tab, see *Radio Power Tab* on page 15 for more details.

Important!
Never start your PC in this mode if you are in a location where mobile devices shouldn't be used, for example, on an aeroplane, in hospital or near a blast site.

Only check this option if you need to log on to a Windows Domain via a wireless dial-up connection. This will permit the EDGE PC Card to register with the network and establish a connection when the Windows logon screen is displayed.

Note:
It is not possible to display network status or signal strength during the Windows logon procedure, so you should allow enough time for the EDGE PC Card to find and register with the wireless network prior to attempting to log on.

The dial-up connections available to the Windows Logon must have been created by a user account with *Administrator* privilege and designated *For all users*. This must be done using the **Windows Network Connection Wizard**, because the **Wireless Manager** can only create connections for the current user ID.

Normally the Windows Logon using dial-up connection will be using a CSD session to a corporate network, so that the logon credentials can be validated by a Windows Domain Server.

There may be special circumstances where a GPRS dial-up connection is required for logon.
To create a GPRS dial-up connection, follow these steps:

1. Create the Windows dial-up connection using the **Windows Network Connection Wizard**. For the telephone number, use *99***3#.

2. Set the GPRS context parameters in the EDGE PC Card using the following AT commands. Type the AT Commands into the Windows Hyperterminal program.

   AT+CGDCONT=3,"IP","<AccessPointName>","",0,0
   where <AccessPointName> is the name of the special GPRS access point for your corporate GPRS service.

Note:
In this example, we used GPRS Context 3. There are 10 possible contexts supported by the EDGE PC Card (1..10). Context ID 2 is reserved for use by connections created by the Wireless Manager.

Refer to the AT Command Manual or contact your service provider for further assistance.

Create a Connection

Your mobile operator may have entered predefined customised connection settings for you. Check the connection drop-down menu for any existing entries, if they are available go directly to *Using your Connection* on page 23.

1. Click ⭐ or select **View** ➡ **Connection Wizard**. The Connection Wizard opens.

2. Select the radio button next to **Create a new connection**, enter a name, for example 'My Connection', click **Next**.

   Note:
   Your connection name should not exceed 16 characters for it to be fully visible in Wireless Manager.

3. The **Type of Connection** screen opens. From here you select the type of connection you require:
   - For GPRS/EDGE see steps 4 to 8
   - For CSD see steps 9 to 12

GPRS Connection

4. Select **GPRS/EDGE**. Select your Network Operator from the **Choose Network** drop down list. If your Network Operator isn't listed selected **<Other>**. Click **Next**. See *Network and Subscription* on page 7 for more information on GPRS.

   Note:
   Type the first letter of the Network Operator you require into the field to list all the operators that start with that letter.

5. If the Access Point Name dialog opens, select the APN you want to use from the list displayed. If no APNs are listed contact your Network Operator and ask them to supply an APN.

6. To modify the selected APN's settings, Click **Advanced...**. See *Appendix A - Connection Parameters* on page 62, for descriptions of the updateable parameters in the Advanced dialog. Click **Apply** to save any changes before closing the dialog. Click **Next**.

   Note:
   Your connection will automatically switch to EDGE when the network is available, allowing your PC Card to work at faster speeds.

7. If the operator you have selected in step 4 does not require a User ID and Password leave this screen blank if it is displayed. If you have to logon to your service provider, enter you **User ID** and **Password** into the specific fields. If you want to enter your User ID and PAssword every time you connect tick the box provided. Click **Next.**

   Note:
   Some versions of Windows® deliberately change the number of asterisks that represent a password and place asterisks in the password field when the password is blank in order to make the display secure.

8. Click **Finish** to create your connection or **Back** to review your settings.

CSD Connection

9. Select CSD. Select your service provider from the **Choose Network** drop down list. If your service provider isn't listed select **<Other>**. Click **Next**.

10. If you selected a Network Operator from the **Choose Network** drop down list, the telephone number screen should be automatically filled in.
If you selected **<Other>** from the **Choose Network** drop down list; enter the number you need to dial to connect to your Network Operator in the **Telephone Number** field; include your country and area code. Ensure **Use Area Code and Country Code** is de-selected.

Note:
Contact your Network Operator for a telephone number if necessary.

11. Click **Advanced...**. you can specify your preferred CSD network connection speed from the drop down list and the method you want to use to connect to the network, on the Speed tab of the Advanced dialog. Click **Next**.

Note:
If you are unsure which speed to choose from the **Speed** tab, start with Analogue 9600, and check to see if it works. Once your connection works on Analog, you can try the V110/V120 settings to see if faster speeds are available. V110/V120 also connects faster than analog. When roaming you may need to repeat this procedure to adapt your settings to the capability of the local network operator.

12. Select the **Options** tab in the **Advanced** dialog to specify a callback number, if required. Callback is a service that allows the call direction to be reversed. If you want to watch the progress of a callback in a terminal window click the **Show Terminal Window After Dialing** box.

See *Appendix A - Connection Parameters* on page 62, for descriptions of the updateable parameters in the **Advanced** dialog. Click **Apply** to save any changes before closing the dialog.

13. If you need a **User ID** and **Password** to logon to your service provider enter them into the specific fields. If you don't need a username and password leave the fields blank. Click **Next.**

> **Note:**
> Some versions of Windows® deliberately change the number of asterisks that represent a password and place asterisks in the password field when the password is blank in order to make the display secure.

14. Click **Finish** to create your connection or **Back** to review your settings.

Modify a Connection

1. Select **Modify a Connection**. The **Select a Connection** drop down menu is activated. Click on the menu and select the connection you want to modify.

2. Click **Next**.

3. Change settings as required.

Delete a Connection

1. Select **Delete a Connection**. The **Select a Connection** drop down menu is activated. Click on the menu and select the connection you want to delete.

2. Click **Next**. The Success screen is displayed. Click **Finish** to close the **Connection Wizard**.

Using your Connection

To Connect
1. Open Wireless Manager.

2. If requested enter your SIM Card PIN and click **OK**. The Status screen is displayed.

3. Select the connection you require from the drop down list and click **Connect**. If requested enter your User ID and Password.

To disconnect an active connection
1. Click **Disconnect** on the Status screen.

The Wireless Manager ends the connection.

Alternatively:

Right click on the **Wireless Manager** icon in the system tray and select **Disconnect**.

> **Note:**
> You can also use the Preferences dialog to set up auto connection when the Wireless Manager is opened. See *Wireless Manager Preferences* on page 15 for more details.

Browse the Internet

You can connect to the Internet using a CSD or GPRS/EDGE connection:

1. Open your preferred connection from the Status screen. See *Using your Connection* on page 23 for details on opening a connection.

2. Start your Internet browser. You are online and can browse the Internet.

Send and Receive emails

You will need an email program installed on your PC in order to send and receive emails. You can send and receive emails using a CSD or GPRS/EDGE connection:

1. Open your preferred connection from the Status screen. See *Connection* on page 26 for details on opening a connection.

2. Start your email program. You are online and can send and receive emails.

Wireless Manager Status Screen

The Status Screen is displayed when Wireless Manager opens. You can also open the Status screen by clicking or selecting **View** → **Status**.
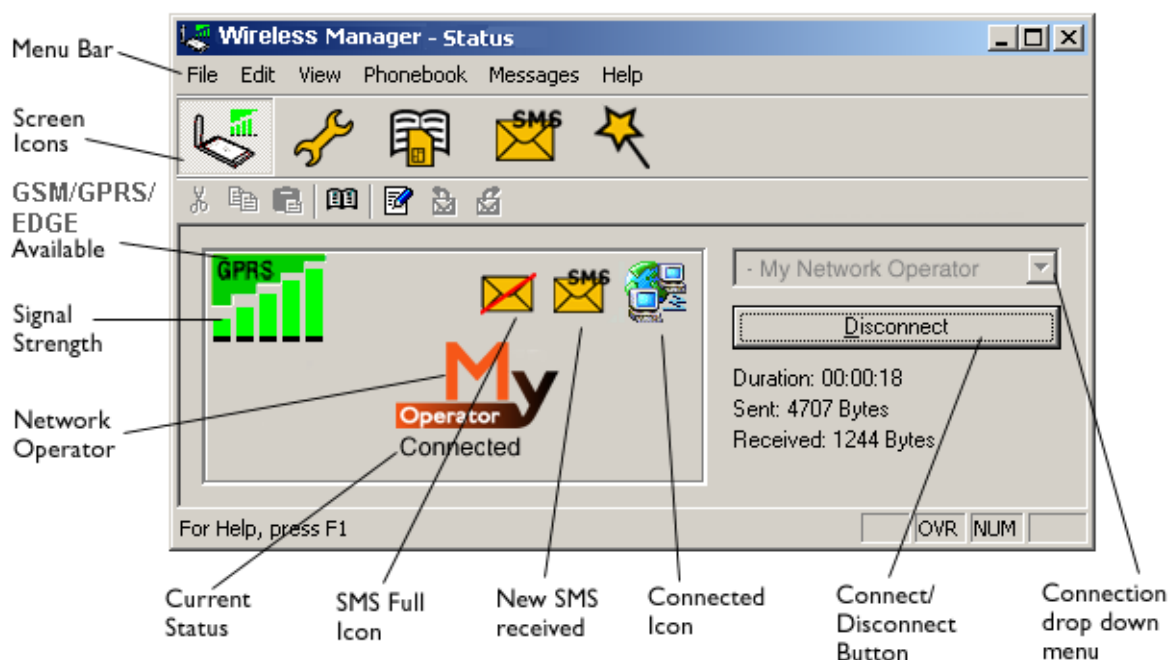
The Status screen shows detailed SIM card and network status information.

The left side of the screen shows graphical icons, representing:

- Receive signal strength
- GPRS/EDGE service status
- Unread SMS Text Message status (or SIM Full indication). See *Wireless Manager SMS Messages Screen* on page 33 for more details.
- Connection status

The left side of the screen also displays:

- The current Network Status, e.g. searching, radio off
- The connection progress messages

The right side of the **Status** screen displays connection details. When a connection is established, the connection statistics (duration, bytes transmitted, bytes received) are displayed and updated at regular intervals.

Note:
Statistics display is not supported on Window 98(SE) or Me platforms. To view statistic data when using these operating systems hover your mouse cursor over the standard Windows Dial-up Networking icon.

Connection

To connect, cancel or disconnect a GPRS/EDGE or CSD data session use the Connect/Disconnect drop down menu. The menu displays all the connections you have defined, so you can quickly select the required connection.
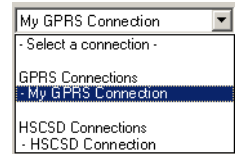
The **Control** button, located underneath the drop down menu, changes it's appearance depending on the state of the EDGE PC Card connection. The button allows you to:

- Initiate a connection (**Connect**)
- Cancel connection attempt (**Cancel**)
- **Disconnect** (Hang-up) an existing session

To create a connection see *Create a Connection* on page 21.

Note:
You can also launch or terminate a CSD dialup networking sessions directly from the Windows Network Connections icon.

Wireless Manager Telephony Settings Screen

The Telephony Settings screen allows you view and change the GSM settings of the EDGE PC Card.

The functions of the Telephony Settings screen are very similar to the settings that you have access to via a mobile phone's display.

Note:
Your EDGE PC Card has to be connected to your computer to make changes to the settings.

1. Click 🔧 or select **View** ➡ **Telephony Settings.**

The window is divided into two areas: the navigation area on the left and the information area on the right.

When you have selected a setting in the navigation area, Wireless Manager retrieves the current setting information from the EDGE PC Card and displays the information in the right area.

Phone Numbers

My numbers

You can list all your own numbers here. The numbers are for personal reference only and have no operational effect on the EDGE PC Card.

Voice line 1 and 2:
The voice number or numbers issued with your SIM card that you use for normal voice calls.
If you have line 2 (alternate line service) enter in the **Voice Line 2 number** field.

Data:

The number used to make a data call to the EDGE PC Card (Mobile Terminated).

Fax: (GC82 only)

The number used to send a fax to the GC82.

Click **Apply** when you have finished, to transfer the changes back to your GC82. This may take a few seconds.

SMS Service Centre

When you send a text message it goes to your operator's service centre, they then forward it to the correct recipient. The SMS service centre is identified by a telephone number.

Note:

The SMS Service Centre number is normally read automatically from your SIM card.

To Set or change the service centre address:

1. Enter your operator's service centre phone number in the Number text box.

2. Click **Apply** to transfer the setting to your EDGE PC Card.

Locks

Phone lock

The phone lock protects the EDGE PC Card against unauthorized use if it is stolen and used with another SIM card. Phone Lock is not activated when you buy the EDGE PC Card.

You can use this screen to change the default security code (0000) to any four to eight digit personalized code.
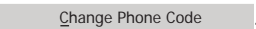
You can set the Phone Lock Status to one of the following states:

- **On** - A brief message *Phone lock* is displayed each time you turn on the computer. The **Enter phone lock code** dialog opens. Enter your code into the dialog and click **OK**.

- **Off** - The EDGE PC Card is not locked.

- **Automatic** - If the Automatic setting is selected, the message *Phone lock* only appears when a different SIM card is inserted into the EDGE PC Card. After the security code has been entered correctly, the EDGE PC Card can be used with the new SIM card.

Note:

The Phone Lock code has four to eight digits and is shown as asterisks upon entry in the dialog.

To Change the Phone Lock code:

1. Click [Change Phone Code].

2. The **Change the Phone Lock Code** dialog opens. Make the required changes and click **OK**.

3. Click **Apply** when you have finished, to transfer the changes back to your EDGE PC Card. This may take a few seconds.

SIM lock

Some SIM cards are protected with a PIN (Personal Identity Number) at the time of purchase. If the SIM card lock is activated, you have to enter the PIN every time you turn on your PC and open Wireless Manager. If you enter your PIN incorrectly three times in succession, the SIM card is blocked and you need a PUK code, from your network operator, to unblock the SIM card.

• To activate the SIM card lock, select the **On** radio button.

Caution!
Only activate the SIM card lock if you know the PIN code.

• To cancel the SIM card lock, select the **Off** radio button.

Note:
You have to use your PIN code to turn the SIM card lock off.

To Change the PIN Code:
1. Click [Change Pin Code...] .
2. Enter your old PIN code, followed by your new four to eight digit PIN code. Confirm the new code by entering it again.
3. Click **OK**.

Note:
The SIM card lock only protects your subscription and not your EDGE PC Card from unauthorized use. If you change your SIM card, the EDGE PC Card will still work with a new SIM card.

4. Click **Apply** when you have finished to transfer the changes back to your EDGE PC Card. This may take a few seconds.

Networks

Current Network

You can select which network you want to use by going to **Networks** and then choosing **Current Network**.

Searching for the available networks:
• Click **Retrieve**, the current network appears in the box with all the other currently available networks.

The available networks will fall into one of the following three categories:

• The home network.

• Available networks, networks that your home mobile operator has a roaming agreement with.

• Forbidden networks, you can't use these networks except for emergency calls. If your home network and a forbidden network come to an agreement that allows you to use the forbidden network, you can select this network even though it is forbidden.

Choosing another network:

1. Uncheck **Automatically choose a network for me**.

2. Select the network that you want to use.

3. Click **Apply** to transfer the setting to your EDGE PC Card.

The message *Please wait* appears briefly on the screen. If you are not allowed to use the network that you have chosen, *Forbidden* is displayed.

Note:
GPRS is commonly available in GSM networks, but fewer roaming agreements are in place. You may therefore need to explicitly select one of the available networks in order to use GPRS when abroad. Check with your home operator to find out which networks are GPRS roaming partners in the country or region in which you want to roam.

Preferred (network)

Note:
This option is only available if your operator provides it.

A list of preferred networks is stored on the SIM card. This is typically set up by your mobile operator as part of SIM manufacture. Preferred roaming partners are placed in the list so that you have the greatest range of available services when roaming. When the home network is not available, the EDGE PC Card will check the available networks against the preferred network list and select the one placed highest. Automatic network selection must be enabled.

If you want to add a new network:

1. Click **Add**, a new dialog with all the networks known to the EDGE PC Card appears on the screen.

2. Select the network that you want to add and click **OK**.

3. Click **Apply** to transfer the setting to your EDGE PC Card SIM card.

If you want to delete a network from the list:

1. Select the network that you want to delete.

2. Click **Remove**.

3. Click **Apply** to transfer the setting to your EDGE PC Card's SIM card.

If you want to re-arrange the order of the networks listed:

1. Select the network that you want to move.

2. Click the **Move Up** or **Move Down** arrows to rearrange the order.

3. Click **Apply** to transfer the setting to your EDGE PC Card's SIM card.

Note:
If the list of preferred networks is full, the **Add** button is disabled (grey).

Forward Calls (Divert)

Note:
The EDGE PC Card does not make or answer voice calls. The forward function enables you to send a voice call to an alternative number where it can be answered. For example, the mobile network voicemail service. However you can make and answer fax (GC82 only) and data calls, providing you have appropriate software on your PC to handle them.

Voice

You can use the forwarding service to forward your voice calls to another phone number.

Note:
The Call forward service may not be available on all networks.

Selecting a call forward setting:

1. To obtain your current call forwarding settings from the network, click **Retrieve**.

2. Make your changes and select in which situation you want to forward your incoming calls. You can select from four different diversion options:

   – **Always**: this forwards all incoming calls to the phone number that you have entered in the text box

   – **When busy**

   – **No reply**

   – **Not reachable**: for example, when your phone is turned off

3. If you know which phone number to forward your calls to, type the number in the text box next to the forward option you have chosen.
   Or
   Click [...] to choose a phone number from your phone book.

4. Click **Apply** to transfer them to your EDGE PC Card. This may take a few seconds.

Your Line 1 forward setting has now been stored in the network.

Fax (GC82 only)

If you want to route your incoming fax calls to another number, you can use the Call forwarding service.

Note:
The Call forward service may not be available on all networks. Also, if you are using the Call restricting function, this may influence Call forwarding.

Selecting a fax forwarding setting:

1. To obtain your current fax forwarding settings from the network, click **Retrieve**.

2. Select **Always** if you want to forward all the incoming calls to a specific phone number.

3. If you know which phone number to forward your calls to, type the number in the text box next to **Always**.
   Or
   Click [...] to choose a phone number from your phone book.

4. Click **Apply** to transfer your settings to your EDGE PC Card. This may take a few seconds.

Your fax forward setting has now been stored in the network.

Data

If you want to route your incoming data calls to another number, you can use the Call forward service.

Note:
The Call forward service may not be available on all networks. Also, if you are using the Call restricting function, this may influence Call forward.

Selecting a data forward setting:

1. To obtain your current data forwarding settings from the network, click **Retrieve**.

2. Select **Always** if you want to forward all the incoming calls to a specific phone number.

3. Select the **Always** check box and enter the destination number or click ⎡…⎤ to choose a phone number from your phone book. Click **OK**.

4. Click **Apply** to transfer your settings to your EDGE PC Card. This may take a few seconds.

Your data forward setting has now been stored in the network.

Restrict Calls

Restricting a certain type of call means that this type of call cannot be made to or from your EDGE PC Card. You can restrict different types of outgoing and incoming calls.

The following call types can be restricted:

- all outgoing calls.

- all outgoing international calls.

- all outgoing international calls except to your own country.

- all incoming calls.

- all incoming calls when you are abroad (when roaming).

A password, issued with your subscription, is required to turn a call restrict on or off. Contact your network operator for further information.

Restricting Fax and Data Calls (GC82 only)

To Change the call restrict status for fax and data calls:

1. To get your current call restrict settings from the network, click **Retrieve**.

2. Tick the boxes next to the call types that you want to restrict.
   Only select one outgoing and one incoming option.

3. When you have finished, click **Apply**.

4. Type your restriction password into the dialog and click **OK**.

Your call restrict settings have now been changed and stored in the network.

Wireless Manager SMS Messages Screen

The Wireless Manager's SMS Messages screen enables you to view, compose, edit, save, copy, delete, reply or forward SMS messages from your EDGE PC Card to other mobile devices.

Note:
To use Message functionality SMS must be included in your subscription, contact your network operator for more details.
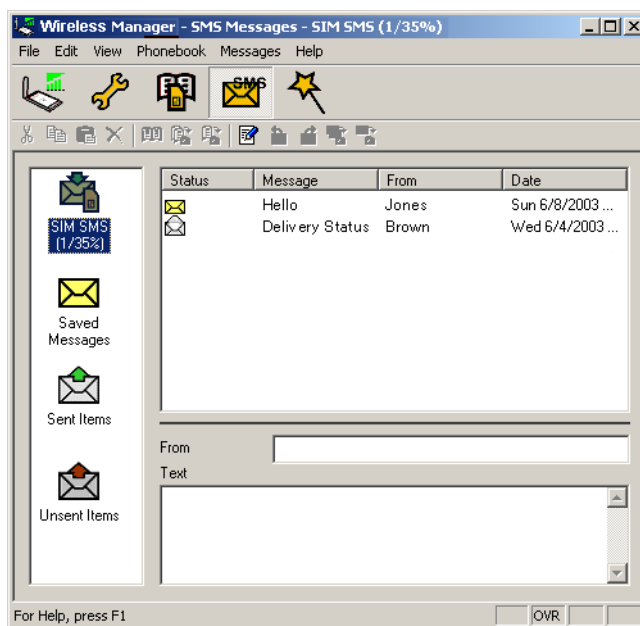
The SMS Messages screen is split in to a left and right area.

The left area displays the folders; SIM SMS, Saved Messages, Sent Items and Unsent Items.

The right area displays the contents of the selected folder. The top half of the right pane displays a list of received messages, sorted by date and the bottom half of the screen displays the content of a selected messages, this is referred to as the **Information View**.

The folders and their names are static, you can not change them.

Click to display the contents of the SIM Inbox. When Wireless Manager is opened any new SMS in the SIM Inbox are uploaded to the PC automatically.
A status flag indicates whether a message is read or unread.

If a new SMS arrives when the Wireless Manager is open is displayed on the Status screen and the SMS audio sound is played, if enabled in the **Setting** dialog. See *Wireless Manager Preferences* on page 15.

If you want to keep an SMS, use the copy or move menu options to place it in the Saved folder. Click on the folder icon to display the contents of the Saved folder.

A copy of each SMS that you have sent is stored in this folder. Click on the folder icon to display them.

Any composed messages that have not been sent are displayed when you click on this icon.
SMS stored in this folder can be edited or sent when the EDGE PC Card is connected.
Any SMS that fail during transmission are also stored here, you can resend them at any time.

Each time the SMS Messages screen receives a new SMS message from the SIM it checks the status of the SIM Inbox. If the SIM Inbox is full, a SIM Full icon is displayed in the left pane of the screen, see *SIM Inbox is Full:* on page 36.

Note:
For all the SMS Messages screen menu options to operate the EDGE PC Card must be registered successfully on a network. You must have a GSM signal to **Send** SMS, the button is disabled (grey) if you don't have a signal.

Class 0 messages

If you receive a Class 0 message, it will appear in a pop-up dialog, which you can save or dismiss. If you choose to save the message it will be stored in you Saved Messages folder.

SMS Manager Functionality

To Send an SMS:

1. Select **Create New Message...** from the Messages menu or click 📝.
2. The **New Message** dialog opens.
3. Enter the recipient's mobile phone number in the **To:** field or select a number from a phone book by clicking **Lookup...**
   To send an SMS to multiple numbers, hold down **Ctrl** when selecting the numbers from the phone book.
4. Type your message into the **Message:** field.
5. If required you can click the **Calculate SMS blocks** to see how many SMSs your message will be split into. Also you can check the **Request Status Report** to get confirmation when the SMS arrives at its destination (if this service is supported by your network).
6. Click **Send** to send the SMS or **Cancel** to close the dialog without sending the SMS.

To Edit a Message:

When you are working with a message, you can edit the text by cutting, copying and pasting.

Moving Text:
1. Select the text you want to move, the text can be in another PC application.
2. Select **Cut** from the Edit menu or **Ctrl** and **X** on the keyboard.
3. Place the cursor where you want to insert the text and select **Paste** from the Edit menu or **Ctrl** and **V** on the keyboard.

Note:
If you want to copy text, select **Copy (Ctrl** and **C)** from the Edit menu instead of **Cut (Ctrl** and **X)**.

Reply to an SMS:

1. Select the folder where the message is located.

2. From the list, select the message you want to reply. The contents of the message are displayed in the information view.

3. Select **Reply** in the Messages menu. A dialogue appears. The **To:** field is automatically filled in and the original message is displayed in the **Message:** field.

4. If required you can click the **Calculate SMS blocks** to see how many SMSs your message will be split into. Also you can check the **Request Status Report** to get confirmation when the SMS arrives at its destination.

5. Type your reply and click **Send**.

To Forward an SMS:

1. Select the folder where the message is located.

2. From the list, select the message you want to forward. The contents of the message are displayed in the information view.

3. Select **Forward** in the Messages menu or click (forward icon), a dialogue opens.

4. Enter the phone number in the **To:** field or click **Lookup...** to select a number from a phone book. To send an SMS to multiple numbers, hold down **Ctrl** when selecting the numbers from the phone book.

5. If required you can click the **Calculate SMS blocks** to see how many SMSs your message will be split into. Also you can check the **Request Status Report** to get confirmation when the SMS arrives at its destination.

6. Click **Send**.

Delete an SMS:

1. Select the folder where the message is located.

2. From the list, select the message you want to delete. The contents of the message are displayed in the information view.

3. Select **Delete** from the Edit menu, or press the **Delete** button on your keyboard.

4. A confirmation message box opens, click **Yes** to delete the message.

   Note:
   To delete all messages, click **Select All** from the Edit menu before you select **Delete**.

Folder Management:

Sorting SMS:
1. Select the folder where the messages you want to sort are located.

2. Click the **Date** column heading to sort the SMS in ascending or descending date order.

Moving SMS:

1. Select the folder where the message you want to move is located.

2. From the list, select the message. The contents of the message are displayed in the information view.

3. Click **Move to** from the **Messages** menu. A progress dialog is displayed informing you that the SIM card is being updated.

4. The selected message is moved.

   Note:
   To move all messages, click **Select All** from the Edit menu before you select **Move to**.

Copy an SMS:

1. Select the folder where the message you want to copy is located.

2. From the list, select the message. The contents of the message are displayed in the information view.

3. Click **Copy to** from the **Messages** menu. A progress dialog is displayed informing you that the SIM card is being updated.

4. The selected message is copied.

   Note:
   To copy all messages, click **Select All** from the Edit menu before you select **Copy to.**

SIM Inbox is Full:

When the Wireless Manager detects the SIM SMS storage is full, it displays on the Status screen and in the SMS Messages screen. You must move or delete some SMS from the SIM Inbox to free storage space so that you can continue receiving new SMS from the network. To do this you can either:

• Move your SMS from SIM SMS to Saved Messages

• Right click on an SMS in SIM SMS and select delete.

Wireless Manager Phone Book Screen

The Wireless Manager Phone Book screen helps you to organize your EDGE PC Card's SIM Phone Book.

The Phone Book Screen

A SIM Phone Book can easily become disorganized; you can use the Phone Book screen to manage your SIM Phone Book entries.

You can add new numbers, edit existing numbers, export and import entries.

1. Click [icon] to display the Phone Book screen.
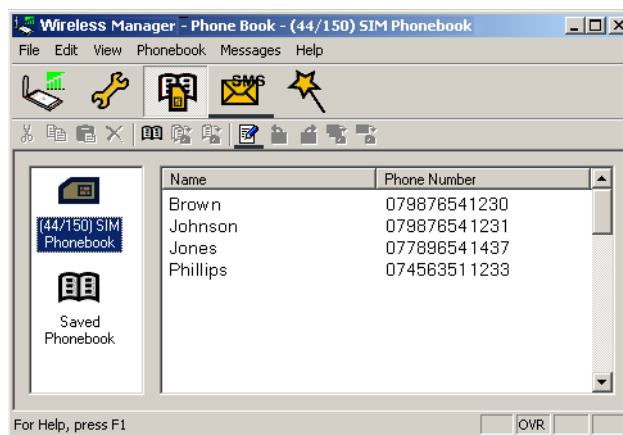
2. Icons appear in the left pane representing the SIM Phone Book [icon] and Saved Phone Book [icon]. You can manage your Phone Book entries by copying entries to the SIM Phone Book or the Saved Phone Book.

3. Click on the icon to display the Phone Book entries in the right pane.

   Note:
   Your EDGE PC Card must be inserted to display this information.

Phone Book Functionality

To Add a Number:

1. Select **Add New** in the Phone Book menu or click ▤▤ on the toolbar or key **Ctrl** and **N**.
2. The **New Phone Book Entr**y dialog opens.
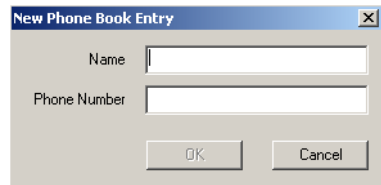
3. Enter the name and phone number.
4. Click **OK** to save the entry or **Cancel** to close the dialog.

   Note:
   Phone Book numbers are limited to 20 digits (including +) and names are limited
   to 18 alphanumeric characters.

   New entries are added to the next available SIM index position.

To Modify a number:

1. Select the number you want to modify.
2. Select **Modify...** in the Phone Book menu.
3. The **Edit Phone Book Entry** dialog opens.
4. The fields in the dialog display the current entry's name and number.
5. Edit the information.
6. Click **OK** to save the entry or **Cancel** to close the dialog
   If the modified entry is in the SIM Phone Book the changes are automatically sent to the SIM.

To Find Entries:

1. Select **Find** in the Phone Book menu or key **Ctrl** and **F**.
2. The **Find** dialog opens. Enter the text or number you want to search for in the **Look for** field.
   The entry can be complete or incomplete.
3. Click **Find**. The Wireless Manager searches both Phone Books, when a match is found
   it is displayed in the right pane. Click **Find Next** to search again.
4. Click **Close** when you have finished searching.

To Copy an Entry:

1. Select an entry from the SIM Phone Book or the Saved Phone Book.
2. Select **Copy To** in the Phone Book menu. The **Copy To** option is followed by the name of the
   Phone Book you haven't selected the entry from.
3. A duplicate entry is made in the specified Phone Book. The new entry is assigned the next
   available position in the destination Phone Book.

To Move an Entry:

1. Select an entry.

2. Select **Move To** in the Phone Book menu. The **Move To** option is followed by the name of the Phone Book you haven't selected the entry from.

3. The entry is moved from its current Phone Book and placed in the selected one. The new entry is assigned the next available position in the destination Phone Book.

To Import an Entry or Phone Book:

1. Select **Import** from the Phone Book menu.
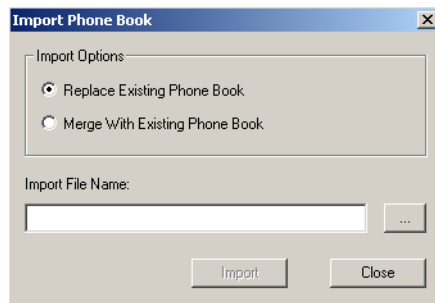
2. Select the **Replace Existing Phone Book** or **Merge with existing Phone Book** radio button.

3. Click [...] and browse to find the file you want to import.

   Note:
   The file must be a text file in comma separated value (CSV) format. Any invalid lines or files will be ignored.

4. Click **OK** in the browse dialog. The path and file name are displayed in the **Import File Name** field.

5. Click **Import** to complete the import procedure.

To Export an Entry or Phone Book:

1. Highlight the entries or open the Phone Book you want to export.

2. Select **Export** from the Phone Book menu.
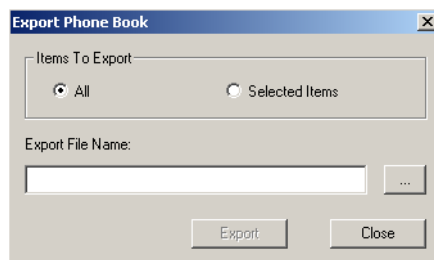
3. Select **All** to export the entire Phone Book or **Selected Items** to export the highlighted entries.

4. Type a name for the file into the **Export File Name** field.

5. Click [...] and identify the save location.

Note:

The file will be saved as a text file in comma separated value (CSV) format.

6. Click **OK** in the browse dialog. The path and file name are displayed in the **Export File Name** field.

7. Click **Export** to complete the procedure.

Delete a number

1. Select the number that you want to delete.

2. Select **Delete**, from the Edit menu.

3. A confirmation dialog opens, click **Yes** to delete the number.

Note:

If you want to delete all numbers, select **Select All** from the Edit menu before clicking **Delete**.

To Send a New SMS Message:

1. Select an entry from a Phone Book.

2. Select **Create New Message** from the Messages menu.

3. A new SMS Message dialog is opened and pre-addressed with the selected entries details.

Wireless Manager Online Services Screen

Online Services is a customized service offered by a network operators. This service is network or subscription dependant. The Online Services screen provides a mechanism that allows applications that exist on the SIM to interact and operate with the EDGE PC Card. Typical services offered by network operators include:

- sports scores
- news
- financial data
- horoscopes
- interactive text game messages

Online Services are placed on your SIM card by your operator. Wireless Manager detects if these services are on the SIM card and displays the icon if they are.

1. Click the icon to display the Online services screen. You can also select to display the Online Services screen from the View menu.
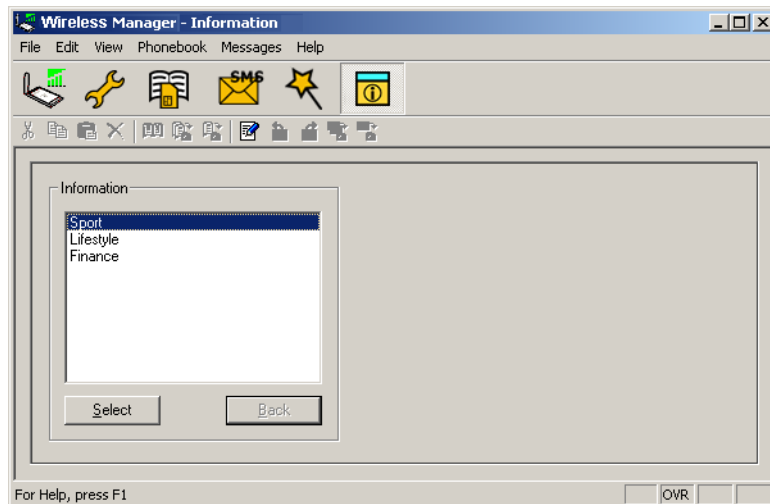
The screen displays a menu of the online services offered by your network operator.

Click on the category you require and click **Select**.

More detailed choices are sometimes displayed, if necessary select the required option and click **Select**.

The response may take various forms, depending on the network operator. For example, the news headlines might be sent as an SMS, which will be delivered to the SMS inbox.

Online Services menus are sometimes used to provide a list of voice-based services such as directory enquiries. If one of these is selected, you will not be connected because the EDGE PC Card does not support voice calls.

Note:
Contact your operator to find out which services are available for your account.

Troubleshooting

This chapter lists some problems that you might encounter while using your EDGE PC Card. Some problems require you to contact your service provider, but most of the problems you can easily correct yourself.

Wireless Manager Icon Errors

⊘ **· · · · ·** appears in the task bar	Indicates that the Radio is turned off. Right click the CMI, select **Radio Settings** from the sub menu, select **On**.
· · · · · appears in the task bar	Indicates that the EDGE PC Card cannot find a network, there is no network within range or the received signal is too weak. You have to move to get a stronger signal.
▮▮▮▮ **A signal is present but you can't connect to the GPRS network**	Indicates that a GSM network is present, but no GPRS service is available. This can be caused by; no GPRS service in the area, you are trying to roam on a network for which no GPRS roaming agreement exists or there is a temporary fault on the network. Contact your network operator for more details.
· · ·✕ appears in the task bar	EDGE PC Card isn't present, please insert.

Software Errors

Grey menu options in the software applications	Grey text indicates a function that is temporarily unavailable, for example due to your subscription or due to a certain setting which has not been turned on.

Error Messages

General

Modem not responding.... Error	Check the radio is turned on.
Dial-Up fails	Try to connect again.

SIM Card Errors

Wrong PIN/ Wrong PIN2	You have entered your PIN or PIN2 incorrectly. Enter the correct PIN or PIN2, and click **OK**. See *SIM lock* on page 29
Codes do not match	When you want to change a security code (for example your PIN) you have to confirm the new code by entering it again. This error occurs when the two codes, that you have entered do not match. See *Phone lock* on page 28.
PIN blocked/ PIN2 blocked	You have entered your PIN or PIN2 incorrectly three times in succession. To unblock, see *SIM lock* on page 29.
PUK blocked – contact operator	You have entered your personal unblocking key code (PUK) incorrectly 10 times in succession. Contact your network operator or service provider.

Error Codes

Windows® 98

Error 619: The port is disconnected during dial-up	An ISDN mode (V110 or V120) has been selected when creating a connection, but is not supported by the network. Select Analogue mode when creating the connection in the **Connection Wizard**.
Error 629: The port was disconnected by the remote machine during dial-up	Telephony settings are set to pulse dialling, change to tone dialling. Check the dialling settings for the current location (In **Control Panel** ➡ **Phone and Modem Option** ➡ **Dialling Rules** ➡ **Location** ➡ **Edit**) and change the **Dial using** setting to tone, or (if Pulse is a necessity), create a new location called **EDGE Anywhere** and set the dialling to Tone. **EDGE anywhere** location should then be used whenever you use the EDGE PC Card.
Error 630: The port was disconnected due to hardware failure during dial-up	A Dial-up networking connection is already connected. Close the connected dial-up and try again.
Error 645: Internal authentication error during dial-up	Incorrect APN or CID selected for network. Modify your Dial-up Connection, see *Create a Connection* on page 21 for more details. Make sure that the APN file contains the name of the access point your network operator is using. The Dialup Wizard should do this automatically, if you are experiencing problems contact your network operator.
Error 650: The Remote Access server is not responding during dial-up	Incorrect User ID and/or password. Re enter correctly.

Error 678: **Computer you** **are dialling is** **not responding** **during dial-up**	Either: Service is not supported by SIM (usually for CSD) or the computer is not answering. 1 Check SIM settings with your service provider if necessary, 2 Make sure that the server you are dialling is OK, 3 Make sure that Analogue mode has not been selected with 57.6kbps data rate (V110 or V120 mode must be selected and supported by the network)
Error 720: **No PPP control** **protocols** **configured** **during dial-up**	The service is not supported by the SIM, usually appears when you are trying to connect to GPRS Internet. Contact service provider to enable GPRS Internet access on SIM card

Windows® 2000

Error 619: The **port is** **disconnected** **during dial-up**	An ISDN mode (V110 or V120) has been selected when creating a connection, but is not supported by the network. Select Analogue mode when creating the connection in the **Connection Wizard**.
Error 678: **Computer you** **are dialling is** **not responding** **during dial-up**	Either: Service is not supported by SIM (usually for CSD) or the computer is not answering. 1 Check SIM settings with your service provider if necessary. 2 Make sure that the server you are dialling is OK. 3 Make sure that Analogue mode has not been selected with 57.6 kbps data rate (V110 or V120 mode must be selected and supported by the network).
Error 691: **Access denied,** **user name and** **password** **incorrect on the** **domain during** **dial-up**	The domain name entry is incorrect. Correct the domain name entry or delete if not required.
Error 718: **The card was** **unable to dial** **during dial-up**	This error indicates a PPP conversation started, but it was terminated because the remote server did not respond within an appropriate time. This can be caused by poor line quality or a problem with the server (ISP). This error can occur when your modem has connected to the ISP and has sent a username and password, but there is no response from the server. Wait a few minutes and try again

All Windows® Operating Systems

Error 734: The PPP link control protocol was terminated during dial-up	The APN entry is incorrect, the signal is weak or the connection is lost whilst dialling. If you are experiencing problems contact your network operator and check the APN.
Error 678: Computer you are dialing is not responding during dial-up	Either: Service is not supported by SIM (usually for CSD) or the computer is not answering. Check SIM settings with your service provider if necessary. Make sure that the server you are dialing is OK. If you are unsure which speed to choose from the **Speed** tab, start with Analogue 9600, and check to see if it works. Once your connection works on Analog, you can try the V110/V120 settings to see if faster speeds are available. V110/V120 also connects faster than analog. When roaming you may need to repeat this procedure to adapt your settings to the capability of the local network operator.
Connection Failed or Activation Failed. Please contact your Service Provider.	No specific reason for failure is available. Wait a few minutes and try again. If you continue to get this error check your connection settings or call your service provider for help.
Connection Failed. Invalid APN. Please check and enter the APN again.	The APN entry is incorrect, the signal is weak or the connection is lost whilst dialing. If you are experiencing problems contact your network operator and check the APN.
Connection Failed. Invalid User Name or Password. Please check and enter the User Name and/or Password in your connection profile.	Choose to modify your connection in the *Connection Wizard*. Go to the *User ID* screen and re enter the User Name and Password given to you by your service provider. If you were not supplied with a User Name and Password leave the fields blank. Contact your service provider if you continue to have problems.
Connection Failed. Invalid Profile. Please check and re-enter your connection profile information, and try again. If the problem continues please contact your Service Provider.	Your service provider doesn't recognise you. Check the setting you have entered to create your connection. If you still get the error contact your service provider and check you have GPRS Internet enabled on your subscription and then setting you should enter to create a connection.
Disconnected from Network	You have been disconnected from the network. Wait a few minutes and try again. If the problem persists contact your service provider.
Connection failed. Temporary Network problem. Please try again. If the problem continues please contact your Service Provider.	This error indicates a PPP conversation started, but it was terminated because the remote server did not respond within an appropriate time. This can be caused by poor line quality or a problem with the server (ISP). This error can occur when your modem has connected to the ISP and has sent a username and password, but there is no response from the server. Wait a few minutes and try again

Connection Failed. Not authorised to access network. Please contact your Service Provider.	Your service provider doesn't think your authorised to access their network. Check the setting you have entered to create your connection. If you still get the error contact your service provider and check your subscription.
Connection Failed. SIM is invalid for GPRS service. Please contact your Service Provider.	Contact your service provider and request the GPRS Internet subscription is activated for your SIM.
Connection Failed. Access to network not allowed. Please contact your Service Provider.	Your service provider is not allowing you to access their network. Check the setting you have entered to create your connection. If you still get the error contact your service provider and check your subscription.
Connection Failed. Roaming not allowed. Please contact your Service Provider.	Contact your service provider to get your roaming activated.
Connection Failed. Please try again. If the problem continues please contact your Service Provider.	You couldn't connect to the network. Wait a few minutes and try again. If the problem persists contact your service provider.
Connection Failed. Service not supported. Please try again. If the problem continues please contact your Service Provider.	Your service provider is not allowing you to access their network. Contact your service provider and check you have the subscriptions required activated for your SIM.
Connection Failed. Network Problem. Please try again. If the problem continues please contact your Service Provider.	You couldn't connect to the network. Wait a few minutes and try again. If the problem persists contact your service provider.

Additional Information

Sony Ericsson Support Web Site

At **www.SonyEricsson.com/support** you can find help and tips in a few clicks. The support site gives you access to:

- the latest software updates
- tips on how to use your EDGE PC Card efficiently
- function guides
- additional help

Guidelines for Safe and Efficient Use

Please read this information before using your EDGE PC Card.

Recommendations

- Always treat your product with care and keep it in a clean and dust-free place.
- Do not expose your product to liquid or moisture or humidity.
- Do not expose your product to extreme high or low temperatures.
- Do not expose your product to open flames or lit tobacco products.
- Do not drop, throw or try to bend your product.
- Do not paint your product.
- Do not use your product near medical equipment without requesting permission.
- Do not use your product when in, or around aircraft, or areas posted "turn off two-way radio".
- Do not use your product in an area where a potentially explosive atmosphere exists.
- Do not place your product or install wireless equipment in the area above your car's air bag.
- Do not attempt to disassemble your product. Only Sony Ericsson authorised personnel should perform service.

Antenna

Only use an antenna that has been specifically designed by Sony Ericsson for your EDGE PC Card. Use of unauthorised or modified antennas could damage your EDGE PC Card and may violate regulations, causing loss of performance and SAR levels above the recommended limits (see below).

Efficient Use

Do not cover the antenna when in use, as this affects call quality and may cause the EDGE PC Card to operate at a higher power level than needed, thus shortening talk and standby times.

Radio Frequency (RF) Exposure and SAR

Your PC Card is a low-power radio transmitter and receiver (transceiver). When it is turned on, it emits low levels of radio frequency energy (also known as radio waves or radio frequency fields).

Governments around the world have adopted comprehensive international safety guidelines, developed by scientific organizations, e.g. ICNIRP (International Commission on Non-Ionizing Radiation Protection) and IEEE (The Institute of Electrical and Electronics Engineers Inc.), through periodic and thorough evaluation of scientific studies. These guidelines establish permitted levels of radio wave exposure for the general population. The levels include a safety margin designed to assure the safety of all persons, regardless of age and health, and to account for any variations in measurements.

Specific Absorption Rate (SAR) is the unit of measurement for the amount of radio frequency energy absorbed by the body when using a transceiver. The SAR value is determined at the highest certified power level in laboratory conditions, but the actual SAR level of the transceiver while operating can be well below this value. This is because the transceiver is designed to use the minimum power required to reach the network.

Variations in SAR below the radio frequency exposure guidelines do not mean that there are variations in safety. While there may be differences in SAR levels among mobile phones, all Sony Ericsson PC Cards are designed to meet radio frequency exposure guidelines.

Before a PC Card 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 as required by the FCC for each model. For body worn operation, this PC Card has been tested and meets FCC RF exposure guidelines for fixed and mobile use when the PC Card is installed in a PCMCIA card slot of a standard Laptop PC with the original antenna.

Sony Ericsson has not measured, and makes no representation about, the body worn SAR levels when the PC Card is used in any portable host equipment or when any changes to the original product has been made.

More information on radio frequency exposure and SAR can be found on: www.sonyericsson.com.

Personal Medical Devices

EDGE PC Cards may affect the operation of cardiac pacemakers and other implanted equipment. If a minimum distance of 15 cm (6 inches) is kept between the EDGE PC Card and the pacemaker, the risk of interference is limited. If you have any reason to suspect that interference is taking place, immediately turn off your EDGE PC Card. Contact your cardiologist for more information.

For other medical devices, please consult the manufacturer of the device.

Children

DO NOT ALLOW CHILDREN TO PLAY WITH YOUR EDGE PC CARD OR ITS ANTENNA. THEY COULD HURT THEMSELVES OR OTHERS, OR COULD ACCIDENTALLY DAMAGE THE EDGE PC CARD OR ANTENNA. YOUR EDGE PC CARD OR ITS ANTENNA MAY CONTAIN SMALL PARTS THAT COULD BE DETACHED AND CREATE A CHOKING HAZARD.

Disposing of the Product

Your EDGE PC Card should not be placed in municipal waste. Please check local regulations for disposal of electronic products.

Emergency Calls

EDGE PC Cards manufactured by Sony Ericsson do not support voice calls, hence their use for essential communications (e.g. medical emergencies) is not possible.

Inserting and removing the SIM card – precautions against electrostatic discharge (ESD)

Do not touch the SIM card connectors. As a precaution, always make sure that the EDGE PC Card is already in your hand before you insert or remove the SIM card.

Technical Specifications

Product name	GC82	GC83	GC85
System	GSM 850 GSM 1900	GSM 850 GSM 1800 GSM 1900	GSM 900 GSM 1800 GSM 1900
Services supported	CSD, GPRS/EDGE, SMS, Fax Speech services are not supported	CSD, GPRS/EDGE, SMS Speech services are not supported	CSD, GPRS/EDGE, SMS Speech services are not supported
SIM Card	Small plug-in card, 3V type SIM Lock supported Regular (non-GPRS-aware) and GPRS-aware SIMs supported	Small plug-in card, 3V type SIM Lock supported Regular (non-GPRS-aware) and GPRS-aware SIMs supported	Small plug-in card, 3V type SIM Lock supported Regular (non-GPRS-aware) and GPRS-aware SIMs supported
Type Number	FAA-1041011-BV	TBA	TBA

Exterior Description

Size	Cardbus PC Card Type II, 32 bit 85.6 mm long x 54.0mm wide x 5.0 mm thick
Weight	38g including antenna, excluding SIM card
Battery	Powered via the PC card slot i.e. uses laptop battery
Antenna	50 ohm interface; Antenna supplied

Ambient Temperatures

Operating	-10 to 55 degrees C
Storage	-20 to 65 degrees C

Electrical Characteristics

Supported Voltages	3.3V ± 10%
Nominal Operating Voltage	3.3V
Standby Current	TBA
Standby Power Consumption (no PDP context active)	TBA

Idle current (9/2 multiframe paging period) (PDP context active)	TBA
Idle power (9/2 multiframe)	TBA
Maximum Current	TBA
Maximum Power Consumption	TBA

Operating System Support

Supported Operating Systems	Microsoft Windows® 98 (SE) Microsoft Windows® Me Microsoft Windows® 2000 (SP4) Microsoft Windows® XP
Minimum PC Specification	Processor size as recommended by Microsoft for the version of Windows® in use PC Card slot 30 MB free disk space
PPC Driver Support	TBA

GSM Performance and technical characteristics

Dimension	GSM 850	GSM 900	GSM 1800	GSM 1900
Frequency Range	TX: 824 – 849 MHz RX: 869 – 894 MHz	TBA	TBA	TX: 1850 – 1910 MHz RX: 1930 – 1990 MHz
Channel Spacing	200 kHz	TBA	TBA	200 kHz
Number of Channels	124 Carriers * 8 (TDMA)	TBA	TBA	299 Carriers * 8 (TDMA)
Modulation	GMSK/8-PSK	TBA	TBA	GMSK/8-PSK
Power Classes	Class 4 (2W) for GSM/GPRS and EGPRS/MCS 1-4 (GMSK); Class E2 (0.5W) for EGPRS/MCS 5-9 (8-PSK)	TBA	TBA	Class 1 (1W) for GSM/GPRS and EGPRS/MCS 1-4 (GMSK); Class E2 (0.4W) for EGPRS/MCS 5-9 (8-PSK)
Transmitter Output Impedance	50Ω	TBA	TBA	50Ω
Transmitter Spurious Emission	According to GSM specification	TBA	TBA	According to GSM specification

GSM Features Supported

ME SIM Lock	Yes
SIM Application Toolkit	Class 2 without call control. Support is provided via AT commands
USSD	Support is provided via AT commands; No MMI is provided
Speech Coding	Not applicable (EDGE PC Card does not support speech services)

CSD technical data

Standards	AT commands industry standard ETSI 07.05, 07.07 and 07.10, V.25ter command set supported
CSD Data Rates	9.6 kbps or 14.4 kbps depending on the GSM network. CSD functionality available on GC85 via a firmware update when available.
Compression	MNP5 (Increases data rate up to 2x depending on data type) V.42bis (Increases data rate up to 4x depending on data type) GSM network support required for compression
Error Correction	End to End MNP2 and LAPM (V.42) RLP Requires GSM Network support
GSM/ISDN	According to V.110 and V.120

Note:
CSD functionality will be available via an upgrade for the GC85.

GPRS technical data

GPRS Specification SMG	SMG31bis
Data Rates	Multislot class 10 supported (see table below). Coding schemes: CS-1, CS-2, CS-3 and CS-4
Mode of Operation	Class B (attaches to both GSM and GPRS at the same time; data connection is established using CS (CSD/fax) or GPRS) The user may select CSD or GPRS modes via Dial-Up Networking configurations in Windows®
Attach Modes	GPRS Attach GPRS Detach Combined Attach (CS+GPRS) (CCCH) Combined Detach (CCCH) Combined Attach (CS+GPRS) (PCCCH) Combined Detach (PCCCH)
Network modes	Network Mode 1 Network Mode 2 Network Mode 3
R Reference Point	Physical layer: RS232 virtual COM port Authentication mechanisms PAP and CHAP supported
IP Connectivity	PDP type IP is supported IPv4, terminated in Windows® DUN
SMS over GPRS	Mobile Originated and Mobile Terminated
QoS	Support for all 4 classes. QoS Negotiation.

PDP Context	Up to 10 PDP context details are stored in EDGE PC Card memory. PDP Context description edited via supplied Wizard or AT command. Number of parallel PDP Context activated (both MO and MT):1 Number of PDP Context with traffic in parallel:1 PDP Context modification (e.g. QoS renegotiation). Network initiated PDP Context modification. Network initiated PDP Context deactivation. Collision of MS and Network initiated PDP Context activation.
SIM	Support for GPRS aware as well as non-GPRS-aware SIMs
Compression	TCP/IP Header Compression V42bis
GPRS Encryption	GEA1
GPRS Frequency Hopping	Supported
GPRS IP allocation	Dynamic Static

GPRS Maximum Data Rates

		CS-1 9.05 kbps	CS-2 13.4 kbps	CS-3 15.6 kbps	CS-4 21.4 kbps
4 + 1	**RX**	36.2	53.6	62.4	85.6
	TX	9.05	13.4	15.6	21.4
3 + 2	**RX**	27.15	40.2	46.8	64.2
	TX	18.1	26.8	31.2	42.8

Speed achieved depends on the Coding Scheme supported by the GSM Network. The speeds given are maximums, Sony Ericsson cannot guarantee how fast your network will operate.

Data rate is the payload per slot, header plus data.

EDGE Technical Data

Modulation Coding Schemes	MCS-1 to MCS-9
EDGE features	Link Adaptation Incremental Redundancy

EDGE Maximum Data Rates

Coding Scheme	Data Rate per slot	4 + 1		3 + 2	
		Rx	Tx	Rx	Tx
MCS-1	**10.60**	42.40	10.60	31.80	21.20
MCS-2	**13.00**	52.00	13.00	39.00	26.00
MCS-3	**16.60**	66.40	16.60	49.80	33.20
MCS-4	**19.40**	77.60	19.40	58.20	38.80
MCS-5	**24.05**	96.20	24.05	72.15	48.10
MCS-6	**31.25**	125.00	31.25	93.75	62.50
MCS-7	**47.45**	189.80	47.45	142.35	94.90
MCS-8	**57.05**	228.20	57.05	171.15	114.10
MCS-9	**61.85**	247.40	61.85	185.55	123.70

Speed achieved depends on the Coding Scheme supported by the GSM Network. The speeds given are maximums, Sony Ericsson cannot guarantee how fast your network will operate.

Data rate is the payload per slot, header plus data.

SMS Technical Data

Concatenated SMS	Yes.
SMS Cell Broadcast	Supported in Wireless Manager and by AT Commands (excluding Cell ID)
SMS Immediate Display	Supported in Wireless Manager and by AT Commands.
SMS interface	Wireless Manager, Communications Suite, pocket PC Suite. AT Command

Software Upgrade

PC Card software upgrade	Via secure internet download (Sony Ericsson Update Service) or at a Sony Ericsson Service Points.
PC Communications Suite upgrade	Internet download

Fax Technical Data (GC82 only)

Machine groups	Class 2, Group 3 and 4
Speed	9.6kbps
Verified applications	Microsoft Fax (Windows 200 and XP; may require installing), Symantec® and Winfax® PRO 10® (not supplied).

Supported Languages

Product support	**GC82**	**GC83**	**GC85**
Quick Start Guide PC Software User's Guide (PDF)	English (EN) Canadian French (FR) Spanish (ES)	English Canadian French (FR) Spanish (ES)	English
AT Commands Manual	English	English	English

License Agreement

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Limited Warranty

Sony Ericsson Mobile Communications AB, S-221 88 Lund, Sweden, (Sony Ericsson), provides this Limited Warranty for your PC Card and original accessory delivered with your PC Card (hereinafter referred to as "Product").

Should your Product need warranty service, please return it to the dealer from whom it was purchased, or contact your local Sony Ericsson Customer Care Centre (national rates may apply) or visit www.SonyEricsson.com to get further information.

Our Warranty

Subject to the conditions of this Limited Warranty, Sony Ericsson warrants this Product to be free from defects in design, material and workmanship at the time of its original purchase by a consumer, and for a subsequent period of one (1) year.

What We Will Do

If, during the warranty period, this Product fails to operate under normal use and service, due to defects in design, materials or workmanship, Sony Ericsson authorised distributors or service partners, in the country/region* where you purchased the Product, will, at their option, either repair or replace the Product in accordance with the terms and conditions stipulated herein.

Sony Ericsson and its service partners reserve the right to charge a handling fee if a returned Product is found not to be under warranty according to the conditions below.

Please note that your personal settings/downloads might be lost when the Product is repaired or replaced.

Conditions

1. The warranty is valid only if the original proof of purchase issued to the original purchaser by an, for this Product, Sony Ericsson authorised dealer, specifying the date of purchase and serial number**, is presented with the Product to be repaired or replaced. Sony Ericsson reserves the right to refuse warranty service if this information has been removed or changed after the original purchase of the Product from the dealer.

2. If Sony Ericsson repairs or replaces the Product, the repaired or replaced Product shall be warranted for the remaining time of the original warranty period or for ninety (90) days from the date of repair, whichever is longer. Repair or replacement may involve the use of functionally equivalent reconditioned units. Replaced parts or components will become the property of Sony Ericsson.

3. This warranty does not cover any failure of the Product due to normal wear and tear, or due to misuse, including but not limited to use in other than the normal and customary manner, in accordance with the Sony Ericsson instructions for use and maintenance of the Product. Nor does this warranty cover any failure of the Product due to accident, software or hardware modification or adjustment, acts of God or damage resulting from liquid.

4. Since the cellular system on which the Product is to operate is provided by a carrier independent from Sony Ericsson, Sony Ericsson will not be responsible for the operation, availability, coverage, services or range of that system.

5. This warranty does not cover Product failures caused by installations, modifications, or repair or opening of the Product performed by a non-Sony Ericsson authorised person.

6. The warranty does not cover Product failures which have been caused by use of accessories or other peripheral devices which are not Ericsson or Sony Ericsson branded original accessories intended for use with the Product.

7. Tampering with any of the seals on the Product will void the warranty.

8. THERE ARE NO EXPRESS WARRANTIES, WHETHER WRITTEN OR ORAL, OTHER THAN THIS PRINTED LIMITED WARRANTY. ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. IN NO EVENT SHALL SONY ERICSSON OR ITS LICENSORS BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOST PROFITS OR COMMERCIAL LOSS, TO THE FULL EXTENT THOSE DAMAGES CAN BE DISCLAIMED BY LAW.

Some countries/states do not allow the exclusion or limitation of incidental or consequential damages, or limitation of the duration of implied warranties, so the preceding limitations or exclusions may not apply to you.

The warranty provided does not affect the consumer's statutory rights under applicable legislation in force, nor the consumer's rights against the dealer arising from their sales/ purchase contract.

* European Union (EU)

If you have purchased your Product in an EU country you can have your Product serviced, under the conditions set out above, within the warranty period in any EU country where an identical Product is sold by an authorised Sony Ericsson distributor. To find out if your Product is sold in the EU country you are in, please call the local Sony Ericsson Customer Care Centre. Please observe that certain services may not be possible elsewhere than in the country of original purchase, for example due to the fact that your Product may have an interior or exterior which is different from equivalent models sold in other EU countries. It may not be possible to repair SIM-locked Products.

** In some countries/regions additional information is requested. If so, this is clearly shown on the valid proof of purchase.

Vendor warrants the media on which the Software is provided, to be free from defects in materials and workmanship under normal use for ninety (90) days after the date of your cash receipt/proof of payment. The Vendor's and its suppliers' entire liability and your exclusive remedy under this warranty will at Vendor's option be (and provided you return the Software to an authorized reseller/ supplier together with a copy of your cash receipt/proof of payment), to replace the disc(s)/ diskette(s) or refund the purchase price and terminate this Agreement including the License.

Except for the above express limited warranties, Vendor and its suppliers do not provide nor do you receive any warranties or conditions whether express, implied, statutory or otherwise and Vendor and its suppliers specifically disclaim any implied warranties of satisfactory quality and/or fitness for a particular purpose. If your jurisdiction does not allow limitations on implied warranties to consumers, the above limitation may not apply to you.

Vendor does not warrant that your use of the Software will be uninterrupted or error free. You assume full responsibility for the selection of this Software and your selected hardware and for the Software and hardware together achieving your intended results, as well as for any installation or use of or result obtained from the Software.

Intended use

The Software shall be used in accordance with the instructions and for its intended use and purpose only. The Software or part thereof may not be used in e.g. life support systems, nuclear facility applications, nor for the purposes of missile technology, chemical or biologized industry, flight navigation or communication of air, ground support equipment or other similar business or for any other purpose where any failure by the Software to perform may result in personal injury, death, damage to tangibles or the environment.

Limitation of liability

In no event shall Vendor or its suppliers be liable for any indirect or consequential losses or damages whatsoever irrespective of the cause for such losses or damages, including loss of data, loss of business profits or revenue, or any business interruption arising out of the use of or inability to use

this Software. Vendor and its suppliers' total liability under this Agreement shall be limited to the amount actually paid by Licensee for the Software.

Disputes and Governing Law

The validity, construction and performance of this Agreement shall be governed by the laws of Sweden. All disputes, differences or questions between the parties with respect to any matter arising out of or relating to this Agreement shall be finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce, in Stockholm, by three (3) arbitrators appointed in accordance with the said Rules. The proceeding shall be conducted in the English language.

FCC Statement

FC̲C̲

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) The device must accept any interference received, including interference that may cause undesired operation.

GC82 PC Card:
FCC-ID: PY7F1041011
IC: 4170B- F1041011

GC83
FCC-ID: PY7FF031011
IC: 4170B- FF031011

GC85
FCC-ID: PY7FF021011
IC: 4170B- FF021011

Appendix A - Connection Parameters

General Connection Parameters for CSD and GPRS

Required	Useful information
Telephone number or Access Point Name (APN)	Number you need to dial to reach your service provider. Use the full number including country code and area code, e.g. +46 33 555 2525. Or The APN server resource to contact, for example, Interent.operator.net - to connect to the Internet via the mobile operator's or your corporate Intranet via a VPN
Bearer capability: CSD or GPRS?	You will need to know the bearer capability provided by your service provider, so you can select the appropriate option during set up.
CSD Network Speed	If you intend to create connections via CSD contact your network operator and check the supported speeds.
Username	The username your service provider gave you when the account was set up. Some dial-up accounts do not require a Username, in this case leave the field blank.
Password	Password associated with the username, given to you by the service provider. Some dial-up accounts do not require a Password, in this case leave the field blank.
IP assignment: Server / Static	An 'address' that the service provider knows you by and uses to route information to and from your EDGE PC Card. Your IP address will either be: Server - assigned by the service provider when you connect. Static - assigned once by the service provider or the IT Manager. If your IP address is Static you must enter it into Own IP address fields which is available when you select Details in the Connection APN dialog.
DNS assignment: Server / Static	This tells the EDGE PC Card where to find the service provider's DNS Service. DNS translates addresses such as www.sonyericsson.com to the numeric IP address so that the information can be accessed. Like IP assignment above, the DNS can be static or allocated by the service provider when you connect. If static is selected additional fields need to be completed containing the static information.

Own IP address	Only required if the IP assignment is static. Format example: 123.9.45.3. Do not enter any leading 0s when typing in IP address.
Primary DNS	Only required if the DNS assignment is static. Format example:123.9.45.2
Secondary DNS	Only required if the DNS assignment is static. Format example: 123.9.45.1
Access Point Name (APN)	If the APN is set to default you will have to enter the name of the access point your network operator is using.

CSD Specific Parameters

Required	Useful information
Preferred Connection Speed (bits/s)	Select your preferred network connection speed from the drop down list provided: 9600, 14400, 19200, 28800, 38400, 43200* or 57600*
Connection Mode	Select the method you want to use to connect to the network from the options provided: analogue, ISDN V.110 or ISDN V.120
Compression	Use to speed up data transfer. You can select to **Enable Data Compression** and **Header Compression.**
Callback Number	Enter the number the a callback should be made to. You can only use Callback if you are connecting to a source that gives permission for callbacks to be made, for example your company server.

* Only available with ISDN V.110 or V.120 connection mode.

TCP/IP Optimisation

To take full advantage of the high bandwidth of the PC Card, the TCP/IP window size parameter TCPWindowSize should be changed from the default Windows setting of 16k for Windows 2000, or 64k for Windows XP. Sony Ericsson recommends a TCP/IP packet size of 43200 for optimum performance with the PC Card. An MTU size of 1450 is also considered optimal for EDGE networks.

These settings are made automatically when the Wireless Manager is installed. They may be viewed and, if necessary, changed in the properties of the Sony Ericsson Wireless WAN network adaptor.

Select **Start** ➡ **Settings** ➡ **Network and Dial-up Connections**, locate the Sony Ericsson Wireless WAN adaptor in the list, right-click on it and select **Properties**.

Click **Configure** on the Advanced tab. If directed by your network operator, you may change the settings by selecting TCPWindowSize or MTU and changing the value. Changes to these settings require the network adaptor to be restarted. It is recommended that the laptop is rebooted.
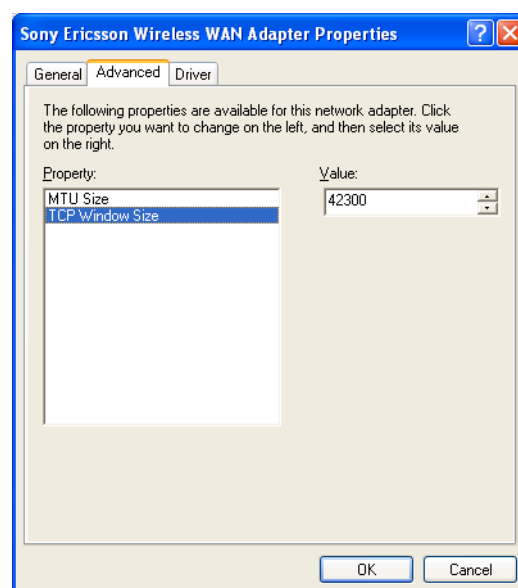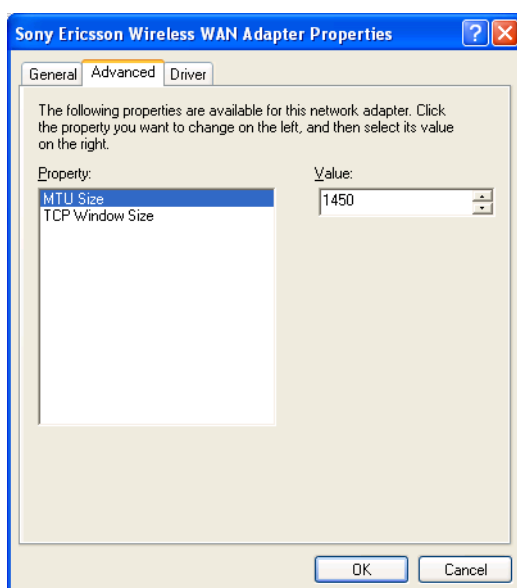
If you have previously optimised TCPWindowSize, for example as directed by a broadband internet service provider, then check whether that setting is global or specific to the network adaptor over which the broadband connection is made. It is preferable that all TCPWindowSize settings are specific to the network adaptor involved, since this ensures that each individual connection is correctly optimised.

Glossary

Bearer

Path over which data flows. Specifically in CSD the type of telephony link from the GSM network to the server - V PSTN or ISDN.

bps

Bits per second - rate of data flow.

COM Port

Defines a serial/RS-232 port within the Windows® environment. May be physical (COM1 port on the rear of the PC) or virtual (COM5 port communicating with a PC card modem)

CS

Circuit Switched. Connection from A to B which has a fixed bandwidth and is maintained over a period of time, for example a voice telephone call.

CS-1 to CS-4

Coding Scheme. Determines the data rate per timeslot in GPRS.

CSD

Circuit Switched Data. CSD is a GSM service providing a CS data connection at a rate of 9.6 or 14.4 kbps.

DUN

Dial-Up Networking.

EDGE

Enhanced Data rates for Global Evolution.

e-GSM

Extended GSM. New frequencies specified by the European Radio Communications Committee (ERC) for GSM use when additional spectrum is needed (Network-dependent). It allows operators to transmit and receive just outside GSM's core 900 frequency band. This extension gives increased network capability.

ETSI

European Telecommunications Standards Institute. www.etsi.org

GGSN

Gateway GPRS Support Node

GPRS

General Packet Radio Services.

GSM

Global System for Mobile Communications. GSM is the world's most widely-used digital mobile phone system, now operating in over 160 countries around the world.

GSM 900

The GSM system family includes GSM 900, GSM 1800 and GSM 1900. There are different phases of roll-out for the GSM system and GSM phones are either phase 1 or phase 2 compliant.

GSM 1800

Also known as DCS 1800 or PCN, this is a GSM digital network working on a frequency of 1800 MHz. It is used in Europe and Asia-Pacific.

GSM 1900

Also known as PCS. Refers to a GSM system running in the 1900MHz band. Used in the USA and Canada, for instance.

HTML

HyperText Markup Language.

HTTP

HyperText Transfer Protocol.

ISDN

Integrated Services Digital Network. Can provide circuit-switched data connections in multiples of 64 kbps.

ISP

Internet Service Provider.

kbps

Kilobits per second - rate of data flow.

LAN

Local Area Network.

ME

Mobile Equipment.

MO

Mobile Origination. For example, an SMS message sent from a mobile terminal.

MMI

Man-Machine Interface.

MS

Mobile Station.

MT

Mobile Termination.

PC

Personal Computer.

PCS

Personal Communications Services, often used to describe GSM1900 networks.

PC Card

A card having physical and electrical characteristics specified by PCMCIA providing extra functionality when inserted into a laptop PC. Typical examples are modems and network cards. Type refers to the thickness of the card. The EDGE PC Card is type II.

PCMCIA

Personal Computer Memory Card International Association – defines specifications for PC Cards. www.pcmcia.org

PDP

Packet Data Protocol.

Phone book

A memory in the SIM card where phone numbers can be stored and accessed by name or position.

PSTN

Public Switched Telephone Network, for example ordinary analogue phone line for speech and/or computer modem.

RADIUS

Remote Access Dial-In Service. Facility at the ISP or corporation to manage remote data connections.

RX

Receive

SC

Service Centre (for SMS).

Service Provider

A company that provides services and subscriptions to EDGE PC Card users.

SIM card

Subscriber Identity Module card – a card that must be inserted in any GSM-based mobile terminal. It contains subscriber details, security information and memory for a personal directory of numbers. The card can be a small plug-in type or credit card-sized, but both types have the same functions. The EDGE PC Card uses the small plug-in card.

SMS

Short Message Service. Allows messages of up to 160 characters to be sent and received via the network operator's message centre to a EDGE PC Card.

TCP/IP

Transmission Control Protocol/Internet Protocol.

TCP/IPv4

TCP/IP Version 4. Most widely implemented form of TCP/IP today having a 4 byte address format such as 212.161.127.136.

TE

Terminal Equipment. Generic term for GSM terminals such as phones and PC cards.

Terminal Adaptor

Generic term for the equipment terminating a digital comms line such as an ISDN2 line. The EDGE PC Card

is a Terminal Adaptor since it interfaces to GSM digital data services.

TLS

Transport Layer Security. Used by Web browsers, for example.

TX

Transmit

Type II

Refers to thickness of a PC Card as defined in the specification from PCMCIA.

URL

Uniform Resource Locator.

USSD

Unstructured Supplementary Services Data. Narrow-band GSM data service. For example entering *79*1234# might return the stock price for stock 1234.

V.110

ETSI standard for data over an ISDN circuit.

V.120

ETSI standard for data over an ISDN circuit.

VPN

Virtual Private Network.

WWW

World Wide Web.

XML

Extensible Markup Language

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