

SIEMENS

Gigaset SE680 WiMAX

User Guide



This device works in a frequency band for which a general licence might have to be obtained. Please contact your service provider or your National Authority for Frequency Management about licensing before putting this device into service

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For your safety

➔ Please read the safety instructions carefully before putting into service.

Safety precautions

General safety instructions

- ◆ Only pass on the modem Gigaset SE680 WiMAX to third parties with this user guide and the assembly instructions.
- ◆ The modem Gigaset SE680 WiMAX must only be installed and put into use by a qualified electrician in accordance with the supplied installation instructions.
- ◆ National laws and regulations must be considered before putting the device into service.
- ◆ These devices are professional IT equipment. Keep the devices beyond the reach of children.

Safety instructions for connection

- ◆ Only use undamaged original accessories.
- ◆ The outdoor modem must only be installed by qualified electricians in accordance with the assembly instructions.

Safety precautions for the modem Gigaset SE680 WiMAX

- ◆ The operation of medical appliances may be affected. Be aware of the technical conditions in your particular environment, e.g. doctor's surgery.
- ◆ The modem Gigaset SE680 WiMAX can interfere with the functioning of medical devices such as pacemakers. Keep at least 20 cm between the devices and the pacemaker. For more information consult your doctor.
- ◆ Do not operate the indoor house connection under the influence of direct heat sources (e.g. directly in the sun).
- ◆ The modem Gigaset SE680 WiMAX complies with the regulations on limiting the effect of electromagnetic fields on the general population.
- ◆ Do not use the devices in environments with a potential explosion hazard, e.g. auto paint shops or in a humid environment (bathroom etc.).
- ◆ Only clean the modem Gigaset SE680 WiMAX with a soft anti-static cloth.

Trademarks

- ◆ Gigaset Communications GmbH is a trademark licensee of Siemens AG.
- ◆ Microsoft Windows 2000, Windows XP, Windows Vista and Internet Explorer are registered trademarks of the Microsoft Corporation.
- ◆ Mozilla Firefox is a registered trademark of the Mozilla Organization.

Notes on the user guide

Information on Specific Absorption Rate (SAR)

This device meets the limits for protecting the health of the public from the effects of exposure to electromagnetic fields when it is operated in connection with the designated antenna(s) like described in the user manual.

Your device is a radio transmitter and receiver. It is designed and manufactured not to exceed the limits for exposure to emission from electromagnetic fields recommended by international guidelines from the International Commission on Non-Ionizing Radiation Protection (ICNIRP). These limits are part of comprehensive guidelines for the protection of the public and establish permitted levels of exposure to electromagnetic radiation for the population. The guidelines were confirmed by independent scientific organisations through periodic and thorough evaluation of scientific studies. The limits include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

The exposure limit employs a unit of measurement known as the Specific Absorption Rate, or SAR. The SAR limit stated in the international guidelines is 2.0 W/kg. Tests for SAR are conducted in all frequency bands with the device transmitting at its highest power level with minimum possible distance to the body. The actual SAR level of the device during operation with the designated antenna(s) is below the maximum value and is additionally decreased by a distance to the device. This is because the device is designed to operate at multiple power levels so as to use only the power required to enable seamless network connection.

Notes on the user guide

This user guide describes how to set up and configure the modem Gigaset SE680 WiMAX. Installation of the individual components is dealt with in the assembly instructions, which you received together with the modem Gigaset SE680 WiMAX.

- ➔ Please read the user guide carefully before using the devices for the first time.
- ➔ Also note the product information on the Internet at <http://www.gigaset.com/gigasetse680wimax>

The modem Gigaset SE680 WiMAX

What is WiMAX?

WiMAX stands for "**W**orldwide **I**nteroperability for **M**icrowave **A**ccess", a modern wireless network technology that enables fast Internet connection even in remote areas. With WiMAX technology you are no longer dependent on a DSL infrastructure in your home or place of work. Instead, you connect your PC or network wirelessly to radio stations operated in your region by your provider. As a result, WiMAX gives you fast, economical broadband Internet access, even in places that are not connected to the DSL cable network.

The WiMAX standard IEEE 802.16 generally defines WiMAX technology. Your modem Gigaset SE680 WiMAX already meets the latest IEEE 802.16e-2005 standard, a mobile WiMAX standard that offers many extra possibilities.

The modem Gigaset SE680 WiMAX

With your modem Gigaset SE680 WiMAX, you can make use of everything the Internet has to offer:

- ◆ **Downloads**
 - Even large files download quickly to your PC.
 - Complex Website designs are no longer characterised by the time they take to download – you can enjoy flash animation and high-resolution graphics immediately after clicking on a link.
- ◆ **Audio**
 - Play back audio files straight from the Internet.
 - Listen to the radio via the Internet in superb digital quality.
- ◆ **Video**
 - View short or longer films you find on the Internet without tedious waiting times.
 - Watch television via the Internet (IPTV).
 - Use "Video on Demand" and order films that are transmitted to you via the Internet.
- ◆ **Real time**
 - Take part in video conferences and feel as if you are sitting in the same room as the people you are talking to.
 - Speak to and see your chat partners.
- ◆ **VoIP**
 - Benefit from the economical telephone rates for Internet telephony (Voice over IP, VoIP). Your PC does not even need to be switched on.

Scope of delivery

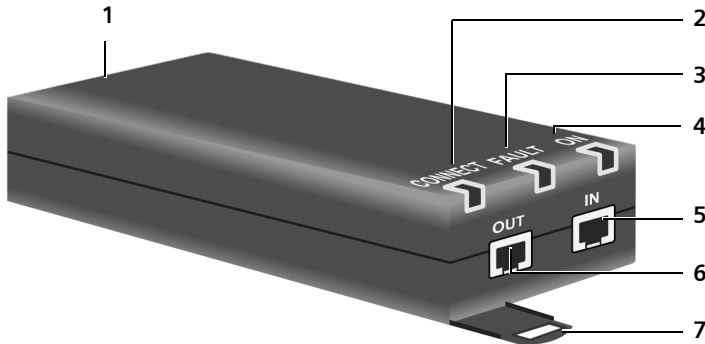
Product features

- ◆ Wireless high-speed Internet access with a transmission rate of up to 20Mbps (14 Mbps downlink, 6 Mbps uplink)
- ◆ Standards compliant: IEEE 802.16e-2005
- ◆ Compatible with all usual operating systems
- ◆ Suitable for home and business facilities
- ◆ Multi-protocol support: TCP/IP, SMTP, HTTP and other Internet related protocols
- ◆ Compact design and easy installation
- ◆ DHCP server and routing functions
- ◆ High performance and Quality of Service
- ◆ Optional: external antenna for improved quality of connection

Scope of delivery

- ◆ 1 modem Gigaset SE680 WiMAX, comprising:
 - 1 Outdoor modem (to be installed by an electrician)
 - 1 Indoor house connection
- ◆ 1 power lead (two-pin)
- ◆ 1 Ethernet cable (length 1.8 m)
- ◆ 1 Set of assembly material, incl. assembly instructions
- ◆ 1 User guide
- ◆ 1 Outdoor Antenna (optional, to be installed by an electrician)

Connectors and LEDs




1		Connector for the two-pin power lead, see "Switching on the devices" on page 14.
2	CONNECT	The LED shows whether or not the indoor house connection is properly connected with the outdoor modem. <ul style="list-style-type: none"> ◆ Green: The indoor house connection is properly connected with the outdoor modem.
3	FAULT	The LED shows whether or not the indoor house connection is properly connected with the outdoor modem. <ul style="list-style-type: none"> ◆ Red: The connection between the indoor house connection and the outdoor modem is faulty.
4	ON	The LED shows that power is being supplied. <ul style="list-style-type: none"> ◆ Green: The modem Gigaset SE680 WiMAX is powered correctly.
5	IN	Ethernet connector for data exchange with a PC or network (RJ45, 10/100 Base T), see "Connecting a PC or switch" on page 12.
6	OUT	Ethernet connector for connection with the outdoor modem (RJ45, power supply and data transmission), see "Connecting the outdoor modem" on page 12.
7		Clips for wall mounting

Installing the modem Gigaset SE680 WiMAX

Installing the modem Gigaset SE680 WiMAX

The modem Gigaset SE680 WiMAX essentially comprises three components:

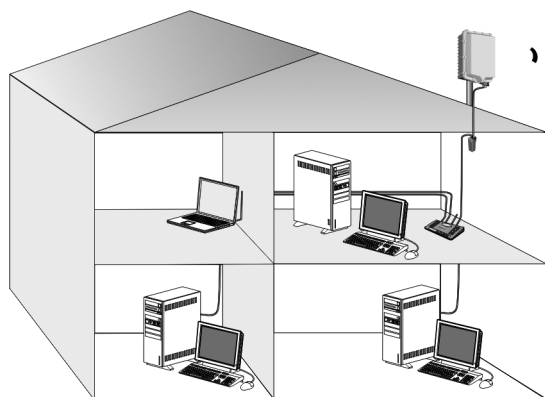
- ◆ Outdoor modem with integrated antennas (X-pol)
- ◆ External antenna (optional)
- ◆ Indoor house connection

	The modem Gigaset SE680 WiMAX must be assembled and put into service by a qualified electrician. The information in the enclosed assembly instructions must be noted.
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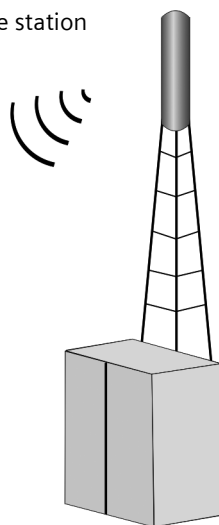
This user guide assumes that the work required for outside installation has already been carried out.

Therefore, installation is described below starting with how to put the indoor house connection into service.

PC with modem Gigaset SE680 WiMAX



Base station



Choosing the location

- ◆ Choose the location so that you can easily establish the following connections:
 - Ethernet cable socket, which, for example, establishes the connection to the outdoor modem through a wall duct.
 - Ethernet cable socket for connection with a PC or network.
 - Connection of the power lead with a mains socket.
- ◆ First choose the location for the indoor house connection:
 - Consider the stated temperature range for the indoor house connection when choosing the location (see "Specifications" on page 47).
- ◆ The indoor house connection can be operated either on a horizontal surface or mounted on a wall. Make sure the connections cannot become loose and that the LEDs are clearly visible.
- ◆ Lay the cables in such a way that nobody can tread on or trip over them.

System requirements

To install and get started with the indoor house connection, the following requirements must be fulfilled:

- ◆ The outdoor modem has been properly installed and is ready for use. The associated Ethernet cable is fitted with an RJ45 plug and ends close to the indoor house connection.
- ◆ PC with a LAN interface 10/100BaseT **or** an Ethernet network 10/100BaseT. The network adapter must support one of the following modes: 10BaseT Full Duplex, 100BaseT Half Duplex, 100BaseT Full Duplex.
- ◆ The TCP/IP protocol has to be set up on the PC, see "Adjusting the network settings on the PC" on page 38.

Wall mounting (optional)

The indoor house connection is fitted with two clips for wall mounting. Wall mounting is not absolutely necessary, but is recommended to make the cable connections mechanically secure.

- ➔ Use screws, anchor fittings and cable clamps to mount the indoor house connection on a wall.
Make sure the LEDs are easily visible.

Wall mounting (optional)

Connecting the modem Gigaset SE680 WiMAX

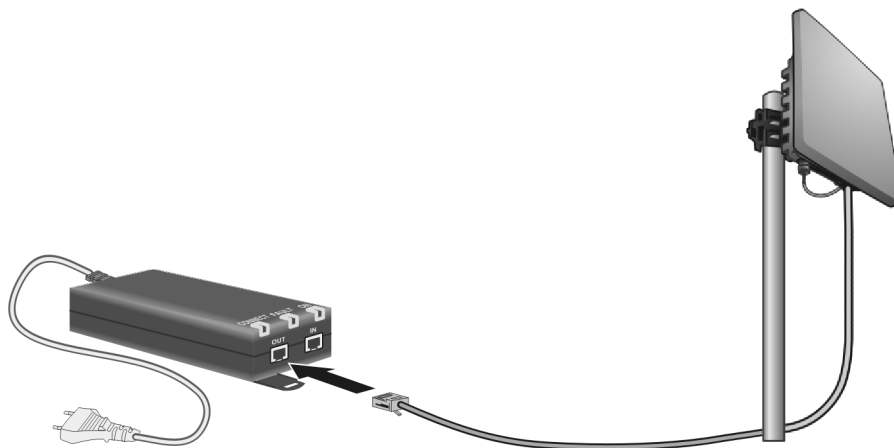
Set up the connections on the indoor house connection in the following order:

1. Connect the outdoor modem.
2. Connect the PC or the switch/hub.
3. Connect the indoor house connection to the mains power supply and switch all the devices on.

Connecting the outdoor modem

After the outdoor modem has been installed correctly, the associated Ethernet cable (with RJ45 plug) is available close to the indoor house connection.

- ➔ Insert the Ethernet cable plug into the **OUT** socket on the indoor house connection. You should be able to hear the clips on the RJ45 plug click into place.



Connecting a PC or switch

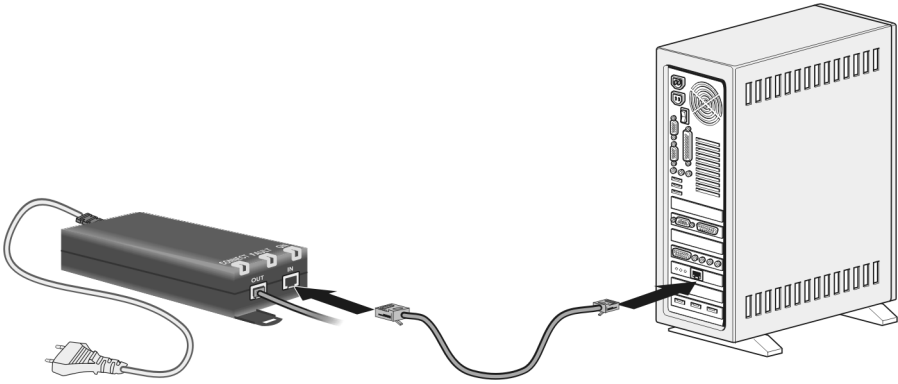


Use either the Ethernet cable that is supplied or a standard network cable (CAT-5) for the connection to the PC or switch. It does not matter if the Ethernet cable has straight or crossed wiring.

You must use a shielded Ethernet cable.

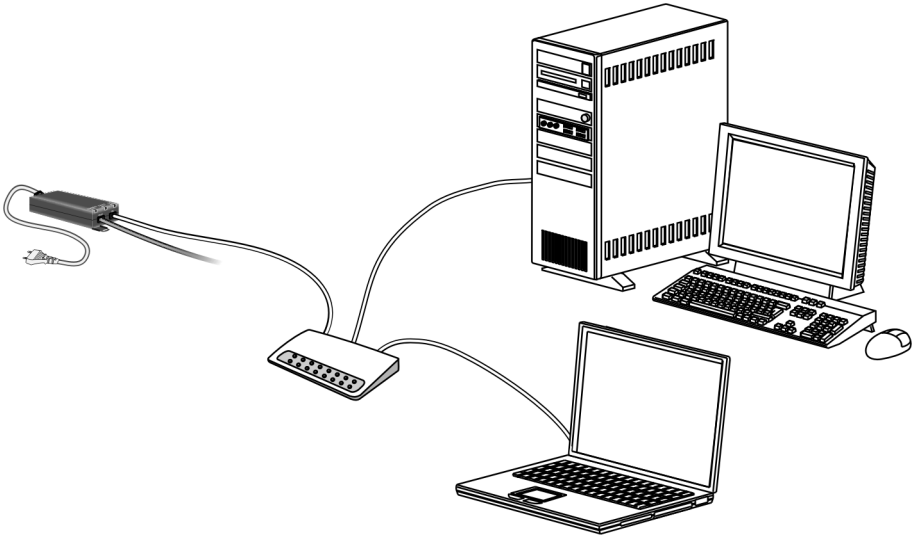
Wall mounting (optional)

Connecting the indoor house connection to a PC



- ➔ Connect an Ethernet cable plug to the **IN** socket on the indoor house connection.
- ➔ Connect the other plug of the Ethernet cable to the LAN interface on the PC.

Connecting the indoor house connection to a switch



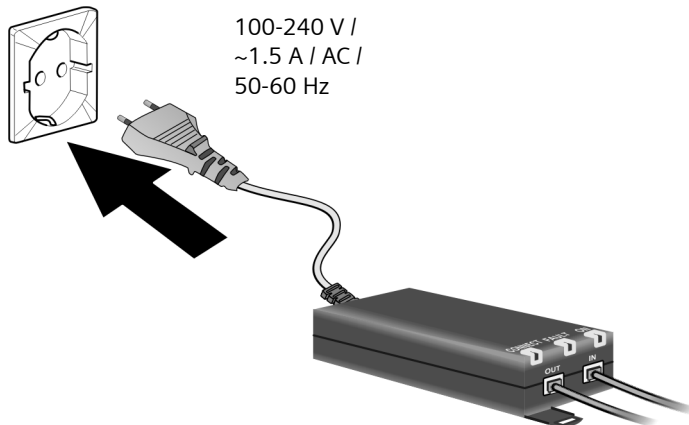
- ➔ Connect an Ethernet cable plug to the **IN** socket on the indoor house connection.
- ➔ Connect the other Ethernet cable plug to the switch or hub.
- ➔ For configuration, please refer to the user guide of your switch or hub.

Wall mounting (optional)

Switching on the devices



Only use the modem Gigaset SE680 WiMAX with the supplied mains cable.



- ➔ Connect the power lead to the indoor house connection.
- ➔ Connect the power lead of the indoor house connection to the mains power supply. The outdoor modem is powered via the Ethernet cable and does not require its own mains connection. The system starts booting and performs a self-test.

After the self-test, the modem Gigaset SE680 WiMAX continually attempts to register with a base station. Registration with the base station may be successful immediately; otherwise, registration will take place when your modem Gigaset SE680 WiMAX is being configured.

- ➔ Check the LEDs during startup:

LEDs during startup:

- The **ON** power supply LED lights up **green**, and the modem Gigaset SE680 WiMAX starts a self-test.
- The **FAULT** LED (red) and the **CONNECT** LED (green) light up for approximately 1 second and then go out. If the connection to the outdoor modem is then found to be free from errors, the **CONNECT** LED is continuously lit up **green**. If an error occurs, the **FAULT** and **CONNECT** LEDs start to flash alternately at regular intervals.

Configuration with the Web browser

You do not need to install any software on your PC to configure your modem Gigaset SE680 WiMAX; the configuration software is stored on the device. Open this software in the same way as an Internet page in the Web browser and make the required settings. Your settings are then stored directly on the device.

The connection wizard will help you to get started and establish a connection with the WiMAX network.

<i>i</i>	<p>For experienced users:</p> <ul style="list-style-type: none"> – IP address: 192.168.2.1 – Subnet mask: 255.255.255.0
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Presentation of the configuration software

To configure your modem Gigaset SE680 WiMAX, we recommend the Microsoft Internet Explorer Version 7.0 or Mozilla Firefox Version 2.0 Web browser. However, you can also use most other or older Web browsers.

Launching the user interface

- ➔ Open your Web browser.
- ➔ Enter the IP address of your modem Gigaset SE680 WiMAX in the address field of your Web browser:
http://192.168.2.1
- ➔ Press Enter (Return).
 Your modem Gigaset SE680 WiMAX does not have a default system password; for this reason, a security message appears first. You can set up your own system password later; then once you have entered the IP address for your modem Gigaset SE680 WiMAX the English registration page will open for you to enter your system password.
- ➔ Click *Ok*.

If the registration page does not open:

- ➔ Check the connections; see "Connecting the modem Gigaset SE680 WiMAX" on page 12.
- ➔ If you use a firewall on the PC, it must allow connection to the modem Gigaset SE680 WiMAX. If applicable, switch off the firewall for a test; if you can then open the registration page, configure the firewall accordingly. For details, refer to the user guide for your firewall.

If you have changed the standard settings on your PC, you might not be able to open the configuration pages.

- ➔ For details on how to find and rectify the fault, see "Troubleshooting" on page 31.

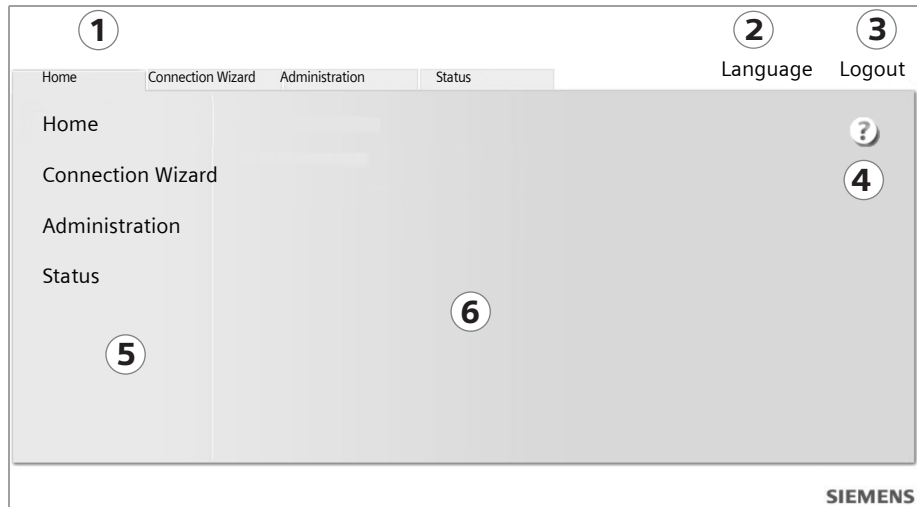
Launching the user interface

Saving the user interface address

- ➔ You can add the address of the registration page to your favourites/bookmarks so that you will no longer need to enter the IP address manually in future:
- Internet Explorer: **Add to Favorites** button
 - Firefox: **Bookmarks > Add Bookmark**

User interface

The user interface you open with the Web browser is divided into the following sections:



UI elements

- 1 Tab selection:**
Open the **Home**, **Connection Wizard**, **Administration** or **Status** tabs to display the contents of each configuration area.
- 2 Language button:**
Select your language.
- 3 Logout button:**
The button is only displayed if a system password is set up.
Log off from your modem Gigaset SE680 WiMAX.
- 4 Open Help window button:**
Open the online Help relating to the menu item currently in the working area.

Launching the user interface

- 5 **Menu area:**
Click on the menu items to display the relevant pages of the configuration area that is currently open.
- 6 **Working area:**
Check the settings on your modem Gigaset SE680 WiMAX and change them as necessary.

Buttons



Open online Help.

Click on this button if you require information about the screen you currently have open. The corresponding Help topic is opened.

Home

Button with which you return to the user interface overview.

Logout

Button with which you end the connection between the PC and the modem Gigaset SE680 WiMAX.

Back

Return to the previous screen in the connection wizard.

Next

Move on to the next screen in the connection wizard.

Cancel

Changed settings are not applied and you return to the next highest level.

Ok

Save the settings and return to the next highest level.

End

Save the settings and exit the connection wizard.

You will see other buttons depending on the screen currently open. If you require further information about these, open the online Help at the appropriate place using the question mark button.

Input fields

On the configuration screens, change the required settings using the following input fields:



Option fields:

Two or more fields, of which one is activated. As soon as you click in another option field, it is activated and the one previously selected is reset. You will find option buttons wherever there is a choice between several possibilities, e.g. whether or not you wish to use an external antenna.



Text field:

Enter text or digits. Click in the field to activate input mode. You will find text fields at points where you can specify text or numbers as required, e.g. frequencies.

User interface

User interface

Setting the language

The user interface is initially displayed in English. However, you can select another language, e.g. German, French, Spanish.

- ➔ If you wish to set your language, click on the **Language** button at the top right. This opens the page for setting the language.
- ➔ Click on the arrow next to the selection field to open it and select your language.
- ➔ Click on **Ok** to change the language.

Opening online Help

There is an online Help for each screen of the configuration software, which you can open directly on the screen.

- ➔ Click on the question mark button at the top right.
The online Help is shown in the right pane of the configuration software.
- ➔ If necessary, click on **Open Help window** to open the online Help in a separate window.

Menu structure

The menu of the user interface on your modem Gigaset SE680 WiMAX is split into the following main areas: **Home**, **Connection Wizard**, **Administration** and **Status**. Under these menu options, you will find the following areas:

Home	Brief description of all the menus in your modem Gigaset SE680 WiMAX, as well as the connection status and the language change feature; see "User interface" on page 18.	
Connection Wizard	Establish a connection to the WiMAX network and optimise the antenna alignment; see "Connection wizard" on page 20.	
Administration	Enter a system password for access to your modem Gigaset SE680 WiMAX or change the system password; see "Administration" on page 23.	
Status	Obtain information about the operating status of your modem Gigaset SE680 WiMAX and read off the device and version numbers as well as IP addresses; see "Status" on page 25.	
	Internet	See "Internet" on page 27.
	Local Network	See "Local network LAN" on page 28.
	Device Status	See "Device status" on page 28.
	Radio Status	See "Radio status" on page 29.

The Home page

Once you have logged in successfully to the modem Gigaset SE680 WiMAX, you will see the **Home** page for the device software. The start screen offers an overview of all areas of the configuration software:

Menu	Description
Connection Wizard	Establish the radio connection with the WiMAX network.
Administration	Set up or change a system password.
Status	Obtain information about the status of your modem Gigaset SE680 WiMAX.

In the area to the right of the start screen, you will see the connection status of your modem Gigaset SE680 WiMAX:

- ◆ **connected** = The modem Gigaset SE680 WiMAX has established a radio connection with a WiMAX network. You will see the connection duration in brackets and in the format ddd:hh:mm:ss (d=days, h=hours, m=minutes, s=seconds).
- ◆ **disconnected** = The modem Gigaset SE680 WiMAX is trying to establish a connection with a WiMAX network.

To configure your modem Gigaset SE680 WiMAX, use the connection wizard, which will help you establish a radio connection.

Connection wizard

The connection wizard comprises the following steps:

- ◆ Selecting the antenna
- ◆ Scanning the frequencies in order to establish a radio connection with a WiMAX network
- ◆ Exact alignment of the antenna in order to optimise the quality of the connection

Establishing a radio connection with a WiMAX network

First scan the frequencies with the connection wizard. This establishes an initial radio connection with a WiMAX network.

- ➔ Click on the **Connection Wizard** tab.
The connection wizard will be opened.
- ➔ Click **Next**.
- ➔ Choose whether you wish to operate your modem Gigaset SE680 WiMAX with an external antenna.
 - Click in the upper option field if you are using the antenna integrated in the modem Gigaset SE680 WiMAX.
 - Click in the lower option field if you received the outdoor antenna together with your modem Gigaset SE680 WiMAX. The outdoor antenna must already have been installed and connected by a qualified electrician.
- ➔ Click **Next**.
- ➔ Align the antenna integrated in the modem Gigaset SE680 WiMAX or the outdoor antenna towards the base station. Click **Next**.

The frequency scan begins automatically. A progress bar indicates how far the scan has progressed. In addition, you will see in the **Remaining time** area roughly how much time is still needed for the complete scan. Depending on how your modem Gigaset SE680 WiMAX has been preconfigured by your provider, the scan can last several minutes before the first radio connection is established.

<i>i</i>	During the scan, the modem Gigaset SE680 WiMAX or antenna must not be moved; this is the only way to guarantee a complete scan with the current antenna alignment.
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As soon as a radio connection has been established with a WiMAX network, the scan will end. The progress bar is fully filled in and the display in the **Remaining time** area jumps to **0 seconds**.

- ➔ If the scan has been successful, read on in Chapter "Precisely aligning the antenna" on page 22.

If the scan has not been successful:

Both the integrated antenna and the outdoor antenna are directional antennae; this means that they must at least be pointing roughly in the direction of a WiMAX network base station in order to establish a radio connection.

If the scan was unsuccessful, align the antenna differently:

If you are using the antenna integrated in the modem Gigaset SE680 WiMAX:

- ➔ Turn your modem Gigaset SE680 WiMAX by approx. 20°. Turn or move the antenna a little at a time and note the signal strength display. Use this to move the antenna to the position with the best signal strength.

Precisely aligning the antenna

Precisely aligning the antenna

Once you have established a wireless connection to a WiMAX network, align your modem Gigaset SE680 WiMAX or antenna precisely using the connection wizard.

i

Take extra care to align the modem Gigaset SE680 WiMAX or the external antenna precisely. The better the connection quality, the faster your Internet connection will be in the future.

To obtain precise alignment of the modem Gigaset SE680 WiMAX or antenna, turn it a little at a time. If you use the antenna integrated in the modem Gigaset SE680 WiMAX, you can also move the device a little at a time to optimise the reception quality.

➔ When a connection to a WiMAX network has been established, click on **Next** to make fine adjustments to the antenna.

The quality of the radio connection is represented graphically by a signal strength bar. The longer the bar is, the better the radio connection. Try to obtain the best possible radio connection setting.

➔ If you are unable to check the display of the signal strength on the screen while aligning the antenna:

Activate the **Audible feedback** option to obtain information about the signal strength by means of beeps. The closer together the sequence of beeps, the better the connection quality.

➔ Turn or move the modem Gigaset SE680 WiMAX or turn the antenna a little at a time and note the signal strength display. Use this to move the antenna to the position with the best signal strength.

If you have turned your modem Gigaset SE680 WiMAX or the antenna too far, the connection might break. You should then return to the alignment that provided a connection and repeat the procedure for establishing a connection to the WiMAX network. Then make any fine adjustments step by step.

When your modem Gigaset SE680 WiMAX or external antenna is optimally aligned:

➔ Click **End**.

➔ Make sure that in future your modem Gigaset SE680 WiMAX or external antenna is always in the set position.

Administration



The system password protects your modem Gigaset SE680 WiMAX and your local network from unauthorised access. For this reason, it is important to set up a password and change the default password.

System password

➔ Click on the **Administration** tab.

The system password is the password to configure your modem Gigaset SE680 WiMAX and is requested when you open the configuration pages. Your modem Gigaset SE680 WiMAX does not have a default system password. You assign your own password to protect the modem Gigaset SE680 WiMAX and your local network from unauthorised access.



Features of a secure password

A password should be difficult for unauthorised persons to determine. Note the following points when choosing a password:

- ◆ The more characters a password has, the more secure it is.
- ◆ Choose a series of characters that is as varied as possible (not AAAA, 0000) and alternate between letters and numbers.
- ◆ Do not use any term that could be found in a dictionary.
- ◆ Do not use sequential characters (not 123456, abcd) and no recognisable system (not 1a2b3c).
- ◆ Never use a password several times for different applications.
- ◆ Never save a password on the PC. Instead, make a note of it and store it in a secure place.
- ◆ Change your passwords regularly.

➔ Enter the current password in the **Current password** field. No default system password has been set. In this case, you should leave the field empty.

➔ Enter a new password in the **New password** field.

- Select any series of characters with a minimum length of 4 and a maximum length of 20 characters. You can use the following characters: A–Z, a–z, 0–9 as well as the following special characters: ! " # \$ % & ' () * + , - . / : ; < = > ? @ [\] ^ _ ' { | } ~.
- Note down your new password on a sheet of paper and store it in secure place.

➔ Enter your new password in the **Confirm new password** field again. This entry is case-sensitive.

The new password can only be activated if both entries match. This detects typing errors when the password is entered.

System password

- ➔ Finally, click on **Ok** to accept your change and to activate the new password. The new password is valid immediately for each instance the configuration is called up.



The configuration of the modem Gigaset SE680 WiMAX cannot be accessed if you do not enter a valid password. In this case it is only possible to ask your provider to reset the password of the modem Gigaset SE680 WiMAX to *user*.

Status

You can check the status of your modem Gigaset SE680 WiMAX with the pages in the **Status** menu. The menu is divided into several individual pages opened by clicking on the entries in the menu area. To help with orientation, in the following sections the path is placed first so that you can quickly find the status messages described.

For example, with the following address you can open the settings of your LAN:

Status > Local Network.

<i>i</i>	<p>If you have problems, before contacting your provider or customer service, check the status of your modem Gigaset SE680 WiMAX.</p> <p>When looking for the fault, your provider or customer service will need some details that you will find on the status pages.</p>
-----------------	---

You will find the most important status information summarised on the homepage. For detailed information, click on an entry in the submenu.

Information on the Status homepage

Connection status	<p>The status of the radio connection with the WiMAX network is displayed as follows:</p> <ul style="list-style-type: none"> ◆ connected = The modem Gigaset SE680 WiMAX has established a radio connection with a WiMAX network. You will see the connection duration in brackets and in the format ddd:hh:mm:ss (d=days, h=hours, m=minutes, s=seconds). ◆ disconnected = The modem Gigaset SE680 WiMAX is trying to establish a connection with a WiMAX network.
IP address	<p>For an existing Internet connection only: Displays the IP address used by the modem Gigaset SE680 WiMAX on the Internet.</p>
Fixed IP address	<p>IP address used by the modem Gigaset SE680 WiMAX in your local network: 192.168.2.1</p>
DHCP server	<p>Displays whether the DHCP server of your modem Gigaset SE680 WiMAX is activated. As DHCP server, your modem Gigaset SE680 WiMAX assigns an IP address to all the PCs in the network. DHCP must be activated on a PC for the PC to receive an IP address from the DHCP server. Further information about this can be found in the Chapter "Adjusting the network settings on the PC" on page 38.</p>
System time	<p>Displays the current date and time. The date and time are transmitted to your modem Gigaset SE680 WiMAX from the WiMAX network.</p>

Status

Operating mode Type of protocol with which your modem Gigaset SE680 WiMAX establishes the connection with the Internet (**Router** or **Bridge**).

Firmware version Version number of the currently installed device software. You will also need to give your provider this number.

➔ If necessary, click on the **Refresh** button to refresh the data in the status display.

Internet

Status > Internet

The connection settings for your modem Gigaset SE680 WiMAX are displayed in the **Internet** submenu.

Connection status	<p>The status of the radio connection with the WiMAX network is displayed as follows:</p> <ul style="list-style-type: none"> ◆ connected = The modem Gigaset SE680 WiMAX has established a radio connection with a WiMAX network. You will see the connection duration in brackets and in the format ddd:hh:mm:ss (d=days, h=hours, m=minutes, s=seconds). ◆ disconnected = The modem Gigaset SE680 WiMAX is trying to establish a connection with a WiMAX network.
IP address	For an existing Internet connection only:
Subnet mask	Displays the public IP address and subnet mask via which your modem Gigaset SE680 WiMAX establishes the connection with the Internet.
MAC address	<p>For an existing Internet connection only:</p> <p>The MAC address uniquely identifies a network component within a network, in this case the public MAC address of your modem Gigaset SE680 WiMAX within the WiMAX network you use.</p>
Default gateway	<p>For an existing Internet connection only:</p> <p>Displays the gateway the modem Gigaset SE680 WiMAX uses for connecting to the Internet.</p>
DHCP server	IP address of the DHCP server with which the modem Gigaset SE680 WiMAX is connected. While the modem Gigaset SE680 WiMAX has not been assigned an IP address by the WiMAX network, the field stays empty.
Preferred DNS server	For an existing Internet connection only:
Alternate DNS server	Displays the domain name server the modem Gigaset SE680 WiMAX uses to convert names to IP addresses.
Address Translation (NAT)	Displays whether NAT mode is activated on your modem Gigaset SE680 WiMAX. NAT converts the internal IP addresses of the PCs in your network to public IP addresses. This maintains the confidentiality of your internal IP addresses.

➔ If necessary, click on the **Refresh** button to refresh the data in the status display.

Device status

Local network LAN

Status > Local Network

The configuration of the local network is displayed in the **Local Network** submenu.

Fixed IP address	IP address used by the modem Gigaset SE680 WiMAX in your local network: 192.168.2.1
Fixed subnet mask	Subnet mask of your local network: 255.255.255.0
Fixed MAC address	The MAC address uniquely identifies a network component within a network, in this case the local MAC address of your modem Gigaset SE680 WiMAX within your local network.
DHCP server	Displays whether the DHCP server of your modem Gigaset SE680 WiMAX is activated. As DHCP server, your modem Gigaset SE680 WiMAX assigns an IP address to all the PCs in the network. If the DHCP server is activated, you will see the network subscribers that have received your IP address from the DHCP server in the DHCP clients field. DHCP must be activated on a PC for the PC to receive an IP address from the DHCP server. Further information about this can be found in the Chapter "Adjusting the network settings on the PC" on page 38.

➔ If necessary, click on the **Refresh** button to refresh the data in the status display.

Device status

Status > Device Status

The device status of your modem Gigaset SE680 WiMAX is displayed in the **Device Status** submenu.

System uptime	Operating time of your modem Gigaset SE680 WiMAX since it was last restarted. The operating time is given in the format ddd:hh:mm:ss (d=days, h=hours, m=minutes, s=seconds).
System time	Displays the current date and time. This information is transmitted to your modem Gigaset SE680 WiMAX by the WiMAX network.
Operating mode	Type of protocol with which your modem Gigaset SE680 WiMAX establishes the connection with the Internet (Router or Bridge).
Device temperature	Current device temperature inside your modem Gigaset SE680 WiMAX. This temperature should be below 75°C. In the event of overheating, the modem Gigaset SE680 WiMAX switches off.
System Log	Error protocol in which you will find information about problems.

➔ If necessary, click on the **Refresh** button to refresh the data in the status display.

Radio status

Status > Radio Status

Information about received and sent data as well as possible data transmission errors is displayed in the **Radio Status** submenu.

Received power level	Range: from 0 dBm to -110 dBm Readings above 0 dBm indicate possible overload traffic on the RF interface, and in this case all other measured values are invalid. Averaging is carried out according to the standard.
Transmitted power level	Current transmission power.
Carrier to interference and noise ratio	CINR = Carrier to Interference plus Noise Ratio. The CINR calculation is based on the value of the downlink measurement. Averaging is carried out according to the standard.
Centre frequency of current uplink channel	Currently used uplink frequency. The reading changes frequently during the measurement.
Centre frequency of current downlink channel	Currently used downlink frequency.
Current channel size	Currently used bandwidth.
Radio port uplink current average throughput	Average approximate uplink throughput in 1 second, moving average (5 samples).
Radio port downlink current average throughput	Average approximate downlink throughput in 1 second, moving average (5 samples).
Current uplink modulation scheme	Currently used uplink modulation type.
Current downlink modulation scheme	Currently used downlink modulation type.

➔ If necessary, click on the **Refresh** button to refresh the data in the status display.

Preparing to use modem Gigaset SE680 WiMAX

Preparing to use modem

Gigaset SE680 WiMAX

When you have finished configuring your modem Gigaset SE680 WiMAX, use it to surf the Internet, send e-mails etc.

Generally speaking, you do not need to worry about your modem Gigaset SE680 WiMAX any more: your provider carries out all the maintenance work, such as installing new device software, adjusting network settings etc. All you need to do is ensure that the alignment of the device or antenna does not change.

As soon as you attempt to access the Internet with a PC connected to the modem Gigaset SE680 WiMAX (for example, by opening the Web browser and calling up an Internet site, or by starting your e-mail program and retrieving e-mails), your modem Gigaset SE680 WiMAX automatically establishes a connection to the Internet or uses the permanent Internet connection. Whether the connection needs to be established or is permanently available depends on your provider's default settings. Unlike conventional Internet connections, you do not need to enter any access data in order to establish an Internet connection.

Appendix

Troubleshooting

In the case of network problems troubleshooting may be difficult, as miscellaneous network parameters may be affected. This section only describes problems which are associated with the modem Gigaset SE680 WiMAX and the antenna.

Symptom	Possible cause and solutions
No LED does light up.	<p>The modem Gigaset SE680 WiMAX its not connected to the mains.</p> <ul style="list-style-type: none"> ➔ Check if the Indoor house connection is connected correctly. ➔ Check if the power socket is live.
The CONNECT LED does not light up.	<p>The modem Gigaset SE680 WiMAX is not registered to a base station.</p> <ul style="list-style-type: none"> ➔ Check the cable connections. If necessary, charge a qualified electrician to check the installation.
The modem Gigaset SE680 WiMAX switches itself off.	<p>The modem Gigaset SE680 WiMAX is not ready for use.</p> <p>The device may be too hot. In this case, the integrated overheating protector prevents the Gigaset SE680 WiMAX from being damaged. If the temperature rises, the Gigaset SE680 WiMAX automatically reduces data transfer to a minimum. When the temperature exceeds the critical value, the modem Gigaset SE680 WiMAX switches itself off.</p> <ul style="list-style-type: none"> ➔ Wait until the modem Gigaset SE680 WiMAX has cooled down. ➔ Check the device status of your modem Gigaset SE680 WiMAX, see chapter "Device status" on page 28. ➔ If the modem Gigaset SE680 WiMAX does not work after the device has been restarted, please contact your provider/service technician.

Troubleshooting

Symptom	Possible cause and solutions
The modem Gigaset SE680 WiMAX can not be reached via LAN (Ethernet).	<p>➔ If you operate the modem Gigaset SE680 WiMAX in bridge mode, first check the following:</p> <ol style="list-style-type: none"> 1. In bridge mode the PC must be connected directly to the modem Gigaset SE680 WiMAX. 2. To configure the modem Gigaset SE680 WiMAX the PC must have a static IP address assigned. <p>➔ If you operate the modem Gigaset SE680 WiMAX in router mode, precede as follows:</p> <ol style="list-style-type: none"> 1. Check all cable connections. 2. Enter a ping command to your own computer using ping 127.0.0.1, see "Checking the connection to the modem Gigaset SE680 WiMAX" on page 34. If an error is reported, reinstall the TCP/IP network protocol. 3. Enter a ping command to the modem Gigaset SE680 WiMAX using ping 192.168.2.1 (if you did not change the IP address). If errors are reported, ensure that the digits in the first three address parts of the PCs IP address are the same as in the IP address of the modem Gigaset SE680 WiMAX. If not all test packets sent will be reported as faulty, change the Ethernet cables. They may be faulty. 4. Read the chapter "Adjusting the network settings on the PC" on page 38.
You forgot the system password.	➔ Ask your provider to reset the password to user via remote management.
No connection to the configuration environment is possible.	➔ Check the connection to your modem Gigaset SE680 WiMAX, see page 34.

Other faults and problems

You are using a firewall on the PC that prevents access to the modem Gigaset SE680 WiMAX

Test this, if necessary, by briefly switching off the firewall. If access is possible, configure the firewall. For details, refer to the user guide for your firewall.

You have forgotten the system password

If you set or changed the system password by yourself and you will forget it, your modem Gigaset SE680 WiMAX must be reset to the factory default settings.

If you have not yet entered a system password, leave the field empty.

Power failure

No data will be lost.

Before contacting customer service or your provider

- ➔ First exclude all the faults listed in this section.
- ➔ Have the documentation supplied by your provider ready.
- ➔ If you can open the configuration software in the Web browser, click on the **Status** tab.
- ➔ Note the number in the **Firmware version** field. This is the number of the currently installed device software.
- ➔ Open the **Local Network** submenu and note the entry consisting of numbers and letters in the **Fixed MAC address** field. The MAC address is used for the globally unique identification of your device.
- ➔ Leave the PC switched on and the configuration software open when you phone customer service or your provider. They might need still more information, which you will find on the status pages.

Checking the connection to the modem Gigaset SE680 WiMAX

You can check whether the PC is correctly connected to the modem Gigaset SE680 WiMAX. This can be done as follows:

- ➔ Open the command prompt on the PC:
 - Click on **Start > Run**.
 - Enter **cmd** in the input field and click on **OK**.
The **Command prompt** window opens.
- ➔ Check whether the modem Gigaset SE680 WiMAX responds with the ping command. Enter **ping 192.168.2.1** and press Enter.

```
C:\>ping 192.168.2.1
```

The PC now sends some test packets via this connection and checks whether the connection partner responds. The connection partner may respond in the following ways:

- ◆ **Reply from the IP address of your modem Gigaset SE680 WiMAX;** statistics about the connection are presented. If you receive these statistics, the connection to the device is OK.
- ◆ **The request exceeds the time limit;** it was not possible either to send or receive any packets. There is no physical connection between the PC and your modem Gigaset SE680 WiMAX. Check the following points:
 - Is the Ethernet cable between the modem Gigaset SE680 WiMAX and the PC properly connected?
The **LAN LED** on the modem Gigaset SE680 WiMAX must light up.
 - Has TCP/IP been properly configured on your PC?

If the modem Gigaset SE680 WiMAX has the IP address 192.168.2.1, your PC's IP address must be between 192.168.2.2 and 192.168.2.254. The subnet mask must be 255.255.255.0.

To find out the IP address of your PC, enter **ipconfig** in the command prompt.

```
C:\>ipconfig

Windows IP Configuration

Ethernet adapter Local Area Connection:

    Connection-specific DNS Suffix. . . : 
    IP Address. . . . . : 192.168.2.5
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.2.1

C:\>_
```

If the modem Gigaset SE680 WiMAX has not responded successfully to the **ping** command, you need to adjust the network settings on the PC. To find out how to do this, please read the Chapter "Adjusting the network settings on the PC" on page 38.

If the modem Gigaset SE680 WiMAX has responded successfully to the **ping** command, the network is configured correctly. If it is not possible to access the configuration software of your modem Gigaset SE680 WiMAX, check and change the settings in your Web browser. To find out how to do this, please read the next chapter.

Configuring the Web browser

If you are using a current Web browser but cannot open the configuration software in it, check the Web browser settings.

<i>i</i>	We recommend Microsoft Internet Explorer Version 7.0 or Mozilla Firefox 2.0 as the Web browser.
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- ◆ Do not use an HTTP proxy for accessing your modem Gigaset SE680 WiMAX.
- ◆ Java and Javascript must be enabled.
- ◆ Popup windows must be enabled for your modem Gigaset SE680 WiMAX.

The following descriptions relate to Internet Explorer Version 7.0 and Mozilla Firefox Version 2.0.

Setting up an HTTP proxy

An HTTP proxy is a buffer for Internet pages that have been called up. For example, once called up, a page can continue to be shown even if you are currently offline. However, this buffer would prevent the configuration pages being read again when you call up the configuration for your modem Gigaset SE680 WiMAX; for this reason, your modem Gigaset SE680 WiMAX can only be configured if the HTTP proxy is not being used for local pages.

Check the HTTP proxy in the Web browser you wish to use for the configuration.

Internet Explorer 7.0:

- ➔ Open Internet Explorer.
- ➔ Click on **Tools** and then on **Internet Options**.
- ➔ Open the **Connections** tab.
- ➔ Click on **LAN settings**.
- ➔ If the option **Use proxy server for LAN** is activated in the **Proxy server** area, activate the selection field **Circumvent proxy server for local addresses**. If the option **Use proxy server for LAN** is not activated, you do not need to make any settings.
- ➔ Click on **OK** and then **OK** again to close the **Internet Options** window.

Firefox 2.0:

- ➔ Open Firefox.
- ➔ Click on **Tools** and then on **Settings**.
- ➔ Click on **Advanced**.
- ➔ Open the **Network** tab and click on **Settings** in the **Connection** area.
- ➔ Select either **Direct connection to the Internet** or **Manual proxy configuration**.
If you have chosen **Manual proxy configuration**, in the **No proxy for:** field, enter the IP block in which the IP address of your modem Gigaset SE680 WiMAX is found:
192.168.2.0/24
- ➔ Click on **OK** and then **OK** again to close the **Settings** window.

Allowing JavaScript and Java

Internet Explorer 7.0:

- ➔ Open Internet Explorer.
- ➔ Click on **Tools** and then on **Internet Options**.
- ➔ Open the **Security** tab.
- ➔ Select the **Local Intranet** entry as the Web content zone.
- ➔ Click on the **Sites** button.
- ➔ Select the **Include all sites that circumvent the proxy server** entry.
- ➔ Click on **OK** and then **OK** again to apply the settings.

Firefox 2.0:

- ➔ Open Firefox.
- ➔ Click on **Tools** and then on **Settings**.
- ➔ Click on **Content**.
- ➔ Check the **Activate JavaScript** and **Activate Java** boxes.
- ➔ Click on **OK** to apply the settings.

Allowing pop-up windows

Pop-up windows are small windows that are opened either as the result of an action or automatically. The device software for your modem Gigaset SE680 WiMAX uses pop-up windows to display the online Help, for example.

Many Internet sites, however, call up distracting pop-up windows for effective advertisement placement, for example, without detracting from the layout of the site itself. To prevent these pop-up windows from opening, current Web browsers offer pop-up blockers.

If necessary, you can configure the pop-up blocker to display desirable pop-up windows and to block undesirable windows.



If you are using a different pop-up blocker, configure it to allow pop-up windows for the IP address 192.168.2.1.

Internet Explorer 7.0:

- ➔ Open Internet Explorer.
- ➔ Click on **Tools** and then on **Pop-up Blocker** and choose **Pop-up Blocker Settings**.
- ➔ Enter the IP address of your modem Gigaset SE680 WiMAX as the Website address:
192 . 168 . 2 . 1
- ➔ Click on the **Add** button.
- ➔ Click on **Close** to apply the settings.

Firefox 2.0:

- ➔ Open Firefox.
- ➔ Click on **Tools** and then on **Settings**.
- ➔ Click on **Content**.
- ➔ If the **Block pop-up windows** check box is activated, click to its right on **Exceptions**.
- ➔ Enter the IP address of your modem Gigaset SE680 WiMAX as the Website address:
192 . 168 . 2 . 1
- ➔ Click on the **Allow** button.
- ➔ Click on **Close** and on **OK** to apply the settings.

Adjusting the network settings on the PC

Adjusting the network settings on the PC

If you have connected a PC to your modem Gigaset SE680 WiMAX and cannot open the configuration software in the Web browser, read the next chapter for information on which settings you need to adjust.

Modern PCs with the Windows Vista, Windows XP or Windows 2000 operating system are normally already configured so that they can easily be incorporated in a local network. The connection with your modem Gigaset SE680 WiMAX is established automatically if the general configuration of your PC complies with this standard.

If you have changed the network configuration on your PC or the configuration software of your modem Gigaset SE680 WiMAX can be accessed for other reasons, check the network settings and change them if necessary.

The PC needs to satisfy the following conditions for you to establish a network:

- ◆ There must be a network adapter installed in the PC; the TCP/IP network protocol is set up.

i

The Windows user interfaces depicted in this user guide may differ from those on your screen because of the settings you have made. In each case, the view that usually follows the initial installation has been chosen.

DHCP

Activate DHCP to enable the DHCP server of your modem Gigaset SE680 WiMAX to assign an IP address to your PC. Depending on the structure of your local network, select one of the following procedures:

- ◆ If you have connected your modem Gigaset SE680 WiMAX directly to a PC, activate DHCP on this PC.
- ◆ If you have connected your modem Gigaset SE680 WiMAX to several PCs via a switch or hub to form a local network, activate DHCP on all the PCs in the network.
- ◆ If you have connected your modem Gigaset SE680 WiMAX to one or more PCs via a router, you must activate DHCP on the router. For details, please read the user guide for your router.

i

You need administrator rights on the PC to set up the network. If necessary, contact your system administrator.

Depending on your PC's operating system, continue by reading one of the following chapters:

- ◆ Windows Vista: "Windows Vista: activating DHCP" on page 39
- ◆ Windows XP: "Windows XP Home: activating DHCP" on page 42
- ◆ Windows 2000: "Windows 2000: activating DHCP" on page 45

Windows Vista: activating DHCP

To activate DHCP with Windows Vista, set the TCP/IP network protocol so that it obtains the IP address automatically from your DHCP server.

Setting up the TCP/IP network protocol with DHCP

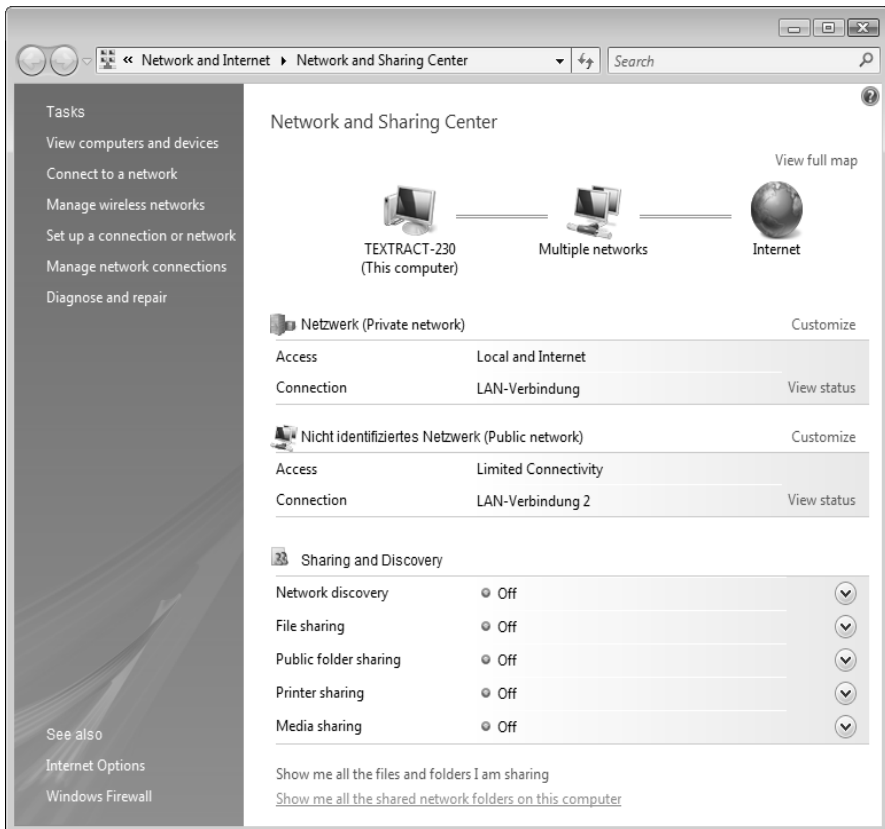
Make the necessary settings for the TCP/IP network protocol.



➔ Click on the icon in the taskbar (bottom right of the screen next to the time).

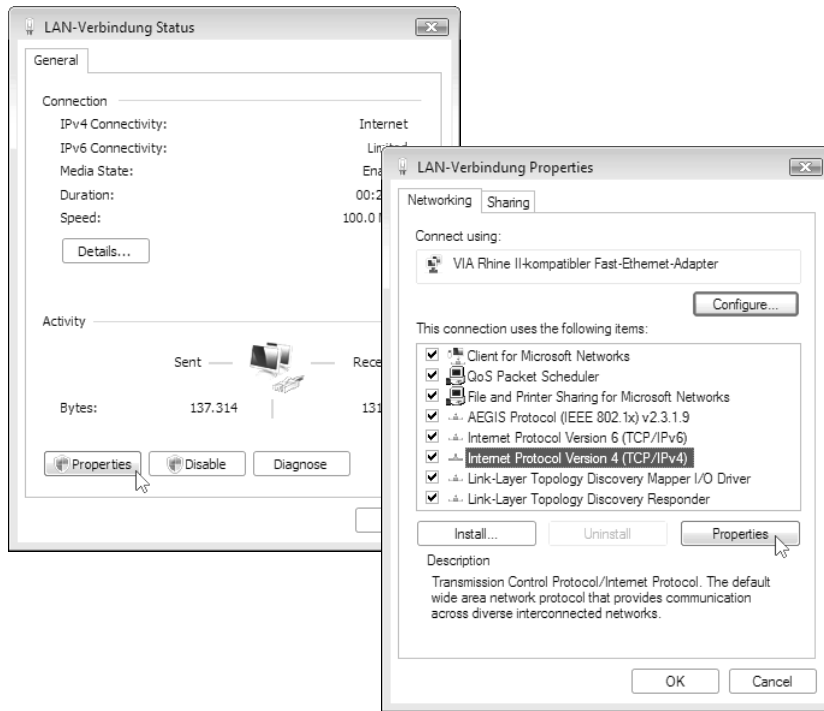
The networks are displayed to which a connection currently exists.

➔ Click in the lower area of the small window on the entry **Network and Sharing Center**.



➔ Next to the network connection with which your PC is connected to the modem Gigaset SE680 WiMAX, click on **View status**.

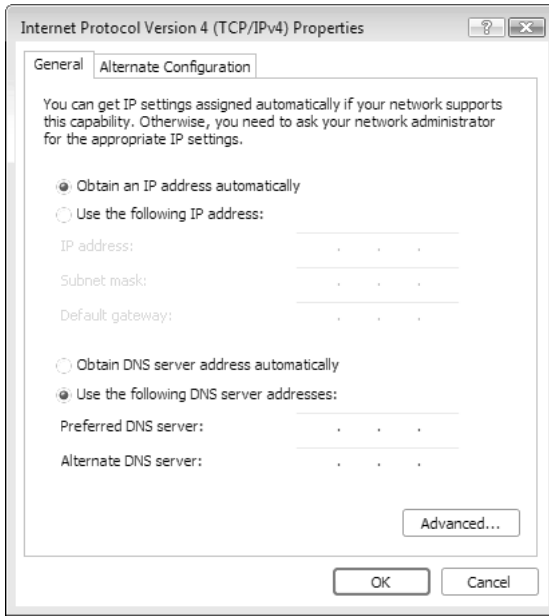
Windows Vista: activating DHCP



➔ Click on **Properties**.

➔ Select the entry **Internet Protocol Version 4 (TCP/IP)** and click on **Properties**.

Windows Vista: activating DHCP



- ➔ Select **Obtain an IP address automatically**.
- ➔ If your provider does not specify another setting, select **Obtain DNS server address automatically**.
- ➔ Click on **OK** to apply the settings.
- ➔ Reboot your PC to apply the settings.

When you reboot, the DHCP server of your modem Gigaset SE680 WiMAX will automatically assign an IP address to your PC. With this you can establish a connection to the modem Gigaset SE680 WiMAX and open the configuration software.

Windows Vista: activating DHCP

Windows XP Home: activating DHCP

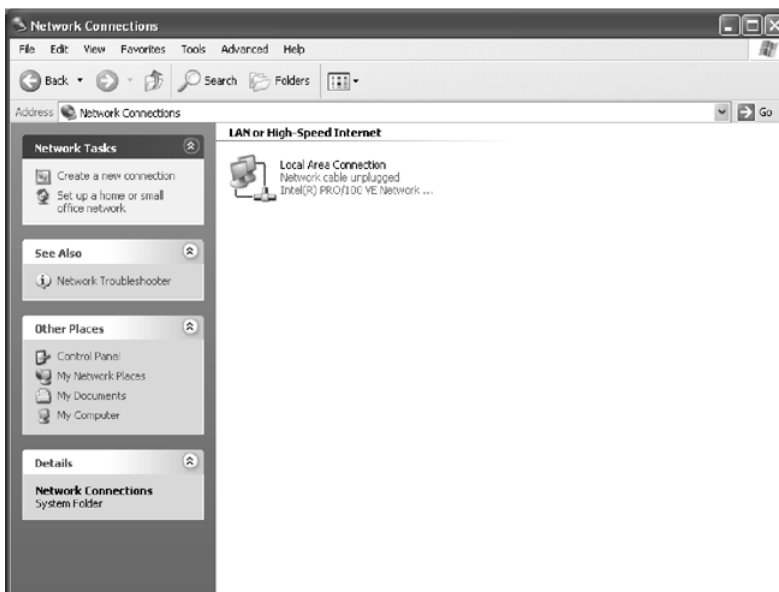
Configuring the network with Windows XP Home differs slightly from configuration with Windows XP Professional. The next section describes configuration with Windows XP Home as an example.

To activate DHCP with Windows XP Home, set the TCP/IP network protocol so that it obtains the IP address automatically from your provider's DHCP server.

Setting up the TCP/IP network protocol with DHCP

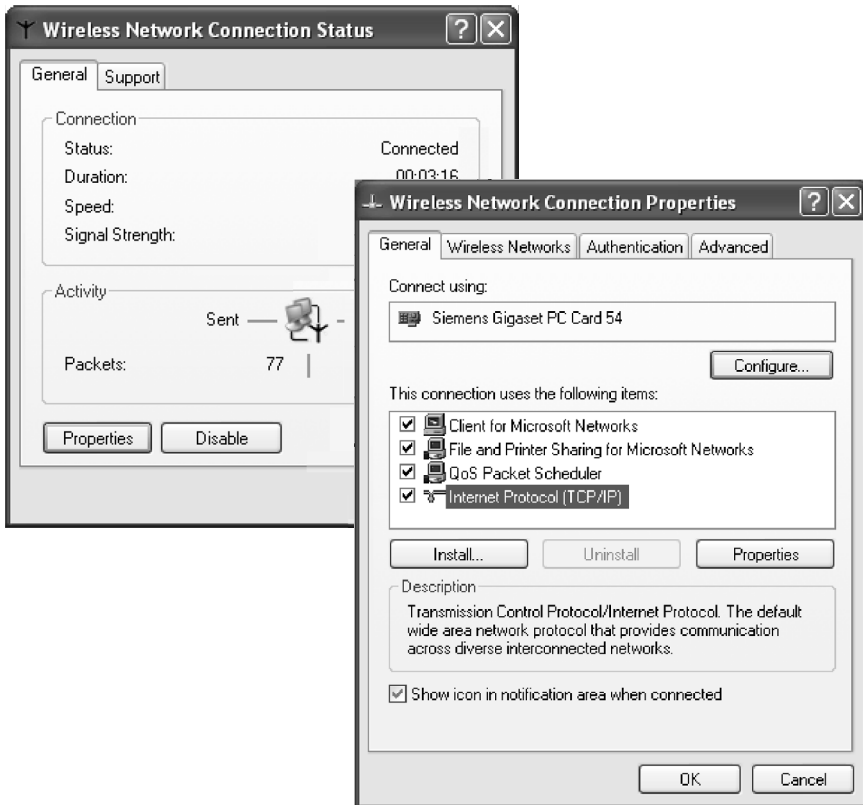
Make the necessary settings for the TCP/IP network protocol.

- ➔ Click on **Start > Control Panel**.
- ➔ Click on **Network and Internet Connections**.
- ➔ Click on **Network Connections**.



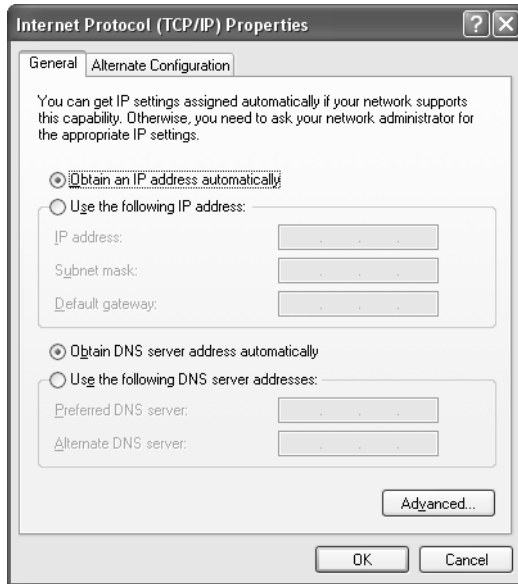
- ➔ Double-click on the LAN connection with which the PC is connected to the modem Gigaset SE680 WiMAX.

Windows Vista: activating DHCP



- ➔ Click on **Properties**.
- ➔ Select the entry **Internet Protocol (TCP/IP)** and click on **Properties**.

Windows Vista: activating DHCP



- ➔ Select **Obtain an IP address automatically**.
- ➔ If your provider does not specify another setting, select **Obtain DNS server address automatically**.
- ➔ Click on **OK** to apply the settings.
- ➔ Reboot your PC to apply the settings.

When you reboot, the DHCP server of your modem Gigaset SE680 WiMAX will automatically assign an IP address to your PC. With this you can establish a connection to the modem Gigaset SE680 WiMAX and open the configuration software.

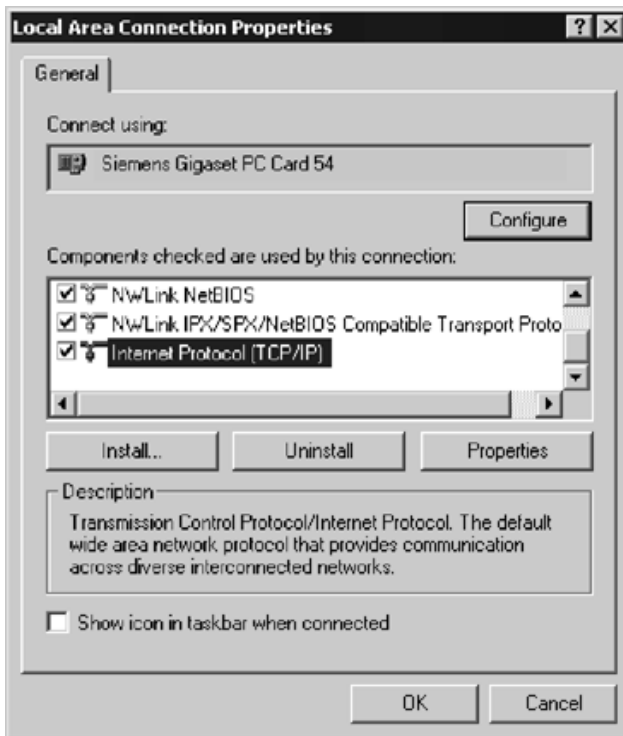
Windows 2000: activating DHCP

To activate DHCP with Windows 2000, set the TCP/IP network protocol so that it obtains the IP address automatically from the DHCP server of your modem Gigaset SE680 WiMAX.

Setting up the TCP/IP network protocol with DHCP

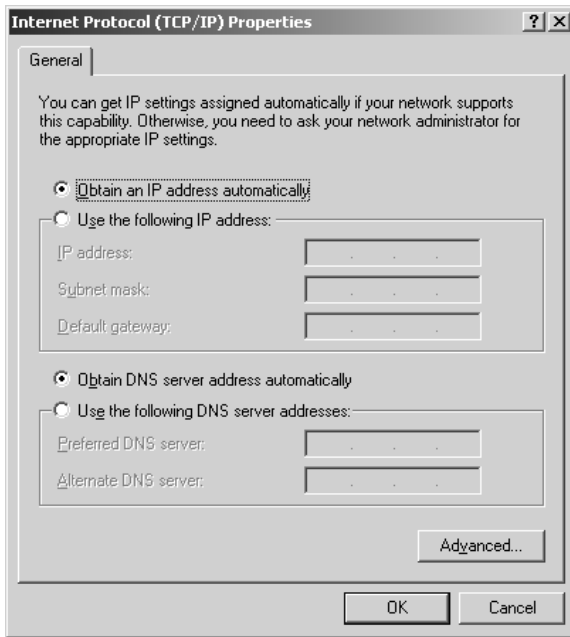
Make the necessary settings for the TCP/IP network protocol.

- ➔ Click on **Start > Settings > Control Panel**.
- ➔ Double-click on the **Network and Dial-up Connections** icon.
- ➔ Right-click on the entry for the **LAN connection** with which your PC is connected to the modem Gigaset SE680 WiMAX.
This opens the pop-up menu.
- ➔ In the pop-up menu, click on **Properties**.
The **Properties** window for your network adapter opens.



- ➔ Select the entry **Internet Protocol (TCP/IP)** and click on **Properties**.

Windows Vista: activating DHCP



- ➔ Select **Obtain an IP address automatically**.
- ➔ If your provider does not specify another setting, select **Obtain DNS server address automatically**.
- ➔ Click on **OK** to apply the settings.
- ➔ Reboot your PC to apply the settings.

When you reboot, the DHCP server of your modem Gigaset SE680 WiMAX will automatically assign an IP address to your PC. With this you can establish a connection to the modem Gigaset SE680 WiMAX and open the configuration software.

Specifications

Model	Gigaset SE680 WiMAX
Dimensions	
Outdoor Modem:	approx. 308 x 308 x 35 mm
Indoor house connection:	approx. 140 x 65 x 36 mm
Operating temperature	
Outdoor Modem:	-40 °C to +60 °C
Indoor house connection:	0 °C to +40 °C
Storage temperature	-25 °C to +55 °C
Network interface	1 Ethernet 10/100BaseT (RJ45, LAN)
Frequency	2.5 - 2.7 and 3.4 - 3.6 GHz resp.
Output power	up to 26 dBm at QAM-16
Power consumption	4-8 W on DC input depending on operational state
Bandwidth	5.0 / 7.0 / 10.0 MHz
Type of transmission	TDD
Modulation technique	SOFDMA 512/1024
Subcarrier modulation	QPSK, 16/64 QAM in up- and download
Antenna socket, optional	50 Ohm N
Antenna type	2 internal antennae (2xRX, 1xTX) for MIMO Matrix A & B; Type DN1 (EN 302 326-3 V1.2.2) Optional: outdoor antenna
Antenna gain	9 / 10 dBi (2.6 / 3.5 GHz)
Mains adapter	Input: 100-240 V AC, Power over Ethernet (PoE)

Specifications

Specifications for outdoor antenna (optional)

Model	outdoor antenna
Operating temperature	-40°C to +70°C
Storage temperature	-40°C to +70°C
Frequency	2.5–2.7 GHz or 3.4–3.6 GHz
Antenna socket	50 Ohm
Antenna gain	3,5 GHz: 18 dBi 3,5 GHz: 9 dBi 2,6 GHz: 9 dBi 2,6 GHz: 15 dBi
Antenna polarisation	Vertical, horizontal

Putting into service

This device is intended for use in the country indicated on the device's label.

The device is operated under a single licence, which is held by your service provider.

Contact your service provider regarding licensing before you put the device into service.

Please observe the legal provisions and local restrictions when putting the device into service. Please ask your service provider for further information.

CE declaration

This device is intended for use with WiMAX base stations.

We, Gigaset Communications GmbH, declare that this device meets the essential requirements and other relevant regulations laid down in Directive 1999/5/EC. National laws and regulations must be considered before putting the device into service.

A copy of the 1999/5/EC declaration of conformity is available at this Internet address:

www.gigaset.com/docs

CE 0682 

Safety and Certifications for USA - Important Information about the Gigaset SE680 WiMAX

Installation and Safe Usage Instructions

1. Place the Gigaset WiMAX gateway in a vertical orientation on a flat surface.
2. Connect the manufacturer supplied AC to DC power adapter. Only use a manufacturer supplied and approved power adapter.
3. Connect the Ethernet cable (provided) to one of the RJ45 ports on the Gigaset WiMAX Gateway labeled "LAN1" ... "LAN4". Then connect the other end of the Ethernet Cable to the Ethernet port of a computer.

Power Outage: In the event of a power outage, Gigaset SX682 WiMAX will not operate. Therefore when your power is out your Internet will be down, so be aware that your VoIP service may not work. Consider installing a backup power supply, maintaining a traditional phone line, or having a wireless phone as a backup for 911 service.

When using this device, basic safety precautions should always be followed to reduce the risk of fire, electric shock, and injury to persons including the following:

1. Do not use this product near water and avoid contact with moisture. For example, do not use near a bathtub, wash bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool. Care should be taken so that liquids are not spilled on this equipment.
2. Never insert objects into the vents of this equipment as this can result in the risk of electrical shock or fire.
3. This equipment should only be operated with the power supply provided with the product.
4. Do not overload wall outlets or extension cords. Doing so can result in the risk of fire or electrical shock.
5. Avoid blocking any vent openings or exhaust exits on this equipment. Do not place equipment in a built-in installation such as a cabinet that may impede the flow of air through the ventilation openings.
6. The equipment should be situated away from heat sources such as radiators, heat registers, stoves, or other heat producing appliances and equipment.
7. Care should be taken to ensure that the power cord is routed, so it is not likely to be walked on or pinched by items placed upon or next to it.
8. Unplug this equipment before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning only.
9. This equipment is not user serviceable and is to be serviced by qualified personnel only. Do not disassemble this equipment. If service is required, disconnect all power and phones lines from the equipment and consult qualified service personnel.

Save these Instructions!

Federal Communications Commission (FCC) Statements

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Radio Frequency Interference Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The installation of the base unit should allow at least 8 inches between the base and persons to be in compliance with FCC RF exposure guidelines.

Modifications

You are cautioned that charges or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

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WPA supplicant

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The modem Gigaset SE680 WiMAX – Free software

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Glossary

Address Translation (NAT)

Network Address Translation. NAT is a method for converting IP addresses (mainly private IP addresses) in a network to one or more public IP addresses on the Internet. With NAT, several network components in a LAN can share a public IP address to connect to the Internet. The network components of the local network are hidden behind the IP address registered on the Internet. NAT is often used as part of the firewall in a network because of this security function.

Bridge

A bridge connects several network segments to form a joint network, e.g. to make a [TCP/IP](#) network. The segments can have different physical characteristics, e.g. different linking such as Ethernet and wireless LANs. Local networks can be expanded by linking individual segments via bridges.

dB

Decibel (a tenth of a Bel). Logarithmic unit of measurement for ratios between two currents, voltages, sound levels or powers. In order to depict large value differences clearly and graphically, these are given in dB; e.g. 60 dB corresponds to the factor 1000 relative to the voltage drops.

dBm

Decibel milliwatt. Power level in decibels relative to 1 milliwatt.

DHCP

Dynamic Host Configuration Protocol. DHCP handles the automatic assignment of IP addresses to network components.

DHCP was developed because in large networks – especially the Internet – the defining of IP addresses is very complex as subscribers frequently move, drop out or new ones join. A [DHCP server](#) server automatically assigns the connected network components (DHCP clients) dynamic IP addresses from a defined IP pool range, thus saving a great deal of configuration work. In addition, the address blocks can be used more effectively: since not all subscribers are on the network at the same time, the same [IP address](#) can be assigned to different network components in succession as and when required.

DHCP server

There is a DHCP integrated into the modem Gigaset SE680 WiMAX that automatically assigns IP addresses to PCs in the local network.

Glossary

DNS

Domain Name System. DNS permits the assignment of IP addresses to PC or domain names that are easier to remember. A DNS server must administer this information for each local network with an Internet connection. As soon as a page on the Internet is called up, the Web browser obtains the corresponding IP address from the DNS server so that it can establish the connection.

On the Internet, the assignment of domain names to IP addresses follows a hierarchical system. A local PC only knows the address of the local name server. This in turn knows all the addresses of the PCs in the local network and the superordinated name servers, which again know addresses and the next superordinated name servers.

Domain name

The domain name is the reference to one or more web servers on the Internet. The domain name is mapped via the [DNS](#) service to the corresponding IP address.

Downlink

Files that your modem Gigaset SE680 WiMAX receives and forwards to your local network.

DSL

Digital Subscriber Line. DSL is a technique whereby data is transmitted via the conventional phone line. To do this, you require suitable phone lines and special technology to be set up by a [Provider](#). As these preconditions are not satisfied in all areas, it is not possible to use DSL in all locations. In order to make use of high-performance Internet access in these areas as well, technologies such as WiMAX, Wi-Fi or satellite connections are implemented.

Ethernet

Ethernet is a network technology for local networks (LANs) defined by the [IEEE](#) as standard IEEE 802.3. Depending on the network adapter used, the transmission speed on the Ethernet varies between 10 [Mbps](#) and 1 Gbps.

Firewall

Firewalls are used by network operators as protection against unauthorised external access. This involves a whole bundle of hardware and software actions and technologies that monitor and control the data flow between the private network to be protected and an unprotected network such as the Internet.

Firmware

Device software. To correct errors or update the device, a new firmware version can be loaded onto the device's memory (firmware update).

Flat rate

Flat rate is a particular billing system for Internet connections. The [Provider](#) charges a set monthly fee for a certain service package.

FTP

File Transfer Protocol. Protocol for exchanging files via the Internet. FTP is used, for example, to make files available for download or to receive files from other users.

Full duplex

Data transmission operating mode in which data can be sent and received at the same time.

FXS

Foreign Exchange Station. Phone port to which an analogue terminal (phone, fax or answer machine) can be connected.

Gateway

A gateway connects networks with one another. In contrast to a [Router](#), a gateway is not dependent on protocol, i.e. it is also able to establish connections between networks with a different architecture (protocols, application interfaces etc.).

Half duplex

Operating mode for data transfer. Only one party can receive or send data at a time.

HTTP

Hypertext Transfer Protocol. Network protocol for the transmission of data, which is mainly used for transmitting and displaying Internet content.

HTTP proxy

An [HTTP](#) proxy is a server that network components use for their Internet traffic. All requests are sent via the proxy.

Hub

A hub is a central distribution point in a network, to which PCs and other network devices are connected. The hub forwards received data to all connected PCs. For this reason, in large networks, a [Switch](#) is recommended to ensure that data is only sent to the PC requesting it.

IEEE

Institute of Electrical and Electronics Engineers. The IEEE is an international body for defining network standards, especially for standardising [LAN](#) technologies, transmission protocols and speeds, and wiring.

Glossary

IEEE 802.16

Standard defined by the [IEEE](#) for WiMAX. Similarly to other standards in the 802 series (e.g. 802.3 [Ethernet](#), 802.11 WLAN), the WiMAX standard is one of the standards for networks. The standard has progressed in accordance with new developments; there are currently two main versions:

- ◆ IEEE 802.16-2004: WiMAX, which specifies the secure location for connection partners.
- ◆ IEEE 802.16e-2005: Mobile WiMAX, which enables wireless cells to be exchanged during data transmission.

IP

Internet Protocol. The protocol is responsible for addressing of subscribers in a network using IP addresses, and routes data from the sender to the recipient. In doing so, it decides on the way in which data packets will be forwarded between sender and recipient.

IP address

An IP address is the unique network-wide address of a network component in a network based on the [TCP/IP](#) protocol (e.g. in a local network or on the Internet). The IP address consists of four parts (each of up to three-figure strings of digits from 0–255) that are separated from one another by full stops (e.g. 192.168.2.1). The IP address is made up of the network number and the number of the network component. Depending on the [Subnet mask](#), one, two or three parts form the network number, the remainder form the network component number. You can find out the IP address of your PC using the **ipconfig** command.

There are two different types of IP address:

- ◆ **Private IP address:**
IP address of a network component within a local network.
- ◆ **Public IP address:**
IP address that uses a network component for accessing the Internet.

IP addresses can be assigned manually or automatically:

- ◆ **Static IP address:**
The IP address is manually assigned to a network component and never changes.
- ◆ **Dynamic IP address:**
The IP address is assigned to the network component by a DHCP server. The IP address of this network component can change each time it registers with a network or at specific time intervals.

On the Internet, domain names are normally used instead of the IP addresses. DNS is used to assign domain names to IP addresses.

IPTV

Internet Protocol Television. You receive your provider's television service via the DSL connection. To do this, you require an IPTV-capable set-top box and the configuration data of your IPTV provider.

ISP

Internet Service Provider. See [Provider](#).

LAN

Local Area Network, local network. A local network links network components so that they can exchange data and share resources. The physical range is restricted to a particular area (a site). A local network can be connected to other local networks or a wide-area network (WAN) such as the Internet.

LED

Light Emitting Diode. An LED is an electronic component (semi-conductor) that generates light at low power consumption. LEDs are often used as signal lights for display and UI elements.

Login

Access to a PC or a service, password e.g. for access to the Internet.

MAC address

Media Access Control. The MAC address is used for the globally unique identification of a network adapter. It comprises six parts (hexadecimal numbers), e.g. 00-90-96-34-00-1A. The MAC address is assigned by the network adapter manufacturer and cannot be changed.

Mbps

Million bits per second. Specification of the transmission speed in a network.

Network

A network is a group of devices connected in wired or wireless mode so that they can share resources such as data and peripherals. A general distinction is made between local networks (LANs) and wide-area networks (WANs).

Network adapter

The network adapter is the hardware device that creates the connection between a network component and a local network. The connection can be wired or wireless. An Ethernet network card is an example of a wired network adapter. The Gigaset PC Card 108 and the Gigaset USB Adapter 108 are examples of wireless network adapters. A network adapter has a unique address, the [MAC address](#).

Glossary

Network protocol

The network protocol is the standard via which different PCs exchange data in a network. A connection can only be established between PCs in a network if they all use the same protocol. The [TCP/IP](#) network protocol is the most extensive network protocol, which is also used for connections to the Internet. This must be set up on each PC from which a network connection is to be established.

Protocol

A protocol describes the agreements for communicating on a network. It contains rules for opening, administering and closing a connection, as well as about data formats, time frames and handling possible errors. Communications between two applications require different protocols at various levels, e.g. the [TCP/IP](#) protocols for the Internet.

Provider

A provider (Internet Service Provider) offers access to the Internet for a fee.

RJ

Registered Jack. Standardised connection, also known as a modular jack.

Router

A router directs data packets from one local area network ([LAN](#)) to another via the fastest route. A router enables the connection between networks of different network technologies and this is performed on the basis of a common protocol. For example, it can link a local network with WiMAX technology to the Internet.

RSSI

Received Signal Strength Indication. Characteristic value for the signal strength of radio connections, used by communication devices for the automatic selection of a suitable channel.

Server

A server makes services available to other network components (clients). The term "server" is often used to refer to a PC. However it can also mean an application that provides a particular service such as [DNS](#), [DHCP](#) or a Web service.

SMTP

Simple Mail Transfer Protocol. The SMTP protocol is a [TCP/IP](#) protocol and regulates the exchange of electronic post on the Internet. Your [Provider](#) provides you with access to an SMTP server.

Subnet

A subnet divides a network into smaller units.

Subnet mask

The subnet mask determines how many parts of the IP addresses of a network represent the network number and how many parts represent the network component number. If the subnet mask in a network is 255.255.255.0, for example, this means that the first

three parts of the [IP address](#) make up the network number and only the last part can be used to assign network component numbers. The first three parts of the IP address of all network components are in this case always the same.

Switch

A switch is a central distributor in a wired network, which, unlike a hub, provides intelligent distribution of data transfer. The switch only ever forwards a data packet to the subnet or network component the data packet is intended for. Unnecessary transfer of data in the network thus avoided.

TAE

Telecommunications connecting unit (German: **Telekommunikations-Anschlusseinheit**). Connector for connecting analogue telecommunications devices. F for phone, N for additional devices such as fax or answer machines.

TCP

Transmission Control Protocol. TCP is part of the [TCP/IP](#) protocol family. TCP handles data transport between communication partners (applications). TCP is a session-based transmission protocol, i.e. it sets up, monitors and terminates a connection for transporting data.

TCP/IP

Transmission Control Protocol/Internet Protocol. Protocol family on which the Internet is based. IP forms the basis of each PC to PC connection. [TCP](#) provides applications with a reliable transmission link in the form of a continuous data stream. TCP/IP is the basis on which services such as WWW, Mail and News are built. There are other protocols as well. In order to access the Internet from a PC, TCP/IP must be set up on the PC.

Uplink

Data that your modem Gigaset SE680 WiMAX forwards from your PC or local network to external sites (e.g. to the Internet).

URL

Universal Resource Locator. Globally unique address of a domain on the Internet, e.g. <http://www.gigaset.com>.

WAN

Wide Area Network. A WAN is a network that is not restricted to one particular area, such as the Internet. A WAN is run by one or more public providers to enable private access. You access the Internet via a [Provider](#).

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