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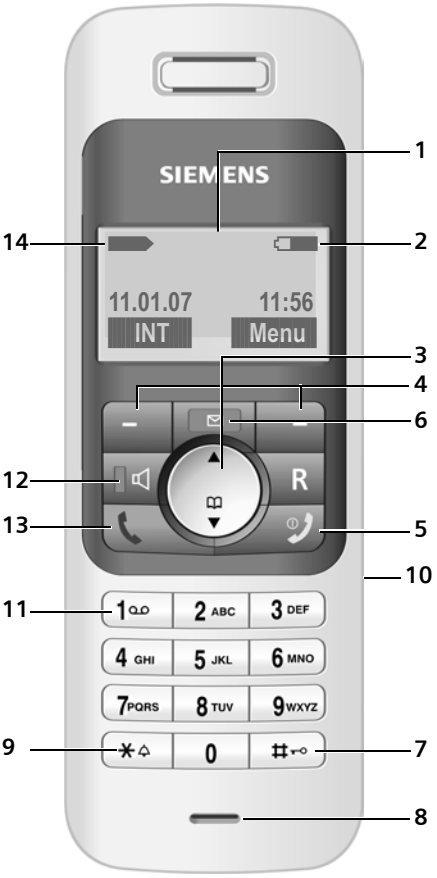
SIEMENS

Gigaset
CE460 IP R

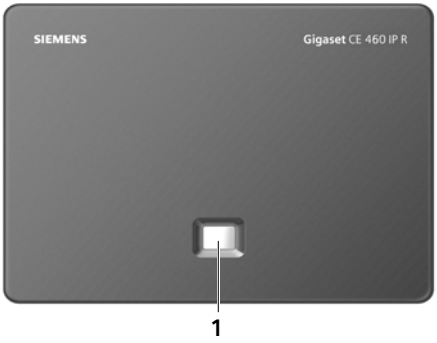
The handset at a glance



Handset keys

1 **Display** in idle status (example)
2 **Battery charge status**
(1/3 charged to fully charged)
flashes: battery almost flat
flashes: battery charging
3 **Control key** (page 31)
4 **Display keys** (page 32)
5 **End call key, On/Off key**
End call, cancel function, go back one menu level (press briefly), back to idle status (press and hold), activate/deactivate handset (press and hold in idle status)
6 **Message key**
Access calls list
Flashes: new call
7 **Hash key**
Keypad lock on/off (press and hold, page 31)
Toggle between upper/lower case letters and digits for text entry (page 124)
8 **Microphone**
9 **Star key**
Ringer tones on/off (press and hold in idle status)
10 **Connection socket for headset** (page 22)
11 **Key 1** (press and hold)
Fast access to network mailbox (page 47)
12 **Handsfree key**
Switch between earpiece and handsfree mode, open last number redial list (press in idle status)
Lights up: handsfree talking activated
Flashes: incoming call
13 **Talk key**
Accept a call, open last number redial list (press in idle status)
14 **Signal strength**
(low to high)
flashes: no reception

The base station at a glance



Base station key

1 **Paging key**
Lights up: base station is connected with the mains power supply
Flashes: data transfer to LAN/WAN connection
Press **briefly**: start paging (page 50)
Press and **hold**:
set base station to registration mode to register the handset (page 48)

Contents

Safety precautions

Warning:
Read the safety precautions and the user guide before use.
Explain their contents and the potential hazards associated with using the telephone to your children.

Only use the mains adapter supplied, as indicated on the underside of the base station.

Use only **recommended rechargeable batteries** (page 121) of the same type! Never use a conventional (non-rechargeable) battery or other battery types as this could result in significant health risks and personal injury.

Insert rechargeable batteries with the correct polarity, and use them according to this user guide (polarity symbols can be seen in the handset's battery compartment, page 8).

The operation of medical appliances may be affected. Be aware of the technical conditions in your particular environment, e.g. doctor's surgery.

Do not hold the rear of the handset to your ear when it is ringing or when the handsfree function is activated. Otherwise you risk serious and permanent damage to your hearing. The handset may cause an unpleasant humming noise in hearing aids.

Do not install the base station in bathrooms or shower rooms. The handset and base station are not splashproof (page 112).

Do not use your phone in environments with a potential explosion hazard, e.g. paint shops.

If you give your Gigaset to someone else, make sure you also give them the user guide.

All electrical and electronic equipment must be disposed of separately from general household waste using the sites designated by local authorities.
If a product displays this symbol of a crossed-out rubbish bin, the product is subject to European Directive 2002/96/EC.
The appropriate disposal and separate collection of used equipment serve to prevent potential harm to the environment and to health. They are a precondition for the re-use and recycling of used electrical and electronic equipment.
For further information on disposing of your used equipment, please contact your local authority, your refuse collection service or the dealer you purchased the product from.

Please note:
When the keypad lock is active you cannot even call emergency numbers!
Not all of the functions described in this manual are available in all countries.

Gigaset CE 460 IP R – more than just a telephone

Your Gigaset CE 460 IP R is not only a router and phone in one device that you can use to make cost-effective calls via the Internet (VoIP - Voice over IP) and with which you can connect other participants in your local network (e.g. PCs) to the Internet via the same Internet account;

your Gigaset CE 460 IP R can do much more:

- **Multiline:** Register up to **six** handsets to your base station and set up an individual VoIP account with its own phone number for each member of your family (up to six accounts with different VoIP providers). Your phone can then be reached via up to **six different phone numbers**, which you can assign to the individual handsets. If a member of your family is called on their number, only their handset will ring.
- Use **Gigaset.net** for VoIP calls. Connect your base station to the mains power supply and Internet and make calls – without making any further VoIP settings – to other Gigaset.net subscribers free of charge (page 34).
- Use the base station router wizard. When you are putting your base station into service, the wizard guides you step-by-step through the configuration of your Internet connection (page 15).
- Configure the VoIP connection directly on your handset. The connection assistant downloads general data about a VoIP provider from the Internet and guides you through entering your personal data (first account). This makes it easy for you to start using VoIP (page 18).
- Make further settings on your PC, if necessary. The phone has two Web interfaces (**router** and **phone Web configurator**), which you can access via the Web browser on your PC (page 85).
- Use your base station's firewall and NAT (Network Address Translation). This will allow you to protect your local network from unauthorised access from the Internet.
- Assign individual passwords (a system PIN and router password) to protect your base station's phones and routers against unauthorised access (page 56, page 82).
- Save up to 100 phone numbers on your handset (page 40).
- Transfer your Outlook contacts from the PC onto your handset. Or back up the handset directory on your PC (page 103).
- You can programme the keys of your handset with important phone numbers. The phone number is then dialled by simply pressing the respective key (page 41).
- Keep your hands free when making a call. Use the handsfree function on your handset (page 30) or use the convenient headset to make calls (page 22, accessories: not included in the scope of delivery).
- Keep your base station up to date. Find out about **firmware updates** on the Internet and download these to your base station (page 58, page 106).
- Use your handset as an alarm clock (page 55).

Your Gigaset CE 460 IP R has a protected operating system that offers increased security **against viruses** from the Internet.

Enjoy using your new telephone!

VoIP – making calls via the Internet

With VoIP (**V**oice **o**ver **I**nternet **P**rotocol), your calls are not made via a fixed connection as in the telephone network, but rather they are transmitted via the Internet in the form of data packets.

You can take advantage of all the benefits of VoIP with your Gigaset CE 460 IP R:

- You can make cost-effective calls at high voice quality with subscribers on the Internet, the fixed network or the mobile phone network.
- VoIP providers will give you personal numbers, with which you can be reached from the Internet, the fixed network and any mobile phone network.

To be able to use VoIP, you need the following:

- A broadband Internet connection (e.g. DSL) with flat rate (recommended) or volume-based price.
- Internet access, i.e. a DSL modem, which you can use to connect your base station's router to the Internet, and an Internet account.
- Access to the services of a VoIP provider. Open up to six accounts with **different** VoIP providers.

Base station components

The Gigaset CE 460 IP R base station includes two independent components: **the base station router** and **base station phone**, also frequently described as the router and phone in the text that follows. These components must be configured and managed separately from one another.

Base station router

- You can make router settings for the Internet connection and local network, and manage your router on your PC using the **router Web configurator** (see page 69).
- You can protect the router and its settings via an individual password. This password will **not** allow access to the base station phone settings.
- The router is supplied with the following standard settings:
  - Private IP address: 192.168.1.1
  - IP address block: 192.168.1.2 to 192.168.1.253
  - DHCP server enabled with IP address block: 192.168.1.100 to 192.168.1.150
  - Password: 0000 (4x zero)

Base station phone

- You can make phone or VoIP telephony settings with the handset or on your PC via the **phone Web configurator** (see page 85).
- The phone settings are protected with a system PIN.
- The phone is supplied with the following standard settings for connection to the router.
  - DHCP client: enabled
  - IP address: 192.168.1.150
  - Standard gateway and DNS server: 192.168.1.1
  - System PIN: 0000

An existing connection is set between the router and phone by default.

System requirements for the PC you want to use to configure your base station

- Ethernet socket
- Web browser, such as Microsoft Internet Explorer version 6.0 or higher, or Mozilla Firefox version 1.0.4 or higher

First steps

Pack contents

The pack contains:

- one Gigaset CE 460 IP R base station
- one Gigaset C46 handset
- one mains adapter for the base station
- one charging cradle incl. mains adapter
- one Ethernet cable Cat 5 with RJ45 modular jacks
- two batteries
- one battery cover
- one belt clip
- one quick guide

Firmware updates:
Whenever there are new or improved functions for your Gigaset CE 460 IP R, phone and/or router firmware updates will be made available for you to download to your base station (page 58, page 83). If this results in operational changes to your phone, a new version of the existing user guide will be published on the Internet at www.siemens.com/gigaset

Setting up the handset for use

The display is protected by a plastic film. **Please remove the protective film!**

Inserting the batteries

Warning:
Only use the rechargeable batteries recommended by Siemens Home and Office Communication Devices GmbH & Co. KG on page 121. Never use a conventional (non-rechargeable) battery or other battery types as this could result in significant health risks and personal injury. For example, the batteries could explode. The phone could also malfunction or be damaged as a result of using batteries that are not of the recommended type.

▶ Insert the batteries the right way round (see figure).

The polarity is indicated in the battery compartment.

Closing the battery cover

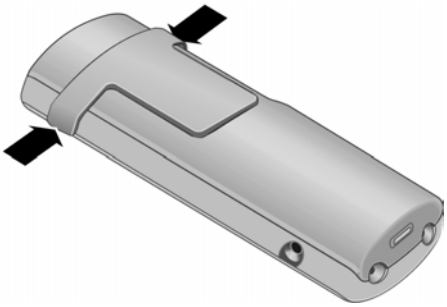
▶ First align the notches on the side of the battery cover with the lugs on the inside of the casing.

▶ Then press the cover so that it clicks into place.

Attaching the belt clip

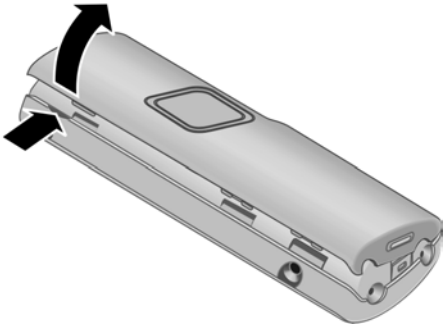
There are notches for attaching the belt clip on the side of the handset at the same height as the display.

▶ Press the belt clip onto the back of the handset so that the protrusions on the belt clip engage with the notches.



Opening the battery cover

- If fitted, remove belt clip.
- Insert a fingernail into the notch and pull the battery cover upwards.



Connecting the charging cradle

Connecting the charging cradle and mounting it on the wall (if required) is described at the end of this user guide.

- To charge the batteries, leave the handset in the charging cradle.

Please note:
– Only place the handset in the charging cradle that is intended for it.
– If the handset has switched itself off because the batteries are flat and if it is then placed in the charging cradle, it will switch itself on automatically.

For questions and problems see page 113.

Initial charging and discharging of batteries

Battery charging is indicated in the top right of the display by a flashing battery icon , or . During handset operation, the battery icon indicates the charge status of the batteries (page 1).

The correct charge status can only be displayed when the batteries are first fully charged **and** discharged through use.

- To do this, leave the handset in the charging cradle without interruption until the battery icon stops flashing in the display (around 13 hours).
- Once the batteries are fully charged, remove the handset from the charging cradle and do not put it back again until the batteries are fully discharged.

Please note:
After the first battery charge **and** discharge, you may place your handset in the charging cradle after every call.

Please note:

- Always repeat the charging and discharging procedure if you remove the batteries from the handset and reinsert them.

- The batteries may warm up during charging. This is not dangerous.
- After a while the charge capacity of the batteries will decrease for technical reasons.

Please note:
You will find explanations for the symbols and typographical conventions used in this user guide in the appendix, page 112.

Setting the date and time

Menu ➔ Settings ➔ Date/Time

Enter the day, month and year in 6-digit format and press OK. Use ◯ to move between the fields.

Enter hours and minutes in 4-digit format (e.g. 0 7 1 5 for 07:15) and press OK. Use ◯ to move between the fields.

The date and time are shown in the handset's idle display (page 1).

Registering the handset to the base station

The supplied handset is registered to the base station by default.

Instructions on how to register further handsets to the base station are given on page 48.

Installing the base station

The base station is designed for use in closed, dry rooms with a temperature range of +5 °C to +45 °C.

▶ Place or hang the base station in a central position in your flat or house.

Please note:

- Never expose the telephone to heat sources, direct sunlight or other electrical appliances.
- Protect your Gigaset from moisture, dust, corrosive liquids and vapours.
- The base station must only be operated on a LAN network (SELV network in accordance with IEC 60950-1) inside a building.

Connecting the base station

To be able to make calls via VoIP with your base station, you must connect the base station with the Internet (WAN connection). You can connect additional devices to the base station LAN connection; these devices can access the Internet via the base station router, see Figure 1.

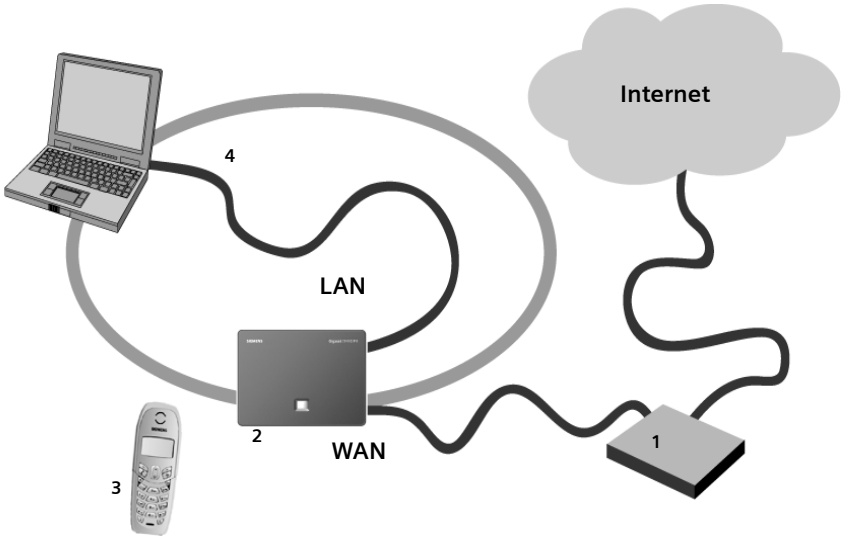


Figure 1 Base station connection

1 DSL modem for the Internet connection (WAN connection)
2 Gigaset CE 460 IP R base station
3 Gigaset C46 handset
4 Base station LAN connection, e.g.for the PC, hub, switch, router of a subnet

Follow the steps in the order given below:

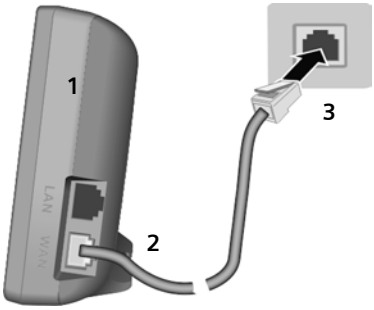
1. Connect the base station WAN connection with the DSL modem
2. Connect the base station LAN connection with the Ethernet connection on your PC
3. Connect the base station with the mains power supply

Please note:

If there are devices connected to your modem (e.g. your PC), you must first shut these down and switch them off. Then switch the modem off and disconnect it from the mains power supply.

Connecting the base station with the modem

Connect the socket labelled WAN on your base station with your DSL modem. To do this, use the Ethernet cable supplied.

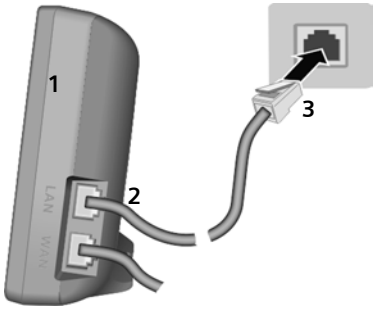


1 Side view of the base station
2 Network plug (WAN) with network cable
3 DSL modem

Connecting the PC with the base station

Before connecting a PC or laptop with the base station, please ensure:
– that a suitable network adapter is installed in/connected to your PC. Please read the operating instructions that came with the adapter.
– that the DHCP client is enabled on your PC.

Connect the socket labelled LAN on your base station with the Ethernet connection of your PC. To do this, use a category 5 (CAT5) Ethernet cable with RJ45 modular jacks on both sides.



1 Side view of the base station
2 Network plug (LAN) with network cable
3 Ethernet connection on your PC

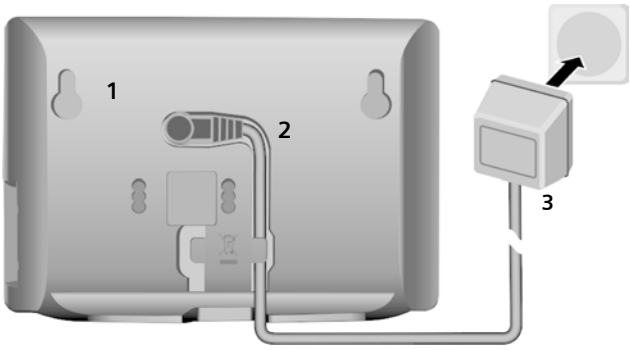
Please note:
To get started, you must connect your base station and PC **directly** via the Ethernet cable!

Connecting the base station and modem with the mains power supply

Reconnect your modem to the mains power supply and turn it on.

Please note:
With some modems, you must wait a few minutes before turning it back on. Please consult your modem description.

As soon as the LEDs on the modem light up, you can connect the base station with the mains power supply.



1 Underside of the base station
2 Insert the 230 V mains adapter into the socket on the base station.
3 Plug the mains adapter into a power socket.

The LED on the front of the base station lights up.

Please note:

- Keep the mains adapter **plugged in at all times** for operation, as the base station does not work without a mains connection.
- Only use the mains adapter supplied with the base station.

Configuring the Internet connection on the base station router

Make the basic Internet access settings for the base station router via your PC.

All data required for the configuration of the Internet connection can be obtained from your Internet service provider.

Establishing the connection to the router Web configurator

- Switch on your PC.
- If necessary, enable DHCP on your PC, i.e. activate the **Obtain IP address automatically** option in the network settings for the LAN connection.
- Start the Web browser (e.g. Internet Explorer or Firefox) on your PC.
- In the Web browser's address field, enter the name or private IP address (LAN address) of the base station router:

  http://router.gigaset or

  http://192.168.1.1 (default setting)

The **Welcome** registration page of the router opens.

- Enter the router password (case sensitive) and click **OK**. 0000 is preset as the router password by default.

Please note:
For security reasons you should change the router password at a later stage (page 82).

When registration is finished, the router's **Home** page opens.

Starting the wizard for the basic router settings

The wizard for the basic router settings helps you to put your base station into service and guides you step-by-step through the configuration process with the most important settings.

- Click the **Basic Setup Wizard** entry to start the wizard.

The **Regional Options** Web page is displayed.

The wizard is operated as follows:
When you have made all the settings on a wizard Web page, click **Next>**. Click the **<Back** button to return to the previous page. The **Cancel** button ends the wizard without changing the configuration of your base station.

Selecting the time zone for the location of the router - selecting regional options

- From the **Country** list, select the country in which your base station is being operated.

  By selecting the location, you ensure that your base station can function properly in that location.

  In **Time Zone**, the time zone that applies to the location is displayed. It indicates the difference between the local standard time (not summer time) and the co-ordinated world time UTC (Co-ordinated Universal Time; previously GMT = Greenwich Mean Time).

  Information about the time zone is important for various time-dependent operations on the Internet. Access control to particular services can also be defined using time-based rules.

- Click the **Next>** button.

The **Internet Connection** Web page is displayed.

Setting up an Internet connection

Set up your base station's Internet connection. To do this, enter the information received from your Internet service provider (ISP) in the fields of the Web page.

- First select the WAN connection type from the **Connection** list.

The connection type depends on what kind of Internet connection you have and on the agreements with your Internet service provider. The access data received from your Internet service provider for registration shows you which connection type you must select.

The options are **PPPoE**, **Static IP Address**, **Dynamic IP Address** and **PPTP**.

After you have made your selection, further fields will be displayed according to your connection type; here you must enter the most important data required for an Internet connection. Further information about the individual connection types and the access data required in each case can be found in the section "Connection – entering access data for the Internet connection" on page 71.

For the Internet connection via PPPoE, your router is set so that it is permanently connected with the Internet. This means that you can always be reached for VoIP calls.

Defining the maximum bandwidth for data uploads

The **Upstream Rate** field is displayed on the **Internet Connection** Web page, irrespective of the **Connection** chosen. These parameters affect the voice quality of your VoIP calls.

In the **Upstream Rate** field, enter the maximum amount of your Internet connection's bandwidth that should be available for data uploads. First enter the upload stream rate given by your Internet service provider. Then carry out tests to check that voice quality is good during calls made at the same time as data is being uploaded and adjust the rate accordingly.

You can find detailed information about this in the full user guide (Quality of Service – QoS). This is available on the Internet at: www.siemens.com/gigaset.

More entries and settings for the Internet connection can be made at a later stage via the **Router Settings** menu of the router Web configurator (page 71).

Completing the router configuration

▶ After entering your access data, click **Next>**.

The **Apply Settings** Web page is displayed.

▶ Click **Finish**. The start screen will be displayed again.

The **Internet Status** is displayed on the right-hand side of the start screen. If your settings were successful, the status is **Connected**. Please note that it can take some time for the router to establish the Internet connection.

▶ Click **Log Off** (top right-hand side of the Web page) to log off from the router Web configurator.

You are now able to establish VoIP connections within Gigaset.net (page 34).

Test the Internet connection by surfing, i.e. entering a public URL in the Web browser address field (http://www....).

Making settings for VoIP telephony on the base station phone

Before you can use the Internet (VoIP) to phone any other subscribers on the Internet, the fixed network or the mobile phone network, you need the services of a VoIP provider.

Precondition: You have registered (e.g. via your PC) with a VoIP provider and set up an account. The provider must support the VoIP SIP standard.

The following phone settings are necessary in order for you to use VoIP. You will receive all information from your VoIP provider:

- Your user name with the VoIP provider, if this is required by the VoIP provider
- Your registration name
- Your password with the VoIP provider
- General settings for your VoIP provider (server addresses etc.)

The connection assistant will help you with the settings.

Before making the settings below, test the VoIP connection of your base station with the echo service from Gigaset.net:

▶ Dial 1234#9 on your handset and press the talk key .

If the connection has been correctly established, you will hear your echo.

If problems with your phone connection arise after you have made the VoIP settings below, check whether you have correctly entered your access data or contact your VoIP provider.

Please note:

Here is a description of how to make settings on your handset.

You can also make settings via your phone's Web configurator. You can start this, e.g. directly from the start screen of the router Web configurator. To do this, click **Telephony Settings**. You will find the description of the phone Web configurator from page 85 onwards.

Starting the connection assistant

Prerequisite: The base station is connected with the mains power supply and the Internet.

Please note:
For your base station, i.e. for the phone and router, dynamic assignment of the IP address is preset (DHCP enabled).
If you have disabled DHCP on the router, you must first assign your phone a fixed IP address and save the router's private IP address (192.168.1.1 by default) as the standard gateway and DNS server on your phone, see page 59.

If the handset battery is sufficiently charged, the message key ✉ on the handset will flash (around 20 minutes after you have put the handset in the charging cradle).

▶ Press the message key ✉.

You will see the following display:

Yes Press the display key to start the connection assistant.

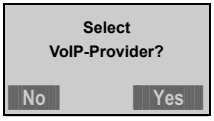
Enter the system PIN of the base station (the default is 0000) and press OK.

If you press No, the procedure that follows is described under "Entering names in the Gigaset.net directory" on page 20.

Please note:
The connection assistant will also start automatically if you try to establish a connection via the Internet, before you have made the necessary settings.
You can also call up the connection assistant at any time via the menu (page 61).

Downloading data from the first VoIP provider

You will see the following display:



Yes Press the display key.

The phone establishes an Internet connection to the Siemens server, where various profiles with general access data are available for different VoIP providers. If the phone cannot establish the connection, **Server not accessible!** will be displayed. See page 21 for details on how you can test/establish the Internet connection if necessary.

The message **Select country** appears in the display.

After changing the display:

Select country and press OK.

Select provider is displayed.

After changing the display:

◯ Select your VoIP provider and press OK.

The necessary data for your VoIP provider is downloaded and saved on the phone.

Please note:
If the data for your VoIP provider is not offered for download, you must make the necessary settings with the Web configurator at a later stage (page 90).
Press the display key Back twice. You can then conduct the following steps with the connection assistant (see "Entering user data for your first VoIP account").

Entering user data for your first VoIP account

Enter the VoIP user data for the first VoIP account. This data can be obtained from your VoIP provider.

You can enter five additional VoIP accounts (VoIP phone numbers) via the Web configurator at a later stage (page 90). Your phone can then be reached via up to six different phone numbers. You can assign the phone numbers to the individual handsets that are registered with the base station as sending and receiving numbers (page 100).

Username:
Is only displayed when your provider requires a user name.
Enter name and press OK.

Authentication Name:
Enter name and press OK.

Authentication Password:
Enter password and press OK.

Please note:
When making these entries, please remember the VoIP user data is case sensitive. If necessary, press and hold the # key to switch between upper and lower case and digits.

If you have made all the necessary entries, the Gigaset.net assistant is started. You have the option of entering yourself in the **Gigaset.net** online directory with your own choice of name.

This step is only carried out when the device is first put into service (when the connection assistant is started up for the first time). You can create the entry via the Gigaset.net directory (page 34).

Entering names in the Gigaset.net directory

With Gigaset.net you can call other Gigaset.net users directly over the Internet free of charge, without setting up an account with a VoIP provider and without making any further settings. You can find Gigaset.net subscribers by carrying out a name search in the Gigaset.net (page 34) directory.

The following appears in the handset's display:

Yes Press the display key if you want to enter yourself in the Gigaset.net directory. If you press **No**, the procedure that follows is described under "Completing the settings".

Own Gigaset.net name:
Enter the name that you would like to be listed under in the Gigaset directory and press **OK**. The name may contain up to 25 characters.

A connection to the Gigaset.net server is established.

If there is already an entry under this name, you receive a message to this effect and you will be asked to enter a name again.

If an entry in the Gigaset.net directory is successful, the message "**Name added to Gigaset.net!**" is displayed briefly.

If the attempt to create the entry fails (e.g. because the phone is not connected to the Internet), a message to this effect is displayed briefly, see page 21. You can then create the entry later via the Gigaset.net directory (page 34).

Completing the settings

The handset returns to idle status.

If all the settings for your first VoIP account are correct and if the phone can establish a connection to the VoIP server, then the internal name of the handset will be displayed:

You can now make calls with your phone via the Internet!

Please note:
To ensure that you can always be reached via the Internet, your base station router has been set so that it is continuously connected to the Internet.

No connection to the Internet/VoIP server

If one of the following messages is displayed instead of the internal name after the connection assistant is closed, then either a fault has occurred or your information was incomplete:

Server not accessible!

The phone has no connection to the Internet.

- Check the cable connection between the base station and the modem/Internet connection.
- Check your router's Internet status:
  - Start the router Web configurator (page 69).

  The Internet Status is displayed on the start screen. If necessary, check the access data stored in the router (page 71).
- Check whether the IP address settings for the base station phone and base station router are compatible.

  Please note the following:
  - The IP address for the phone must belong to the address block for the router. For example: the first three parts of the IP addresses for the phone and the router in subnet mask 255.255.255.0 must be identical.
  - The IP address for the phone must not be assigned to any other LAN subscriber. If the DHCP server for the router is enabled, then no static IP address can belong to the address block that is reserved for dynamically assigning IP addresses (default setting: 192.168.1.100 – 192.168.1.150)
  - If the phone is to be dynamically assigned an IP address, then the router's DHCP server has to be activated.
  - Find the phone's IP address via the handset menu:
    Menu ➜ **Settings** ➜ **Base** ➜ **Local Network** ➜ (enter system PIN) ➜ **IP Address**
  - Start the phone Web configurator with the IP address (page 65).

  If no connection can be established:
  - change the settings on the router (activate DHCP server, change DHCP settings, see page 80) or
  - activate dynamic assignment of address to the phone (page 60) or
  - change the phone's (fixed) IP address (page 60).

Recommendation:
You should restart your base station and the connected devices (PC) as soon as you make changes in your LAN to IP addresses or address blocks. During the restart you should start the base station first (page 83) and then the connected devices (PC). This will deactivate old IP addresses and force new dynamic IP addresses to be assigned/requested.

SIP registration failed!

- Your personal data for registering with the VoIP provider may have been entered incompletely or incorrectly.
  - Check your entries for **Username**, **Authentication Name** and **Authentication Password**. In particular, check your use of upper and lower case.
    To do this, open the following menu on your handset:
    Menu ➜ **Settings** ➜ **Base** ➜ **Telephony** ➜ **VoIP**
- The server address for the VoIP server has not yet been entered, or has been entered incorrectly.
  - Start the phone Web configurator.
  - Open the following Web page: **Settings** ➜ **Telephony** ➜ **Connections**.
  - Edit the server address where necessary.

Please note:

– STUN (Simple Transversal of UDP over NAT) should always be deactivated on your base station phone (default setting), and a port number from the block 5056 – 5071 should be set for the local SIP port (default 5060).
Check these settings if you cannot hear the other caller or if you cannot be reached.
You can set STUN mode (page 94) and the local SIP port (page 102) via the phone Web configurator.

– If port forwarding is activated on your router for the ports that have been registered as the SIP port (default 5060) and the RTP port (default 5004), it makes sense to assign the phone a static IP address (otherwise you may not be able to hear the other party during VoIP calls), see page 59.
Please note that the IP address and subnet mask depend on the router's address block.
You must also enter the standard gateway and DNS server. The IP address for the router is generally entered here.

You will find other messages and possible measures in the "Questions and answers" section on page 113.

Belt clip and headset

By using a belt clip and headset (optional) you can easily make your handset a constant companion.

Attaching the belt clip

There are notches for attaching the belt clip on the side of the handset at approximately the same height as the display.

- Press the belt clip onto the back of the handset so that the protrusions on the belt clip engage with the notches.

The tongue of the belt clip must face the battery compartment.

Connection socket for headset

You can use headsets with jack connectors. The following models have been tested and are therefore recommended: HAMA Plantronics M40, MX100 and MX150.

The transmission quality of other models cannot be guaranteed.

Menu trees

Phone menu

There are two ways to select a function:

Using number combinations ("shortcut")

- To open the main menu, press Menu with the handset in idle status.
- Enter the number combination that is in front of the function in the menu tree.
- **Example:** Menu 4 2 2 for "Set handset language".

Scrolling through the menus

- To open the main menu, press Menu with the handset in idle status.
- Scroll to the function with the control key ⊙ and press OK.

2 Alarm Clock page 55

2-1	Activation
2-2	Wake up time

3 Audio Settings

3-1	Ringer Volume			page 54
3-2	Ringer Melody	3-2-1	External Calls	page 54
		3-2-2	Internal Calls	
		3-2-3	Alarm Clock	
3-3	Advisory Tones			page 55
3-4	Battery Low	3-4-1	Off	page 55
		3-4-2	On	
		3-4-3	During Call	

4 Settings

4-1	Date/Time					page 11
4-2	Handset	4-2-1	Display	4-2-1-1	Screensaver	page 52
				4-2-1-2	Colour Scheme	
				4-2-1-3	Contrast	
				4-2-1-4	Backlight	
		4-2-2	Language			page 52
		4-2-3	Auto Answer			page 53
		4-2-4	Register Handset			page 48
		4-2-5	Reset Handset			page 56
4-3	Base	4-3-1	Calls List Type	4-3-1-1	Missed Calls	page 45
				4-3-1-2	All Calls	
		4-3-2	Music on hold			page 57
		4-3-3	System PIN			page 56
		4-3-4	Base Reset			page 57
		4-3-5	Additional Features	4-3-5-1	Repeater Mode	page 58
		4-3-6	Local Network	4-3-6-1	dynamic IP address	page 60
				4-3-6-2	IP Address	page 60
				4-3-6-3	Subnet Mask	page 60
				4-3-6-4	DNS Server	page 61
				4-3-6-5	Default Gateway	page 61
		4-3-7	Telephony	submenu see page 25		
		4-3-8	Firmware Update			page 58

5 Voice Mail

5-1	Set Key 1	5-1-1	Network Mailbox			page 47

6 Select Services

6-1	VoIP	6-1-6	For All Calls	6-1-6-1	Call Divert	page 38
				6-1-6-3	Call Waiting	page 38

Submenu "Settings ➔ Base ➔ Telephony" 4-3-7

4-3-7	Telephony	4-3-7-2	Connection Assistant			page 61
		4-3-7-7	VoIP	4-3-7-7-1	Status on HS	page 63
				4-3-7-7-2	Select VoIP Provider	page 61
				4-3-7-7-3	Username	page 62
				4-3-7-7-4	Authentication Name	page 62
				4-3-7-7-5	Authentication Password	page 62

Router Web configurator menu

Home			page 65
Basic Setup Wizard	the basic router settings		page 15
Router Settings			
	Internet		
		Connection	page 71
		Firewall	page 74
		Address Translation (NAT)	page 75
		DNS	page 78
		QoS	page 78
		Routing	page 79
	Local Network		page 80
		DHCP Clients	page 81
	Administration		
		Regional Options	page 81
		Remote Management	page 82
		Load Firmware	page 83
		Security Log	page 83
		Reboot	page 83
Telephony Settings	connection to phone Web configurator		page 85
Status			page 84

Phone Web configurator menu

Home			page 65
Settings			
	IP Configuration		page 87
	Telephony		
		Connections	page 90
		Audio	page 97
		Number Assignment	page 100
		Dialing Plans	page 103
		Directory	page 103
		Advanced Settings	page 101
	Messaging		
		Messenger	page 109
		E-Mail	page 111
	Miscellaneous		page 106, page 107
Status			
	Device		page 108
Router-Settings	connection to router Web configurator		page 69

Making calls

Making an external call

External calls are calls made via the Internet (VoIP).

- Enter the required number/IP address using the keypad.
- Press the talk key .

Please note:
- You can specify for each handset registered to your base station which of your VoIP phone numbers (which VoIP account) should be used for outgoing external VoIP calls (page 100).
- If you use VoIP to make a call to the fixed network, you may also have to dial the area code for local calls (depending on the VoIP provider). You can also enter the area code in the base station configuration so you do not always need to enter it for local calls (via the phone Web configurator, page 103). It will then be inserted automatically for local calls.

Cancelling the dialling operation

You can cancel the dialling operation with the end call key .

Entering an IP address

You can also enter an IP address instead of a phone number.

- Press the star key * to separate the sections of the IP address (e.g. 149*246*122*28).
- If necessary, press the # key to attach the SIP port number of the person you are calling (page 144) to the IP address (e.g. 149*246*122*28#5060).

Please note:
- Dialling with the directory (page 40) or last number redial list (page 43) saves repeated keying of phone numbers.
- You can assign a number from the directory to a key for speed dialling (page 41).
- You can edit or add to any phone number selected by means of speed dial or from the directory and use it for the current call.

Ending a call

Press the end call key.

Accepting a call

The handset indicates an incoming call in three ways: by ringing, by a display on the screen and by the flashing handsfree key 🔊.

Please note:
The handset will indicate the following calls:
– Calls to receiving numbers that are assigned to this handset (page 100).
– Calls to receiving numbers that are not allocated as receiving numbers to any handsets.

You can accept the call by:

- Pressing the talk key 📞 .
- Pressing the handsfree key 🔊.

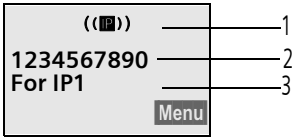
If the handset is in the charging cradle and the **Auto Answer** function is activated (page 53), the handset will take a call automatically when you lift it out of the cradle.

If the ringer tone is intrusive, press **Menu** ➔ **Silent**. You can accept the call so long as it is displayed on the screen.

Call display

When you receive an incoming call, the caller's number and/or the name they have specified is displayed on the screen.

If the caller's number is stored in your directory, the name from the directory will be displayed instead.



1 Ringer icon (VoIP)
2 Number or name of caller (abbreviated if necessary).
If no number is transmitted, **External Call** will be displayed.
3 Receiving number: indicates which of your VoIP phone numbers the caller has dialled. You assign the names when you enter the VoIP phone numbers into the phone (page 89). For calls from Gigaset.net, **For Gigaset.net** is displayed.

Handsfree talking

In handsfree mode, instead of holding the handset to your ear you can stand it up or lay it down, e.g. on the table in front of you, to allow others to participate in the call.

Activating/deactivating handsfree mode

Activating while dialling

Enter the number and press the handsfree key.

▶ You should inform your caller before you use the handsfree function so that they know someone else is listening.

Switching between earpiece and handsfree mode

Press the handsfree key.

Switch handsfree on and off during a call.

If you wish to place the handset in the charging cradle during a call:

▶ Press and hold the handsfree key while placing the handset in the charging cradle. If the handsfree key does not light up, press the key again.

For how to adjust the loudspeaker volume, see page 53.

Muting the handset

You can deactivate the microphone in your handset during an external call. The other party hears hold music.

Muting the handset

INT Press the display key.

Cancelling muting

Back Press the display key.

Operating the handset

Activating/deactivating the handset

Press and **hold** the end call key.

You will hear the confirmation tone.

Activating/deactivating the keypad lock

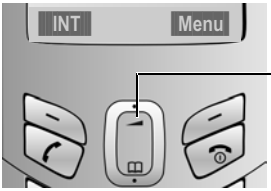
Press and **hold** the hash key.

You will hear the confirmation tone. The icon appears in the display when the keypad lock is activated.

The keypad lock deactivates automatically when you receive a call and activates again after the call.

Please note:
If the keypad lock is activated and you accidentally press a key, an advisory message will be displayed on the screen. Press **and hold** the hash key to deactivate the keypad lock.

Control key



1 Control key

In this user guide, the side of the control key that you must press in the given operating situation is shown in black (top, bottom). Example: for "press up on the control key".

The control key has a number of different functions:

When the handset is in idle status

Adjust the ringer volume of the handset (page 54).

Open the directory.

In lists and menus

/ Scroll up/down line by line.

In an input field

/ Move the cursor **left** or **right**.

During an external call

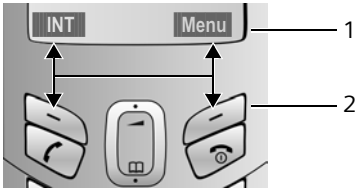
◯ Open the directory.

◯ Adjust the loudspeaker volume for earpiece and handsfree mode.

Display keys

The current display functions are shown in the bottom display line in reversed highlights. The function of the display keys changes depending on the particular operating situation.

Example:



1 Current display key functions
2 Display keys

The most important display symbols are:

Back Go back one menu level or cancel the operation.

INT Make an internal call (page 50).

Menu Open the main menu or a context-dependent menu.

OK Confirm highlighted selection.

C Delete key: deletes one character at a time from right to left.

Reverting to idle status

You wish to return to idle status from anywhere in the menu:

▶ Press and hold the end call key .

Or:

▶ Do not press any key: after 2 minutes the display will **automatically** revert to idle status.

Changes that you have not confirmed/saved by pressing OK will be rejected.

For an example of the display in idle status, see page 1.

Menu guidance

Your telephone's functions are accessed using a menu that has a number of levels.

Main menu (first menu level)

▶ To open the main menu, press Menu with the handset in idle status.

Accessing a function

▶ Scroll to the function with the control key ⊙ and press OK.

Or:

▶ Enter the number that is in front of the function in the menu tree (page 23).

The corresponding submenu (the next menu level) is opened.

Submenus

The functions in the submenus are displayed as lists.

To access a function:

▶ Scroll to the function with the control key ⊙ and press OK.

Or:

▶ Enter the number combination that is in front of the function in the menu tree (page 23).

A short press on the end call key ✆ returns you to the previous menu level / cancels the operation.

Correcting incorrect entries

- Navigate to the incorrect input with the control key if ⇆ is displayed.
- Press C to delete the character to the left of the cursor.
- Insert a new character to the left of the cursor.
- When entering the time and date etc., edit the flashing character.

You will find explanations for the symbols and typographical conventions used in this user guide in the appendix, page 112.

VoIP telephony via Gigaset.net

You can use **Gigaset.net** to make free phone calls via the Internet **directly** to other Gigaset.net users, without having to set up an account with a VoIP provider or make any further settings. You simply have to connect your phone to the power supply and the Internet connection and, if necessary, enter yourself in the Gigaset.net online directory under a name of your choice (page 20/page 36).

Gigaset.net is a VoIP service from Siemens Home and Office Communication Devices GmbH and Co KG, which all users of a VoIP phone that supports Gigaset.net can use.

You can call other subscribers to Gigaset.net **free of charge**, i.e. there are no telephone charges other than the costs for your Internet connection. Connections to/from other networks are not possible.

Every Gigaset VoIP device is assigned a Gigaset.net phone number by default (page 119).

All registered subscribers are included in the Gigaset.net directory, which you are able to access.

An echo service is available on the phone number **1234#9** for you to check your VoIP connection. After an announcement, the echo service sends back the voice data you have received immediately in the form of an echo.

Exclusion of liability
Gigaset.net is a voluntary service provided by Siemens Home and Office Communication GmbH & Co KG with no liability or guarantee for the availability of the network. This service can be terminated at any time with a notice period of three months.

Please note:
If you do not use your Gigaset.net connection for six weeks, it is automatically deactivated. You cannot be reached for calls from the Gigaset.net.
The connection is reactivated:
- as soon as you start a search in the Gigaset.net directory or
- make a call via the Gigaset.net (dial a number with #9 at the end) or
- activate the connection via the Web configurator (page 96)

Searching for subscribers in the Gigaset.net directory

Your handset is in idle status.

- Open the directory with the ⓢ button.
- Select the **<Gigaset.net>** entry and press the talk key 📞 .

Please note:
- Calls to the Gigaset.net directory are always **free of charge**.
- If the **<Gigaset.net>** entry has been accidentally deleted from your handset directory, dial **1188#9** (the Gigaset.net directory phone number) and press the talk key 📞 , or create a new directory entry with this number.

Once the connection has been established, you will be asked to enter a name that you want to search for.

Nickname:

Enter the name or part of a name (max. 25 characters).

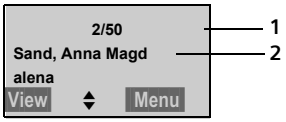
Menu Press the display key.

Start search

Select and press **OK**.

If the search has been successful, a hit list will be displayed of all the names that begin with the specified character string.

Example:



1. 2/50: Entry number/number of hits
2. Name of the entry, the name is displayed in full, if necessary over several lines

You can scroll through the hit list with ⊙.

If it has **not** been possible to find a **matching** entry, a corresponding message is displayed. You have the following options:

- Press the display key **New** to start a new search.

Or

- Press the display key **Change** to change the search criteria. The previously entered name is copied and can be edited.

If there are **too many matching** entries in the Gigaset.net directory, the message **Too many entries found!** is displayed instead of a hit list.

- Press the display key **Refine** to start a refined search. The previously entered name is copied and can be edited/expanded.

Calling subscribers

⊙ Select the subscriber from the hit list.

✆ Press the talk key.

Viewing the subscriber's number

⊙ Select the subscriber from the hit list.

View Press the display key.

The Gigaset.net number and name will be shown in full, if necessary using more than one line.

Please note:
You can open the Gigaset.net directory and establish connections, even if you have not entered yourself in the Gigaset.net directory.

Using other functions

Precondition: The hit list is displayed.

(Select entry) ➜ Menu

The following functions can be selected with :

Copy to Directory

Copy the number to the handset directory. The number and name (where appropriate abbreviated, max. 16 characters) are copied to the directory.

▶ Edit and save entry where appropriate (page 40).

The hit list is displayed again.

New search

Start a search with a new name (page 35).

Refine search

You can use the refined search to limit the number of hits for a previous search. The name from the previous search is copied and can be edited/expanded.

Own information

See "Viewing, editing and deleting own entry" on page 36

Please note:
If you select a Gigaset.net number from the handset directory, the connection is automatically established via the Internet.

Viewing, editing and deleting own entry

You have the following options:

- Edit the name of your entry in the Gigaset.net directory.
- Delete your entry from the directory.
- If you did not enter a name when using the phone for the first time (page 20), specify a name and enter yourself in the directory.

Viewing own entry

You are connected to the Gigaset.net directory:

▶ Select Menu ➜ Own information and press OK.

Your Gigaset.net number and, where applicable, your currently entered name are displayed.

Entering/editing a name

Change Press the display key.

Edit name or enter new name (max. 25 characters) and press OK.
You can delete the name with C.

If there is not yet an entry with this name in the Gigaset.net directory, the name is saved. A message to this effect is displayed. The handset switches to idle status.

If there is already an entry with this name, or the entered name contains impermissible characters, you will be requested to enter a different name.

Please note:
If you delete the name, your entry will be deleted from the directory. You are no longer "visible" to other Gigaset.net subscribers. However, you can still be reached via your Gigaset.net number. For information on how to display the number, see page 119.

Calling a Gigaset.net subscriber

You can call a Gigaset.net subscriber directly via the Gigaset.net directory (see above) or via their Gigaset.net number:

/ Enter the Gigaset.net number (including the #9) or select from the handset directory.

Press the talk key.

Every number ending with #9 is dialled via Gigaset.net.

Network services - VoIP

Settings for all calls

Call forwarding takes place locally in your base station.

Please note that call forwarding may incur additional costs. Ask your VoIP provider.

Setting up call forwarding

Menu ➔ Select Services ➔ VoIP ➔ For All Calls ➔ Call Divert

A list of your phone's configured and activated VoIP phone numbers will be displayed. VoIP phone numbers for which call forwarding is activated are identified with ✓.

Setting up call forwarding, changing the setting

◯ Select the VoIP phone number for which you want to activate or change call forwarding and press OK.

All Calls / No Answer / When Busy
Select and press OK (✓ = on).

On Select and press OK.

If necessary, enter the number to which the call is to be forwarded. You can enter a fixed network, VoIP or mobile number.

OK Press the display key.

Press and **hold** (idle status).

Call forwarding is activated for the selected VoIP phone number (receiving number).

Deactivating call forwarding

◯ Select the VoIP phone number for which you want to deactivate call forwarding and press OK.

OK Press the display key.

Off Select and press OK.

Press and **hold** (idle status).

Call forwarding is deactivated.

Activating/deactivating call waiting

When call waiting is activated, the caller will hear the ringing tone if you are already making a call via your VoIP connection. This call is signalled acoustically and also shown on your handset screen.

Menu ➔ Select Services ➔ VoIP ➔ For All Calls ➔ Call Waiting

On/ Off Select and press OK.

Press and **hold** (idle status).

Functions during a call

The following functions are only available if you permit two parallel VoIP connections for your telephone (see page 97, **Allow 1 VoIP call only**).

Consultation

During a VoIP call:

Menu ➜ **External Call**

Enter the number or copy from the directory.

Press the talk key.

The number will be dialled via the handset's VoIP sending number.

Please note:
- If the second VoIP connection is busy or there is no second VoIP connection available, you will hear a busy tone and return to the first participant.
- After a few seconds, the number selected for a consultation call is saved in the last number redial list.
- If the participant does not answer: press . You are reconnected to the first participant.

If the participant answers, you have the following options:

- Toggling:
  - ▸ Use to toggle between the participants.
  - End call with active participant: Menu ➜ **End Active Call**.
- Conference call:
  - Talk to both participants: Menu ➜ **Conference Call**.
  - End conference call (toggle): Menu ➜ **End Conference**.
  - End call with both participants: Press the end call key .

Accepting call waiting

Precondition: Call waiting is activated (page 38). You are making an internal call or a call via VoIP.

Menu ➜ **Accept Call Waiting**

If the first call was an internal call, the internal connection is ended.

If the first call was an external call, you can opt to toggle or hold a conference call.

Please note:
An internal call waiting is shown on the display. You can neither accept the internal call nor reject it.

Using the directory and lists

The options are:

- Directory
- Last number redial list
- Calls list

You can store up to 100 entries in the directory.

You can create a personalised directory for your own individual handset. However, you can send the list or individual entries to other handsets (page 42).

Directory

In the **directory** you can store numbers and corresponding names.

▶ With the handset in idle status, open the directory by pressing the ⌂ key.

Length of an entry

Number: max. 32 digits
Name: max. 16 characters

Please note:

– Some VoIP providers do not support local calls for calls to the fixed network. In this case, always enter the fixed network number with the area code in your directory.
Alternatively, you can also use the Web configurator to define an area code, which is automatically prefixed to all numbers that are dialled without an area code for calls via VoIP (see Setting Area Code Predialling, page 103).
– You can assign a number from the directory to a key for speed dialling (page 41).

Saving the first number in the directory

⌂ ➜ Directory empty New Entry?
Enter the number and press OK.
Enter the name and press OK.

Please note:
To find out how to enter IP addresses, turn to page 28.

Storing a number in the directory

⌂ ➜ Menu ➜ New Entry
Enter the number and press OK.
Enter the name and press OK.

Selecting a directory entry

Open the directory.

You have the following options:

- Use to scroll to the entry until the required name is selected.
- Enter the first character of the name, or scroll to the entry with .

Dialling with the directory

→ (select entry; page 41)

Press the talk key.

Please note:
You can only dial IP addresses via VoIP.

Managing directory entries

You have selected an entry (page 41).

Editing entries

Menu → Edit Entry

Edit the number if required, and press OK.

Edit the name if required, and press OK.

Assigning a key

You can assign keys 0 and 2 to 9 with a number. The number is then dialled by simply pressing a key.

Menu → Shortcut

Assign the current entry for speed dial to a selected key.

Using other functions

→ (select entry; page 41) → Menu

The following functions can be selected with :

Use Number
Edit or add to a saved number. Then dial or use other functions with Menu.

Delete Entry
Delete selected entry.

Send Entry
Send a single entry to another handset (page 42).

Delete List
Delete **all** directory entries.

Send List
Send the complete list to another handset (page 42).

Using speed dial keys

▸ Press and **hold** the required speed dial key.

Sending the directory to another handset

Preconditions:

- The sending and receiving handsets must both be registered on the same base station.
- The other handset can send and receive directory entries.

(select entry; page 41) ➜ Menu ➜ Send Entry / Send List

Enter the internal number of the receiving handset and press OK.

A successful transfer is confirmed by a message and confirmation tone on the receiving handset.

If you have sent a single entry, you can transfer another entry with OK.

Please note:

- Entries with identical numbers are not overwritten in the receiver handset.
- The transfer is cancelled if the phone rings or if the memory of the receiving handset is full.

Copying a displayed number to the directory

You can copy numbers to the directory that are displayed in a list, e.g. the calls list or last number redial list, to the directory.

A number is displayed.

Menu ➜ Copy to Directory

▶ Complete the entry (page 40).

Copying a number from the directory

You can open the directory in many operating situations e.g. to copy a number. Your handset need not be in idle status.

Open the directory.

Select an entry (page 41).

Last number redial list

The last number redial list contains the ten numbers last dialled with the handset (max. 32 numbers). If one of the numbers is in the directory, the corresponding name will be displayed.

Open the last number redial list:

▶ With the handset in idle status, press the talk key ✆ or handsfree key 🔊.

Dialling from the last number redial list

✆ / 🔊 Open the last number redial list.

Select an entry.

✆ / 🔊 Press the talk/handsfree key. The number is dialled

Managing entries in the last number redial list

✆ / 🔊 Open the last number redial list.

Select an entry.

Menu Press the display key.

The following functions can be selected with :

Use Number
(as in the directory, page 41)

Copy to Directory
Copying a displayed number to the directory (page 42).

Delete Entry
(as in the directory, page 41)

Delete List
(as in the directory, page 41)

Opening lists with the message key

You can use the message key ✉ to open the following lists:

- Network mailbox, see page 47

  Preconditions: Your network provider supports this function and the network mailbox is configured for fast access (page 47).
- Calls list

An advisory tone sounds as soon as a **new message** arrives in a list. The message key ✉ flashes. In idle status, the display shows an icon for the new message.

Icon	New message...
	... in the network mailbox
	... in calls list

The number of new entries is shown beneath the corresponding icon.

When you press the flashing key ✉, you will see all the lists that contain new messages. If only one list contains new messages, this will be opened automatically.

Please note:
If calls are saved in the network mailbox you will receive a message if the appropriate settings have been made (see the network mailbox instructions of your VoIP provider).

Calls list

Depending on the type of list set, the calls list contains

- all incoming and outgoing calls
- missed calls only

The numbers of the last 30 calls are saved.

Multiple calls from the same number will be stored once in the list of missed calls (the latest call).

Multiple calls from the same number are stored several times in the list of answered calls.

Please note:
- Only calls to the receiving numbers assigned to a handset are stored in a handset's calls list (page 100).
- If no receiving numbers are assigned, all calls will be stored in the calls list for all handsets.

The calls list is displayed as follows:

Calls List: 01+02

Number of new entries + number of old, read entries

Setting the calls list type

Menu ➔ Settings ➔ Base ➔ Calls List Type

Missed Calls / All Calls

Select and press OK (✓ = on).

Press and **hold** (idle status).

The calls list entries are retained when you change the list type.

Opening the calls list

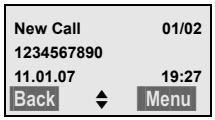
✉ ➔ Calls List: 01+02

Select entry.

The last incoming call is displayed in the **calls list**.

List entry

Example of a list entry:



- Status of entry
  In the calls list
  New Call: new missed call.
  Old Call: entry already read.
  Call recv.: call taken.
- Entry number
  01/02 means, for example: the first entry of a total of two entries.
- Number or name of caller
  You can add the caller's number to the directory (page 42).
- Call date and time (if set, page 11).

Selecting from the calls list

✉ ➔ Calls List: 01+02

Select entry.

Press the talk key.

Managing entries in the calls list

✉ ➔ **Calls List: 01+02**

◯ Select entry.

Menu Press the display key.

The following functions can be selected with ◯:

Delete Entry
As in the directory, page 41

Copy to Directory
Copy the number to the directory (page 42).

Show Name
If a URI (see page 145) was received and stored for a VoIP call, this will be shown. The URI is dialled if you press the talk key ✆. The URI is not entered on the last number redial list.

Press **OK** / **Back** to return to the list.

Show Connection
Indicates which of your phone numbers the caller has dialled.

Press **OK** / **Back** to return to the calls list.

Delete List
As in the directory, page 41

Using the network mailbox

Some VoIP providers offer answer machines on the network – network mailboxes.

You can use the relevant network mailbox if you have **requested** it from your VoIP provider.

The network mailbox only answers incoming calls made via the relevant line (VoIP phone number). To record all calls, you should therefore set up network mailboxes for each VoIP phone number.

Configuring the network mailbox for fast access

With fast access you can dial a network mailbox directly.

The network mailbox is preconfigured for fast access. You only need to enter the number of a network mailbox.

Please note:
You can only set up fast access to one of the network mailboxes. You can assign a speed dial number to the number for another network mailbox in the directory (e.g. the **2** key) (page 41). The speed dial digit must be assigned for each handset.

Configuring the network mailbox for fast access and entering the network mailbox number

Menu ➔ Voice Mail ➔ Set Key 1

Select Network Mailbox and press OK (✓ = activated).

Enter the network mailbox number and press OK.
The entry is saved.

Press and **hold** (idle status).

Fast access is automatically activated.

To deactivate fast access, you must delete the number.

This setting is now valid for all registered handsets.

Please note:
If no number has been entered: press and **hold** **1** to enter the number.

Calling the network mailbox

1 Press and **hold**. You are connected straight to the network mailbox.

If necessary, press the handsfree key. You hear the network mailbox announcement.

Please note:
If you have set an automatic area code (page 103), the area code is also prefixed to the number of the network mailbox if it does not start with 0.

Network mailbox message

The way in which you are informed of new messages in the network mailbox depends on the relevant VoIP provider.

Using several handsets

Registering handsets

You can register up to six handsets to your base station.

Please note:
After registration, all the phone numbers for the phone will be assigned to the handset as receiving numbers. It uses the first VoIP number as sending numbers. For how to change the assignments, see page 100.

Registering another Gigaset C46 handset

Before you can use your handset, you must register it to a base station.

You must initiate handset registration on the handset and on the base station.

If the handset has been registered successfully you will see the display key INT at the bottom left of the idle display. If it does not appear, repeat the procedure.

On the handset

Menu ➜ Settings ➜ Handset ➜ Register Handset

Enter the system PIN of the base station (the default is 0000) and press OK. The display shows e.g. Registering and Base flashes.

On the base station

○ Within 60 sec. press and **hold** the registration/paging key on the base station (page 1) (min. 1 sec.).

The handset is assigned the lowest available internal number (1-6). If several handsets are registered to the base station, the internal number is shown in the display after registration, e.g. INT 2. This means that the handset has been assigned the internal number 2.

Please note:
If six handsets are already registered to the base station, there are two options:
- The handset with the internal number 6 is in idle status: the handset you wish to register is assigned the number 6. The handset that was previously number 6 is de-registered.
- The handset with the internal number 6 is being used: the handset you wish to register cannot be registered.

Registering other handsets

You can register other Gigaset handsets and handsets for other devices with GAP functionality as follows.

Please note:
Other handsets may not support all base station functions.

On the handset

▶ Start to register the handset as described in its user guide.

On the base station

○ Press and **hold** (min. 1 sec.) the registration/paging key on the base station (page 1).

De-registering handsets

You can de-register any registered C46 handset from any registered handset.

INT Press the display key. All registered handsets are displayed.

Select the handset to be de-registered.

Menu Press the display key.

De-register Handset
Select and press OK.

Enter the base station system PIN (default setting: 0000).

OK Press the display key to confirm the prompt.

Press and **hold** (idle status).

The handset is de-registered immediately, even if it is not in idle status.

Changing a handset's internal number

A handset is automatically assigned the lowest available number on registration. In the list of internal subscribers, the handsets are sorted according to their internal number.

You can change the internal number of all registered handsets (1–6). Numbers 1-6 can only be assigned once each.

INT Press the display key.

Menu Press the display key.

Edit Handset Number
Select and press OK.

Select handset.

Enter the number (1–6).

OK Press the display key to complete the operation.

You will hear the error tone if an internal number has been allocated twice.

▶ Repeat the procedure with a free number.

Changing the name of a handset

The names "INT 1", "INT 2" etc. are assigned automatically at registration. You can change these names. The changed name is displayed in every handset's list.

INT Press the display key.

Select handset.

Menu Press the display key.

Change Handset Name
Select and press OK.

Enter name (max. 10 characters) and press OK.

Locating a handset ("paging")

You can locate your handset using the base station.

- Press the registration/paging key on the base station (page 1) **briefly**.
- All handsets will ring simultaneously ("paging"), even if the ringer tones are switched off.

Ending paging

○ / ✆ **Briefly** press the registration/paging key on the base station (page 1) or press the talk key on the handset.

Making internal calls

Internal calls to other handsets registered on the same base station are free.

Calling a specific handset

INT Press the display key.

✆ Select handset and press the talk key.

Or:

Enter the number of the handset.

Calling all handsets ("group call")

INT Press the display key.

*△ Press the star key.

Or:

Call All ✆ Select and press the talk key.

Ending a call

Press the end call key.

Please note:
You can reject an internal call by pressing the end call key .

Transferring a call to another handset

You can transfer an external call to another handset (connect).

INT Press the display key.
The external participant hears the hold music.

Select handset or Call All and press OK.

When an internal participant answers:

▶ If necessary announce the external call.

Press the end call key.

The call is transferred. If the internal participant does not answer, or their phone is in use, the call will automatically return to you.

Internal consultation calls

When speaking to an **external** participant you can call an **internal** participant simultaneously for consultation.

INT Press the display key.
The external participant hears the hold music.

Select handset or Call All and press OK.

If the internal participant does not answer: press Back to return to the external participant.

When an internal participant answers you can speak to them.

You have the following options:

Ending a consultation call

Menu Press the display key.

Back Select and press OK.

You are reconnected with the external participant.

Initiating a conference call

You are in an internal consultation call:

Menu Press the display key.

Conference Call
Select and press OK.

The internal participant called can end the conference call by pressing the end call key .

Accepting call waiting during an internal call

If you receive an **external** call during an **internal** call, you will hear the call waiting tone (short tone). With Calling Line Identification, the caller's number will appear in the display.

Press the end call key to end the internal call.

Press the talk key to take the external call.

Handset settings

Your handset is preconfigured, but you can change the settings to suit your individual requirements.

Changing the display language

You can view the display texts in different languages.

Menu ➜ Settings ➜ Handset ➜ Language

The current language is indicated by ✓.

◯ Select a language and press OK.

Press and **hold** (idle status).

If you accidentally choose a language you do not understand:

Menu ➜ 4 2 2

Press keys in sequence.

◯ Select the correct language and press OK.

Setting the display

You have a choice of four colour schemes and several different contrasts. You can also set a screensaver and backlight.

Menu ➜ Settings ➜ Handset ➜ Display

You have the following options:

Screensaver

There are four different screensavers and No Screensaver or Digital Clock settings.

Colour Scheme

There are four colour schemes. When the backlight is switched off, the display is shown in black and white regardless of the selected setting.

Contrast

There are five different contrast settings.

Backlight

In Charger / Without Charger determines whether the backlight stays on permanently or is switched off after a certain time (✓ = permanently switched on).

Please note:
If the backlight is switched on outside the charging cradle, the standby time for the handset is considerably reduced!

Activating/deactivating auto answer

When this function is activated, when a call arrives you can simply lift the handset out of the charging cradle without having to press the talk key .

Menu ➔ Settings ➔ Handset

Auto Answer

Select and press OK (✓ = on).

Press and **hold** (idle status).

Adjusting the loudspeaker volume

You can set the loudspeaker volume for handsfree talking to five different levels and the earpiece volume to three different levels. You can only adjust the loudspeaker volume during a call.

You are conducting an external call.

Press the control key.

Adjust the volume and press OK.

Please note:
The handsfree volume can only be adjusted when this function is set.

If is assigned a different function e.g. toggling (page 39):

Menu Open menu.

Volume Select and press OK.

Make settings (see above).

Changing ringer tones

- Volume:
  Five volume levels (1–5; e.g. Volume 2 =) and "crescendo" ring .
  With "crescendo" ring, the volume gets louder with every ring.
- Melody:
  There is a list of pre-loaded ringer melodies. The first three melodies are the "classical" ring tones.

You can also set different ringer melodies for the following functions:

- External Calls: for external calls
- Internal Calls: for internal calls
- Alarm Clock: for the alarm clock

Setting the ringer volume

The ringer volume is the same for all types of ring.

Menu ➜ Audio Settings ➜ Ringer Volume

Or in idle status:

◯ Press **briefly**.

Then:

◯ Adjust the volume and press OK.

📞 Press and **hold** (idle status).

Setting the ringer melody

Set different ringer melodies for external calls, internal calls and the alarm clock.

Menu ➜ Audio Settings ➜ Ringer Melody

External Calls / Internal Calls / Alarm Clock

Select and press OK.

◯ Select melody (✓ = on) and press OK.

📞 Press and **hold** (idle status).

Activating/deactivating the ringer tone

You can turn off the ringer tone on your handset before you take a call or while the phone is in idle status. You can take a call so long as it is displayed on the screen.

Deactivating the ringer tone

*△ Press the star key and **hold**, until the 🔕 icon appears in the display.

Re-activating the ringer tone

*△ Press and **hold** the star key in idle status.

Advisory tones

Your handset uses "advisory tones" to tell you about different activities and statuses. You can activate or deactivate the following tones:

- **Advisory tones**:
  - **Key click**: every key press is confirmed.
  - **Confirmation beep** (a rising tone sequence): at the end of the entry/setting, when the handset is placed in the charging cradle and when a new entry arrives on the calls list.
  - **Error tone** (descending tone sequence): when you make an incorrect entry.
  - **Menu end tone**: when scrolling at the end of a menu.
- **Battery low beep**: the battery requires charging.

You cannot deactivate the confirmation tone for placing the handset in the charging cradle.

Activating/deactivating advisory tones

Menu ➜ Audio Settings ➜ Advisory Tones
Select and press OK (✓ = on).

All advisory tones are activated or deactivated.

Setting the battery low beep

Menu ➜ Audio Settings ➜ Battery Low

On / Off / During Call
Select and press OK (✓ = on).

The battery low beep is activated or deactivated or sounds during a call.

Using the handset as an alarm clock

Activating/deactivating the alarm clock

Menu ➜ Alarm Clock ➜ Activation (✓ = on)

After you activate the alarm clock, the menu for setting the wake up time opens automatically (page 55).

If the alarm clock is set, the wake up time appears with the ⏲ icon in the display instead of the date.

Setting the wake up time.

Menu ➜ Alarm Clock ➜ Wake up time

Enter the wake up time in hours and minutes, then press OK.

When the alarm clock rings…

Alarm repeat after 5 minutes

Snooze Press the display key or any key.

If you press Snooze three times the alarm clock switches off for 24 hours.

Turning off the alarm clock for 24 hours

Off Press the display key.

Restoring the handset to the factory settings

Each individual handset setting is reset, in particular the language, display, volume, ringer and alarm clock settings (see from page 52 onwards). The last number redial list is cleared.

Entries in the directory, the date and time, and the handset's registration to the base station will be retained.

Menu ➔ Settings ➔ Handset ➔ Reset Handset

OK Press the display key to confirm.

Press and **hold** (idle status).

Cancel the reset with .

Setting the base station

The base station settings are carried out using a registered Gigaset C46 handset.

Changing the system PIN of the base station phone

You will have to enter the system PIN e.g. when you register a handset with the base station, change the VoIP settings or start the phone Web configurator.

You can change the base station's 4-digit default system PIN ("0000") to a 4-digit PIN known only to yourself.

Menu ➔ Settings ➔ Base ➔ System PIN

Enter the current system PIN and press OK.

Enter your new system PIN and press OK.

Now re-enter the new system PIN and press OK.

For security reasons, "****" is displayed instead of the numbers entered.

Press and **hold** (idle status).

Restoring the base station to the factory settings

The base station's phone and router will be reset.

Please note:
You should carry out the following base station resets before giving your base station to a third party. This will delete your personal data.

Resetting the base station via the menu

Each individual setting is reset, in particular:

- all router settings
- the router password
- VoIP settings such as VoIP provider and account data (page 61, page 90) and DTMF settings (page 101)
- settings for the local network (page 59, page 87)
- the names of the handsets (page 50)

The calls list is cleared.

The date and time and the system PIN are retained. The handsets are still registered.

Menu ➜ Settings ➜ Base ➜ Base Reset

OK Press the display key to confirm.

Resetting the base station using a key on the base station

As with resetting the base station via the menu, each individual setting on the base station phone is reset. The system PIN will also be reset to "0000" and **all handsets registered above and beyond the delivery scope are deregistered.**

The router settings and router password are not reset.

Please note:
For how to reregister the handsets after resetting if necessary, see page 48.

- Remove the cable connection between the base station and modem.
- Remove the Ethernet cable from the base station's LAN socket.
- Remove the base station mains unit from the socket.
- Press and hold the registration/paging key (page 1).
- Plug the mains unit back into the power socket.
- Press and hold the registration/paging key (at least 10 sec.).
- Release the registration/paging key. The base station has now been reset.

Activating/deactivating the on hold music

Menu ➜ Settings ➜ Base

Music on hold

Select and press OK to activate or deactivate the hold music (✓ = on).

Please note:
Whether or not a caller hears the hold music during toggling or a consultation call depends on the provider.

Activating/deactivating repeater mode

With a repeater you can increase the range and reception strength of your base station. You will need to activate repeater mode. This will terminate any calls being made via the base station at that time.

Precondition: A repeater is registered.

Menu ➜ Settings ➜ Base ➜ Additional Features ➜ Repeater Mode
Select and press OK (✓ = on).

Updating the base station phone's firmware

If necessary, you can update your base station phone's firmware.

The firmware update is downloaded directly from the Internet by default. The relevant website is preconfigured in your phone.

As an alternative to uploading the firmware via the Internet, it can also be loaded from a local PC. You can specify the PC via the phone Web configurator (page 106). This setting applies only to the next firmware update.

Precondition:

The base station is in idle status, i.e.:

- no calls are being made.
- there is no internal connection between the registered handsets.
- no other handset has opened the base station menu.

Starting the firmware update manually

Menu ➜ Settings ➜ Base ➜ Firmware Update

Enter the base station system PIN (default setting: 0000).

The base station establishes a connection to the Internet or to the local PC.

Yes Press the display key to start the firmware update.

Please note:

– A firmware update can last up to 3 minutes. During the update, the handset loses the connection to the base station. When the update has been successfully completed, the handset re-establishes the connection to the base station.
– When updating from the Internet, checks are made to ensure that no newer version of the firmware exists. If this is not the case, the operation is terminated and a message is issued to that effect.
– If an error arises during a firmware update from a local PC, the most recent version of the firmware is automatically downloaded from the Internet. Your phone should therefore be connected to the Internet during every firmware update.

Automatic firmware update

Precondition: The automatic version check is activated (page 107, default setting).

Your phone will check daily whether a newer firmware update is available via the Internet on the Siemens configuration server. If this is the case, when the handset is in idle status the message **New firmware available!** is displayed and the message key ✉ flashes.

✉ Press the message key.

Yes Press the display key to confirm the prompt.

Enter the base station system PIN (default setting: 0000).

The firmware will be loaded onto your phone.

Please note that the firmware update may take up to 3 minutes.

Please note:
- If you reply to the request with **No**, the display will not be repeated. The message **New firmware available!** will only be shown again if a newer version of the firmware than the one rejected is available.
- You can deactivate the automatic version check via the Web configurator (page 107).

Making VoIP settings

For VoIP telephony you need to make the following settings:

- IP settings for the telephone connection to the LAN (to the router). You can make these settings on the handset (page 59) or (if there is already a connection to the PC) via the phone Web configurator (page 87).
- VoIP settings for each of your VoIP accounts (VoIP phone numbers). You can make the settings for up to six VoIP accounts via the Web configurator.

  Alternatively, you can also set and make changes to the first VoIP account (**IP1**, see page 89) via the handset. You can make the settings with (page 61) or without (page 61) connection assistants.

Setting the base station phone's IP address in LAN

The base station requires an IP address in order to be "recognised" by the LAN (the router).

The IP address can be assigned to the base station automatically (by the router) or manually.

- If performed dynamically, the router's DHCP server automatically assigns the base station an IP address. The base station's IP address can be changed according to router settings.
- If performed manually, you assign the base station a static IP address. This may be necessary depending on your network configuration.

Please note:
For how to make the local network settings on the Web configurator, turn to page 87.

Activating/deactivating dynamic assignment

Menu ➜ Settings ➜ Base ➜ Local Network

Enter the system PIN and press OK.

dynamic IP address (✓ = on)
Select and press OK to change the current settings.

If you deactivate dynamic assignment, you must set the base station, default gateway and DNS server IP address and subnet mask manually. A corresponding message is displayed.

Please note:
To assign the IP address dynamically, the DHCP server on the router must be activated (page 80).

Viewing/changing the phone's IP address

You can only change the IP address (page 140) if you have deactivated dynamic assignment.

192.168.1.2 has been preset by default.

Menu ➜ Settings ➜ Base ➜ Local Network (enter system PIN) ➜ IP Address

The current IP address is displayed.

If necessary, enter the IP address and press OK.

Please note:
For notes on the IP address, please see page 87 and the glossary on page 140.

Viewing/changing the subnet mask

You can only change the subnet mask (page 144) if you have deactivated dynamic assignment.

255.255.255.0 has been preset by default.

Menu ➜ Settings ➜ Base ➜ Local Network (enter system PIN) ➜ Subnet Mask

The current subnet mask is displayed.

If necessary, enter the subnet mask and press OK.

Please note:
For notes on the subnet mask, please see page 87 and the glossary on page 144.

Viewing/changing the DNS server

Enter the IP address for the preferred DNS server. The DNS server (Domain Name System) converts the symbolic name of a server (DNS name) into the public IP address for the server when the connection is made.

You can specify your base station router's IP address here. The router forwards phone address requests to its DNS server.

The default is 192.168.1.1.

Menu ➜ Settings ➜ Base ➜ Local Network (enter system PIN) ➜ DNS Server

If necessary, enter the IP address of your preferred DNS server and press OK.

Viewing/changing the default gateway to the Internet

Enter the IP address for the standard gateway, by means of which the local network is connected with the Internet. That is usually the local (private) IP address for your base station router (default 192.168.1.1). Your phone requires this information to be able to access the Internet.

The default is 192.168.1.1.

Menu ➜ Settings ➜ Base ➜ Local Network (enter system PIN) ➜ Default Gateway

Entering/changing the first VoIP account with the connection assistant

The connection assistant starts automatically the first time your handset and base station are used. You can also start the connection assistant via the menu:

Menu ➜ Settings ➜ Base ➜ Telephony ➜ Connection Assistant

For how to enter VoIP settings for the first VoIP account using the connection assistant, see page 18.

Entering/changing the first VoIP account without the connection assistant

For your first account you can change your provider's general VoIP settings and your personal VoIP user data via the menu without starting the connection assistant.

Downloading settings for the first VoIP provider

Menu ➜ Settings ➜ Base ➜ Telephony ➜ VoIP (enter system PIN) ➜ Select VoIP Provider

The phone establishes a connection with the Siemens configuration server on the Internet.

Select country and press OK.

Select VoIP provider and press OK.

Your VoIP provider data is downloaded and saved in your phone.

If errors occur during a download, see page 113.

Please note:
If your VoIP provider is not included in the list, you need to enter or adjust the general VoIP settings manually via your phone's Web configurator, see page 92.

Automatic update for the VoIP provider settings

Precondition: The automatic version check is activated (page 107, default setting).

After the first download of the VoIP provider settings, your phone will check daily whether a newer version of the files for your VoIP provider is available via the Internet on the Siemens configuration server. If there is an update for one of your VoIP providers, the message **New profile available!** will be displayed when the handset is in idle status, and the message key ✉ flashes.

✉ Press the message key.

Yes Press the display key to confirm the prompt.

Enter the system PIN and press **OK**.

The new VoIP provider data is downloaded and saved in your phone.

Please note:
- The version check relates to all VoIP providers whose data you have downloaded from the Internet.
- If you reply to the request with **No**, the display will not be repeated. The message **New profile available!** will only be shown again if a newer version of the VoIP settings than the one rejected is available.
- You can deactivate the automatic version check via the Web configurator (page 107).

Entering/changing the VoIP user data for the first VoIP account

The VoIP settings must also be extended for your personal data. You will receive all necessary data from your VoIP provider.

Please note:
When making these entries, please remember the VoIP user data is case sensitive. For how to enter text see page 124.

Menu ➔ **Settings** ➔ **Base** ➔ **Telephony** ➔ **VoIP**

Enter the system PIN and press **OK**.

Username / Authentication Name / Authentication Password
Select and press **OK**.

Enter/change the user data and press **OK**.

Enter the caller ID for your VoIP provider account as the **Username**. The **Username** is mainly identical to your Internet phone number (the first part of your SIP address see page 91).

For **Authentication Name** and **Authentication Password** enter the provider-dependent access data that has to be transferred by the phone to the SIP service at registration.

Tip: A previously set password is not displayed.

Activating/deactivating display of VoIP status codes

If the function is activated, a VoIP status code for your service provider is displayed.

Activate the function e.g. if you have problems with VoIP connections. You will receive a provider-specific status code, which supports the service when the problem is analysed.

Menu ➔ Settings ➔ Base ➔ Telephony ➔ VoIP

Enter the system PIN and press OK.

Status on HS (✓ = on)
Select and press OK.

Please note:
- For how to make the setting on the Web configurator, see page 108.
- A table with possible status codes and their meaning can be found in the appendix on page 116.

Checking the base station phone's MAC address

Depending on your network configuration, you may have to enter your base station phone's MAC address, for example, into your router's access control list. You can check your base station phone's MAC address:

Menu ➔ 4 3 9 2 0

Your base station phone's MAC address will be displayed.

Press and **hold** (idle status).

Using the Web configurators

You can manage your Gigaset CE 460 IP R via your PC's Web browser with two Web configurators:

- Use the router Web configurator to make the settings for your base station router.
- Use the phone Web configurator for the settings for your base station phone.

Please note:
Depending on your VoIP provider, it is possible that you will be unable to change individual settings in the Web configurator.

Configuring the base station router and phone via a PC

Preconditions:

- A standard Web browser is installed on the PC, e.g. Internet Explorer version 6.0 or higher, or Firefox version 1.0.4 or higher.
- The base station and PC are connected to each other.

Please note:

– The phone is **not** locked while you make settings for one of the Web configurators. You can also use your phone to make calls or change base station or handset settings on your handset at the same time.
– While you are connected to the Web configurator, it is blocked to other users. It cannot be accessed by more than one user at any time.

The router Web configurator offers the following options:

- Start the wizard for the basic router settings and the connection to the Internet
- Configure your router access to the local network (IP address, gateway to the Internet).
- Define the data server for firmware updates and load new firmware onto the router if necessary.
- Obtain information about your router's status (firmware version, MAC address and so on).

The phone Web configurator offers the following options:

- Configure your phone access to the local network (IP address, gateway to the Internet).
- Configure your phone for VoIP.
- Define the data server for firmware updates and load new firmware onto the phone if necessary.
- Copy contacts from the Outlook address book on your PC into the handset directories or back up your handset's directories on your PC.
- Obtain information about your phone's status (firmware version, MAC address and so on).

Starting the Web configurator

Precondition: The settings of an available firewall allow the PC and base station to communicate with each other.

You need to establish a connection with the PC Web browser to the respective Web configurator (router Web configurator or phone Web configurator) to be able to access the functions of both Web configurators.

Once you have successfully established the connection, the Web browser will display a Web page for registration and this will ask you to authenticate yourself by entering a system PIN. The **Home** for the selected Web configurator will be displayed once you have registered successfully.

You can find the detailed description of the start and registration procedure on page 69 (router Web configurator) or page 85 (phone Web configurator).

Please note:

- The base station router and the base station phone have passwords or system PINs that are independent of one another. Changing the password for the base station router will not affect the system PIN for the phone and vice versa.
- If you have forgotten your password or your system PIN, you will have to reset your base station to the factory settings. Please note that this will restore all other settings too (page 57).
- If you do not make any entries for a lengthy period (around 10 minutes), you will be automatically logged off. The next time you try to make an entry or open a Web page, the **Login** Web page will be displayed. Enter the system PIN again to log in again.
- Entries that had not yet been saved in the router or on the phone before automatic log-off are lost.

Logging off

In the menu bar at the top right of every Web page in the Web configurator, you will see the **Log Off** command (page 66). Click **Log Off** to log off from the Web configurator.

Warning:
Always use the **Log Off** command to end the connection to the Web configurator. If, for example, you closethe Web browser without logging off first, it is possible that access to the Web configurator will be blocked for a few minutes.

Structure of the Web pages

The Web pages contain the UI elements displayed in Figure 2.

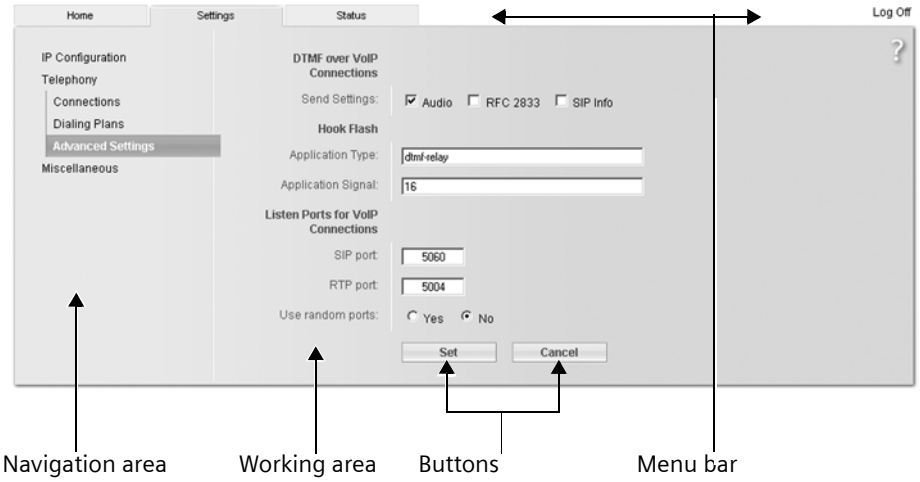


Figure 2 Example of the structure of a Web page

Menu bar

In the menu bar, the Web configurator menus are depicted in the form of tab pages.

The following menus are available in this example:

- **Home**
- **Settings**
- **Status**

If you click a menu that contains subfunctions (in this example the **Settings** menu), then these will be displayed in the navigation area.

You will find the **Log Off** function to the right of the menu bar on every Web page (page 65).

Please note:
You will find an overview of the Web configurator menu on page 27.

Navigation area

The functions of the menu selected in the menu bar are listed in the navigation area.

If you click a function, the associated page opens in the working area with information and/or fields for your inputs.

If a function is assigned subfunctions, these are displayed with the function as soon as you click the function. The relevant page for the first subfunction is displayed in the working area.

Working area

Depending on the function selected, information or dialogue boxes are displayed in the working area, which allow you to make or change your phone settings.

Making changes

Make settings for entry fields, lists or options.

- There may be restrictions regarding the possible values for a field, e.g. entering special characters or certain value ranges.
- To open a list, click . You can choose between default values.
- There are two kinds of options:
  - Options in a list, from which you can activate one or several options. Active, i.e. selected options are highlighted with , non-active options with . You can activate an option by clicking on . The status of the other options in the list does not change. You can deactivate an option by clicking on .
  - Alternative options. The active option in the list is highlighted with , and the non-active with . You can activate an option by clicking on . The previously activated option is deactivated. You can only deactivate an option by activating another option.

Applying changes

As soon as you have made your change on a page, activate the new setting in the router or on the phone by clicking on **Set**.

If your input in a field does not comply with the rules for this field, an appropriate error message will be displayed. You can then repeat the input.

Warning:
Changes that have not been saved in your router or phone are lost if you move to another Web page or if the connection to the Web configurator is terminated, e.g. due to exceeding the time limit (page 65).

Buttons

Buttons are displayed in the bottom section of the working area.

Set
Save entries on the phone.

Cancel
Reject changes made on the Web page and reload the settings that are currently saved in your phone to the Web page.

Opening Web pages

A brief outline of the navigation to the individual Web configurator functions is given below.

Example:

Setting DTMF signalling with the phone Web configurator

Settings ➔ Telephony ➔ Advanced Settings

To open the Web page, carry out the following steps after registration:

- Click the **Settings** menu in the menu bar.
- Click the **Telephony** function in the navigation area.
  The subfunctions of **Telephony** are displayed in the navigation tree.
- Click the **Advanced Settings** subfunction.

The Web page from Figure 2 will be shown in the Web browser.

Router Web configurator

You can use the router Web configurator to configure the base station router.

- Save your Internet access data (page 71) and the address for your DNS server (page 78) on your router.
- Activate and configure NAT (page 75) and firewall for the router (page 74).
- Activate the Quality of Service for the router (page 78).
- Activate/deactivate the DHCP server for your router (page 80).
- Select the time server and time zone (page 81).
- Make the settings for the remote management of the router (page 82) and change the router password (page 82).
- Load the firmware updates onto the router.

Connecting the PC to the router Web configurator

Precondition: The settings of an available PC firewall allow the PC and base station to communicate with each other.

- Launch the Web browser on your PC.
- In the Web browser address field, enter the IP address or name of the base station router, e.g.

  http://192.168.1.1 or http://router.gigaset (default setting)
- Press the return key.

A connection is established to the base station router's Web configurator.

Please note:
You can find out how to change the name router.gigaset on page 81.

Login

Once you have successfully established the connection, the **Login** Web page will be displayed in the Web browser.

The language in which the menus and the dialogues for the router Web configurator are displayed is preset by the firmware.

- Enter the password for your base station router in the bottom field of the Web page (default setting: 0000) to access the router Web configurator functions.
- Click **OK**.

Once you have successfully logged in, a **Home** opens with general information on the Web configurator.

Please note:

– If you have forgotten your password or your system PIN, you will have to reset your base station to the factory settings. Please note that this will restore all other settings too (page 57).
– If you do not make any entries for a lengthy period, you will be automatically de-registered. The next time you try to make an entry or open a Web page, the **Login** Web page will be displayed. Enter the system PIN again to log in again. This time is set to 30 min. in the default settings. You can change it (page 82).
– Entries that had not yet been saved before automatic log-off are lost.

Menu bar

The following menus are available in the router Web configurator:

◆ **Home**

The start screen is opened once you have registered with the Web configurator. It contains information on the Web configurator menus.

◆ **Basic Setup Wizard** (page 85)

You can start a wizard to connect the base station router to the Internet via this menu (page 15).

◆ **Router Settings** (page 69)

This menu allows you to make settings on your base station router. The **Router Settings** menu comprises the function areas **Internet**, **Local Network** and **Administration**.

◆ **Telephony Settings**

You can use this menu to start the phone Web configurator (page 85), to make settings on the base station phone.

◆ **Status** (page 84)

This menu gives you information about your phone.

Internet – configuring the connection to the Internet.

If you have configured the router for your Gigaset CE 460 IP R using the wizard for the basic settings, then you will also have configured the WAN connection (Internet access). You can check, change or extend these settings in the **Internet** menu.

Under **Internet** you can also find functions for security settings and limiting access to the Internet as well as for providing your own services on the Internet.

You can use the **Internet** menu to make the following settings for the Internet:

- check and edit the Internet access data (page 71),
- secure your local network against external hacker attacks and restrict access to Internet pages for subscribers in the local network (see Firewall, page 74),
- provide your own services on the Internet and restrict access from the Internet to the local network (see NAT, page 75),
- enter addresses for the DNS server used (page 78),
- define QoS properties (Quality of Service, see page 78), i.e. prioritise the transfer of VoIP data and thus improve the voice quality for VoIP connections.

Connection – entering access data for the Internet connection

You can use the **Connection** Web page to set up or change the configuration for your Internet connection. Any settings that you make here must correspond with the information from your Internet provider. False information can lead to problems with your Internet connection.

The procedure for entering or changing the settings for Internet access is as follows:

- Open the following Web page: **Router Settings** ➔ **Internet** ➔ **Connection**.
  The settings for the Internet connection that are currently stored in the base station will be displayed.
- First select the WAN connection type from the **Connection** list. The connection type depends on what kind of Internet connection you have and the agreements with your Internet provider. The access data received from your Internet provider for registration shows you which connection type you must select.
  The options are **PPPoE**, **Static IP Address**, **Dynamic IP Address** and **PPTP**.
- Enter the access data required for the connection type (see below).
- In the **Upstream Rate** field, enter the maximum amount of your Internet connection's bandwidth that should be available for data uploads. First enter the upload stream rate given by your Internet provider. Carry out tests to check that calls can also be made with good voice quality at the same time as data is being uploaded and adjust the rate accordingly (page 78).
- Click **Set** to apply the settings.
- Below is an explanation of the information that you must make dependent on **Connection**:

Connection = PPPoE

The protocol PPPoE (Point-to-Point-Protocol over Ethernet) is used by many Internet providers. It allows several subscribers in a local network to access the Internet via a single Internet account. The Internet provider assigns your router a password and, if necessary, a user name.

User Name

If you have received a user name from your Internet provider, enter this name here. Not all Internet providers require a user name. If this is the case, leave this field empty.

Password, Confirm new password

In the **Password** field, enter the password agreed with the Internet provider and repeat it in the **Confirm new password** field.

MTU The MTU (Maximum Transmission Unit) defines the maximum length of a data packet that can be carried over the Internet at one time. The standard value is 1492 bytes. Depending on the provider, there may be restrictions for the packet size. You should then modify the value accordingly.

Please note:
For the Internet connection via PPPoE, your router is set so that it is permanently connected with the Internet. This means that you can always be reached for VoIP calls.

Connection = Static IP Address

A static IP address is assigned to the router. This is permanently assigned to your router as a public IP address (page 142). The router needs the following data for the Internet access:

IP Address, Subnet Mask

Enter the static IP address and subnet mask given to the router by your Internet provider.
If the base station router is connected to the Internet via another local network (LAN), then enter the private IP address for your router in this LAN and the subnet mask for the LAN.

Gateway Enter the IP address of the gateway that connects your router with the Internet. If the connection is via another LAN, enter the private IP address for the router or gateway that is used to connect this LAN with the Internet here.

Connection = Dynamic IP Address

The router is assigned an Internet address dynamically. This IP address is only temporarily assigned to the router. It can change. No more data must be entered for this connection type.

This connection type is frequently used for Internet connection via another LAN.

The following data is displayed on the Web page:

IP Address, Subnet Mask
The IP address that is currently assigned to the router, and the corresponding subnet mask.

Gateway The IP address for the router or gateway computer that connects the router to the Internet.

DHCP Server
The IP address server that assigns the IP address to the router.

Connection = PPTP

The PPTP protocol (Point-to-Point Tunnelling Protocol) allows a secure connection to a remote private network (e.g. from home to your company network) via the Internet. Your router is part of a Virtual Private Network (VPN). The data is sent via the Internet in a secure and encrypted connection (tunnel).

The following data is required for access to the remote network:

IP Address, Subnet Mask
Enter the IP address and subnet mask given to the router by your Internet provider.

Gateway Enter the IP address of the gateway that connects your router with the Internet.

VPN Server Enter the IP address of the VPN server (Virtual Private Network). The VPN server is the gateway to the remote network. Your Internet provider will supply you with the IP address.

User Name
Enter the user identification that your router must enter when logging on to the remote network.

Password, Confirm new password
In the **Password** field, enter your registration password and repeat it in the **Confirm new password** field.

MTU The MTU (Maximum Transmission Unit) defines the maximum length of a data packet that can be carried over the Internet at one time. The standard value is 1492 bytes. Depending on the provider, there may be restrictions for the packet size. You should then modify the value accordingly.

Setting up the Firewall

Your router's integrated firewall monitors and limits the exchange of data between subscribers of your local network and the Internet. Activating the firewall does not affect the router's performance.

When the firewall is activated you can:

- protect your network against hacker attacks,
- restrict Internet access for individual PCs in your local network (**IP Filter**, **MAC Filter**).

The firewall functions are activated and configured by default. Do the following to change the settings for the firewall:

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **Firewall**.
- Highlight **On** or **Off** in the **Firewall** field to activate or deactivate the firewall.
- Click **Set** to apply the settings.

Attack Detection

When the firewall is activated, you can also switch attack detection on or off.

- Highlight the desired setting in the **Attack Detection** field.
- Click **Set** to apply the settings.

IP Filter

When the firewall is activated, you can restrict access to the Internet for certain PCs in your local network based on their IP address.

Create a list of the PCs and the applications (defined by their port number on the PC) that you want to allow access to the Internet.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **Firewall** ➜ **IP Filter**.
- Enter the IP address of the PC in the **IP Address** field.
- In the **Port Range** fields, enter the first and last port number of the port area on the PC that you do not want to have access to the Internet.
- Select the protocol used from the **Protocol** list and click **Add**.
- Repeat the previous step if there are further PCs or applications that you do not want to allow access to the Internet.
- Click **Set** to apply the settings.

Please note:

– Deactivate the **Enabled** field to give a specified PC **temporary** access.
– Click **Delete** to **permanently** remove a PC from the list.

MAC Filter

When the firewall is activated, you can restrict access to the Internet for certain PCs and PC applications based on their MAC address.

- Open the following Web page: **Router Settings** ➔ **Internet** ➔ **Firewall** ➔ **MAC Filter**.
- In the fields for **MAC Address**, enter the MAC address for the PC that you do not want to have access to the Internet and click on **Add**.
- Repeat the previous step if there are further PCs that you do not want to allow access to the Internet.
- Click **Set** to apply the settings.

Please note:
– Deactivate the **Enabled** field to give a specified PC **temporary** access.
– Click **Delete** to remove a PC from the list.

Setting up NAT

NAT (Network Address Translation) allows several subscribers (PCs) in their local network to access the Internet via a public IP address. NAT also protects the subscribers in their local network against direct unauthorised access from the Internet.

They can, however, forward requests from the Internet specifically to PCs or applications in their local network if they use special applications, or if they operate a server in their local network (Port Forwarding / Exposed Host).

Activating/deactivating NAT:

- Open the following Web page: **Router Settings** ➔ **Internet** ➔ **Address Translation (NAT)**.
- Highlight **On** or **Off** in the **Address Translation (NAT)** field to activate or deactivate NAT.
- Click **Set** to apply the settings.

If NAT is activated, the following functions are displayed in the navigation tree for the NAT configuration, and these can be used to control communication between the local network and the Internet:

- **Port Forwarding** (page 76),
- **Port Mapping** (page 77),
- **Exposed Host** (page 77) and
- **UPnP** (page 78)

Port Forwarding

Port forwarding enables you to make services from applications in your local network available to Internet users as well. The router can use a specific port to automatically forward incoming requests from the Internet to a PC in the local network and thus set up a virtual server, for example to publish your Internet page on your own Web server.

Internet services are generally addressed via defined port numbers. The router requires a mapping table for the port numbers in order to divert the service requests to a PC that actually provides the service. You can create these on this Web page.

Precondition: NAT is activated.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **Address Translation (NAT)** ➜ **Port Forwarding**.
- Select a service from the **Predefined Applications** list.
- In the **Local IP Address** column, enter the private IP address for the PC to which the requests should be forwarded and click **Add**.
- Repeat the previous step as necessary for further port forwarding.

If the required service is not in the list, you will have to enter the port forwarding manually.

- Select the protocol used by the service from the **Protocol** list.
- Enter the port number for the service under **Public Port**.
- Under **Local Port** enter the number ports on the PC to which the service requests should be forwarded.
- Enter the IP address for the PC in the local network in the **Local IP Address** field.
- Repeat the previous step as necessary for further port forwarding.
- Click **Set** to apply the settings.

Please note:

– Deactivate the **Enabled** field to **temporarily** deactivate the port forwarding.
– Click **Delete** to remove a forwarding action from the list.
– If you want operate your base station phone's Web configurator from a different network remotely, you have to forward the HTTP port 80 (**Public Port**) to the port 80 (**Local Port**) of the base station phone, and permit remote management on the phone Web configurator (page 88).

Port Mapping

Port mapping is essentially an automatic form of port forwarding. It involves ports being released on the router for a PC in the local network, and the PC "manages" these ports itself. The router allows messages received by these ports through in both directions.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **Address Translation (NAT)** ➜ **Port Mapping**.

  Precondition: NAT is activated.
- In the **Server IP** fields, enter the local IP address for the PC in the local network.
- Enter a port, a port area (e.g. 2345 - 2678) and/or a series of ports (6006, 8005) in **Port Mappings**.

  Example of an entry in **Port Mappings**: 2345 - 2678, 6006, 8005
- Click **Add**.
- Repeat the previous step if necessary.
- Click **Set** to apply the settings.

Please note:
– Deactivate the **Enabled** field to **temporarily** deactivate the settings for a PC.
– Click **Delete** to remove a PC from the list.

Exposed Host

If NAT is activated, you can set up a PC in your local network as an exposed host. Your router will then forward all incoming data traffic from the Internet to this client. You can then, for example, operate your own Web server on one of the PCs in your local network and make it accessible to Internet users.

Please note: Exposed host means that your local PC is directly visible on the Internet, and is therefore exposed to particular dangers (e.g. from hacker attacks). You should only activate this function if absolutely necessary (e.g. to operate a Web server) and if other functions (e.g. port forwarding) are not adequate. In this case you should take appropriate measures on the clients concerned.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **Address Translation (NAT)** ➜ **Exposed Host**.
- Highlight **On** or **Off** in the **Exposed Host** field.
- If you activate the function, enter the local IP address for the PC that you want to release as exposed host in the **Local IP Address** field.
- Click **Set** to apply the settings.

UPnP

If you activate UPnP (Universal Plug and Play) on your router, then PCs in your local network that have UPnP installed in their operating system can offer their own services on the Internet, and also automatically use services offered on the Internet.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **Address Translation (NAT)** ➜ **UPnP**.
- Highlight **On** or **Off** in the **UPnP** field.
- Click **Set** to apply the settings.

DNS – entering the DNS server

DNS (Domain Name System) is a decentralised database on the Internet that assigns user-friendly symbolic names (domains) to the public IP addresses for computers and services.

Access to this database requires DNS servers that convert the DNS name into the IP address when the connection is established to a computer/server. DNS servers are normally provided automatically by your Internet provider and do not need to be set up additionally.

The DNS server that you enter here will only be used if your provider does not make a DNS server available.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **DNS**.
- Activate the use of a user-friendly DNS server for your Internet connection by entering its IP address in the **Preferred DNS Server** field.
- In the **Alternate DNS Server** field enter the IP address of a server that should be used if the preferred server is not available.
- Click **Set** to apply the settings.

QoS – setting the Quality of Service, prioritising VoIP

Many communication and multimedia applications require high speed and large bandwidths to transfer data between the local network and the Internet. However, for many applications there is often only one Internet connection with limited capacity available. QoS (Quality of Service) divides this capacity between the different applications and provides undelayed, continuous data transfer where data packets with higher priority (e.g. VoIP) are given transmission preference.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **QoS**.
- In the **Upstream Rate** field indicate the maximum bandwidth for your Internet connection that should be available for uploads.
- Click **Set** to apply the settings.

Allocating VoIP connections the optimum bandwidth

You can find the optimum setting for **Upstream Rate** by carrying out tests while making a phone call during a data upload.

First, in the **Upstream Rate** field enter the upload stream rate given by your Internet provider. Then proceed as follows:

- Make a phone call while you upload data.
- If the voice quality is already good: increase the value in the **Upstream Rate** field step by step, provided that the voice quality is still good. This means that you won't "give away" any bandwidth.

  If the voice quality is poor: reduce the value in the **Upstream Rate** field step by step until the voice quality is good.

Setting Routing

You can enter static routings in the table. The routing establishes which path the data packets should follow to reach a specific target in your network. This means, for example, that you can allow users from various IP domains to access the Internet via your router.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **Routing**.
- In the **Destination Network** field enter the address of the server to which the data packets are addressed.
- In the **Gateway** and **Subnet Mask** fields enter the address of the gateway computer or router in your local network that is used to reach the target server.
- Repeat the previous step as necessary for further routing entries.
- Click **Add**.
- Click **Set** to apply the settings.

Example: Your router does not have a direct connection to the Internet, but requests to a server on the Internet are forwarded via another local network. Your router is connected to this network via another router (=gateway). In your router's routing table, you have to enter the IP address of the server on the Internet for **Destination Network**, and the private address of the other router within your local network for **Gateway**.

Routing Table

The routing table displays all the rules used in your router for forwarding data packets within your local network.

- Open the following Web page: **Router Settings** ➜ **Internet** ➜ **Routing** ➜ **Routing Table**.

Configuring the local network

You can use the LAN configuration to define a private IP address for the router and to configure the LAN DHCP server.

Defining the router's private IP address

▶ Open the following Web page: **Router Settings** ➜ **Local Network**.

You can change the IP address for the base station router on this page. The default IP address is 192.168.1.1. This is the router's private IP address (LAN address). This is the IP address under which the base station router can be reached on the local network. This IP address can be freely assigned from the block of addresses that is reserved for private use. The IP address under which the router can be reached from outside is assigned by the Internet provider.

▶ If you want to assign the router a different IP address, enter it in the fields for **IP Address**.

We recommend using an IP address from a block that is reserved for private use. This address block is 192.168.1.1 – 192.168.255.254.

▶ Enter the values in the fields for **Subnet Mask** (page 144).

For IP addresses from the address block 192.168.0.1 – 192.168.255.254 the subnet mask 255.255.255.0 is generally used. This is preconfigured when the phone is supplied. A subnet mask 255.255.255.x means that the first three parts of the IP addresses for all devices in the router's local network (base station phone and the device connected to the LAN connection) must match.

Configuring the DHCP server

The router has a DHCP server whose factory setting is active. The IP addresses for the PCs and the phone are automatically assigned by the router, provided that DHCP is also activated on the PCs and the phone.

▶ To activate the DHCP server, select **On** in the **DHCP Server** field.

▶ If the DHCP server is active, you have to specify a block of IP addresses that the router is to use for automatically assigning the IP addresses to the PCs. Define the **First issued IP Address** and the **Last issued IP Address**.

Please note:

– The address block is not allowed to contain the router's private IP address (default setting: 192.168.1.1).
– If the DHCP server for the router is activated, you can configure the network setting on the PCs so that the option **Obtain an IP address automatically** is set on the PCs.
– If you deactivate the DHCP server, you have to assign the PCs a static IP address from your router's IP address block via the network settings.
– The phone and PCs retain the dynamically assigned IP address until the router is next rebooted. The allocation is done again each time the router is rebooted.

Applying the settings for the local network

▶ Click **Set** to apply the settings.

The base station router is rebooted to activate the settings. The reboot can take several minutes (depending on the provider). Do not disconnect your base station from the PC or the power supply during this period.

Displaying DHCP Clients

▶ Open the following Web page: **Router Settings** ➔ **Local Network** ➔ **DHCP Clients**.

A list will be displayed of all subscribers (PCs etc.) in your local network that have been assigned a dynamic IP address. The MAC address, the IP address currently assigned and, if necessary, the computer/device name for each client will be listed for identification.

If the DHCP client is activated on the base station phone (**IP address type** = **Obtained automatically**, page 87) this will be shown in the list with the name "telephony". You can enter this name in the address field of the PC's Web browser instead of the IP address if you want to establish a connection to the phone Web configurator (page 85).

Defining the router's name and domain

You can assign a name to your router. You can enter this name instead of the IP address when you create a connection to the router's Web configurator: http://**Host Name**.

If the router is located in a different network, you also have to enter the name of the domain which contains the router: http://**Host Name**.**Domain Name**.

▶ Open the following Web page: **Router Settings** ➔ **Administration** ➔ **Regional Options**.
▶ Enter the name of your choice for your router in the **Host Name** field, and the name of the domain in the **Domain Name** field.
▶ Click **Set** to apply the settings.

The router is rebooted and you are logged off. The **Login** Web page is displayed again after the reboot.

Setting the Regional Options

You can select the time zone for your router's operation and determine whether the time should be automatically applied from a time server on the Internet.

▶ Open the following Web page: **Router Settings** ➔ **Administration** ➔ **Regional Options**.
▶ In the **Country** field select the country in which you operate your base station.
▶ Highlight the required option in the **Use Time Server** field.
▶ Enter the Internet address for the time server in the **Time Server** field.
▶ Click **Set** to apply the settings.

Setting or changing a password

The Web configurator for the router is secured with the password "0000" by default. To prevent unauthorised changes to the router configuration, you should change the password from time to time.

- Open the following Web page: **Router Settings** ➜ **Administration** ➜ **Remote Management**.
- Enter a password in the **Password** field and repeat it in the **Confirm new password** field (3 - 20 characters; case-sensitive).
- Click **Set** to apply the settings.

Please note:
If you have forgotten your router password, you will have to reset your Gigaset CE 460 IP R at the base station (page 57). **Please note** that doing so will reset **all** settings on the base station phone and the base station router to the default settings.

Setting the time until automatic log-off

Enter a period of time after which the Web configurator will automatically log-off if no entry is made.

- Open the following Web page: **Router Settings** ➜ **Administration** ➜ **Remote Management**.
- Enter the period of time in seconds in the **Idle Time before Log Off** field.
- Click **Set** to apply the settings.

Configuring Remote Management for the router from external networks

Remote management means that your router can be configured by a PC that is outside your local network, all with the help of a standard Web browser. The default settings for your router mean that it can only be configured from your local network.

- Open the following Web page: **Router Settings** ➜ **Administration** ➜ **Remote Management**.
- In the **Remote Management** field highlight the **On** option if you want to permit remote management.
- If you want to restrict remote management to a particular PC, you should also enter the IP address of this PC in the **IP Address** field. Entering 0.0.0.0 means that remote management from any PC is enabled.

Please note:
If you want to restrict remote management to one particular PC, you must ensure that the IP address was not dynamically assigned to this PC.

- If you enter a port number in a **Public Port** field, access to remote management is only possible via this port (default port = 80).
- Click **Set** to apply the settings.

Updating the router's firmware

Siemens always provides you with the latest version of the router firmware. This is available on the Internet at: www.siemens.com/gigaset

To load the new firmware onto your router you must first download it from the Internet onto your PC.

Then proceed as follows:

- Close down all activities on your local network.
- Open the following Web page: **Router Settings** ➜ **Administration** ➜ **Load Firmware**.

The version of the firmware currently being used on your router is displayed in the **Current Firmware Version** line. You can only download firmware with a higher version number from the PC to the router.

- In the **Firmware Update File** field, enter the path name of the file with the firmware you have downloaded from the Internet. You can also use the **Browse ...** button to navigate to the file.
- Click **Load Firmware**.

The firmware will now be updated.

Please note: You should **not** use the base station phone during the firmware update. In particular, do not reset the base station!

Please note:

– Do not disconnect the base station from either the mains power supply or the local PC during the updating procedure. Updating can take several (approx. 3) minutes.
– The base station is automatically restarted after a successful update. The registration page will be displayed again after the restart.
– The base station phone's firmware is not updated during this firmware update. To update the firmware update for the base station phone see page 58 or page 106.

Displaying the security log

The security log lists all disallowed attempts to access the network.

- Open the following Web page: **Router Settings** ➜ **Administration** ➜ **Security Log**.
- Click **Refresh** to update the display, or **Clear** to delete the log list.

Reboot

You can restart your router if it is not working properly. It should then be ready for use again.

- Open the following Web page: **Router Settings** ➜ **Administration** ➜ **Reboot**.
- Click **Reboot**.

Please note:
The reboot can take several minutes (depending on the provider). It can therefore take several minutes until you have a connection to the Internet again.

Checking status information via the router

General information about the router is displayed.

▶ In the menu list, click on the **Status** tab.

The following information is displayed:

Internet

Connection Type
Current connection type for the Internet connection. For settings, see page 71.

IP Address
Current router IP address for the connection to the Internet. For settings, see page 71.

Gateway
IP address for the gateway connecting your router to the Internet. For assigning, see page 71.

DNS
Display of the preferred and alternative DNS server. For entering, see page 78.

Local Network

IP Address
Router's current IP address. For assigning, see page 80.

DHCP Server
Status of the DHCP server. For activating and deactivating the DHCP server, see page 80.

Firewall
Status of the firewall. For activating and deactivating, see page 74.

Device

Firmware Version
Version of the firmware currently downloaded to the router. You can download updates of the firmware to the router (page 83). Firmware updates are available on the Internet.

WAN MAC Address
Public MAC address of the base station router.

LAN MAC Address
Local MAC address of the base station router.

Phone Web configurator

You can make the following settings using the phone Web configurator:

- Connecting your base station phone to the local network (page 87)
- Configuring for the telephony
  - Make VoIP provider settings (page 90)
  - Configure VoIP accounts
  - Activate/deactivate the Gigaset.net connection
  - Make settings to improve voice quality for the VoIP connections
  - Assign VoIP phone numbers to the individual handsets
- Setting for the automatic area code (page 103)
- Type of DTMF signalling (for remote operation of a network mailbox)
- Data server for downloading updates of phone firmware (page 106)
- Displaying VoIP status messages on your handset (page 107)

Connecting the PC to the phone Web configurator

Precondition: The settings of an available PC firewall allow the PC and base station to communicate with each other.

- Launch the Web browser on your PC.
- In the Web browser address field, enter the IP address of the base station phone, for example

  http://192.168.1.150, or http://telephony.gigaset.

  You can check the phone's current IP address on the handset (page 60).

  If you have activated the dynamic allocation of IP addresses (DHCP) on the router (page 80) and on the phone (page 87), your phone's IP address can change each time the router is rebooted.
- Press the return key.

A connection is established to the Web configurator for the base station phone or the base station router.

Logging in, setting the Web configurator language

Once you have successfully established the connection, the **Login** Web page will be displayed in the Web browser.

You can select the language you want the menus and Web configurator dialogues to be displayed in. The language that is currently selected is displayed in the top field of the Web page.

- If necessary, click to open the list of available languages.
- Select the language.
- In the bottom field of the Web page, enter your router's or phone's system PIN (default setting: 0000) to access the Web configurator functions.
- Click **OK**.

Once you have successfully logged in, a **Home** opens with general information on the Web configurator.

Please note:

– If you have forgotten your system PIN, you will have to reset your base station to the factory settings. Please note that this will restore all other settings too (page 57).
– If you do not make any entries for a lengthy period (around 10 minutes), you will be automatically logged off. The next time you try to make an entry or open a Web page, the **Login** Web page will be displayed. Enter the system PIN again to log in again.
– Entries that had not yet been saved in the router or on the phone before automatic log-off are lost.

Menu bar

The following menus are available in the phone Web configurator:

- **Home**

  The start screen is opened once you have registered with the Web configurator. It contains information on the Web configurator menus.
- **Settings** (page 85)

  This menu allows you to make settings on your phone.
- **Status** (page 108)

  This menu gives you information about your phone.
- **Router-Settings**

  You can use this menu to start the router Web configurator (page 69), to make settings on the base station router.

IP Configuration

Make the necessary settings for operating your phone in your local network and to connect it to the Internet. For more detailed explanations of the individual components/terms, see the glossary (page 135).

The base station phone and router are set by default so that there is a connection between them. You only have to change the IP configuration for your phone in exceptional circumstances, e.g. if you have configured port forwarding to the phone for the router, or if you had to deactivate the router's DHCP server. In this case you need to assign the phone a fixed IP address.

Assigning the IP address

- Open the following Web page: **Settings** ➜ **IP Configuration**.
- In the **Address Assignment** area, select the **IP address type**.

Select **Obtained automatically** if you want your phone to be assigned a dynamic IP address by a DHCP server in your local network. No further settings are necessary for the local network.

Select **Static** if you would like to set up a static IP address for your phone. A fixed IP address makes sense, for example, if port forwarding is set up on the router for the phone (page 76).

The following fields are displayed when you select **IP address type** = **Static**:

IP address

Enter an IP address for your phone. This IP address allows it to be reached by other subscribers in your local network (e.g. PC).

The default is 192.168.1.2.

Please note the following:

– The IP address must be from the address block for private use that is used in the router. This is generally in the range 192.168.0.1 – 192.168.255.253 with **Subnet mask** 255.255.255.0. The subnet mask determines that the first three parts of the IP address must be identical for routers and all subscribers in your LAN.
– The static IP address must not belong to the address block (IP pool range) that is reserved for the DHCP server of the base station router. It must also not be being used by another device that is connected to the base station via the LAN connection (directly or via a hub/switch).

If necessary, check the setting at the base station router (page 80).

Subnet mask

Enter the subnet mask that you have set at your base station router (page 80).

Default gateway

Enter the private IP address for the base station router (page 80). Your base station phone requires this information to be able to access the Internet.

The default is 192.168.1.1.

Preferred DNS server

Enter the IP address for the preferred DNS server.

You can enter the private IP address for the base station router here. The router forwards base station phone address requests to its DNS server (page 78).

The default is 192.168.1.1.

Alternate DNS server (optional)

Enter the IP address for the alternative DNS server that should be used in situations where the preferred DNS server cannot be reached.

You can also enter the private IP address for the base station router here.

Click on **Set** to save the changes.

Click on **Cancel** to reject the changes.

Allowing access from other networks

The default setting for your phone is set such that you can only access your phone's Web configurator via a PC that is in the same local network as your phone. The subnet mask of the PC must match that of the phone.

You can also allow access from PCs in other networks.

Warning:
Expansion of access entitlement to other networks increases the risk of unauthorised access. It is therefore recommended to deactivate remote access again if you no longer need it.

- Open the following Web page: **Settings** → **IP Configuration**.
- In the **Remote Management** area, activate the **Yes** option to permit access from other networks.

  To deactivate remote access, click on the **No** option. Access is then limited to PCs in your own local network.

Access to the phone Web configurator from other networks is only possible if your base station router is set accordingly. The base station router must pass on the service requests from "outside" to port 80 (default port) of the phone (page 76).

To establish a connection, the public IP address or the DNS name of the base station router and, where applicable, the port number on the base station (page 78) router must be indicated in the Web browser of the remote PC.

Configuring telephone connections

You can configure up to six VoIP phone numbers on your phone. You need to set up a VoIP account with a VoIP provider for each VoIP phone number. You must save the access data for each account and for the relevant VoIP provider in the phone. You can assign a name to every connection.

To configure the connections:

▶ Open the following Web page: **Settings** ➔ **Telephony** ➔ **Connections**.

A list (see Figure 3) will be shown with all possible connections that you can configure, or have already configured, for your phone.

Figure 3 List of possible connections

The list will show the following:

Name

Name of the connection. The name that you have defined for the connection is displayed (page 90) or the default name (**IP1** to **IP6**). This name is shown, for example, on the display if a call is received for this phone number (page 29).

Status

The status of the connection will be shown for VoIP connections:

registered

The connection is activated. The phone has been successfully registered. You can use the connection to make calls.

Disabled

The connection is deactivated. The phone is not registering with the corresponding account with the VoIP service. You cannot use the connection to make or receive calls.

Registration failed / **Server not accessible** (examples)

The phone could not be registered with the VoIP service, e.g. because the VoIP access data is incomplete or incorrect, or because the phone is not connected to the Internet. There is information about this in the section "Questions and answers" from page 113 onwards.

Active

You can use the option in the **Active** column to activate (☑) and deactivate (☐) VoIP connections. If a connection is deactivated, the phone will not register for this connection with the VoIP service. Your phone cannot be reached via this VoIP phone number. The connection can be activated/deactivated by clicking directly on the option. The change does not need to be saved.

To configure a connection or to change the configuration of a connection:

- Click on the **Edit** button next to the connection.

This will open a Web page where you can make the settings needed. For more information see section "Configuring the VoIP connection" on page 90.

Configuring the VoIP connection

Open the Web page:

- Open the following Web page: **Settings** ➜ **Telephony** ➜ **Connections**.
- Click on the **Edit** button next to the VoIP connection that you want to configure or whose configuration you want to change.

This will open a Web page where you can make the settings that your phone needs to access your provider's VoIP server.

The Web page always displays the following areas:

- **IP Connection** (page 90),
- **Personal Provider Data** (page 91) and
- **Call Forwarding** (page 92)

The areas

- **General Provider Data** (page 92) and
- **Network** (page 93)

can be shown and hidden by clicking the **Show Advanced Settings** and **Hide Advanced Settings** buttons.

You must enter the VoIP provider's general access data in these areas. You can download the general access data for many VoIP providers from the Internet (page 96).

- Make the settings on the Web page.
- Save them in the phone, see page 95.
- Activate the connection if necessary, see page 95.

Area: IP Connection

Connection Name or Number

Enter a name for the VoIP connection or the VoIP phone number (max. 16 characters). The connection will be shown under this name on the handset and in the Web configurator interface, e.g. when assigning sending and receiving numbers (page 100), with call display (page 29).

Provider

The name of your VoIP provider will be shown if you have already selected it.

Click the **Select VoIP Provider** button to select your provider and to start downloading the general data for the VoIP provider from the Internet if required. To find out how to do this, please read "Selecting the VoIP provider and downloading the VoIP provider data" on page 96.

Please note:

- If you click on the **Select VoIP Provider** button, any changes that have been made to the Web page will be saved and checked. Values may need to be corrected before the **Select VoIP Provider** operation is started.
- The downloaded VoIP provider data will be entered in the **General Provider Data** (page 92) and **Network** (page 93) areas, so that, generally speaking, no further settings need to be made in these areas.
  If the general data for your VoIP provider is not available for download, you will need to make these settings yourself as described below.

Area: Personal Provider Data

Enter the configuration data that is necessary for accessing your VoIP provider's SIP service. You will receive this data from the VoIP provider.

Authentication Name

Specify the registration or authentication ID agreed with your VoIP provider. The registration ID serves as the access ID that your phone must specify when registering with the SIP proxy/registrar server. The **Authentication Name** is mainly identical to the **Username**, i.e. to your Internet phone number.

Authentication password

Enter the password that you have agreed with your VoIP provider in the **Authentication password** field. The phone needs the password when registering with the SIP proxy/registrar server.

Username

Enter the caller ID for your VoIP provider account. This ID is usually identical to the first part of your SIP address (URI, your Internet phone number).

Example: If your SIP address is "987654321@provider.com", enter "987654321" in **Username**.

Display name (optional)

Enter any name that should be shown in the other caller's display when you call them via the Internet (example: Anna Sand). All characters in the UTF8 character set (Unicode) are permitted. The name must not exceed 32 characters.

If you do not enter a name, your **Username** VoIP phone number will be displayed.

Ask your VoIP provider if this feature is supported.

Area: Call Forwarding

You can also forward calls for this VoIP number to another external number (VoIP, fixed network or mobile phone). The forwarding is done via VoIP.

The **Call Forwarding** area is where you define whether and when calls for this VoIP number should be forwarded to another number.

You can also use the handset to set the forwarding and activate/deactivate it, see page 38.

Status
Use the **On** / **Off** option to activate or deactivate the call forwarding.

When
Choose when an incoming call should be forwarded: **When busy** / **No reply** / **Always**.

Call number
Enter the phone number to which the calls should be forwarded. Please note that you may have to enter the area code when forwarding to a fixed network number in the same area (depending on your VoIP provider and the setting for the automatic area code, page 103).

The settings only affect the selected VoIP phone number.

Area: General Provider Data

If you have downloaded the general settings for the VoIP provider from the Siemens configuration server (page 96), then the fields in this area will be preset with the data from the download. Generally speaking, you will not need to make any settings in this area.

Domain
Specify the last part of your SIP address (URI) here.

Example: For the SIP address "987654321@provider.com", enter "provider.com" in **Domain**.

Proxy server address
The SIP proxy is your VoIP provider's gateway server. Enter the IP address or the (fully-qualified) DNS name of your SIP proxy server. **Example:** myprovider.com.

Proxy server port
Enter the number of the communication port that the SIP proxy uses to send and receive signalling data (SIP port).

Port 5060 is used by most VoIP providers.

Registrar server
Enter the (fully-qualified) DNS name or the IP address of the registrar server.

The registrar is needed when the phone is registered. It assigns the public IP address/port number to your SIP address (**Username@Domain**) that was used by the phone at registration. With most VoIP providers, the registrar server is identical to the SIP server. **Example:** reg.myprovider.com.

Registrar server port
Enter the communication port used in the registrar. It is mainly port 5060 that is used.

Registration refresh time

Enter the time intervals at which the phone should repeat the registration with the VoIP server (SIP proxy) (a request will be sent to establish a session). The repeat is required so that the entry of the phone in the tables of the SIP proxy is retained and the phone can therefore be reached. The repeat will be carried out for all activated VoIP phone numbers.

The default is 180 seconds.

If you enter 0 seconds, the registration will not be repeated periodically.

Area: Network

Please note:
If you have downloaded the general settings for your VoIP provider from the Siemens configuration server (page 96), some fields in this area will be preset with the data from this download (e.g. the settings for the STUN server and the outbound proxy).

If NAT (Network Address Translation) and/or the firewall are activated on your base station router, you may have to make some settings in this area so that your base station phone can be reached (i.e. can be addressed) from the Internet.

Through NAT, the IP addresses of subscribers in the LAN are concealed behind the public IP address of the router.

For incoming calls

If on the router port forwarding for SIP and RTP port (page 76) is activated to the phone, no special settings are required for incoming calls.

If this is not the case, an entry in the NAT routing table (in the router) is necessary in order for the phone to be reached. This is automatically created when the phone is registered with the SIP service. In the interest of security, this entry is deleted at certain intervals (session timeout). The phone must therefore confirm its registration at certain intervals (see **NAT refresh time**, page 94), so that the entry stays in the routing table.

For outgoing calls

The phone requires its public IP address so that it can receive the voice data for the other caller and you can hear the other caller. If NAT is activated, the phone does not know the public IP address.

If the NAT for your router (symmetric NAT) is the only NAT between the phone and the SIP server, setting a value between 5056 and 5071 for your phone's SIP port will be enough (page 102). The phone's STUN server must be deactivated. Set **STUN enabled** to **No** (see below).

If the NAT for the router is not the only one between the phone and the SIP server (e.g. if your router is connected to the Internet via another LAN and the router for this LAN has an asymmetric NAT), there are two options:

- Your VoIP provider makes an outbound proxy available: the phone directs its request to establish a connection to the outbound proxy (instead of to the SIP proxy). This provides the data packet with the public IP address.

- The phone requests the public IP address from a STUN server on the Internet (Simple Traversal of UDP over NAT). The phone's STUN server must be deactivated.
  Set **STUN enabled** to **Yes** (see below).

  STUN may not be enough, however, with your router's symmetric NAT. You may have to forward an additional SIP and RTP port to the phone (Port Forwarding to all routers involved, see page 76) and set a value outside the 5056 – 5071 range for the phone's local SIP port (page 102).

The STUN server and outbound proxy are used alternately to work around the NAT/firewall in the router.

STUN enabled

Click **Yes** if you want your phone to use STUN.

STUN server

Enter the (fully-qualified) DNS name or the IP address of the STUN server on the Internet.

If you selected the **Yes** option in the **STUN enabled** field, you must enter a **STUN server** here.

STUN port

Enter the number of the communication port on the STUN server. The default port is 3478.

STUN refresh time

Enter the time intervals at which the phone should repeat the registration with the STUN server. The repeat is required so that the entry of the phone in the tables of the STUN server is retained. The repeat will be carried out for all activated VoIP phone numbers.

Ask your VoIP provider for the **STUN refresh time**.

The default is 240 seconds.

If you enter 0 seconds, the registration will not be repeated periodically.

NAT refresh time

Specify the intervals at which you want the phone to update its entry in the NAT routing table. Specify an interval in seconds that is a little smaller than the NAT session timeout.

As a rule you should not change the preconfigured value for the **NAT refresh time**.

Outbound proxy mode

Specify when the outbound proxy should be used.

Always

All signalling and voice data sent by the phone is sent to the outbound proxy.

Auto

Data sent by the phone is only sent to the outbound proxy when the phone is connected to a router with symmetric NAT or blocking firewall. If the phone is behind an asymmetric NAT, the STUN server is used.

If you have set **STUN enabled** = **No** or have not entered a STUN server, the outbound proxy is always used.

Never

The outbound proxy is not used.

If you do not make an entry in the **Outbound proxy** field, the phone behaves independently of the selected mode, as with **Never**.

Outbound proxy

Enter the (fully qualified) DNS name or the IP address of your provider's outbound proxy.

> **Please note:**
> With many providers, the outbound proxy is identical to the SIP proxy.

Outbound proxy port

Enter the number of the communication port used by the outbound proxy.

The default port is 5060.

Saving settings on the phone

▶ Click **Set** to save the changes.

The **Connections** list will be shown after saving (see Figure 3 on page 89).

If you want to reject the changes that have been made, click **Cancel**. The Web page is reloaded with the data saved on the phone.

Please note: If you do not make any entries for a lengthy period, the connection to the Web configurator is automatically terminated. Unsaved entries are lost. If necessary, implement temporary security measures. You can subsequently continue the entry and make changes if necessary.

Activating a new connection

If you have configured a new VoIP connection, you must also activate it.

In the **Connections** list:

▶ Activate the relevant option in the **Active** column (☑ = activated).

Your phone will register itself with the VoIP provider using the relevant access data. If the registration is successful, after a short period the **Status** column will show **registered** for the connection. You can now be reached on this VoIP phone number.

> **Please note:**
> Once the new entry has been made, the VoIP phone number for each handset is assigned as a receiving number. For how to adjust the assignment, see page 100.

Selecting the VoIP provider and downloading the VoIP provider data

Profile files with the general access data for the most important VoIP providers are available for download on the Siemens server on the Internet. The IP address for the server is stored in your phone (page 106).

Navigation:

- Open the following Web page: **Settings** ➜ **Telephony** ➜ **Connections**.
- Click the **Edit** button next to the VoIP connection for which you wish to download the provider data.
- In the **IP Connection** area, click the **Select VoIP Provider** button.

This will display information on the download procedure.

The phone establishes a connection with the Siemens server on the Internet. The download procedure has several steps:

- Click **Next**.
- From the list, select the country for which the list of VoIP providers is to be loaded.
- Click **Next**.
- Select a VoIP provider from the list. If your provider is not included in the list, select **Other Provider**. You will then have to enter all the VoIP data manually (page 90).
- Click **Finish**.

The data for the provider selected will be loaded onto your phone.

Activating/deactivating the Gigaset.net connection

Your phone is assigned a Gigaset.net phone number on delivery. As soon as you have connected your phone to the Internet, you can make calls using the Gigaset.net and receive calls from other Gigaset.net subscribers, provided that your Gigaset.net connection has been activated. You can deactivate the Gigaset.net connection.

- Open the following Web page: **Settings** ➜ **Telephony** ➜ **Connections**. The list of connections will be displayed (see Figure 3 on page 89).
- In the **Gigaset Net** area: use the option in the **Active** column to activate (☑) or deactivate (☐) the Gigaset.net connection.

Please note:
If you do not use your Gigaset.net connection for six weeks, it is automatically deactivated. You cannot be reached for calls from the Gigaset.net.
The connection is reactivated:
– as soon as you start a search in the Gigaset.net directory (page 34) or
– make a call via the Gigaset.net (dial a number with #9 at the end) or
– activate the connection via the Web configurator as described above.

Optimising voice quality for VoIP connections

You can make general and connection-specific settings to improve the voice quality for VoIP telephony.

▶ Open the following Web page: **Settings** ➔ **Telephony** ➔ **Audio**.

The voice quality for VoIP connections is mainly determined by the **voice codec** used for transferring the data and the available **bandwidth** of your DSL connection.

In the case of the voice codec, the voice data is digitalised (coded / decoded) and compressed. A "better" codec (better voice quality) means more data needs to be transferred, i.e. perfect voice data transfer requires a DSL connection with a larger bandwidth.

The following voice codecs are supported by your phone:

G711 a law / G711 µ law
Excellent voice quality (comparable with ISDN). The necessary bandwidth is 64 kbit/s per voice connection.

G726
Good voice quality (inferior to that with G711 but better than with G729).

Your phone supports G726 with a transmission rate of 32 kbit/s per voice connection.

G729
Average voice quality. The necessary bandwidth is less than 8 kbit/s per voice connection.

Both sides of a phone connection (caller/sender side and receiver side) must use the same voice codec. The voice codec is negotiated between the sender and the recipient when establishing a connection.

You can influence the voice quality by selecting (bearing in mind the bandwidth of your DSL connection) the voice codecs your phone is to use, and specifying the order in which the codecs are to be suggested when a VoIP connection is established.

Area: Settings for Bandwidth

The settings in this area influence all VoIP connections (VoIP phone numbers).

Allow 1 VoIP call only
Generally speaking you can make two VoIP calls at the same time on your phone. If, however, your DSL connection has a narrow bandwidth, there may be problems if two VoIP calls are made at the same time. The data is no longer transferred properly (long voice delay, data losses etc.).

▶ Activate the **Yes** option next to **Allow 1 VoIP call only** to prevent any further parallel VoIP phone connections being established.

▶ If you wish to permit two VoIP connections, activate the **No** option.

Please note: If only one VoIP connection is permitted, the following VoIP network services are **no longer** available:
– Call waiting
Call waiting is not displayed during a call via VoIP.
– External consultation call from a VoIP call
– Toggling and initiating a conference call via VoIP

Voice Quality

Default settings for the codecs used are stored in your phone: one setting optimised for narrow bandwidths and one setting optimised for wide bandwidths.

- Activate one of the options **Optimized for low bandwidth** / **Optimized for high bandwidth** if you wish to accept a default setting for all VoIP connections. The settings are shown in the **Settings for Connections** area and cannot be changed.
- Activate the **Own Codec preference** option if you wish to select and set connection-specific voice codecs yourself (see section "Area: Settings for Connections").

Area: Settings for Connections

In this area you can make specific settings for each of your VoIP phone numbers.

You can make the following settings for each VoIP phone number configured on your phone:

Volume for VoIP Calls

Depending on the VoIP provider, it is possible that the received voice/earpiece volume is too low or too high, so that adjusting the volume via the handset is not adequate.

Specify whether the received volume range is too high or too low. The following options are available:

Low

Voice/earpiece volume is too high. Activate this option to reduce the volume by 6 dB.

Normal

The voice/earpiece volume does not need to be raised/lowered.

High

Voice/earpiece volume is too low. Activate this option to reduce the volume by 6 dB.

Voice codecs

Precondition: The **Own Codec preference** option is activated for the **Voice Quality** in the **Settings for Bandwidth** area.

Select the voice codecs your phone is to use, and specify the order in which the codecs are to be suggested when a VoIP connection is established via this VoIP phone number.

- Apply the voice codecs that your phone is to suggest with outgoing calls into the **Selected codecs** list.
  To do this, in the **Available codecs** list click on the voice codec that you want to apply (you can mark several entries using the Shift key or the Ctrl key). Click on the **<Add** button.
- Move the voice codecs that you do not want the phone to use into the **Available codecs** list.
  Also, select the voice codecs in the **Selected codecs** list (see above) and click on the **Remove>** button.
- Sort the voice codecs in the **Selected codecs** list into the order in which they should be suggested to the receiving device when a connection is established. To do this, use the **Up** and **Down** buttons.

When establishing a VoIP connection, the phone suggests the 1st voice codec in the **Selected codecs** list to the receiving device to begin with. If the receiving device does not accept this voice codec (e.g. because it is not supported), the 2nd voice codec in the list is suggested and so on.

If the receiving device does not accept any of the voice codecs in the **Selected codecs** list, the connection is **not** established. An appropriate message will be displayed on the handset.

Please note:
- You should only deactivate codecs (put them in the **Available codecs** list) if there is a particular reason. The more codecs that are deactivated, the greater the danger that calls will not be able to be established due to unsuccessful codec negotiations.
- With incoming calls, all supported voice codecs are always permitted.

Area: Settings for Codecs

To save additional bandwidth and transmission capacity, on VoIP connections that use codec **G729** you can suppress the transmission of voice packets in pauses ("Silence Suppression"). Then, instead of the background noises in your environment, your caller hears a synthetic noise generated in the receiver.

Please note: "Silence Suppression" can sometimes lead to deterioration in the voice quality.

▶ In the **Enable Annex B for codec G729** field, state whether, when using codec **G729**, transmission of data packets for pauses is to be suppressed (activate the **Yes** option).

Saving settings on the phone

▶ Click on the **Set** button to save the settings for the voice quality.

Please note:
You should observe the following for good voice quality:
- Configure the Quality of Service for your router as described on page 78.
- When making calls using VoIP, avoid performing other Internet activities (e.g. surfing the net).
- Irrespective of the codec used and the network capacity utilisation, please note that voice delays can occur. Therefore, allow your VoIP calling partner to finish speaking. Do not interrupt him or her.

Voice quality and infrastructure

With your Gigaset CE 460 IP R you have the opportunity to make calls with good voice quality via VoIP.

In addition to the phone settings, your phone's performance with VoIP - and therefore the voice quality - also depends on the characteristics of the infrastructure as a whole.

The performance is influenced by the QoS of your base station router (page 78) and, if necessary, other applications that also use the DSL connection. These may include the following components from your VoIP provider:

- DSLAM
- DSL transmission line and speed
- Connection paths over the Internet

In VoIP networks, voice quality is affected by various things including the "quality of service" (QoS). If the entire infrastructure demonstrates QoS, voice quality is better (fewer delays, less echoing, less crackling etc.).

Assigning sending and receiving numbers to handsets

You can assign up to six VoIP phone numbers to your phone.

You can assign these numbers to the individual handsets that are registered to your base station as receiving and sending numbers. This means for each handset, you define the calls that it will ring for, and which VoIP account (sending number) is to be used by your VoIP provider to calculate outgoing VoIP calls.

Please note:
A handset is assigned the following numbers after it is registered on the base station:
– Receiving numbers: all phone numbers for the phone.
– Sending numbers: the phone number that you entered at the start of the phone configuration.
Your Gigaset.net number is permanently assigned to each handset as the sending and receiving number.

▶ Open the following Web page: **Settings** ➔ **Telephony** ➔ **Number Assignment**.

This will display the names of all registered handsets, and a list for each handset with the phone numbers that are configured and activated for the phone. The connection names are shown in the **Connections** column.

▶ Define a VoIP phone number as the sending number for each handset. To do this, click on the option following the phone number in the **Send** column. The previous assignment will automatically be deactivated.

▶ Select the phone numbers for each handset that are to be assigned to the handset as receiving numbers. To do this, click on the option following the phone number in the **Receive** column. Every handset can be assigned several phone numbers or no phone number (☑ = assigned).

▶ Now click **Set** to save your settings.

Please note:
– If a VoIP phone number that has been assigned to a handset as a sending number is deleted/deactivated, then the handset will automatically be assigned the first VoIP phone number.
– If a phone number is not assigned to any handset as a receiving number, calls to this number will be signalled on all handsets.
– If you have not assigned receiving numbers to any of the handsets, calls to all connections will be signalled on all handsets.

Setting DTMF signalling for VoIP

DTMF signalling, for example, is required to check and control some network mailboxes via digit codes.

▶ Open the following Web page: **Settings** ➜ **Telephony** ➜ **Advanced Settings**.

Make the desired settings for the DTMF signals in the **DTMF over VoIP Connections** area.

Specify how key codes are to be converted and sent as DTMF signals: as audible information in the voice channel or as a "SIP Info" message.

Ask your VoIP providers which type of DTMF transmission they support.

▶ Activate **Audio** or **RFC 2833** if DTMF signals are to be transmitted acoustically (in voice packets).

▶ Activate **SIP Info** if DTMF signals are to be transmitted as code.

Please note:
The settings for DTMF signalling apply to all VoIP connections (VoIP accounts).

▶ Now click **Set** to save your settings.

Defining local communication ports for VoIP

▶ Open the following Web page: **Settings** ➜ **Telephony** ➜ **Advanced Settings**.

In the **Listen Ports for VoIP Connections** area, specify which local ports the telephone is to use for VoIP telephony. The ports must not be used by any other subscriber in the LAN.

SIP port

Specify the local communication port that the phone should use to send and receive signalling data. Specify a number between 1024 and 49152.

The default port number for SIP signalling is 5060.

The recommended value is between 5056 and 5071.

RTP port

Specify the local communication port that the phone should use to send and receive voice data. Enter an **even** number between 1024 and 49152. The port number must **not** match the port number in the **SIP port** field. If you enter an odd number, the even number just below it will be set (e.g. if you enter 5003, 5002 is set).

The default port number for SIP signalling is 5004.

Use random ports

Click the **Yes** option if you do not want the phone to use fixed ports for **SIP port** and **RTP port**, but rather to use any free ports.

The use of random ports makes sense if you want several phones to be operated on the base station router. The phones must then use different ports so that the router's NAT is only able to forward incoming calls and voice data to one (the intended) phone.

If you click **No**, the phone will use the ports specified in **SIP port** and **RTP port**.

▶ Now click **Set** to save your settings.

Setting Area Code Predialling

In VoIP calls you must generally always dial the area code – even for local calls.

You can save the annoying need to dial the area code for local calls by activating the **Area Code Predialling** function. In VoIP calls, the area code entered is then prefixed to all numbers that do not start with 0 – even when dialling numbers from the directory and other lists.

- Open the following Web page: **Settings** ➜ **Telephony** ➜ **Dialing Plans**.
- Enter your area code in the **Area Code** field, e.g. 020.
- Click the **Yes** option next to **Predial area code for local calls through VoIP** to activate the function.

  If you click **No** you must enter the area code even for local calls via VoIP. Numbers in the directory must always contain the area code for dialling via VoIP.
- Click **Set** to save the settings.

Please note that if the option is activated, the area code is prefixed to all phone numbers that do not start with 0. This applies particularly for the number for the network mailbox (page 47).

Loading and deleting directories to/from the PC.

The Web configurator has the following options for editing the directories of the registered handsets.

- Store the handset directories on a PC. They will be stored in tsv-ASCII files (tsv = tabulator separated values). These files can be edited with an ASCII editor (e.g. Notepad/Editor in Windows accessories) and loaded onto every handset that is registered. You can also transfer directory entries from the tsv file into your Outlook™ address book.
- Transfer Outlook™ contacts to the handset directories. Export Outlook™ contacts into a tsv-ASCII file and transfer this into the directories. Find out how to do this in the section "Format of the directory file (tsv file)" on page 105.
- Delete the directory on the handset. If you have edited the directory file (tsv file) on the PC and would like to use this modified directory on the handset, you can delete the current directory from the handset first.

  Tip: Back up the current directory on your PC before deleting it. You can then load it back onto the handset if the modified directory is affected by formatting errors and some, or all, of it cannot be loaded onto the handset.

Preconditions:

- The handset can send and receive directory entries.
- The directory on the handset is not being accessed, i.e. the directory is not open.
- Open the following Web page: **Settings** ➜ **Telephony** ➜ **Directory**.
- In the **Handset** area, select the handset whose directory you want to edit. To do this, click on the option before the handset.

Loading the directory file from the PC to the handset

- In the **Transfer directory to handset** field: enter the tsv file (complete path name) that is to be loaded onto the handset. Click the **Browse** button to navigate to the file.
- Click the **Transfer** button to start the transfer.

The display will show how many of the entries from the tsv file are being transferred to the directory. If a formatting error occurs, the line number for the affected entry will be specified.

Transfer rules

The directory entries from a tsv file that are loaded onto the handset will be added to the directory. No directory entries will be overwritten or deleted.

If the phone number for a directory entry is identical to the phone number for an entry in the tsv file, the entry is not copied to the handset.

Loading the directory from the handset to the PC

- In the **Handset Directory** area, click on the **Save** button. A Windows dialogue will be shown to save the file.
- Enter the directory on the PC (complete path name) in which the directory file is to be stored. Click on the **Save** button or **OK**.

Deleting the directory

- In the **Handset Directory** area, click on the **Delete** button.
- Confirm the security prompt **Telephone directory of the selected handset will be deleted. Continue?** with **OK**.

All directory entries will be deleted.

Please note:
For how to delete the directory on the handset, see page 41.

Format of the directory file (tsv file)

The following describes the structure of the tsv file as it is created from the phone. The phone expects the same structure if you load a tsv file from the PC onto a handset. A tsv file created by Outlook™ may need editing with an ASCII editor before it can be loaded onto a handset.

Every directory entry in the tsv file is recorded in one line (which is closed with an end-of-line symbol).

The data in each entry has specific positions within the line. The positions are separated by tabs (<tab>). The following data is written in the file in the specified order:

1. Internal code (can remain empty)
2. Name
3. Number

If one of the above parameters in a directory entry is not set, then the relevant position must remain empty (<tab><tab>).

In the case of directory entries for the Gigaset C46 handset, five tabs <tab> must be inserted between the number and the end-of-line symbol. These spaces are reserved for additional information, which can be stored in the directory for other Gigaset handsets (e.g. the Gigaset S45).

Example:

You want to create an entry for Anna Sand with the number 123456.

The tsv file must contain the following in a line:
<tab>Anna Sand<tab>123456<tab><tab><tab><tab> <tab><enter>

Defining the server for firmware updates, starting the update

If necessary you can download updates for the phone firmware to your base station. You can either download the updates directly from the Internet or from a PC in your local network.

Using the Web configurator you can specify from where the firmware should be loaded.

▶ Open the following Web page: **Settings** ➜ **Miscellaneous**.

Please note:
The base station router's firmware is not updated during this firmware update. For the firmware update for the base station router see page 83.

Downloading the firmware update directly from the Internet

The server on which Siemens makes new firmware versions available for your base station is set by default. The URL of the Internet server is displayed in the **Data server** field.

The firmware is loaded from the Internet if you do not enter a local file in the **User defined firmware file** field before this update.

Please note:
– When updating from the Internet, checks are made to ensure that no **newer** version of the firmware exists. If this is not the case, the operation is terminated.
– You should not change the URL for the Internet server because this address is also used to load provider information from the Internet. If you have entered another URL, you can re-activate the default URL by restoring the base station default settings (page 57).

Conducting the firmware update locally

Precondition: A Web server is running on the local PC (e.g. Apache).

▶ First, load the desired version of the firmware from the Internet onto a local PC. Store the firmware file in the Web server's file directory.
▶ In the **User defined firmware file** field enter the IP address of the PC in your local network and the complete path and name of the firmware file within the Web server directory. Example: 192.168.2.105/S450IP/Firmware_File.bin.
▶ Click **Set** to save the changes.

This setting is automatically used for the **subsequent** firmware update. The Internet server URL stays saved and is re-used for further firmware updates. If you want to use a local PC again for another update, then you have to re-enter the IP address and file name.

Please note:
If an error arises during a firmware update from a local PC, the most recent version of the firmware is automatically downloaded from the Internet.

Starting a firmware update

Preconditions:

- No calls are being made using your base station.
- There is no internal connection between the registered handsets.
- The base station menu is not open in any of the handsets.

▶ Click **Update Firmware**.

The firmware is updated. This process can take up to 3 minutes.

Please note:
You can also start the firmware update on the handset (page 58).

Activating/deactivating the automatic version check

When the version check is activated, the phone checks on a daily basis whether the Siemens configuration server is carrying a new version of the phone firmware or of the file with the general settings for your VoIP provider.

If a new version is available, a notification is sent to the handset and the message key flashes. You can then carry out an automatic update of the firmware (page 59) or of the VoIP provider settings (page 62).

▶ Open the following Web page: **Settings** ➔ **Miscellaneous**.

▶ Click the **Yes** option next to **Automatic check for software/profile updates** to activate the automatic version check.

Click **No** if you do not want a version check to be carried out.

▶ Click **Set** to save the changes.

Activating VoIP status message display

Display VoIP status messages on your handset when there are VoIP connection problems. These messages give you information on the status of a connection and contain a provider-specific status code that helps the service team when they are analysing the problem.

▶ Open the following Web page: **Settings** ➔ **Miscellaneous**.

▶ Click the **Yes** option next to **Show VoIP status on handset** to activate the status message display.

If you click **No**, no VoIP status messages are displayed.

▶ Click **Set** to save the changes.

Please note:
A table with possible status codes and their meaning can be found in the appendix on page 116.

Checking status information via your phone

General information about your phone is displayed.

▶ In the menu list, click on the **Status** tab.

The following information is displayed:

IP Configuration

IP address
The phone's current IP address within the local network. For assigning the IP address, see page 87.

MAC address
The phone's device address.

Software

Firmware version
Version of the firmware currently downloaded. You can download updates of the firmware on your phone (page 58). Firmware updates are available on the Internet.

EEPROM version
Version of your phone's EEPROM storage chip (page 137).

Messaging

Your Gigaset CE 460 IP R base station has messaging functions that you can use via a messaging-capable handset, e.g. a **Gigaset S45** handset. The handset must be registered with your base station.

The following messaging functions are available:

- Messenger functions

  The messenger client in your base station enables **instant messaging** (immediate message transfer, chatting). The phone supports the XMPP messenger (Jabber).
- E-mail functions

  Your telephone checks at regular intervals whether new messages have arrived in your incoming e-mail server. New e-mail messages are displayed by means of e-mail notifications on a handset with messaging functionality (sender and subject of the e-mail).

Saving messenger access data

In order to be able to use your base station's messenger functions, you need to register a handset with messaging capability and save the access data for your messenger server in the phone.

Your base station is already registered with the Gigaset.net Jabber server. An account has been assigned to the base station. You can chat to other Gigaset.net subscribers via this account. To do this you need to create a buddy list on the PC (see "Setting up Gigaset.net Jabber account" on page 110).

You can also register with another instant messaging provider that supports XMPP Messenger (Jabber).

In order for you to use your phone's messenger to "go online" and "chat", you must save the address of the messenger server and your access data on the phone via the Web configurator.

You can define a **Resource** name and a **Priority** for your phone. Both are required if you are logged in (online) with the messenger server with several devices (phone, desktop PC and laptop) at the same time using the same **Jabber ID**.

The **Resource** name is used to distinguish between the devices. The phone cannot log in with the messenger server if it does not have a resource name.

You should assign a **Priority**, as each message will only be sent to one device for each Jabber ID. The **Priority** determines which of the devices receives the message.

Example: You are online using one of your phone's handsets and your PC both at the same time. You have assigned your phone (**Resource** name "**phone**") **Priority** 5 and your PC (**Resource** name "PC") priority 10. In this case, any message addressed to your Jabber ID will be sent to your phone.

Making settings

- Open the following Web page: **Settings** ➜ **Messaging** ➜ **Messenger**.
- In the **Messenger Account** field, select whether you wish to use the **Gigaset Net** Jabber server or another provider's messenger server (**Other**).

  The access data for **Gigaset.net** is already stored in the base station. It is displayed in **Jabber ID**, **Authentication password** and **Jabber server**. With this data you can also register with the Gigaset.net Jabber server through your PC.
- Enter the user ID (max. 50 characters) and password (max. 20 characters) that you used to register with the messenger server in the **Jabber ID** and Authentication password fields.

  If you have selected **Messenger Account** = **Gigaset Net**, the fields are preset with your Gigaset.net account.
- Enter the IP address or the DNS name of the messenger server in the **Jabber server** field. Max. 74 alphanumeric characters.

  If you have selected **Messenger Account** = **Gigaset Net**, the field is preconfigured with the name of the Gigaset.net server.
- Enter the number of the communication port on the messenger server in the **Jabber server port** field. The default port is 5222.

  The port number is preset if you have **Messenger Account** = **Gigaset Net**.
- Enter a resource name (max. 20 characters) in the **Resource** field.

  The default is: **phone**.
- Enter the priority for your phone in the **Priority** field. Select a number between -128 (highest priority) and 127 (lowest priority) for the priority.

  The default is: 5
- Click **Set**.

Setting up Gigaset.net Jabber account

Your phone is already registered with the Gigaset.net Jabber server. An account has been assigned to your phone.

To be able to chat to other Gigaset.net subscribers via this account, you have to add the desired Gigaset.net subscriber to your contact list (buddy list) on the PC. You can use any conventional Jabber client for this (e.g. PSI, Miranda; see e.g. http://www.swissjabber.ch).

Do the following so you can use your Gigaset.net Jabber account:

- Start the phone Web configurator, open the Web page **Settings** ➜ **Messaging** ➜ **Messenger** and select **Messenger Account** in the **Gigaset Net** field. Your account data is displayed in **Jabber ID** and **Authentication password**. You will need these to create a buddy list via the Jabber client on the PC.
- Start your Jabber client on the PC.
- Enter your Gigaset.net **Jabber ID** in the Jabber client. The **Jabber ID** consists of your Gigaset.net number and "@jabber.gigaset.net"

  Example: 21721123901#9@jabber.gigaset.net
- Then enter your **Authentication password**.

Please note:
- Do **not** select the option "Create new account". Your Gigaset.net Jabber account has already been created in Gigaset.net.
- The option "SSL connection" must be **deactivated** in the Jabber client.

▶ Now you can enter Gigaset.net subscribers as contacts (buddies).

For the Jabber ID for the relevant subscriber, enter their Gigaset.net number along with "@jabber.gigaset.net" (example: 2141524901#9@jabber.gigaset.net).

A request to "Add to contact list" will be sent to the subscriber.

If the subscriber accepts this request, they will be added to your buddy list. This updated buddy list will be displayed on the handset the next time the messenger is rebooted. To reboot: Disconnect from the messenger server if necessary and then go online again.

Please note:
For how to go online with your Gigaset S45 handset and chat to buddies or call buddies, please refer to the detailed user guide for the Gigaset S450 IP on the Internet at: www.siemens.com/gigaset.

Making e-mail settings

You must store the IP address/DNS name of your incoming e-mail server and your personal access data in the phone and activate the e-mail check with the incoming e-mail server, so that the phone can connect to the incoming e-mail server and your mailbox.

Making settings

▶ Open the following Web page: **Settings** ➔ **Messaging** ➔ **E-Mail**.

▶ Enter the user name (account name) agreed with the Internet provider (max. 50 characters) in the **Authentication Name** field.

▶ Enter the password that you agreed with your provider for accessing the incoming e-mail server (max. 20 characters; case sensitive) in the **Authentication password** field.

▶ Enter the name of the **incoming e-mail server** (POP3 server) (max. 74 characters) in the POP3 Server field.

▶ From the **Check for new E-Mail** list select the time interval at which your phone should check if new messages have arrived in your incoming e-mail server. Select **Never** to deactivate the prompt. Select one of the other values to activate the prompt for new e-mail messages.

Only activate the prompt if a handset with messaging capability (e.g. Gigaset S45) is registered to your base station.

▶ Click the **Set** button to save the settings in your phone.

Please note:
For how e-mail notifications are displayed on a Gigaset S45 IP handset and opened for reading, please refer to the detailed user guide for the Gigaset S450 IP on the Internet at: www.siemens.com/gigaset.

Appendix

Symbols and typographical conventions used

This section explains the meaning of certain symbols and typographical conventions that are used in this user guide.

Enter digits or letters.

Menu — The display functions currently in the bottom display line are shown in reversed highlights. Press the relevant display key to launch the function.

Press up or down on the control key, e.g. when scrolling.

/ 0 / *△ etc.
Press the matching key on the handset.

External Calls / Internal Calls (example)
Select one of the menu functions (External Calls or Internal Calls) from the list and press OK.

Menu ➜ Audio Settings ➜ Ringer Melody (example)
Press Menu. Select Audio Settings using and press OK. Select Ringer Melody using and press OK.

Care

- Wipe down the base station and handset with a **damp** cloth (no solvents) or an anti-static cloth.

Never use a dry cloth. This can cause a build up of static.

Contact with liquid ⚠

If the handset has come into contact with liquid:

- **Switch the handset off and remove the batteries immediately.**
- Allow the liquid to drain from the handset.
- Pat all parts dry, then with the battery compartment open and the keypad facing down place the handset in a dry, warm place **for at least 72 hours** (**not** in a microwave, oven etc.).
- **Do not switch on the handset again until it is completely dry.**

When it has fully dried out, you will normally be able to use it again.

Questions and answers

If you have any questions about using your phone, visit us at www.siemens.com/gigaset-customercare at any time. The table below contains a list of common problems and possible solutions.

Please note:

To support the service team, it is helpful if you have the following information to hand:

– The version of the firmware and the MAC address for your base station router, together with the version of the firmware, of the EEPROM and the MAC address for your base station phone.
  You can check this information using the router Web configurator (page 84) or the phone Web configurator (page 108). For how to check the phone's MAC address on your handset, turn to page 63.
– VoIP status code (page 116)
  For problems with VoIP connections, you should set VoIP status messages to be displayed on your handset (page 62, page 107). These messages contain a status code that helps when the problem is analysed.

The display is blank.

1. The handset is not switched on.
   ▸ Press **and hold** the end call key.
2. The battery is flat.
   ▸ Charge the battery or replace it (page 8).

The keys of a handset do not respond when pressed.

The keypad lock is activated.
▸ Press and **hold** the hash key # (page 31).

Base flashes in the display.

1. The handset is outside the range of the base station.
   ▸ Move the handset closer to the base station.
2. The base station is not switched on.
   ▸ Check the base station's mains adapter (page 12).
3. An update of the base station firmware is currently being conducted (page 58, page 106).
   ▸ Please wait until the update is complete.

Please Register flashes in the display.

The handset is not registered.
▸ Register the handset (page 48).

Handset does not ring.

The ringer is switched off.
▸ Activate the ringer (page 54).

The other party cannot hear you.

You have pressed the INT display key. The handset is "muted".
▸ Switch on the microphone again (page 30).

You hear an error tone when keying an input
(a descending tone sequence).

Action has failed/invalid input.

- Repeat the operation.
  Watch the display and refer to the user guide if necessary.

You have forgotten the system PIN or the router password.

- If you have forgotten the system PIN, you can reset the base station with the key on the base station (page 57).
- If you have forgotten the router password, you can reset the base station via the menu (page 57).

You have made a call via VoIP but cannot hear the other participant.

1. Port forwarding is activated on your router, but no permanent IP address has been assigned to your phone.
   - Assign the phone a static IP address (page 87) and update the port forwarding settings if necessary (page 76).
2. STUN is enabled on your base station phone or the local SIP port for the base station phone is outside the range 5056 - 5071. As the NAT for your router is symmetric, malfunctions can still occur during outgoing calls.
   - Disable STUN (page 94) and check the settings for the local SIP port (page 102).
   - Enter an outbound proxy (if one has been made available by your VoIP provider) and activate the outbound proxy mode **Auto** or **Always** (page 94).

   If the NAT for your router is not the only NAT between the phone and the SIP server (Internet connection via another LAN) and if no outbound proxy is available:
   - Assign the phone a static IP address (page 87) and enable port forwarding to the phone for the SIP and RTP port on the router (page 76). If necessary select the local SIP port for the phone so that it is not in the range 5056 - 5071 (page 102).

You cannot make calls via VoIP. The display shows **Server not accessible!**.

- First wait a few minutes. This is often a short-term event that corrects itself after a short time.

If the message is still displayed, proceed as follows:

- Check your base station's cable connection to the Internet.
- Check whether the phone is connected to the LAN. For example, set a ping command on the phone (ping ␣ <local IP address of the phone>). The base station router may not have been able to assign an IP address to the phone. Check the settings on the router, you may have to activate the DHCP server.
- If a static IP address is assigned to the base station phone, check whether the IP address settings for the base station phone and base station router are compatible. Please note the following:
  - The IP address for the phone must belong to the address block for the router, i.e. the first three parts of the IP addresses for the phone and the router in subnet mask 255.255.255.0 must be the same.
  - The IP address for the phone must not be assigned to any other LAN subscriber. If the DHCP server for the router is enabled, no static IP address can belong to the address block that is reserved for dynamically assigning IP addresses (default setting: 192.168.1.100 – 192.168.1.150)

You cannot make calls via VoIP. The display shows **SIP registration failed!**.

- First wait a few minutes. This is often a short-term event that corrects itself after a short time.

The message may still be displayed for the following reasons:

1. The details for your VoIP account (**Username**, **Authentication Name** and **Authentication Password**) may be incomplete or incorrect.
   - Check your information. In particular, check your use of upper and lower case.
2. The general settings for your VoIP provider are incomplete or incorrect (incorrect server address).
   - Start the Web configurator and check the settings.

You cannot establish a connection to the phone with your PC's Web browser.

- When establishing a connection, check the phone's local IP address that has been entered. An IP address that has been dynamically assigned can change when the router is rebooted. You can check the IP address on your handset (page 60).
- Check the LAN connection between the PC and base station.
- Check that your base station phone can be reached. For example, transmit a ping command to your base station phone from your PC.
- You have tried to reach the phone via a secure http (https://...). Try again with http://....

You cannot be reached for calls from the Internet.

- Check whether your base station is connected to the Internet. The **Internet Status** for your base station router is displayed on the start page of the router Web configurator.
- There is no entry for your phone in your router's routing table. Check the settings for the **NAT refresh time** (page 94).
- Your phone is not registered with the SIP service.
- You have entered the incorrect user ID/user identification or the incorrect domain for your VoIP account (page 91).

No firmware update or VoIP profile download is carried out for the base station phone.

1. If **Not possible! Try later!** is displayed, the VoIP line may be busy or a download/update is already being carried out.
   - Repeat the process at a later time.
2. If **File corrupt!** is displayed, the firmware or profile file may be invalid.
   - Please only use firmware and downloads that are made available on the preconfigured Siemens server (page 106) or at www.siemens.com/gigasetcustomercare.
3. If **Server not available!** is displayed, the download server may not be accessible.
   - The server is currently not accessible. Repeat the process at a later time.
   - You have changed the preconfigured server address (page 106). Correct the address. If necessary, reset the base station.
4. If **Transmission error XXX** is displayed, an error occurred in the transmission of the file. An HTTP error code is displayed for XXX.
   - Repeat the process. If the error occurs again, consult the Service department.
5. If **Please check IP settings!** is displayed, your phone may not be connected to the Internet.
   - Check the cable connections between the base station and the Internet.
   - Check whether the phone is connected to the LAN, i.e. it can be reached at its IP address.

VoIP status codes

If you have problems with your VoIP connections, activate the **Status on HS** function (page 63, page 107). You will then receive a VoIP status code that will support you in problem analysis. Also enter the code during problem analysis by the Service department.

In the following tables you will find the meanings of the most important status codes and messages.

Status code	Meaning
0x300	The called party can be reached under several phone numbers. If the VoIP provider supports this, a list of the phone numbers is transmitted as well as the status code. The caller can select to which number he wants to make the connection.
0x301	Permanently redirected. The called party can no longer be reached under this number. The new number is transmitted to the phone together with the status code, and the phone then no longer accesses the old number but dials the new address immediately.
0x302	Temporarily redirected. The phone is informed that the called party cannot be reached under the number dialled. The duration of redirecting is time-limited. The phone is also informed of the duration of redirecting.
0x305	The query is redirected to another proxy server, e.g. to balance query loads. The phone will make the same query once again to another proxy server. This is not a redirection of the address per se.
0x380	Other service: The query or the call could not be made. But the phone is notified what other options there are to be able to connect the call.
0x400	Wrong call.
0x401	Not authorised.
0x403	The requested service is not supported by the VoIP provider.
0x404	Wrong phone number. No subscriber on this number. Example: In a local call you have not dialled the area code although your VoIP provider does not support local calls.
0x405	Method not permitted.
0x406	Not acceptable. The requested service cannot be provided.
0x407	Proxy authentication required.
0x408	Calling partner cannot be reached (e.g. account cancelled).
0x410	The requested service is not available from the VoIP provider.
0x413	Message is too long.
0x414	URI is too long.
0x415	Query format is not supported.

Status code	Meaning
0x416	URI is faulty.
0x420	Wrong ending.
0x421	Wrong ending.
0x423	The requested service is not supported by the VoIP provider.
0x480	The dialled number is temporarily unavailable.
0x481	The recipient is not available.
0x482	Double service query.
0x483	Too many "hops": The query was rejected because the service server (proxy) has decided that this query has already run through too many service servers. The maximum number was previously specified by the original sender of the query.
0x484	Wrong number: In most cases this response means that you have simply omitted one or more digits in the phone number.
0x485	The URI dialled is not unique and cannot be processed by the VoIP provider.
0x486	The called party is busy.
0x487	General faults: The call was interrupted before a call was established. The status code confirms receipt of the interruption signal.
0x488	The server cannot process the query because the data entered in the media description is not compatible.
0x491	The server notifies that the query will be processed as soon as a previous query has been completed.
0x493	The server rejects the query because the phone cannot decrypt the message. The sender has used an encryption method that neither the server nor the receiver phone can decrypt.
0x500	The proxy or the receiving device has discovered a fault while executing the query, which makes further execution of the query impossible. In this case, the caller or the phone displays the fault and repeats the query after a few seconds. The number of seconds after which the query can be repeated may be transmitted to the caller or to the phone by the receiving device.
0x501	The query cannot be processed by the recipient because the recipient does not have the functionality that the caller requires. If the recipient understands the query but does not process it because the sender does not have the necessary rights or the query is not permitted in the current context, a 405 is sent instead of 501.
0x502	In this case, the receiving device that transmits this error code is a proxy or a gateway and has received an invalid response from its gateway via which this query is to be processed.
0x503	The query cannot currently be processed by the receiving device or the proxy because the server is either overloaded or is being serviced. If it is possible for the query to be repeated in the foreseeable future, the server informs the caller or the phone of this.
0x504	Time limit exceeded at the gateway.

Status code	Meaning
0x505	The server rejects the query because the indicated version number of the SIP protocol does not at least concur with the version that the server or the SIP device uses that is involved in this query.
0x515	The server rejects the query because the message exceeds the maximum permitted size.
0x600	The called party is busy.
0x603	The called party has rejected the call.
0x604	The called URI does not exist.
0x606	The communication settings are not acceptable.
0x701	The called party has hung up.
0x703	Connection interrupted because of time-out.
0x704	Connection interrupted because of a SIP error.
0x705	Wrong dialling tone.
0x706	No connection established.
0x751	Busy tone: No codec match between the calling and called subscriber.
0x810	General socket layer error: User is not authorised.
0x811	General socket layer error: Wrong socket number.
0x812	General socket layer error: Socket is not connected.
0x813	General socket layer error: Memory error.
0x814	General socket layer error: Socket not available - check IP settings / connection problem / VoIP setting incorrect.
0x815	General socket layer error: Illegal application on the socket interface.

Searching for service information

You may need the service information of your device (base station and handset) for Customer Services.

Base station service information

Precondition: You are conducting an external call. The connection has been established for at least 8 sec.

Menu ➜ Service Info
Confirm selection with OK.

The following information is displayed:

1: Serial number of the base station (RFPI)

2: Serial number of your handset (IPUI)

3: Informs the service employees of the base station phone settings (in hex diagram), e.g. about the number of registered handsets, repeater mode. The last 4 digits indicate the number of operating hours (hexadecimal).

4: Variant: Version (digits 3 to 5) of the firmware that is currently loaded on the base station phone.

5: Gigaset.net number of your phone. This number can be used to test online connections and VoIP telephony irrespective of the VoIP provider.

Service information of the handset

In the handset idle status:

- Press Menu.
- Enter * # 0 6 #.

The following information is displayed via the handset:

1: Serial number (IPUI)

2: Number of operating hours

3: Variant, version of handset software

Service (Customer Care)

You can get assistance easily when you have technical questions or questions about how to use your device by using our online support service on the Internet at:

http://www.siemens.com/gigasetcustomercare

This site can be accessed at any time wherever you are. It will give you 24/7 support for all our products. It also a list of FAQs and answers plus user guides for you to download. You will also find frequently asked questions and answers in the **Questions and Answers** section of this user guide in the appendix.

If the device needs to be repaired, please contact one of our Customer Care Centers:

Abu Dhabi. 97 12 62 23 800
Argentina 0800-888-9878
Australia 1300 665 366
Austria .05 17 07 50 04 (0,065 Euro/Min.)
Bahrain 97 31 73 11 173
Belgium 0 78 15 66 79
Bosnia Herzegovina 033 276 649
Brazil. . . . . .
Grande Capitais e Regiões Metropolitanas:
. . . . . 4003 3020
. . . . . (US$ 0,59)
Demais localidades: 0800 707 1248
. . . . . (US$ 0,59)
Bulgaria. 02 873 94 88
Canada 701-355-3984
China 0 21 400 670 6007
Croatia . . . . . 016 10 53 81 (0,23 Kun)
Czech Republic 233 032 727
Denmark. 35 25 86 00
Dubai 97 14 39 69 944
Egypt. 202 7623441
Finland 09 23 11 34 25
France. 01 56 38 42 00
Germany .01805 333 222 (0,14 Euro/Min.)
Greece . . . . . 801 11 11 11 6 (0,026 Euro)
Hungary . . . . . .06 14 71 24 44 (27 Ft)
Ireland 18 50 77 72 77
Italy. 199 15 11 15
Kuwait 96 52 44 4200
Latvia 7 50 11 18
Luxembourg 40 66 61 56 40
Malaysia. 603 77124304
Malta . . . . . +353 21 4940 632
Mexico. 01 80 07 11 00 03
Netherlands
. . . . . .0900-3333102 (0,25 Euro/min.)
New Zealand 08 00 27 43 63
Norway 22 70 84 00
Oman. 96 82 47 09 281
Poland 0 801 140 160
Portugal. . . . . (351) 214245145
Romania 02 12 04 60 00
Russia. 8 (495) 228 1312
Serbia. 01 13 07 00 80
Singapore 62 27 11 18
Slovak Republic
. . . . . 02 59 68 22 66 (4,428 sk)
Slovenija . . . . . 0 14 74 63 36 (6,30 Tolar)
South Africa. 08 60 10 11 57
Spain 902 103935
Sweden 0 87 50 99 11
Switzerland
. . . . . 08 48 21 20 00 (0,08 SFr./Min.)
Taiwan 02 23 96 10 06
Thailand. 02 722 1118
Turkey 0 21 64 59 98 59
Ukraine . . . . . .+380-44-451-71-72
United Arab Emirates 0 43 66 03 86
United Kingdom 0 84 53 67 08 12
USA 1-866 247-8758
. . . . . (toll free)

Please address any questions about DSL access and VoIP access to the respective service provider.

Please have your record of purchase ready when calling.

Replacement or repair services are not offered in countries where our product is not sold by authorised dealers.

Authorisation

This device, in combination with an external modem, is intended for connection to your telecomunications network (LAN IEEE 802.3).

Country-specific requirements have been taken into consideration.

We, Siemens Home and Office Communication Devices GmbH & Co. KG, declare that this device meets the essential requirements and other relevant regulations laid down in Directive 1999/5/EC.

A copy of the 1999/5/EC Declaration of Conformity is available at this Internet address: http://www.siemens.com/gigasetdocs.

CE 0682

Specifications

Recommended batteries

(Valid at the time of going to press)

Technology:
Nickel-metal-hydride (NiMH)

Size: AAA

Voltage: 1.2 V

Capacity: 550-850 mAh

We recommend the following battery types, because these are the only ones that guarantee the specified operating times, full functionality and long service life:

- Sanyo Twicell 650
- Sanyo Twicell 700
- Sanyo NiMH 800
- Panasonic 700 mAh "for DECT"
- GP 550 mAh
- GP 700 mAh
- GP 850 mAh
- Yuasa Technology AAA Phone 600
- Yuasa Technology AAA Phone 700
- Yuasa Technology AAA 800
- VARTA Phone Power AAA 700 mAh

The device is supplied with two recommended batteries.

Handset operating times/charging times

(The operating and charging times apply only when using the recommended batteries).

The operating time of your Gigaset depends on the age of the batteries and the way they are used. (All times are maximum possible times).

The following information relates to batteries with a capacity of 650 mAh.

Standby time	around 125 hours (5 days)
Talktime	around 13 hours
Charging time	around 7.5 hours

At the time of going to print, batteries up to 850 mAh were available and had been tested in the system. Due to the constant progression in battery development, the list of recommended batteries in the FAQ section of the Gigaset Customer Care pages is regularly updated:

www.siemens.com/gigasetcustomercare

Base station power consumption

Around 1 W, depending on the current status.

General specifications

Interfaces	Ethernet
DECT standard	is supported
GAP standard	is supported
No. of channels	60 duplex channels
Radio frequency range	1880–1900 MHz
Duplex method	Time multiplex, 10 ms frame length
Channel grid	1728 kHz
Bit rate	1152 kbit/s
Modulation	GFSK
Language code	32 kbit/s
Transmission power	10 mW, average power per channel
Range	up to 300 m outdoors, up to 50 m indoors
Base station power supply	230 V ~/50 Hz
Environmental conditions in operation	+5 °C to +45 °C, 20 % to 75 % relative humidity
Codecs	G711, G726, G729AB with VAD/CNG
Quality of Service	TOS, DiffServ
Protocols	DECT, SIP, RTP, DHCP, NAT Traversal (STUN)
Base station dimensions	105 x 155 x 46 mm (L x W x D)
Dimensions, handset	141 x 53 x 31 mm (L × W × H)
Base station weight	160 g
Weight of handset with battery	116 g

Writing and editing a text message

The following rules apply when writing a text:

- The cursor is controlled with ⓐ ⓑ.
- Characters are added to the left of the cursor.
- Press the hash key # **briefly** to switch from "Abc" mode to "123", from "123" to "abc", and from "abc" to "Abc" (upper case: 1st letter upper case, all others lower case). Press the hash key # **before** entering the letter.
- Press the hash key # 3 times: shows the selection line of the characters assigned to the hash key.
- The first letter of the name of directory entries is automatically capitalised, followed by lower case letters.

Editing text

When you press a key and **hold** it, the characters of that key appear in the bottom display line and are highlighted one after the other. When you release the key, the highlighted character is inserted into the input field. For how to enter special characters, see page 125.

The display briefly shows whether upper or lower case letters or digits is selected when you switch from one mode to the next: the bottom text line displays "abc -> Abc", "Abc -> 123" or "123 -> abc".

Order of directory entries

The directory entries are usually sorted in alphabetical order. Spaces and digits take first priority. The sort order is as follows:

1. Space (shown here as ␣)
2. Digits (0–9)
3. Letters (alphabetical)
4. Other characters

To get round the alphabetical order of the entries, insert a space or a digit in front of the name. These entries will then move to the beginning of the directory. Names that you have prefixed with a star will move to the end of the directory.

Entering special characters

Standard characters

	1		0	*⇧	#⇤
	*)	**)			
1x	Space	Space	.	*	Abc--> 123
2x	1	↵	,	/	123 --> abc
3x	£	1	?	(	#
4x	$	€	!	)	@
5x	¥	£	0	<	\
6x	¤	$	+	=	&
7x		¥	-	>	§
8x		¤	:	%	
9x			¿		
10x			¡		
11x			“		
12x			‘		
13x			;		
14x			_		

*) Directory and other lists

Greek

	1		0	*⏏	#⏻
	*)	**)			
1x	Space	Space	.	*	Abc--> 123
2x	1	↵	,	/	123 --> abc
3x	£	1	?	(	#
4x	$	€	!	)	@
5x		£	0	<	\
6x		$	+	=	&
7x			-	>	§
8x			:	%	
9x			"		
10x			'		
11x			;		
12x			_		

*) Directory and other lists

Gigaset CE 460 IP R – Free software

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  http://www.gnu.org/copyleft/lesser.html
- The **source text, including copyright notices for free software,** is currently available on the Internet at:
  http://www.siemens.com/developer/c455ip

For more information and Internet links to the source text of the free software, see the Online Support pages on the Internet at:

www.siemens.com/gigasetcustomercare

If it is not already supplied with the product, you can request the source text, including copyright notices, from Siemens. There is a charge to cover the cost of copying and postage. Please submit this request by e-mail or fax to the following address or fax number within 3 years of purchasing this product. Please state the exact device type plus the version number of the installed device software.

Small Parts Dispatch Com Bocholt

E-mail: kleinteileversand.com@siemens.com

Fax: +49 2871 / 91 30 29

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Version 2.1, February 1999

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below.

When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

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a) The modified work must itself be a software library.

b) You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.

c) You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.

d) If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the Library), rather than a "work that uses the library". The executable is therefore covered by this License.

Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not.

Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

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Glossary

A

ADSL
Asymmetric Digital Subscriber Line
Special form of **DSL**.

ALG
Application Layer Gateway
NAT control mechanism of a router.

Many routers with integrated NAT use ALG. ALG lets the data packets in a VoIP connection pass and adds the public IP address of the secure private network.

The router's ALG should be deactivated if the VoIP provider offers a STUN server or an outbound proxy.

See also: **Firewall**, **NAT**, **Outbound proxy**, **STUN**.

Authentication
Restriction of access to a network/service by use of an ID and password to log in.

Automatic ringback
See **Ringback when the number is busy**.

B

Broadband Internet access
See **DSL**.

C

Call forwarding
CF
Automatic forwarding of a call to a different telephone number. There are three kinds of call forwarding:

- CFU, Call Forwarding Unconditional
- CFB, Call Forwarding Busy
- CFNR, Call Forwarding No Reply

Call waiting
CW
VoIP provider feature. A beep during a call indicates that another caller is waiting. You can accept or reject the second call. You can activate/deactivate the feature.

CAT5 cable
Network cables in the category "CAT-5 cable" are nowadays the most-used base stations that are being installed. They are used for signal transmission with high data transfer rates. The specific standard description is EIA/TIA-568. Cat-5 cables are intended for operating frequencies of up to 100 MHz.

CF
Call Forwarding
See **Call forwarding**.

Client
Application that requests a service from a server.

Codec

Coder/decoder

Codec is a procedure that digitises and compresses analogue voice before it is sent via the Internet and decodes – i.e. translates into analogue voice – digital data when voice packets are received. There are different codecs, with differing degrees of compression, for instance.

Both parties involved in the telephone connection (caller/sender and recipient) must use the same codec. This is negotiated between the sender and the recipient when establishing a connection.

The choice of codec is a compromise between voice quality, transmission speed and the necessary bandwidth. A high level of compression, for example, means that the bandwidth required for each voice connection is low. However, it also means that the time needed to compress/decompress the data is greater, which increases execution time for data in the network and thus impairs voice quality. The time required increases the delay between the sender speaking and the recipient hearing what has been said.

Consultation call

You are on a call. With a consultation call, you interrupt the conversation briefly to establish a connection to another participant. If you terminate the connection to this participant immediately, then this was a consultation call. If you switch to and fro between the first and second participants, it is called **Toggling**.

CW

Call Waiting

See **Call waiting**.

D

DHCP

Dynamic Host Configuration Protocol

Internet protocol which handles the automatic assignment of **IP addresses** to **Network subscribers**. The protocol is made available in the network by a server. A DHCP server can e.g. be a router.

The phone contains a DHCP client. A router that contains a DHCP server can assign the IP addresses for the phone automatically from a defined address block. The dynamic assignment means that several **Network subscribers** can share one IP address, although they use it alternately and not simultaneously.

With some routers you can specify that the IP address for the phone is never changed.

Displayed name

VoIP provider feature. You can specify any name that is to be shown to the other party call instead of your phone number.

DMZ

Demilitarised Zone

DMZ describes a part of a network that is outside the firewall.

A DMZ is set up, as it were, between a network you want to protect (e.g. a LAN) and an insecure network (e.g. the Internet). A DMZ permits unrestricted access from the Internet to only one or a few network components, while the other network components remain secure behind the firewall.

DNS

Domain Name System

Hierarchical system that permits the assignment of **IP addresses** to **Domain names** that are easier to note. This assignment has to be managed by a local DNS server in each (W)LAN. The local DNS server determines the IP address, if necessary by enquiring about superordinate DNS servers and other local DNS servers on the Internet.

You can specify the IP address of the primary/secondary DNS server.

See also: **DynDNS**.

Domain name

Name of one (or several) Web server(s) on the Internet (e.g. Siemens-Home). The domain name is assigned to the relevant IP address by DNS.

DSCP

Differentiated Service Code Point

See **Quality of Service (QoS)**.

DSL

Digital Subscriber Line

Data transfer technology which allows Internet access at e.g. **1.5 Mbps** over conventional phone lines. Preconditions: DSL modem and the appropriate service offered by the Internet service provider.

DSLAM

Digital Subscriber Line Access Multiplexer

The DSLAM is a switch cabinet in an exchange at which all subscriber connectors converge.

DTMF

Dual Tone Multi-Frequency

Another description for dual tone multi-frequency dialling.

Dynamic IP Address

A dynamic IP address is assigned to a network component automatically via **DHCP**. The dynamic IP address for a network component can change every time it registers or at certain time intervals.

See also: **Static IP address**

DynDNS

Dynamic DNS

Domain names and IP addresses are realised via **DNS**. For **Dynamic IP Addresses** this service is now enhanced with "Dynamic DNS" (DynDNS). This permits the use of a network component with a dynamic IP address as a **Server** on the **Internet**. DynDNS ensures that a service can always be addressed on the Internet under the same **Domain name** irrespective of the current IP address.

E

EEPROM

Electrically Eraseable Programmable Read Only Memory

Your phone's storage chip with fixed data (e.g. user-specific device settings made at the factory) and automatically saved data (e.g. calls list entries).

Ethernet network

Wired **LAN**.

Exposed Host

Exposed host refers to a PC outside the firewall.

See also: **DMZ**

F

Firewall

You can use a firewall to protect your network against unauthorised external access. This involves combining various measures and technologies (hard and/or software) to control the flow of data between a private network you wish to protect and an unprotected network (e.g. the Internet).

See also: **NAT**.

Firmware

Device software in which basic information is saved for the functioning of a device. A new version of the firmware can be loaded into the device's memory (firmware update) to correct errors or update the device software.

Flat rate

System of billing for an **Internet** connection. The Internet service provider charges a set monthly fee. There are no additional charges for the duration of the connection or number of connections.

Fragmentation

Data packets that are too big are split into smaller packets (fragments) before they are transferred. They are put together again when they reach the recipient (defragmented).

Full duplex

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

G

G711 a law, G711 µ law

Standard for a **Codec**.

G711 delivers a very good voice quality that corresponds to that in the ISDN fixed network. As there is little compression, the necessary bandwidth is around 64 kbit/s per voice connection, but the delay caused by coding/decoding is only 0.125 ms.

"a law" describes the European standard and "µ law" describes the North American/Japanese equivalent.

G726

Standard for a **Codec**.

G726 delivers a good voice quality. It is inferior to the quality with Codec **G711** but better than with **G729**.

G729A/B

Standard for a **Codec**.

The voice quality is rather less with G729A/B. As a result of the high level of compression, the necessary bandwidth is only around 8 kbit/s per voice connection, but the delay is around 15 ms.

Gateway

Connects two different **Networks** with one another, e.g. router as Internet gateway.

For phone calls from **VoIP** to the telephone network, a gateway has to be connected to the IP network and the telephone network (gateway/VoIP provider). It forwards calls from VoIP to the telephone network as required.

Gateway Provider

See **SIP provider**.

Global IP Address

See **IP address**.

GSM

Global System for Mobile Communication

Originally, European standard for mobile networks. GSM can now be described as a worldwide standard. In the USA and Japan national standards are now more frequently supported than in the past.

H

Headset

Combination of microphone and headphone. A headset makes handsfree talking more comfortable. There are headsets available which are connected to the handset by a cable.

HTTP Proxy

Server via which the **Network subscribers** can process their Internet traffic.

Hub

Uses one **Infrastructure network** to connect several **Network subscribers**. All data sent to the hub by one network subscriber is forwarded to all network subscribers.

See also: **Gateway**, **Router**.

I

IEEE

Institute of Electrical and Electronics Engineers

International body that defines standards in electronics and electrotechnology, concerned in particular with the standardisation of LAN technology, transmission protocols, data transfer rate and wiring.

Infrastructure network

Network with central structure: all **Network subscribers** communicate via a central **Router**.

Internet

Global **WAN**. A series of protocols have been defined for exchanging data, known by the name TCP/IP.

All **Network subscribers** can be identified by their **IP addresses**. **DNS** assigns a **Domain name** to the **IP address**.

Important services on the Internet include the World Wide Web (WWW), e-mail, file transfer and discussion forums.

Internet Service Provider

Enables access to the Internet for a fee.

IP (Internet Protocol)

TCP/IP protocol on the **Internet**. IP is responsible for addressing parties in a **Network** using **IP addresses** and routes data from the sender to the recipient. IP determines the paths (routing) along which the data packets travel.

IP address

A unique address for a network component within a network on the basis of the TCP/IP protocols (e.g. LAN, Internet). On the **Internet**, domain names are usually assigned instead of IP addresses. **DNS** assigns the corresponding IP address to the domain name.

The IP address has four parts (decimal numbers between 0 and 255) separated by full stops (e.g. 230.94.233.2).

The IP address is made up of the network number and the number of the **Network subscribers** (e.g. phone). Depending on the **Subnet mask**, the front one, two or three parts make up the network number and the rest of the IP address addresses the network component. The network number of all the components in any one network must be identical.

IP addresses can be assigned automatically with DHCP (dynamic IP addresses) or manually (static IP addresses).

See also: **DHCP**.

IP pool range

Range of IP addresses that the DHCP server can use to assign dynamic IP addresses.

ISP

Internet Service Provider

See **Internet Service Provider**.

L

LAN

Local Area Network

Network with a restricted physical range. A LAN can be wireless (WLAN) and/or wired.

Local IP Address

The local or private IP address is the address for a network component in the local network (LAN). The network operator can assign any address he or she wants. Devices that act as a link from a local network to the Internet (gateway or router) have a public and a private IP address.

See also **IP address**.

Local SIP Port

See **SIP port/Local SIP port**.

M

MAC address

Media Access Control Address

Hardware address by means of which each network device (e.g. network card, switch, phone) can be uniquely identified worldwide. This consists of 6 parts (hexadecimal numbers), which are separated by "-"(e.g. 00-90-65-44-00-3A).

The MAC address is assigned by the manufacturer and cannot be changed.

Mbps

Million bits per second

Unit of the transmission speed in a network.

MRU

Maximum Receive Unit

Defines the maximum user data volume within a data packet.

MTU

Maximum Transmission Unit

Defines the maximum length of a data packet that can be carried over the network at a time.

Music on hold

Music that is played while you are on a **Consultation call** or **Toggling**. The waiting participant hears music while on hold.

N

NAT

Network Address Translation

Method for converting (private) **IP addresses** to one or more (public) IP addresses. NAT enables the IP addresses of **Network subscribers** (e.g. VoIP telephones) in a **LAN** to be concealed behind a shared IP address for the **Router** on the **Internet**.

VoIP telephones behind a NAT router cannot be reached by VoIP servers (on account of the private IP address). In order to "get around" NAT, it is possible to use (alternatively) **ALG** in the router, **STUN** in the VoIP telephone, or for the VoIP provider to use an **Outbound proxy**.

If an outbound proxy is made available you must allow for this in the VoIP settings for your phone.

Network

Group of devices. Devices can be connected in either wired or wireless mode.

Networks can also differ in range and structure:

- Range: local networks (**LAN**) or wide-area networks (**WAN**)
- Structure: **Infrastructure network** or ad-hoc network

Network subscribers

Devices and computers that are connected to each other in a network, e.g. servers, PCs and phones.

O

Outbound proxy

Alternative NAT control mechanism to STUN and ALG.

Outbound proxies are implemented by the VoIP provider in firewall/NAT environments as an alternative to **SIP proxy server**. They control data traffic through the firewall.

Outbound proxy and STUN servers should not be used simultaneously.

See also: **STUN** and **NAT**.

P

PIN

Personal Identification Number

Protects against unauthorised use. When the PIN is activated a number combination has to be entered in order to access a protected area.

You can protect your base station configuration data with a system PIN (4-digit number combination).

Port

Data is exchanged between two applications in a **Network** via a port.

Port Forwarding

The Internet gateway (e.g. your router) forwards data packets from the **Internet** that are directed to a certain **Port** to the port concerned. This allows servers in the **LAN** to offer services on the Internet without you needing a public IP address.

Port number

Indicates a specific application of **Network subscribers**. Depending on the setting in the **LAN**, the port number is permanently assigned or else it is newly assigned with each access.

The combination of **IP address**/**Port** number uniquely identifies the recipient or sender of a data packet within a network.

PPPoE

Point-to-Point Protocol over Ethernet

Protocol for connecting network subscribers within an **Ethernet network** to the **Internet** via a modem.

PPTP

Point-to-Point Tunnelling Protocol

Protocol for setting up a virtual private network (Virtual Private Network VPN) via the Internet. This allows the Point-to-Point protocol to tunnel through the IP network.

Private IP Address

See **Public IP address**.

Protocol

Describes the agreements for communicating within a **Network**. It contains rules for opening, administering and closing a connection, about data formats, time frames and possible error handling.

Proxy/Proxy server

Computer program that controls the exchange of data between **Client** and **Server** in computer networks. If the phone sends a query to the VoIP server, the proxy acts as a server towards the phone and as a client towards the server. A proxy is addressed via **IP address**/**Domain name** and **Port**.

Public IP address

The public IP address is the address for a network component on the Internet. It is assigned by the Internet service provider. Devices that act as a link from a local network to the Internet (gateway or router) have a public and a local IP address.

See also: **IP address**, **NAT**

Q

Quality of Service (QoS)

Describes the Quality of Service in communication networks. Differentiations are made between various Quality of Service classes.

QoS influences the flow of data packets on the Internet e.g. by prioritising data packets, bandwidth reservation and packet optimisation.

In VoIP networks, QoS influences the voice quality. If the whole infrastructure (router, network server etc.) has QoS, the voice quality is better, i.e. fewer delays, less echoing, less crackling.

R

RAM

Random Access Memory

Memory in which you have reading and storage rights. Such items as melodies and screen pictures are stored in the RAM after being loaded into the phone via the Web configurator.

Registrar

The registrar manages the current IP addresses of **Network subscribers**. When you register with your VoIP provider, your current IP address is saved on the registrar. This means you can also be reached when on the move.

Ringback when the call is not answered

= CCNR (Completion of calls on reply). If a participant does not respond when called, a caller can arrange an automatic ringback. As soon as the destination phone has completed a call and is free again the caller is rung back. This feature must be supported by the exchange. The ringback request is automatically cancelled after about 2 hours (depending on the VoIP provider).

Ringback when the number is busy

= CCBS (Completion of Calls to Busy Subscriber). If a caller hears the busy tone, he or she can activate the ringback function. As soon as the connection is free the caller is rung back. As soon as the caller lifts his receiver the connection is made automatically.

RJ45 modular jack

Eight-pole (8P8C) modular jack. RJ stands for Registered Jack (standardised socket). RJ45 is used for ISDN connection sockets and cables, structured wiring and computer networks.

ROM

Read Only Memory

A type of memory that can only be read, as opposed to RAM which can be both read and written.

Router

Routes data packets within a network and between different networks via the quickest route. Can connect **Ethernet networks** and WLAN. Can be a **Gateway** to the Internet.

Routing

Routing is the transmission of data packets to another subscriber in your network. On its way to the recipient, the data packet is sent from one router to the next until it reaches its destination.

If data packets were not forwarded in this way, a network like the Internet would not be possible. Routing connects the individual networks to this global system.

A router is a part of this system; it transmits data packets both within a local network and from one network to the next. Transmission of data from one network to another is performed on the basis of a common protocol.

RTP

Realtime Transport Protocol

Global standard for transferring audio and video data. Often used in conjunction with UDP. In this case, RTP packets are embedded in UDP packets.

RTP port

(Local) **Port** which is used to send and receive voice data packets for VoIP.

S

Server

Provides a service to other **Network subscribers** (**Clients**). The term can indicate a computer/PC or an application. A server is addressed via **IP address**/**Domain name** and **Port**.

SIP (Session Initiation Protocol)

Signalling protocol independent of voice communication. Used for establishing and ending a call. It is also possible to define parameters for voice transmission.

SIP address

See **URI**.

SIP port/Local SIP port

(Local) **Port** which is used to send and receive SIP signalling data for VoIP.

SIP provider

See **VoIP provider**.

SIP proxy server

IP address of your VoIP provider's gateway server.

Static IP address

A static IP address is assigned to a network component manually during network configuration. Unlike a **Dynamic IP Address**, a static (fixed) IP address never changes.

STUN

Simple Traversal of UDP over NAT

NAT control mechanism.

STUN is a data protocol for VoIP telephones. STUN replaces the private IP address in the data packets of the VoIP telephone with the public address of the secure private network. To control data transfer, a STUN server is also required on the Internet. STUN cannot be implemented with symmetric NATs.

See also: **ALG**, **Firewall**, **NAT**, **Outbound proxy**.

Subnet

Segment of a **Network**.

Subnet mask

IP addresses consist of a fixed network number and a variable subscriber number. The network number is identical for all **Network subscribers**. The proportion of the IP address made up of the network number is determined in the subnet mask. For the subnet mask 255.255.255.0, for example, the first three parts of the IP address are the network number and the last part is the subscriber number.

Switch

Connects different network elements (see also Hub). A switch forwards data packets straight to the **network subscriber** to which they are addressed.

Symmetric NAT

A symmetric NAT assigns different external IP addresses and port numbers to the same internal IP address and port number – depending on the external target address. Your router has a symmetric NAT.

T

TCP

Transmission Control Protocol

Transport protocol. Session-based transmission protocol: it sets up, monitors and terminates a connection between sender and recipient for transporting data.

TLS

Transport Layer Security

Protocol for encrypting data transmissions on the Internet. TLS is a superordinated **Transport protocol**.

Toggling

Toggling allows you to switch between two callers or between a conference call and an individual caller without allowing the waiting caller to listen in.

Transmission rate

Speed at which data is transmitted in the **WAN** or **LAN**. The transmission rate is measured in data units per unit of time (Mbit/s).

Transport protocol

Controls data transport between communication partners (applications).

See also: **UDP**, **TCP**, **TLS**.

U

UDP

User Datagram Protocol

Transport protocol. Unlike **TCP**, **UDP** is a non session-based protocol. It does not establish a fixed connection. The data packets (datagrams) are sent as broadcast. The recipient is solely responsible for making sure the data is received. The sender is not notified about whether it is received.

UPnP

Universal Plug and Play

Enables spontaneous linking of networks: UPnP-compatible devices carry out the network configuration automatically when they log in to the network. The devices make services available to the network and use the services of other devices in the network.

URI

Uniform Resource Identifier

Character string used to identify resources (e.g. e-mail recipient, http://siemens.com, files).

On the **Internet** URIs are used as a uniform identification for resources. URIs are also described as an SIP address.

URIs can be entered in the phone as a number. By dialling a URI you can call an Internet subscriber with VoIP equipment.

URL

Universal Resource Locator

Globally unique address of a domain on the **Internet**.

A URL is a subtype of **URI**. URLs identify a resource by its location on the **Internet**. For historical reasons the term is often used as a synonym for URI.

User ID

See **User identification**.

User identification

Name/number combination for access e.g. to your VoIP account.

V

Virtual private network (VPN)

Virtual Private Network

Computer network that uses a public network (e.g. the Internet) to transport private data.

Virtual server

A virtual server provides a service on the Internet that does not run on itself, but on a different network subscriber instead. External service requests are forwarded via **Port Forwarding** straight to the appropriate **Port** for the relevant network subscriber in the local network.

Voice codec

See **Codec**.

VoIP

Voice over Internet Protocol

Telephone calls are no longer placed and transmitted over the telephone network but over the **Internet** (or other IP networks).

VoIP provider

A VoIP, SIP or **Gateway Provider** is an Internet service provider that provides a **Gateway** for Internet telephony. As the phone works with the SIP standard, your provider must support the SIP standard.

The provider routes calls from VoIP to the telephone network (analogue, ISDN and mobile radio) and vice versa.

W

WAN

Wide Area Network

Wide-area network that is unrestricted in terms of area (e.g **Internet**).

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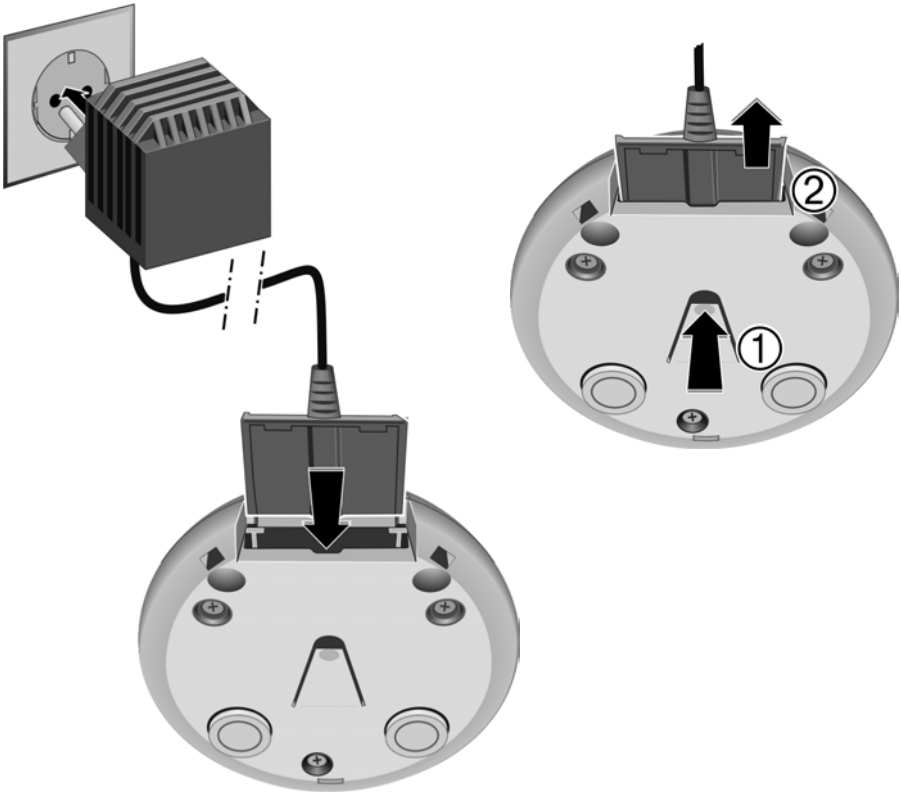
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