Operating Manual

DOCSIS cable modem
VoIP
DCV 10, DCV 10 E

KATHREIN

Antennen · Electronic

Contents

Safety Instructions and Important Points to Note

This page contains important instructions for putting the device into service and installing and connecting it.

Read these instructions with care before putting the device into service.

DANGER!

Power cable

Make sure you do not damage the power cable. Devices with damaged power cables must be disconnected (by pulling the plug) and repaired by a technician before being restored to service. Only use the supplied mains adapter (as intended)!

There is a danger of life-threatening electrical shocks!

Cleaning

Pull the power plug before cleaning the device. Use a dry cloth for cleaning and only clean the surface. Do not under any circumstances open the device.

There is a danger to life due to electrocution if components are touched within the device!

Playing children

Take care that children do not insert objects in the ventilation slits.

There is a danger of life-threatening electrical shocks!

WARNING!

Earth connection

The aerial system should be connected to earth or to the potential equalisation according to instructions. Observe EN 60728/11 and any national regulations in the process.

There is a danger due to overvoltage or lightning!

Mains voltage

Only operate the device with the specified mains voltage (on the back of the device or on the external mains adapter). The device may only be connected to the mains and switched on after establishing the connections to the aerial and the television set or to the cable network and the PC.

There is a danger of fire if the mains voltage is too high!

Repairs

Have your device repaired by qualified technicians only. No warranty claims will be accepted if the device is opened and an attempt is made to repair the device without any authorisation.
The electrical safety of the device can be put at risk by handling the device inappropriately.

The manufacturer assumes no liability for any accidents of the user while the device is open!

CAUTION!

Connections

Incorrect wiring of the connections can result in malfunctions or damage to the device!

Long periods of absence / Thunder storms

Always switch of the device at the mains switch in the event of long periods of absence or thunder storms. You can disconnect the device from the mains by pulling the power plug if your device does not happen to have a mains switch. This also applies to any other devices connected to the device. We also recommend disconnecting cable networks. Observe any timer programming procedures (receiver) and switch the device back on again in due time before recording begins.

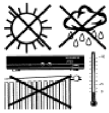
Place of installation

Every electronic device generates heat. The heat generated by the device is within an acceptable range however. Sensitive furniture surfaces and veneers may change their colour in the course of time due to the constant exposure to heat. In the same way, the feet of the device may cause treated furniture surfaces to change their colour. If necessary, place the device on an appropriate firm and flat base.

Ventilation

The heat generated in the device is discharged sufficiently. Nevertheless do not install the device in a cupboard or on a shelf with insufficient ventilation. Never cover the ventilation slits of the device!

Do not put any objects on the device and keep a clearance of at least 10 cm above the device so that the generated heat can be discharged without any difficulty.



Humidity, insulation, heat

Protect the device against humidity and dripping and splashing water. Do not place the device near the heating, expose it to the sun or operate it in damp rooms.

Safety Precautions and Warning Notices

Warning: Electric shock hazard. Do not expose the cable modem to water or damp.

- The broadband cable modem is a high-performance communications device designed for home and office use.
- **NEVER** operate the cable modem in the open air. Operate the cable modem at an ambient temperature of between 0 °C and 40 °C.
- You will find more details in the **Technical Features** section.
- Do **NOT** place anything on top of the cable modem, to prevent it from overheating.
- Make sure there is adequate air flow to the cable modem.
- The manufacturers can accept no liability for damage arising from improper use of the cable modem.

Help/Technical Information

Contact your local cable network provider for this.

Important Information

Local Cable Network Provider

Before starting to use the cable modem check with your local cable network provider that Internet access by cable is available in your area.

Read through this Operating Manual carefully before connecting up your cable modem.

Requirements

- RF coaxial cable:
  - One coaxial cable, if you are not using a splitter
  - Three coaxial cables, if you are using a splitter
- A splitter, if you want to connect the cable modem and a TV set to the same cable network socket (optional)
- A connection with a back-channel from your local cable network provider.

Computer system requirements:
- Pentium processor or equivalent (Pentium 166 MHz or higher recommended)
- Windows 95, Windows 98, Windows ME, Windows 2000 or Windows XP
- TCP/IP protocol installed (see “Configuring the TCP/IP Protocol on your Computer”)
- An active Ethernet port or a network card (NIC) fitted inside your computer.
  The cablemodem can be connected to any computer with an active RJ-45 10/100 standard Ethernet port, regardless of operating system.

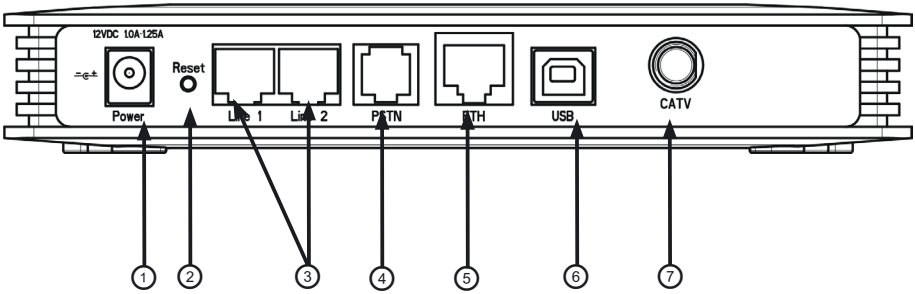
Requirements for the USB port:
- A computer running under either Windows 98, Windows ME, Windows 2000 or Windows XP as its operating system.

Requirements for the Ethernet port:
- A computer running under either Windows 95, Windows 98, Windows ME, Windows NT 4.0, Windows 2000 or Windows XP as its operating system.

The voice function should be delivered by head office.

- Notify the service centre of the MAC address of your MTA and have the service centre configure your service to check the installation.

Connections on Rear



① Port for connection of the supplied power supply unit

② Button to reset to the factory defaults

③ RJ-11 ports for connection of an analogue telephone

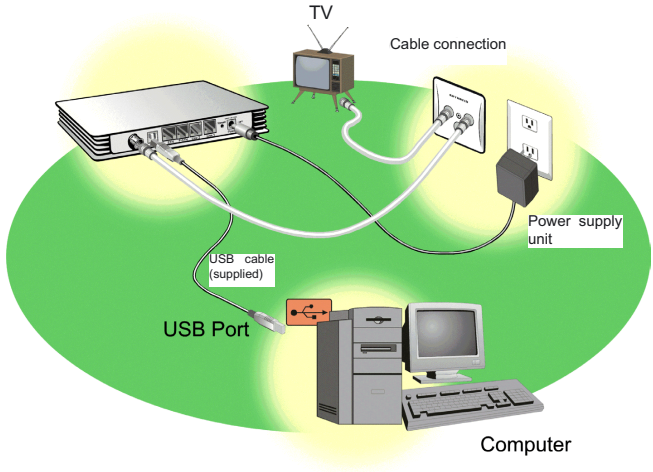
④ RJ-11 port for connection to the telephone line of your telephone company (PSTN) - optional

⑤ RJ-45 port for connection of the Ethernet cable

⑥ USB port (type “B”) for connection of a USB cable to the USB connection (type “A”) of a computer

⑦ RF port for connection of the cable for broadband Internet access

USB Operation



Installation

Connecting the cables and the power supply unit:

To connect to the Internet through your computer's USB port, connect together the computer and the cable modem using the supplied USB cable.

A. Switch the computer and the TV set off first.
B. Disconnect both machines from the power supply.
C. Connect the CATV port on the cable modem to the cable network wall socket using an RF coaxial cable (not supplied).
D. Connect the USB port on the cable modem to the USB port on your computer by the USB cable.
E. Connect the power supply unit to the 12 V socket on the cable modem.

Important: Use only the supplied power supply unit. Use of an incorrect power supply unit may damage the cable modem.

F. Connect the power supply unit to a wall socket outlet.
G. Switch on the computer. The computer will automatically detect the cable modem.

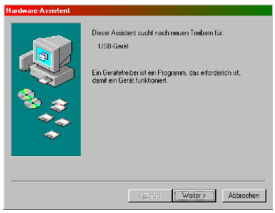
USB Operation

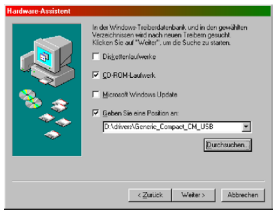
Installing the USB Driver

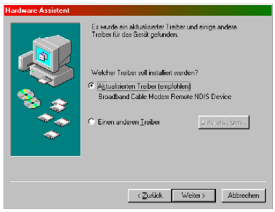
As soon as your computer has detected the cable modem, insert the installation and documentation CD into the CD-ROM drive and follow the on-screen instructions to install the necessary drivers. Follow the instructions specific to your operating system.

Note: When the cable modem welcome screen appears, click **Cancel** to return to the cable modem installation process. Leave the CD in the drive to enable Windows to access the drivers required for USB operation.

Windows 98 SE:







The Hardware Wizard appears.

Note: Do not install the standard Windows drivers, they are not suitable for use with the cable modem. Instead, use the drivers on the installation and documentation CD.

A. Click **Find** to locate the best driver for your device (recommended) and then click **Next**.
B. Click the box identifying the storage location - here **"CD-ROM drive"**, and click **Position**. In this example the CD drive is **D**. This means the driver file's location is **D:\Drivers\Generic_Compact_CM_USB**.
   Either click **"Browse"** to locate the driver file or type in **D:\Drivers\Generic_Compact_CM_USB**. If necessary, replace **D** with the drive letter where your CD-ROM is located.
C. Click **Next** to locate the required driver files.
D. Choose **Updated driver** (recommended) and click **Next**. When the system has located the drivers, click **Next** to automatically install the necessary files.
E. When prompted, insert the Windows 98 SE CD into the CD-ROM drive and click **OK**.
F. Once Windows has copied over the required system files, click **Done (Exit)**. The **Change Settings** dialogue box appears.
G. Click **Yes** to restart your computer. You can then move on to **"Checking the LEDs"**.

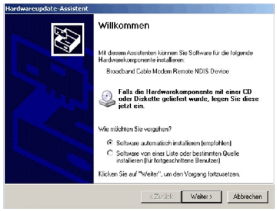
USB Operation

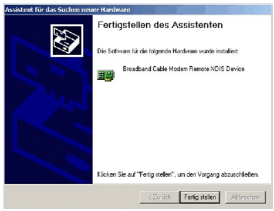
Windows ME:

The **Add New Hardware Wizard** appears.

A. Choose **Automatically search for a better driver (recommended)** and click **Next**.
B. When Windows has located the drivers, click **Next** to install the necessary files.
C. Click **Done (Exit)**. The **Change System Settings** dialogue box appears.
D. Click **Yes** to restart your computer.
E. You can then move on to **"Checking the LEDs"**.

Windows 2000, Windows XP:



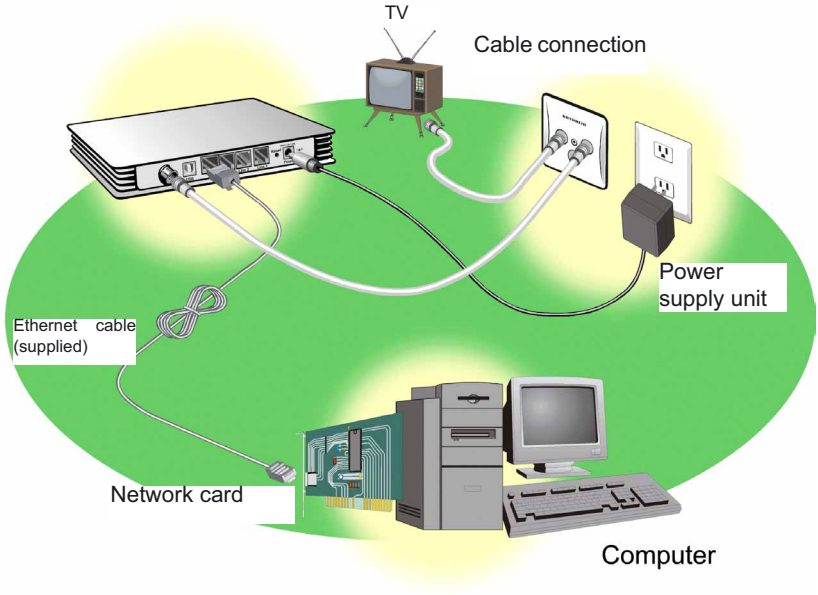


First the Hardware Update Wizard appears on-screen.

A. Choose **Install software automatically** (recommended) and click **Next**.
B. Click the **CD-ROM** drive option button and click **Next** to locate the required driver files.
   The driver location is **D:\Drivers\Generic_Compact_CM_USB**, assuming your CD-ROM drive is **D**. Otherwise type in the relevant drive letter on your system.
C. When the **Hardware Wizard** displays the search results, click **Next** to install the required driver files.
   Note: If **Digital signature not found** appears, click **Yes** to continue the installation.
D. Once the **Find New Hardware Wizard** has ended, click **Finish**.
E. You can then move on to **"Checking the LEDs"**.

Installation on Ethernet Card

Ethernet Installation



Installing the TCP/IP Protocol on your Computer

Before operating the cable modem in Ethernet mode you must check that the TCP/IP protocol is installed on your computer. To do so, follow the standard procedure of the operating system installed on your computer.

Windows 95, Windows 98 or Windows ME:

A. Click **Start** - **Settings** - **Control Panel**.

B. Double-click on the **network** icon. The screen displays a list of installed network components.

C. Locate an input with TCP/IP, then the NIC interface card installed on your computer.
If you find TCP/IP listed next to your Ethernet card, choose “Get IP address automatically”. You can move on to **“Installing the cable modem”**.
If TCP/IP is NOT listed, you must run through the following steps:
1. Click **Add**.
2. Click **Protocol**, then **Add**.
3. On the **“Vendor”** list click on **Microsoft**, then click on the **“Network Protocols”** list and confirm with **OK**.
You are prompted to restart your computer.

D. Click **Yes**.
You can now move on to **"Installing the cable modem"**.

Windows 2000, Windows XP

A. Right-click on the **Network Connections** icon on the Windows Desktop.
B. Right-click on **Connect network drive** and then click **Properties**.

Locate an entry with TCP/IP. If you find TCP/IP listed next to your Ethernet card, you can move on to **"Installing the cable modem"**. If TCP/IP is not listed, you must run through the following steps:

1. Scroll to the **Internet Protocol** option (TCP/IP).
2. Click the **Internet Protocol** box and check the "Get IP address automatically" checkbox.
3. Click **OK**.
   You can then move on to **"Installing the cable modem"**

Installing the cable modem

Make the following connections based on the Ethernet NIC illustration (see above):

A. Switch the computer and the TV set off.
B. Disconnect both from the power supply.
C. Connect the cable wall socket to the CATV connection on the rear of the cable modem by a coaxial cable. Connect the coaxial cables correctly as shown in the illustration.
Note: If you are using a splitter (not supplied) to connect the computer and the TV set to the same cable socket, you will need three coaxial cables.
D. Connect the cable modem to the computer by the Ethernet cable.
E. Connect the power supply unit to the 12 V socket on the cable modem.
Important: Use only the supplied power supply unit. Use of a third-party power supply unit may damage the cable modem.
F. Start up the modem by plugging the power supply unit into a wall socket outlet.
G. Reconnect the computer and the TV set to the power supply and switch both back on.
H. You can then move on to **"Checking the LEDs"**.

Checking the LEDs and the Rear Connections

Checking the LEDs

Once fully installed, the cable modem is working properly if the **Power, Cable** and **Status LEDs** are all lit steadily.

LED		Description
Power		Indicates the power supply status. Unlit: No mains power. Lit: Mains power present.
WAN	Cable	Green - flashing rapidly: The modem is searching for the downstream frequency. Green - lit steadily: Downstream frequency found.
	Status	Flashing: The modem agrees the upstream and requests an IP from the DHCP server before registration is completed. Lit green: The modem has completed the registration process.
Connection	100M	Indicates the 10/100 status of the Ethernet port. Lit: 100M Flashing: Data transfer
	10M	Indicates the 10/100 status of the Ethernet port. Lit: 10M Flashing: Data transfer
	USB	Indicates activity of the USB connection. Unlit: No connection Flashing: Data transfer Lit: Connected
	Line1/Line2	Indicates the telephone status. Unlit: On-hook Flashing slowly: Ringing Lit: Off-hook
Standby		Standby mode with low power consumption; in standby mode only Status LED is lit

Connections on Rear

ETH	RJ-45 port for connection of the Ethernet cable
USB	USB port (type “B”) for connection of a USB cable to the USB connection (type “A”) of a computer
CATV	RF port for connection of the cable for broadband Internet access
Power	Port for connection of the supplied power supply unit
RESET	Button to reset to the factory defaults
Line1/Line2	RJ-11 port for connection of an analogue telephone
PSTN	PJ-11 port for connection to the telephone line of your telephone company (PSTN) (optional backup in event of a break in the VoIP connection)

Technical Features and Product Package

Technical Features

Dimensions:	184 x 160 x 32 mm
Net weight:	350 g +/- 10 g
Input voltage:	12 V/1.25 A
Power consumption (max):	8 W
Operating temperature:	0 ... 40 °C
Air humidity (in operation):	10 % - 90 %
Broadband cable connection:	RF port type F
LAN port transfer rate:	10/100 Mbit/s Ethernet MAC
USB port transfer rate (max):	12 Mbit/s
Downstream transfer rate (max):	38 Mbit/s
Upstream transfer rate (max):	10 Mbit/s

Product Package

The product package includes:

1 cable modem DCV 10 E

1 12 V DC / 1.25 A power supply unit

Important: Use only the power supply unit supplied with the cable modem. Use of an incorrect power supply unit may damage the cable modem.

1 Ethernet cable, CAT.5 UTP, 180 cm

1 USB cable, 180 cm

1 telephone cable, 210 cm

1 installation and documentation CD with software drivers and user documentation

1 operating manual

Troubleshooting

If the cable modem is not working properly, follow the procedure below to remedy the problem:

1. Make sure that all equipment is connected to the power supply and that the cables are correctly connected.
2. Check the LED displays.

Power LED not lit.
Action: Check the power supply unit is correctly connected to the cable modem and the mains power. If the power supply unit is properly connected, the power supply unit itself or the wall socket outlet may be faulty. Check this by connecting the power supply unit to a different wall socket outlet.
Important: Use only the supplied power supply unit. Use of a third-party power supply unit may damage the cable modem. If you need to replace the power supply unit, contact your local cable network provider.

USB LED not lit.
Possible cause: The USB cable is not properly connected or the USB drive is not installed correctly.
Action: Check that the connected device is switched on and that it is correctly connected and working properly. Make sure that your operating system supports USB devices and that the drivers provided on the installation CD have been installed. The following operating systems are currently supported: Windows 98 SE, Windows 2000, Windows ME and Windows XP.

Ethernet LED not lit.
Action: Check that the connected device is switched on and that it is correctly connected and working properly. Also check that the cable (1:1 assignment) is designed for a terminal device such as a PC/notebook. If the connection is designed for a hub or splitter you must use a crossed cable. Make sure both ends of the cable are attached firmly. If this does not remedy the problem, it may be that the cable you are using does not meet the technical requirements, that it is not correctly connected, or is damaged.

Cable LED not lit or continuously flashing.
Possible cause: The cable modem detects no carrier or valid data channel in the received signal.

Action: Check that the cable is correctly connected to the cable modem. If this does not remedy the problem, ask your cable network provider for assistance. The quality of the coaxial cable and its attachment can have a major influence on the quality of the connection.

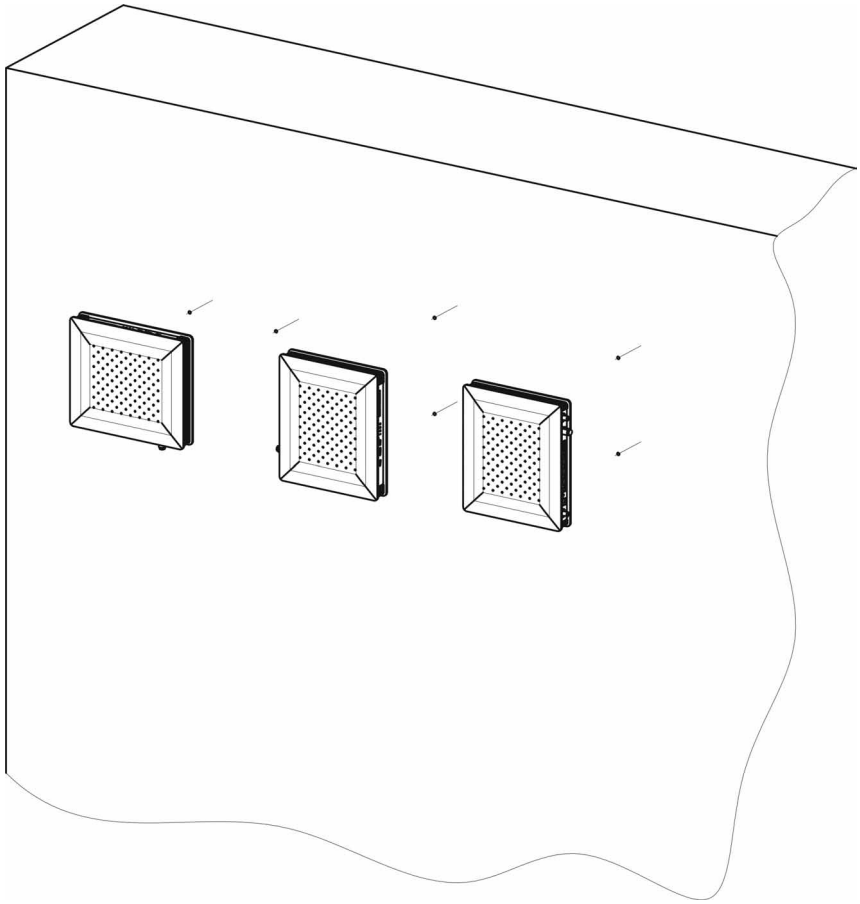
Cable LED not lit or stays orange.
Possible cause: The cable modem is unable to establish a standard upstream connection to the head-end.
Action: Check that the cable is correctly connected to the cable modem. If this does not remedy the problem, ask your cable network provider for assistance.

Status LED lit, but computer is unable to find an IP address and is not connected to the Internet.
Possible cause: The network card driver has not been installed or was installed incorrectly. Refer to the user guide for your operating system (Windows 95, Windows 98, Windows NT™, Windows 2000, Windows ME, Windows XP, etc.) and the network card documentation to make sure it is installed correctly.
To connect to the Internet via a cable broadband head-end operating as an ISP (Internet Service Provider), your computer must be set to the correct TCP/IP. Set the network card's TCP/IP setting to the DHCP protocol so that the IP address is assigned automatically by the ISP.

No dial tone when telephone taken off-hook
Possible causes:

a. There is a break in the telephone line or it is not connected. Lift the receiver and check the LED on the Line1/Line2 port. If the LED is not lit, switch to a different port (Line1/Line2). If the LED is still not lit, replace the telephone cable.
b. If the LED lights up when you lift the receiver (go off-hook): Check whether the Status LED is flashing or lit steadily. In operation it should be lit steadily. If the Status LED is flashing, temporarily disconnect the modem from the power supply to check whether the Status LED is then steadily lit. If it is not, have a service engineer carry out a check.

Wall Mounting Options



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