INSTALLATION

FRITZ!

ISDN

FRITZ!Card PCI
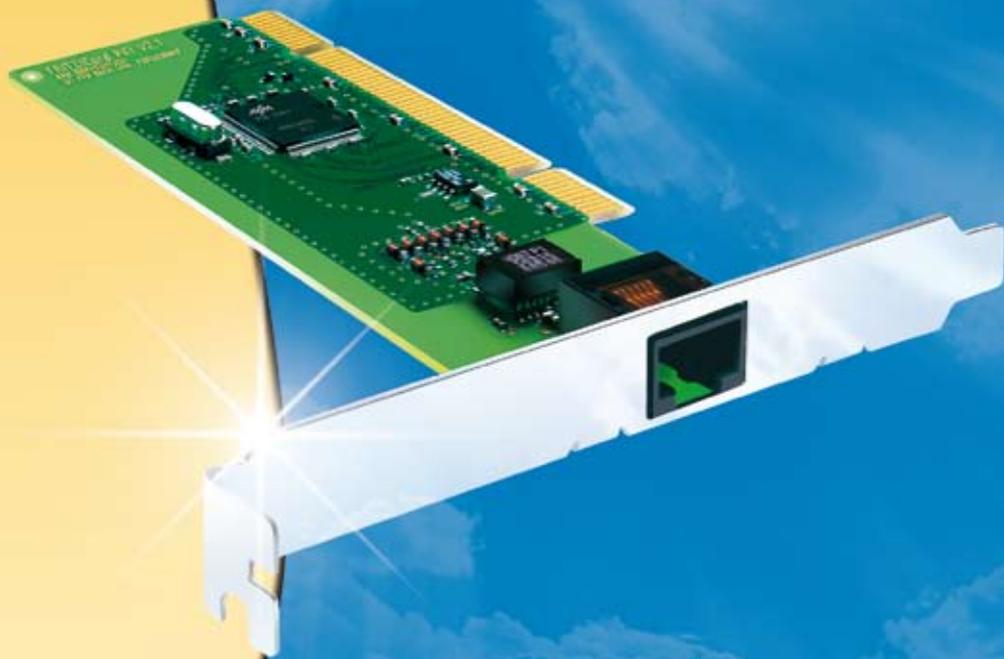
HIGH-PERFORMANCE COMMUNICATION BY . . .

AVM

FRITZ!Card PCI

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Contents

Typographical Conventions

The following typographic conventions and symbols are used in this manual to make reading easier and to emphasize important information.

Highlighting

The table below explains the highlighting conventions used in this manual.

Highlighting	Function	Example
Quotation marks	Keys, buttons, icons, tabs, menus, commands	"Start / Programs" or "Enter"
Capital letters	Path and file names in running text	SOFTWARE\INFO.PDF or README.DOC
Pointed brackets	Variables	‹CD-ROM drive›
Typewriter font	Information to be typed in using the keyboard	`a:\setup`
Gray italics	Hints, instructions and warnings, always accompanied by a symbol in the margin	*... For more information, see ...*

Symbols

The following graphic symbols in the manual always appear in connection with text printed in gray italics:

FRITZ! marks useful hints to assist you in working with the product.

The hand indicates important instructions that must be observed to avoid malfunctions.

1 Welcome

Welcome to the world of ISDN! This manual is your introduction to ISDN communication with FRITZ!Card PCI. It contains important information about the scope of functions, operation and installation of your ISDN-Controller and the corresponding software. The manual also tells you how to use ISDN services and how to access the Internet.

1.1 What Does FRITZ!Card PCI Include?

FRITZ!Card PCI by AVM presents a communications package which makes available the advantages of ISDN: high transmission speed, fast connection, optimum line quality and maximum operating reliability.

The FRITZ!Card PCI communications package consists of:

- the AVM ISDN-Controller FRITZ!Card PCI with its associated driver software,

- FRITZ!, the ISDN communications software
  (See the FRITZ! manual in PDF format and section "The Many Facets of FRITZ!" on page 28 for more information.)

- and the AVM system drivers AVM ISDN CAPI Port Driver, AVM ISDN NDIS WAN CAPI Driver and the AVM ISDN TAPI Services for CAPI.

  For more information on the AVM system drivers, see section "Going Online with FRITZ!web" on page 29 and the corresponding Help files.

1.2 Package Contents?

The box contains:

- 1 FRITZ!Card PCI

    The ISDN-Controller FRITZ!Card PCI establishes the connection between your computer and ISDN.

- 1 ISDN cable

    With the ISDN cable provided, FRITZ!Card PCI is connected to the ISDN socket.

- 1 FRITZ!Card PCI CD with

    - driver software for FRITZ!Card PCI

    - FRITZ!, the ISDN communications software

    - AVM system drivers

    - documentation for all enclosed AVM products

    The CD_INFO.HTM file in the root directory of the installation CD describes the contentes of the CD.

- 1 FRITZ!Card PCI manual (which you're reading now)

    Documentation for the FRITZ!Card PCI ISDN-Controller

1.3   Installation Requirements

In order to operate FRITZ!Card PCI, you must have the following:

- 1 ISDN access

- 1 computer with an Intel Pentium II processor (or a comparable AMD processor), 64 MB RAM and a hardware configuration suitable for the operating system.

- Your computer must have a free PCI slot and a free interrupt for this slot.

- The operating system Microsoft Windows XP, Me, 2000 or Windows 98 must be installed.

- To operate FRITZ!fon or other telephony software, you must have a sound card and driver with full-duplex capability, and suitable sound input/output equipment (such as a headset).

- The "Stand-by" and "Remote Wake Up" functions are available with the operating systems Windows XP, Me and Windows 2000 if your computer is ACPI-capable and the CAPI driver is installed. For more information about the requirements for ACPI, see the section "Does the Computer Support ACPI?" on page 40.

You can install FRITZ!Card PCI if your computer meets all of these requirements.

FRITZ!Card PCI and the software supplied with it is designed as a solution for stand-alone PCs, not for network operation. They are designed to connect only one single PC to the ISDN line.

2 Installation

FRITZ!Card PCI can be installed in the operating systems Windows XP, Windows Me, Windows 2000 and Windows 98.

In some operating systems the display of menus and folders can be changed. The following instructions are based on the standard installation of each operating system.

FRITZ!Card PCI is installed in two steps:

- Physically installing the AVM ISDN-Controller FRITZ!Card PCI in the computer and connecting it to ISDN.

- Installing the software components of FRITZ!Card PCI using a joint installation program.

2.1 FRITZ!Card PCI Hardware Installation and Connection to ISDN

Proceed as follows to install FRITZ!Card PCI and connect it to ISDN.

1. Switch off your computer and any connected devices and then unplug the power supply.

2. Loosen the screws of the computer housing and open the computer.

3. Select a free PCI slot and remove the blanking plate from the top end of the slot.

4. Insert the ISDN-Controller FRITZ!Card PCI into the slot, connector strip first, until the card is positioned firmly.

    How to insert the FRITZ!Card PCI is illustrated in the figure below:
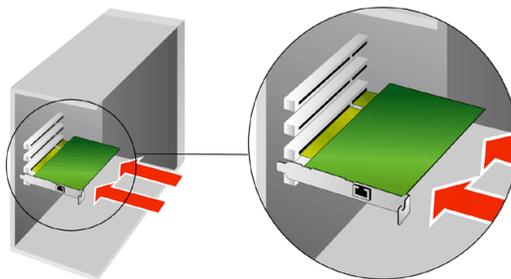
Inserting the FRITZ!Card PCI into the PCI slot

5. Screw the ISDN-Controller tightly to the top end of the slot.

6. Close the computer, screw the housing back together, and plug the power cable back into the socket.

7. Remove the enclosed ISDN cable from the package. The ISDN cable has identical plugs fitted to both ends. Insert one plug into the socket of the ISDN-Controller.

8. Plug the other end of the ISDN cable into the ISDN outlet.

Now the software components of FRITZ!Card PCI can be installed. Read the following sections for instructions.

2.2 What Is Installed?

During the initial installation, the installation program sets up the following software components:

● the driver software for FRITZ!Card PCI
The driver software for the ISDN-Controller FRITZ!Card PCI is loaded automatically when Windows is started.

The exact steps taken to install the driver software differ among the operating systems Windows XP, Me, 98 and 2000. Read the section that describes the driver software installation for your operating system.

● the FRITZ! communications software
See the section "The Many Facets of FRITZ!" on page 28 for more information.

● AVM ISDN CAPI Port Driver
See the section "ISDN and the Internet with Windows System Services" on page 33 for more information.

● the AVM ISDNWatch program, software for monitoring ISDN activities
See the section "Blocking Numbers With ISDNWatch" from page 29 for more information.

If you already have individual software components such as FRITZ! installed, read the instructions in section "Installing Individual Software Components" on page 20.

In the section "Where to Find What After Installation" on page 19 you will find information about the locations of the various software components on your computer after installation.

Once installation is complete, additional AVM system drivers and software may be installed for online services (see the section "ISDN and the Internet with Windows System Services" on page 33).

2.3 Installing the Driver Software in Windows XP

Administrator rights are required to install the driver software in Windows XP Professional.

Once the FRITZ!Card PCI has been inserted in your computer, proceed as follows:

1. Switch on your computer.

2. The driver software for the FRITZ!Card PCI is already contained in the Windows XP operating system and is installed automatically when the computer is started.

3. A message in the task bar indicates that FRITZ!Card PCI was found and has been installed. This message disappears after a few seconds.

Windows XP has detected new hardware

4. To check that the FRITZ!Card PCI installation was successful, open the "Device Manager" by clicking through "start / Control Panel / Performance and Maintenance / System / Hardware / Device Manager". Double-click "Network adapters". The list contains the entry "AVM ISDN-Controller FRITZ!Card PCI".

This concludes installation of the FRITZ!Card PCI drivers delivered with the hardware in Windows XP. FRITZ!Card PCI is now ready for immediate operation.

To make sure that the latest version of these drivers is installed, it may be necessary to update the drivers with the installation program included on the FRITZ!Card PCI installation CD:

1. Insert the FRITZ!Card PCI CD and run the program SETUP.EXE in the WINDOWS.XP folder.

   The installation program for FRITZ!Card PCI starts.

2. In its sign-on window, select your language and click "Continue".

3. In the next dialog, select "Update" and confirm by clicking "Continue".

4. In the next dialog Windows may indicate that you are about to install software not digitally signed by Microsoft. This prompt depends on the driver signature options set on your computer. Answer the prompt with "Continue Anyway". Repeat this procedure in the next dialog for the AVM ISDN NDIS WAN CAPI Driver.

5. The next window informs you that the drivers have been updated successfully. Click "Finish" to end the installation.

6. Answer "No" in the next dialog so that your computer will not be rebooted.

This concludes the update of the FRITZ!Card PCI driver software.

In the next step, install the FRITZ! communications software. For more information, see the section "Installing the Communications Software FRITZ!" on page 17.

2.4 Installing the Driver Software in Windows Me

Once the FRITZ!Card PCI has been inserted in your computer, proceed as follows:

1. Start the computer and then insert the FRITZ!Card PCI CD.

2. The "Add New Hardware" wizard recognizes a new Plug & Play device to be installed.

3. When asked: "What would you like to do?", select the option "Automatic search for a better driver (Recommended)."

4. Select the entry ‹CD-ROM DRIVE›:\WINDOWS.ME\ FPCISET.INF in the list of entries found and confirm with "OK".
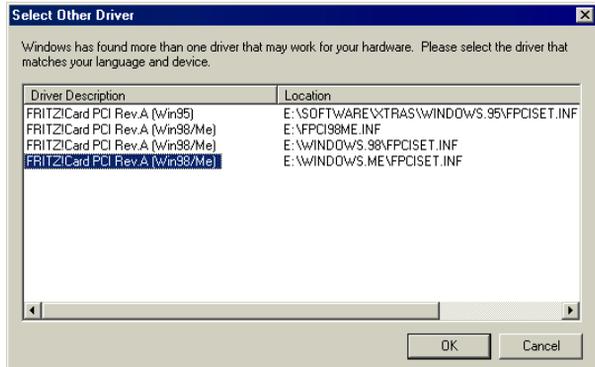
List of drivers found

5. When the message "Windows has finished installing the software selected that your new hardware device requires." appears, click "Finish".

    Next, the welcome window of the installation program for the AVM ISDN-Controller FRITZ!Card PCI appears automatically.

6. Specify the folder in which the driver software is to be installed on your computer.

7. As a final step of the driver software installation, a message box is displayed showing the configuration of the ISDN-Controller FRITZ!Card PCI.

Then a message that the FRITZ! communications software can be installed appears. Continue with the section "Installing the Communications Software FRITZ!" on page 17.

Windows Me includes an "ISDN Configuration Wizard". This Wizard can be used neither to install ISDN hardware and software correctly, nor to set up an ISDN connection. It can only be used to configure a previously installed AVM ISDN NDIS WAN CAPI driver (one of the AVM system drivers).

2.5 Installing the Driver Software in Windows 2000

Administrator rights are required to install the driver software in Windows 2000.

Once the AVM ISDN-Controller FRITZ!Card PCI hardware has been inserted in your computer, the next step is to install the driver software for the ISDN-Controller. Proceed as follows:

1. Switch on your computer.

2. The "Found New Hardware Wizard" recognizes a new Plug & Play device to be installed. Click "Next".

3. In the next window, select the option "Search for a suitable driver for my device (recommended)" and confirm your selection with "Next".

4. In the next window, select the option "CD-ROM drives" and confirm by clicking "Next".

5. The program reports that a driver was found. Click "Next" to install the driver.

6. In the next dialog Windows may indicate that you are about to install software not digitally signed by Microsoft. This prompt depends on the driver signature options set on your computer. Answer the prompt with "Yes". Repeat this procedure in the next dialog for the AVM ISDN NDIS WAN CAPI Driver.

7. Conclude the installation by clicking "Finish".

Then a message that the FRITZ! communications software can be installed appears. Continue with the section "Installing the Communications Software FRITZ!" on page 17.

2.6 Installing the Driver Software in Windows 98

Once the AVM ISDN-Controller has been inserted in your computer, turn your computer back on. Windows 98 automatically detects that a new Plug and Play device is present: the ISDN-Controller. The "Add/Remove Hardware Wizard" is started.

Insert the FRITZ!Card PCI CD and follow the instructions on the screen. Note the following:

1. When asked: "What do you want Windows to do?", select the option "Search for the best driver for your device. (Recommended)."

2. When the program asks where the driver is located, activate **only** the option "CD-ROM drive".

Specifying the driver location in Windows 98

3. When the message "Windows has finished installing the software selected that your new hardware device requires." appears, click "Finish".

   Next, the welcome window of the installation program for the AVM ISDN-Controller FRITZ!Card PCI appears automatically.

4. Specify the folder in which the driver software is to be installed on your computer.

5. As a final step of the driver software installation, a message box is displayed showing the configuration of the ISDN-Controller FRITZ!Card PCI.

Once the driver software installation has been completed, a message reports that the FRITZ! communications software can be installed. For more information, read "Installing the Communications Software FRITZ!" on page 17.

Windows 98 includes an "ISDN Configuration" wizard. This Wizard can be used neither to install ISDN hardware and software correctly, nor to set up an ISDN connection. It can only be used to configure a previously installed AVM ISDN NDIS WAN CAPI driver (one of the AVM system drivers).

2.7 Installing the Communications Software FRITZ!

1. The welcome screen of the FRITZ! installation appears. Click "Next".

2. Specify the folder in which the FRITZ! communications software is to be installed on your computer.

3. The next step is to specify the program folder for FRITZ! in the Start menu.

4. The next dialog asks whether you would like to perform a simple installation or an installation with configuration.

   Installation: The FRITZ! modules are installed with default settings in the specified folder. All program settings can be changed in the individual FRITZ! modules after installation. Please see the Online Help for instructions.

   Installation with Configuration: A number of basic settings can be made during installation, for example, information for operation at a PBX.

2.8 AVM ISDN CAPI Port Driver Installation

Upon conclusion of the FRITZ! communications software installation, you can install the AVM ISDN CAPI Port Driver. A window with four settings pages is displayed:

- Modems
  Select here the CAPI Port modems you would like to install, such as "AVM ISDN Internet (PPP over ISDN)" for a connection to an Internet Service Provider using Windows' Dial-Up Networking. View information about the individual modems by clicking a modem and then pressing "F1".

- Port
  On this settings page you can assign specific COM ports to the virtual modems. If no special COM port settings are required in your system, simply confirm the default settings.

- MSN
  On this settings page you may separate the online charges from the charges for voice connections. To use this option, an MSN must be entered on the "MSN" settings page. Online connections then will be charged to this number.

- AVM Test Connection / Fast Internet over ISDN
  Define here whether two new connections should be configured in Dial-Up Networking during installation of the AVM ISDN CAPI Port Driver: AVM Fast Internet and AVM Intranet. Dial-Up Networking must already be installed on your computer.

  These connections are only designed to check that the program functions properly. They cannot be used to establish a connection to the Internet.

This completes software installation for the FRITZ!Card PCI. Restart your computer.

Errors During Installation: What to Do

If errors occurred during installation and the software components of FRITZ!Card PCI were not installed correctly, proceed as follows:

1. Remove all of the installed FRITZ!Card PCI components by following the instructions in the sections "Removing Software in Windows XP" on page 23, "Removing Software in Windows Me and 98" on page 24 or "Removing Software in Windows 2000" on page 25, respectively.

2. Restart your computer.

3. Repeat the complete software installation.

If you want to install individual FRITZ!Card PCI software components, please read the instructions in the section "Installing Individual Software Components" on page 20.

2.9 Where to Find What After Installation

After installation with default settings you will find the software components of FRITZ!Card PCI at the following locations:

The entry "AVM ISDN-Controller FRITZ!Card PCI" is included in the Device Manager.

The FRITZ! modules are contained in the "FRITZ! ISDN and Internet" icon on your desktop as well as in the "FRITZ!" program group. For information on features and operation of the FRITZ! modules, please see the chapter "FRITZ!: Internet and ISDN Software" on page 27.

If you have installed the AVM ISDN CAPI Port Driver, a link to the Help file for the ISDN CAPI Port Driver is created on your desktop.

The ISDNWatch program is located in the "Startup" folder of the Start menu. This program monitors and logs the B-channel activities of your FRITZ!Card PCI. The ISDNWatch icon in the task bar indicates the operation status of the B channels

used by the ISDN-Controller. All connection charges accrued are listed and compiled in the statistics. For details, see the section "Blocking Numbers With ISDNWatch" on page 29.

2.10 Installing Individual Software Components

Certain software components may already be installed on your computer, such as FRITZ!, for example. In this case you may want to install only certain individual components from the product CD. You can do so as follows:

- To install the FRITZ!Card PCI driver software, open the README.DOC file in the folder named for your ‹OPERATING SYSTEM› on the CD, and follow the instructions it contains.

- To install the FRITZ! communications software, run the program file SETUP.EXE in the folder SOFTWARE/FRITZ! on the installation CD.

- The AVM ISDN CAPI Port Driver is installed using the SETUP.EXE file located in the SOFTWARE\CAPIPORT\ CAPIPORT.‹OPERATING SYSTEM›\‹LANGUAGE› folder on the CD.

The CD_INFO.HTM file in the root directory of the FRITZ!Card PCI CD lists the contents of the CD.

2.11 How to Perform an Update of the Driver Software

AVM continuously extends the functionality of the driver software for your FRITZ!Card PCI. To ensure that your installation of FRITZ!Card PCI is always up to date, you should install new driver software whenever new drivers are made available. To do so, proceed as follows:

1. Open the following Internet page:

    www.avm.de/en/download

2. Select the category

    –   Product Group: Other products

    –   Product: FRITZ!Card PCI

    –   Operating system: the operating system on your computer.

    –   Please choose your language

Search downloads

3. Click the "Search downloads" button. The updates found are displayed on the screen.

Search results for new driver software for the FRITZ!Card PCI

Start download

4. Start downloading an update by clicking the "Start download" button.

5. In the "File Download" window, click the "Save" button and then click "OK".

6. In the next window, enter the folder in which the update file is to be saved on your computer.

7. Confirm with "Save". The file will be downloaded to your computer.

8. Now go to the folder in which you saved the update file and double-click the file name to open it.

9. Confirm the installation in the next window by clicking "Yes" and then click "Next" in the AVM window of FRITZ!Card PCI.

10. Then specify the folder in which the latest driver software is to be saved on your computer and confirm by clicking "Next".

11. The welcome window of the installation program appears. Click "Continue".

12. In next dialog, select "Update" and once again "Continue".

13. In Windows XP and Windows 2000, Windows may indicate that you are about to install software not digitally signed by Microsoft. This prompt depends on the driver signature options set on your computer.

    Answer the prompt with "Continue Anyway" in Windows XP or with "Yes" in Windows 2000. Repeat this procedure in the next dialog for the AVM ISDN NDIS WAN CAPI Driver.

14. An information window appears announcing that the update has been concluded successfully. Confirm with "Finish".

15. Restart your computer when prompted to do so.

This concludes the update of the driver software.

3 Removing FRITZ!Card PCI

The steps required to remove the software vary depending on your computer's operating system. See the section below that describes uninstallation in your operating system.

3.1 Removing Software in Windows XP

When the FRITZ!Card PCI hardware is removed from the computer, the driver software is deactivated automatically. It is thus not necessary to remove the software.

If you would like to remove the driver software, proceed as follows:

The driver can only be uninstalled when FRITZ!Card PCI is still physically present in the computer. After the hardware has been removed from the PCI slot, the corresponding entry in the Device Manager is no longer visible.

1. Open the "Device Manager" by clicking through "Start / Control Panel / Performance and Maintenance / System / Hardware / Device Manager".

2. Double-click "Network adapters".

3. Select from the list the entry "AVM ISDN-Controller FRITZ!Card PCI".

4. Select "Action / Uninstall".

5. Acknowledge the message by clicking "OK".

This completes uninstallation of the driver software.

Proceed as follows to remove the FRITZ! communications software and the system driver(s):

1. Click the "Add/Remove Programs" icon in the "Start / Control Panel".

2. Make sure that the "Change or Remove Programs" button is selected in the column at left.

If the FRITZ! communications software and the AVM CAPI Port driver are installed on your system, then they both appear in the list of "Currently installed programs":

– AVM FRITZ!

– AVM ISDN CAPI Port

3. Select the software component you want to remove.

4. Click the "Change/Remove" button. All of the selected component's files and settings are deleted from your computer.

Repeat this process as necessary to remove another software component of FRITZ!Card PCI.

This completes uninstallation of the selected component.

3.2 Removing Software in Windows Me and 98

Proceed as follows to completely or partially uninstall FRITZ!Card PCI:

1. Select "Start / Settings / Control Panel", then double-click the "Add/Remove Programs" icon.

2. The components of FRITZ!Card PCI are found in the list of installed software. They appear in the list as follows:

– AVM FRITZ!

– AVM ISDN CAPI Port

– AVM ISDN-Controller FRITZ!Card PCI

3. Select the components to be removed.

4. Click the "Add/Remove…" button. The uninstall program is started. All of the selected component's files and settings are deleted from your computer.

Repeat this process as necessary to remove another software component of FRITZ!Card PCI.

5.   Restart your computer.

Rebooting the computer concludes the uninstallation.

3.3   Removing Software in Windows 2000

Proceed as follows to remove the FRITZ!Card PCI driver software in Windows 2000:

1.   Select "Start / Settings / Control Panel", then double-click the "Add/Remove Hardware" icon.

2.   The Add/Remove Hardware Wizard is started. Click "Next".

3.   Select the "Uninstall/Unplug a device" option in the following dialog and click "Next".

4.   Then select the "Uninstall a device" option. Confirm by clicking "Next".

5.   Select the entry "AVM ISDN-Controller FRITZ!Card PCI" in the following list and confirm with "Next".

6.   Confirm the uninstallation by activating the option "Yes, I want to uninstall this device" and click "Next".

7.   As a final step, click "Finish".

This completes uninstallation of the FRITZ!Card PCI driver software.

Proceed as follows to remove the FRITZ! communications software and the system driver:

1.   Select "Start / Settings / Control Panel", then double-click the "Add/Remove Programs" icon.

2.   Make sure that the "Change or Remove Programs" button is selected in the column at left.

     If the FRITZ! communications software and the AVM CAPI Port driver are installed on your system, then they both appear in the list of "Currently installed programs":

     –   AVM FRITZ!

     –   AVM ISDN CAPI Port

3.   Select the software component you want to remove.

4.   Click the "Change/Remove" button. All of the selected component's files and settings are deleted from your computer.

Repeat this process as necessary to remove another software component of FRITZ!Card PCI.

This completes uninstallation of the selected component.

4 FRITZ!: Internet and ISDN Software

FRITZ! is the gateway to the entire world of ISDN communication: surfing the Internet, sending faxes, transmitting data and much more. This software grants you freedom of connectivity, allowing communication not only with remote partners equipped with an ISDN line, but also connections to analog lines. The following diagram shows some of the implementations FRITZ! and your ISDN-Controller make possible.
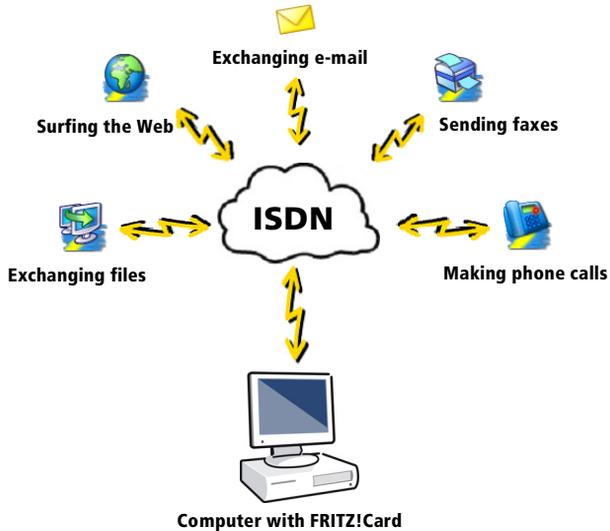
Internet and ISDN with FRITZ!

4.1 The Many Facets of FRITZ!

 FRITZ! consists of the following modules:

The module FRITZ!web allows the user to dial into the Internet simply and directly. Thanks to channel bundling and data compression, Internet connections with extremely high data transmission speeds can be established. The option of automatically clearing down idle connections saves connection costs if you are charged by connection up-time.

With FRITZ!fax you can send and receive faxes in accordance with the G3 fax standard (analog fax). You can send fax documents directly from your text processing program. FRITZ!fax can also be used to poll fax servers, and can be operated as a fax polling server itself.

With FRITZ!fon plus a full-duplex sound card and a headset or other speech input/output device, telephone conversations can be conducted directly from your PC—with convenient phone book management and a notes function. Three parties can be connected in a conference call. You can use short messaging service via SMS centers to send SMS to terrestrial lines. FRITZ!fon includes an answering machine. Different messages can be configured for specific numbers, callers and times of day.

Using the ISDN file manager FRITZ!data, files can be transferred quickly and securely, and your computer can be configured to receive files from outside callers. Access rights to your files can be defined individually for each user.

In the FRITZ! Address Book you can save all the information needed to dial up connections with all FRITZ! modules. The Address Book can be opened from any FRITZ! module.

For comprehensive information about FRITZ!, see the Online Help.

4.2 Blocking Numbers With ISDNWatch

ISDNWatch is a program that supports you by monitoring your ISDN connections.

Besides displaying the B-channel activities and the option of logging all ISDN connections, ISDNWatch also offers a number filter.

With the ISDNWatch number filter you can block individual numbers or whole groups of numbers for all incoming and outgoing connections to and from your computer. For instance, you can block foreign numbers, long-distance numbers or costly service numbers. By blocking expensive service numbers you can prevent web dialers from establishing costly connections from your computer.

For more information about the number filter and configuration instructions, see the ISDNWatch Online Help.

4.3 Going Online with FRITZ!web

With FRITZ!Card PCI and the FRITZ!web module you can go online fast for easy surfing. You can explore the World Wide Web, exchange e-mail or enter chat rooms.

A Wizard simplifies access to the Internet and helps you to manage your Internet connections and settings:

- Select the "Connect to the Internet" button in the wizard and open a web browser to establish a connection to the Internet using the pre-configured Internet connection.

- Click "Manage Internet Connections" to go to the dialog for creating and editing Internet connections and schedules.

- Click "Edit Settings" to open the settings of FRITZ!web. Here you can make general settings for FRITZ!web and settings that are valid for all Internet connections.

Custom settings for individual Internet connections can be made with the "Edit Connection / Advanced Settings" command.

Channel Bundling

Channel bundling allows data to be transmitted from the Internet using both channels. With this feature data can be downloaded more quickly, but transmission costs are accrued for both channels. You can activate the second channel manually or have it switched on automatically for high data loads. The second channel can be released for incoming calls to other FRITZ! modules so that you can be reached even when channel bundling is active.

Internet Sharing

With the "Internet Sharing" feature, every computer in a network can connect to the Internet via FRITZ!web.

Clearing Idle Connections Automatically

In the FRITZ!web settings you can specify how many seconds the line is allowed to remain idle before the existing connection to the Internet is automatically cleared down. An example: Suppose you have loaded a Web page in your browser. While you are reading, no further data is requested over the Internet connection. After the delay you have specified in the settings, FRITZ!web hangs up the idle connection. Now you can continue reading the Internet page without accruing any further charges. The connection is not re-established until you click a link or enter another URL. Thanks to FRITZ!web's fast dial-up, you will hardly notice that the connection is being restored.

See the Online Help for detailed information about all features and operation of FRITZ!web.

4.4   Faxing with FRITZ!fax

With FRITZ!fax you can send, receive and poll faxes. You can send fax documents directly from your text processing program. Existing files can be sent quickly and easily using the FRITZ!fax Wizard (available in version 3.04 and above).

Sending a Fax

The "FRITZ!fax" printer is configured during the FRITZ!Card installation. Fax documents can be created in text processing programs:

1. With a Windows application, open or create a document to send as a fax.

2. Enter the print command in your program, select FRITZ!fax as your printer and confirm with "OK".

3. The FRITZ!fax window is displayed. Enter here the fax number of the recipient and start transmission.

Receiving a Fax

In order to receive incoming faxes, your computer must be switched on with FRITZ!fax active.

Enter the MSN for fax reception in the settings on the "ISDN" page. Disable the option "Answer all incoming fax calls" to prevent FRITZ!fax from answering incoming voice calls.

Received faxes are signaled by an icon in the taskbar and/or by a message box. Specify the desired type of notification on the "Notification" page in the"Fax settings".

Testing FRITZ!fax

- Dial the fax number (MSN) assigned for FRITZ!fax on a telephone. If you hear a fax tone in your telephone headset, FRITZ!fax has answered the call and is ready to receive incoming faxes.

- Compose a short test fax and send it to your telephone number. Pick up the handset. If you hear a fax tone in your telephone handset, then FRITZ!fax is ready to transmit your outgoing faxes.

Fax Polling

When you poll a fax server, you call a remote fax machine using FRITZ!fax to request that it send the desired fax.

*The caller pays the costs accrued by a fax polling transmission.
This is especially important to remember when you call premi-
um numbers.*

To start fax polling, select the "Start fax polling" button. A "Fax
Polling" window opens. Enter the fax polling number and con-
firm it with "OK".

Managing Faxes

All faxes sent and received with FRITZ!fax are logged in the Jour-
nal. Even cancelled transmissions are displayed here. The
Journal contains detailed information about each fax, including
the date and time of transmission, the number of the recipient,
the number of pages, the cost of transmission and the trans-
mission status (for example, "Sent").

Journal with received and sent faxes

New faxes that have not been read yet are designated in the
Journal by a star.

4.5 MSNs for FRITZ! Modules

To receive fax and data calls with FRITZ!, it is not necessary to
assign distinct Multiple Subscriber Numbers (MSNs) to
FRITZ!data and FRITZ!fax , since FRITZ!fax answers calls with the
service indicator for "voice" telephony, while FRITZ!data re-
sponds only to calls with the "data" service indicator.

FRITZ!fax and FRITZ!fon, on the other hand, both use the
"voice" indicator. If you want these modules to respond to calls
meant for them, you must assign distinct MSNs for call accep-
tance to FRITZ!fax and FRITZ!fon, and to any telephones or fax
machines connected to analog extensions. Specify the settings
on the "ISDN" settings page of the respective modules.

## 4.6 ISDN and the Internet with Windows System Services

As an alternative to FRITZ!, you can use Windows Systems Services for Internet access and faxing. For this you need the AVM system drivers ISDN NDIS WAN CAPI Driver, ISDN CAPI Port Driver and ISDN TAPI Services for CAPI.

During the FRITZ! installation you can specify whether you want to add FRITZ!web to the Startup group. If you select this option, FRITZ!web is used for every connection to the Internet. If you want to the Windows system drivers to connect to the Internet, you must first exit FRITZ!web or remove it from the Startup group.

Internet Connections Using the AVM NDIS WAN CAPI Driver

The AVM NDIS WAN CAPI Driver is automatically installed along with the operating system in Windows XP and 2000. The Dial-Up Networking connection for the NDIS WAN CAPI Driver is located in the "Network Connections" area of the Windows Control Panel.
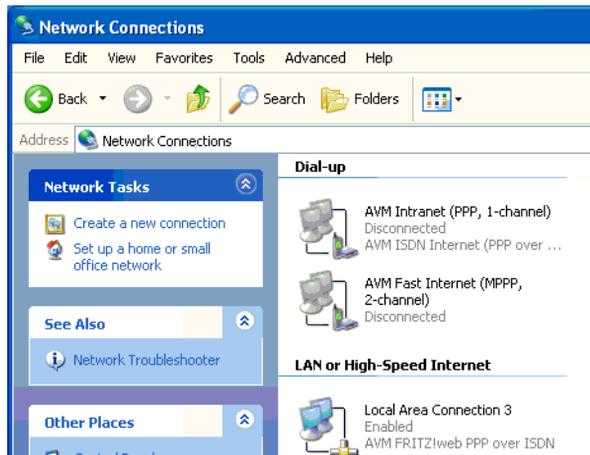
Dial-Up Networking via the AVM ISDN NDIS WAN CAPI Driver in the Network Connections

To establish an Internet connection using the AVM NDIS WAN CAPI Driver, double-click the entry.

The TAPI Application Windows XP Fax Service

TAPI (Telephony Application Programming Interface) is a telephony interface by Microsoft which allows telephony programs to be controlled from within the Windows operating system. Using AVM ISDN TAPI Services for CAPI you can make telephone calls, control voice mail systems and use Windows XP fax service.

To use the Windows XP Fax service, make sure to follow this sequence: Install Windows XP fax service first, and then AVM ISDN TAPI Services for CAPI.

FRITZ!Card PCI as a Virtual Modem

The AVM ISDN CAPI Port Driver allows you to use an ISDN-Controller as if it were a modem.

The ISDN CAPI Port Driver generates a number of virtual modems in your system. The virtual modems are pre-configured so that they can be used immediately in most conventional implementations without any further configuration required.

The modem settings can be customized using AT commands.

For detailed information about configuration and operation of the AVM system drivers, see the Help files for the system drivers on the FRITZ!Card PCI CD.

5 How FRITZ!Card PCI Works

This chapter provides basic information about FRITZ!Card PCI on the ISDN line and the way an ISDN-Controller functions.

5.1 FRITZ!Card PCI on the ISDN Line

When your ISDN access is configured, the ISDN provider installs a network terminator (NT) first. An NT usually is equipped with two ISDN sockets, each of which is an external S_0 interface.

In most cases an ISDN PBX with analog extensions is connected to one ISDN socket of the NT and a digital terminal device to the other: in this case, the ISDN-Controller. Analog terminal devices such as telephones, answering machines and G3 fax machines are connected to the PBX extensions. The connected devices are addressed through distinct telephone numbers. These telephone numbers are referred to in the terminology of ISDN as Multiple Subscriber Numbers (MSNs). Each ISDN line is equipped with several MSNs.

If a PBX is connected to one of the ISDN sockets and your computer with FRITZ!Card PCI to the other, additional ISDN sockets are required to connect any other ISDN terminal devices like an ISDN telephone (see the gray area in the figure below).
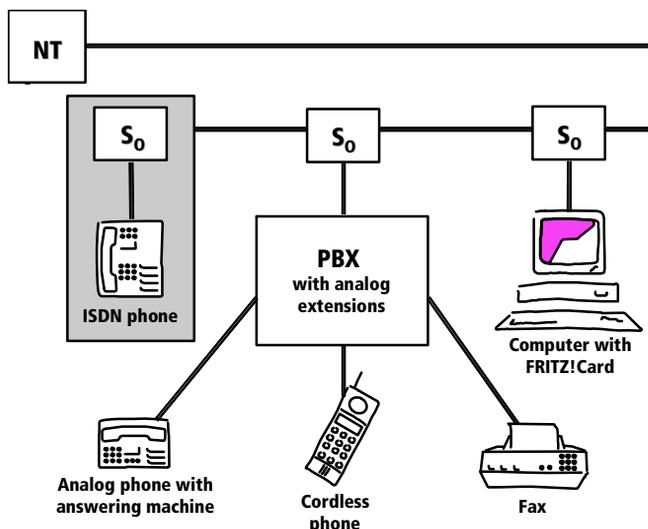
Typical configuration of a point-to-multipoint ISDN line

Some PBX systems provide both analog and digital extensions. ISDN terminal devices may be connected directly to these digital extensions. Digital extensions are also known as "internal S_0 interfaces". These connections are an alternative to external S_0 interfaces.

No matter which interface your FRITZ!Card PCI is connected to, an internal or an external S_0 interface, the terminal device is not the ISDN-Controller FRITZ!Card PCI, but rather the ISDN software on your PC: for instance, the FRITZ! modules FRITZ!data and FRITZ!fax.

Whenever a call arrives on your ISDN line, it is necessary to decide who will answer it: a FRITZ! module, the ISDN telephone, or the PBX. For incoming calls, a service indicator is transmitted first. This service indicator distinguishes between data calls and fax calls, for instance. For incoming analog calls no such differentiation is possible: telephone calls and G3 (analog) faxes are both designated by the "voice" service indicator. In order to route such calls correctly, different MSNs must be assigned to the different terminal devices or FRITZ! modules. See the section "MSNs for FRITZ! Modules" on page 32 for more information.

5.2 How Does an ISDN-Controller Work?

An ISDN-Controller serves as the connection between ISDN and your computer. The ISDN cable supplied connects to the S_0 bus and thus to the local exchange of the telephone network.

Any telecommunication service, for instance Internet, Fax G3 or telephony, is implemented using "protocols". These protocols stipulate the procedures used for data transmission between the subscribers. They ensure smooth communication and adjust such parameters as transfer speed and data compression during transmission. Both communications partners must support the protocol to be implemented, for example T.30 for G3 fax or HDLC transparent for the Internet. The driver software for the ISDN-Controller FRITZ!Card PCI must support the right parameters for every connection and pass them on in real-time to both local applications and the remote station. Transfer to the communications software takes place in the computer via the COMMON-ISDN-API interface, CAPI for short. CAPI establishes the connection between the ISDN-Controller and the installed applications like FRITZ!. The driver software for the ISDN-Controller FRITZ!Card PCI thus is also known as the CAPI driver.

FRITZ!Card PCI has a special CAPI driver for each operating system supported; the applications work identically and therefore can be used universally with CAPI 2.0. The modules of the FRITZ! communications software are also based on CAPI 2.0, as are a number of programs by other manufacturers. AVM provides the system drivers AVM ISDN CAPI Port Driver and ISDN NDIS WAN CAPI Driver for programs that require a modem or a network adapter.

The following diagram illustrates how the individual components of FRITZ!Card PCI interact:
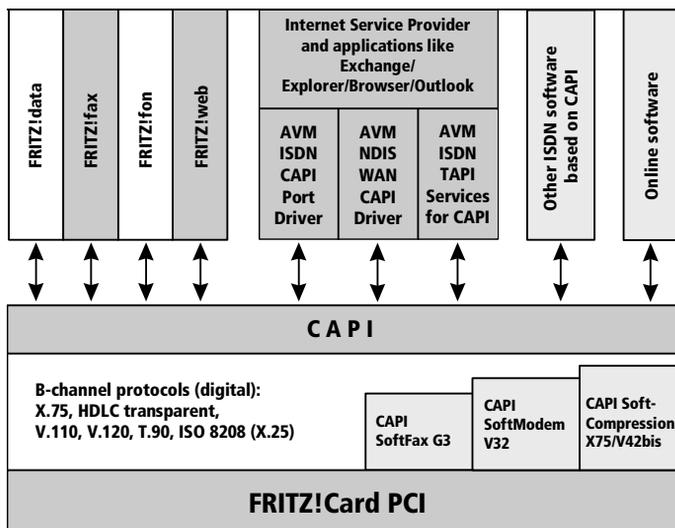
Functional diagram of FRITZ!Card PCI

Functions of the Driver Software

A basic-rate ISDN line is equipped with three channels: two B channels and one D channel. The B channels are used for data transmission such as faxes. The program, e.g., FRITZ!fax or FRITZ!data, uses the D channel to communicate with the digital exchange. Among the information transferred via this channel are connection charges. The driver software processes the D-channel protocol of the ISDN line and puts all required B-channel protocols (X.75, HDLC, etc.) at the disposal of the applications. CAPI 2.0 also provides SoftCompression X75/V42bis, SoftModem and SoftFax G3.

CAPI SoftCompression X75/V42bis

The driver software for the ISDN-Controller FRITZ!Card PCI supports data compression as per V.42bis for X.75 connections in accordance with the CAPI standard. Connection times and costs can be reduced considerably with this type of data compression. Data compression is activated or deactivated at the request of an ISDN application such as FRITZ!data.

CAPI SoftFax G3

The driver software allows FRITZ!Card PCI to be used with all CAPI-based Windows fax applications. FRITZ!Card PCI supports transmission and reception of faxes at a rate of up to 14,400 bit/s. The ISDN-Controller FRITZ!Card PCI sends and receives like a G3 fax machine.

CAPI SoftModem V32bis

FRITZ!Card PCI also provides the CAPI SoftModem V32bis feature. On the basis of this modem emulation, it is possible to connect from an ISDN access to any analog remote party with a modem connected to the telephone network.

5.3   Ready to Receive on Standby

If your computer supports ACPI (**A**dvanced **C**onfiguration **P**ower **I**nterface), you can take advantage of the energy-saving features of standby and hibernation.

In standby mode incoming calls can "wake" the computer so that the voice message or fax can be accepted. Once the call has been completed, the computer returns to standby mode. This mode can only be used when a corresponding program is started, such as FRITZ!, and if the computer supports APCI.

Incoming calls and faxes cannot be accepted in hibernation mode!

Standby and hibernation differ in the following ways:

- Standby: all devices that consume large amounts of energy are turned off, such as the monitor, hard disks and other devices.

- Hibernation: also stores the contents of main memory to the hard disk. In this condition energy consumption is even lower than on standby.

Does the Computer Support ACPI?

Use the following checklist to determine whether your computer supports ACPI:

- You work with Windows XP, Me or 2000.

- Windows XP: ACPI-capable components are listed under "System devices" on the "Device Manager" settings page ("Start / Control Panel / Performance and Maintenance / System / Hardware").

- Windows Me: ACPI-capable components are listed under "System devices" on the "Device Manager" settings page ("Start / Settings / Control Panel / System").

- Windows 2000: ACPI-capable components are listed under "System devices", accessed by clicking the "Device Manager" button on the "Hardware" settings page ("Start / Settings / Control Panel / System").

- The command "Stand by" appears along with "Hibernate" in the "Shut Down" window, opened through the "Start" menu.

If your computer is to remain ready to receive incoming calls, hibernation must be available on the computer but deactivated.

- All of the devices installed on your computer support ACPI.

One single component installed on the computer that does not support APCI can make it impossible to use standby or hibernation.

For more information on ACPI, see Windows Help, or the documentation on the FRITZ!Card PCI CD in the SOFTWARE\INFO folder or the manuals for your computer and motherboard.

Always Prepared with "Remote Wake Up"

Please note the following to keep FRITZ!Card PCI and FRITZ! ready to receive at all times in standby operation.

- Deactivate the "Hibernation" option. The "Remote Wake Up over ISDN" command is not available when the system is hibernating.

- For the computer to be able to accept incoming calls an faxes, a relevant ISDN application must be started, for instance FRITZ!fax.

- If you operate FRITZ!Card PCI at a PBX with an internal S_o bus, it may not make sense to use standby. Some PBX systems constantly interrupt standby operation with internal signals. In such a case, connect your FRITZ!Card PCI directly to the S_o bus.

The computer will be "woken up" when FRITZ!Card PCI receives information about an incoming call during standby (hence the name "Remote Wake Up"). The program checks the service indicator and phone number of the incoming call; if a suitable program is active, the call will be accepted.

Depending on the power options set, the computer may return to standby after checking the call parameters.

6 Information, Updates and Support

AVM provides numerous sources of information to assist you if any questions or problems arise. Whether manuals, updates or support – here you will find the important information you need.

In many cases problems which arise during operation can be resolved by installing the current Microsoft Service Pack for your operating system. The current service pack can be obtained directly from Microsoft.

6.1 Information Sources

To take advantage of all commands and features of your FRITZ!Card PCI consult the following information resources:

Documentation

The following documentation is provided for all components of FRITZ!Card PCI:

- Readme on the AVM ISDN-Controller FRITZ!Card PCI in the "AVM" program group: The Readme file contains current information which was not yet available at the time the manual was printed.

  In Windows XP and 2000, the current Readme file for FRITZ!Card PCI can be found on the FRITZ!Card PCI CD in the WINDOWS.XP or WINDOWS.2K folder, respectively.

- Help files for the AVM system drivers: If you install an AVM system driver, such as the CAPI Port Driver, a shortcut to the corresponding Help file is created on your desktop. The Help files can also be found in the folders SOFTWARE\ CAPIPORT\CAPIPORT.‹OPERATING SYSTEM› on the CD.

- Help for FRITZ!: In all FRITZ! modules you can open the detailed Online Help by pressing "F1" or clicking the "Help" button.

● The FRITZ! manual: The manual is saved in PDF format in the SOFTWARE\INFO folder on the CD. If you need to install the Acrobat Reader to read the PDF file, you can do so using the installation program included in the SOFTWARE\INFO folder on the CD.

Internet

AVM provides comprehensive information in the Internet. Enter the following address:

www.avm.de/en

The "Products" category provides detailed information about all AVM products as well as announcements of new products and product versions.

6.2 Updates

New driver software and software updates for your FRITZ!Card PCI are available for downloading free of charge from AVM's Internet site or the AVM Data Call Center (ADC).

Internet

To download new driver software for FRITZ!Card PCI from the Internet, please enter the following URL:

www.avm.de/en/download

For information about how to download current driver software for your FRITZ!Card PCI and perform an update, see the section "How to Perform an Update of the Driver Software" on page 20.

The AVM FTP server can also be used to download current driver software. The download area of the FTP server can be accessed by clicking the "FTP Server" link or entering the following address:

www.avm.de/ftp

AVM Data Call Center (ADC)

All programs and drivers available on AVM's Internet site can also be downloaded from the AVM Data Call Center (ADC).

You can reach the AVM Data Call Center with FRITZ!data

● using the IDtrans Protocol at the number:

   +49 (0)30 / 39 98 43 00

   For faster file transfer, enable the options "2-channel transfer" and "data compression".

● or with the FTP protocol at the URL:

   ftp.avm.de

Select the desired update files and copy them to your computer. For information about how to perform the update, see page 20.

6.3 Assistance from AVM Support

Please use the information sources described above before contacting the support.

For direct assistance, AVM Support is available to provide help when problems arise, during installation and your first steps in operating FRITZ!Card PCI.

The support desk can be reached by e-mail or by fax. AVM Support then will contact you to assist in resolving your problem. You will receive an e-mail.

Should problems establishing connections to remote sites arise, please try to establish a test connection to the AVM Data Call Center (ADC) before contacting support. See the section "The Many Facets of FRITZ!" on page 28 for more information. As the ADC receives a great number of calls, please try several times if the line is busy. In the case of an error, write down the exact wording of the error message. Support requires this information to rectify the error.

Support by E-mail

Support requests can be sent to AVM by e-mail. Please use the support request form on the AVM Internet pages at:

http://www.avm.de/en/service/support/

The following information should be included:

- An e-mail address or fax number at which you can be reached.

- Personal data like your name and address.

- The operating system you are using, such as Windows XP or Windows Me.

- Is your ISDN-Controller FRITZ!Card PCI operating on a PBX line?

- At what step of the installation or in which FRITZ! application does an error message appear? What is the exact wording of the message?

- Which software are you having problems with? What is the exact wording of the message?

Fill out the form and send it to AVM support by clicking the "Send" button. The support team will be able to assist you in resolving the problem to your satisfaction.

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Declaration of CE Conformity

The manufacturer   AVM GmbH

Address   Alt-Moabit 95

                       D-10559 Berlin

herewith declares that the product

Product   FRITZ!Card PCI

Type   ISDN-Controller

complies with the following directives:

- 1999/5/EC   R&TTE Directive:
  Radio and Telecommunication Terminal Equipment
- 2009/125/EC   Eco-design Requirements for Energy-using Products

The following norms were consulted to assess conformity:
- EN 60950-1:2011
- EN 55022:05.2008
- EN 55024:10.2003

CE   The CE symbol confirms that this product conforms with the above mentioned norms and regulations.

Berlin, 15-7-2011   Peter Faxel, Technical Director