

INSTALLATION

FRITZ!

ISDN

FRITZ!Card USB

English Edition



HIGH-PERFORMANCE COMMUNICATION BY ...



FRITZ!Card USB v2.1

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Typographical Conventions

The following typographical conventions and symbols are used in this manual to make it more readable and to emphasize important information:

Highlighting

The following table presents a short overview of the highlighting conventions used in this manual.

Highlighting	Function	Example
quotation marks	keys, buttons, program icons, settings pages, menus, commands	“Start / Programs” or “Enter”
capital letters	paths and files within floating text	INFO\INFO.PDF or README.DOC
pointed brackets	variables	<CD-ROM drive>
typewriter characters	entries made using the keyboard	a:\setup
gray and italics	information, tips and warnings; always appear with the corresponding symbols	<i>... for more information, see...</i>

Symbols

The following symbols used in the manual always appear with gray, italicized text:



Indicates especially important instructions that absolutely must be observed to ensure correct functioning.



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

1 Welcome to FRITZ!Card

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

1.1 What Comprises FRITZ!Card?

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

The communications package **FRITZ!Card** consists of:

- the AVM ISDN-Controller **FRITZ!Card USB v2.1** with its associated driver software
- **FRITZ!**, the ISDN communications software (for more information, see the section “The Many Facets of FRITZ!” on page 22.)
- and the **AVM system drivers** AVM ISDN CAPI Port Driver and AVM NDIS WAN CAPI Driver.



For more information about the AVM system drivers, see the section “Into the Internet with AVM System Drivers” on page 25 and the corresponding Help files.

1.2 What Was Delivered?

The package should contain the following items:

- 1 FRITZ!Card USB v2.1

The ISDN-Controller FRITZ!Card USB v2.1 establishes the connection between your computer and ISDN.

- 1 ISDN cable

The cable supplied connects FRITZ!Card USB v2.1 to the ISDN jack.

- 1 USB cable

The USB cable is used to connect the FRITZ!Card USB v2.1 to your computer.

- 1 FRITZ!Card CD with

- driver software for FRITZ!Card USB v2.1
- FRITZ! communications software
- AVM system driver
- documentation for all AVM products included

The file CD_INFO.HTM in the root directory of the installation CD lists the contents of the CD.

- 1 FRITZ!Card USB v2.1 manual (which you're reading now)
documentation for the ISDN-Controller FRITZ!Card USB v2.1



1.3 Installation Requirements

To operate FRITZ!Card on your computer, the following requirements must be met:

- an ISDN access with the DSS1 (Euro ISDN) D-channel protocol must be installed.
- a computer with an Intel or AMD processor and hardware suitable for the operating system.
- computer with a USB port
- operating system Microsoft Windows XP, Windows Me, Windows 2000 or Windows 98
- If the functions CAPI SoftFax G3 and CAPI SoftCompression X75/V42bis are to be used, a computer with a Pentium processor and 16 MB RAM is recommended.
- To operate FRITZ!fon or any other telephony software, a full-duplex sound card and equipment for speech input and output over the sound card are required (headset, for instance).
- The “Stand-by” and “Remote Wake Up” functions are available with the operating systems Windows XP, Windows 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 35.

If all of these requirements are met, FRITZ!Card USB v2.1 can be installed on your system.



FRITZ!Card USB v2.1 and the software supplied with it were developed for individual workstations, not for networks. They are designed to connect only one single computer with ISDN.

2 Installing FRITZ!Card USB v2.1

FRITZ!Card 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.

2.1 Connecting FRITZ!Card USB v2.1 to the Computer and ISDN

1. Switch on your computer.
2. Connect the FRITZ!Card USB v2.1 to the ISDN socket first. Remove the enclosed ISDN cable from the package. The ISDN cable has identical plugs fitted to both ends. Plug one end into the ISDN socket and the other into the ISDN socket on the back plate of FRITZ!Card USB v2.1.
3. Remove the enclosed USB cable from the package. The USB cable has two different plugs: one that is flat and square (known as the Series-A connector) and one that is rectangular (known as the Series-B connector).
4. Insert the flat “series A” plug in your computer's USB port.
5. Then insert the square connector into the USB socket of FRITZ!Card USB v2.1.

Now the software components of FRITZ!Card 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 USB v2.1



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

- the FRITZ! communications software (please see “The Many Facets of FRITZ!” on page 22 and the FRITZ! software manual)
- the AVM ISDN CAPI Port Driver (please see the section “Into the Internet with AVM System Drivers” on page 25)

If you already have individual software components such as FRITZ! installed, read the instructions in section “Installing Individual Software Components” on page 17.

In the section “Where to Find What After Installation” on page 16 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 “FRITZ!: Internet and ISDN Software” from page 21).

2.3 Installing the Driver Software in Windows XP

Once you have connected FRITZ!Card USB v2.1 to the computer, the Plug & Play mechanism of Windows XP recognizes the ISDN-Controller automatically. The Found New Hardware assistant is started.

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

1. When asked: “What do you want the wizard to do?”, select the option “Install the software automatically (Recommended)” and confirm with “Next”.
2. In the next window, select the option “Install from a list or specific location (Recommended)” and confirm by clicking “Next”.

3. In the next window, confirm “AVM ISDN-Controller FRITZ!Card USB v2.1 (WinXP/2000)” as the hardware match by clicking “Next”.
4. When the Hardware Wizard reports that “The wizard has finished installing the software for AVM ISDN-Controller FRITZ!Card USB v2.1”, the “USB” LED on your FRITZ!Card USB v2.1 should be lit. If FRITZ!Card USB v2.1 is connected to a PBX, on some PBX systems the “D” LED for the D channel is also lit up.

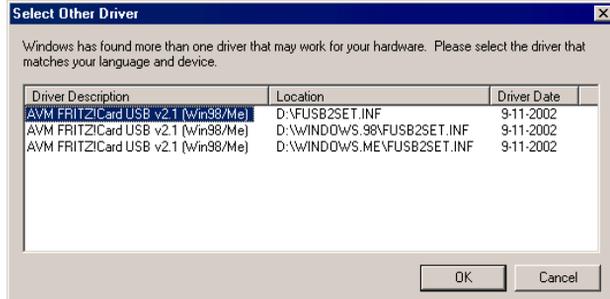
In the next step, install the FRITZ! communications software. For more information, see the section “Installing the Communications Software” on page 14.

2.4 Installing the Driver Software in Windows Me

Once you have connected FRITZ!Card USB v2.1 to the computer, the Plug & Play mechanism of Windows Me recognizes the ISDN-Controller automatically. The Found New Hardware Wizard is started.

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

1. When asked: “What would you like to do?”, select the option “Automatic search for a better driver (Recommended)”.
2. Select the entry <CD-ROM DRIVE>:\WINDOWS.ME\FUSB2SET.INF in the list of entries found and confirm with “OK”.



3. When the Hardware Wizard reports that “Windows has finished installing the software you selected that your new hardware device requires.”, the “USB” LED on your FRITZ!Card USB v2.1 should be lit. If FRITZ!Card USB v2.1 is connected to a PBX, on some PBX systems the “D” LED for the D channel is also lit up. Click “Finish”.

Next, the welcome window of the installation program for the AVM ISDN-Controller FRITZ!Card USB v2.1 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 USB v2.1.

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” on page 14.



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 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 FRITZ!Card USB v2.1 is connected to your computer, the “Found New Hardware Wizard” of Windows 2000 is started automatically.

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

1. The “Found New Hardware Wizard” recognizes a new Plug & Play device to be installed. Click “Next”.
2. In the next window, select the option “Search for a suitable driver for my device (recommended)” and confirm your selection with “Next”.
3. In the next window, select the option “CD-ROM drives” and confirm by clicking “Next”.
4. The program reports that a driver was found. Click “Next” to install the driver.
5. In the next dialog Windows may prompt you to install software not digitally signed by Microsoft. This request depends on the driver signature options set on your computer. Answer the question with “Yes”. Repeat this procedure in the next dialog for the AVM NDIS WAN CAPI Driver.
6. When the Hardware Wizard reports that “Windows has finished installing the software for this device.”, the “USB” LED on your ISDN-Controller should be lit. If FRITZ!Card USB v2.1 is connected to a PBX, on some PBX systems the “D” LED for the D channel is also lit up.
7. Conclude the installation by clicking “Finish”.

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” on page 14.

2.6 Installing the Driver Software in Windows 98

Once you have connected FRITZ!Card USB v2.1 to the computer, the Plug & Play mechanism of Windows 98 recognizes the ISDN-Controller automatically. The Found New Hardware Wizard is started.

Insert the FRITZ!Card 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. If you are asked which driver you want to install, choose the option “The updated driver (Recommended) AVM FRITZ!Card USB v2.1 (Win 98/Me)”.
4. When the Hardware Wizard reports that “Windows has finished installing the software that your new hardware device requires”, the “USB” LED on your FRITZ!Card USB v2.1 should be lit. If FRITZ!Card USB v2.1 is connected to a PBX, on some PBX systems the “D” LED for the D channel is also lit up. Conclude the installation by clicking “Finish”.

Next, the welcome window of the installation program for the AVM ISDN-Controller FRITZ!Card USB v2.1 appears automatically.

5. Specify the folder in which the driver software is to be installed on your computer.
6. As a final step of the driver software installation, a message box is displayed showing the configuration of the ISDN-Controller FRITZ!Card USB v2.1.

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” on page 14.



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 NDIS WAN CAPI driver (one of the AVM system drivers).

2.7 Installing the Communications Software

After driver software for the FRITZ!Card USB v2.1 ISDN-Controller has been installed, the setup program reports that the FRITZ! communications software can be installed. Click the “Install” button to proceed.

1. Specify the folder in which the FRITZ! communications software is to be installed on your computer.
2. Next, specify the program group for FRITZ! in the Start menu.
3. 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 default settings can be changed in the individual FRITZ! modules after installation. Please read the relevant sections in the FRITZ! manual or 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”.
- **Ports**

On this settings page you can assign specific COM ports to the virtual modems. Unless your system requires special port settings, you can simply confirm the default settings.
- **MSN**

This setting allows you to 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 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 the software installation for FRITZ!Card. Restart your computer.

Errors During Installation: What to Do

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

1. Remove all of the installed FRITZ!Card components by following the instructions in the sections “Removing Software in Windows XP” on page 18, “Removing Software in Windows Me and 98” on page 19 and “Removing Software in Windows 2000” on page 19.
2. Restart your computer.
3. Repeat the complete software installation.



If you want to install individual FRITZ!Card software components, please read the instructions in the section “Installing Individual Software Components” on page 17.

2.9 Where to Find What After Installation

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



The driver software for the ISDN-Controller FRITZ!Card USB v2.1 is loaded automatically when Windows is started. The Windows “Start” menu now includes a program group “AVM” under “Programs” which contains the following entries:

- “AVM Internet Home Page” is a link to AVM’s web site (requires a web browser and a connection to the Internet).
- “FRITZ!Card USB Readme” contains the latest information on the ISDN-Controller.
- The “FRITZ!Card USB Setup” program can be used to permanently activate or deactivate data compression with CAPI SoftCompression X75/X42.



The “AVM” program group is not created in Windows 2000 and XP. The current Readme file for FRITZ!Card USB v2.1 can be found on the FRITZ!Card CD in the WINDOWS.2K or WINDOWS.XP folder, respectively.



The FRITZ! modules are contained in the “FRITZ! ISDN and Internet” icon on the Windows desktop as well as in the “FRITZ!” program group. For information on features and operation of the FRITZ! modules, see the chapter “FRITZ!: Internet and ISDN Software” on page 21 and the FRITZ! manual available in PDF format on the installation CD.



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.

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 USB v2.1 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> folder on the CD.



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

2.11 Removing the Software

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.

Removing Software in Windows XP

When the FRITZ!Card USB v2.1 hardware is removed from the computer, the driver software is deactivated automatically. It is generally not necessary to uninstall the driver software.

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



FRITZ!Card USB v2.1 may not be removed from the computer until it has been uninstalled.

1. Open the Device Manager by clicking through “start / Control Panel / Performance and Maintenance / System / Hardware”.
2. Click the button “Device Manager”, then double-click Network Adapters.
3. Select the list entry “AVM ISDN-Controller FRITZ!Card USB v2.1 (WinXP/2000)”.
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:

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 other software components of FRITZ!Card USB.

This completes uninstallation of the selected component.

Removing Software in Windows Me and 98

To remove some or all of the FRITZ!Card software components, proceed as follows:

1. Select “Start / Settings / Control Panel”, then double-click the “Add/Remove Programs” icon.
2. The components of FRITZ!Card are found in the list of installed software. They appear with the following descriptions:
 - AVM FRITZ!
 - AVM ISDN CAPI Port
 - AVM ISDN-Controller FRITZ!Card USB v2.1

Select the components to be removed.

3. Click the “Add/Remove” button. The Uninstall program starts. All of the selected component's files and settings are deleted from your computer.

Repeat this process as necessary to remove other software components of FRITZ!Card.

4. Restart your computer.

Rebooting the computer concludes the uninstallation.

Removing Software in Windows 2000

Proceed as follows to remove the FRITZ!Card USB v2.1 driver software in Windows 2000:

1. Select “Start / Settings / Control Panel”, then double-click the “Add/Remove Hardware” icon.
2. The Found New Hardware assistant 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 USB v2.1 (Win 2000)” 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 USB v2.1 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

Select the software component you want to remove.

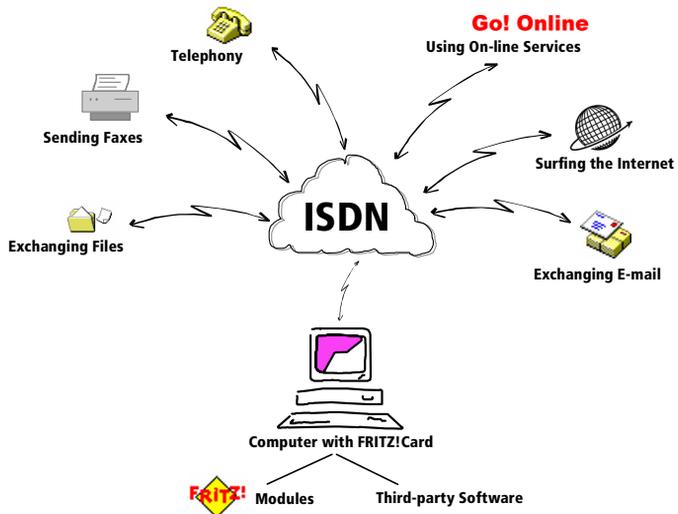
3. Click the “Change/Remove” button. All of the selected component's files and settings are deleted from your computer.

Repeat this process as necessary to remove other software components of FRITZ!Card.

This completes uninstallation of the selected component.

3 FRITZ!: Internet and ISDN Software

FRITZ!Card USB is the gateway to the entire world of ISDN communication: surfing the Internet, transmitting data, sending faxes and much more. FRITZ!Card USB 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 graphic illustrates some of the potential uses of FRITZ!Card USB:



Freedom of connectivity with FRITZ!Card USB

There are many ways into the Internet. The section “Into the Internet with FRITZ!web” on page 23 describes the potential and advantages of Internet access using the module FRITZ!web supplied.

Another way to access the Internet is to use Windows’ Dial-Up Networking with the AVM system drivers. For more information, see the section “Into the Internet with AVM System Drivers” on page 25.

3.1 The Many Facets of FRITZ!

Once FRITZ!Card USB is installed on your computer, the application interface CAPI 2.0 is available. The FRITZ! communications software uses this interface to access the installed hardware.

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.



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 can be defined individually for each user.



FRITZ!fax allows you to send and receive faxes in accordance with the analog Group 3 (analog) fax standard, at speeds up to 14,400 bit/s. You can send faxes directly from your text processing program. Faxes also can be received and retrieved using FRITZ!fax as a fax polling server.



With FRITZ!fon plus a full-duplex sound adapter and a 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. FRITZ!fon includes an answering machine. Different messages can be configured for specific numbers, callers and times of day.



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



For detailed information on FRITZ!, see the Online Help and the FRITZ! manual. The manual is supplied in PDF format in the SOFTWARE\INFO folder on the installation CD. If the Acrobat Reader for viewing PDF files is not installed on your system, install it from the same folder on the FRITZ!Card CD.

3.2 Into the Internet with FRITZ!web

In addition to the traditional ISDN services such as file transfer or telefax, FRITZ!Card also supports Internet access. You can explore the World Wide Web, exchange e-mail or enter chat rooms.



For detailed information on configuring and using FRITZ!web, please see the FRITZ! Online Help.

Defining the Default Provider

After installing FRITZ!web, specify which of your Internet Service Providers (ISPs) is your default connection to the Internet. The default connection is automatically on standby when FRITZ!web starts. When data from the Internet is requested, for example, when your Web browser starts up, the connection is dialed up automatically.

All Information at a Glance

The FRITZ!web window displays all important information about the current connection:

- The colors of four connection LEDs indicate whether a default provider is configured, whether the B channels are inactive, in the process of connecting or active, and whether data compression is set for an active connection.
- The diagram window reports the throughput rate for incoming and outgoing data.
- A timer bar indicates how much time remains before an idle connection will be cleared down automatically.
- Click with the right mouse button in the diagram window to open the context menu. From this context menu you can access all FRITZ!web commands.

Automatic Idle Timeout (Timer Bar)

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 terminated. An example: You request a web page and view it in your browser. While you are reading, no further data is being 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.

Specifying an Outgoing Caller ID

In order to keep track of the online costs incurred, you can designate one of your line's MSNs as the outgoing Caller ID in the FRITZ!web "Settings" context menu. All online charges will then be billed to the specified number.

3.3 Using ISDN Services with FRITZ!

ISDN integrates the entire range of telematics services, such as telephone, telefax, data and video communication, in a single digital telecommunications network. FRITZ! turns your computer into a convenient communications hub which provides all these services.



You can also use third-party applications based on CAPI 2.0.

Multiple Subscriber Numbers for the 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 responds only to calls with the "data" service indicator.

However, FRITZ!fax and FRITZ!fon both use the "voice" service indicator. If you want these modules to respond to calls meant for them, you must assign distinct MSNs for call acceptance to FRITZ!fax and FRITZ!fon, and to any telephones

or fax machines connected to any analog extensions. Specify the settings on the “ISDN” settings page of the respective modules.

3.4 Into the Internet with AVM System Drivers

As an alternative to FRITZ!web, Internet connections can be established using the AVM system drivers ISDN CAPI Port Driver and the NDIS WAN CAPI Driver. Both drivers are controlled over Dial-Up Networking, but use different interfaces to the Windows system. These system drivers allow you to use CAPI-based ISDN applications alongside communications programs that do not have built-in CAPI support.



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 use Dial-Up Networking to connect to the Internet, you must exit FRITZ!web or remove it from the Startup group.

AVM ISDN CAPI Port Driver

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

Programs designed to communicate with modems can use the AVM ISDN CAPI Port Driver to address the ISDN interface. This means that all of the various communications options of Windows can be used with all AVM ISDN-Controllers. For example, you can use Dial-Up Networking and the TCP/IP protocol to dial into your Internet Service Provider.

The ISDN CAPI Port Driver creates a number of virtual modems in your system, each of which is configured such that it can be used immediately with most applications. These modems can be selected in Windows applications such as Dial-Up Networking and Microsoft Exchange/Outlook and Microsoft Money. Just select a pre-configured destination to launch ISDN communication.

The modem settings can be customized using AT commands.



For detailed information about setting up and using the AVM ISDN CAPI Port Driver, see the CAPI Port Help. Once the program has been installed, the Help file appears as a link on your desktop.

AVM NDIS WAN CAPI Driver

The AVM NDIS WAN CAPI Driver for Windows allows use of RAS (Remote Access Service) and dialing into Internet Service Providers over ISDN.

NDIS (**N**etwork **D**evice **I**nterface **S**pecification) is a standard for connecting network adapters (hardware) to network protocols (software). NDIS WAN is a Microsoft extension of this standard for wide-area networking (WAN). The AVM NDIS WAN CAPI Driver thus allows the ISDN-Controller to be used as a network adapter addressed over the CAPI 2.0 applications interface.

AVM ISDN TAPI Services for CAPI

AVM ISDN TAPI Services for CAPI are drivers which can be used to implement TAPI applications with AVM ISDN-Controllers universally in Windows.

TAPI (**T**elephony **A**pplication **P**rogramming **I**nterface) is a telephony interface by Microsoft that allows telephony applications to be controlled from Windows. Using AVM ISDN TAPI Services for CAPI, phone calls can be made or voice-mail systems controlled on the computer. For instance, Windows's "Phone Dialer" can be used to establish connections to analog or ISDN phones. The conversation then takes place using a sound card and a headset or speakers and a microphone. With the appropriate TAPI applications, a variety of other features are available, including direct dialing of contacts listed in Microsoft Outlook 2000 or 98.

TAPI applications based on the Microsoft standard TAPI 2.1 or higher can be used in combination with AVM ISDN-Controllers and the AVM ISDN TAPI Services for CAPI.



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

4 How Does Work FRITZ!Card

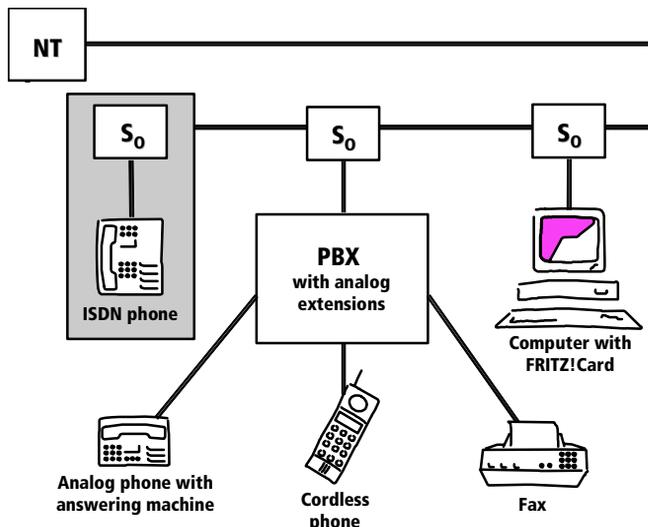
This chapter provides basic information about FRITZ!Card on the ISDN line and the way an ISDN-Controller functions.

4.1 FRITZ!Card on the ISDN Line

When your ISDN access is configured, the ISDN provider installs a network terminator (NT) first. An NT 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 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 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 S₀ interfaces” as they present an alternative to external S₀ interfaces.



No matter which interface your FRITZ!Card is connected to, an internal or an external S₀ interface, the terminal device is not the ISDN-Controller FRITZ!Card USB v2.1, 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 ISDN calls, a service indicator is transmitted first. This service indicator distinguishes between a data call from a fax call, 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 “Using ISDN Services with FRITZ!” on page 24 for more information.

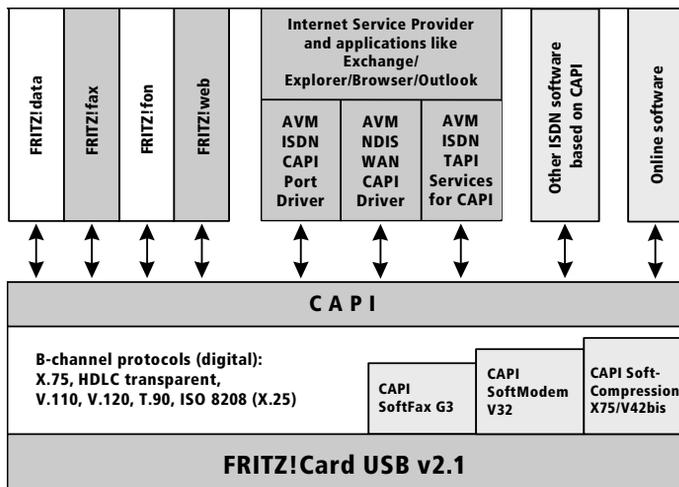
4.2 How Does an ISDN-Controller Work?

An ISDN-Controller serves as the connection between ISDN and your computer. The ISDN cable supplied connects to the S₀ 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 define how data transfer between the subscribers takes place. 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 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 thus is also called a CAPI driver.

While every FRITZ!Card has a special CAPI driver for each operating system supported, they all provide the same CAPI 2.0 functions to application programs, which 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 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 interact:



FRITZ!Card functional diagram

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 USB v2.1 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 USB v2.1 to be used with all CAPI-based Windows fax applications. FRITZ!Card USB v2.1 sends and receives faxes at a rate of up to 14,4000 bit/s and signals like any G3 fax machine.

CAPI SoftModem V32bis

FRITZ!Card USB 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.

4.3 Ready to Receive on Standby

If your computer supports **ACPI (Advanced Configuration Power Interface)**, you can take advantage of the energy saving features of standby and hibernation.

These two conditions 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.

Computers on standby or in hibernation appear to be switched off. Both conditions are ended by operating the keyboard or the power switch. Standby can also be ended upon the request of a hardware component or an external device, for instance, when a fax arrives through the ISDN-Controller. When the fax program activates to accept the incoming fax, the energy-saving condition is ended.

FRITZ!Card USB v2.1 thus offers you the option of ending standby operation for incoming faxes and calls by using the “Remote Wake Up over ISDN” command. Once the computer is reactivated, it checks whether a suitable program is ready to accept the incoming call.

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 options “Stand by” and “Hibernate” appear along with “Shut down” in the “Start” menu.



“Remote Wake Up over ISDN” can only be used if the hibernation option is available on your computer but deactivated.

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



A single device that does not support ACPI is enough to make your computer incapable of ACPI support!

For more information on ACPI, see the manuals for your computer and motherboard.

Always Prepared with “Remote Wake Up”

Please note the following to keep FRITZ!Card USB v2.1 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 an incoming call to “wake up” the computer from standby, at least one ISDN application must indicate to the CAPI driver that it is ready to receive. Make sure that a suitable application is started.
- If you operate FRITZ!Card USB v2.1 at a PBX with an internal S_0 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 USB v2.1 directly to the S_0 - bus.

The computer will be “woken up” when FRITZ!Card USB v2.1 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.

5 Support

Questions may arise occasionally when working with the components of FRITZ!Card. This chapter offers tips about information sources to support you during everyday operation. Additional information, product descriptions and updates can be obtained from the Internet and the AVM Data Call Center. These sources also offer tips for installation and information about AVM Support.



In many cases, problems which arise during day-to-day operation can be resolved by installing the current Microsoft Service Pack. Current Service Pack can be obtained directly from Microsoft.

5.1 Information and Updates

Information about all components of FRITZ!Card is available here:

Documentation

FRITZ!Card includes comprehensive documentation in various formats:



- Readme for the AVM ISDN-Controller FRITZ!Card: The Readme contains the latest information about the controller which was not yet available when the manual was printed.

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



- Help files for the AVM system drivers: When an AVM system driver like the CAPI Port Driver is installed, a link to the corresponding Help file is created on the Desktop. The Help files are also located in the folder SOFTWARE\CAPIPORT\CAPIPORT.<OPERATING SYSTEM>\<LANGUAGE> on the CD.

Help



- Help for FRITZ!: In all FRITZ! modules, press “F1” or click the Help button to start comprehensive On-line Help.
- The FRITZ! manual: The manual is provided in PDF format in the SOFTWARE\INFO\<LANGUAGE> folder on the CD. If the Acrobat Reader for reading PDF documents is not on your system, install it from this folder.

AVM Data Call Center

The AVM Data Call Center (ADC) offers access to the latest information and updates free of charge. The ADC can be reached as follows:

By file transfer

All programs and drivers which can be downloaded from the AVM Internet site are also available from the AVM Data Call Center (ADC). Use FRITZ!data (IDtrans protocol) to reach the ADC. User name and password are not required for access to the ADC.

The number of the ISDN server is:

+49 (0)30 / 39 98 43 00

Over the Internet

The AVM home page is at:

<http://www.avm.de/en>

In the Internet AVM offers detailed information and updates free of charge:

- The “Products” category provides detailed information about all AVM products as well as announcements of new products and product versions.
- “Download” is also the section from which current driver software for all AVM ISDN-Controllers can be downloaded.

5.2 Assistance from FRITZ!Card Support



Please use the information sources listed above before contacting FRITZ!Card Support!

For direct assistance, AVM offers FRITZ!Card Support to provide help when problems arise during installation and the first steps of operation with FRITZ!Card.

The support desk can be reached by E-mail or by fax. FRITZ!Card Support then will contact you to assist in resolving your problems. You will receive an E-mail or a fax.

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 instructions in the FRITZ! manual (“FRITZ!data” chapter). As the ADC receives a great number of calls, please try several times. 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 may be submitted to AVM by E-mail. Please use the support request form on the AVM Internet pages at:

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

Fill out the form and send it to AVM support by clicking the “Send” button.

Support by Fax

If necessary, FRITZ!Card Support also can be reached at the fax number:

+49 (0) 30 / 39 97 62 66

Please include the following information in your fax:

- An E-mail address or fax number at which you can be reached
- Personal information like your name and address
- The operating system you use, e.g. Windows XP or Windows Me
- The D-channel protocol used on your ISDN line

- Is your ISDN-Controller FRITZ!Card USB v2.1 operated on a PBX extension line?
- At what point during 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 error message?
- Include the version number and build of the driver used. The versions number and build are listed in the README file.
 - In the operating systems Microsoft Windows XP and 2000, the README file is found in the folder WINDOWS.XP or WINDOWS.2K, respectively on the FRITZ!Card USB CD.
 - In the Microsoft Windows Me and Windows 98 operating systems, the README file is located in the “AVM” program group.

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Declaration of CE-Conformity

The manufacturer AVM GmbH
Adresse Alt-Moabit 95
 D-10559 Berlin

herewith declares that the productt

Product FRITZ!Card
Type ISDN-Controller

complies with the following directives:

- 1999/5/EC R&TTE Directive: Radio Equipment and Telecommuni-
 cations Terminal Equipment
- 89/336/EEC EMC Directive:
 Electromagnetic Compatibility
- 73/23/EEC Low Voltage Directive:
 Electrical equipment designed for use within certain
 voltage limits

The following norms were consulted to assess conformity:

- EN 60950-1:2001/A11
- CTR 3/1998.06.17
- EN 55022/9.98 + A1/10.00 + A2/01.03 Class B
- EN 55024/9.98 + A1/10.01 + A2/01.03



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

A handwritten signature in purple ink that reads "P. Foxel".

Berlin, 15.09.2006

Peter Foxel, Technical Director