The smart device for isdn

English Edition

Manual

FRITZ!CARD USB

High-Performance ISDN by . . .

AVM

FRITZ!CARD USB

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Contents

Symbols and Highlighting in this Manual

Symbols

The hand indicates especially important instructions that absolutely must be observed in order to avoid malfunctions.

FRITZ! points to helpful hints to make your work easier.

Highlighting

Keyboard entries, dialog pushbuttons or program icons to click are indicated in **bold** type. Examples: **Return**, **OK**, **Connect**.

Quotation marks indicate menu names, commands in the menus, dialog options, etc.

1 WELCOME TO FRITZ!CARD USB

This documentation is your introduction to the **FRITZ!Card USB.** It contains important information on what the product can do, how it works and how to install both the ISDN-Controller and the accompanying software

1.1 What is in the Package?

When you unpack the box, you should have the following articles on the table in front of you:

- **1 FRITZ!Card USB**

  The ISDN-Controller **FRITZ!Card USB** connects your computer to the ISDN line.

- **1 USB Cable**

  The USB cable connects the **FRITZ!Card USB** to your computer's USB port.

- **1 ISDN Cable**

  The ISDN cable is used to connect the **FRITZ!Card USB** to your ISDN jack.

- **1 FRITZ!Card Compact Disk**

  The CD contains an introductory page that explains the contents of the CD and helps you install the **FRITZ!Card USB.** This introduction can be started manually by double-clicking in the Windows Explorer or File Manager on the file Intro.hlp in the root directory of your CD-ROM drive.

  The CD also contains the driver software for your **FRITZ!Card USB** and the installation program for the ISDN communications software **FRITZ!32**. Furthermore, the system drivers **AVM ISDN CAPI Port Driver** and **AVM NDIS WAN CAPI Driver** are also found on the **FRITZ!Card** CD. Finally, the CD contains complete documentation of all the AVM products supplied.

If the computer on which you want to install the FRITZ!Card USB does not have a CD-ROM drive, you may copy the required software to floppy disks for the purpose of a single installation. AVM does not ship the FRITZ!Card software on floppy disks.

- **1 FRITZ!Card USB Manual**

  This is what you are reading now.

- **1 Registration Card**

  Send in this card to register your **FRITZ!Card USB** in the **AVM** customer database. You can obtain support from **AVM** only after this card has been received.

A decal bearing the Product Identification Code is found on the back of your CD-ROM cover. Keep this number in a safe place where you can find it easily.

1.2 Driver Updates for the FRITZ!Card USB

AVM provides the latest drivers for the **FRITZ!Card USB** free of charge. You may download these drivers from the **AVM Data Call Center (ADC)** or from **AVM's** FTP server on the Internet.

1.3 Where to Find Us

AVM Data Call Center (ADC)
+49 - (0)30 / 39 98 43 00 (dial using **FRITZ!data** or other file transfer programs based on the IDtrans protocol)

AVM in the Internet
http://www.avm.de
ftp://ftp.avm.de

Information on AVM products can also be found in the World Wide Web. To download driver updates, we recommend direct ISDN connections to the ADC (using FRITZ!data): communication is faster and thus generally more economical, depending on the applicable call charges.

2 All About the FRITZ!Card USB

AVM's **FRITZ!Card USB** is an all-in-one communications package that offers all the advantages of ISDN: high data speed, fast connect times, optimum line quality and maximum reliability.

FRITZ!Card USB is available for the Windows 98 operating system with Plug & Play capability. The driver architecture conforms to the Microsoft Win32 Driver Model (WDM).

For further information on the Win32 Driver Model and IDM architecture, see the current Readme for the FRITZ!Card USB.

FRITZ!Card USB includes several components:

- The AVM ISDN-Controller **FRITZ!Card USB** with its driver software. The **FRITZ!Card USB** and its CAPI driver complete the connection between the ISDN network and programs on the computer, such as **FRITZ!32** and other CAPI applications.
- The Windows program **FRITZ!32**, a compact and powerful suite of ISDN application modules.

Windows 98 @ Internet

- The **AVM ISDN CAPI Port Driver** and **AVM NDIS WAN CAPI Driver.** These drivers make it possible to integrate ISDN in the communications components of the Windows 98 operating system. They support the use of ISDN in Windows' "Remote Access Service" (RAS) and connections to an Internet provider's server using Windows' built-in TCP/IP stack and Dial-Up Networking.

Further information on the design, uses and system requirements of the AVM system drivers is found in Chapter 4, "Internet Access with the FRITZ!Card USB".

2.1 What Does the FRITZ!Card USB Require?

To operate the AVM ISDN-Controller **FRITZ!Card USB,** you must meet the following prerequisites:

- Your computer must have an USB port.
- You must have an IBM or 100% compatible computer with a hard disk drive and a CD-ROM drive.
- **FRITZ!32** requires the Microsoft Windows 98 operating system.
- If you want to use the **CAPI SoftFax G3** and **CAPI SoftCompression X.75/V.42bis** features (see next page), we recommend a Pentium CPU and 16 MB of RAM.
- Find out which ISDN D channel protocol is used on your line. In Germany, this may be DSS1 or 1TR6. ISDN lines installed after 1994 generally use DSS1 (Euro-ISDN).

If these requirements are met, you may install the **FRITZ!Card USB.**

FRITZ!Card USB and the accompanying software have been developed for stand-alone PCs, and are intended only to connect a single computer to ISDN.

2.2 How Does an ISDN-Controller Work?

An ISDN-Controller connects a computer to the ISDN network. The ISDN-Controller is connected to the S_o bus by an ISDN cable. Data flows from the computer through the ISDN-Controller to the ISDN BRI (basic rate interface), and vice-versa.

As an integrated services, network ISDN lends itself to a wide variety of applications, such as Internet access, file transfer, fax and telephony. Its versatility, high throughput and multiple-channel design, allowing the simultaneous use of different services, place high demands on ISDN-Controller hardware and software.

The driver software for the **FRITZ!Card USB** is loaded from the host PC's hard disk when Windows 98 is started. The driver

software controls the communications processes and the data transfer itself, including the simultaneous use of the two B channels, for example. Data interchange in a given ISDN service is handled by the appropriate data protocol. Both communication partners must support the same data protocol, such as HDLC transparent for Internet access, T.30 for fax or X.75 for **FRITZ!data.**

The **FRITZ!Card USB** drivers support all commonly used data protocols. The driver passes data to and receives data from the applications through a standardized interface, Common ISDN API (CAPI) 2.0. Third-party applications based on CAPI 2.0 can thus be used with the **FRITZ!Card USB**. CAPI ensures that any ISDN hardware can be combined with any ISDN application.

Driver Software Functions

The driver software with its CAPI 2.0 interface processes the ISDN line's D channel protocol and provides applications with all the necessary B channel protocols (X.75, HDLC etc.). In addition, CAPI 2.0 provides the features SoftCompression X.75/V.42bis and SoftFax.

CAPI SoftCompression X.75/V.42bis

The **FRITZ!Card USB** driver software also supports CAPI-standard data compression in accordance with V.42bis for X.75 connections. This data compression option yields faster throughput for substantially lower connection time and costs. Data compression is switched on and off by the ISDN application, such as **FRITZ!data**.

CAPI SoftFax G3

In addition to digital services, **FRITZ!Card USB** can also be used for the analog service Group 3 telefax (CAPI SoftFax G3).

The driver software permits the use of all CAPI-compatible Windows fax applications over the **FRITZ!Card USB.** The ISDN-Controller supports fax sending and receiving at up to 14,400 bps, behaving the same as a Group 3 fax machine.

The Readme file contains further information on the CAPI SoftCompression and CAPI SoftFax features.

Additional Driver for Windows Dial-Up Networking

The TCP/IP protocol used in Internet communications, has been part of the Windows operating system since 1995. To use this protocol with the ISDN-Controller, additional drivers must be installed in the operating system to support TCP/IP over the CAPI interface. For further information on the drivers supplied for this purpose, please see Chapter 4, "Internet Access with the FRITZ!Card USB".

The following diagram illustrates how the individual components of **FRITZ!Card USB** work together:

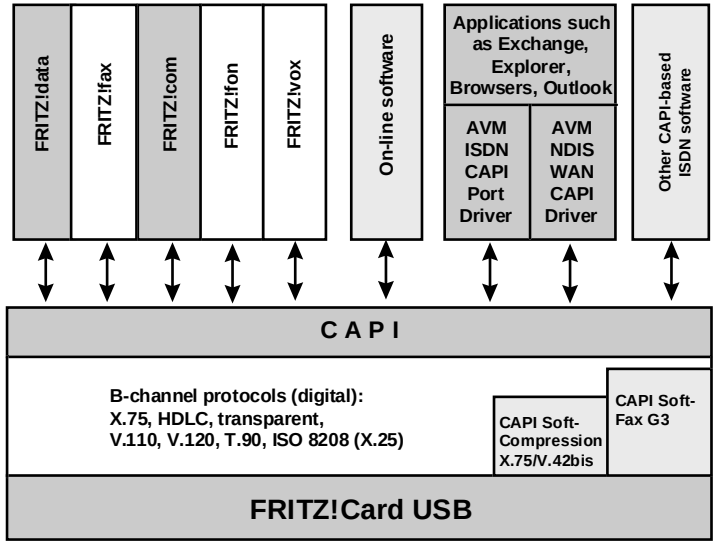

Fig. 1 Functional diagram of FRITZ!Card USB

2.3 Freedom for Your Connection

You can use the **FRITZ!Card USB** to make connections with all kinds of remote equipment using all kinds of services. The key principle for successful connections and communications is: the remote system must have similar or compatible terminal equipment.

Currently used standards are listed below:

Internet access

For dial-up connections to an Internet service provider using Windows 98's and Windows NT 4.0's Dial-Up Networking, use the protocol PPP over ISDN (also called synchronous PPP) with the **AVM ISDN CAPI Port Driver** or the **AVM NDIS WAN CAPI Driver.** For details please read Chapter 4, "Internet Access with the FRITZ!Card USB".

On-line services

To connect to on-line services you need the service provider's specific access software. Consult the service provider in question for further information on installation and configuration.

ISDN file transfer

Use **FRITZ!data** with the file transfer protocols IDtrans and Eurofile for ISDN file transfer. Enable V.42bis data compression at both ends of the connection to optimize throughput.

Group 3 fax

The CAPI driver contains complete fax machine emulation for fax communication to and from standard Group 3 fax devices. The easy-to-use **FRITZ!** module **FRITZ!fax** is recommended as a fax application.

After the **AVM ISDN CAPI Port Driver** has been installed, fax applications can also use the virtual modem **AVM ISDN Fax (G3)**. Other fax applications with CAPI 2.0 support can also be used.

Voice

The ISDN answering machine module **FRITZ!vox** and the virtual desk phone **FRITZ!fon** are supplied for use with the **FRITZ!Card USB's** voice service capabilities.

ISDN BBS systems

The ISDN terminal emulation **FRITZ!com** is provided to dial in to BBS systems over ISDN, with B channel setups for the protocols X.75 and V.110. If the AVM CAPI Port Driver is installed, third-party terminal programs can also be used with the modem **AVM ISDN Mailbox (X.75)**.

Remote Access Service, Intranet, X.31 etc.

If you would like to use any of these services, please consult the respective service provider for information on access conditions and settings.

2.4 FRITZ!Card USB on the ISDN Line

When your ISDN line is installed, the ISDN network operator first installs an NT (Network Terminator) with two ISDN jacks. Each of these jacks is an S_0 interface.

In many cases, one of the NT's ISDN jacks is used to connect a PBX with analog extensions, while the second jack is used to connect a digital device. Existing analog telephone equipment, such as telephones, cordless phone stations, answering machines and Group 3 fax machines then can be connected to the PBX extensions. The various terminal devices can be addressed by individual MSNs ("Multiple Subscriber Numbers"). Each ISDN line has at least three MSNs. If your PBX is connected to one S_0 jack and your computer's **FRITZ!Card USB** to the other, then you will need to install additional ISDN jacks for other digital terminal equipment, such as an ISDN telephone (see the gray area in the following diagram).

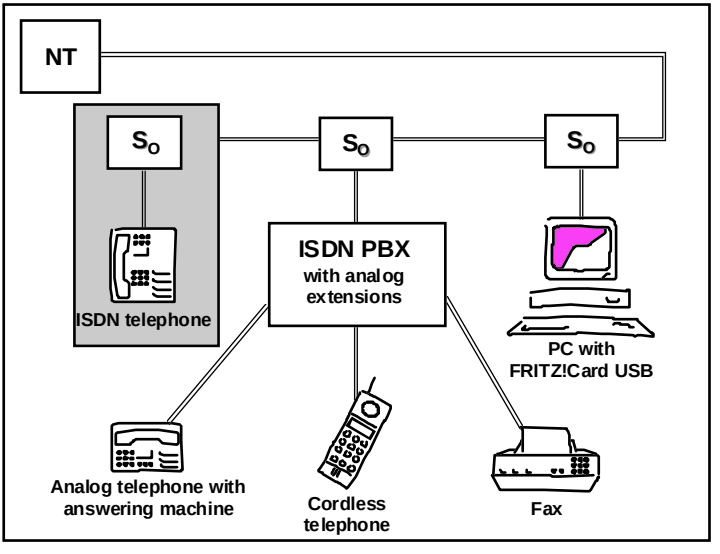

Fig. 2 Typical configuration of a point-to-multipoint ISDN line

Some ISDN PBX systems provide not only analog, but also digital extension lines, usually designated as internal S_0 interfaces. ISDN terminal equipment can be connected to these digital extensions as well as to the "external" S_0 interface provided by the NT.

Whether you connect your FRITZ!Card USB to an internal or an external S_0 interface, it is helpful to think of the ISDN applications running on your computer — such as the FRITZ! software modules FRITZ!data, FRITZ!fax and FRITZ!vox — as the terminal devices, not the FRITZ!Card USB itself.

All incoming calls from ISDN lines are identified not only by the MSN dialed, but also by a number indicating the requested communications service (voice, data etc.). For incoming calls originating from analog telephone networks, services are not distinguished: these incoming telephone and fax calls both arrive with the service indicator for voice telephony. For this reason it is important to assign different MSNs to the various **FRITZ!** application modules and to your ISDN telephone or PBX extensions to avoid conflicts. See the detailed configuration instructions in the **FRITZ!32** manual or in the on-line Help for **FRITZ!32**.

If you want to receive fax and data calls with your **FRITZ!Card USB**, you do not need to assign separate MSNs to **FRITZ!fax** and **FRITZ!data**, since **FRITZ!fax** answers calls with the service indicator for voice telephony while **FRITZ!data** responds to the service indicator for data.

FRITZ!fax and **FRITZ!vox**, on the other hand, both use the same service indicator.

FRITZ!fax and FRITZ!vox both respond to incoming calls for the voice telephony service ("Audio 3.1 kHz"). If both of these FRITZ! modules are to stand by for incoming calls at the same time, they must be assigned MSNs that are different from each other and from those of any telephones connected to the ISDN line.

2.5 What is USB?

FRITZ!Card USB, a product in AVM's FRITZ!Card line, is an external ISDN-Controller. **FRITZ!Card USB**'s USB socket is connected to that of the computer or USB hub using the cable provided.

USB stands for **U**niversal **S**erial **B**us. USB devices can use the bus with a throughput of 12 Mbit/s or 1.5 Mbit/s. USB brings a new standard in convenience and flexibility to the PC: now the computer can be expanded with additional peripherals simply by plugging the USB device into the bus and installing the driver software. USB peripherals are connected by uniform standard connectors.

These features make USB the ideal platform for connecting input and communications devices to the PC. USB offers true, "hot" plug & play and allows the connection of up to 127 devices.

The USB architecture supports peripheral devices of any kind. A guideline specifies how each device may claim bandwidth on the bus. The USB topology is tree-shaped, with a host controller at the root. USB hubs are the nodes at which the tree can branch; the peripheral devices themselves are the leaf nodes. The cable connecting any two nodes—consecutive hubs or a hub and a terminal device—may be up to five meters long. Hubs may be built into the host computer or into any other USB device, such as a monitor or keyboard.

Peripheral devices in the USB standard are divided into two classes: fast devices, which use the bus at 12 Mbit/s, and slow devices, with throughput of 1.5 Mbit/s. According to this classification AVM's **FRITZ!Card USB** is a fast device. USB provides several different data transfer modes: bulk, interrupt, isochronous and control mode.

All of these characteristics make USB an outstanding solution that puts an end to the plethora of cables and interfaces in a typical standard computer system.

2.6 Installation: Getting it Right

Please note the order in which the following **FRITZ!Card USB** components are installed:

You must:

1. Install the **FRITZ!Card USB** and its driver software (Chapter 3, "Installing the FRITZ!Card USB").

You should:

2. Install the **FRITZ!32** communications software (Chapter 5, "The Communications Software FRITZ!32").

The AVM ISDN CAPI Port Driver is installed together with FRITZ!32.

You may:

3. Install the AVM system drivers (Chapter 4 "Internet Access with the FRITZ!Card USB").
4. Install access software for on-line services.

3 Installing the FRITZ!Card USB

Be sure to perform the installation steps in the exact order given. Otherwise the FRITZ!Card USB may not function correctly!

The **FRITZ!Card USB** installation is performed in two parts:

1. Connecting the **FRITZ!Card USB** to
   - the ISDN line and
   - the computer or hub;
2. Setting up a new hardware component in the operating system and installing the driver software for the **FRITZ!Card USB**.

*Windows 98 includes an ISDN Configuration Wizard. This wizard only configures a previously installed AVM NDISWAN CAPI driver, however. The wizard **cannot** be used to install ISDN hardware or software, nor to set up an ISDN connection.*

3.1. Connecting the FRITZ!Card USB to the Computer or Hub and to the ISDN Line

To connect the **FRITZ!Card USB**, proceed as follows:

- Switch on your computer and any peripheral devices already connected.
- Start by connecting the ISDN-Controller to your ISDN jack. Take the ISDN cable supplied. The ISDN cable has an RJ45 connector at each end. Insert one end into your ISDN jack and the other end into the socket labeled "ISDN" on the back of the **FRITZ!Card USB**. The six-meter cable can be routed as desired.
- Now take and examine the USB cable. It has a different connector at each end, one plug with a flat, rectangular cross-section (called the Series A plug) and one with a square cross-section (the Series B plug).
- Connect the flat Series A plug to the USB socket of your computer or USB hub.

- Then connect the square Series B plug to the socket labeled “USB” on the **FRITZ!Card USB**.

  After 1 to 2 seconds, the LED labeled “Power” on the **FRITZ!Card USB** should light up. If your ISDN socket is a PBX extension line, the D channel LED (labeled “D”) may also light up, depending on the particular PBX concerned.

The **FRITZ!Card USB** is now connected to your computer or hub and to the ISDN line.

3.2 Installing the FRITZ!Card USB Driver Software

In the next part of the installation procedure, the driver software for the **FRITZ!Card USB** is installed.

Once you have connected the **FRITZ!Card USB** to your computer or hub, Windows 98’s Plug & Play mechanism detects the ISDN-Controller. The Windows driver database is updated, and the Add New Hardware Wizard appears with the message, “The Wizard will search for new drivers for: AVM ISDN-Controller FRITZ!Card USB.” Click on **Continue**.

- Insert the **FRITZ!Card USB** CD-ROM in your CD-ROM drive.
- In the next dialog you are asked, “What do you want to do?” Select the option “Search for the best driver for your device.” Then click on **Continue**.
- In the next dialog the Wizard asks where to search for the driver software. Select the option “Specify a location” and click on **Browse**. Then enter the path to the installation files:

  [CD-ROM]:\CARDWARE\FRITZCRD.USB\WINDOWS.98
- Confirm by clicking on **Continue**.
- The next dialog notifies you that the driver was located as follows:

  [CD-ROM]:\CARDWARE\FRITZCRD.USB\WINDOWS.98\FUSBSET.INF
- Click on **Continue**. Windows now copies the Setup files for the **FRITZ!Card USB** to a temporary directory on your hard disk.

- The next dialog announces, "The software for the new hardware component has been installed." The "USB" LED on your **FRITZ!Card USB** lights up.
- Acknowledge by clicking on the **Finish** button.
- Next, the sign-on window of the **AVM ISDN-Controller FRITZ!Card USB** installation program appears automatically.

  This dialog allows you to display the **FRITZ!Card USB** Readme file, which contains information not yet available at the time this manual was printed. Click on **Continue** to proceed with the installation.
- In the next dialog, enter the folder in which you want the driver software for the **FRITZ!Card USB** installed on your computer. The default is C:\IDRIVER. You may confirm this or specify any other path. You may also click on **Browse** to look for the desired folder.

  When you have finished, click on **Continue**.
- In the next dialog, select the D channel protocol used on your ISDN line (DSS1 or 1TR6). Click on **Continue** to confirm your choice.
- The Setup program now copies all the necessary files to the specified folder.

  Afterward, a message box shows the current D channel protocol setting of the **FRITZ!Card USB**. Confirm this setting by clicking on **Continue**.

The "AVM" program group now appears under "Programs" in the Windows "Start" menu. This group contains the programs "FRITZ!Card USB Readme", "FRITZ!Card USB Setup" and "AVM Internet Home Page". The last of these is a link to AVM's World Wide Web server, and requires a browser and an Internet connection.

FRITZ!Card USB Readme contains the latest information on the FRITZ!Card USB. The FRITZ!Card USB Setup program allows you to change the D channel protocol setting after installation and to activate CAPI SoftCompression X.75/V.42bis permanently.

3.3 Plug & Play with the Computer Running

Windows 98's "hot plug & play" capabilities allow you to disconnect the **FRITZ!Card USB** from the ISDN line or from the USB interface without shutting down the computer.

Nonetheless, you must first terminate any CAPI applications that are active. Then you may disconnect the **FRITZ!Card USB** from the ISDN line or from the USB bus.

If you reconnect the **FRITZ!Card USB** while the computer is running, its driver software is restarted automatically.

3.4 Removing the FRITZ!Card USB

To remove the **AVM FRITZ!Card USB** from your system, open the "Control Panel" (under "Settings" in the Windows "Start" menu) and double-click on the **Add/Remove Programs** icon. In the list of installed programs, select the entry "AVM ISDN-Controller FRITZ!Card USB", then click on the **Add/Remove** button. The "Uninstall" program starts. All files and entries are then deleted from your computer. Restart your computer as prompted.

4 Internet Access with the FRITZ!Card USB

In addition to the "traditional" ISDN services based on the ISDN interface Common ISDN API (CAPI)—file transfer, fax, telephony etc.—**FRITZ!Card USB** also supports Internet connections using Windows' Dial-Up Networking.

To connect your computer to the Internet using **FRITZ!Card USB**, AVM provides the following system drivers:

- AVM ISDN CAPI Port Driver
- AVM NDIS WAN CAPI Driver

Both of these system drivers are included with the **FRITZ!Card USB**.

4.1 The AVM System Driver Concept in MS Windows

The AVM system drivers permit the use of communications programs under Windows' Dial-Up Networking, simultaneously with native CAPI-based ISDN software such as **FRITZ!32**. Such programs can be used for Internet connections (see the functional diagram on page 11 for an example).

The ISDN CAPI Port Driver and NDIS WAN CAPI Driver for Windows 98 use the CAPI 2.0 driver's kernel mode interface.

The NDIS WAN CAPI Driver for Windows 98 is based on the Win32 Driver Model (WDM) and requires a special CAPI 2.0 driver that conforms to WDM.

4.2 The AVM ISDN CAPI Port Driver

The **AVM ISDN CAPI Port Driver** permits the use of ISDN with programs designed to address Windows' VCOMM/Unimodem communications interface.

When the ISDN CAPI Port Driver is installed, a number of "virtual modems" are registered in the operating system and thus addressable by Windows programs using AT commands and virtual modem registers. These modem entries differ only in their

default protocol settings. For example, the "AVM ISDN Internet (PPP)" modem can be used with Dial-up Networking for Internet connections; the "AVM ISDN X.75" modem with HyperTerminal for BBS access; or the "AVM ISDN Fax G3" modem under Microsoft Exchange for connections to fax machines. The special advantage of this concept is that the full capabilities of CAPI remain available to other applications in the system at the same time. Thus both ISDN-specific applications and virtual CAPI modems can both send and receive over the two B channels at the same time.

For a detailed description of the AVM ISDN CAPI Port Driver as well as complete installation instructions, please open the file Capiport.hlp in the appropriate folder on the FRITZ!Card USB CD.

You can use AT commands to assign the virtual CAPI modems specific MSNs for both incoming and outgoing calls. To do so, click in the "Start" menu on "Settings" / "Control Panel" / "Modems" / "Properties" / "Advanced Settings".

In the text field for modem commands, enter ATS49=<number> to set the outgoing MSN. For a complete list of the AT commands supported by the ISDN CAPI Port Driver, see the file Capiport.hlp.

Please note that several consecutive AT commands should be separated by a semicolon (;) and space. The "AT" code is only necessary before the first command.

Example: ATS49=1234567; S48=1234568

4.3 The AVM NDIS WAN CAPI Driver

The **AVM NDIS WAN CAPI Driver** integrates ISDN with networking functions of the Windows 98 and Windows NT 5.0 operating systems. This driver permits the use of Remote Access Services (RAS) over ISDN. NDIS is the abbreviation for **N**etwork **D**evice **I**nterface **S**pecification, which is a standard for communication between network protocols (software) and LAN adapters (hardware). NDIS WAN is a Microsoft extension of this standard for Wide Area Networking (WAN). The **NDIS WAN CAPI Driver** permits the use of an AVM ISDN-Controller as a "WAN adapter"

in Windows 95/98/NT. Like all standard ISDN applications, the driver addresses the ISDN-Controller through its CAPI 2.0 software interface. The NDIS WAN CAPI Driver for Windows 98 is implemented in accordance with the Win32 Driver Model (WDM), and uses the CAPI driver's kernel mode interface.

For a detailed description of the AVM NDIS WAN CAPI Driver's capabilities and complete installation instructions, please see the Help file accompanying the NDIS WAN CAPI Driver for your operating system on the FRITZ!Card CD.

4.4 ISDN CAPI Port or NDIS WAN CAPI Driver?

The possible applications of each driver concept are documented in the accompanying Help files.

The two drivers also can be installed and operated simultaneously.

In weighing the advantages of the two driver concepts for using ISDN in Windows, consider the following recommendations:

- Both the **ISDN CAPI Port Driver** and the **NDIS WAN CAPI driver** can be used to connect to Internet providers who offer PPP over ISDN (synchronous PPP) connections in accordance with RFC 1618. Ask your provider whether the PPP over ISDN protocol is supported.
- Internet providers who offer ISDN dial-ins but do not support PPP over ISDN can generally be accessed using asynchronous ("modem-style") PPP with the corresponding CAPI Port modem. Because the protocol settings can be changed by AT commands, the **ISDN CAPI Port Driver** also permits custom setups for special-purpose solutions. The **NDIS WAN CAPI Driver** cannot provide this capability due to the system architecture. Ask the service provider whose equipment you want to connect to which protocols are necessary.
- Both drivers can be used to connect to RAS servers.

5 The Communications Software FRITZ!32

The CD-ROM contains the current version of AVM's ISDN communications software **FRITZ!32** for Windows 98.

5.1 What Can FRITZ!32 Do?

FRITZ!32 is composed of the modules **FRITZ!data** (file transfer), **FRITZ!fax** (Group 3 fax), **FRITZ!fon** (virtual desk phone), **FRITZ!vox** (ISDN answering machine) and **FRITZ!com** (BBS terminal). It also contains a **phone book** in which you can store communications parameters for your correspondents.

Field employees can use **FRITZ!data** to stand by for or actively download current information.

FRITZ!fax sends telefaxes directly from any word processor almost instantly.

FRITZ!fon, installed along with an appropriate speech input/output device, allows you to make calls directly from your PC.

FRITZ!vox puts an ISDN telephone answering machine in your PC.

When the work day is done, **FRITZ!com** can be used to fetch a new computer game.

FRITZ! has a program for every occasion.

5.2 Installing FRITZ!32

To install **FRITZ!32**, proceed as follows:

- Start Windows.
- Insert the **FRITZ!Card** CD in your CD-ROM drive.

  To start the CD introduction, double-click on the file Intro.hlp in the root directory of the CD.

- Click on the **FRITZ!Card USB** icon in the Help window that appears.
- On the next page, click on the icon for the **FRITZ!32 Software Package**.
- To start the installation, click on the **Install** button.
- The message "Initializing Setup" appears, followed by the Setup program's sign-on dialog. Click on **Continue**. You can stop the installation at any time by clicking on **Cancel**.
- First, specify the folder (directory) in which you want to install **FRITZ!32**. The default path is C:\PROGRAM FILES\FRITZ!\. You may specify any other path if you wish. Confirm your choice by clicking on **Continue**.
- In the next dialog, choose a program group for **FRITZ!32**. The default is "FRITZ!". Confirm by clicking on **Continue**.
- Next you must decide whether you want to perform a quick installation (without configuration) or a complete installation with configuration.

  If you select "**Quick Installation**", **FRITZ!** is installed with the factory default settings in the specified folder. You can then configure all the program settings needed in the individual **FRITZ!** modules. Please see the instructions in the manual or in the on-line Help.

  If you choose "**Installation with Configuration**", you can enter the necessary settings for the various **FRITZ!** modules immediately. You will be prompted to enter the MSN for certain services (such as incoming faxes), the name of your computer for **FRITZ!data**'s server mode, and, if your ISDN line is a PBX extension, dialing information.

  Confirm your choice by clicking on **Continue**. When you have made all the necessary entries, the program files are installed and the **FRITZ!** program group is created.

This completes the installation of **FRITZ!**

5.3 Help on FRITZ!32

Complete information can be found in the FRITZ!32 manual and in the FRITZ!32 on-line Help.

FRITZ!32 is supplied with a printed manual as well as the complete manual in PDF (Portable Document Format) on the CD-ROM. You may read, search and print these documents using the Adobe Acrobat Reader. The installation program for the Adobe Acrobat Reader is also found on the **FRITZ!Card** CD.