

SEDLBAUER AG

Elektromechanik = Gerätebau = Elektronik = Telekommunikation

Manual

speed card
16 bit-ISDN-Controller



plug&play

speed USB
ISDN-USB-Adapter



speed win PCI
PCI-ISDN-Controller



plug&play

speed star
ISDN-PCMCIA-Adapter



plug&play

Document version
1.00

Congratulations on purchasing the „ISDN Adapter“ an extremely compact system for connecting your notebook, laptop or PC to ISDN with a minimum of effort. You are now equipped to use your computer as a multifunctional ISDN terminal.

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1	Foreword	5
2	Scope of delivery	6
3	Performance features	7
4	Startup	8
4.1	Technical requirements	8
4.2	Hardware installation	9
4.2.1	Installation of „speed win PCI“	9
4.2.2	Installation of „speed card“	9
4.2.3	Installation of „speed star“	12
4.2.4	Installation of „speed USB“	12
4.3	S₀ interface	13
5	Software installation for Windows 95	15
5.1	Installing the CAPI-driver	15
5.2	Configuring the CAPI-driver	16
5.2.1	EAZ-MSN-mapping.....	16
5.2.2	Uninstalling the CAPI driver.....	18
5.2.3	Driver update.....	18
5.3	Installing the Sedlbauer NDIS-WAN Miniport driver	19
5.3.1	Functions	19
5.3.2	Preparation	19
5.3.2.1	Installing Dial-Up Networking.....	19
5.3.2.2	TCP/IP-Protocol.....	20
5.3.3	Installation.....	21
5.3.3.1	Installing the Accelerator Pack.....	21
5.3.3.2	Installing the NDIS-WAN Miniport driver	21
6	Software-Installation for Windows 98	24
6.1	Installing the CAPI driver	24
6.1.1	Installation of non <i>plug & play</i> ISDN adapters	24
6.1.2	Installation of <i>plug & play</i> ISDN Adapter	26
6.1.3	Configuration of the ISDN adapter	27
6.2	The Sedlbauer CAPI 2.0 RAS driver under Windows 98	30
6.2.1	Functions	30
6.2.2	Installation of the Capi 2.0 RAS driver for Windows 98	30
6.2.3	ISDN Configuration	31
6.3	Capi- Driver Update	33
6.4	Uninstalling the Driver	33
6.5	PPP- Access to T-Online	34
6.6	Setting up a Multilink connection	38
7	Software-Installation for Windows ME	39
7.1	Installing the CAPI driver	39
7.1.1	Installation of non <i>plug & play</i> ISDN adapters	39
7.1.2	Installation of <i>plug & play</i> ISDN adapters	41
7.1.3	Configuration of the ISDN adapter	43
7.2	The Sedlbauer CAPI 2.0 RAS driver under Windows ME	46
7.2.1	Functions	46
7.2.2	Installation of the Capi 2.0 RAS driver for Windows ME	46
7.2.3	ISDN Configuration	48
7.3	Capi- Driver Update	49
7.4	Uninstalling the Driver	49
8	Software installation for Windows 2000	50

8.1	Installing the CAPI driver	50
8.1.1	Installation of non <i>plug & play</i> ISDN-adapters	50
8.1.2	Installation of <i>plug & play</i> ISDN adapters	53
8.1.3	Configuration of the ISDN-Adapter	54
8.2	The Sedlbauer CAPI 2.0 RAS driver under Windows 2000.....	56
8.2.1	Functions	56
8.2.2	Installing the CAPI 2.0 RAS driver under Windows 2000	56
8.2.3	Configuration of call numbers for RAS	59
8.3	CAPI Driver update	60
8.4	Uninstalling the Driver	60
9	Software installation for Windows NT	61
9.1	Functions of the NT-Drivers.....	61
9.1.1	Functions of the CAPI-Driver	61
9.1.2	Functions of the Capi 2.0 RAS Driver	61
9.2	Installation with activated <i>plug & play</i> support.....	62
9.3	Installation with the setup-program of CD-ROM	63
9.4	Manual installation	64
9.4.1	Installation of the CAPI-Driver	64
9.4.2	Installing the Capi 2.0 RAS driver	67
9.4.2.1	Simultaneous installation of the Sedlbauer Capi 2.0 RAS driver and the Windows NT network support	67
9.4.2.2	Installing the Sedlbauer Capi 2.0 RAS driver with activated network support	70
9.4.2.3	Part 2 – Installing the Capi 2.0 RAS driver	71
9.4.3	Configuration	75
9.4.3.1	Changing the resource settings	75
9.4.3.2	Configuration of call numbers for RAS	78
9.4.4	Driver update	79
9.4.5	Uninstalling the Driver software	80
9.4.6	Internet access via the Dial-Up Network using T-Online as example	82
9.4.7	General information	86
10	ISDN-Guard	87
10.1	Uninstalling the ISDN-Guard.....	88
11	Important terms.....	89
12	Technical support.....	92
13	Overview of the available ISDN Adapters from Sedlbauer AG	96

1 Foreword

This manual describes installation and operation of the following ISDN adapters from Sedlbauer AG:

- speed win PCI plug-in card for PCI bus
- speed card plug-in card for ISA-bus
- speed star PCMCIA adapter
- speed USB external adapter for the USB bus

These ISDN controllers enable your computer to access the ISDN. Using these controllers, you can transfer data of any kind (text documents, pictures, programs) from your computer to any other computer and vice versa.

Thanks to the high transmission rate of 64 kbit/s per B-channel, you save not only time but also money. Both B-channels can be used simultaneously for data transmission to achieve a maximum transmission rate of 128kbit/s.

Powerful and user-friendly application programs are available for all ISDN services. The CAPI interface (CAPI = COMMON ISDN API), a software interface standardized by Deutsche Telekom AG and other manufacturers, facilitates the flexible use of previously installed ISDN applications.

Both the CAPI 1.1, profile A and CAPI 2.0 standards are supported. The CAPI driver automatically detects which CAPI version is required by the application software.

2 Scope of delivery

- **ISDN-Adapter**
- **connection cable**
- **CD-ROM** with the following software:
 - **CAPI driver** software for the DSS1 protocol
 - **CAPI 2.0 RAS driver** for DFÜ networking connections

Supported Operating Systems:

- **Windows 95**
 - **Windows 98**
 - **Windows ME**
 - **Windows 2000**
 - **Windows NT from 4.0**
- **T-Online Decoder** with Internet Browser (CD-ROM)
 - **AOL Software** (CD-ROM)
 - **Software for office communication** e. g.: data transmission, fax G3/G4, answering machine (CD-ROM)
 - **This manual**

3 Performance features

- Suitable for ISDN basic rate interface and PBXs with a DSS1 interface.
- The ISDN adapter is approved according to the effective regulations
- The ISDN Adapter fulfils the emitted interference requirements specified in EN 55022:1994 Class B
- Compliance with the interference immunity requirements specified in EN 50082-1:1992
- Application and programming interface COMMON ISDN API version 1.1, profile A and version 2.0
- Supported B channel protocols: ISO 8208 (ETS 300 075/300 079), X.75, X.25, file transfer in transparent mode, HDLC transparent, T.70, T.90, T.30, bit transparent (for fax and voice appliances), BTX
- Supported D channel protocol: DSS1
- Two data channels are supported (B channels)
- Driver software for the European DSS1 protocol
- Supported operating systems: Windows 95, Windows 98, Windows ME, Windows 2000 and Windows NT 4.0
- Supports the *plug & play* standard
- The speed star supports PCMCIA standard

4 Startup

This chapter describes how to install your ISDN Adapter.

4.1 Technical requirements

The following system requirements must be fulfilled for the ISDN Adapter:

- An IBM-compatible PC or laptop (486 CPU or higher)
- Windows 95, Windows 98, Windows ME, Windows 2000 or Windows NT from 4.0 operating system
- A 486 CPU and 16 MB RAM for fax applications. We recommend a Pentium CPU or higher for optimum performance
- A vacant ISA bus slot for the speed card
- A vacant PCI bus slot for the speed win PCI
- For the speed star the PC must have a PCMCIA interface according to the PCMCIA standard 2.0.
- A vacant USB-port for speed USB

4.2 Hardware installation

4.2.1 Installation of „speed win PCI“

Caution:

First disconnect the PC from the 230 V mains!

To install the ISDN controller, open your PC as described in your manual supplied with your computer. Insert the ISDN adapter in a vacant PCI bus slot.

Should you have any problems or questions, please contact your computer vendor.

speed win PCI

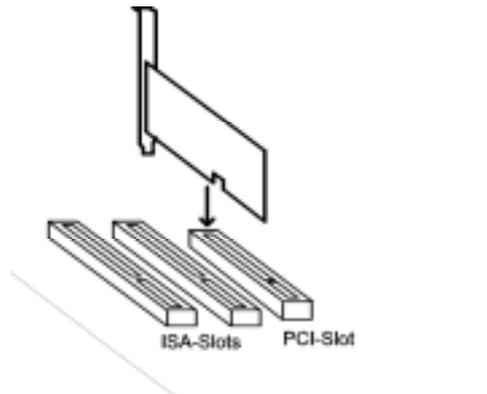


Figure 4.2.1

4.2.2 Installation of „speed card“

As speed card is no *plug & play* adapter and you have to put in the E/A address as well as IRQ manually, the CAPI drivers should be installed before speed card.

Please note the IRQ and I/O-address on installation.

After installing the driver software separate your PC from the 230 V net!

On default the second parallel printer interface LPT2 (IRQ5) and the I/O-address 270h is set.

Should your PC have two parallel printer interfaces or should the above settings already be used (e.g. sound card etc.) the hardware settings of speed card must be changed as follows:

Caution:

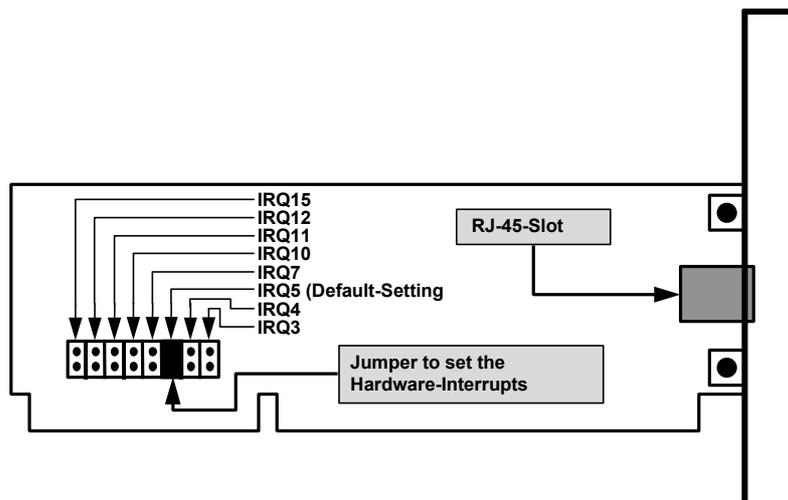
The hardware settings must comply with the software installation (see chapter 6.1.1).

Setting the hardware interrupt

The hardware interrupt can be set with the jumper located on the below edge of the card.

Note:

Interrupt on default: **IRQ5** → (LPT2)

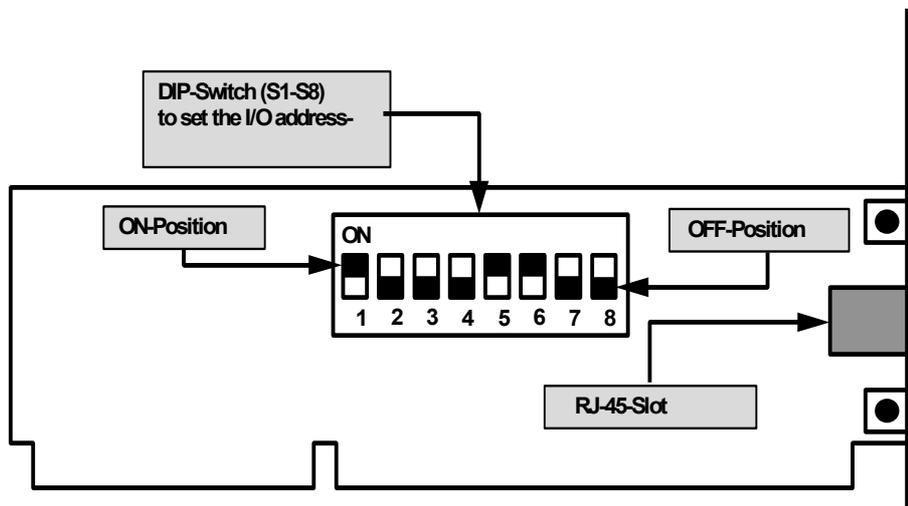


Setting the I/O address

The I/O address is set by the DIP switch in the middle of the card.

Note:

I/O address on default: 270h



Note:

- The card address must not be used by any other peripheral of the PC!
- **When changing configuration in future please change configuration of the CAPI driver (CAPI setup) accordingly.**

DIP standard settings

Port	Address	DIP-Switch							
		S8	S7	S6	S5	S4	S3	S2	S1
COM1	3F8h	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
COM2	2F8h	OFF	OFF	ON	OFF	OFF	OFF	OFF	OFF
COM3	3E8h	OFF	OFF	OFF	OFF	OFF	OFF	ON	OFF
COM4	2E8h	OFF	OFF	ON	OFF	OFF	OFF	ON	OFF
LPT1	378h	OFF	OFF	OFF	ON	OFF	OFF	OFF	OFF
LPT2	278h	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF
These addresses can be used for expansion!	220h	OFF	OFF	ON	ON	ON	OFF	ON	ON
	270h	OFF	OFF	ON	ON	OFF	OFF	OFF	ON
	280h	OFF	OFF	ON	OFF	ON	ON	ON	ON
	300h	OFF	OFF	OFF	ON	ON	ON	ON	ON
	310h	OFF	OFF	OFF	ON	ON	ON	OFF	ON
	330h	OFF	OFF	OFF	ON	ON	OFF	OFF	ON

Note:

- The column "Port" shows which I/O address is normally used by the relating interface.
- If your PC does not have these interfaces these addresses can be used for expansion.

After checking the settings of speed card open your PC as described in your manual. Then insert the ISDN adapter in a free ISA-bus slot. Should you have any problems or questions please contact your supplier.

speed card

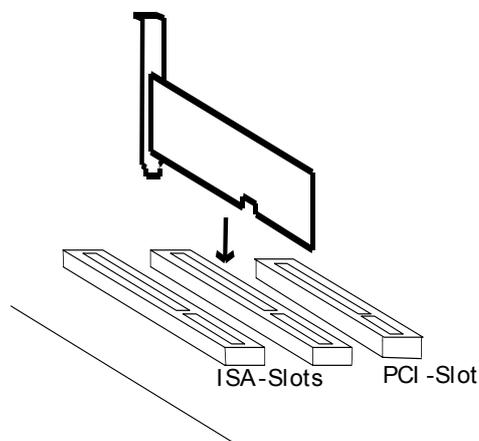


Figure 4.2.2

4.2.3 Installation of „speed star“

Installing the hardware is easy. Insert the „speed star“ in a vacant PCMCIA slot in your computer and connect it with the supplied S₀ connection cable to the ISDN slot.
Should you have any problems or questions, please contact your computer vendor.

4.2.4 Installation of „speed USB

Installing the hardware is easy. Connect the „Sedlbauer“ „speed USB“ to a free USB port.
When the adapter is connected to the USB port of your computer during operation the software installation will start immediately.
Should you have any problems or questions, please contact your computer vendor.

4.3 S₀ interface

The S₀ interface is used to connect your PC to the S₀ bus of the ISDN system. Use the supplied connection cable to join the RJ-45 jack (Western jack) of the ISDN adapter to an S₀ jack.

speed win PCI/speed card

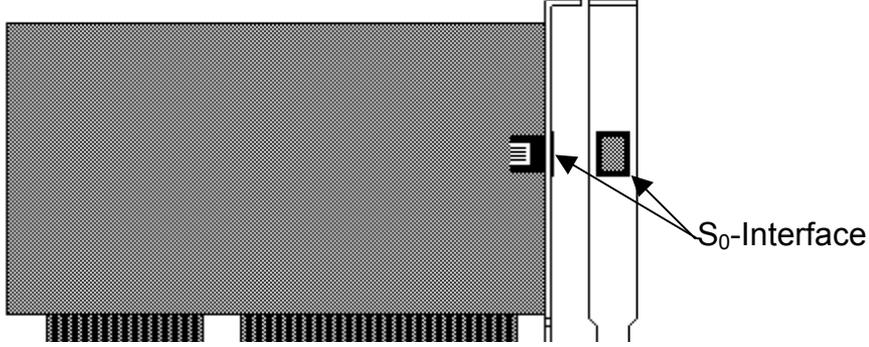
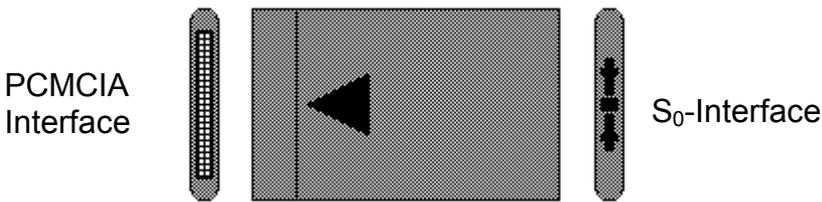
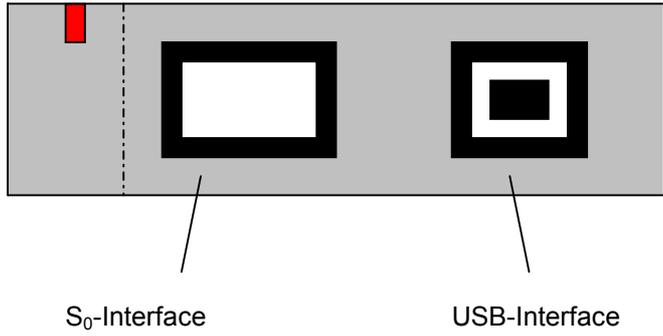


Figure 4.3.1

speed star



speed USB



The following chapters describe the software installation for the various operating system (or user interfaces) that are supported by the ISDN adapter.

Select the section concerning the operating system (or user interface) on which the ISDN adapter will be installed and configured.

- Chapter 5 Software installation for Windows 95**
- Chapter 6 Software installation for Windows 98**
- Chapter 7 Software installation for Windows ME**
- Chapter 8 Software installation for Windows 2000**
- Chapter 9 Software installation for Windows NT 4.0**

5 Software installation for Windows 95

5.1 Installing the CAPI-driver

After you have installed your ISDN adapter as described in section 4.2.1, 4.2.2, 4.2.3 and 4.2.4 you can begin with the software installation for Windows 95.

These Sedlbauer ISDN adapters are plug & play adapters, i. e. Windows 95 automatically identifies the adapter as a new hardware component. If you use „speed star“ please note that the adapter must be plugged in!

Insert the installation CD-ROM in the correct drive. Windows 95 interactively guides you through the installation.

In the next window you may be asked to enter the installation path of the CAPI driver on the installation CD-ROM in the line provided under „**Copy manufacturer's files from:**“ using the following syntax.

**Example for installation from CD-ROM drive D:
D:\WIN95**

Confirm with „**OK**“ and „**Continue**“

When „**CAPI.DLO not found on installation-disk**“ appears enter „**D:\WIN95**“ and confirm with „**OK**“.

The „**System Settings Change**“ message appears at the end of the installation. To complete the setup of the new hardware, restart Windows 95 by clicking <**Yes**>.

The ISDN adapter is ready for operation when you restart Windows 95.

Note:

If you aborted the installation, the driver can only be installed later from the „**Device manager**“. The „**Device manager**“ is started by selecting the „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.

In this case the various versions of Windows 95 behave differently:

- The Device manager of one Windows version contains the „**Other devices**“ folder with the „**Sedlbauer ISDN-PC-Adapter...**“ option. If you have this version, select „**Sedlbauer ISDN-PC-Adapter...**“ and click „**Properties**“. In the next dialog box click „**Drivers**“ and then <**Other Drivers**>. Accept the device type in „**Other Components**“ by clicking <**OK**>. The driver can be installed using the <**Have Disk...**> button.
- The „**Other devices**“ folder does not exist in other Windows versions. You must select <**Refresh**> in the „**Device manager**“ to identify the new hardware component „**Sedlbauer ISDN-PC-Adapter...**“ installation is performed as described in chapter 5.1.

5.2 Configuring the CAPI-driver

5.2.1 EAZ-MSN-mapping

Note:

The following settings are **absolutely essential** if you are using the Euro ISDN protocol on a multiple subscriber line and have CAPI 1.1 application software!

- Start the „**Device Manager**“ by selecting the „**Control Panel**“ in the „**Start/Settings**“ menu and double-clicking on the „**System**“ symbol.
- Click the „**Device Manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“.

The following dialog box appears:

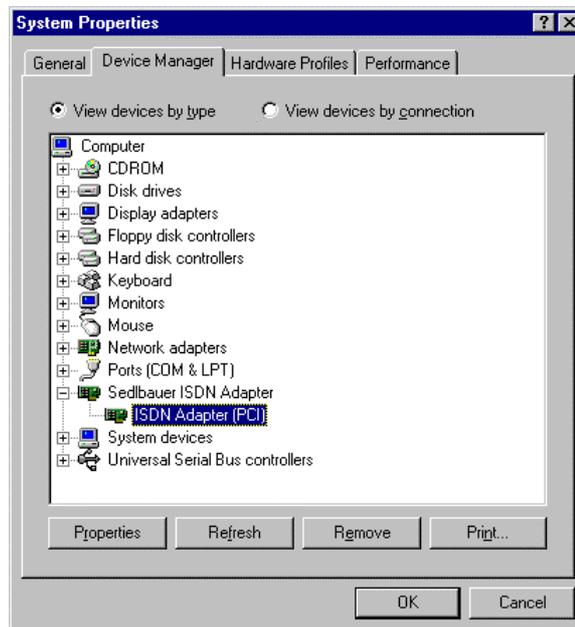


Figure 5.2.1.1

- Select „**Sedlbauer ISDN-PC-Adapter...**“ and then click <**Properties**>. The „**Sedlbauer ISDN-PC-Adapter ...**“ dialog box appears.
- Click the „**EAZ<MSN**“ tab to open the EAZ-MSN mapping table.

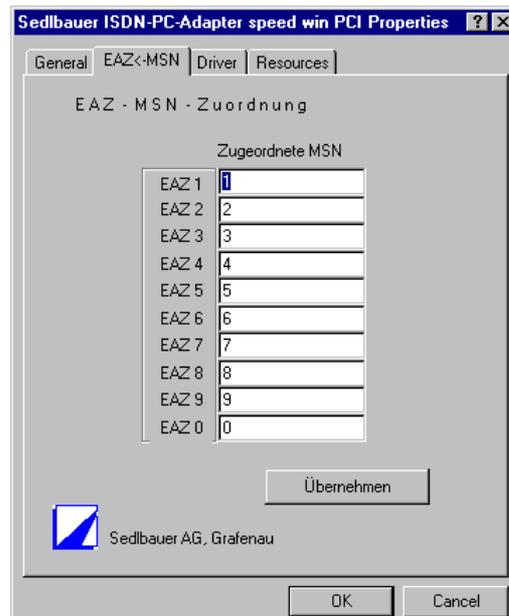


Figure 5.2.1.2

In this table you can assign an MSN to an EAZ (terminal selection digit).

- Click the <**Apply**> button to save the settings for EAZ-MSN mapping.

5.2.2 Uninstalling the CAPI driver

Proceed as follows to uninstall the CAPI driver:

- Open the „**Device Manager**“ by selecting the „**Control Panel**“ in the „**Start/Setting**“ menu and double-clicking the „**System**“ symbol.
- Click the „**Device Manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“ (see figure 5.2.1.1)
- Select „**Sedlbauer ISDN-PC-Adapter...**“ and click the <**Remove**> button.
- Click <**OK**> in the „**Confirm Device Removal**“ dialog box.
The CAPI driver will now be uninstalled.

5.2.3 Driver update

You can update the driver software of your ISDN adapter as follows:

- Remove the ISDN adapter from your system as follows:
Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
Click the „**Device manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“ (see figure 5.2.1.1).
Select „**Sedlbauer ISDN-PC-Adapter...**“ and click the <**Remove**> button. Click <**OK**> to confirm.
- Click the <**Refresh**> button. The „**New Hardware Found**“ dialog box appears and you can reinstall the hardware (see chapter 5.1).
- Once installation is complete, restart your computer as suggested.

5.3 Installing the Sedlbauer NDIS-WAN Miniport driver

The NDIS-WAN Miniport driver enables you to access the Internet, e.g. with the Microsoft Internet Explorer. The driver also allows you to connect to Windows NT or windows 95/98/ME/2000 computers by means of RAS (Remote Access Services) or Dial-Up Networking.

Important:

The CAPI driver for your ISDN adapter must be installed prior to installation.

5.3.1 Functions

- Supports WAN functions (Wide Area Networking) in Windows 95.
- Connects to Internet providers via windows 95 Dial-Up Networking.
- Supports Multilink PPP connections for channel bundling to double the transmission capacity (up to 128 kbps).
- RAS (Remote Access Services) for connections to Windows 95/98/ME/2000 and Windows NT computers.
- Subscriber numbers can be specified for incoming and outgoing calls.
- Supports the Microsoft ISDN Accelerator Pack 1.1.
- Easy installation and configuration.

5.3.2 Preparation

5.3.2.1 Installing Dial-Up Networking

If you have not yet installed the Microsoft Dial-Up Networking, you must do so now, have ready your Windows 95 CD. Select the „Control Panel“ from the „Start/Settings“ menu and click the „Add/Remove Software“ symbol. Click „Windows Setup“ tab and select „Communications“ from the components list box.

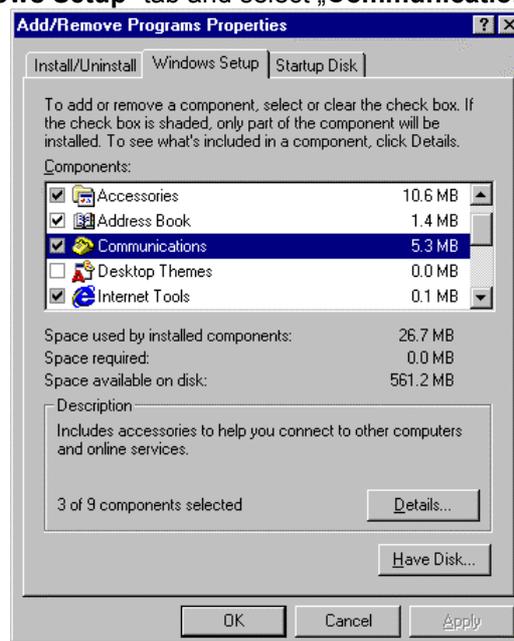


Figure 5.3.2.1.1

Once you have selected „**Communications**“, click <**Details...**> to open the „**Communications**“ window. Select „**Dial-Up Networking**“ and click <**OK**> twice to accept your choice and the following dialog box. When prompted, insert the Windows 95 CD to install Dial-Up Networking.

Restart your computer after installation if necessary.

5.3.2.2 TCP/IP-Protocol

For connections to your Internet service provider you need the TCP/IP protocol. With „**Start/Settings/control Panel/Network**“ you can check whether the protocol is already installed. All installed components are displayed in the list box.

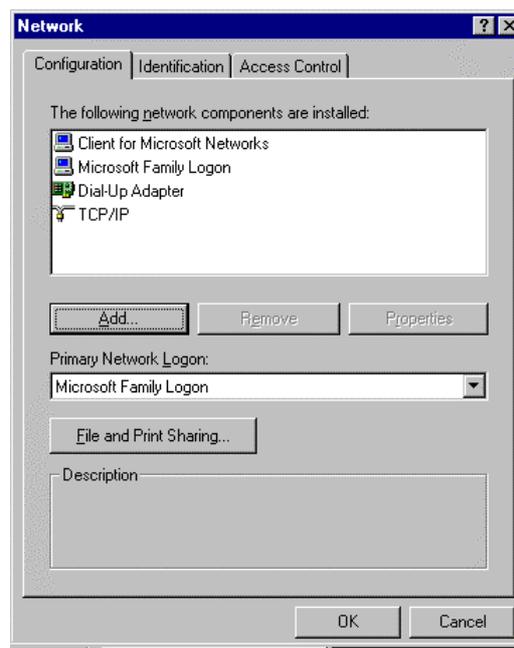


Figure 5.3.2.2.1

If the **TCP/IP** protocol is not installed, you can install it using <**Add...**>. Click **Microsoft** and choose the **TCP/IP protocol**.

5.3.3 Installation

You will need the German version of the Microsoft ISDN Accelerator Pack 1.1, the Sedlbauer Miniport driver and your Windows 95 CD.

The Miniport driver and the Accelerator Pack are on the Installation CD-ROM.

Caution:

Please check first if an ACCELERATOR PACK or a DUN (Dial up Networking) or VPN (Virtual Private Networking) in version higher than 1.1 is already installed on your system. If not, please install the Accelerator Pack 1.1 included in the delivered software package. If one of the above mentioned software is already installed, please DO NOT install the Accelerator Pack! After having checked this situation, you can install the NDIS WAN Miniport driver.

The Accelerator Pack and the Miniport driver can be installed conveniently with the setup program on the CD-ROM. The steps that must be performed for installation are explained in detail with interactive and detailed help desks. The following two sections are therefore only used for reference, manual installation and updates.

5.3.3.1 Installing the Accelerator Pack

Under „**Start/Settings/Control Panel/Network**“ check whether an older version of the NDIS-WAN Miniport driver is installed on your computer. If this is the case, select the entry and click the <Remove> button to delete the older version.

You must now install the Microsoft Accelerator Pack 1.1. Click „**Start/Run...**“, enter

**D:\WIN95\ENMSISDN.exe in the command line
and click <OK> for installation from CD-ROM**

If the ENMISDN.exe file is located in a different directory, enter the corresponding path. Once you have agreed to the licence terms, the necessary data will be copied onto your hard disk. If you are asked whether the computer should be restarted, click <Yes> to update the configuration files accordingly.

5.3.3.2 Installing the NDIS-WAN Miniport driver

Sedlbauer's NDIS-WAN Miniport driver must now be installed as the network card. Have ready your Windows 95 CD, you will possibly need it.

Activate the „**Network**“ icon in „**Control Panel**“. Install a new network card by selecting <Add>, „**Adapter**“, <Add> and <Have Disk ...> in succession. In the „**Install from Disk**“ dialog box enter the drive and path in which the „**Sedlw.inf**“ file is located.

**Example for installation from CD-ROM drive D:
D:\WIN95**

Click <OK>. The following dialog box appears:

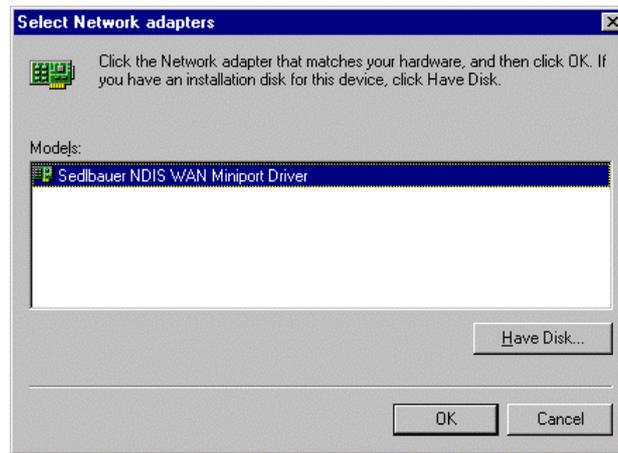


Figure 5.3.3.2.1

Confirm this dialog box and the next with <OK>.to continue with the installation.

The next dialog box displays a message concerning the information required by Windows about your ISDN service.

Specify your ISDN service. The protocol will normally be Euro-ISDN.

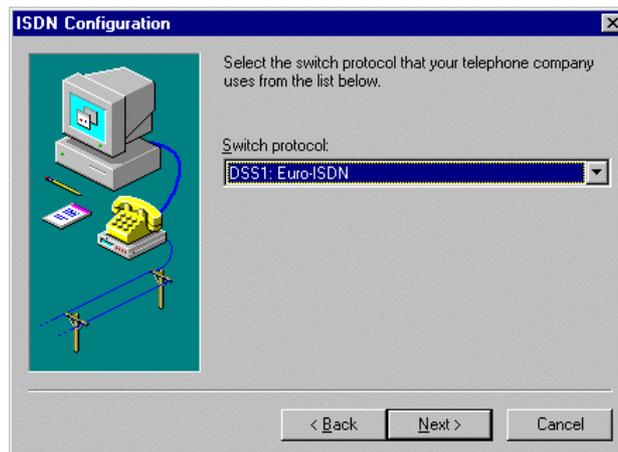


Figure 5.3.3.2.2

The next dialog box will prompt you to enter the subscriber number/s that should be used for the respective SEDLW-LINE. This number will be used to select the correct terminal (Dial-Up Server) for incoming calls.

This number will be transmitted to the remote terminal as the Calling Party Number for outgoing calls and can be used e. g. for identification purposes.

Note:

You can modify the above settings at any time under “**Start/Programs/Accessories/ISDN Tools**”. Click “**ISDN Configuration Wizard**” to return to the “**ISDN Configuration**” windows.

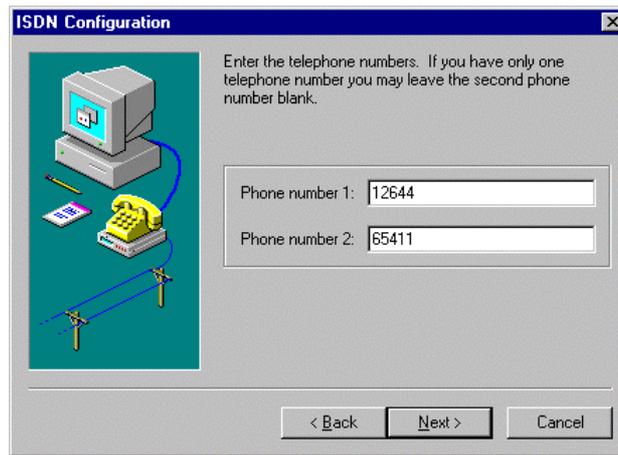


Figure 5.3.3.2.3

At this point you may be prompted to insert the Windows 95 installation CD in your CD drive and specify the drive and path.

Version conflicts similar to those shown in the next figure may be identified under certain circumstances when copying the files.

If this message appears, click <Yes> in order to retain the latest version!

Note:

After a restart you will need to configure the network protocol you are using (e.g. TCP/IP). To do so, reactivate the “**Network**” icon in “**Control Panel**”. Select the respective entry (e.g. TCP/IP->Dial-Up Driver) and click the <Properties> button.

The necessary information can be obtained from your Internet provider.

This completes the installation.

A new link object can now be created in “**Dial-Up Networking**”. When prompted to “**Select a device**”, always specify SEDLW-Line1 or SEDLW-Line2 in this case.

6 Software-Installation for Windows 98

6.1 Installing the CAPI driver

After you have installed your ISDN adapter as described in Section 4.2.1, 4.2.2, 4.2.3 and 4.2.4 you can begin with the software installation for Windows 98.

These speed USB ISDN adapters like speed win PCI, speed star and speed USB are *plug & play* adapters, i. e. Windows 98 automatically identifies the adapter as a new hardware component. If you use „speed star“, please note that the adapter must be plugged in!

Windows 98 interactively guides you through the installation. Have ready your Windows 98 CD, you will possibly need it.

Caution:

For installation of speed card follow the instructions described under 6.1.1.

6.1.1 Installation of non *plug & play* ISDN adapters

- Insert the Sedlbauer CD into the right drive.
- Click “**Language**” and <Next>
- In the next dialog box mark “**Capi driver**” and confirm with <Install>
- Now the hardware assistant will be started.
- Select “**No, I want to select the hardware from a list**”
- Click on “**Next**”
- Mark “**Other devices**” and click on the <Next> button.
- Click “**Have Disk**”
- Enter the following path for installation:
- **Example for installation from CD-ROM drive D:**
- **D:**
- Confirm with “**OK**”
- Now, mark the “**ISDN adapter ISA**” and click <Next>
- Note the interrupt as well as the I/O address suggested and click <Next>.

Sedlbauer AG configuration will be started with the dialog box below (see figure 6.1.1.1).

- In this dialog box you can select the language you wish to guide you through installation. Confirm with “**OK**”.

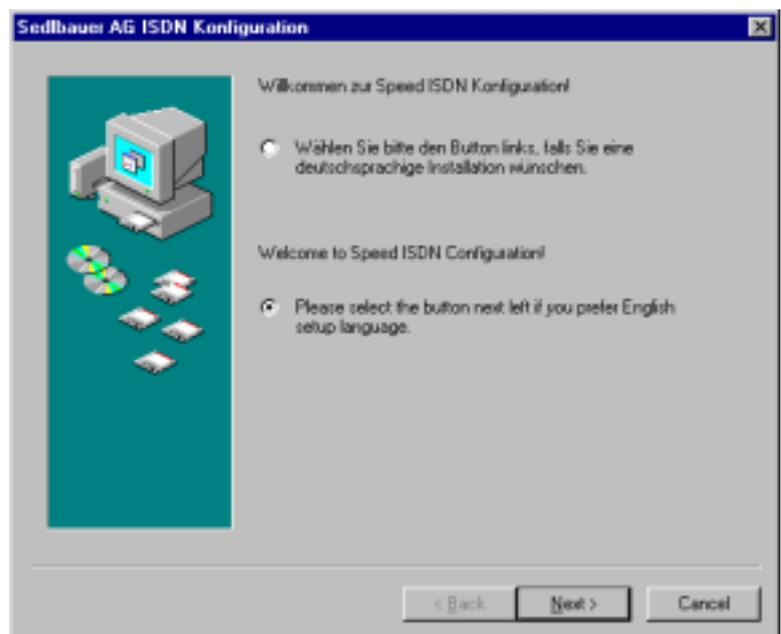


Figure 6.1.1.1

- In the next dialog box you may be asked for the components for your ISDN adapter - speed card.

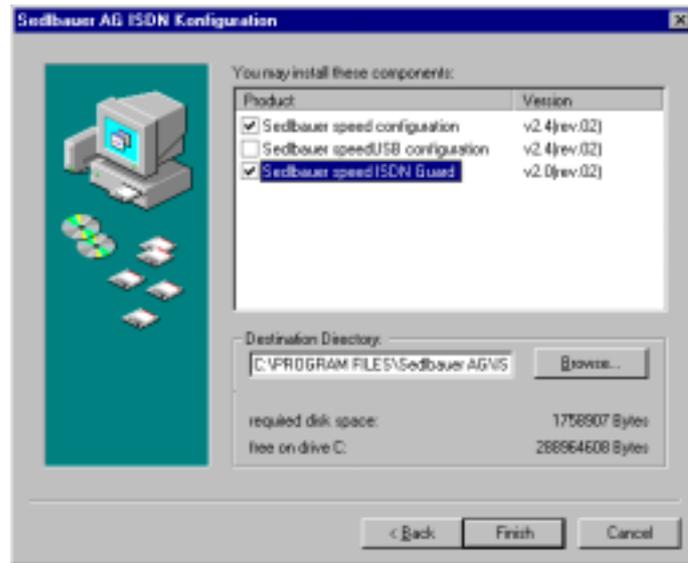


Figure 6.1.1.2

For notes to the ISDN guard please see chapter 10.

- Confirm with <Finish>.
- Now turn off your computer and install your ISDN adapter as described in chapter 4.2.2 and 4.3.

6.1.2 Installation of *plug & play* ISDN Adapter

- After start of your computer the message “**New hardware component found**” appears. Select “**Search for the best driver for your device (recommended)**” and insert the installation CD-ROM supplied.
- In the next window click “**CD-ROM drive**” and confirm with <Next>.
- Confirm the request for restart with <Yes>

Now, the Sedlbauer AG ISDN configuration will be started:

Select the language you wish to guide you through installation. Confirm with “**Next**”



Figure 6.1.2.1

In the next dialog box select the components for your ISDN adapter. speed win PCI, and speed star

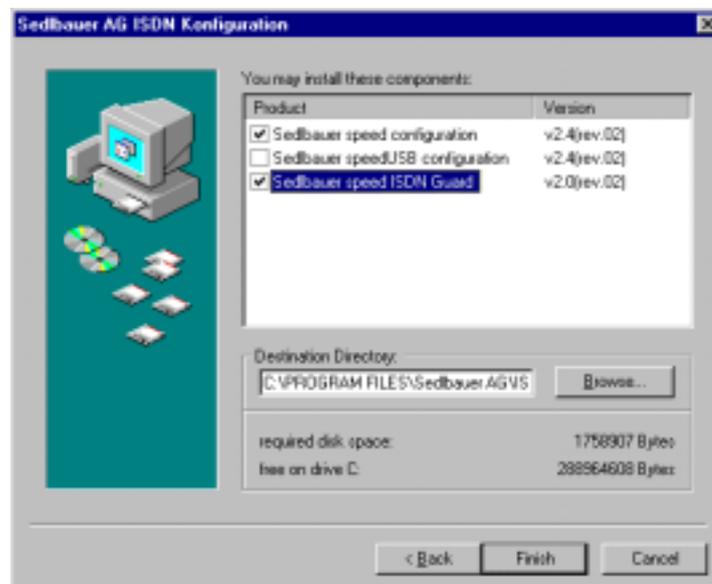


Figure 6.1.2.2

speed USB

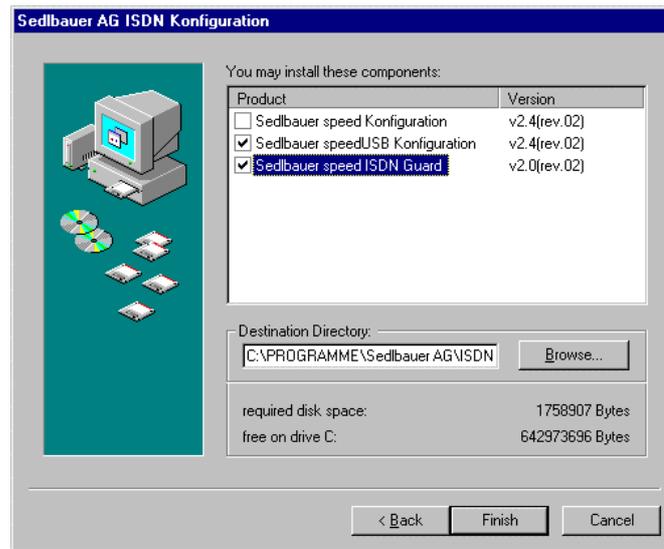


Figure 6.1.2.3

For notes to the ISDN guard please see chapter 10.

Confirm with <Finish>.

Now, your ISDN adapter is installed

6.1.3 Configuration of the ISDN adapter

Caution:

The IRQ and The I/O-address of speed card can be changed in the device manager (**Start/Settings/Control Panel**, double-click on the icon "System", register card "**device manager**").

- Double-click "Sedlbauer ISDN adapter"
- Mark "**ISDN adapter ISA**" and select the button <Properties>.
- Here you can change the settings for the IRQ as well as the I/O address
- *Don't forget to change the settings on speed card (see chapter 4.2.2).*

Note:

If your ISDN adapter is already installed you can configure the adapter subsequently by selecting „**Start/Programs/Sedlbauer/ISDN/Configuration**“ on your Windows-desktop.

General settings:

D-channel-protocol: This field is to fix the signalling protocol: (DSS1)

Test mode: This field is to select the test mode when starting the driver.
Standard: Adapter

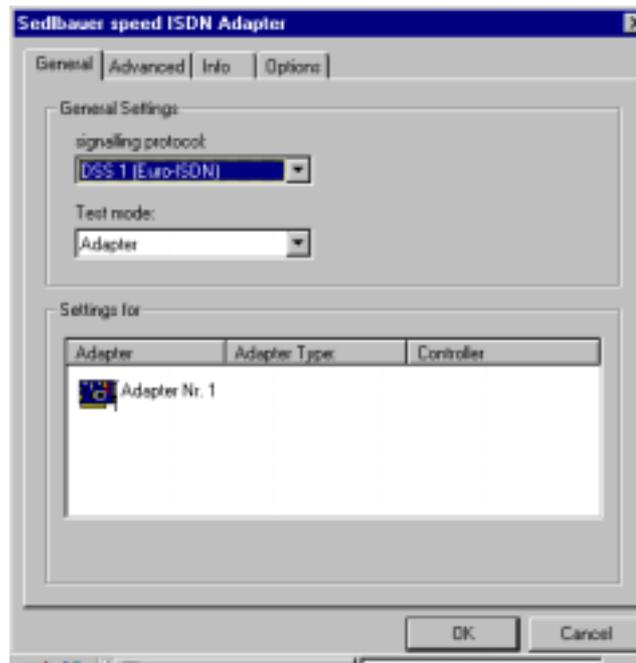


Figure 6.1.3.1

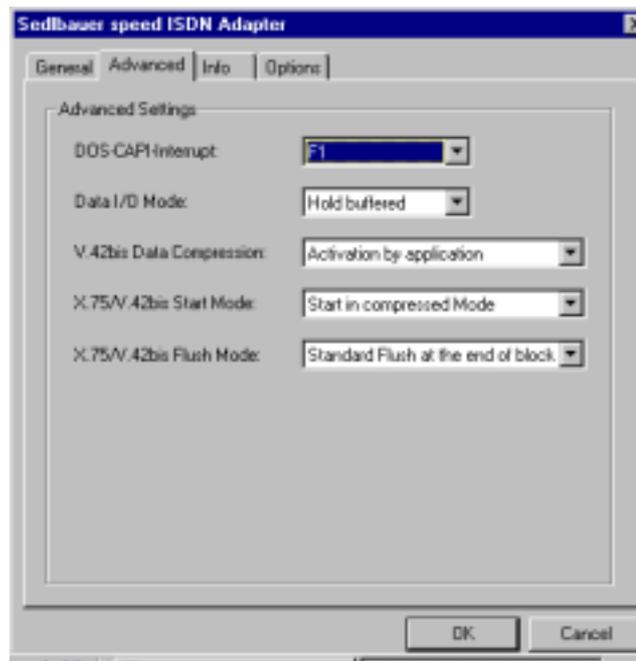
Advanced settings:

Figure 6.1.3.2

Note to the advanced settings (see figure 6.1.3.2)

Term	Explanation
DOS-CAPI interrupt	The DOS-CAPI interrupt, a Software-Interrupt controls the communication between the DOS-application and the Windows-CAPI. Special applications can expect a different value. Valid values are for example F1 or F2 (in hex).
Data I/O Mode	Data of other drivers or applications can be stored temporarily i.e. an overwriting before handling is not possible.
V.42bis data Compression	V.42bis is a standard compression in telecommunication. In June 1998 the specification for the CAPI 2.0-implementation of V.42bis was changed. Unfortunately the two versions are not compatible. The drivers for the Sedlbauer ISDN-adapter use the new standard as default setting from driver version 2.2 rev. 0.5. Only applications requiring a V.42bis extended protocol via CAPI can get a connection to V.42bis if the opposite terminal is compatible.
<u>Activate by application:</u>	
<u>Disabled:</u>	The controller behaves as if no V.42bis would be available.
<u>Activated with X.75/V.120:</u>	All applications using the X.75 and V.120 protocols under CAPI V2.0 get connection to V.42bis when the opposite terminal is compatible.
X.75/V.42bis Start mode:	
<u>Start in compressed mode:</u>	Corresponds to the standard from 7 June 1998
<u>Start in uncompressed mode:</u>	Corresponds to the standard until 7 June 1998
X.75/V.42bis Flush mode:	
<u>Standard flushing modus:</u>	Corresponds to the standard from 7 June 1998
<u>Special flushing modus:</u>	Corresponds to the standard until 7 June 1998

You can take over the standard settings.

Register card „Info“:

The register card „Info“ contains besides data regarding copyright, program and the address of the producer the opportunity to check the directory & version of the drivers.

When you click „**driver versions**“ a short list of all drivers installed or to be installed appears.

Register card „Options“:

The register card „Options“ enables you to choose the language. In addition, the initial settings of the driver can be re-established with the button <**Set Default...**>.

After you confirmed this configuration with <**OK**> you will be asked for restart. Confirm with <**Yes**> to take over these amendments in the system.

6.2 The Sedlbauer CAPI 2.0 RAS driver under Windows 98

The CAPI 2.0 RAS driver provides you with access to the Internet e.g. with the Microsoft Internet Explorer which you can find on the installation CD-ROM delivered with the adapter. The driver also allows you to connect to Windows NT or Windows 95/98/ME/2000 computers by means of RAS (Remote Access Services) or Dial-Up Networking.

6.2.1 Functions

- Supports WAN functions (Wide Area Networking) in Windows 98
- Connects to Internet providers via Windows 98 Dial-Up Networking
- Supports Multilink PPP connections for channel bundling to double the transmission capacity (up to 128 kbps)
- RAS (Remote Access Services) for connections to Windows 95/98/ME/2000 and Windows NT computers
- Subscriber numbers can be specified for incoming and outgoing calls
- Compatible with non-proprietary remote terminals

6.2.2 Installation of the Capi 2.0 RAS driver for Windows 98

In order to fulfil the above functions the Capi 2.0 RAS driver must be installed. To do so you need the Sedlbauer and your Windows CD ROM.

- Insert the Sedlbauer CD into the right drive. Now the installation program will be started.
- Click "**Language**" and <Next>
- In the next dialog box mark "**Capi-RAS driver**" and confirm with <Install>
- Now the register card "**Network**" will be opened. Select <Add>, "**Adapter**", <Add>.

Click the button "**Have Disk**" and select in the next dialog box the following path:

Example for installation from CD-ROM drive D:

D:\CAPIRAS\WIN9X

Note:

For installing speed USB enter the following path:

Example for installation from CD-ROM drive D:

D:\capiras\win 98.usb

Confirm with "**OK**".

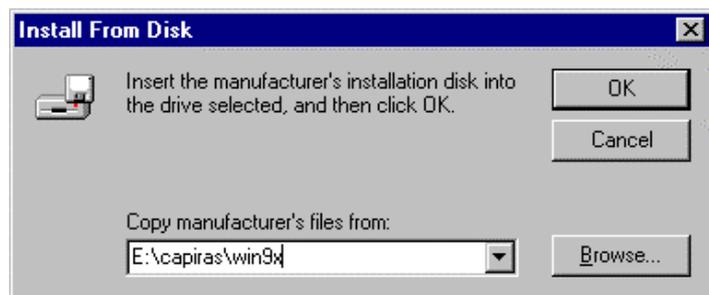


Figure 6.2.2.1

Mark “**CAPI 2.0 RAS driver**” and click “**OK**” twice.

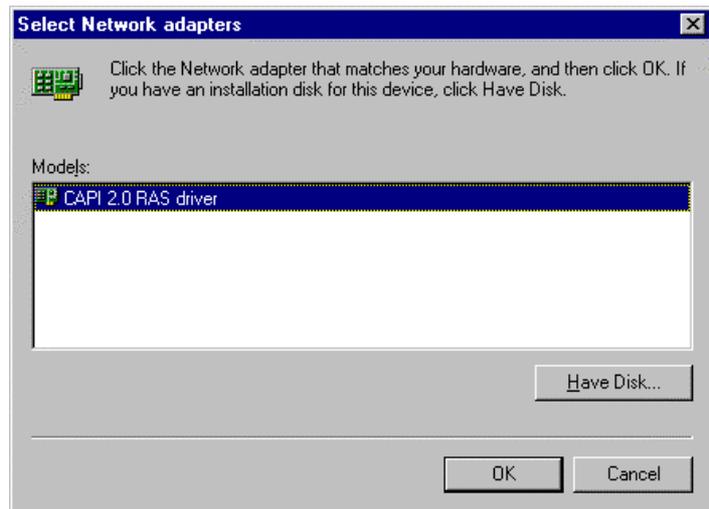


Figure 6.2.2.2

6.2.3 ISDN Configuration

Select the **Switch-protocol** for your ISDN-adapter

Confirm with <**Next**>

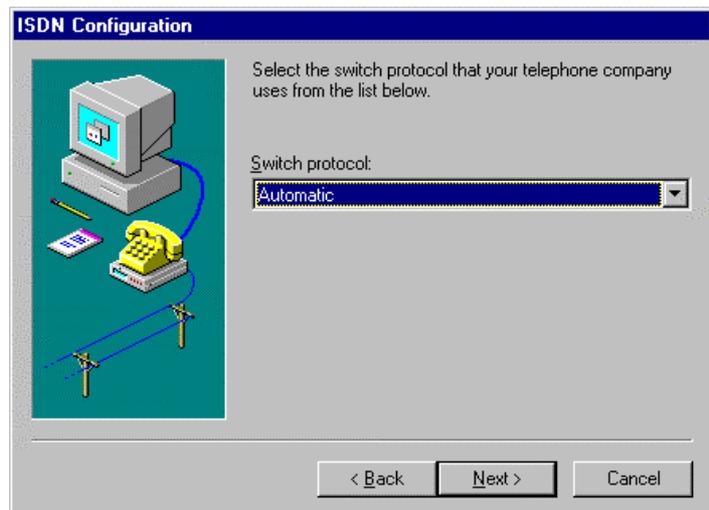


Figure 6.2.3.1

In this dialog box you can select your call number(s) and SPID (Service Profile ID)

Confirm with “**Next**” and follow the instructions

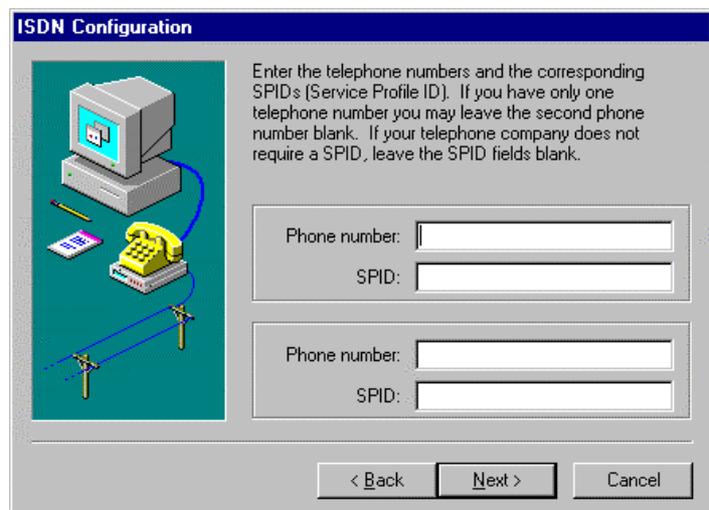


Figure 6.2.3.2

Now you are asked to insert your Windows 98 CD.

Click <OK>.

Should the message “**Cannot find Capiras.sys**” appear insert again Sedlbauer CD-ROM and enter the path

Example for installation from CD-ROM drive D:

D:\CAPIRAS\WIN9X

Confirm the following prompt for restart with „Yes“.

Now the Sedlbauer Capi 2.0 RAS driver is completely installed!

6.3 Capi- Driver Update

You can update the driver software of your ISDN adapter as follows:

- Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
- Click the „**Device manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“
- Select „**Sedlbauer ISDN Adapter.....**“ and click the <**Remove**> button. Click <**OK**> to confirm.
- Restart your computer by clicking <**Yes**>.
- After restart the „**New Hardware Found**“ dialog box appears.
- Now install your new driver.

6.4 Uninstalling the Driver

If you want to remove the driver software for the ISDN adapter proceed as follows:

1. First remove the CAPI 2.0 RAS driver:

- Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
- Click the „**Device manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“
- Mark „**CAPI 2.0 RAS driver**“ in the field „**Network adapter**“ and click the <**Remove**> button.
- Click <**OK**> to confirm.

2. Remove the CAPI driver as follows:

- Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
- Click the „**Device manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“
- Mark the „**ISDN adapter...**“ in the field „**Sedlbauer ISDN adapter**“ and click the <**Remove**> button
- Confirm with <**OK**>
- In the next dialog box „**Sedlbauer AG ISDN-configuration**“ mark „**Sedlbauer AG ISDN configuration for...**“ and click the <**Uninstall**> button. Confirm with <**OK**> and restart Windows 98.

The drivers for the ISDN adapter are now removed!

6.5 PPP- Access to T-Online

Have ready your T-Online Access data you will need them.

The PPP-Access to T-Online enables you to access the Internet without the T-Online decoder. When you start the Internet browser a connection to the Internet will be established without calling T-Online.

To access T-Online via PPP you must first create a new connection in Dial-Up Networking. Double-click **"Make New Connection"** in **"Start/Programs/Accessories/Communication"** to open the following dialog box:

- Should you have not established a Dial-up connection yet (see figure 6.5.1) the following window appears.
- Enter the standard information according to your requirements.

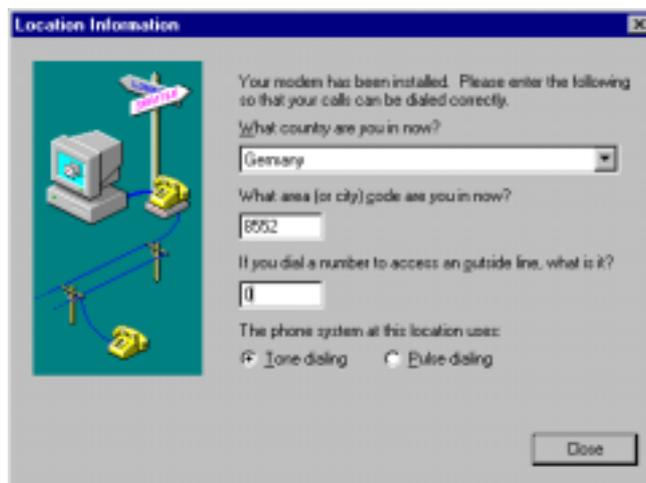


Figure 6.5.1

- Confirm with **<Close>**
- In the following window you must establish a new connection
- Enter the name and the device for the connection.



Figure 6.5.2

- You can, of course, assign the connection another name. As device select Capiras-Line 1/1 or Capiras-Line 1/2 and confirm with **<Next>**.
- The new connection must now be configured. Select the connection, press the right hand mouse button and select **"Properties"** to open the following dialog box (see figure 6.5.3):

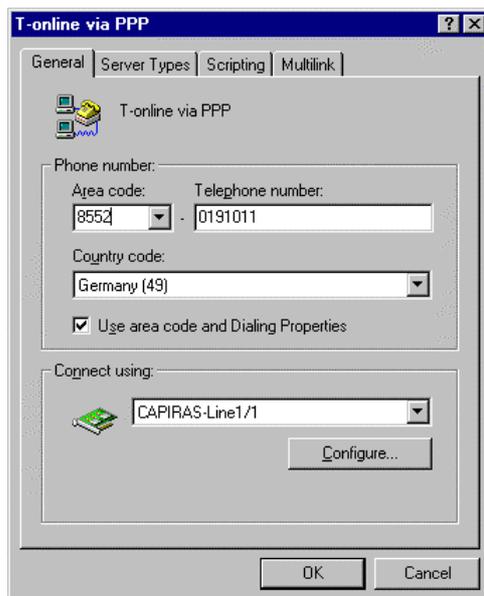


Figure 6.5.3

- Select the “**Server Types**” tab and enter the settings shown in the next figure.
- Please note the following alternatives:
- You should select “**Log on to network**” only when you are working in a local network. Stand-alone computers are somewhat faster in the Internet when this option is not marked.
- Most access connections also support software compression – it pays to try.

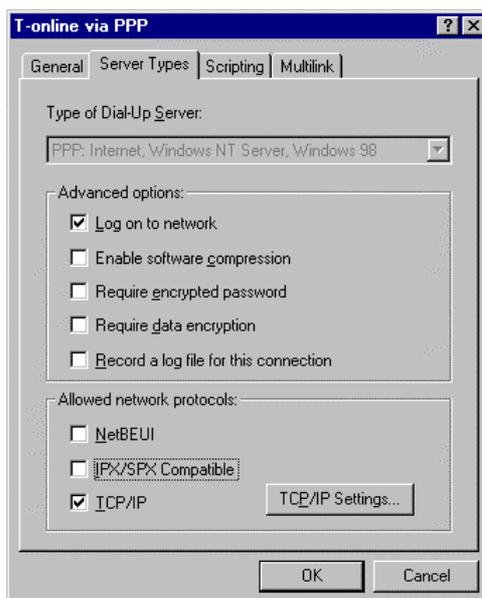


Figure 6.5.4

- When you have entered the correct settings, click <TCP/IP Settings> to open the dialog box shown below.

Note:

T-Online works with IP addresses assigned by the server. Any IP addresses defined here will be invalid.

The “**Name server address**” is supplied when the connection is made, i.e. it does not have to be defined.

IP header compression should be selected.

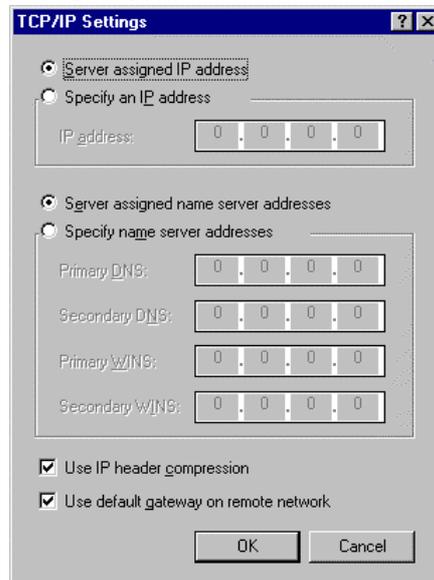


Figure 6.5.5

Please refer to your Microsoft documentation for information on other settings and options.

The new connection is now configured, with the exception of the actual T-Online access data. You will find the access data in the order confirmation for your T-Online line. This data must be specified when you set up the connection for the first time.

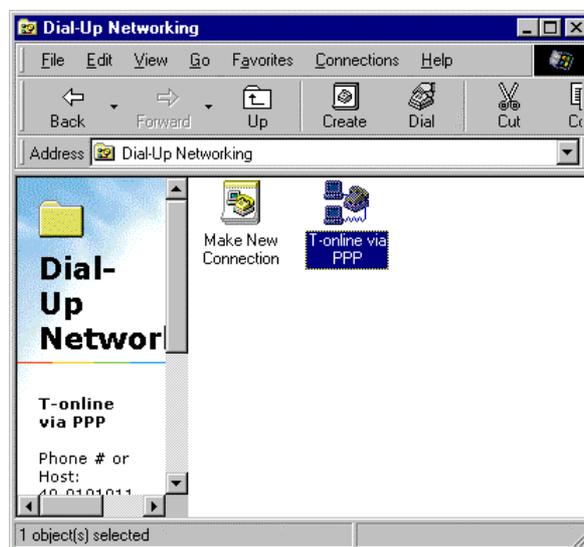


Figure 6.5.6

- Double click “**T-Online via PPP**” in “**Dial-Up Networking**” to open the “**Connect To**” dialog box.

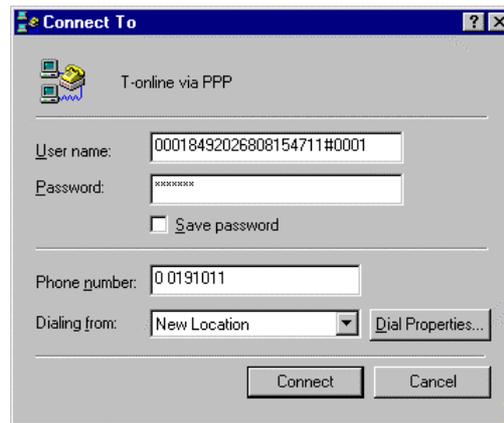


Figure 6.5.7

Note:

A user name consists of the following components:

Terminal identification code (here: 000184920268)

T-Online no. (telephone number, here: 08154711)

Co-user number (here: 0001), which must be separated by # if the telephone number has less than 12 digits

Your personal password for your T-Online terminal is used as the **password**. To avoid entering the password each time you set up a connection, you can enter it in coded form in a system file by selecting "**Save password**".

- Click <**Connect**> to set up your Internet connection. The following icon appears in the task bar once the connection has been established via Dial-Up Networking.

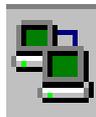


Figure 6.5.8

- Start your Internet browser, e.g. Microsoft Internet Explorer, to use various Internet services such as the World Wide Web.
- To disconnect, click the icon in the task bar with the right mouse button and select "**Disconnect**".

6.6 Setting up a Multilink connection

The Sedlbauer Capi 2.0 RAS driver supports multilink PPP. This allows you to bundle the two ISDN user channels, doubling the speed of transmission to 128 kBit/s.

Channel bundling only works, however, if the remote terminals also support this function.

To configure outgoing Multilink connections under Windows 98, open "Dial-Up Networking". In the "Dial-Up Networking" folder you will find the "Make New Connection" symbol as well as symbols for all the connections previously created.

- Double-click "**Make New Connection**" to define a connection to the remote terminal of your choice. Once you have created the connection or if the folder already contains the desired connection for multilink access, click the connection symbol with the right hand mouse button.
- Select the "**Properties**" menu option. A dialog box appears with several tabs.
- Click the register card "**Multilink**" to open the following dialog box.

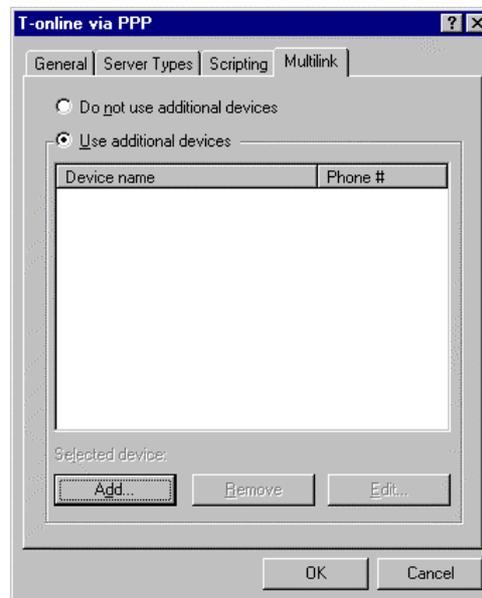


Figure 6.6.1

- Click "**Use additional devices**".
- Click **<Add>** and select the second CAPI-RAS line. Enter the call number for the multilink connection.
- Confirm with **<OK>**.

7 Software-Installation for Windows ME

7.1 Installing the CAPI driver

After you have installed your ISDN adapter as described in Section 4.2.1, 4.2.2, 4.2.3 and 4.2.4 you can begin with the software installation for Windows ME.

These speed USB ISDN adapters like speed win PCI, speed star and speed USB are *plug & play* adapters, i. e. Windows ME automatically identifies the adapter as a new hardware component. If you use „speed star“, please note that the adapter must be plugged in!

Windows ME interactively guides you through the installation. Have ready your Windows ME CD, you will possibly need it.

Now, follow the instructions as described in chapter 7.1.2.

Caution:

For installation of speed card follow the instructions of chapter 7.1.1.

7.1.1 Installation of non plug & play ISDN adapters

- Insert the Sedlbauer CD into the right drive.
- Click **“Language”** and **<Next>**
- In the next dialog box mark **“Capi driver”** and confirm with **<Install>**
- Now the hardware assistant will be started.
- Click **“No, I want to select the hardware from a list”**.
- Click **“Next”**
- Click **“Other devices”** and confirm with **“Next”**
- Select **“Have disk”**
- Now, insert the following path for installation
- **Example for installation from CD-ROM-Drive D:**
D:
- Confirm with **<OK>**
- Mark **“ISDN-adapter ISA”** and click **<Next>**
- Note the interrupt as well as the I/O address suggested.
- Click **<Next>**.
- Confirm the request to shut down your computer with **<YES>** and install the adapter as described in chapter 4.2.2 and 4.3.
- Here you can select the language you wish to guide you through installation.

Sedlbauer AG configuration will be started with the dialog box below.



Figure 7.1.1.1

In the next dialog box enter the components your ISDN adapter needs speed card.

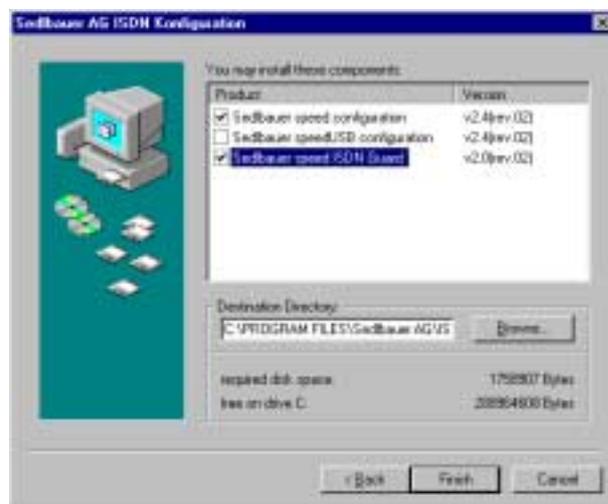


Figure 7.1.1.2

You can find notes on the ISDN guard in chapter 10.

Confirm with <**Finish**>.

Turn off your computer and install your ISDN-adapter as described in chapter 4.2.2 and 4.3.

7.1.2 Installation of plug & play ISDN adapters

- On start of your computer the following message appears: **“New hardware wizard found”**. Select **”Automatic search for a better driver (recommended)”**. Insert the installation CD-ROM delivered with this adapter.
- Confirm the request for restart with **<Yes>**.

After restart the Sedlbauer AG ISDN configuration appears:

Select the language you wish to guide you through configuration.
Confirm with **<Next>**

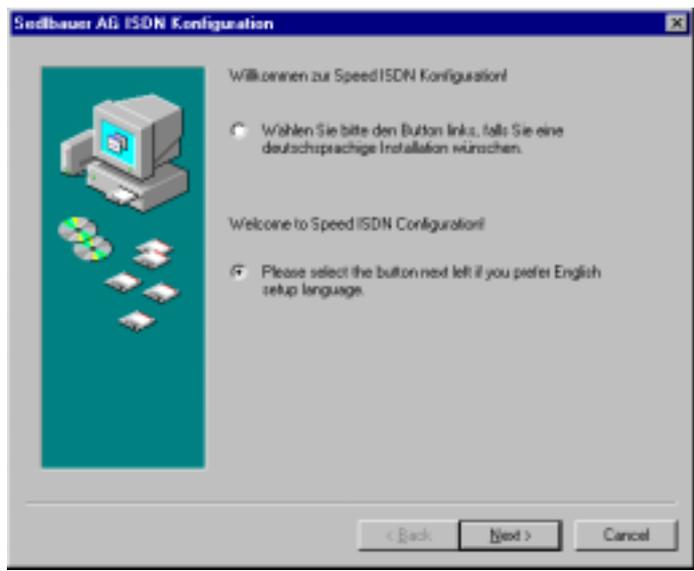


Figure 7.1.2.1

In the next window select the components for your ISDN adapter.
speed win PCI, and speed star

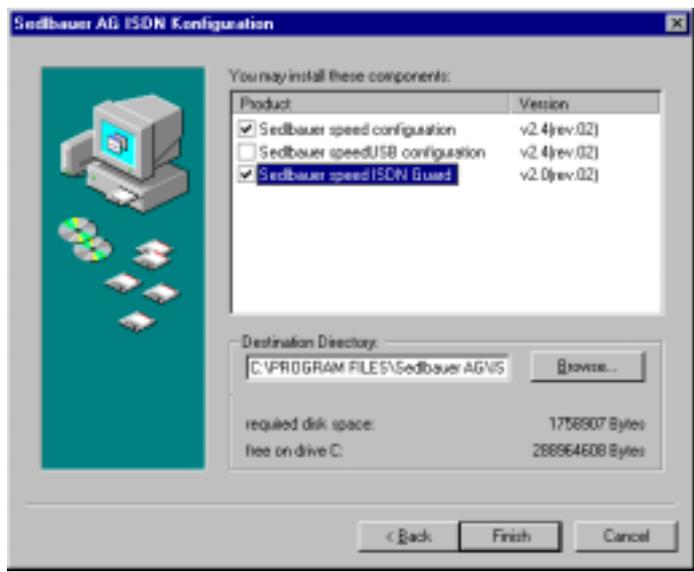


Figure 7.1.2.2

speed USB

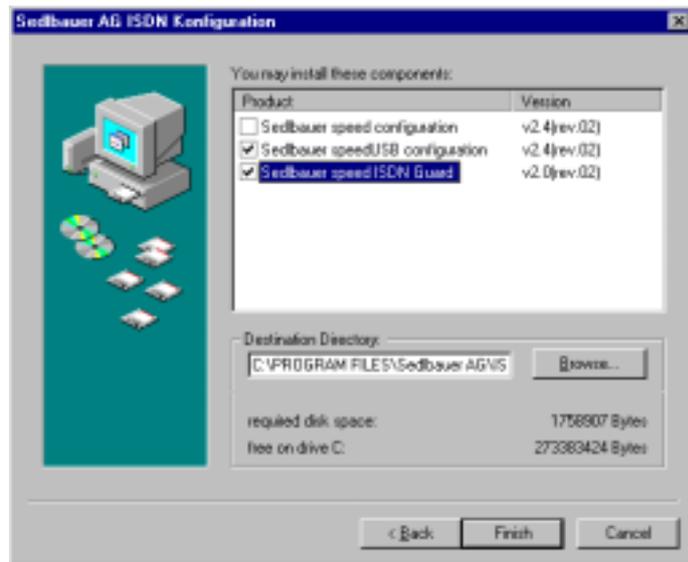


Figure 71.2.3

You can find notes on the ISDN guard in chapter 10.

- Confirm with <Finish>.

Your ISDN adapter is now installed.

7.1.3 Configuration of the ISDN adapter

Caution:

The IRQ and the I/O address of speed card can be changed in the device manager (Start/Settings/System Control, double click on the icon "System", register card "device manager").

- Double click on "**Sedlbauer ISDN adapter**"
- Mark "ISDN adapter ISA and select the button <Properties>.
- The settings for IRQ and the I/O-address can be changed here.
- *Don't forget to take over the settings on speed card (see chapter 4.2.2)*

Note:

If your ISDN adapter is already installed you can configure the adapter subsequently by selecting „**Start/Programs/Sedlbauer/ISDN/Configuration**“ on your Windows-desktop.

General settings:

D-channel-protocol: This field is to fix the signalling protocol: (DSS1)

Test mode: This field is to select test mode when starting driver.
Standard: adapter

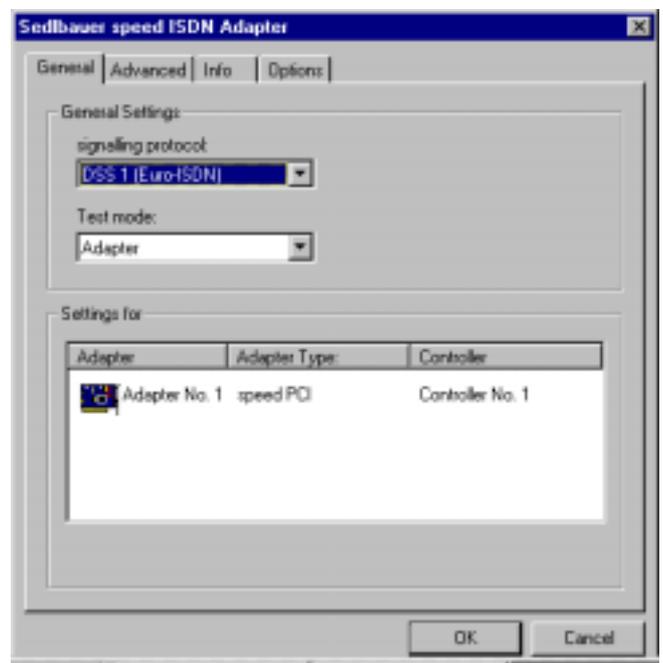


Figure 7.1.3.1

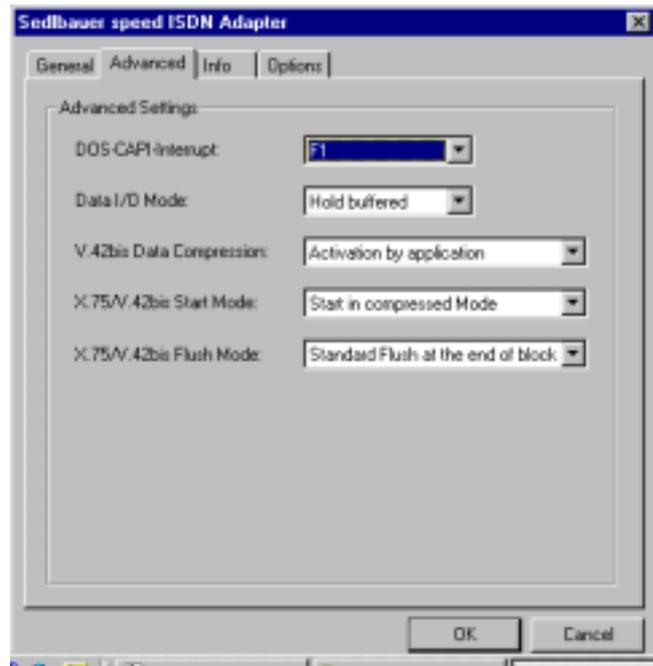
Advanced settings:

Figure 7.1.3.2

Term	Explanation
DOS-CAPI interrupt	The DOS-CAPI interrupt, a Software-Interrupt controls the communication between the DOS-application and the Windows-CAPI. Special applications can expect a different value. Valid values are for example F1 or F2 (in hex).
Data I/O Mode	Data of other drivers or applications can be stored temporarily i.e. an overwriting before handling is not possible.
V.42bis data Compression	V.42bis is a standard compression in telecommunication. In June 1998 the specification for the CAPI 2.0-implementation of V.42bis was changed. Unfortunately the two versions are not compatible. The drivers for the Sedlbauer ISDN-adapter use the new standard as default setting from driver version 2.2 rev. 0.5. Only applications requiring a V.42bis extended protocol via CAPI can get a connection to V.42bis if the opposite terminal is compatible.
<u>Activate by application:</u>	
<u>Disabled:</u>	The controller behaves as if no V.42bis would be available.
<u>Activated with X.75/V.120:</u>	All applications using the X.75 and V.120 protocols under CAPI V2.0 get connection to V.42bis when the opposite terminal is compatible.
X.75/V.42bis Start mode:	
<u>Start in compressed mode:</u>	Corresponds to the standard from 7 June 1998
<u>Start in uncompressed mode:</u>	Corresponds to the standard until 7 June 1998
X.75/V.42bis Flush mode:	
<u>Standard flushing modus:</u>	Corresponds to the standard from 7 June 1998
<u>Special flushing modus:</u>	Corresponds to the standard until 7 June 1998

You can take over the standard settings.

The register card “Info”

The register card “Info” contains notes on copyright- and programm versions, the address of the manufacturer as well as the opportunity to check the file & version of the drivers. When you click “driver versions” you will get a short info about all drivers which are installed or have to be installed.

The register card “Options”

In this register card you can select the operation language. In addition, the driver settings can be rechanged to their original when clicking the button “Original settings”.

After clicking <OK> you will be asked for restart. Confirm with <Yes> to adopt the changes.

7.2 The Sedlbauer CAPI 2.0 RAS driver under Windows ME

The CAPI 2.0 RAS driver for Windows ME provides you with access to the Internet e.g. with the Microsoft Internet Explorer which you can find on the installation CD-ROM delivered with the adapter. The driver also allows you to connect to Windows NT or Windows 95/98/ME/2000 computers by means of RAS (Remote Access Services) or Dial-Up Networking.

7.2.1 Functions

- Supports WAN functions (Wide Area Networking) in Windows ME
- Connects to Internet providers via Windows ME Dial-Up Networking
- Supports multilink PPP connections for channel bundling to double the transmission capacity (up to 128 kbps)
- RAS (Remote Access Services) for connections to Windows 95/98/ME/2000 and Windows NT computers
- Subscriber numbers can be specified for incoming and outgoing calls
- Compatible with non-proprietary remote terminals

7.2.2 Installation of the Capi 2.0 RAS driver for Windows ME

In order to fulfil the above functions the Capi 2.0 RAS driver must be installed. To do so you need the Sedlbauer and your Windows ME CD ROM.

- Insert the Sedlbauer CD into the right drive. Now the installation program will be started.
- Click "**Language**" and <Next>
- In the next dialog box mark "**CAPI-RAS-driver**" and confirm with <Install>
- Now the "**hardware-assistant**" will be opened.
- Click <Next> and "**No, I want to select the hardware from a list**"
- Confirm with <Next>
- Mark "**Network adapter**" and click <Next>



Figure 7.2.2.1

Select the button “**Have disk**” and enter the following path in the next window:

Example for installation from CD-ROM drive

D:

D:\CAPIRAS\WINME

Confirm with “**OK**”

Note:

When installing speed USB enter the following path:

Example for installation from CD-ROM drive

D:

D:\capiras\WINME.USB

Confirm with “**OK**”

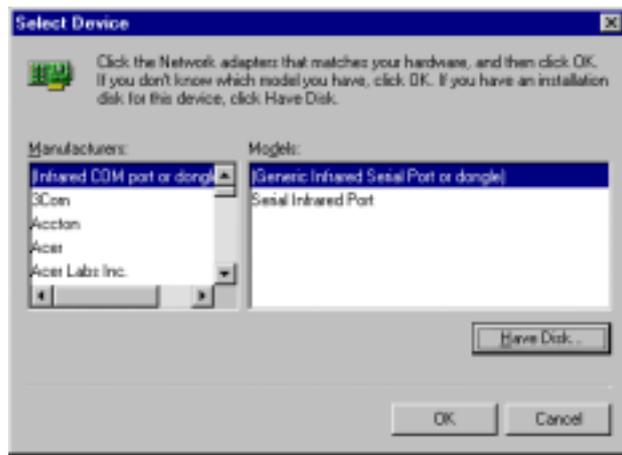


Figure 7.2.2.2

Mark “**CAPI 2.0 RAS driver**” and click <**OK**>

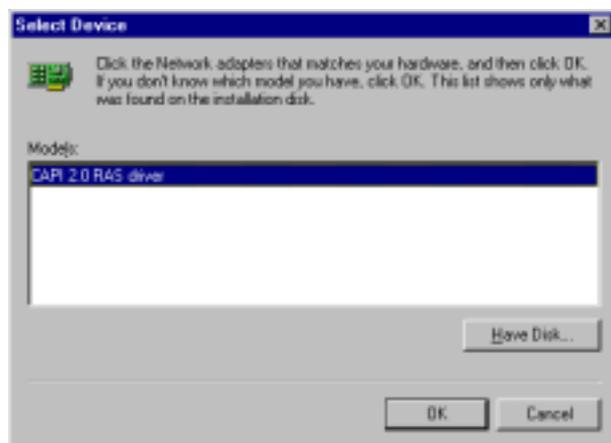


Figure 7.2.2.3

7.2.3 ISDN Configuration

Select the **Switch-protocol** for your ISDN-adapter

Confirm with **<Next>**

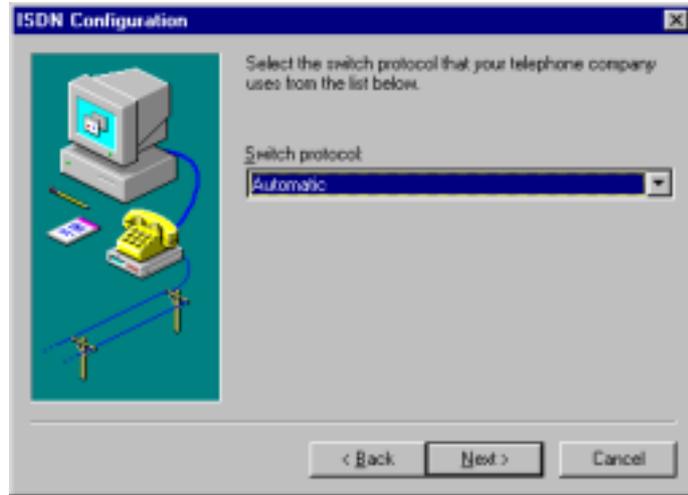


Figure 7.2.3.1

In this dialog box you can select your call number(s) and SPID (Service Profile ID). Confirm with **"Next"** and follow the instructions

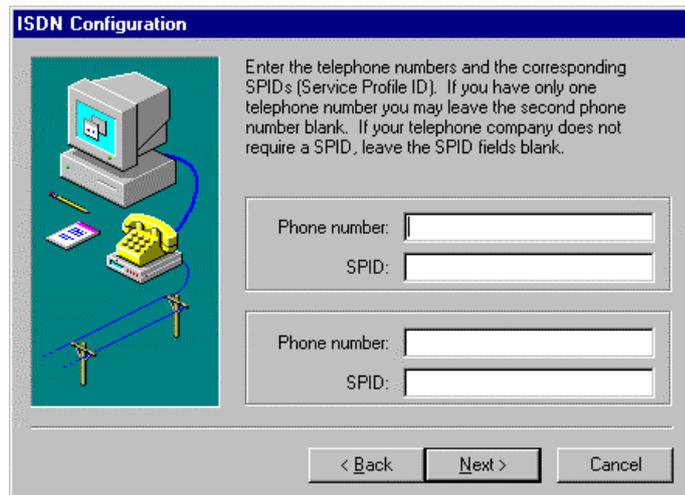


Figure 7.2.3.2

Confirm the following prompt for restart with **„Yes“**.

Now the Sedlbauer Capi 2.0 RAS driver is completely installed!

7.3 Capi- Driver Update

You can update the driver software of your ISDN adapter as follows:

- Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
- Click the „**Device manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“
- Select „**Sedlbauer ISDN Adapter.....**“ and click the <**Remove**> button. Click <**OK**> to confirm.
- Restart your computer by clicking <**Yes**>.
- After restart the „**New Hardware Found**“ dialog box appears.
- Now install your new driver.

7.4 Uninstalling the Driver

If you want to remove the driver software for the ISDN adapter proceed as follows:

1. First remove the CAPI 2.0 RAS driver:

- Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
- Click the „**Device manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“
- Mark „**CAPI 2.0 RAS driver**“ in the field „**Network adapter**“ and click the <**Remove**> button.
- Click <**OK**> to confirm.

2. Remove the CAPI driver as follows:

- Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
- Click the „**Device manager**“ tab in the „**System Properties**“ dialog box and select „**View devices by type**“
- Mark the „**ISDN adapter...**“ in the field „**Sedlbauer ISDN adapter**“ and click the <**Remove**> button
- Confirm with <**OK**>
- In the next dialog box „**Sedlbauer AG ISDN-configuration**“ mark „**Sedlbauer AG ISDN configuration for...**“ and click the <**Uninstall**> button. Confirm with <**OK**> and restart Windows 98.

The drivers for the ISDN adapter are now removed!

8 Software installation for Windows 2000

8.1 Installing the CAPI driver

After you have installed your ISDN adapter as described in section 4.2.1, 4.2.2, 4.2.3 and 4.2.4 you can begin with the software installation for Windows 2000.

These Sedlbauer ISDN adapters as speed win PCI, speed star and speed USB are *plug & play* adapters, i. e.

Windows 2000 automatically identifies the adapter as a new hardware component. If you use speed star, please note that the adapter must be plugged in!

Windows 2000 guides you through installation. Have ready your Windows 2000 CD you will possibly need it for installation.

Caution:

If you want to install speed card follow the instructions described in chapter 8.1.1.

8.1.1 Installation of non *plug & play* ISDN-adapters

- Insert the Sedlbauer CD into the right drive.
- Click "**Language**" and <Next>
- In the next dialog box mark "**Capi driver**" and confirm with <Install>
- Now the hardware assistant will be started.
- Mark "**Add device or solve problem**" and "**Next**"
- Select "**Add new device**" and "**Next**"
- Select "**No, I want to select the hardware from a list**" and <Next>.
- Mark "**Other devices**" and click on the <Next> button.
- Click "**Have disk**".
- Enter the following path for installation:
- **Example for Installation from CD-ROM-drive D:**
D:
- Confirm with <OK>
- Mark the "**ISDN adapter ISA**" and click <Next>.
- In the following window you must assign the resources like IRQ and I/O-address manually.

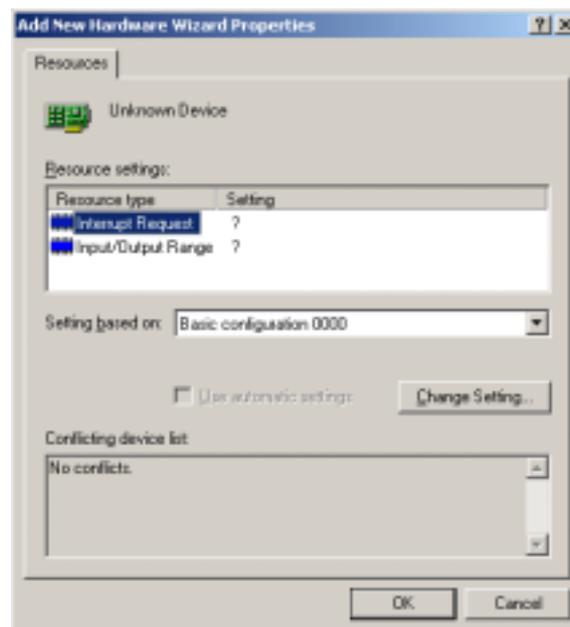


Figure 8.1.1.1

- Double click <Interrupt Request IRQ>
- In the next window select a free IRQ and consider the conflict information.

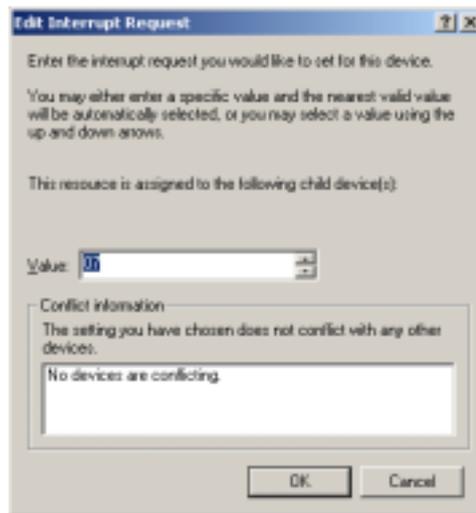


Figure 8.1.1.2

- Confirm with <OK>
- Double-click I/O-sector and select a free worth. Consider the conflict information, too.



Figure 8.1.1.3

- Confirm with <OK>
- Close the resource-window by clicking <OK>
- Select <Next>

In the next window the Sedlbauer AG ISDN configuration will be started (see figure 8.1.1.4).

Select the language you wish to guide you through Installation and confirm with **<Next>**



Figure 8.1.1.4

At this stage you can select the components you wish to install



Figure 8.1.1.5

- Mark “**speed ISDN configuration**” and “**speed ISDN guard**” (You can find notes on the ISDN-guard in chapter 10).
- Confirm with **<Complete>**.
- Confirm the next message “**Installation successfully completed**” with **<OK>**.
- Now, the **Sedlbauer speed configuration** appears. Take over the standard settings as described in chapter 8.1.3 and confirm with **<OK>**.
- Click **<complete>** and answer the request for restart with **<No>**.
- Turn-off your computer.
- Install your ISDN adapter as described in chapter 4.2.2 and 4.3.

8.1.2 Installation of plug & play ISDN adapters

- On start of your computer the following message appears: “**New hardware wizard found**”. Confirm with <Next> and mark in the next window “**Search for the best driver automatically (recommended)**”. Insert the installation CD-ROM delivered with this adapter. In the next window mark “**CD-ROM drive**” and click <Next>.

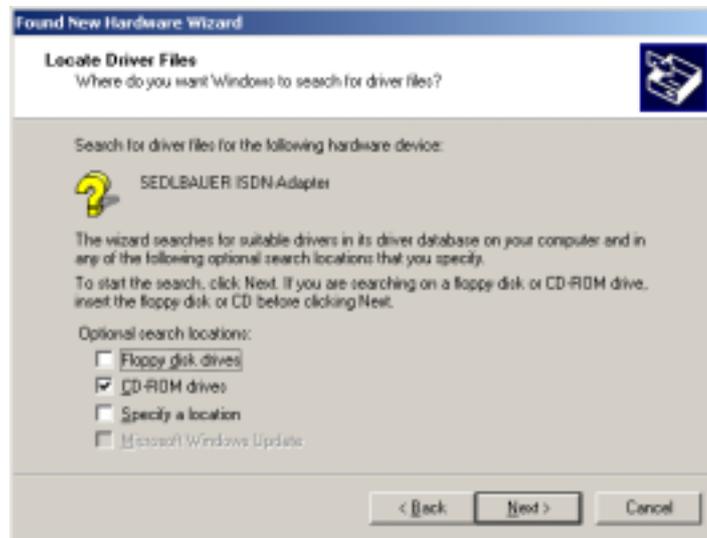


Figure 8.1.2.1

- In the next window click <Next>.
- Select the language you wish to guide you through installation and confirm with <Next>.
- In the following window you can select the components for your ISDN adapter. Mark “**Sedlbauer speed configuration**” and “**Sedlbauer speed ISDN guard**”. You can find notes on the ISDN-guard in chapter 10.

Now, the ISDN adapter must be configured. Therefore the ISDN-adapter-configuration must be started – see chapter 8.1.3.

8.1.3 Configuration of the ISDN-Adapter

Caution:

The IRQ and I/O-address of speed card can be changed in the device manager (**Start/Settings/Control Panel**) and double-click on the icon "**System**", register card "**Hardware**".

Double-click "**Sedlbauer ISDN adapter**"

Mark "**ISDN adapter ISA**" and select "**Properties**"

The settings for the IRQ and the I/O address can be changed in the register card "**Resources**".

Don't forget to change the settings on speed card.

Note:

If your ISDN adapter is already installed you can start ISDN configuration by selecting „**Start/Programs/Sedlbauer ISDN configuration**“ on your Windows-desktop.

- The ISDN-adapter can be configured in the next dialog box (see figure 8.1.3.1).

General Settings:

D-channel-protocol: In this field the transmission protocol is fixed: (DSS1)

Test mode: The test mode can be selected on driver start

Standard: Adapter

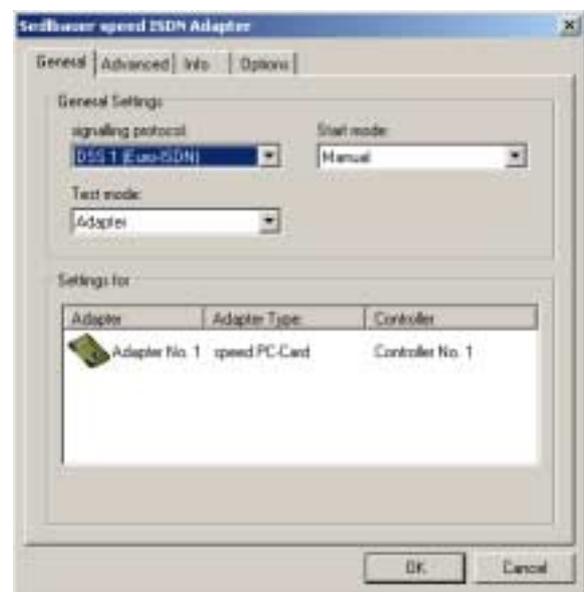


Figure 8.1.3.1

Extended Settings:

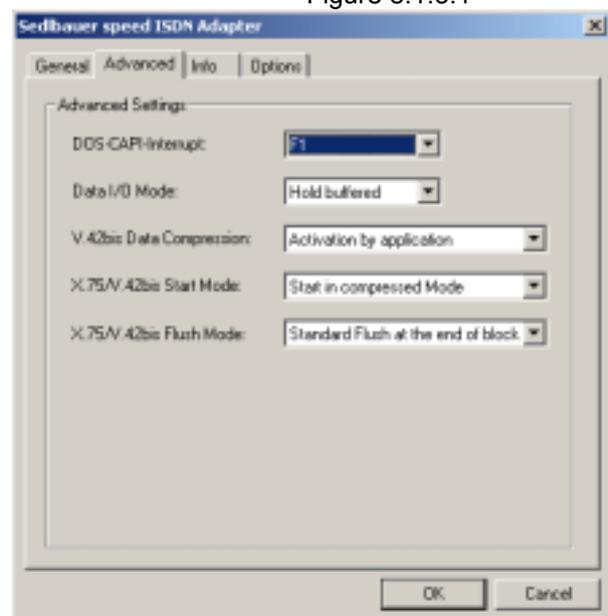


Figure 8.1.3.2

Note (see figure 8.1.3.2)

Term	Explanation
DOS-CAPI-Software interrupt	The DOS-CAPI-Interrupt, a Software-Interrupt controls the communication between the DOS-application and the Windows-CAPI. Special applications can expect a different value. Valid values are for example F1 or F2 (in hex).
Data I/O Mode	Data of other drivers or applications can be stored temporarily i.e. an overwriting before handling is not possible.
V.42 bis data compression	V.42bis is a standard compression in telecommunication. In June 1998 the specification for the CAPI 2.0-implementation of V.42bis was changed. Unfortunately the two versions are not compatible. The drivers for the Sedlbauer ISDN-adapter use the new standard as default setting from driver version 2.2 rev. 0.5. Only applications requiring a V.42bis extended protocol via CAPI can get a connection to V.42bis if the opposite terminal is compatible.
<u>Activation by application:</u>	
<u>Deactivated:</u>	The controller behaves as if no V.42bis would be available.
<u>Activated at X.75/V.120:</u>	All applications using the X.75 and V.120 protocols under CAPI V2.0 get connection to V.42bis when the opposite terminal is compatible.
X.75/V.42bis Start mode:	
<u>Standard in compressed mode:</u>	Corresponds to the standard from 7. June 1998
<u>Standard:</u>	Corresponds to the standard until 7. June 1998
X.75/V.42bis Flush mode:	
<u>Standard:</u>	Corresponds to the standard from 7. June 1998
<u>Special Flush at block end:</u>	Corresponds to the standard until 7. June 1998

Normally you can take over the standard settings.

- Confirm your entry with<OK>

Your ISDN Adapter is now ready for use.

8.2 The Sedlbauer CAPI 2.0 RAS driver under Windows 2000

The Capi 2.0 RAS driver for Windows 2000 enables you to access the Internet e. g. with the Microsoft Internet Explorer. The driver also allows you to connect to Windows NT or Windows 95/98/ME/2000 computers by means of RAS (Remote Access Services) or Dial-Up Networking.

8.2.1 Functions

- Supports WAN functions (Wide Area Networking) in Windows 2000
- Connects to Internet providers via windows 2000 Dial-Up Networking
- Supports Multilink PPP connections for channel bundling to double the transmission capacity (up to 128kbps)
- RAS (Remote Access Services) for connections to Windows 95/98/2000 and Windows NT computers
- Subscriber numbers can be specified for incoming and outgoing calls
- Compatible with non-proprietary remote terminals

8.2.2 Installing the CAPI 2.0 RAS driver under Windows 2000

For the above mentioned functions the Capi 2.0 RAS driver has to be installed. Therefore you need the Sedlbauer CD-ROM and the Windows 2000 CD:

For installation please proceed as follows:

- Insert the Sedlbauer CD into the right drive. Now the installation program will be started.
- Click "**Language**" and <Next>
- In the next dialog box mark "**CAPI-RAS-driver**" and confirm with <Install>
- Now, the hardware-assistant is started and is leading you through the installation of the new Hardware
- Select „Next“, click „Add/Troubleshoot a device“ and „Next“
- In the next dialog box click „Add a new device“ and confirm with „Next“ (see figure 8.2.2.1)

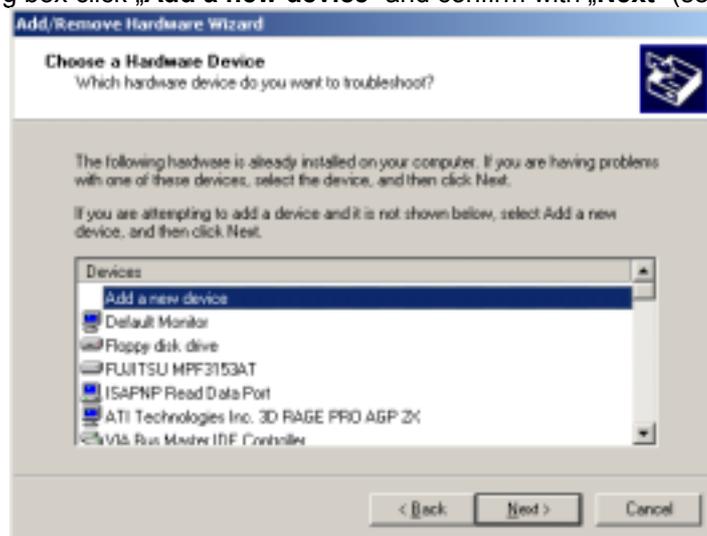


Figure 8.2.2.1

- Mark „**No, I want to select the hardware from a list**“ and confirm with „**Next**“.
- In the next dialog box select the hardware type „**Network adapters**“ and click „**Next**“ (see figure 8.2.2.2).

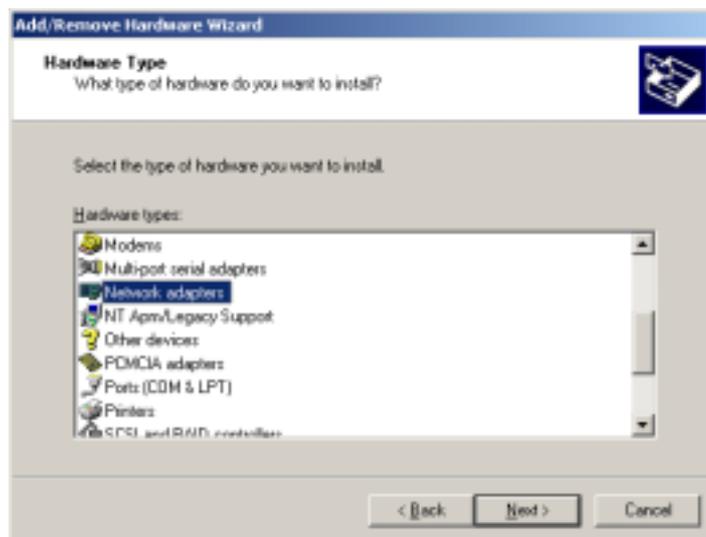


Figure 8.2.2.2

- Click <**Have Disk...**>.
- Now enter the path for the driver files of Sedlbauer CD-ROM as follows:
Example of installation from CD-ROM drive E:
E:\CAPIRAS\WIN2000



Figure 8.2.2.3

- Click „**Capi 2.0 RAS driver**“ and confirm with „**Next**“

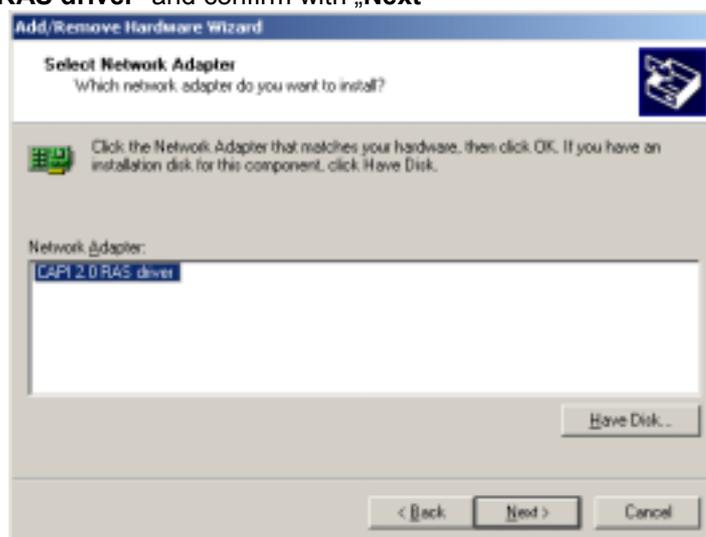


Figure 8.2.2.4

- The following dialog box is not needed for the installation of the CAPI 2.0 RAS driver (note on

digital signature). You can confirm it with <YES>.

- Now, select the type of the ISDN transmission or the D-channel-protocol used by your telephone company (see figure 8.2.2.5).

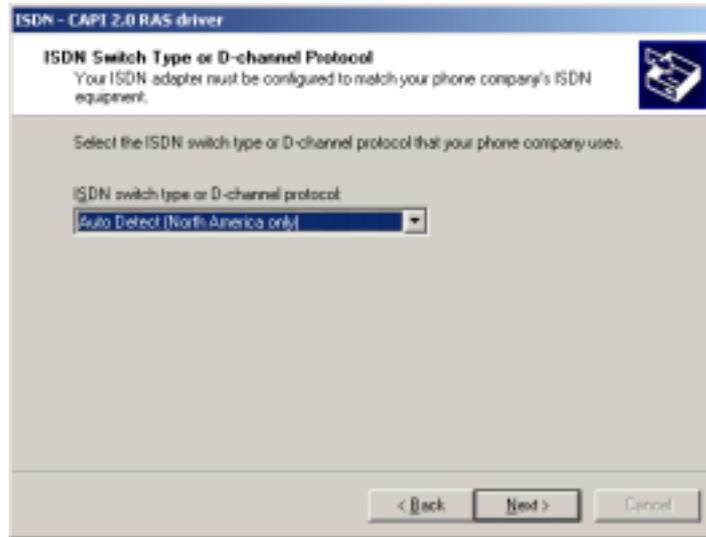


Figure 8.2.2.5

- Confirm with <Next>



Figure 8.2.2.6

Note:

You can modify the above settings at any time in the device manager. For further information please refer to chapter 8.2.3 – Configuration of call numbers for RAS.

The Sedlbauer Capi 2.0 RAS driver is now installed!

8.2.3 Configuration of call numbers for RAS

With the following settings you can enter the call numbers for the CAPIRAS-Lines of the Sedlbauer Capi 2.0 RAS driver. You only need these numbers if you want to use the Dial-up network. In the case of incoming calls they select the right device. In the case of outgoing calls this number is transmitted as Calling Party Number and can be used by the opposite device e.g. for identification.

- Open the „**Device Manager**“ by selecting the „**Control Panel**“ in the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol. Now select „**Hardware**“ and click the button <**Device Manager**>.
- Select „**Network adapter**“ with double-click and mark „**CAPI 2.0 RAS driver**“. Select „**Properties**“ with the right mouse button (see figure 8.2.3.1).

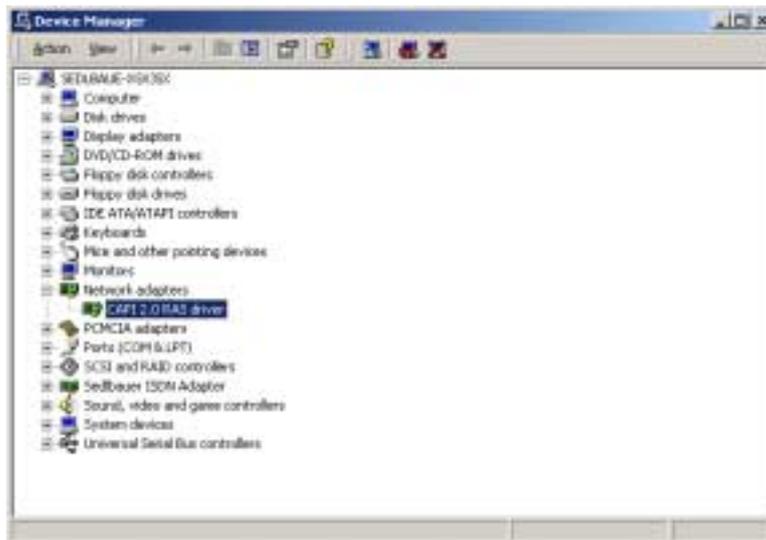


Figure 8.2.3.1

- Click „**ISDN**“ and <**Configure**> .

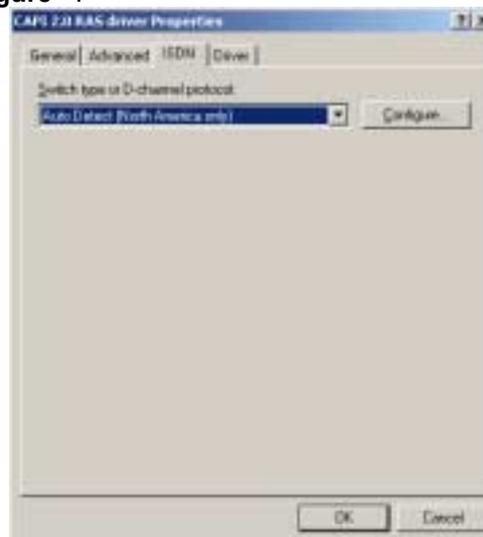


Figure 8.2.3.2

- The first call number (B-Channel 1) in this dialog box corresponds to CAPIRAS-Line 1 and the second CAPIRAS-Line 2.

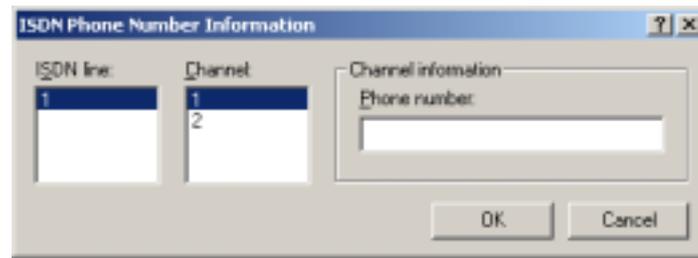


Figure 8.2.3.3

Confirm with <OK>

8.3 CAPI Driver update

You can update the driver software of your ISDN adapter as follows:

- First remove your driver as described under chapter 8.4.
- Now install the actual drivers as described under chapter 8.

8.4 Uninstalling the Driver

1. First remove the CAPI 2.0 RAS driver as follows:

- Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
- Click „**Hardware**“ in the „**System Properties**“ dialog box and open the „**Device manager**“ with double-click.
- Select „**View devices by type**“.
- As „**Network Adapter**“ select the „**CAPI 2.0 RAS driver**“ and click the <Uninstall> button.
- Click <OK> to confirm.

2. Proceed as follows to remove the CAPI driver:

- Open the „**Device manager**“ by selecting „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol.
- Click „**Hardware**“ in the „**System Properties**“ dialog box and open the „**Device manager**“ with double-click.
- Select „**View devices by type**“.
- Select „**Sedlbauer ISDN Adapter.....**“ and click the <Uninstall> button.
- Click <OK> to confirm.
- In the next dialog box „**Sedlbauer ISDN configuration**“ mark „**Sedlbauer AG ISDN configuration for...**“ and click <Uninstall>. Confirm with <OK>.
- Restart your computer.

The driver for the ISDN adapter is now removed!

9 Software installation for Windows NT

Before you start to install the software for the ISDN adapter under Windows NT4.0, please install your ISDN adapter as described in section 4.2.1, 4.2.2, 4.2.3 and 4.2.4.

Now you can start to install the software under Windows NT 4.0. Please close all-programs opened. Have ready your Windows NT 4.0 CD, you will possibly need it.

Note.

It is recommended to install the current Service Pack for NT.

9.1 Functions of the NT-Drivers

9.1.1 Functions of the CAPI-Driver

CAPI drivers form the interface between the communication application and your ISDN adapter. They provide you with access to the ISDN system and enable you to use its various services and features. Sedlbauer CAPI drivers support CAPI 2.0 for 16 bit and 32 bit applications.

You can thus choose from a variety of communication options depending on the function of the ISDN application program connected to the standardized ISDN-CAPI interface.

For example:

- Sending any type of data (text, pictures, programs) directly from one computer to another
- Sending and receiving Group 3 and 4 facsimiles (telefax)
- Connecting up to ISDN mailbox systems
- Using the computer as an automatic answering machine
- Accessing several channels simultaneously
- Evaluating call numbers and service information
- Connecting up to online services such as T-Online, AOL or CompuServe

9.1.2 Functions of the Capi 2.0 RAS Driver

The CAPI 2.0 RAS driver for Windows NT4.0 will be installed in addition to the CAPI drivers. With the CAPI 2.0 RAS driver you can use Remote Access Services (RAS) or the Dial-Up Networking to access the Internet. At the same time it also permits connections to Windows NT or Windows 95/98/ME/2000 computers.

- Support of WAN functions (Wide Area Networking) under Windows NT
- Connection to Internet providers via the Windows NT Dial-Up Networking
- Support of Multilink PPP connections for channel bundling and hence double the transmission capacity (up to 128 kbps)
- Remote Access Services (RAS) for connections to Windows 95/98/ME/2000 and Windows NT computers
- Connection to different terminals at the same time (Workstation NT 4.0 – only outgoing calls)
- Specifiable call number for incoming and outgoing calls
- Compatibility with other manufacturers of remote terminal
- Simple installation and configuration

9.2 Installation with activated *plug & play* support

If *plug & play* support is installed on your PC, the Sedlbauer ISDN adapters are recognized automatically after start up the PC, that means after the hardware installation the operating system will announce that it has found a new hardware component.

You must then state how you want to install the matching driver for the new hardware. In this case mark „**Select from list**“, confirm with <OK> and select „**Adapter**“ from the following selection list.

To install your drivers for the Sedlbauer ISDN adapter, simply follow the brief instructions which now appear on the screen. The procedure is described in further detail in chapter 9.4. Please note, however, that windows NT does not provide complete *plug & play* support, i.e. IRQ and I/O address values have to be entered manually.

9.3 Installation with the setup-program of CD-ROM

The driver software for windows NT 4.0 is easy to install using the setup program on the supplied CD-ROM. With detailed help texts the setup program guides you interactively through the various installation steps.

To carry out the installation, insert the Sedlbauer CD-ROM in the drive. Provided the autorun function is not deactivated on your PC, the setup program will start up automatically. If it is deactivated, please start the file **SETUP.EXE** directly from the CD directory.

After selecting a language and adapter you can install the CAPI drivers and the Capi 2.0 RAS driver (see figure9.3.1). You need both drivers to operate your ISDN adapter.

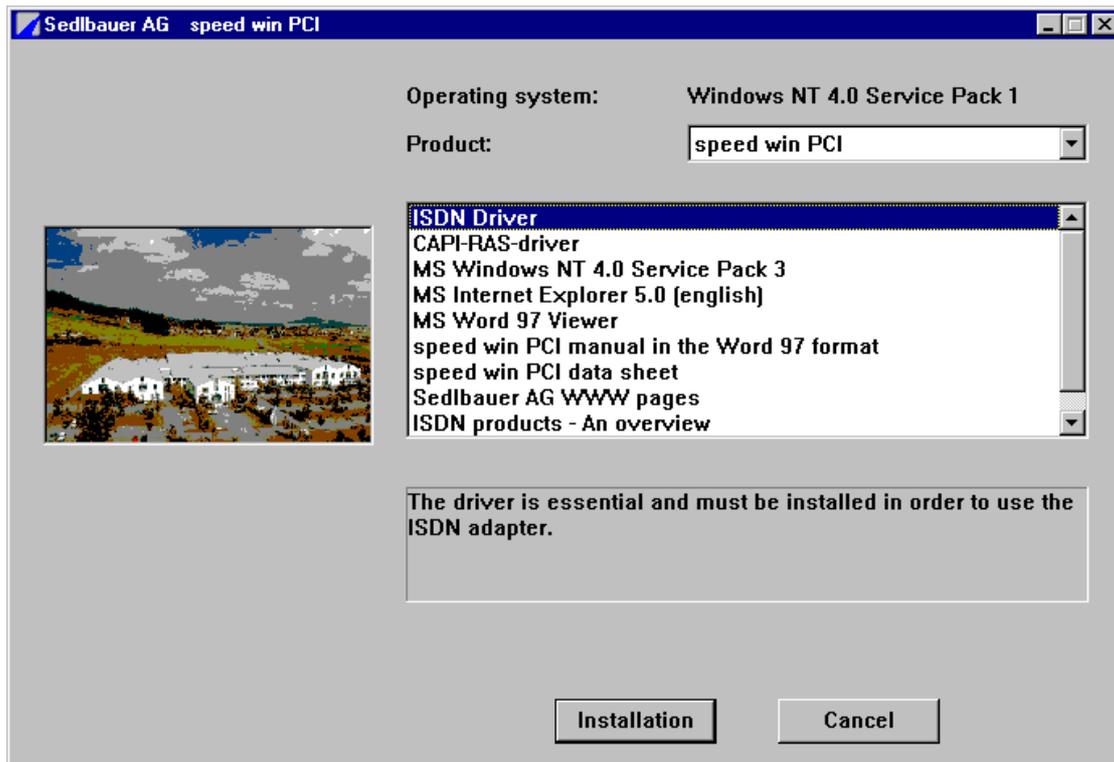


Figure 9.3.1

Proceed with the installation by following the on-screen instructions and reading the corresponding Help messages. For additional help or when performing a manual installation or update, proceed as described in section 9.4.

If a network is not installed on your computer you will also need your **Windows NT CD** to install the **Miniport driver** from Sedlbauer AG.

Note:

When installing the CAPI-driver please take into consideration that you choose the ISDN adapter you installed by selecting it with the mouse. Please click <features> then.

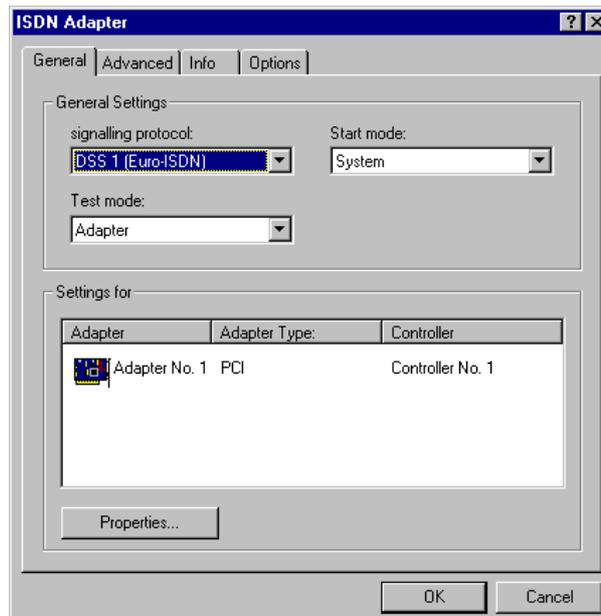


Figure 9.3.2

In the following window please select the type of the adapter and confirm with <OK>.

9.4 Manual installation

9.4.1 Installation of the CAPI-Driver

You can install the CAPI drivers manually rather than use the setup program on the CD-ROM

- Click „**Start/Run**“ in the windows desktop.
- Please enter the path for installation of the ISDN adapter as follows:
Example for installation from CD-ROM-drive E:
E:\WIN_NT\setup.exe
- In the next dialog box please select the language. Confirm with <Next> and click <Complete>

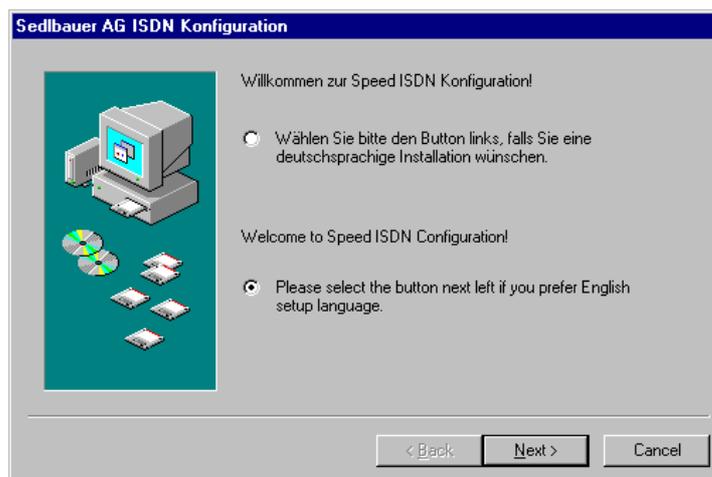


Figure 9.4.1.1

- In the next dialog box you can select the components you wish to install.

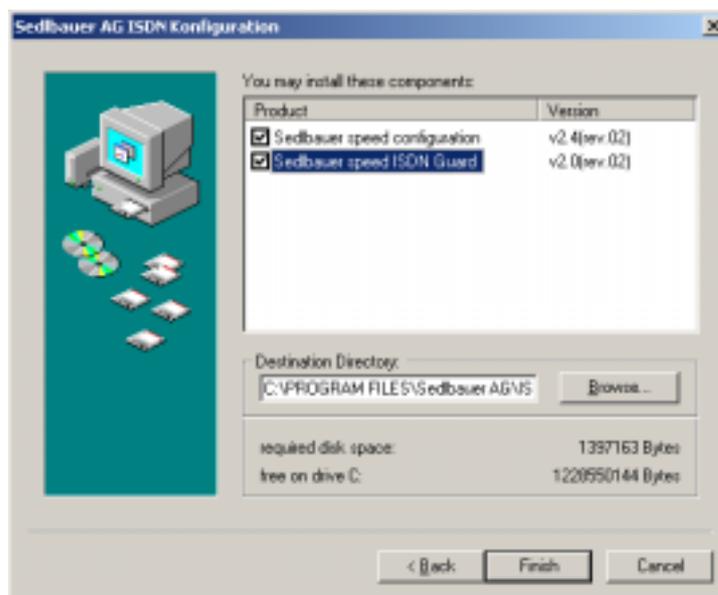


Figure 9.4.1.2

- Mark “**speed ISDN configuration**” and “**speed ISDN Guard**” if needed (for notes on the ISDN guard see chapter 10).
- Confirm with **<Finish>**
- Confirm the next message “**Installation successfully completed**” with **<OK>**.
- When you click the button **<Properties>** you can select the **type of your adapter** in the following window.

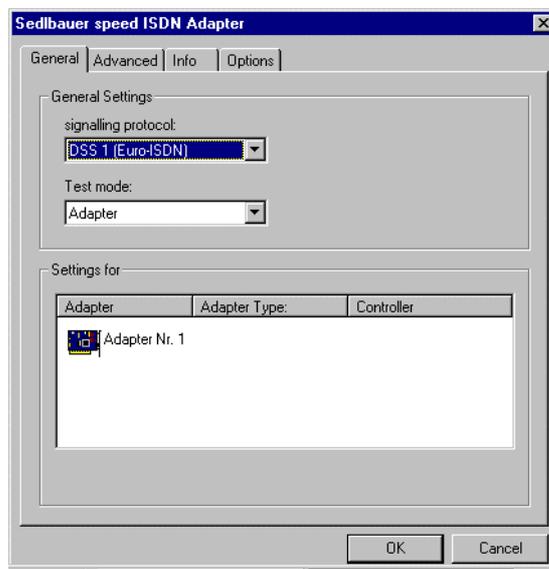


Figure 9.4.1.3

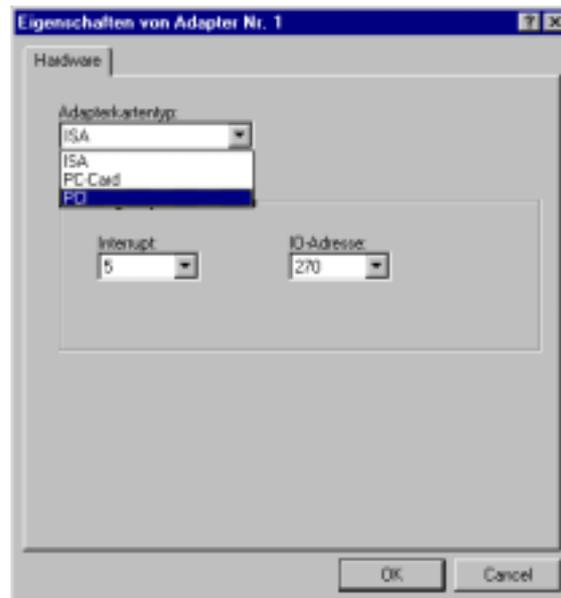


Figure 9.4.1.4

Caution:

Please check whether the interrupt as well as the I/O address displayed on your computer are assigned. If so, please try other unassigned values. Under “**Start/Programs/Windows NT diagnostics**”, (register card “**Resources**”) the values can be displayed.

- Confirm with <OK>
- Click <Yes> to restart your computer now.

After restart of Windows NT 4.0 the ISDN adapter is ready for operation.

Caution:

Check whether the PCMCIA drive and the ISDN adapter have the same IRQ and I/O-address. Select “**Start/Settings/System Control**” and click the icon “**PC-card (PCMCIA)**” then. Now mark your ISDN adapter and click <Properties>. When you click “**Resources**” you will see the IRQ and the I/O-address. These settings must conform to those of the installed ISDN adapter.

9.4.2 Installing the Capi 2.0 RAS driver

Note

Should you have installed no network board or the Windows NT 4.0 network support please start installation as described in chapter 9.4.2.1. Otherwise please start as described from chapter 9.4.2.2.

9.4.2.1 Simultaneous installation of the Sedlbauer Capi 2.0 RAS driver and the Windows NT network support

- Click with the right-hand mouse button „**Network Neighbourhood**“ on your desktop, select n the following context menu „**Properties**“ to open the „**Network**“ applet.
- The following window appears:

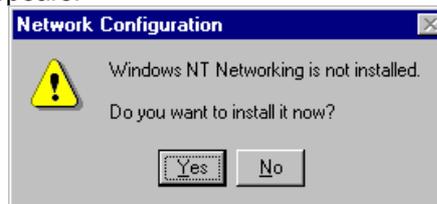


Figure 9.4.2.1.1

- Click <**Yes**> to install the Windows NT network support.
- In the following window select „**Connect to network directly**“

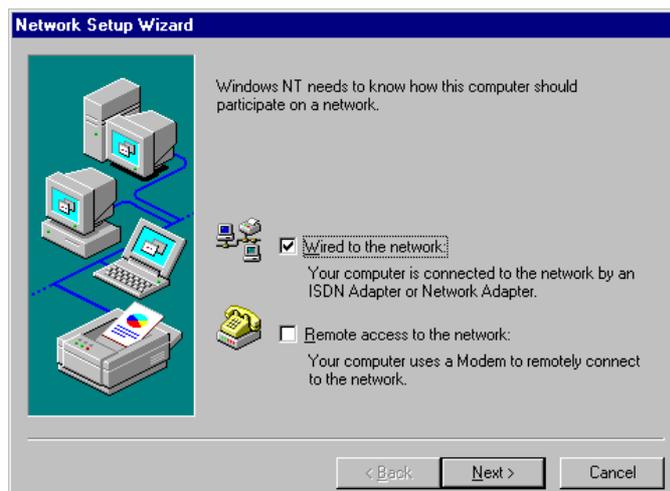


Figure 9.4.2.1.2

- Click <**Select from list**>
- Insert the installation CD-ROM in the corresponding driver
- Click <**Have Disk**> now.
- Now you will be asked to enter the path of the drivers on the installation CD-ROM.

Example of installation from CD-ROM drive E:

E:\CAPIRAS\WINNT\ENG

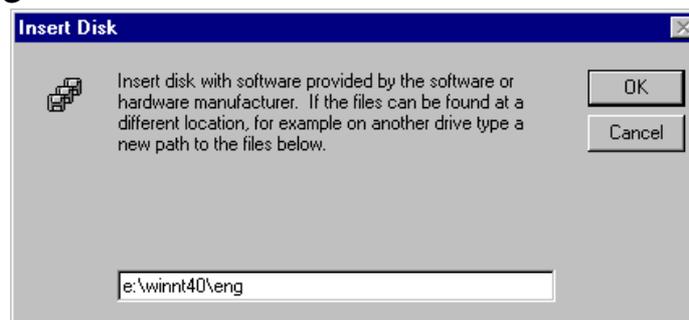


Figure 9.4.2.1.3

- Confirm with **<OK>**.



Figure 9.4.2.1.4

- Click **<OK>** to install the supplied CAPI driver.
- Click **<Next>**.
- In the following applet select the network protocol for the internet access via the dial-up network. Chapter 9.4.6 shows an example of the configuration for an internet access via the „dial-up network“

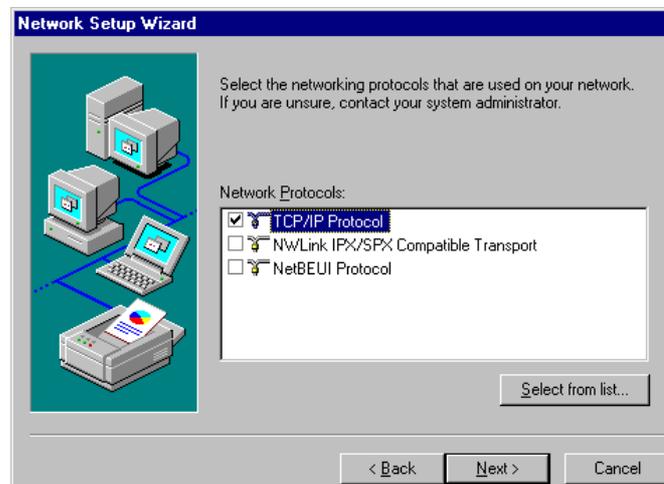


Figure 9.4.2.1.5

- Click **<Next>**

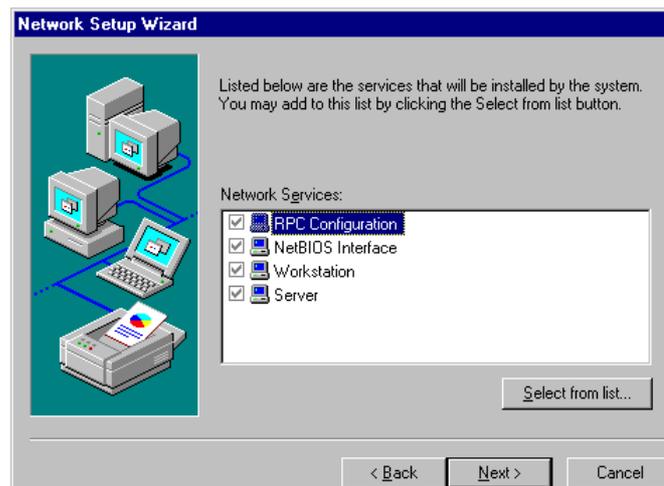


Figure 9.4.2.1.6

- Click **<Next>** in order to adopt the displayed settings.
- In the following window you will be asked to enter the path for the installation of the Windows NT drivers

Example of installation from CD-ROM drive E:**E:\i386**

- Confirm with <Continue>.

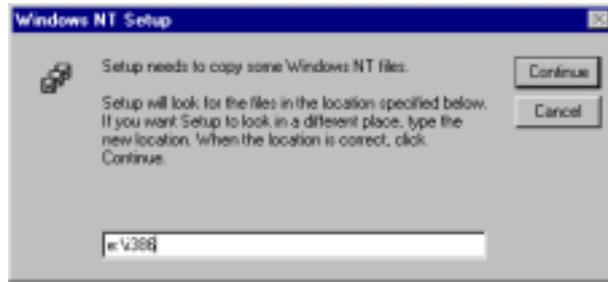


Figure 9.4.2.1.7

- If figure 9.4.2.1.8 appears insert Sedlbauer CD-ROM into the corresponding drive and click <OK>.



Figure 9.4.2.1.8

- Follow the instructions now.
- The installation assistant for CAPI 2.0 drivers will now be started.



Figure 9.4.2.1.9

- Click <Next>
- **Continue installation from chapter 9.4.2.3**

9.4.2.2 Installing the Sedlbauer Capi 2.0 RAS driver with activated network support

Note:

Have ready your Sedlbauer as well as your Windows NT CD.

- Click with the right-hand mouse button „**Network Neighbourhood**“ on your desktop, select in the following context menu „**Properties**“ to open the „**Network**“ applet.
- Select <**Add...**> from the „**Adapters**“ register to install a new adapter.
- Insert the installation CD-ROM in the corresponding drive.
- In the following window click on <**Have Disk**>.
- In the next window you will be asked for the path of the drivers on the installation CD-ROM.

Example for installation from CD-ROM drive E:
E:\CAPIRAS\WINNT\ENG

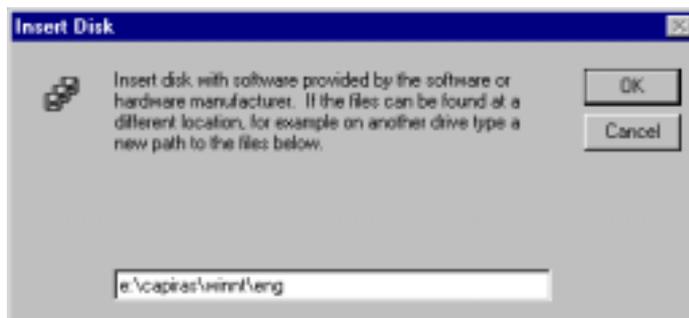


Figure 9.4.2.2.1

- Confirm with <**OK**>

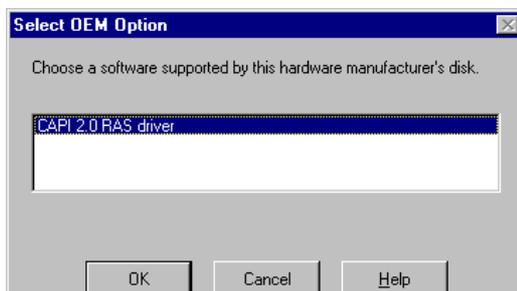


Figure 9.4.2.2.2

- Click <**OK**> to install the supplied driver.
- In the following window click <**Next**>
- Continue installation as described in chapter 9.4.2.3

9.4.2.3 Part 2 – Installing the Capi 2.0 RAS driver

- The following dialog box shows the name of the CAPI 2.0 device and the controller number



Figure 9.4.2.3.1

- Confirm with „**Next**“
- In the next window select the channels you use (see Figure 9.4.2.3.2) and confirm with **<Next>**.

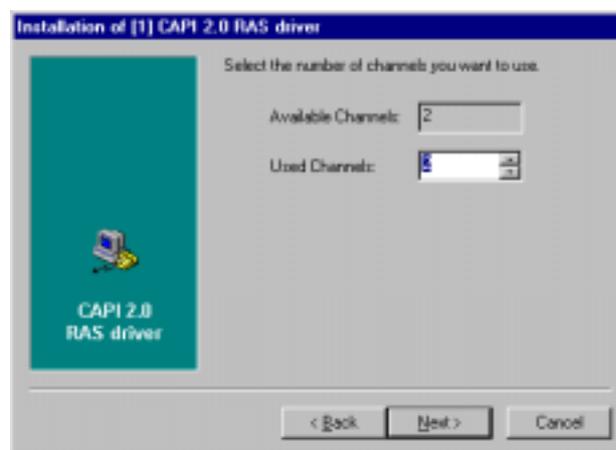


Figure 9.4.2.3.2

- In the following dialog box you can specify the call number.

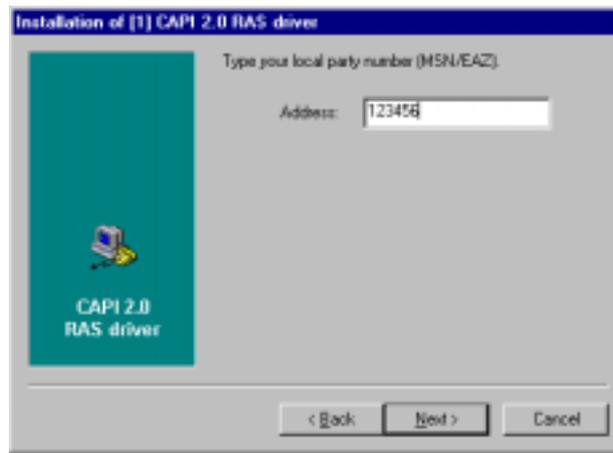


Figure 9.4.2.3.3

- Confirm with **<Next>** and **<Finish>**

Configuration is finished now. You can change your configuration as described in chapter 9.4.3.

- Should the following message appear (see figure 9.4.2.3.4) enter the following path and insert your Windows NT CD in the corresponding drive

Example of installation from CD-ROM drive E:
E:\i386

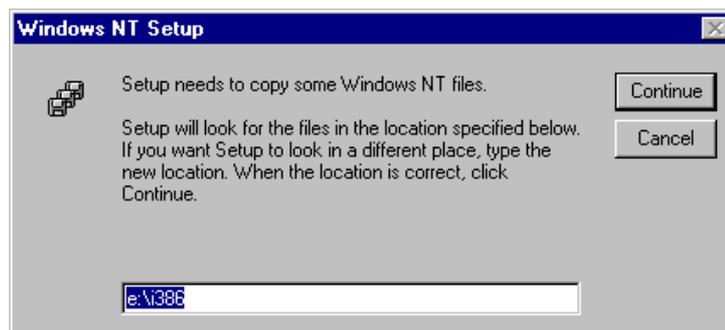


Figure 9.4.2.3.4

- Confirm with **<Continue>**
- Should „**Unable to open the file E:\capiras.sys**“ appear, insert Sedlbauer CD and confirm with **<Retry>**. Continue to follow the instructions.
- In the following window you are asked to add the two RAS capable devices.



Figure 9.4.2.3.5

- Confirm with **<OK>**

- The second RAS capable device ISDN2-Capiras has to be added in the next window via **<Add>** (see figure 9.4.2.3.6).

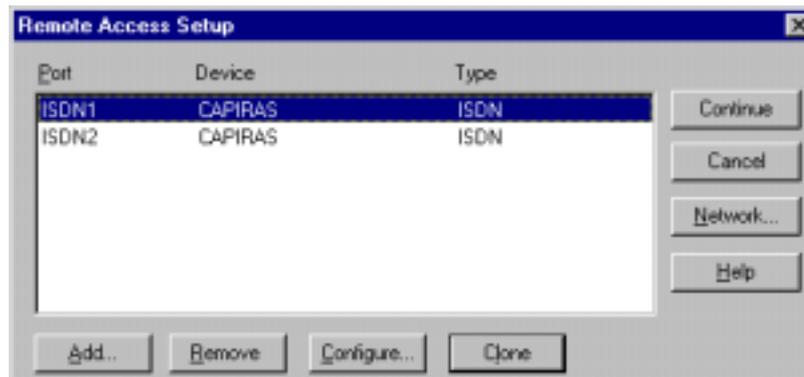


Figure 9.4.2.3.6

- With **<Configure>** you can specify whether the specific channel is to be used for incoming and/or outgoing connections.

Note:

Under Windows NT Workstation it is not possible to specify incoming calls for two RAS-compatible devices.

- Use the **<Network...>** button in „Remote Access setup“ to move to „Network configuration“ (see figure 9.4.2.3.7), which you can adapt to meet your individual wishes. Then confirm with **<OK>**.

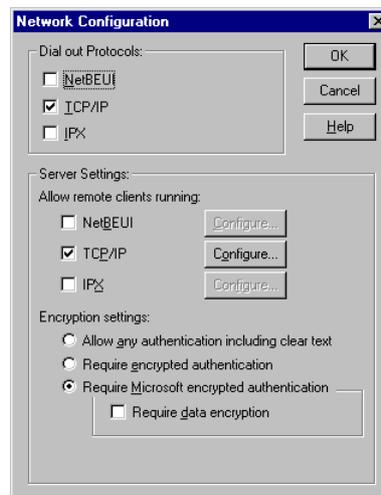


Figure 9.4.2.3.7

- Now you will be asked to insert the Windows NT CD into the corresponding drive. Enter the following path:

Example for installation from CD-ROM drive E:

E:\i386

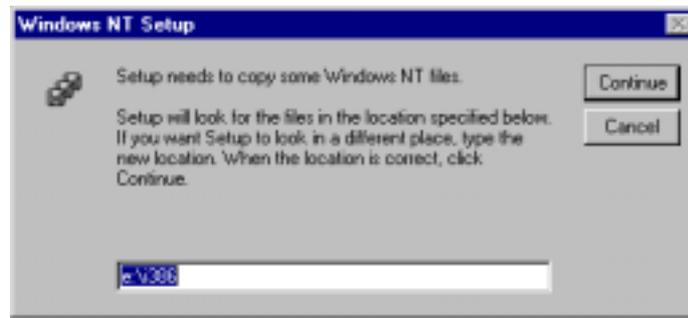


Figure 9.4.2.3.8

- Confirm with <Continue> and follow the instructions.

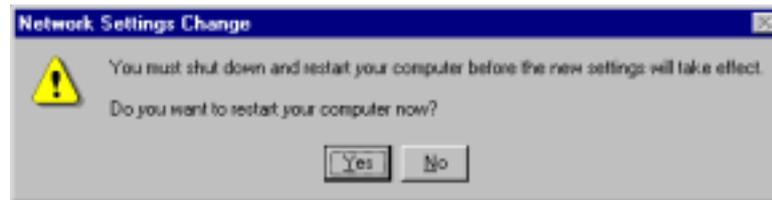


Figure 9.4.2.3.9

Confirm the above dialog box with <Yes> to restart the computer.

After restart you can check in the „**Device manager**“ - it is started by selecting the „**Control Panel**“ from the „**Start/Settings**“ menu and double-clicking the „**System**“ symbol – whether the CAPI-drivers were successfully installed (Figure 9.4.2.3.10).

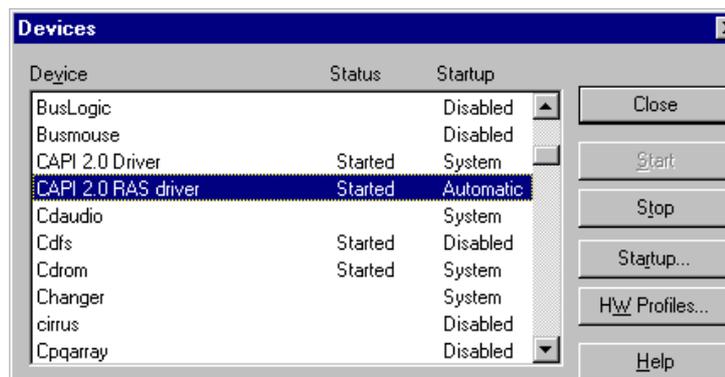


Figure 9.4.2.3.10

Note:

Plug & play is only partially supported by Windows NT. Consequently, the IRQs and I/O addresses displayed under „**Start/Programs/Administrative Tools (Common)/Windows-NT Diagnostics**“ (**register card** „**Resources**“) are not always complete. It is possible, therefore, for a value to be assigned even though it is not marked in the diagnosis as being used.

Hence if you fail to start the driver, please try other unassigned resources.

9.4.3 Configuration

9.4.3.1 Changing the resource settings

The resource settings of the ISDN adapter can be changed subsequently if e.g. some other hardware component needs its resources.

Note:

For the adapter „speed win PCI“ the I/O address and the IRQ's are automatically set by the operating system. You will only get a window informing you about the automatic setting, but cannot change the resource settings.

- Start the configuration program as follows:
Select „**Start/Programs/Sedlbauer ISDN/Configuration**“ in the **Windows Desktop**.
The following window appears:

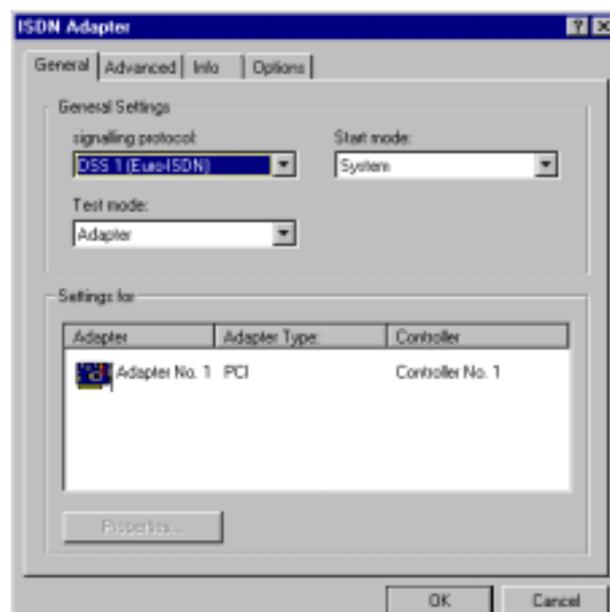


Figure 9.4.3.1.1

Note to Figure 9.4.3.1.1

Register Card „General“

Signalling protocol: This field is to fix the transmission protocol (DSS1).

Start mode: The time for the driver start can be fixed.
Boot: The driver is started during different times of booting.
 System (Settings)
 Automatic
 On demand: Driver can be started by selecting the „**Device Manager**“ in the „**Control Panel**“.
 Disabled: Driver will not be started.

Test mode: You can choose the test mode during driver start. The access to the register of D- and B-channel-controller, Chiptiming and the interrupt will always be checked. When „**Adapter+S₀**“ is selected an additional D-channel-test during initialisation of the driver will be started for the following elements: Info 4, TEI-Assignment as well as activation and deactivation of D-channel shift 2.

Should one of the tests fail a message appears and the driver will not be started.
Note: Should the D-channel-test fail please contact your network operator.

- After marking the adapter in the above window with the mouse click **<Properties>**.
- You can now use the selection list to change your requirements for the particular **Adapter type** and **Resource type** (Interrupt and I/O range).



Figure 9.4.3.1.2

Register card „Advanced“:

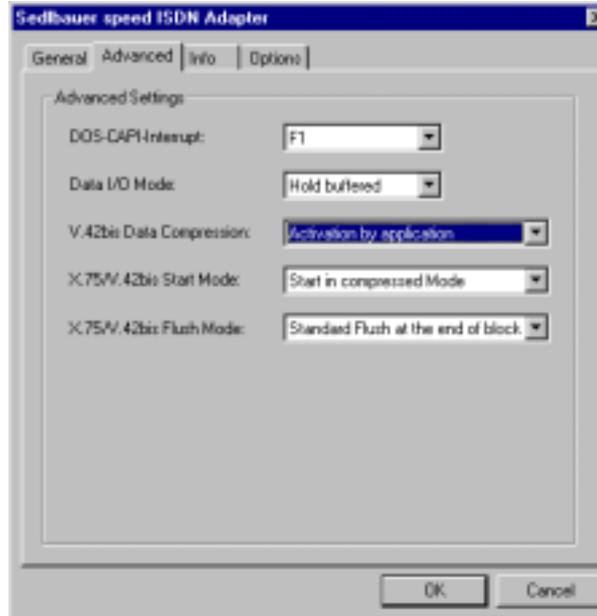


Figure 9.4.3.1.3

Note (see figure 9.4.3.1.3)

Term	Explanation
DOS-CAPI-Interrupt	The DOS-CAPI-Interrupt, a Software-Interrupt controls the communication between the DOS-application and the Windows-CAPI. Special applications can expect a different value. Valid values are for example F1 or F2 (in hex).
Data I/O Mode	Data of other drivers or applications can be stored temporarily i.e. an overwriting before handling is not possible.
V.42bis data compression	V.42bis is a standard compression in telecommunication. In June 1998 the specification for the CAPI 2.0-implementation of V.42bis was changed. Unfortunately the two versions are not compatible. The drivers for the Sedlbauer ISDN-adapter use the new standard as default setting from driver version 2.2 rev. 0.5. Only applications requiring a V.42bis extended protocol via CAPI can get a connection to V.42bis if the opposite terminal is compatible.
<u>Activate by application:</u>	
<u>Disabled:</u>	The controller behaves as if no V.42bis would be available.
<u>Activated with X.75/V.120:</u>	All applications using the X.75 and V.120 protocols under CAPI V2.0 get connection to V.42bis when the opposite terminal is compatible.
X.75/V.42bis Start mode:	
<u>Start in uncompressed Mode:</u>	Corresponds to the standard from 7. June 1998
<u>Start in compressed Mode:</u>	Corresponds to the standard until 7. June 1998
X.75/V.42bis Flush mode:	
<u>Standard flushing Modus:</u>	Corresponds to the standard from 7. June 1998
<u>Special flushing Modus:</u>	Corresponds to the standard until 7. June 1998

Register card „Info“:

The register card „Info“ contains besides data regarding copyright, program and the address of the producer the opportunity to check the directory & version of the drivers.
When you click „**driver versions**“ a short list of all drivers installed or to be installed appears.

Register card „Options“

The register card „Options“ enables you to choose the language. In addition, the initial settings of the driver can be re-established with the button <Set Default...>.

After you confirmed this configuration with <OK> you will be asked for restart. Confirm with <Yes> to take over these amendments in the system.

Your ISDN-Adapter is ready for use after Windows NT4.0 is restarted!

9.4.3.2 Configuration of call numbers for RAS

In the case of RAS connections via Sedlbauer CAPI 2.0 driver, a call number for incoming and outgoing calls can be configured for each device. The procedure is as follows:

- Start the „**Network Dialog Window**“ by clicking the right-hand mouse button on the „**Network Neighbourhood**“ icon of your Windows desktop and selecting the option <**Properties**> in the following context menu.
- In the register „**Adapter**“ select the line „**CAPI 2.0 RAS driver**“ and then click <**Properties**>. The window „**Properties of CAPI 2.0 RAS driver**“ is then opened (see figure 9.4.3.2.1).

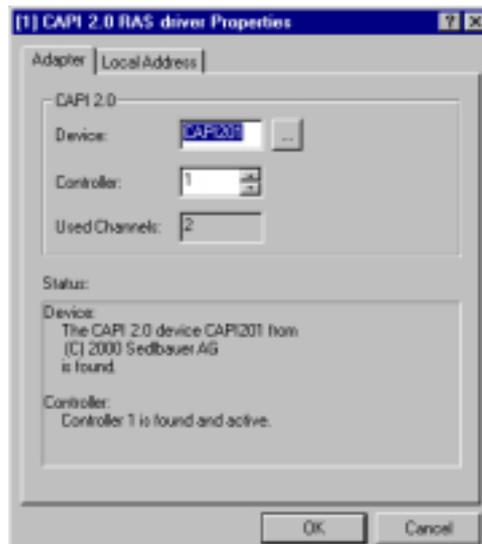


Figure 9.4.3.2.1

- Select the register card „**local call number**“. You will get then the following window: (see figure 9.4.3.2.2).

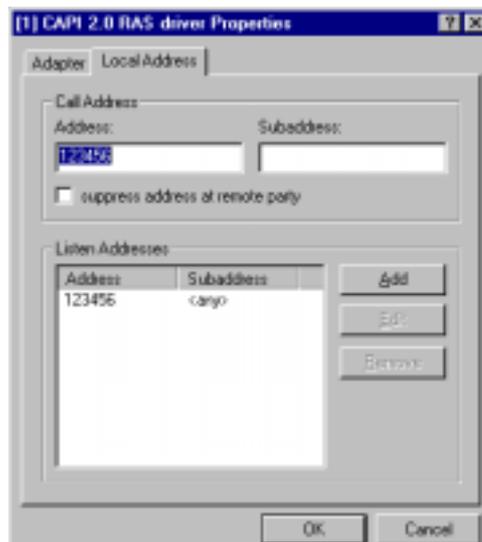


Figure 9.4.3.2.2

- Enter your call number. If it is applied for the service feature, a „sub address“ can be entered in this box. Should you wish your call number not to be shown to the opposite terminal activate „**Do not show to opposite terminal**“.
With the button <Add> you can enter more call numbers and sub addresses.
With the button <Process> you can change the call numbers for incoming calls when they are marked with the mouse.
With the button <Cancel> you can cancel marked call numbers.
- Confirm with <OK>.
- Click <Close> to leave the register „**Adapter**“.
- Confirm the prompt for restarting the computer by clicking <Yes>.

9.4.4 Driver update

You can update the driver software of your ISDN adapter as follows:

- Start the dialog box „**Network**“ by clicking with the right mouse button „**Network environment**“ of your Windows desktop and selecting <Properties> in the following menu. When you click „**Adapter**“ all adapters installed appear.
- Select „**CAPI 2.0 RAS driver**“ and confirm with „**Update**“.
- In the dialog box „**Windows NT-Setup**“ please enter the drive and the path of the file **OEMSETUP.INF**

Example for installation from CD-ROM drive E
E:\capi2ras\winnt\eng

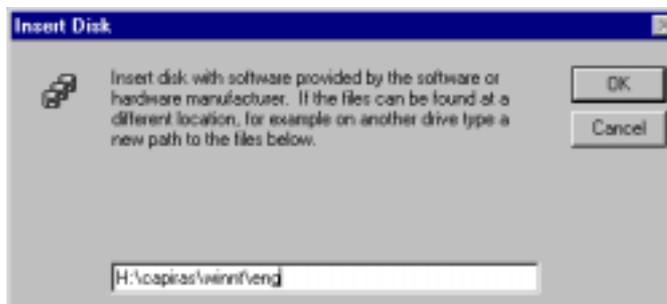


Figure 9.4.4.1

- Confirm with <Next> to proceed with installation.

Note:

Close the „**Network**“-applet of Windows NT 4.0 and confirm the request for restart with <YES> so that your ISDN adapter is ready for use.

After restart of Windows NT 4.0 the ISDN adapter with the actual driver is ready for use!

9.4.5 Uninstalling the Driver software

1. First remove the CAPI 2.0 RAS driver as follows:

- Select „**Network environment**“ with the right mouse button from your Windows desktop and click „**Properties**“.
- Now select the „**Adapter**“ register card in the dialog box „**Network**“.
- Select the „**CAPI 2.0 RAS driver**“ and press the <**Remove**> button.
- Click <**OK**> to confirm.
- Click the <**Close**> button in the „**Adapter**“ register card.
- Confirm the prompt for restart with <**Yes**>.

2. Proceed as follows to remove the CAPI driver:

- Select the „**Control Panel**“ from the „**Start/Settings**“ menu of your Windows NT 4.0 desktop.
- Double-click on the icon „**Software**“

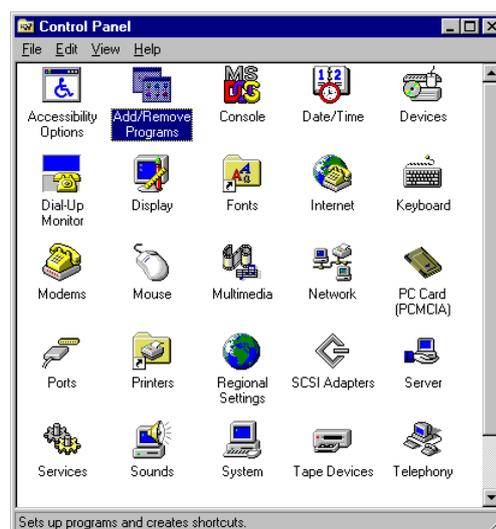


Figure 9.4.5.1

- Mark „**Sedlbauer AG ISDN configuration for Win NT 4.0**“ and select <**Add/Remove**> button.



Figure 9.4.5.2

- Mark: **Sedlbauer AG ISDN Configuration** and select **<Add/Remove>**.

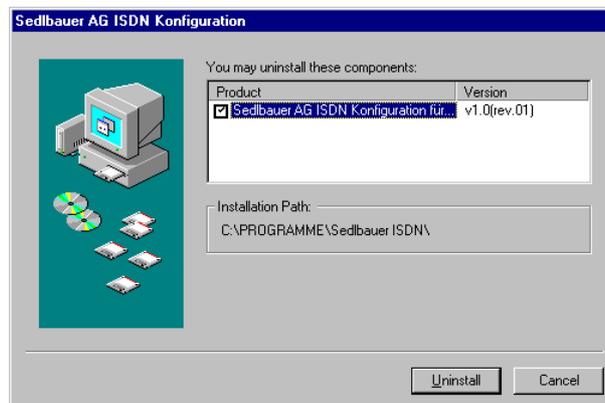


Figure 9.4.5.3

- Confirm with **<OK>**.
- Confirm the following prompt with **<Yes>**.

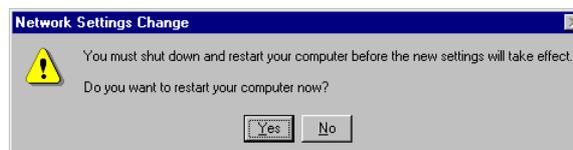


Figure 9.4.5.4

The CAPI driver for the ISDN adapter is now removed!

9.4.6 Internet access via the Dial-Up Network using T-Online as example

The Windows NT Dial-Up Network enables you to set up connections to an Internet service provider. The necessary steps for obtaining access to the Internet are described below using the example of T-Online via PPP. To log-in with a different Internet service provider, please follow his recommendations and change the parameters accordingly.

To reach T-Online via PPP you must first set up a new connection in the „**Dial-Up Networking**“. Click on „**Start/programs/accessories**“. And then double-click on <New> to obtain the following display:



Figure 9.4.6.1

- Insert a name for the new entry and click on <Next>.
- Adopt the same settings as in figure 9.4.6.2 and click on <Next>.

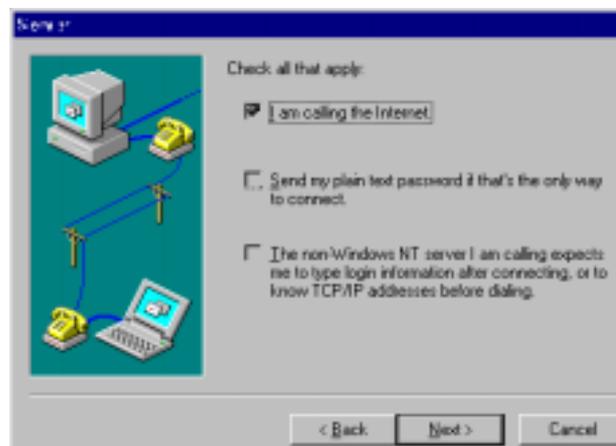


Figure 9.4.6.2

- In the following window select one of the two CAPIRAS-Lines (x) as modem and click on <Next>.

Note:

If there is only one of the two lines to choose from, please check in your application whether both lines are configured for outgoing connections.

- In the next window enter the call number 0191011, click on <Next> and then on <Finish> to save this phone book entry.

- This new connection now needs to be configured. To do so, select the entry in question from the phone book and click on **<Continue>**. In the following menu select „**Edit entry and modem properties...**“ to move to the following window:

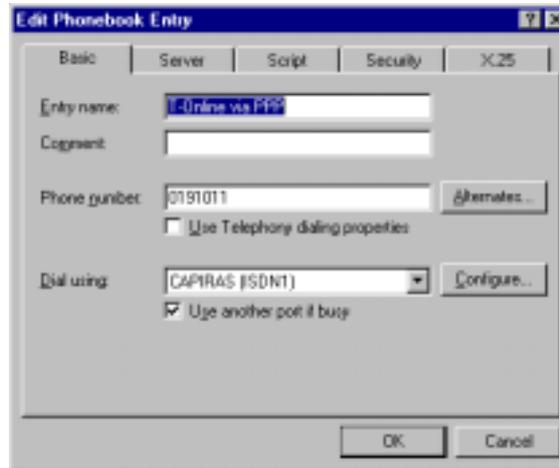


Figure 9.4.6.3

Now switch to the „**Server**“ register card and make the same entries as shown in figure 9.4.6.4.

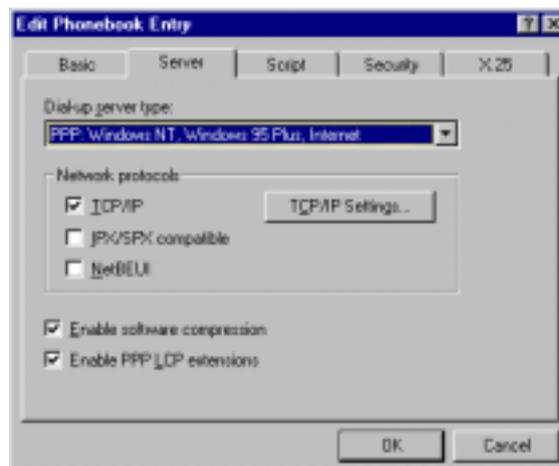


Figure 9.4.6.4

- To make further settings, please click on the **<TCP/IP Settings>** button and configure this protocol in accordance with the default values shown below.

Note:

T-Online works with IP addresses assigned by the server; any IP addresses specified here are therefore unacceptable. The name server address is supplied when the connection is set up; there is also no need for it to be specified.



Figure 9.4.6.5

Confirm both windows with <OK> in order to return to the „Dial-Up Networking“.

Note:

Should the assistant for new telephone book entries not be started automatically, a new telephone book entry will immediately be made up, which must then be configured according to figure 9.4.6.3 ff. Please check subsequently if the option „Accept any authentication including clear text“ is activated in the registry „Security“.

The new connection is now fully configured apart from the actual T-Online access data, which you will find in T-Online's written confirmation of order. These data have to be entered once when you set up your first connection.

Click on <Dial> in the „Dial-Up Networking“ to move to the dialog window „Connect to T-Online via PPP“.

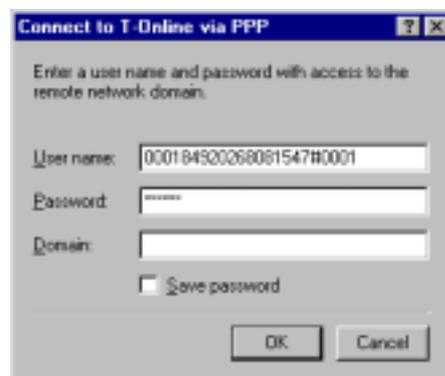


Figure 9.4.6.6

The **User name** is made up of the following components:

- **Terminal identification code** (here: 000184920268)
- **T-Online no.** (phone number, here: 08154711)
- **Co-user number** (here: 0001); the symbol # has to be used to separate off the co-user number if the phone number has fewer than 12 digits
- The **Password** is your personal code word for your T-Online connection. So as not to have to reenter the code word each time you set up a new connection you can save the code word in encrypted form in a system file by selecting „Save password“.
- Now click on <Dial> in order to create the connection to the Internet Server.

The following icon in the task bar shows an existing dial-up networking connection:

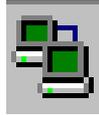


Figure 9.4.6.7

If you start your Internet Browser now, such as e.g. the Microsoft Internet Explorer, you can use internet services like the World Wide Web via the existing connection.

In order to disconnect the connection again, click on the icon in the task bar with the right-hand mouse button and select the connection to be terminated under the point „**Disconnect**“.

9.4.7 General information

Note:

If you have any problems requiring help from our Technical Support, please go through the following steps first in order to obtain essential details of the driver version and resource assignment being used with your ISDN adapter:

- Start the „**Network**“ Dialog Window by clicking the right-hand mouse button on the „**Network Neighbourhood**“ icon of your windows desktop and selecting the option <**Properties**> in the following context menu.
- Now select „**Adapter**“ register card; all the installed network adapters are displayed.
- Mark „**Sedlbauer ISDN-Adapter...**“ and click on the <**Properties**> button to obtain the resource settings. (For speed win PCI the resources are not displayed as they are assigned by the operating system.)

To find out your driver version choose “**Start/Programs/Sedlbauer ISDN Configuration**” on the Windowsdesktop.

Now change into the register “**Info**” and click on the button <**driver versions**>. Now all driver-files and directories are listed.

10 ISDN-Guard

The ISDN-guard will be installed together with the CAPI driver for the ISDN adapter. This program ensures that all connections performed with the ISDN adapter will be logged in a display window.

The following data will be recorded and displayed (see also figure 10.1):

Date, time, duration of connections

Direction of connections (incoming or outgoing)

Connection cost/tariff units

ISDN service

Own telephone number as well as number of connection partner

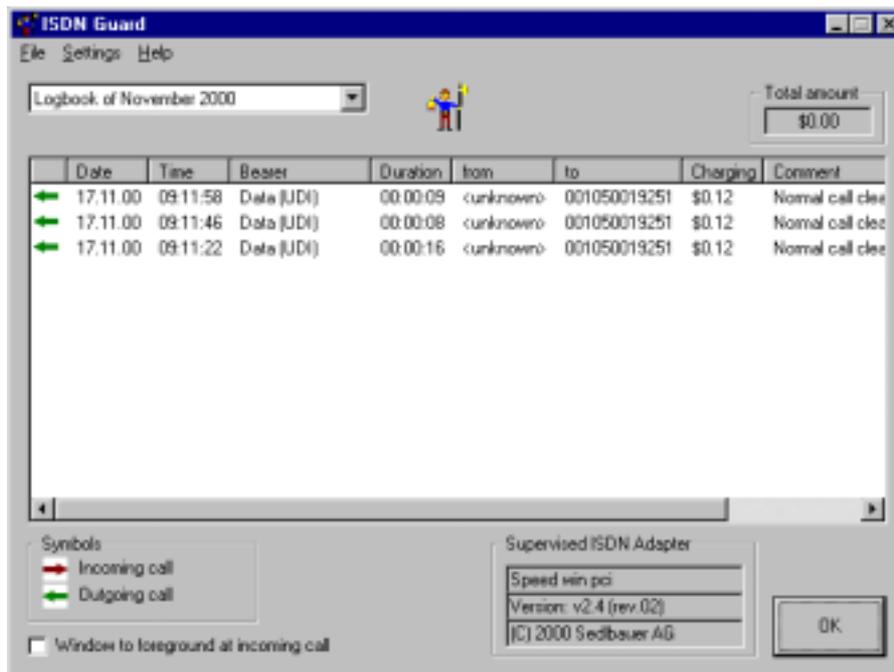


Figure 10.1

Every month, a new file will be automatically created, to save the relevant data. Files of past months can be recalled comfortably or manipulated with spread sheet programs.

An icon in the task bar will show, by means of flags, the status of both Adapter ISDN channels. A red flag will indicate an active connection on the relevant ISDN channel.

When an outgoing connection cannot be established through the ISDN adapter, the ISDN-Guard program reports the reason: "Called number is busy" or "No connection under this number"... .

When a connection cannot take place, you will receive feedback to help you solve the problem.

The ISDN-Guard operates as a call monitor for all incoming calls, i.e. all incoming calls on the ISDN ports will be logged. For this purpose it does not matter if the call is intended for the ISDN adapter or for a telephone connected at the same ISDN ports. The ISDN -Guard will inform you, who tried to reach which equipment at what time. This function will be especially useful when an analog telephone is connected by means of an a/b adapter or an ISDN telephone, without telephone logging facility.

Further filter functions are implemented in the ISDN-Guard so that undesired connections can be clocked. Limitations to outgoing calls will be defined through a list of allowed numbers, which can be called, and a list of forbidden numbers, which cannot be called. In the opposite direction, for incoming calls, the two lists are available to allow or to block incoming calls.

All display and filter functions of ISDN-Guard will operate correctly if:
The PC is on.
The ISDN adapter is connected to the ISDN-net.

Should further questions arise on the usage of ISDN-Guard, reference can be made to the online help, available and detailed for every menu point.

10.1 Uninstalling the ISDN-Guard

Please proceed as follows to remove the ISDN-Guard

Doubleclick the icon "**Software**" in the "**System Control**" menu (Start/Settings/System Control)
Mark the "**Sedlbauer speed ISDN Guard**"
Click **<Add/Remove...>**
Mark "**Sedlbauer speed ISDN Guard**"
Click **<Uninstall>**
Confirm with **<OK>**
Confirm the request for restart with **<YES>**

The ISDN-Guard is now removed.

Note:

Your data will not be removed. They are stored in the file "**Guard**".

11 Important terms

Term	Explanation
1TR6 protocol	National D channel protocol of Deutsche Telekom AG (National ISDN)
Accelerator Pack	With this program it is possible to run all Windows applications with networking capabilities via ISDN. It provides the support required by a program to initialize remote connections, e.g. with a modem.
Basic rate interface	ISDN subscriber connection with two user channels (B-channel with 64,000bit/s) and a control channel (D-channel 16,000 bit/s). A basic connection is offered as a multiple device or system connection. The interface of the BRI line (basic rate interface) to the subscriber is the S ₀ interface.
B channel	ISDN transmission channel (also called basic channel or user channel) via which the user data is transported at a transmission capacity of 64,000bit/s.
Baud	<i>Baud</i> (abbreviation: Bd) is the measurement unit of the telegraph speed (1 Bd = 1 signal element per second), i.e. the frequency of status changes in a transmission channel per second. The unit baud is not identical with the transmission speed measured in <i>bit/s</i> . The telegraph speed can only be equated with the transmission speed for signals which have only two states (e.g. ISDN).
CAPI	COMMON ISDN APPLICATION PROGRAMMING INTERFACE Software interface between hardware driver and application. Any application programs with CAPI support can be run on hardware that is supported by CAPI.
Calling Party Number	This is the caller's own number which is transmitted with the outgoing call and can be used by the remote terminal for identification purposes (in addition to the user's name and password). In case of incoming calls it is the call number of the remote terminal.
CCITT	Comité Consultatif International Télégraphique et Téléphonique. International commission for norms and standardization based in Geneva. (Newer designation ITU-T)
D-Channel	ISDN signaling channel (also called control channel) through which control information (e.g. call setup and disconnect information) is transported at a transmission rate of 16,000bit/s for basic rate lines or 64,000bit/s for primary multiplex lines.
Dial-up network	Subsystem of Windows 95, Windows 98, Windows 2000 and Windows NT with which the user can access a remote network via the telephone network (e.g. access to the internet).
DSS1 protocol	Standardized European D channel protocol (Euro-ISDN)
EAZ	Endgeräteausziffer = terminal selection digit A single digit appended to the subscriber number which is allocated to a German ISDN subscriber (1TR6) by Deutsche Telekom AG. Can be used to select devices on the S ₀ bus.
EAZ-MSN Mapping	Assignment of an MSN to an EAZ.
EFT	Euro file transfer File transfer method based on European Standard ETS 300 075.

	Application programs from different manufacturers can communicate with each other provided they support the ETS 300 075 protocol. In CAPI this protocol is defined by ISO 8208.
FOSSIL	Fido/Opus/SEAdog Standard Interface Layer. The FOSSIL driver converts modem commands into a form which is intelligible for the CAPI interface. An ISDN adapter can then be accessed like a modem by a number of communications programs (e.g. Telix, Telemate, Terminate or Crosspoint).
HDLC	High-level Data Link Control. Bit-oriented synchronous transmission control procedure for protected data transmission.
I/O address	Input/Output address A peripheral unit (e.g.: „ speed win PCI “) is selected (e.g. for data exchange) with the help of an I/O address. An I/O address is to be assigned to only one peripheral unit or there will be conflicts between devices on the computer.
Internet	The biggest computer network in the world
IRQ	Interrupt Request IRQ is a signal (or a line) used by a peripheral device (e.g. „ speed win PCI “) to trigger a hardware interrupt on the CPU. An interrupt request is used, for example, on the „ speed win PCI “ to control the exchange of data between it and the CPU. An IRQ is to be assigned to only one peripheral unit or there will be conflicts between devices on the computer.
LAN	Local Area Network. A network which is restricted to a building or the premises of a company.
Mailbox	An electronic mail system or bulletin board system (BBS). Mailboxes are automatic message systems which are used by the users as a communication forum (for exchanging messages). Program and information libraries on the most varied topics are offered in many mailboxes and free software to download is often provided.
MSN	Multiple Subscriber Number Multiple-digit subscriber numbers which are allocated to Euro-ISDN users (DSS1). In the area covered by Deutsche Telekom AG the Euro-ISDN subscriber is assigned 3 subscriber numbers.
Multilink Connection	Channel bundling, i.e. both user channels are used together in ISDN to achieve a transmission rate of 128kbit/s.
NDIS	Network Driver Interface Specification. Permits the use of several network cards in a single computer.
P&P PnP Plug & Play	With the Plug & Play standard it is possible to install a new hardware without manual configuration. The Plug & Play component of the operating system (e.g. Windows 95) or the Plug & Play manager of the BIOS adapt the I/O address and IRQ to the new hardware. No manual configuration by the user is necessary.
PPP	Point-to-Point Protocol. Standard protocol which can be used to set up network connections via ISDN or modem.
Server	In a network it is the computer which makes certain services available to other computers.

Service indicator	SIN is used to distinguish between devices which are connected to the same ISDN bus. Examples: SIN1 analog telephony SIN2 a/b services SIN4 fax group 4 SIN 7 64kbit/s data transfer SIN9 teletex or telex
TAPI	TELEPHONY APPLICATION PROGRAMMING INTERFACE. The TAPI interface in Windows 95/98/2000 and Windows NT4.0 allows Windows applications to control any communications devices via a unified interface for telephony functions.
TCP/IP	Transmission Control Protocol/Internet Protocol A protocol family originating from the Internet.
WAN	Wide Area Network. Networks which, unlike locally restricted networks, cover large distances.
X.75	Transmission protocol for telematics services in ISDN. The transmission rate of the protocol is 64kbit/s. X.75 is the standard protocol for access to mailboxes.

12 Technical support

If problems arise while you are working with the ISDN Adapter, please try the following before calling the technical support service:

From the Sedlbauer **customer server** you can download a list with frequently asked questions, where very likely you can find a solution. You can reach the customer server under the telephone number **+49-8552-960222**. To download the file you need a program supporting the eurofile transfer according to **ETS 300 075** standard. The file is called „**FAQ.TXT**“. The same file is available in Internet in the Sedlbauer Homepage (<http://www.sedlbauer-ag.de>).

If the Frequently Asked Questions list does not offer you a solution, please proceed as follows:

- **Check the installation**
- **Load one CAPI update.** The CAPI update is available under customer server telephone number **08552-960222**. To download the file you need a program supporting the eurofile transfer according to ETS 300 075 standard. The same file is available also in Internet in the Sedlbauer Homepage (<http://www.sedlbauer-ag.de>).

If the problems cannot be corrected, please fill all the possible relevant comments in the annexed form. Return the completed form to the dealer from which you bought the product or fax it directly to Sedlbauer AG (**fax no.: +49-8552-41-280**).

If you fax the form, please enlarge it to DIN A4 format for better readability.

Note:

Please understand that technical support cannot be provided, unless the problem report has been clearly stated.

In case of urgent need for action, you can also reach our technical bilingual English/German support service per telephone:

Customer hotline: +49-8552-41-204

Problem report

Date:.....

Sender:

Company name:..... Contact person:.....
 Street: Phone:
 City: FAX:
 eMail:

Source of supply:Where did you buy the Sedlbauer products?
Have you already contacted your dealer in connection with your problem? What was the result?

**Product name**

Serial number of the hardware:.....

(no support can be given if you do not quote the serial number!)**CAPI:**

CAPI version:
 Revision level:
 Date:
 File size:

Operating system in use:

..... Version:.....

System environment:

Manufacturer of PC:..... PC processor:.....
 Main memory:..... Clock frequency:.....
 BIOS Manufacturer:.....
 BIOS-ID: (i.e. 05/30/97-i430HX-2A59FG0BC-00).....
 plug & play-BIOS yes no
 plug & play-Manager yes no

What accessories does your PC have (e.g. graphic-, LAN-, video-, sound cards etc.)?

What I/O addresses and IRQs are set for these cards?

How is your PC connected to ISDN?

- Basic access Private branch exchange

Manufacturer, type of private branch exchange:

Which D channel protocol is needed on your basic access?

- DSS1 (Euro-ISDN access) 1TR6 (national ISDN access)

What other terminal devices do you have connected to your S₀ bus apart from your PC?

With what type of remote station do you want to communicate (e.g. a PC with a different manufacturer of ISDN adapter)?.....

ISDN user software:

Name of product:..... Manufacturer:..... Version:.....

Telematics service used:

- File transfer Euro file transfer Telefax Gr. 3
 Telefax Gr. 4 Answering machine Other..... BTX

Application software of the remote station.....

Description of the problem: (add a separate sheet if necessary):

Do you have problems with

- the installation connection setup
 operation other:.....

Exact description (please give details of the problem, system messages and what you have already done in an attempt to rectify the problem):

.....
.....
.....
.....

Check-list:

Have you been able to confirm that your ISDN access is working properly?

yes no

How (e.g. with a telephone)?.....

Are all the required ISDN services (**incoming and outgoing**) enabled on your base terminal or private branch exchange? yes no

Are all cables connected correctly? yes no

What software settings (interrupts etc.) have you made?

.....

Did you load CAPI before starting the application software?

yes no

If you use a private branch exchange, have you set the correct exchange prefix?

yes no

Have you made sure that the B channel protocol you are using is compatible with the remote station?

yes no

13 Overview of the available ISDN Adapters from Sedlbauer AG

External solutions:

speed star

The speed star is a PCMCIA card with dimensions of a check card, conceived for the use in portable PC's. Built as a PCMCIA card of TYPE II the speed star does not require any external line interface.

speed USB

The speed USB is an extremely small and handy external ISDN USB controller. It provides you with a cost saving option to PCMCIA or other external adapters designed for mobile use.

PC internal cards:

speed card

The speed card is a passive internal PC card for ISA bus. The adapter is the cheapest version allowing a first approach to the world of ISDN.

speed win

The speed win is an internal PC card for ISA bus, with “*plug & play*” capability. The adapter allows you to transmit any data (text, pictures, programs) on the ISDN Network.

speed win PCI

The speed win PCI is an internal PC card for PCI bus, with “*plug & play*” capability. The adapter allows you to transmit any data (text, pictures, programs) on the ISDN Network.

speed fax +

The speed fax + is an internal PC card for ISA bus, with “*plug & play*” capability integrating a digital signal processor (DSP). The DSP allows to send on the ISDN Network, not just data as text, pictures, programs, but also permits professional fax as well as modem operation.

ISDN Controller PC/104

The ISDN Controller PC/104 was developed for computer systems type PC/104.

All the above mentioned ISDN adapters are delivered with drivers supporting all the modern operating systems and with a rich supply of application software allowing you to turn your PC into a multifunctional ISDN communication center.

For more up to date information, please visit our home page :

<http://www.sedlbauer-ag.de>



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