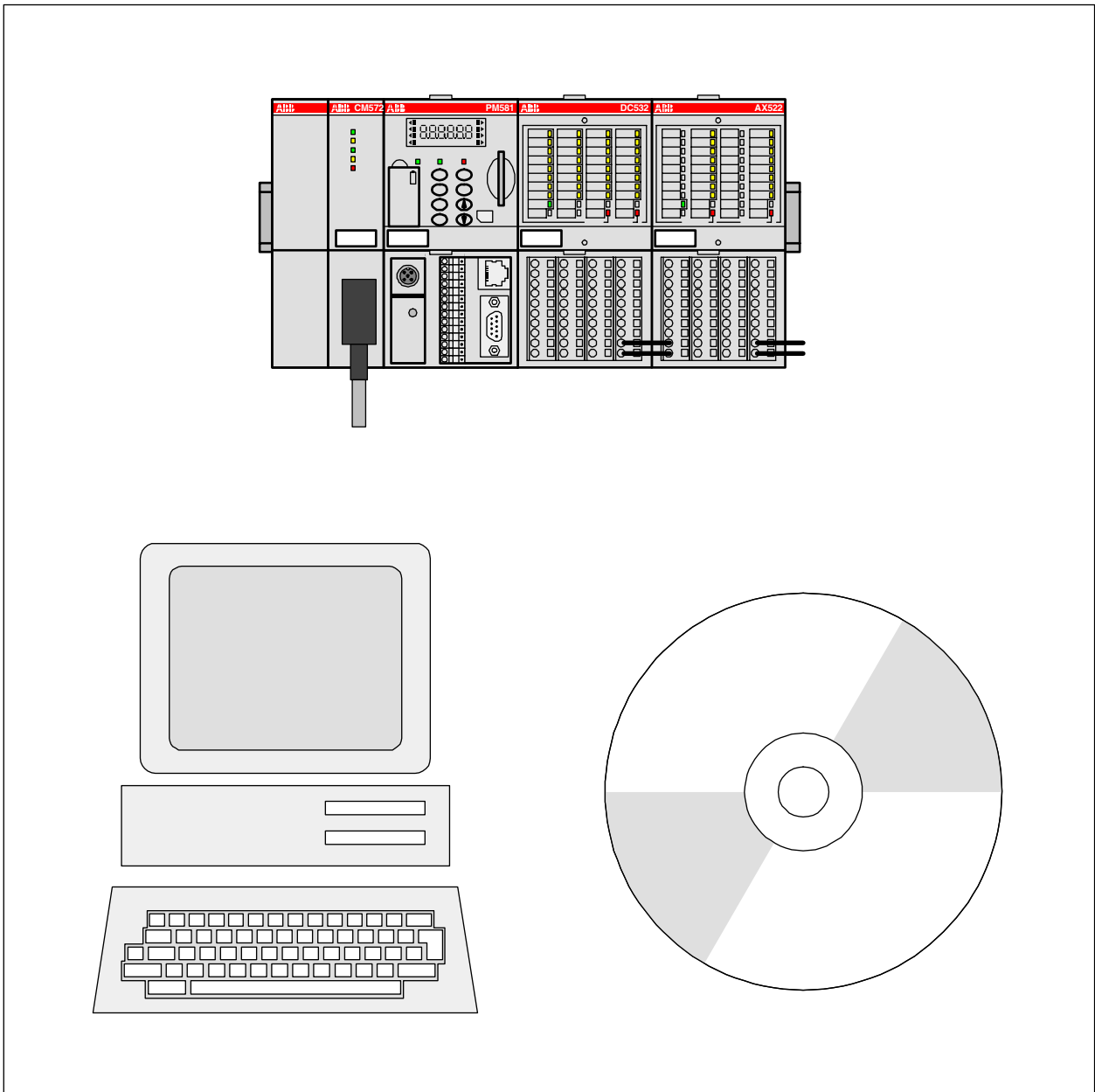


Scalable PLC  
for Individual Automation

Installation of the AC500  
Control Builder PS501





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# 1 Contents of the CD of the Control Builder PS501 V1.x

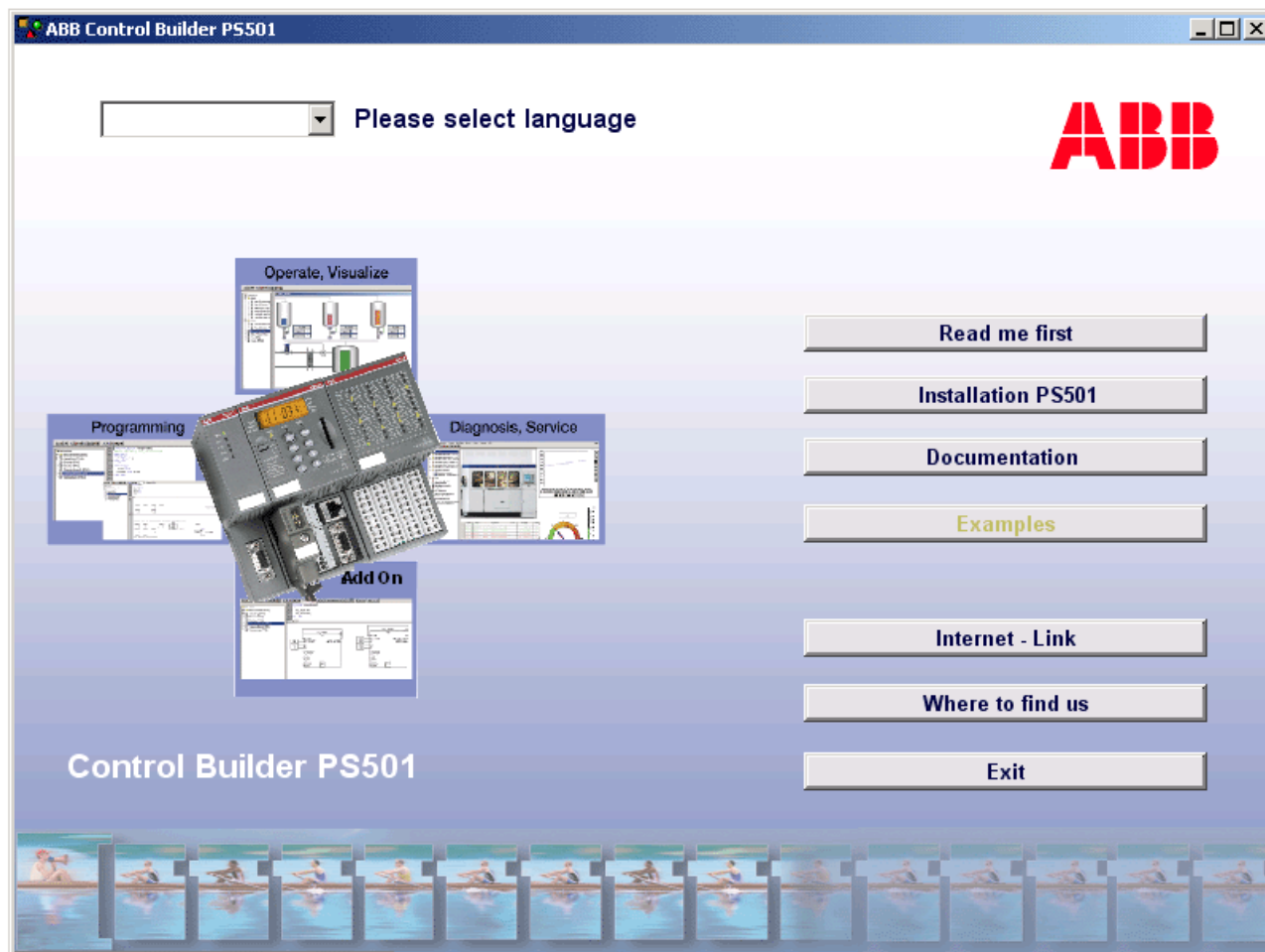
## 1.1 The CD menu

If "Autorun" is set for the CD-ROM drive on your PC, the CD-ROM menu is opened automatically.

Otherwise, you can start it by executing the file "CD\_Menu\_V5x.exe" which is located in the root directory of the CD-ROM. For instance, select "Start" -> "Run" and then enter "[X]:\CD\_Menu\_V5x.exe"

(where [x:] is the CD-ROM drive) to execute this file.

The following menu is displayed:



You can switch the user interface language by selecting the desired language from the "Please select language" list box.

The CD-ROM contains the following menu pages:

### – Read me first

contains the "README\_Vxx.TXT" file and the file "Content\_CD\_Vxx.TXT" which provides an overview of the contents of the Control Builder PS501 CD.

### – Installation PS501

opens the installation menu.

### – Documentation

contains the complete AC500 / PS501 hard- and software documentation.

– **Examples**

contains an overview of example projects delivered with the CD-ROM.

– **Internet Link**

Using this button you can access the ABB Internet site.

– **Where to find us**

contains an overview of ABB STOTZ-KONTAKT GmbH sales offices.

Click on the corresponding buttons to open the menu pages. By clicking on "Main menu" you can return to the title page at any time.

Clicking the "Exit" button closes the CD-ROM menu.

Buttons with gray labelling are not available in the present version.

## 1.2 The installation menu of the Control Builder PS501

The installation menu of PS501 is opened by clicking the button "Installation PS501".

The following menu page is displayed:



Clicking on "Read me for installation" displays the readme file containing additional information regarding the installation of the software.

A short documentation of all example projects is opened by clicking on "**Overview of examples**".

Clicking the button "**Documentation of examples**" opens the documentation overview for the example projects. There you can access the individual documentations.

The button "**Readme Control Builder**" displays the file "**Readme\_Vxx.txt**" (or "**Inhalt\_CD\_Vxx.txt**") containing important notes for Version V.x.x.

Buttons with gray labelling are not available in the present version.

### 1.2.1 Order of sequence of the installation

The following installation menus are available:

1. Step 1: Installation of the Control Builder software
2. Step 2: Installation of the Fieldbus Configurator software SYCON.net
3. Opt. 1: Installation of the documentation

If you require all components, carry out the installation following the order given above (steps **1-3**).

If only the **programming software** is required, you just have to install of the Control Builder (**step 1**). During the installation of the programming software, the communication drivers and the OPC server are installed as well.

If the programming software 907 AC 1131 is installed and you encounter communication problems with an AC31/series 90 controller, you can use the button "907 AC 1131 / series 90 drivers for Win2000/XP" to install the communication drivers for the 907 AC 1131 V5.1 software.

### 1.2.2 Installation of the Control Builder

The installation setup is started by clicking the button "Step 1: Installation Control Builder PS501". Follow the instructions given during the setup process.



**Caution:** Administrative rights are required to install of the Control Builder software.

The following **system requirements** must be fulfilled:

- Windows 2000 or Windows XP

- Internet Explorer 4.01 ("Version 4.72.2106.7" or higher)

Registry: HKEY\_LOCAL\_MACHINE\Software\Microsoft\Internet Explorer\Version

**Not for Windows XP:** If an error message regarding the Microsoft XML Parser appears during installation under Windows 2000, execute the file "msxml3.exe" located in the following directory on the CD:

[x]:\CD\_AC500\Files\_V10

By default, the Control Builder PS501 software is installed to the following directory:

**C:\Programme\3S Software\CoDeSys V2.3\**

or

**C:\Program Files \3S Software\CoDeSys V2.3\**

The installation includes all required files as well as the standard libraries, the OPC server and the communication drivers (gateway and driver dlls).

The target system files (TSP = Target Support Package) are installed to the following directory:

**C:\Programme\Gemeinsame Dateien\CAA-Targets\ABB\_AC500\**

or

**C:\Program Files \Common Files\CAA-Targets\ABB\_AC500\**

(See also System Technology CPUs/Target Support Package).



**Caution:** If **programming via ARCNET** shall be used (possible as of Control Builder V2.0), the ARCNET card has to be installed first. The installation of the ARCNET driver is not performed automatically and is described in chapter "3.2 Installation of ARCNET cards".

The drivers are located in the following directory of the CD:

[X]:\CD\_AC500\Dateien\_Vxx\ARCNET (refer to chapter "Installation of ARCNET cards").

### 1.2.3 Installation of the Fieldbus Configurator SYCON.net

The installation setup is started by clicking the button "*Step 2: Installation Fieldbus Configurator SYCON.net*". Follow the instructions given in the setup.



**Caution:** Administrative rights are required to install the Fieldbus Configurator software.

By default, the Fieldbus Configurator software SYCON.net is installed to the following directory:

**C:\Programme\Hilscher GmbH\SYCONnet\**

or

**C:\Program Files\Hilscher GmbH\SYCONnet\**

installiert.

The modules master data files (GSD files) for the PROFIBUS master coupler have to be installed to the following directory:.

**C:\Programme\Hilscher GmbH\SYCONnet\ABBPBGenericSlaveDTM\GSD\**

or

**C:\Program Files\ Hilscher GmbH\SYCONnet\ ABBPBGenericSlaveDTM\GSD\**

## 1.3 Deinstallation of the software

### 1.3.1 Deinstallation of the Control Builder

When uninstalling the Control Builder PS501 software you first have to **exit the software and the gateway**. In order to close the gateway, click with the right mouse button on the CoDeSys icon



in the task bar of the operating system and select "Exit".

If you also want to uninstall the target system files (TSP = Target Support Package), you have to uninstall these files prior to the uninstallation of the Control Builder software. To do so, execute the program "InstallTarget.exe" located in the same directory as CoDeSys.exe, highlight the entry "ABB STOTZ KONTAKT GmbH" in the right-hand window and then click on "Remove".

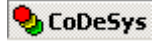
To uninstall the software in **Windows 2000**:

- Select "Start" => "Settings" => "Control Panel".
- Double click to open "Add or Remove Software".
- Highlight the entry "CoDeSys for Automation Alliance".
- Click on the "Remove" button and confirm the uninstall confirmation dialog with "Yes".

All files and directories created during installation are deleted. If you have modified any directories and / or their content, these directories are not deleted.

### 1.3.2 Deinstallation of the Fieldbus Configurator SYCON.net

When uninstalling the SYCON.net field bus configurator software you first have to **exit the software and the gateway**. In order to close the gateway, click with the right mouse button on the CoDeSys icon



in the task bar of the operating system and select "Exit".

To uninstall the software in **Windows 2000**:

- Select "Start" => "Settings" => "Control Panel".
- Double click to open "Add or Remove Software".
- Highlight the entry "ABB SYCON.net".
- Click on the "Remove" button and confirm the uninstall confirmation dialog with "Yes".

All files and directories created during installation are deleted. If you have modified any directories and / or their content, these directories are not deleted.

## 2 Notes regarding the settings of the serial PC interface

### 2.1 Settings of the serial interface under Windows 2000

If the message "**Communication error, logging out**" is displayed when logging in via the serial interface, please check the connection between PLC and PC and the communication parameters in the menu "Online" / "Communication Parameters".

If the connecting cables and the communication parameters are ok, please check the following settings for the serial interface.

#### Settings for COM(x) under Windows 2000 (COM1 shown as an example):

- Select "Start" => "Programs" => "Accessories" => "System Tools"=> "System Information" and then select:  
"Hardware Resources":  
-> Conflicts/Sharing: no entry for COM1  
-> I/O: 0x03F8-0x03FF Communications Port (COM1) Status: OK  
-> IRQs: 4 &ndash; Communications Port (COM1)

"Components" => "Ports" => "Serial (View/Simple)":

Name: COM1

Status: OK

..

(View/Advanced)

Settable Baud Rate: True

Settable Data Bits: True

Settable Flow Control: True

Settable Parity: True

Settable Parity Check: True

Settable Stop Bits: True

...

Baud Rate: 9600

Bits/Byte: 8

Stop Bits: 1

Parity: None

Busy: 0

...

IRQ Number: 4

I/O Port: 0x03F8-0x03FF

Driver: C:\winnt\system32\drivers\serial.sys

"Software Environment" => "Drivers (View/Advanced)"

Name = Serial

Description = Serial port driver

File = c:\winnt\system32\drivers\serial.sys

Type = Kernel driver

Started = True

Start Mode = System

State = Running

Status = OK

Error Control = Ignore

Accept Pause = False

Accept Stop = True

- Select "Start" => "Settings" => "Control Panel" => double click on "System" =>. In the "Hardware" tab of the "System Properties" dialog select "Device Manager" and then double click on "Ports" => "Communications Ports (COM1)". In the

"General" tab:

- > Device Status = This device is working properly.
- > Device Usage = Use this device (enable).

"Port Settings":

Bits per second = 9600

Data bits = 8

Parity = None

Stop bits = 1

Flow control = None

=> "Advanced":

- Check the checkbox 'Use FIFO buffers'
- Receive Buffer: high
- Transmit Buffer: high
- COM Port Number: COM1

"Drivers" tab => "Driver details" => "Driver files":

- c:\WINNT\System32\DRIVERS\serenum.sys
- c:\WINNT\System32\DRIVERS\serial.sys

"Resources" tab:

- Input/Output Range = 03F8-03FF
- Interrupt request = 04
- Check the checkbox 'Use automatic settings'
- Conflict device list: No conflicts;

## 3 Installation of ARCNET cards

### 3.1 Overview of supported ARCNET cards



**Note:** Support of ARCNET cards is available as of version V2.x.

The following ARCNET cards are available for the programming of AC500 PLCs in the integrated ARCNET coupler.

ARCNET card	Bus type	Operating system	Driver file (on SoHard website)	Driver
SH FARC E3 (K) (with COM20022)	ISA	Win2000/XP	W2K_RAW_DRIVER_V0518.zip ..\ARCNET\Win2000	Farc.sys
SH ARC PCI	PCI	Win2000/XP	W2K_RAW_DRIVER_V0518.zip ..\ARCNET\Win2000	Farc.sys
SH ARC PCMCIA with SH KOAX-PCMCIA	PCMCIA	Win2000/XP	W2K_RAW_DRIVER_V0518.zip ..\ARCNET\Win2000	Farc.sys

The current card drivers can be downloaded from the SoHard website. The driver versions listed in the "Driver file" column were tested.

### 3.2 Installation of ARCNET cards under Win2000 / XP

#### 3.2.1 SH ARC PCI - ARCNET card for PCI bus under Win2000 / XP

##### **Driver files:**

Internet: W2K\_RAW\_DRIVER\_V05xx.zip

CD V5.x: ..\CD\_Menu\Files\_V5x\ARCNET\Win2000\far.sys (sharcraw.inf)  
packed: W2K\_RAW\_DRIVER\_V0517.zip

Driver after installation: ..\WINNT\system32\drivers\farpci.sys

##### **Installing the card:**

Proceed as follows to install the ARCNET card:

1. Delete the possibly existing old ARCNET driver (V4.xx).  
To do so, delete the following path in the registry:  
HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Services\far (or farc66)
2. Reboot the PC afterwards.
3. Copy the driver without any subdirectory to a floppy disk.
4. Shut down the operating system of the PC and then switch the computer off.
5. Install the ARCNET card to a PCI slot.
6. Reboot the PC. The card is automatically detected since it supports PnP.  
The message "Found new Hardware / Network controller -> Please wait" is displayed.  
The "Hardware Wizard" is executed. This may take some time.
7. After the "Found ..." message is displayed, click on "Have Disk" and select:  
"A:\sharcraw.inf" and "Next". The driver is going to be installed.
8. Reboot the PC.

9. Select "Start => Settings => Control Panel => System => Hardware => Device Manager" and then "SoHard ARCNET / SH ARC PCI (RAW)".
10. In the "Properties", change the DriverAccessName from FARCPCI to FARC.
11. Reboot the PC.

### **Uninstalling the card:**

Proceed as follows to remove the ARCNET card:

1. Select "Start => Settings => Control Panel => System => Hardware => Device Manager".
2. Select "SoHard ARCNET / SH ARC PCI (RAW)".
3. Select "Delete".
4. Shut down the operating system of the PC and then switch the computer off.
5. Remove the card and restart your PC.

### **Tips and tricks:**

The following notes will help you, if the communication does not work properly after the installation.

1. The card SH ARC PCI requires PCI version V2.10 and hardware level V1.1.
2. Test program for the drivers:  
The program arcread.exe is supplied together with the drivers. Start it from a DOS shell using the following command:  
arcread farc 254<ENTER>  
The driver will either be started or a corresponding error message will be displayed!
3. LED indication:  
If the driver is activated correctly and no ARCNET cable is connected, both LEDs should flash (on/off time approx. 1 s).  
If only the green LED flashes, the interrupt has failed!
4. If necessary, use another PCI slot.

## **3.2.2 SH ARC PCMCIA - ARCNET-PCMCIA card under Win2000 / XP**

### **Driver files:**

Internet: W2K\_RAW\_DRIVER\_V05xx.zip

CD V5.x: ..\CD\_Menu\Files\_V5x\ARCNET\Win2000\farcsys (sharcraw.inf)  
packed: W2K\_RAW\_DRIVER\_V0517.zip

Driver after installation: ..\WINNT\system32\drivers\farcpmcia.sys

### **Installing the card:**

Proceed as follows to install the ARCNET card:

1. Delete the possibly existing old ARCNET driver (V4.xx).  
To do so, delete the following path in the registry:  
HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Services\farcs (or farcs66)  
After this, reboot the PC.
2. Copy the driver without any subdirectory to a floppy disk.
3. Shut down the operating system of the PC and then switch the computer off.
4. Install the ARCNET card to a PCMCIA slot.

5. Reboot the PC. The card is automatically detected since it supports PnP. The message "Found new Hardware / Network controller -> Please wait" is displayed. The "Hardware Wizard" is executed. This may take some time.
6. After the "Found ..." message is displayed, click on "Have Disk" and select: "A:\sharcraw.inf" and "Next". The driver is going to be installed.
7. Reboot the PC.
8. Select "Start => Settings => Control Panel => System => Hardware => Device Manager" and then "SoHard ARCNET / SH ARC PCMCIA (RAW)".
9. In the "Properties" change the DriverAccessName from FARCPCMCIA to FARC.
10. Reboot the PC.

### **Uninstalling the card:**

Proceed as follows to remove the ARCNET card:

1. Select "Start => Settings => Control Panel => System => Hardware => Device Manager".
2. Select "SoHard ARCNET / SH ARC PCMCIA (RAW)".
3. Select "Delete".
4. Shut down the operating system of the PC and then switch the computer off.
5. Remove the card and restart your PC.

### **Tips and tricks:**

The following notes will help you, if the communication does not work properly after the installation.

1. Verify that the IRQ and/or the I/O range are not assigned twice.  
To do so, select "Start => Settings => Control Panel => Network => Network Adapter => Resources".
2. Test program for the drivers:  
The program arcread.exe is supplied together with the drivers. Start it from a DOS shell using the following command:  
arcread farc 254<ENTER>  
The driver will either be started or a corresponding error message will be displayed!
3. If the error message ..59 (E\_FARC\_NO\_NEXTID) is displayed, the selected interrupt has failed. In this case you should change between master PIC (IRQ 0-7) and slave PIC (IRQ 8-15). IRQ 5 or IRQ 7 should work in almost every case.
4. LED indication:  
If the driver is activated correctly and no ARCNET cable is connected, both LEDs should flash (on/off time approx. 1 s).  
If only the green LED flashes, the interrupt has failed!

## **3.2.3 SH FARC E3 [K] - ARCNET card for ISA bus under Win2000 / XP**

### **Driver files:**

Internet: W2K\_RAW\_DRIVER\_V05xx.zip

CD V5.x: ..\CD\_Menu\Files\_V5x\ARCNET\Win2000\farc.sys  
packed: W2K\_RAW\_DRIVER\_V0517.zip

Driver after installation: ..\WINNT\system32\drivers\farc0.sys

### **Installing the card:**

Proceed as follows to install the ARCNET card:

1. Delete the possibly existing old ARCNET driver (V4.xx).  
To do so, delete the following path in the registry:  
HKEY\_LOCAL\_MACHINE\System\CurrentControlSet\Services\farc (or farc66)  
After this, reboot the PC.
2. Determine a free IRQ and I/O range (16 bytes), e.g. by selecting  
"Start => Programs => Accessories => System Tools => System Information => Hardware Resources".
3. Shut down the operating system of the PC and then switch the computer off.
4. On the card, set the I/O range and the interrupt IRQ according to the enclosed documentation.



#### **Note:**

The following settings are set ex works:

I/O-Address = 120 hex

IRQ = 10

KOAX mode

2.5 MHz

5. Install the ARCNET card to an ISA slot.
6. Reboot the PC.
7. Copy the driver without any subdirectory to a floppy disk.
8. Select "Start => Settings => Control Panel => System => Hardware => Hardware Wizard => OK".
9. Select "Choose a Hardware device" and "Add new device" and then confirm with "Next".
10. A new hardware component is searched. This may take some time. Since the card does not support PnP, the message "Does not find any new devices on your computer" is displayed.
11. Select "Other devices" and click on "Have disk".
12. Insert the floppy disk and confirm with "OK". The message "Install from disk" is displayed.
13. Select "A:\tsharcraw.inf" and confirm with "OK". The driver is going to be installed.
14. Enter the following card properties:  
Controller: COM20022  
DriverAccess: FARC (is entered automatically)  
IRQ: Free IRQ determined in step 2  
I/O Address: Free I/O range determined in step 2
15. Confirm with "Ready" and "Close" and answer the message dialog with "Yes" to resart the PC.

### **Uninstalling the card:**

Proceed as follows to remove the ARCNET card:

1. Select "Start => Settings => Control Panel => System => Hardware => Device Manager".
2. Select "SoHard ARCNET / SH FARCxx (RAW)".
3. Select "Delete".
4. Shut down the operating system of the PC and then switch the computer off.
5. Remove the card and restart your PC.

### **Tips and tricks:**

The following notes will help you, if the communication does not work properly after the installation.

1. Verify that the IRQ and/or the I/O range are not assigned twice.  
To do so, select  
"Start => Settings => Control Panel => System => Hardware => Device Manager => SoHard  
ARCNET => SH FARCxx".
2. The interrupt must be enabled for ISA in the BIOS.
3. Test program for the drivers:  
The program arcread.exe is supplied together with the drivers. Start it from a DOS shell using  
the following command:  
arcread farc 254<ENTER>  
The driver will either be started or a corresponding error message will be displayed!
4. If the error message ..59 (E\_FARC\_NO\_NEXTID) is displayed, the selected interrupt has failed.  
In this case you should change between master PIC (IRQ 0-7) and slave PIC (IRQ 8-15). IRQ 5  
or IRQ 7 should work in almost every case.
5. LED indication:  
If the driver is activated correctly and no ARCNET cable is connected, both LEDs should flash  
(on/off time approx. 1 s).  
If only the green LED flashes, the interrupt has failed!

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