



ADDI-DATA GmbH Dieselstraße 3 D-77833 OTTERSWEIER



Technical support: +49 (0)7223 / 9493 - 0

Installation instructions

for the ADDI-DATA boards

PCI and ISA bus

Edition: 01.03 - 09/2006

#### Product information

This manual contains the technical installation and important instructions for correct commissioning and usage, as well as production information according to the current status before printing. The content of this manual and the technical product data may be changed without prior notice. ADDI-DATA GmbH reserves the right to make changes to the technical data and the materials included herein.

#### Warranty and liability

The user is not permitted to make changes to the product beyond the intended use, or to interfere with the product in any other way.

ADDI-DATA shall not be liable for obvious printing and phrasing errors. In addition, ADDI DATA, if legally permissible, shall not be liable for personal injury or damage to materials caused by improper installation and/or commissioning of the board by the user or improper use, for example, if the board is operated despite faulty safety and protection devices, or if notes in the operating instructions regarding transport, storage, installation, commissioning, operation, thresholds, etc. are not taken into consideration. Liability is further excluded if the operator changes the board or the source code files without authorisation and/or if the operator is guilty of not monitoring the permanent operational capability of working parts and this has led to damage.

#### **Copyright**

This manual, which is intended for the operator and its staff only, is protected by copyright. Duplication of the information contained in the operating instructions and of any other product information, or disclosure of this information for use by third parties, is not permitted, unless this right has been granted by the product licence issued. Non-compliance with this could lead to civil and criminal proceedings.

#### ADDI-DATA software product licence

Please read this licence carefully before using the standard software. The customer is only granted the right to use this software if he/she agrees with the conditions of this licence.

The software must only be used to set up the ADDI-DATA boards.

Reproduction of the software is forbidden (except for back-up and for exchange of faulty data carriers). Disassembly, decompilation, decryption and reverse engineering of the software are forbidden. This licence and the software may be transferred to a third party if this party has acquired a board by purchase, has agreed to all the conditions in this licence contract and the original owner does not keep any copies of the software.

#### **Trademarks**

- ADDI-DATA is a registered trademark of ADDI-DATA GmbH.
- Turbo Pascal, Delphi, Borland C, Borland C++ are registered trademarks of Borland Insight Company.
- Microsoft C, Visual C++, Windows XP, 98, Windows 2000, Windows 95, Windows NT, EmbeddedNT and MS DOS are registered trademarks of Microsoft Corporation.
- LabVIEW, LabWindows/CVI, DasyLab, Diadem are registered trademarks of National Instruments Corp.
- CompactPCI is a registered trademark of PCI Industrial Computer Manufacturers Group.
- VxWorks is a registered trademark of Wind River Systems Inc.

# WARNING

In case of wrong uses and if the board is not used for the purpose it is intended:

- people may be injured,
- the board, PC and peripheral may be destroyed,
- the environment may be polluted
- Protect yourself, the others and the environment!
- Read carefully the safety precautions (yellow leaflet).

If this leaflet is not delivered with the documentation, please contact us and ask for it.

• Observe the instructions of the manual.

Make sure that you do not forget or skip any step. We are not liable for damages resulting from a wrong use of the board.

- Used symbols:
  - **IMPORTANT!**

designates hints and other useful information.



## WARNING!

It designates a possibly dangerous situation. If the instructions are ignored the board, PC and/or peripheral may be destroyed.

1	INTRODUCTION
1.1	Structure of the CD 1 "Standard drivers" 6
1.2	Structure of the CD 2 "Technical manuals"
2	OVERVIEW ISA/PCI8
3	PCI BUS: INSTALLATION OF THE ADDIPACK BOARDS9
3.1	ADDIPACK board list9
3.2	Delivered software 10
3.3	Installation under Windows NT11
3.3.1 3.3.2	First software and board installation
3.4	Installation under Windows XP/2000/9812
3.4.1 3.4.2	First software and board installation
3.5	Installation of the software samples 13
4	PCI BUS: INSTALLATION OF SERIAL INTERFACES14
4.1	Delivered software14
4.2	Installation of 16-bit software drivers14
4.3	Installation under Windows NT15
4.3.1 4.3.2	First software and board installation15 Installation of the further serial interface boards16
4.4	Installation under Windows XP/2000/98/95/ Server 2003 17
4.4.1 4.4.2	First software and board installation
4.5	Installation of the test software
_	
5	PCI/ISA BUS: INSTALLATION OF THE OTHER PCI AND ISA BOARDS
5 5.1	
-	BOARDS19
5.1	BOARDS19List of the boards concerned19
5.1 5.2	BOARDS19List of the boards concerned19Delivered software19
5.1 5.2 5.3	BOARDS19List of the boards concerned19Delivered software19Installation of the 16-bit drivers19
<b>5.1</b> <b>5.2</b> <b>5.3</b> 5.3.1	BOARDS19List of the boards concerned19Delivered software19Installation of the 16-bit drivers19Installation under Windows 3.1119

6	UPDATE OF THE DRIVERS/PROGRAMS/INF FILES24
6.1	Update of the INF files (only valid for PCI boards) 24
6.2	Update of the drivers and programs (valid for PCI and ISA boards)
7	UNINSTALLING THE SOFTWARE
7.1	Uninstalling ADDI-DATA drivers and programs
7.2	Clear the registration of a communication board (PCI and ISA boards)
7.2.1 7.2.2	Clear the registration under Windows NT
8	APPENDIX

## Figures

Fig. 1-1: User interface of CD 1	6
Fig. 1-2: User interface of CD 2	7
Fig. 4-1: Communication boards: Error message	16
Fig. 4-2: Assistant for searching for new hardware	17

## Tables

Table 4-1: List of further PCI-boards	. 19
Table 7-1: All boards for the PCI and CompactPCI bus	. 27

1

# **1** INTRODUCTION

## **IMPORTANT!**

The installation process of the ADDI-DATA boards varies according to the **product range** and/or **operating system**.

Please check which chapters are dealing with your ADDI-DATA board and under which operating system you want to run the board.

## 1.1 Structure of the CD 1 "Standard drivers"

The file AD-Drivers.exe runs automatically. All boards are listed in the "Driver" menu. Through the different menus you can access the drivers, samples or programs you want to install.

Should the introduction screen not be automatically launched, then start the **AD-Drivers.exe** in the root directory of the CD 1.

APCI-1016 APCI-/CPCI-3001 APCI-3300 PA 100 PA 3000 PA 7300   APCI-1024 APCI-3002 APCI-3500 PA 1000 PA 301 PA 731   APCI-1032 APCI-3003 APCI-3501 PA 110 PA 302 PA 732   APCI-/CPCI-1500 APCI-3006 APCI-3504 PA 150 PA 305 PA 7400   APCI-1516 APCI-3010 APCI-3600 PA 1500 PA 310 PA 7420   APCI-1564 APCI-3016 APCI-3701 PA 1508 PA 3100 PA 7500   APCI-1648 APCI-3100 APCI-7300 PA 160 PA 3110 PA 7500   APCI-1696 APCI-3106 APCI-7200 PA 1610 PA 3100 PA 755   APCI-1698 APCI-3110 APCI-7200 PA 1600 PA 3500 PA 750   APCI-2016 APCI-3110 APCI-7800 PA 200 PA 3500 PA 3500   APCI-2032 APCI-/CPCI-3120 APCI-8001 PA 2000 PA 358 PA 3500	Driver Vi	rtual Board	Registra	ation Software	Monitoring Program	LINUX	Process Visualisation
APCI-1024 APCI-3002 APCI-3500 PA 1000 PA 301 PA 731   APCI-1032 APCI-3003 APCI-3501 PA 110 PA 302 PA 732   APCI-1052 APCI-3006 APCI-3504 PA 150 PA 305 PA 7400   APCI-1516 APCI-3010 APCI-3600 PA 1500 PA 310 PA 7420   APCI-1564 APCI-3016 APCI-3701 PA 1508 PA 3100 PA 750   APCI-1648 APCI-3100 APCI-7300 PA 160 PA 311 PA 7500   APCI-1696 APCI-3106 APCI-7420 PA 1610 PA 3100 PA 755   APCI-2016 APCI-3110 APCI-7200 PA 1610 PA 3500 PA 8000   APCI-2016 APCI-3110 APCI-7200 PA 1700-2 PA 350 PA 8000   APCI-2032 APCI-20120 APCI-8001 PA 2000 PA 350 PA 350	APCI-035			APCI-3200			
APCI-1032 APCI-3003 APCI-3501 PA 110 PA 302 PA 732   APCI-10500 APCI-3006 APCI-3504 PA 150 PA 305 PA 7400   APCI-1516 APCI-3010 APCI-3600 PA 1500 PA 310 PA 7420   APCI-1564 APCI-3016 APCI-3701 PA 1508 PA 3100 PA 750   APCI-1648 APCI-3100 APCI-7300 PA 160 PA 3110 PA 7500   APCI-1696 APCI-3106 APCI-7200 PA 1610 PA 3110 PA 755   APCI-2016 APCI-3110 APCI-7800 PA 200 PA 3500 PA 8000   APCI-2016 APCI-3116 APCI-7800 PA 200 PA 350 PA 3500   APCI-2032 APCI-CPCI-3120 APCI-8001 PA 2000 PA 358 PA 350							
APCI-/CPCI-1500 APCI-3006 APCI-3504 PA 150 PA 305 PA 7400   APCI-1516 APCI-3010 APCI-3600 PA 1500 PA 310 PA 7420   APCI-1564 APCI-3016 APCI-3701 PA 1508 PA 3100 PA 750   APCI-1648 APCI-3100 APCI-7300 PA 160 PA 311 PA 7500   APCI-1696 APCI-3106 APCI-7420 PA 1610 PA 3110 PA 755   APCI-1696 APCI-3110 APCI-7500 PA 1700-2 PA 350 PA 8000   APCI-2016 APCI-3116 APCI-7800 PA 200 PA 3500 PA 3500   APCI-2032 APCI-CPCI-3120 APCI-8001 PA 2000 PA 358	APCI-1024	APCI-3002					
APCI-1516 APCI-3010 APCI-3600 PA 1500 PA 310 PA 7420   APCI-1564 APCI-3016 APCI-3701 PA 1508 PA 3100 PA 750   APCI-1648 APCI-3100 APCI-7300 PA 160 PA 311 PA 7500   APCI-1696 APCI-3106 APCI-7420 PA 1610 PA 3110 PA 755   APCI-12016 APCI-3110 APCI-7500 PA1700-2 PA 3500 PA 8000   APCI-2032 APCI-2120 APCI-7800 PA 2000 PA 358 PA 350	APCI-1032					PA 302	
APCI-1564 APCI-3016 APCI-3701 PA 1508 PA 3100 PA 750   APCI-1648 APCI-3100 APCI-7300 PA 160 PA 3110 PA 7500   APCI-1696 APCI-3106 APCI-7420 PA 1610 PA 3110 PA 755   APCI-2016 APCI-3110 APCI-7500 PA1700-2 PA 3500 PA 8000   APCI-2016 APCI-3116 APCI-7800 PA 2000 PA 358 PA 358	APCI-/CPCI-1500						
APCI-1648 APCI-3100 APCI-7300 PA 160 PA 311 PA 7500   APCI-1696 APCI-3106 APCI-7420 PA 1610 PA 3110 PA 755   APCI-1696 APCI-3106 APCI-7420 PA 1610 PA 3110 PA 755   APCI-/CPCI-1710 APCI-3110 APCI-7500 PA1700-2 PA 3500 PA 8000   APCI-2016 APCI-3116 APCI-7800 PA 200 PA 3500   APCI-2032 APCI-/CPCI-3120 APCI-8001 PA 2000 PA 358							PA 7420
APCI-1696 APCI-3106 APCI-7420 PA 1610 PA 3110 PA 755   APCI-1696 APCI-3110 APCI-7500 PA 1700-2 PA 350 PA 8000   APCI-2016 APCI-3116 APCI-7800 PA 200 PA 3500   APCI-2032 APCI-2012 APCI-2012 PA 358							
APCI-/CPCI-1710 APCI-3110 APCI-/CPI-7500 PA1700-2 PA 350 PA 8000 APCI-2016 APCI-3116 APCI-7800 PA 200 PA 3500 APCI-2032 APCI-/CPCI-3120 APCI-8001 PA 2000 PA 358							
APCI-2016 APCI-3116 APCI-7800 PA 200 PA 3500 APCI-2032 APCI-/CPCI-3120 APCI-8001 PA 2000 PA 358				APCI-7420			
APCI-2032 APCI-/CPCI-3120 APCI-8001 PA 2000 PA 358				APCI-/CPI-7500			
	APCI-2032						
APCI-2200 APCI-3122 APCI-8401 PA 216 PA 370	APCI-2200						

## Fig. 1-1: User interface of CD 1

## 1.2 Structure of the CD 2 "Technical manuals"

The AD-Manuals.exe file runs automatically. Select your language. Beside a short description of the board you can open and read the technical manual and further installation or configuration instructions.

Should the introduction screen not be automatically launched, then start the **AD-Manuals.exe** in the root directory of the CD 2.

					A	DDI-DATA
Handbuch	Treiber	Information	Revision	Ihre Meinung	Sicherheit	shinweise
Digital						
Analog		in-/Ausgabekarten, P in-/Ausgabekarten, IS				
Kommunikation	Temperatu	rerfassung, PCI-Bus on Dehnungsmessstr				
Zähler	Induktive M	1esstaster, PCI-Bus, ISA ons-Audiokarte, PCI-Bi	λ-Bus			
Watchdog						
Achsensteuerung						
Zubehör						
Alle Handbücher						
Definition des Verw	endungsberei	Chs				
Impressum	English	Prançais wi	ww.addi-data.com		Zurück	Beenden

#### Fig. 1-2: User interface of CD 2

# 2 OVERVIEW ISA/PCI

Used symbols:





Automatic step

Step done by the user

	]	PCI bus	I	SA bus
1		Switch off the PC		Switch off the PC
2				Set the base address IRQ
3		Install the board		Install the board
4		Start the PC		Start the PC
5	$\bigcirc$	Hardware assistant opens		
6		Insert CD 1		Insert CD 1
7	$\bigcirc$	The user interface opens (Close the user interface again if it should cover the	$\bigcirc$	The user interface opens
8		hardware assistant)		Select a board from the list and click on driver installation
9		InstallShield Wizzard opens	$\bigcirc$	InstallShield Wizzard opens
10		Close the window		Close the window

# 3 PCI BUS: INSTALLATION OF THE ADDIPACK BOARDS

## 3.1 ADDIPACK board list

#### Table 3-1: ADDIPACK board list

Board	Description
APCI-1016	Digital input board, optically isolated, 16 digital inputs, 24 V, PCI bus
APCI-1032	Digital input board, optically isolated, 32 digital inputs, 24 V, PCI bus
APCI-1024	Digital input board, optically isolated, 24 digital inputs, 0-60 V, PCI bus
APCI-1516	Digital I/O board, optically isolated, 16 digital inputs/outputs, 24 V, PCI bus
APCI-1564	Digital I/O board, optically isolated, 64 digital inputs/outputs, 24 V, PCI bus
APCI-2016	Digital output board, optically isolated, 16 digital outputs, 24 V, PCI bus
APCI-2032	Digital output board, optically isolated, 32 digital outputs, 24 V, PCI bus
APCI-2200	Relay board, optically isolated, 8/16 relays, 8 digital inputs, 24 V, PCI bus
APCI-3000	Analog input board, low-budget, 16 SE/8 diff. inputs, 12-bit, PCI bus
APCI-3002	Analog input board, optically isolated, 16/8/4 diff. inputs, 16-bit, PCI bus
APCI-3003	Analog input board, optically isolated, 4 diff. inputs, 16-bit, PCI bus
APCI-3006	Analog input board, low-budget, 16 SE/8 diff. inputs, 16-bit, PCI bus
APCI-3010	Analog input board, optically isolated, 16 SE/8 diff. inputs, 12-bit, PCI bus
APCI-3016	Analog input board, optically isolated, 16 SE/8 diff. inputs, 16-bit, PCI bus
APCI-3100	Multifunction board, low-budget, 16 SE/8 diff. inputs, 4 analog outp, 12-bit, PCI bus
APCI-3106	Multifunction board, low-budget, 16 SE/8 diff. inputs, 4 analog outp., 16-bit, PCI bus
APCI-3110	Multifunction board, optically isolated, 16 SE/8 diff. inputs, 4 analog outp. 12-bit, PCI bus
APCI-3116	Multifunction board, optically isolated, 16 SE/8 diff. inputs, 4 analog outp., 16-bit, PCI bus
APCI-3200	Temperature measurement board, optically isolated, 16/8/4 channels for thermocouples, Pt100, RTD, 18-bit, PCI bus
APCI-3300	Pressure measurement board, up to 8 channels for strain gauges, 18-bit, PCI bus
APCI-3500	Analog output board, low-budget, 4 analog outp., 12-bit, PCI bus
APCI-3501	Analog output board, optically isolated, 8 analog outp. 14-bit, PCI bus
APCI-3504	Analog output board, optically isolated, 4 analog oupt, 12-bit, PCI bus
APCI-3600	Noise and vibration measurement board, 24-bit, multifunction board, 8 analog inputs, anti-aliasing-filter, PCI bus
APCI-3701	Length measurement board, 16-bit, 16 or 8 inductive transducers, LVDT, half-bridge, PCI bus
APCI-035	Watchdog board, optically isolated, 4 watchdog/timer, PCI bus

## 3.2 Delivered software

Each board is supplied with a driver CD-ROM (CD 1) containing the ADDIPACK software package for Windows NT 4.0 and Windows XP/2000/98.

You will find further description for your ADDIPACK board in the CD 2 "Technical manuals".

**ADDIPACK** is composed of following programs:

- **ADDIREG:** The ADDIREG registration program is a 32-bit program for Windows NT 4.0 and Windows XP/2000/98. The user can register all hardware information necessary to operate the ADDI-DATA PC boards.
- **ADDIDRIVER** contains API functions to operate the ADDI-DATA boards in 32 bits.
- **ADDevice Manager** configures the resources of the ADDI-DATA virtual board (See below).
- ADDI-DATA virtual board:

ADDI-DATA software is based on the principle of a **virtual board:** it transposes the different functions (e.g. digital inputs, analog outputs, timer, ...) of all inserted ADDI-DATA boards as the functions of a <u>single (virtual) board</u>. The virtual board features a pool of functions, the functionality of which can be called up without calling a specific board.

- **ADDEVICE MAPPER** was specifically developed for the ADDIPACK boards to facilitate the management of the virtual board. With this program you can optimally adapt the virtual board to your application requirements.

#### **IMPORTANT!**

For some functions of the **ADDEVICE MAPPER** program the browser Internet Explorer 6 or higher has to be installed on your PC.

## 3.3 Installation under Windows NT

## 3.3.1 First software and board installation

- ♦ Log in with administrator rights.
- ♦ Install and configure the boards one after the other. You will hence avoid configuration errors.
- **1.** Switch off the PC.
- 2. Insert the first board.
- **3.** Start the PC.
- 4. Insert the CD 1 "Standard Software Drivers" in the CD drive.

The navigation screen of the CD 1 starts automatically. Should the introduction screen not be automatically launched, then start the **AD-Drivers.exe** in the root directory.

5. Under "Virtual Board" click on the link "Install ADDIPACK under Windows NT 4.0".

#### In case ADDIPACK is already installed on your PC, you have to:

- uninstall the current ADDIPACK version and manually install the latest version from the CD 1 or
- register the board with the installed ADDIPACK version.

During the installation the window "Addidriver Board clear/insert list" opens and displays information about the inserted ADDI-DATA boards

- 6. Confirm with "OK".
- 7. Proceed as indicated until the complete installation of ADDIPACK.

The setup.exe file for the installation of ADDIPACK is saved under: **CD:\ADDIPACK\WinNT40\Disk1.** 

The installation process is completed. The board is ready to operate.

- **8.** Install the ADDEVICE MAPPER program (if required): Under "Virtual Board" click on the link "Install ADDEVICE MAPPER" and follow the instructions that are displayed on the screen.
- 9. Install the software samples (if required, see chapter 3.5).

## 3.3.2 Installation of further ADDIPACK boards

- **10.** Switch off the PC.
- 11. Install the next board
- 12. Repeat steps 3 to 8.

## **IMPORTANT!**

To install the **new version** of **ADDIPACK**, please first uninstall the current version from your PC with the **uninstall program** of your operating system (see chapter 7.1).

## 3.4 Installation under Windows XP/2000/98

## 3.4.1 First software and board installation

- ♦ Log in with administrator rights.
- **1.** Switch off the PC.
- **2.** Insert the first board.
- **3.** Start the PC.

The Hardware Assistant (Hardware Wizard) starts the installation of the inf files and of the driver.

**4.** Insert the CD 1 "Standard Software Drivers" in the CD drive and proceed as indicated by the Hardware Assistant (Hardware Wizard).

The installation program "Install Shield Wizard" opens. If the navigation screen of CD 1 is launched, please close it.

5. Follow the instructions given by the program.

#### In case ADDIPACK is already installed on your PC, you have to:

- uninstall the current ADDIPACK version and install manually the latest version from CD 1 or
- register the board with the installed ADDIPACK version.

During the installation the window "Addidriver Board clear/insert list" opens, which displays information about the inserted ADDI-DATA boards.

- 6. Confirm with OK.
- 7. Close all active windows.

The installation is completed. The board is ready to operate.

- 8. Install the ADDEVICE MAPPER program (if required, see step number 8 on page 11)
- **9.** Install the software samples. (see chapter 3.5)

To install the ADDIPACK program manually start the file **AD-Drivers.exe** on CD 1 and click on "Virtual Board" in the menu bar. Select the required operating system.

## 3.4.2 Installation of the next ADDIPACK boards

#### ♦ Log in with administrator rights.

- **10.** Switch off the PC.
- **11.** Insert the next board.
- **12.** Repeat the steps 3 to 9. The CD 1 "Standard Software Drivers" must be in the CD drive.

## **IMPORTANT!**

To install the new version of ADDIPACK, please first uninstall the current version from your PC with the uninstall program of your operating system (see chapter 7.1).

## 3.5 Installation of the software samples

#### ♦ Insert CD 1 "Standard Software Driver" into the CD drive.

The navigation screen of CD 1 should open automatically. If the screen should not open, start the file **AD-Drivers.exe** in the root directory.

Under "Virtual Board" click on the required programming language in "Install the samples for" and follow the instructions until the complete installation of the software samples.

After installing the board, you can install further samples at any time by proceeding the same way.

## IMPORTANT!

Do only use the samples which are supported for the board.

Please consider the software tables the technical manual of each board (chapter 9 of the specific manual of the board).

## 4 PCI BUS: INSTALLATION OF SERIAL INTERFACES

## 4.1 Delivered software

Each board is supplied with a Driver CD-ROM (CD 1). The CD contains:

- ADDICOM programming samples with API functions for the ADDI-DATA boards in 32-bit.
- ADDIREG for Windows NT 4.0.

You also can download the latest version of the ADDIREG program from the internet

• IMPORTANT! If you operate the board with Windows XP/2000/98, ADDIREG is not used.

The device manager of Windows XP/2000/98 sets and configures the ADDIREG program.

## 4.2 Installation of 16-bit software drivers

To install the board under MS-DOS or Windows 3.11, the "ADDICOM software driver" is available on request.

Please contact our service line: + 49 (0) 7223 94 93 - 0.

## 4.3 Installation under Windows NT

## 4.3.1 First software and board installation

#### ♦ Log in with administrator rights.

- **1.** Switch off the PC.
- **2.** Insert the board.
- **3.** Start the PC.
- 4. Insert CD 1 "Standard Software Drivers" in the CD drive.

The navigation screen of CD 1 starts automatically. If the introduction screen is not automatically launched, start the **AD-Drivers.exe** in the root directory.

5. Install the ADDIREG program through the menu "Registration software".

The installation program starts.

#### If Addireg is already installed on your PC, you have to:

- uninstall the current ADDIREG version and install manually the latest version from CD 1 or
- interrupt the installation process.
- **6.** Follow the instructions of the program and quit the installation program by clicking on "Finish".
- 7. Register the board in ADDIREG:
- Start the ADDIREG program under Start\Programs\ADDIREG.
- Insert the board through "Insert".
- Register the board with "Set" then "Save".

By clicking on the serial board in the menu "Driver" of the navigation screen, instructions for installing and testing the interface are displayed.

Further information about ADDIREG and board configuration is given in the technical manual of each board.

8. Quit ADDIREG.

The board is ready to operate.

You may get the following message after you clicked on "Quit" or "Test registration":



Fig. 4-1: Communication boards: Error message

In this case please observe the following steps:

- ➢ Go to the directory WINNT\system32\drivers
- Rename the file SERIAL.SYS into SERIAL.SYS.OLD
- Rename the file SERIAL.ADDI into SERIAL.SYS

#### 4.3.2 Installation of the further serial interface boards

Repeat steps 1 to 3 and then steps 7 and 8 as described above.

## 4.4 Installation under Windows XP/2000/98/95/ Server 2003

## 4.4.1 First software and board installation

#### ◆ Log in with administrator rights.

- 1. Switch off the PC.
- 2. Insert the first board.
- 3. Start the PC.

The Hardware Assistant (Hardware Wizard) starts the installation of the INF files and the driver.

- 4. Insert CD 1 "Standard Software Drivers" in the CD drive.
- 5. Proceed the instructions of the Hardware Assistant.

In case the navigation screen of CD 1 is launched, please reduce this window.

# • **IMPORTANT!** The Hardware Assistant starts again.

Each board requires the installation of several components.

- 6. Follow the instructions given by the Hardware Assistant.
- 7. Close the Hardware Assistant with "Finish".

#### Fig. 4-2: Assistant for searching for new hardware

Assistent für da	s Suchen neuer Hardware
Es wird gesuc	ht
J AF	PCI-7800 communications port 2
	3
	<zurück ∭eiter=""> Abbrechen</zurück>

The other ports of the board are installed automatically by the Hardware Assistant.

8. Start the PC again.

The installation is completed. The board is ready to operate.

You can configure the interfaces individually in Windows Device Manager according to your requirements. (see delivered technical manual of the board).

## 4.4.2 Installation of further serial interfaces

**9.** Repeat steps 1 to 3 as described above.

The PC recognises the new installed boards. The installation is done automatically.

**10.** Start the PC again.

The installation is completed. The boards are ready to operate.

## 4.5 Installation of the test software

- 1. Change to the CD drive and start the navigation screen AD-Drivers.exe.
- 2. Select the required board in the menu "Driver".
- 3. Click on the link "3. Start the MTTTY test program".

The test program is launched and you can run your board tests.

In case you want to install the test program on your PC, copy the file Mttty\_255.exe in CD:\MTTTY on your hard disk.

You will find further information about MTTTY and board test in the technical manual of your board.

# 5 PCI/ISA BUS: INSTALLATION OF THE OTHER PCI AND ISA BOARDS

## 5.1 List of the boards concerned

Bus system	Board name	Description
PCI bus	APCI-1500 (CPCI-1500)	Digital I/O board, optically isolated, 32 digital inputs/outputs, 24 V
PCI bus	APCI-3001 (CPCI-3001)	Analog input board, optically isolated
PCI bus	APCI-3120 (CPCI-3120)	Multifunction board, optically isolated
PCI bus	APCI-1710 (CPCI-1710)	Multifunction counter board, optically isolated
ISA bus	PA (e.g. PA 1000)	All boards with the name " <b>PA</b> "

#### Table 5-1: List of further PCI-boards

## 5.2 Delivered software

The board is supplied with a Driver CD-ROM (CD 1)

The CD contains:

- The ADDIREG configuration program for Windows NT 4.0 and Windows XP/2000/98
- Standard software drivers for the ADDI-DATA boards
- Specific programming tools: For example the SET1710 program for configuring the function modules of the APCI-1710, CPCI-1710, all functions implemented for the counter board or the ADDIMON test program (APCI-1500, APCI-3001, APCI-3120),
- Software examples.

## 5.3 Installation of the 16-bit drivers

## **IMPORTANT!**

The MS-DOS driver is delivered with the board on request.

Please contact our hotline: +49 (0) 7223 94 93 - 0.

## 5.3.1 Installation under Windows 3.11

- ♦ Log in with administrator rights.
- Install and configure one board after the other. Thus, you can avoid configuration errors.
- **1.** Switch off the PC.

- 2. If you have an ISA board (for PCI boards, please continue with step 4): Check, if the pre-set base address (see manual of the specific boards) is not occupied.
- **3.** If you have an ISA board: Select an interrupt line that is not occupied and set this line by a jumper, if necessary (see manual of the specific boards).
- 4. Insert the fist board.
- 5. Start the PC.
- 6. Insert the CD 1 "Standard Software Drivers" in the CD drive and start the navigation screen **AD-Drivers.exe**.
- 7. In "Driver" click on the required board.
- 8. Click in "Install the driver" on "Windows 3.11".

## 5.4 Installation under Windows NT

- ♦ Log in with administrator rights.
- ♦ Install and configure one board after the other. You will hence avoid configuration errors.
- **1.** Switch off the PC.
- 2. If you have an ISA board (for PCI boards, please continue with step 4): Check, if the pre-set base address (see manual of the specific boards) is not occupied. Hereto start under "Start/Programs/Administrative tools (common)/Windows NT diagnostics/resources. Click on "I/O Port". If the set base address is not displayed, it means that it is free. If it is already occupied, you have to set a new base address through the DIP switch of the board. Please refer to technical manual of the specific board.
- **3.** If you have an ISA board: Select a free interrupt line and set the line though jumpers, if necessary (see manual of the specific boards).
- 4. Insert the first board.
- 5. Start the PC.
- 6. Insert CD 1 "Standard Software Drivers" in the CD drive.

The navigation screen of the CD 1 starts automatically. If the introduction screen is not launched automatically, start the file **AD-Drivers.exe** in the root directory.

**7.** Install the configuration program ADDIREG through the menu "Registration software".

The installation program starts.

#### If ADDIREG is already installed on your PC, you have to:

- Uninstall the current ADDIREG version and install manually the latest version or
- cancel the installation process.
- 8. If the message "Der Keyboard Kernel wurde noch nicht gestartet, ... soll der Kernel jetzt gestartet werden?" (Problem when installing the system) is displayed by starting the program, uninstall the ADDIREG program through Start/Settings/Control panel/Add or remove software and install ADDIREG anew.
- 9. Proceed as indicated and close the installation program with "Finish".

#### 10. Register the board in ADDIREG

- Start ADDIREG through start/programs/ADDIREG
- Insert the selected board through "Insert"
- Register the board with "Set" and then "Save".

You will find more detailed information about ADDIREG and the board registration in the technical manual of your board.

- 11. Close ADDIREG with "Quit".
- **12.** Return to the navigation screen of CD 1 and click on the board to be installed in menu "Driver".
- **13.** Click in "2. Install the board driver" on "under Windows XP-2000-NT-98" (depends on the board).
- 14. Close all open windows.
- 15. Restart the PC.

The installation process is completed. The board is ready to operate.

## 5.5 Installation under Windows XP/2000/98

- **1.** Switch off the PC.
- 2. If you have an ISA board (for PCI boards, please continue with step 4): Check, if the pre-set base address (see manual of the specific boards) is not occupied.

Hereto start Start/Settings/Control Panel/System/Hardware the device manager. Set the view of the window on "resources by type". If the set base address is not displayed in "input/output", then it is free. If it is occupied, you have to set a new base address by the DIP switch of the boars. Please refer to the technical manual of your board.

**3.** If you have an ISA board: Select an interrupt line that is not occupied and set this by jumpers, if necessary (see manual of the specific boards).

- **4.** Insert the board.
- 5. Start the PC.

The Hardware Assistant starts the installation of the INF files and of the driver.

**6.** Insert CD 1 "Standard Software Drivers" in the CD drive and proceed as indicated by the Hardware Assistant until the installation is completed.

The installation program "Install Shield Wizard" starts. If the navigation screen of the CD is launched, please reduce this window.

- 7. Follow the instructions of the program.
- 8. Close all open windows with "Finish"
- **9.** Start the **AD-Drivers.exe** in the root directory of CD 1 (if it is not already opened).
- **10.** Install the configuration program ADDIREG through the menu "Registration software".

The installation program starts.

#### If ADDIREG is already installed on your PC, you have to :

- Uninstall the current ADDIREG version and manually install the latest version from CD 1 or
- Cancel the installation process.
- **11.** Follow the instructions of the program and close the active windows with "Finish".
- 12. Register the board in ADDIREG.
- Start ADDIREG through start/programs/ADDIREG
- Insert the selected board through "Insert"
- Register the board with "Set" and then "Save".

You will find more detailed information about ADDIREG and the board registration in the technical manual of the specific board.

13. Close ADDIREG with "Quit".

**14.** Return to the navigation screen of CD 1 and click in the menu "Driver" on the board to be installed.

15. Click in "2.Install the board driver" on "under Windows XP-2000-NT-98".

**16.** Close all open windows.

17. Restart the PC.

The installation process is completed. The board is ready to operate.

## 5.6 Installation of the software samples

#### ♦ Insert CD 1 "Standard Software Drivers" in the CD drive.

The navigation screen of CD 1 starts automatically. If the introduction screen is not launched automatically, start the **AD-Drivers.exe** in the root directory.

#### • Under "Driver" select the board to be installed.

#### ♦ Click on "3. Install the software samples".

A new window is displayed.

#### • Click on the required programming language for the used operating system.

Further instructions are given by the installation program.

If you want to install the samples manually, you can find the setup.exe files under:

CD:\[Board name]\[Operating system] \Samples\[Programming language]\Disk1 or

CD:\[APCI1710]\[Operating System]\Samples\[Programming language]\[Function]\Disk1

On your PC you can access the software samples through the directory: ADDIDATA\16bit\[Board name]\[Programming language] or ADDIDATA\32bit\[Board name]\[Programming language].

## 6 UPDATE OF THE DRIVERS/PROGRAMS/INF FILES

If you download the new drivers from our website or receive files from our hotline service, do not forget to update the drivers and inf files that are already installed on your PC.

## 6.1 Update of the INF files (only valid for PCI boards)

- ♦ Create an archive directory INF\_ARCHIVE in C:\ADDIDATA.
- ♦ Search in [Windows]\INF<sup>1</sup> on your hard disk all INF and PNF files, which begin with oem[numbers]. With the "Search or Find" function of Windows Explorer
- ◆ Search for oem\*.inf and oem\*.pnf files with ADDI-DATA as word or phrase included in the file.

# 1

#### **IMPORTANT!**

The INF directory is a hidden folder.

If the INF directory is not displayed, open in the Windows Explorer the window tools/"folder options"/ "view" and select "Show hidden files and folders".

Drag and drop all above mentioned file into the INF\_Archive directory.

The files may be not be present anymore in [WINDOWS]\ INF. Only if by the next installation of an ADDI-DATA board, the operating system will hold the current INF files from the given data carrier and store them.

If you do not proceed as indicated above, the old iNF files will be used automatically every time you want to install a new board.

# 6.2 Update of the drivers and programs (valid for PCI and ISA boards)

If you want to update ADDI-DATA programs or the drivers of your board, you first have to uninstall the current version from your PC.

Uninstall the software with the uninstall program of your operating system.

You find this software under:

- Start/Settings/Control Panel/Add or Remove Programs
- Select the board driver or program (e.g. ADDIREG) and click on "Remove". Proceed as indicated by the uninstall program.

Install the new version from your data carrier according to the installation instructions which correspond to your board and used operating system (see former chapters).

<sup>&</sup>lt;sup>1</sup> e.g.: Winnt/INF

# 7 UNINSTALLING THE SOFTWARE

## 7.1 Uninstalling ADDI-DATA drivers and programs

You can uninstall the software through the "Add or Remove Programs" function of your operating system.

You find this software under:

- Start/(Settings/)Control panel/Add or remove programs
- Select the board driver or the programs (e.g. ADDIREG) and click on "Remove". Further information for uninstalling the programs will be displayed.

# **IMPORTANT!** The following information is only valid for PCI boards:

Search in [Windows]\INF<sup>1</sup> on your hard disk all INF and PNF files, which begin with oem[numbers]. With the "Search or Find" function of Windows Explorer search for oem\*.inf and oem\*.pnf files with ADDI-DATA as word or phrase included in the file.

#### **IMPORTANT!** The INF director

The INF directory is a hidden folder.

Should it not be displayed in the Windows Explorer go to the Tools menu and Select "folder options". On the "view" tab enable "Show hidden files and folders".

**Delete** all the above mentioned files.

**The files may not to be present in the INF directory anymore.** Only in this case and by the next installation of an ADDI-DATA board the operating system will hold the current INF files from the given data carrier and store them.

# 7.2 Clear the registration of a communication board (PCI and ISA boards)

## 7.2.1 Clear the registration under Windows NT

Start ADDIREG and select the board(s) to be cleared.

A single board is cleared with "Clear".

<sup>&</sup>lt;sup>1</sup> e.g.: Winnt/INF

If you want to clear all boards, click on "Deinstall registration". (See the corresponding paragraph in the technical manual of the installed communication board)

## 7.2.2 Clear the registration under Windows XP/2000/98

Open the Device Manager under Start/(Settings/)Control panel/System and click on the board to be deleted and proceed as indicated until the board is no more displayed.

# 8 APPENDIX

Board	Product range		PACK ard	See chapter	Board	Product range	A		ADDIPACK board
		Yes	No				Yes		No
APCI-035	Watchdog	Х		3	APCI-3106	Analog	Х		
APCI-1016	Digital	Х		3	APCI-3110	Analog	Х		
APCI-1024	Digital	Х		3	APCI-3116	Analog	х		
APCI-1032	Digital	X		3	APCI-3120, CPCI-3120	Analog			X
APCI-1500, CPCI-1500	Digital		х	5	APCI-3122	Analog	Х		
APCI-1516	Digital	х		3	APCI-3200	Analog	X		
APCI-1564	Digital	х		3	APCI-3300	Analog	х		
APCI-1710, CPCI-1710	Counter		Х	5	APCI-3500	Analog	Х		
APCI-2016	Digital	х		3	APCI-3501	Analog	X		
APCI-2032	Digital	х		3	APCI-3504	Analog	X		
APCI-2200	Digital	х		3	APCI-3600	Analog	X		
APCI-3000	Analog	х		3	APCI-3701	Analog	X		
APCI-3001,	Analog		х	5	APCI-7300-3	Serial			Х
CPCI-3001						interface			
APCI-3002	Analog	х		3	APCI-7420-3	Serial interface			Х
APCI-3003	Analog	X		3	APCI-7500-3 CPCI-7500	Serial interface			Х
APCI-3006	Analog	Х		3	APCI-7800-3	Serial interface			Х
APCI-3010	Analog	х		3				ſ	
APCI-3016	Analog	Х		3					
APCI-3100	Analog	Х		3					

Table 8-1: All boards for the PCI and CompactPCI bus