



**DIN EN ISO9001
certified**



**ADDI-DATA GmbH
Dieselstraße 3
D-77833 OTTERSWEIER**



**Technical support:
+49 (0)7223 / 9493 – 0**

Preliminary version



Technical description

ADDEVICE MAPPER

**Management of the
ADDI-DATA virtual board**

1st edition 06/2003

Copyright

All rights reserved. This manual is intended for the manager and its personnel.
No part of this publication may be reproduced or transmitted by any means.
Offences can have penal consequences.

Guarantee and responsibility

Basically are effective our "general terms of delivery and payment". The manager receives them at the latest with the invoice. Claims for guarantee and responsibility in case of injuries and material damages are excluded, if they are due to one or some of the following causes:

- if the board has not been used for the intended purpose
- improper installation, operation and maintenance of the board
- if the board has been operated with defective safety devices or with not appropriate or non-functioning safety equipment
- non-observance of the instructions concerning: transport, storage, inserting the board, use, limit values, maintenance, device drivers
- altering the board at the user's own initiative
- altering the source files at the user's own initiative
- not checking properly the parts which are subject to wear
- disasters caused by the intrusion of foreign bodies and by influence beyond the user's control.

Licence for ADDI-DATA software products

Read carefully this licence before using the standard software. The right for using this software is given to the customer, if he/she agrees to the conditions of this licence.

- this software can only be used for configuring ADDI-DATA boards.
- copying the software is forbidden (except for archiving/ saving data and for replacing defective data carriers).
- deassembling, decompiling, decoding and reverse engineering of the software are forbidden.
- this licence and the software can be transferred to a third party, so far as this party has purchased a board, declares to agree to all the clauses of this licence contract and the preceding owner has not kept copies of the software.

Trademarks

Borland C and Turbo Pascal are registered trademarks of Borland International, INC.

Intel is a registered trademark of Intel Corporation.

AT, IBM, ISA and XT are registered trademarks of International Business Machines Corporation.

Microsoft, MS-DOS, Visual Basic and Windows are registered trademarks of Microsoft Corporation.

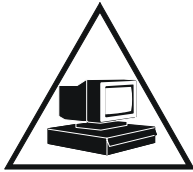
The original version of this manual is in German. You can obtain it on request.

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 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	ADDIPACK BOARD LIST.....	1
2	PROGRAM INSTALLATION	2
2.1	First installation of the program	3
2.2	Interaction with ADDIREG	3
3	DESCRIPTION OF THE USER INTERFACE	4
3.1	Title bar	5
3.2	Menu bar ❶.....	5
3.2.1	Program (Alt+P)	5
3.2.2	Virtual board configuration (Alt+V)	6
3.2.3	View (Alt+I).....	6
3.2.4	Extra (Alt+X) - Not available for this version	7
3.2.5	Information: ? (Alt+?)	7
3.3	Icons ❷	7
3.4	Tree structure ❸ of the user interface.....	8
3.4.1	Inserted boards (right side, ❷).....	8
	Structure of the right column - View as Board	8
	Structure of the right column - View as Functionality.....	9
3.4.2	Virtual board (linke Seite, ❸)	9
4	PROPERTIES OF THE INSTALLED BOARDS	10
4.1	Check the properties	10
4.2	Display the corresponding resource in Virtual Board....	10
4.3	Modify the board classification	11
5	MANAGING THE VIRTUAL BOARD	12
5.1	Display the corresponding resource in Real Board.....	12
5.2	Check the properties	12
5.3	Modify the text	12

Figures

Fig. 2-1: Interaction with ADDIREG (example).....	3
Fig. 3-1: ADDEVICE MAPPER user interface	4
Fig. 3-2: "Program" pull-down menu.....	5
Fig. 3-3: "Accesskey" dialog box	5
Fig. 3-4: "Virtual board ..." pull-down menu	6
Fig. 3-5: "Board" view (Real boards).....	6
Fig. 3-6: "Functionality" view (Real boards)	7
Fig. 3-7: Icons.....	7
Fig. 3-8: Structure of the "Real Board" Column - View as Board	8
Fig. 3-9: Structure der "Real Board" Column - View as Functionality ...	9
Fig. 3-10: Structure der "Virtual Board" Column.....	9

Tables

Table 1-1: ADDIPACK board list	1
--------------------------------------	---

1 ADDIPACK BOARD LIST

Table 1-1: ADDIPACK board list

Board	Description
	Digital input board, 16 inputs, 24 V, PCI bus
	Digital input board, 32 inputs, 24 V, PCI bus
	Digital input board, 24 inputs, 0-60 V, PCI bus
	Digital input and output board, 8 inputs, 8 outputs, 24 V, PCI bus
	Digital input and output board, 32 inputs, 32 outputs, 24 V, PCI bus
	Digital output board, 16 outputs, 24 V, PCI bus
	Digital output board, 32 outputs, 24 V, PCI bus
	Relay output board, 8 or 16 relays, 8 digital inputs, 24 V, PCI bus
	Acquisition of thermocouples and RTDs, 4 dig. inputs, 3 dig. outputs, PCI bus
	Analog pressure measurement board, 4 dig. inputs, 3 dig. outputs, PCI bus
	Analog output board, 4 outputs, 12-bit, 10 dig. inputs, 12 dig. outputs, PCI bus
	Analog output board, 14-bit, 4 digital I/O, PCI bus
	Analog output board, 4 current or voltage outputs, PCI bus
	Acquisition of displacement transducers, PCI bus
	Watchdog board, PCI bus

2 PROGRAM INSTALLATION

The ADDI-DATA boards are supplied with a driver CD-ROM (CD1) 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 CD2 "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 single (virtual) board. 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!

Internet Explorer 6 or higher has to be installed on your PC.

2.1 First installation of the program



IMPORTANT!

The ADDIPACK version 2120/0302 must be installed on your PC.

Older versions are not compliant with ADDEVICE MAPPER.

- ◆ Change to the CD drive.
- ◆ Under CD1/ADDIPACK/ADDEVICEMAPPER start the setup.exe file.
- ◆ Follow the instructions of the installation program.

Once the ADDEVICE MAPPER program is installed, you can start it through start/programs at any time.

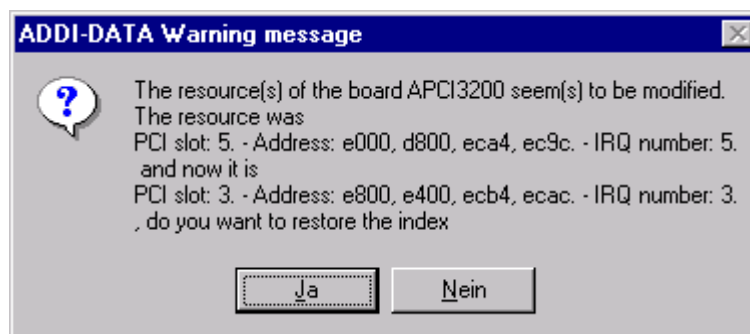
2.2 Interaction with ADDIREG

If you insert or modify a board (e.g. by changing the slot place or the resources), the board has to be registered by ADDIREG and ADDEVICE MANAGER (See the technical manual corresponding to your board). With Plug-&-Play operating systems (Windows XP/2000/98) the registration occurs automatically.

If the configuration of a board is modified by ADDIREG or ADDEVICE MANAGER, ADDEVICE MAPPER is automatically called up. The indexes are updated simultaneously.

A message is displayed which requires the confirmation of the modification.

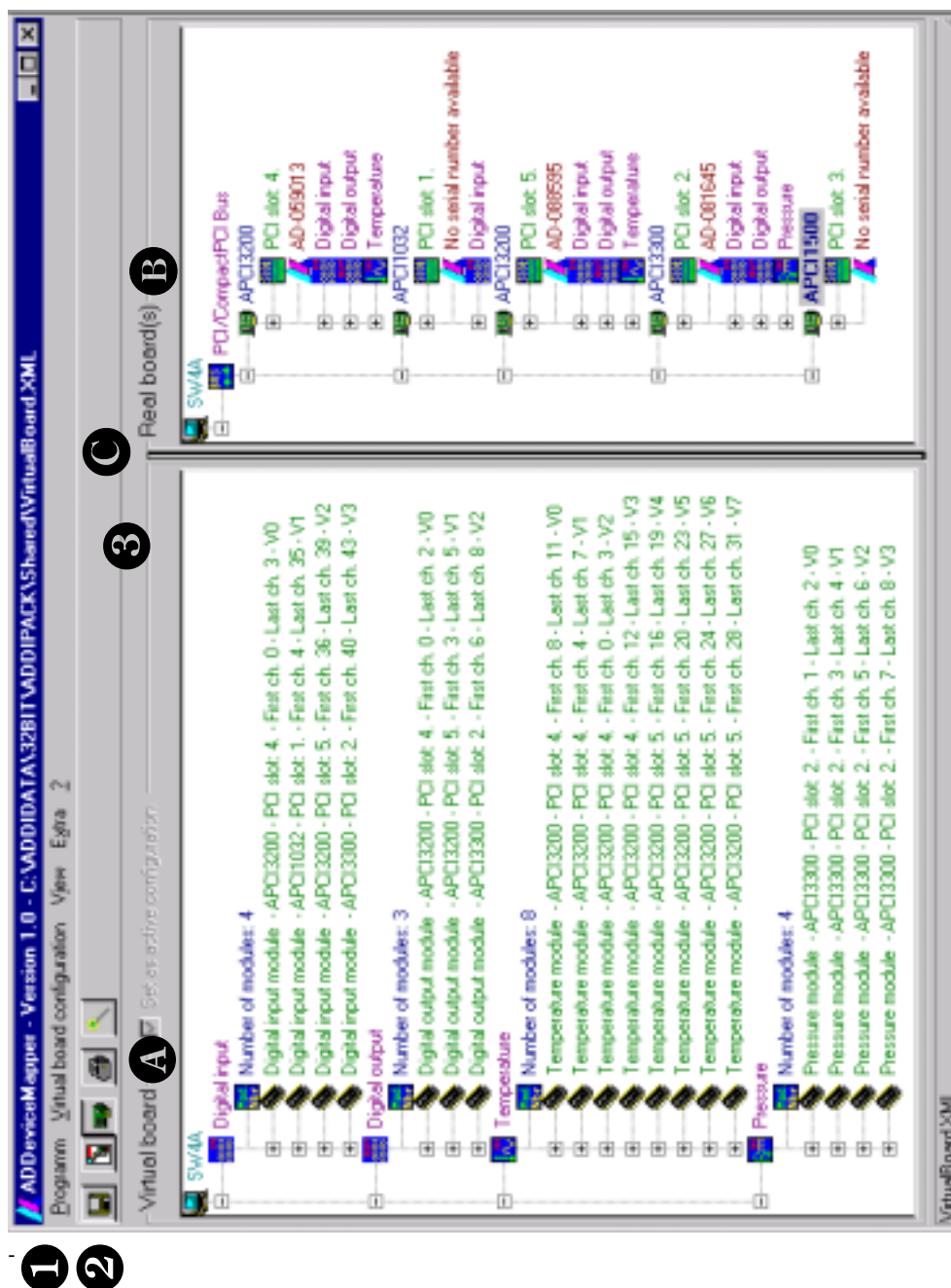
Fig. 2-1: Interaction with ADDIREG (example)



If you operate the board under Windows NT 4.0 and change the configuration, a message is displayed asking to start ADDIREG. Follow the instructions given on the screen and register the board in ADDIREG, before operating it through ADDEVICE MAPPER.

3 DESCRIPTION OF THE USER INTERFACE

Fig. 3-1: ADDEVICE MAPPER user interface



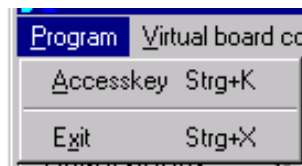
3.1 Title bar

Program name, version number, name and path to the file. The file name is also displayed in the status bar.

3.2 Menu bar ①

3.2.1 Program (Alt+P)

Fig. 3-2: "Program" pull-down menu



With **Accesskey (Strg+K)** the configuration of the virtual board can be locked. By registering a password the first time, a message is displayed. When clicking on OK the dialog box figured below opens. Enter your user name and password and register your profile by clicking on "Register".

If you want to lock the settings with a password, it is recommended to use the preset password at the first time.

The set profile is as follows:

User name: Admin

Key: Admin

Fig. 3-3: "Accesskey" dialog box



ChangeAccessKey: You can only change the "User Name" and "Key" if you log in with your profile. Enter the new name and password and save them with ChangeAccessKey. You have to confirm the new password.

DisableChangeAccessKey: The password request before logging in is disabled.

Exit (Strg+X): Quit the program.

3.2.2 Virtual board configuration (Alt+V)

Fig. 3-4: "Virtual board ..." pull-down menu



In this menu you can save the XML file of the virtual board and print it for controlling.

By starting the program the current version of the file is opened.

Save: Each time you save a backup file is created. The backup files are stored in the same directory as the current XML file. The path is given in the title bar. The extensions of the backup files are numbered in rising order (realboard.000, realboard.001, realboard.002,...) and figure the order of the different updates.

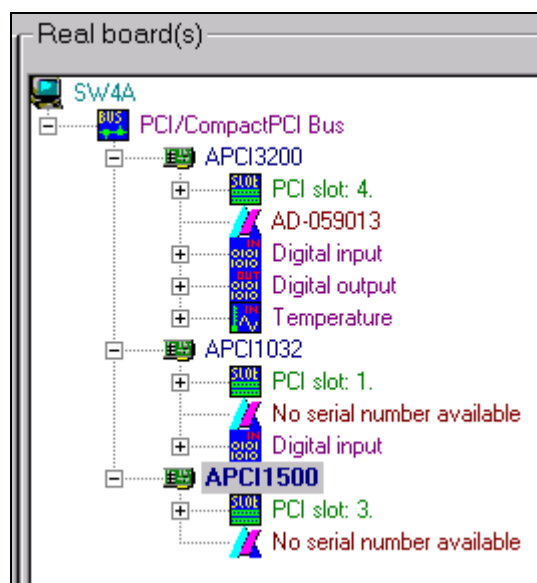
Print: Configuration data is converted in a table and displayed in a browser windows. This table can then be printed through the print function of the browser.

3.2.3 View (Alt+I)

This program allows 2 different views of the right side (**B**) of the user interface (hardware boards).

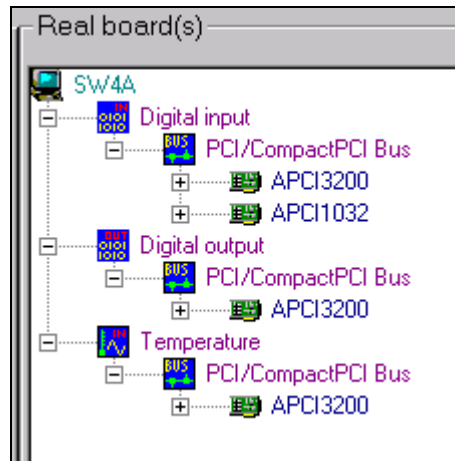
"Boards"(Strg+B): Information is ordered according to the inserted boards (in blue in the figure below).

Fig. 3-5: "Board" view (Real boards)



"Functionality" (Strg+F): Information is ordered according to the resources i.e. the functionality (digital input, digital output,...).

Fig. 3-6: "Functionality" view (Real boards)



3.2.4 Extra (Alt+X) - **Not available for this version**

With Auto-Index (Strg+F5) the user can allocate an automatic index to the modules or channels of the virtual board.

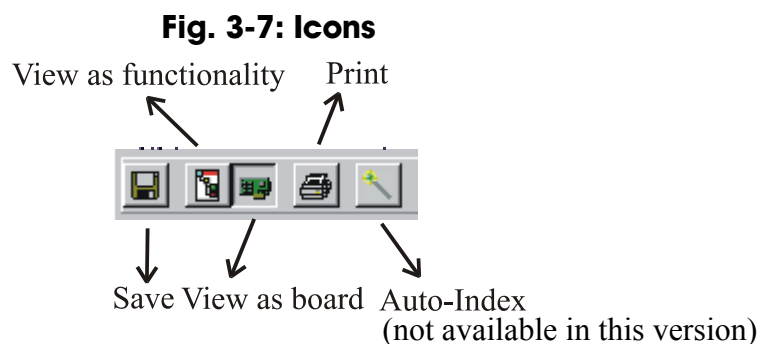
3.2.5 Information: ? (Alt+?)

Under **Info (Strg+I)** you will general information about the program (e.g. version number).

By clicking on **Readme (Strg+R)** an HTML file opens and displays short instructions for using the program.

3.3 Icons ②

The icons directly access the different menus of the program.



3.4 Tree structure ③ of the user interface

The interface is split in 2 columns:

- inserted boards, right side, ②
- virtual board (left side, ①)

Both columns can be selected with the mouse or the keyboard (tabulator-key). The separation bar (③) between the columns can also be shifted (with the mouse; Strg+, Strg- or tabulator and + or -).

3.4.1 Inserted boards (right side, ②)

The right side of the user interface lists the boards inserted in the PC /Device, (See Fig. 3-1). The ADDIPACK boards are displayed first.

i

IMPORTANT!

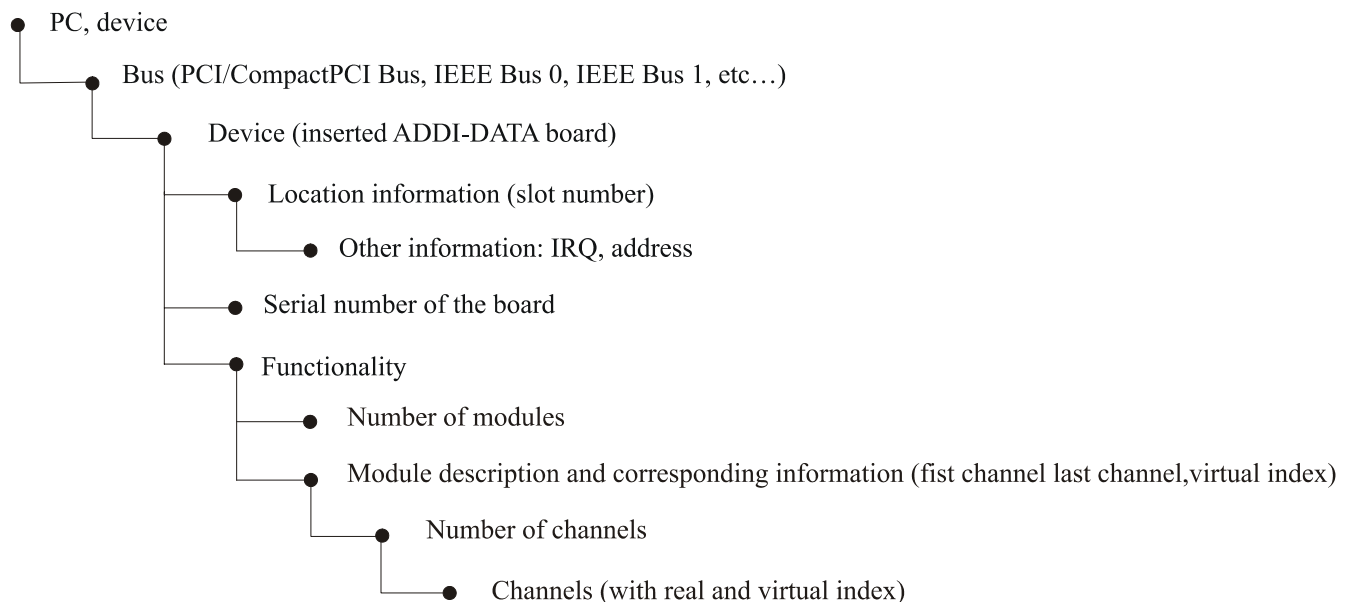
The boards marked in bold in a grey frame are **not** ADDIPACK boards.

They cannot be configured through this program.

Structure of the right column - View as Board

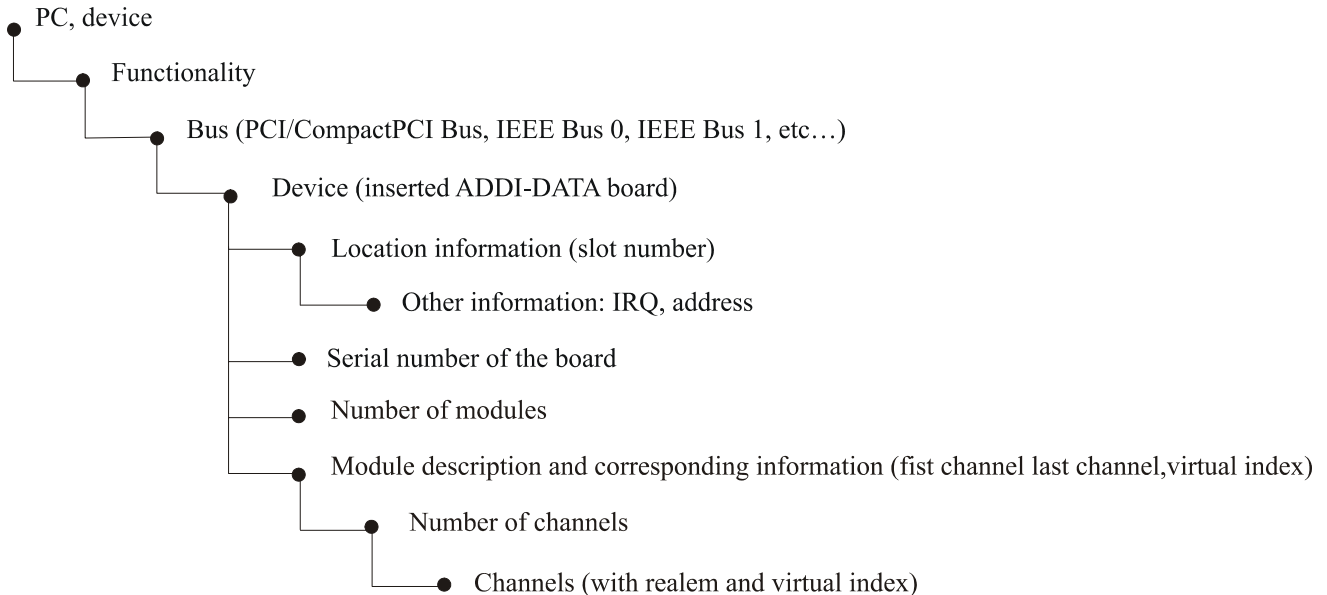
The "Real Board" column is structured as a directory tree. (See Fig. 3-1)

Fig. 3-8: Structure of the "Real Board" Column - View as Board



Structure of the right column - View as Functionality

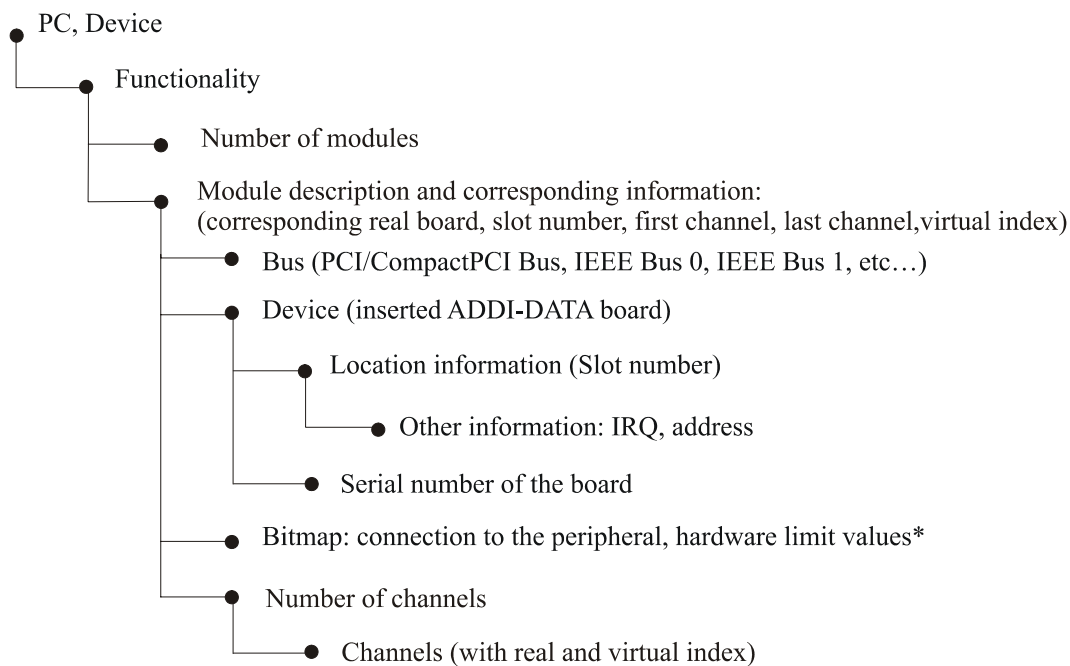
Fig. 3-9: Structure of the "Real Board" Column - View as Functionality



3.4.2 Virtual board (linke Seite, **A**)

Auf dieser Seite ist nur ein Anzeige-Modus möglich.

Fig. 3-10: Structure of the "Virtual Board" Column



* A Bitmap file with connection principle and channel specifications is displayed when clicked on.

4 PROPERTIES OF THE INSTALLED BOARDS

Both column views (Virtual and Real) are automatically updated after the installation of a new board.

After registering your board in ADDIREG, start ADDEVICE MAPPER. Die right side is updated with the new inserted boards.

Data about the virtual indexes is also automatically actualised.



IMPORTANT!

The boards marked in bold with in a grey frame are **not** **ADDIPACK boards** (See Fig. 3-1).

They cannot be configured through this program.

4.1 Check the properties

With the right mouse button, the Windows-properties key or by typing the **P**-key you can display the different properties of the selected board and the corresponding functionalities in the virtual board.

The window "Properties" has 2 fields.

The modifiable properties are displayed in the above field "Modifiable properties". Only the serial number of the inserted board can be modified unless the board has a serial number programmed by hardware.

By clicking on the left mouse button or with "Enter" on "No serial number available" you can enter the actual serial number of the board in the program. (See sticker on the board packing or on the bottom layer board). Confirm your modification with Modify in "Modify" dialog box. The serial number is then marked with a [*].

The index, the name of the module nor the channels can be modified. These properties are displayed under "Fixed Properties".

4.2 Display the corresponding resource in Virtual Board

Under "Find by virtual board"¹ you can find a module or a channel on the virtual board side. Select a resource in the right column and press "Find by virtual board". The corresponding element in the left column is marked.

¹ right-button click, Windows-properties key or typing the **F**-key

4.3 Modify the board classification



IMPORTANT!

you can only modify the board classification in the "Board" view.

Mark the wished board. Let the left mouse button pressed and shift the board to the wished place.

The cursor is displayed as a thick black arrow. If you shift the board downwards, it is shifted after the board marked in grey. If you shift the board upwards it is shifted before the board marked in grey.

Before each "Drag and Drop" action the program automatically tests the structure to detect any conflict.

If there is no detectable conflict, a dialog box appears and ask for confirmation of the modification. Confirm the board shift with "OK".

If a board cannot be shifted, a cross on red background is displayed instead of the black arrow. You cannot shift a board after a "non-ADDIPACK" board either.

After shifting the board, the virtual board is automatically saved by ADDEVICE MAPPER.

5 MANAGING THE VIRTUAL BOARD

Both column views (Virtual and Real) are automatically updated after the installation of a new board.

After inserting your board start the PC again and start ADDEVICE MAPPER. Die left side is updated with the new inserted boards.



IMPORTANT!

The different modules in the column "virtual board" cannot be shifted.

A cross on red background is displayed instead of the black arrow.

5.1 Display the corresponding resource in Real Board

Under "Find by real board"¹ you can find a module or a channel of the virtual board on the real board side. Select a resource in the right column and press "Find by real board". The corresponding element in the right column is marked.

5.2 Check the properties

With the right mouse button, the windows-properties key or by typing the **P**-key you can display the different properties of the selected module of the virtual board and modify it.

The windows "Properties and dependent data" has 2 fields.

The non-modifiable properties of the selected module or channel are displayed under "Fixed Properties".

5.3 Modify the text

The modifiable properties are displayed in the above field "Modifiable properties". By clicking on the left mouse button or with "Enter" on the wished element you can change the text in the "Modify" dialog box. Confirm with "modify".

¹ right-button click, Windows-properties key or typing the **F**-key