

Introduction

The JETWay board realizes a JETWay interface in the form of a PC expansion board for the ISA bus. Via the JETWay field bus system, several slaves can be addressed by one master.

The max. transmission rate of the data across the JETWay is 115200 baud at a max. line length of 400 m.



Note

The JETWay field bus system may not have a star-shaped or ring-shaped topology.

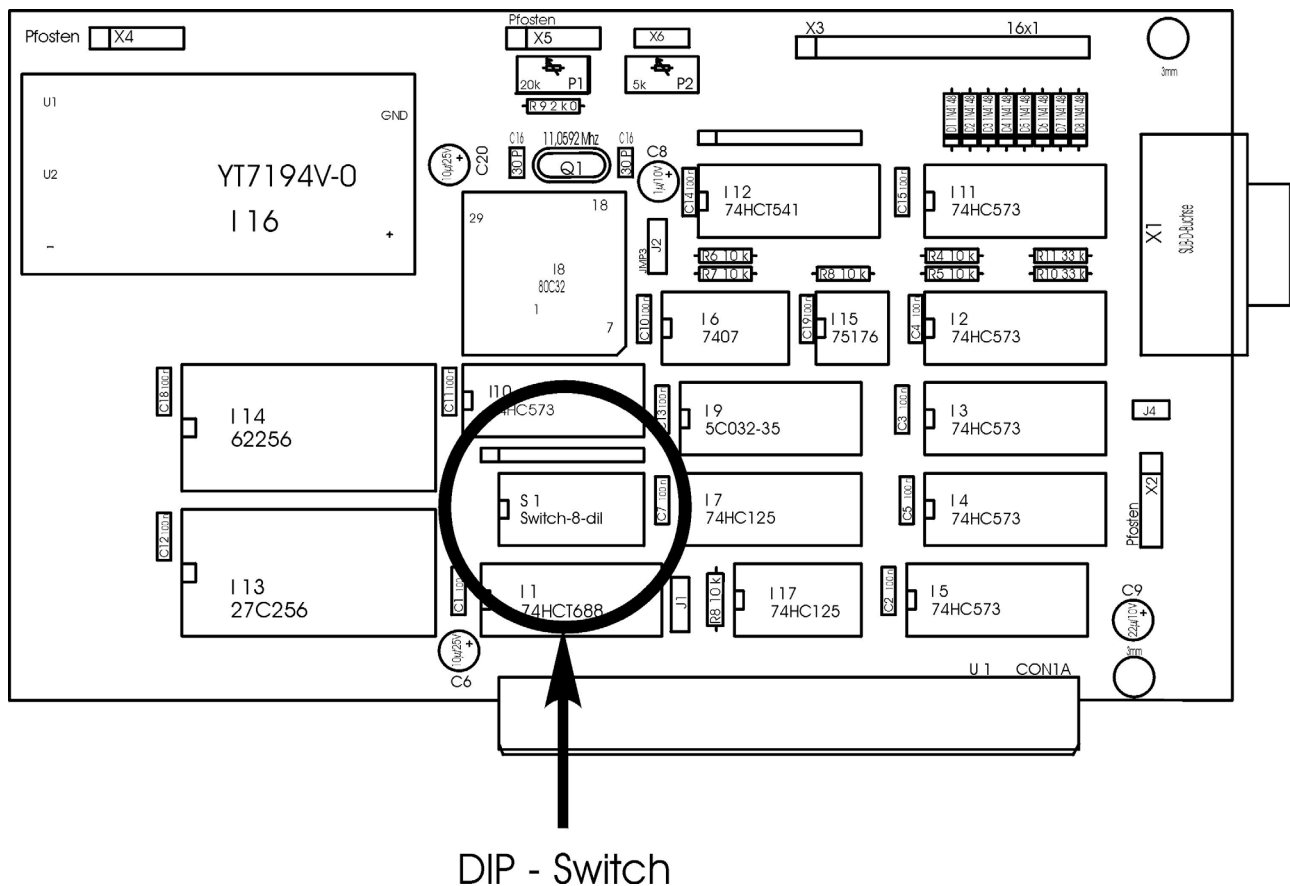


Figure 1

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Setting the Port Address

Before inserting the JETWay board into the computer, the port address must be set on the board which allows the software to interact with the JETWay board.

The port address is set by a DIP switch (see Figure 1) according to Table 1.

Port X	S 1	S 2	S 3	S 4	S 5	S 6	S 7
300h	ON	ON	ON	ON	ON	OFF	OFF
310h	ON	OFF	ON	ON	ON	OFF	OFF
320h	ON	ON	OFF	ON	ON	OFF	OFF
330h	ON	OFF	OFF	ON	ON	OFF	OFF
340h *)	ON	ON	ON	OFF	ON	OFF	OFF
350h	ON	OFF	ON	OFF	ON	OFF	OFF
360h	ON	ON	OFF	OFF	ON	OFF	OFF

Table 1

*) Default

DIP slider **S 8**
remains unused

Important:

If the PC is equipped with other boards in addition to the JETWay board (e.g. PC-PPLC, modem, ...), different port addresses must be assigned to the individual boards, for instance 340h and 350h. The port address saved to the configuration files of the computer must be identical with the port address set on the board.

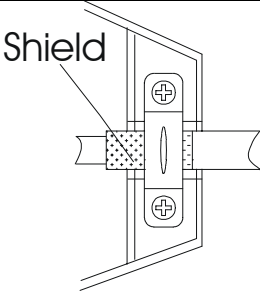
Installing the JETWay Board in the PC

This description only serves as overview.

Please follow the instructions given in the documentation of your computer !

- Power off your computer and pull out the mains plug.
- Make sure your workplace is grounded and wear a grounded antistatic wristband to prevent damages to the sensitive electronics of your computer.
- Remove the cover of your computer.
- Find a free ISA slot.
- Remove the slot plate at the ISA slot.
- Insert the JETWay board into the ISA slot. Make sure that the JETWay board is inserted completely.
- Fasten the slot plate of the JETWay board to the computer housing.
- Check all plugs for proper connection.
- Reattach the cover.
- Connect the computer to the mains and switch it on.

Connecting Cable from the JETWay Board to the Controller

JETWay Cable		
Connection to the controller or JETWay board	Shield	Specification
9-pin SUB-D male connector or 15-pin SUB-D male connector	 <p>Connect shield with greatest possible surface area! Use metallized housing!</p>	RS485
PIN	Signal	PIN
7	GND	7
8	Data +	8
9	Data -	9

When manufacturing the JETWay-cable, the following minimum requirements must be met (also for EMC):

1. Number of cores: 3
2. Core cross-sectional area: 0,25 mm²
3. Male connector: SUB-D, metallized
4. Max. cable length: 400 m
5. Shield: complete shielding, no paired shielding

The shield must be connected to the metallized connector housings on both ends of the cable with the greatest possible surface area.

Installing the JETWay Board under DOS, Windows 95 and Windows 98

Insert the following line into the *Autoexec.bat* file by using a simple text editor:

```
SET JETWAY_PORT=340h
```

If you have set another port address on the JETWay board than 340h, please modify the above line accordingly.

The SYMPAS settings must also be modified accordingly to allow programming via the JETWay board.

Installing the JETWay Board under Windows NT and Windows 2000

- Insert the following line into the *Autoexec.nt* file (usually located in the directory *C:\WINNT\system32*):

```
SET JETWAY_PORT=340h
```

(If there is no *Autoexec.nt* file on your hard disk, please insert this line in the *Autoexec.bat* file.)

If you have set another port address on the JETWay board than 340h, please modify the above line accordingly.

- The next step is to execute the installation program *SetupJetterBoard_e.exe*. This program serves to log on the JETWay board at the Windows operating system and thus allows application programs to access the expansion board.
The installation program can be obtained from Jetter, for example via download from our homepage (<http://www.jetter.de>).

It is recommended to close all programs when installing the JETWay board.

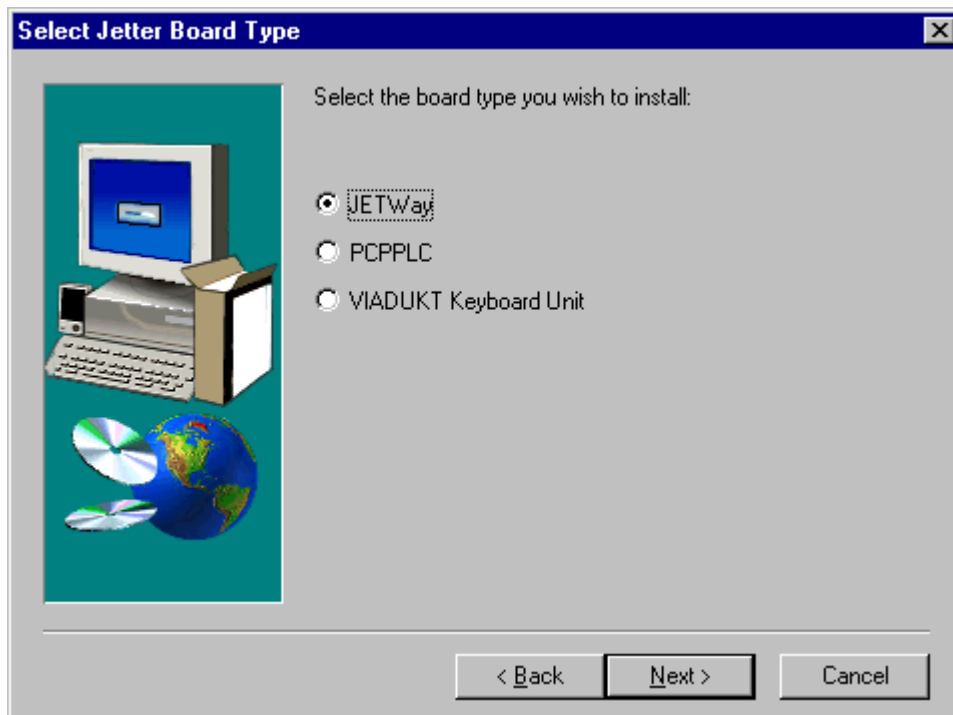


Figure 2

After having started *SetupJetterBoard_e*, click the JETWay option button (see Figure 2). Besides, this program enables PC-PPLC and VIADUKT keyboard expansion boards to be logged on at the Windows operating system.

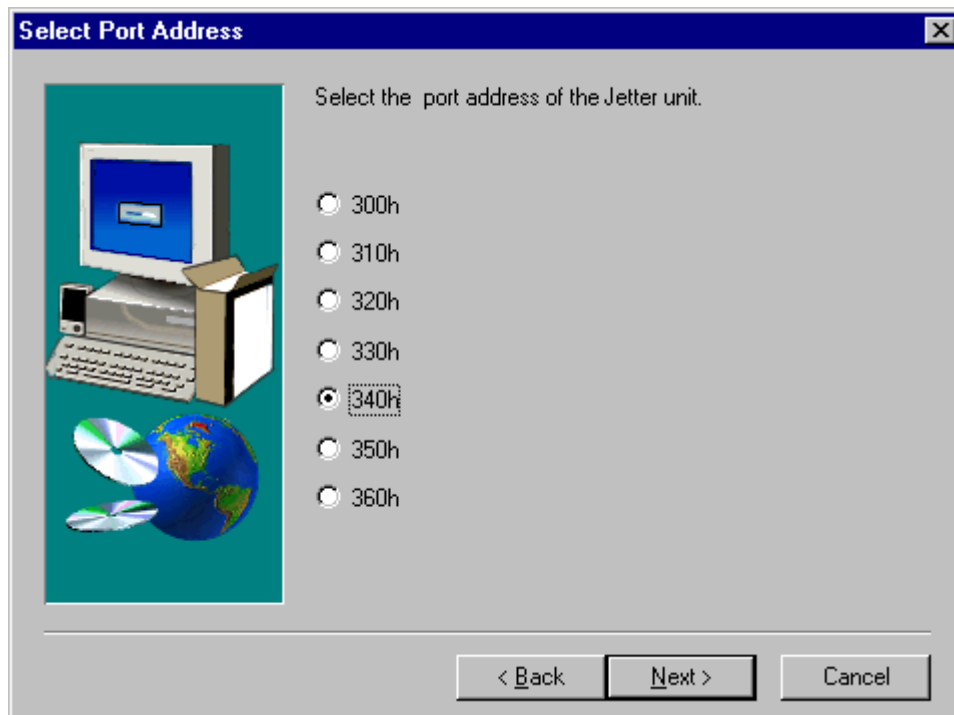


Figure 3

Next, select the port address. The selected port address must be identical with the port address set on the JETWay board (Figure 3).



Figure 4

The program now prompts you to select an installation directory (Figure 4).

In the *Start / Programs* menu of the Windows task bar, a new folder is created with the name *Jetter-Board*. The folder contains a program which serves to test the JETWay board.

When starting this program, a dialog box opens (see Figure 5). The program will find a correctly installed JETWay board automatically.
Click the *Test* button.

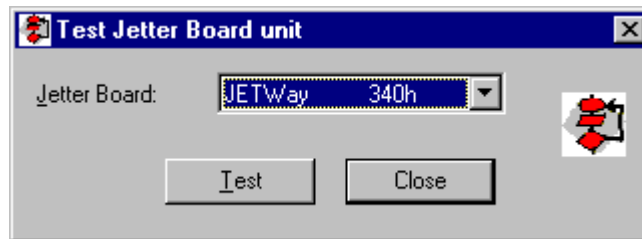


Figure 5

When the program has found the JETWay board at the specified address, a message box appears to confirm this.

Restart the computer to modify the settings in SYMPAS accordingly to being able to program via the JETWay board.

Settings in SYMPAS

The following settings have to be made in SYMPAS irrespective of the operating system of your computer.

Establishing a connection to the NANO-B CPU serves as example for this application note.

To do so, start SYMPAS and press the key combination *CTRL-E*, or select *Special / Settings* from the menu. A dialog window opens (Figure 6). Press the key combination *ALT-Y* to activate a menu where you select the controller type *NANO-B* by means of arrow keys. Confirm by pressing the Enter key.

To close the dialog window, press the Enter key.

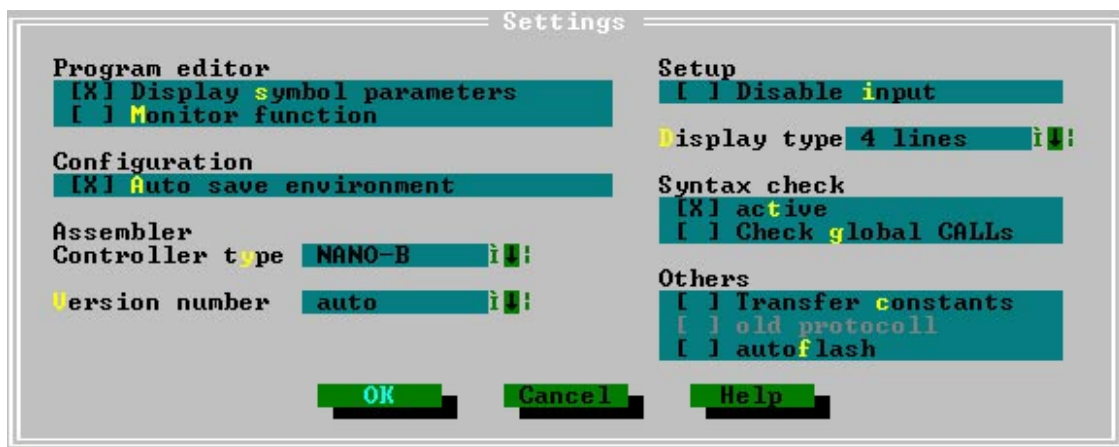


Figure 6

Select *Special / Interface* from the menu and adjust the mode to JETWay by pressing the key combination *ALT-M* (see Figure 7).

The SlaveNo. is automatically set to 2, the timeout to 500 ms and the baud rate to 115200 baud. These are already the correct values and must therefore not be changed.

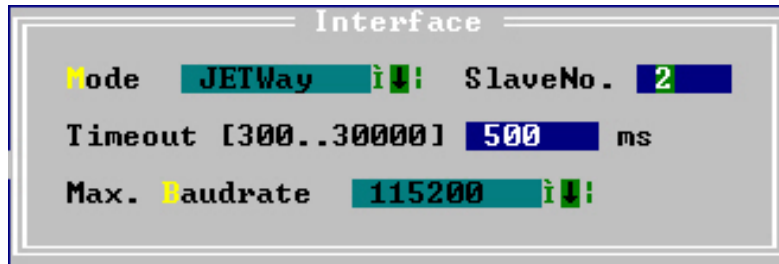


Figure 7

If the NANO-B CPU is accessed successfully via the JETWay board, SYMPAS will indicate this in the set-up screen (Figure 8).

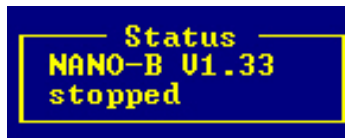


Figure 8

Settings in JetSym

The following settings have to be made in JetSym irrespective of the operating system of your computer.

Establishing a connection to the NANO-B CPU serves as example for this application note.

Besides, it is assumed that a project with the name `Blink` has already been created and opened in JetSym.

Open the *Project Settings* dialog window by selecting *Project / Settings* from the menu (key combination *Alt + F7*), or from the context menu of the project in the *FileView* window.

The right part of the dialog window indicates configuration-specific settings. Connection-specific details are indicated on the *Controller* tab (see Figure 9).

View this tab by clicking the *Controller* tab with the right mouse button.

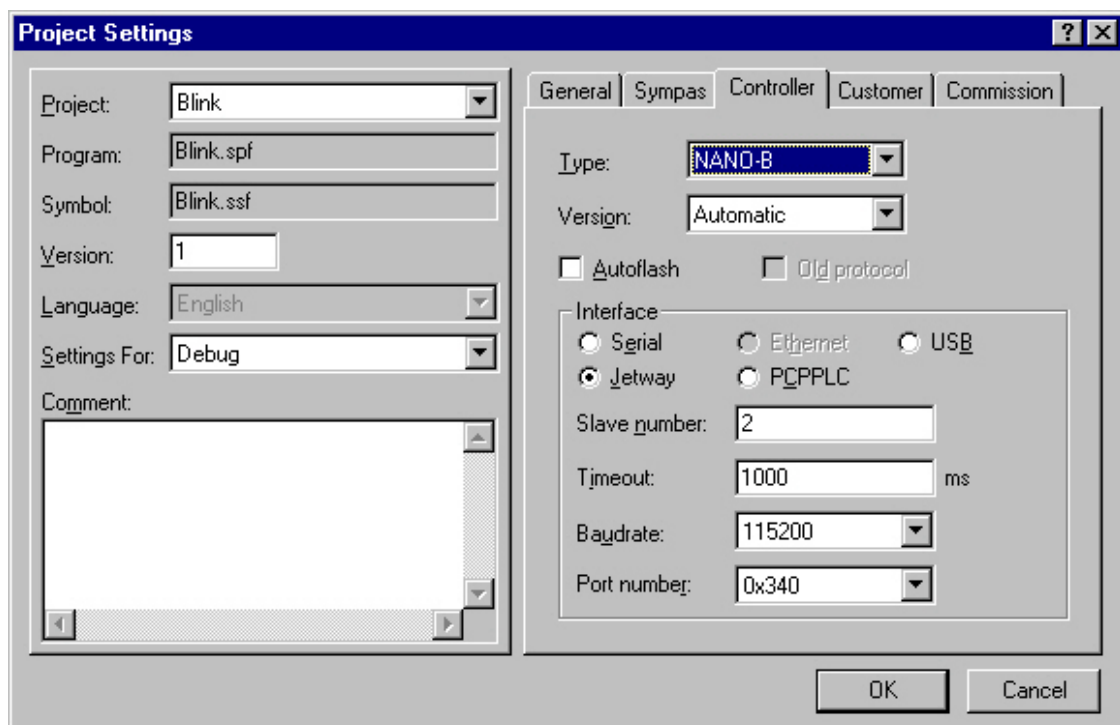


Figure 9

Click the *JETWay* option button with the left mouse button. The `SlaveNo` is automatically set to 2, the timeout to 1000 ms, and the baud rate to 115200 baud.

By default, the port number is 0x340h. This port address must be identical with the port address set on the JETWay board.

The easiest way to verify whether JetSym has successfully established a connection to the controller via the JETWay board is to view a set-up window. The title bar of this window indicates the type and the status of the controller (Figure 10).

Blink.ssf NANO-B V 1.33 - running				
	Name	Content	Type	Con
1	102	1	Output	
2				

Figure 10