Introduction

The PC-PPLC is a controller in the form of a PC expansion board for ISA bus slots. It occupies two slot plates – one for the board itself, and one for the SUB-D connectors of the JetWay and the display interfaces.

The PC-PPLC derives from the NANO-C controller so that on the PC-PPLC the same registers are used as on the NANO-C (plus several registers which are specific to the PC-PPLC).

Figure 1
Setting the Port Address
Before inserting the PC-PPLC board into the computer, the port address of the PC-PPLC has to be set which allows the software to interact with the PC-PPLC.

The port address of the PC-PPLC is set through a DIP switch exactly the same way as with the JetWay-board (refer to Fig. 1):

<table>
<thead>
<tr>
<th>Port X</th>
<th>S 7</th>
<th>S 6</th>
<th>S 5</th>
<th>S 4</th>
<th>S 3</th>
<th>S 2</th>
<th>S 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>300h</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>310h</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>320h</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>330h</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>340h *)</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>350h</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>360h</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>

*) Default setting

Important:
If a computer is equipped with additional boards besides the PC-PPLC (e.g. a JetWay board, modem, ...), it is mandatory to assign different port addresses to the various boards, for example, 340h and 350h. The port address saved to the configuration files of the computer must correspond to the port address set on the board.

Installing the PC-PPLC
This description is intended to give an overview only. In any case, give heed to the documentation of your computer!

- Power off your computer and isolate it from the mains (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.
- Find a free ISA slot. Two slot plates located next to each other are required for the PC-PPLC.
- Remove both of the slot plates.
- Insert the PC-PPLC into the ISA slot. Make sure that the PC-PPLC board is inserted completely.
- Fasten the two slot plates of the PC-PPLC to the computer housing.
- Check all plugs for proper connection.
- Reattach the cover.
- Connect the computer to the mains and switch it on.

Installing the PC-PPLC under DOS, Windows 95 and Windows 98
Insert the following line into the Autoexex.bat by using a simple text editor:

```plaintext
SET PCPPLC_PORT=340h
```

In case the PC-PPLC is set to a port address other than 340h, the above mentioned line has to be modified accordingly.

To ensure that the PC-PPLC can be programmed, the SYMPAS settings also have to be modified accordingly.
Installing the PC-PPLC under Windows NT and Windows 2000

- Insert the following line into the Autoexec.bat or Autoexec.nt (located in the directory C:\WINNT\system32) by using a simple text editor:

  SET PCPPLC_PORT=340h

  In case the PC-PPLC is set to a port address other than 340h, the above mentioned line has to be modified accordingly.

- The next step is to execute the installation program SetupJetterBoard_e.exe (Fig. 2). This program is for logging on the PC-PPLC at the Windows OS, thus, enabling access from the application program to the expansion board.

  The installation program can be obtained from Jetter, for example, via download from our homepage (http://www.jetter.de).

  It is highly recommended to close all other programs before starting installation of the PC-PPLC.

![Welcome](http://example.com/image.png)

*Figure 2*

Once the SetupJetterBoard_e program is running, check the PCPPLC box (refer to Fig. 3). This program enables JetWay boards and VIADUKT keyboard expansion boards to be logged on at Windows OS.
The next step is selecting the port address. The selected address must correspond to the port address set on the PC-PPLC board (refer to Fig. 4).

Now, the program prompts you to select an installation directory (Fig. 5).
In the menu **Start / Programs** of the Windows task bar a new directory named **Jetter-Board** is created. The program contained in this directory is used to test the PC-PPLC (Fig. 6).

When this program gets started, a dialog window opens (Fig. 7). The program will find a correctly installed PC-PPLC automatically. Click on the **Test** button.

Once the PC-PPLC has been detected properly, a message as shown in figure 8 appears.
Figure 8

Restart the computer for the changes to take effect. Then, the SYMPAS settings have to be modified accordingly to be able to program the PC-PPLC.
SYMPAS Settings

The following settings have to be made in the SYMPAS program irrespective of the OS of your computer.

For this purpose, start SYMPAS and then press the key combination **CTRL-E** or select **Special / Settings…** from the menu bar.

Now, a dialog window opens (Fig. 9). Open the menu by pressing the shortcut **ALT-Y** and select **PCPPLC** as controller type. Confirm by pressing **Enter**.

Close the dialog by pressing the **Enter key**.

![Figure 9](image)

Select **Special / Interface…** from the menu bar and adjust the mode to **PCPPLC** by pressing the shortkey **ALT-M** (refer to Fig. 10).

The SlaveNo. is automatically set to 220, the timeout to 2000 ms and the baud rate to 115200 baud. These values are the correct values and must not be changed.

![Figure 10](image)

Once access to the PC-PPLC works properly, the corresponding message in the setup screen of SYMPAS will appear (refer to Fig. 11).

![Figure 11](image)
Features of the PC-PPLC

- No realtime clock (if required, that of the PC can be used).
- 20,000 user registers (register # 0 ... 1999, 20,000 ... 37,999).
- 256 floating point registers (register # 65024 ... 65279).
- The user-programmable interface PRIM is available only on the LCD (RS422) and JetWay (RS 485) interfaces.
- 31 non-intelligent expansion modules (such as N-SER1, N-OD8, N-IA4, N-CNT1, etc.) can be addressed.
- 8 intelligent modules (such as N-PID1, N-SV1, etc.) can be addressed.
- Definition of dummy modules (Dummy = A module that is not inserted physically, but to which an address is assigned) is possible:

  Register 2023, non-intelligent modules 2 ... 17

<table>
<thead>
<tr>
<th>Bit #</th>
<th>15</th>
<th>14</th>
<th>13</th>
<th>12</th>
<th>11</th>
<th>10</th>
<th>...</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/O Module</td>
<td>17</td>
<td>16</td>
<td>15</td>
<td>14</td>
<td>13</td>
<td>12</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

  Register 2030, non-intelligent modules 18 ... 31

<table>
<thead>
<tr>
<th>Bit #</th>
<th>13</th>
<th>12</th>
<th>11</th>
<th>10</th>
<th>9</th>
<th>8</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>I/O Module</td>
<td>31</td>
<td>30</td>
<td>29</td>
<td>28</td>
<td>27</td>
<td>26</td>
<td>25</td>
<td>24</td>
<td>23</td>
<td>22</td>
<td>21</td>
<td>20</td>
<td>19</td>
<td>18</td>
</tr>
</tbody>
</table>

  Register 2024, intelligent modules 2 ... 8

<table>
<thead>
<tr>
<th>Bit #</th>
<th>7</th>
<th>6</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module #</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

  - The baud rate of the CAN system bus can be set through register 2029.

    | Value | Baud Rate |
    |-------|-----------|
    | 7     | 1000 kBaud|
    | 6     | 500 kBaud |
    | 5     | 250 kBaud |
    | 4     | 125 kBaud |

  - The user interface cables EM-DK and DK422 can be used.
  - Only from OS version 1.12 on, the PC-PPLC can be used as slave in a JetWay network.