Prior Scientific Instruments Ltd

ProScan PCI II Quick Installation Guide

Warning!

Static electricity can damage sensitive electronic components. Make sure you discharge any static electricity before performing any hardware procedure. Prior Scientific assumes no liability for any damage caused directly or indirectly, by improper installation of any components by unqualified service personnel. If you do not feel comfortable performing the installation, consult a qualified computer technician.

Before attempting the installation of the Prior PCI Motion Control Board, ensure that suitable anti-static precautions are taken.

Prior recommend wearing an earth strap throughout the installation process. Should this not be possible leaving the PC plugged in at the wall socket but switched off and touching the internal frame of the case will ground the operator.

Hardware Installation

System Requirements

PC with available PCI slot.

Windows® 98/2000/NT4.0/XP operating system.

CD-ROM/DVD drive.

5 MB available space on hard drive.

Prior PCI Installation and Documentation CD

Hardware Installation contd.

Turn off the computer and any peripherals.

Disconnect the monitor and other peripherals from the computer.

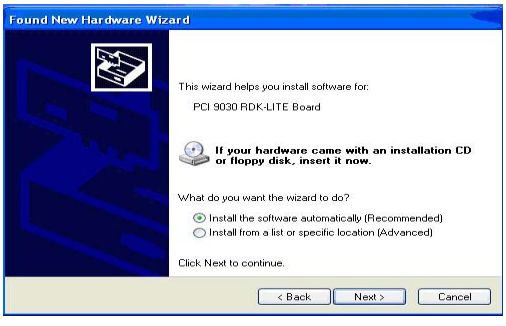
Some computers continue to draw power even when switched off. Illuminated LED's inside the computer may indicate this. If this is the case there should be an on/off switch close to the power inlet on the PC, power should be turned off here if so. If not you should disconnect the power cord from the mains outlet remembering that you will no longer be able to ground yourself on the computers chassis (see Important Information above). Carefully remove the computers cover, select a suitable free PCI slot in the computer and remove the blanking plate. Remove PCI card from its packaging and push it firmly into the free slot. Fix in place using the fixing screw where fitted.

If the system is going to utilise either encoder feedback from the X,Y or Z axis or ttl trigger inputs/outputs the HP2ETL expansion board should be installed in the expansion slot immediately below the main PCI control board. Connect the ribbon cables to the connectors on the main PCI board.

Re-fit the cover of the computer and re-connect all peripherals. Connect the PCI board to the adapter hub using the supplied SCSI cable. Connect all Prior hardware (stage etc) to the adapter hub. Switch on the computer and allow the operating system to boot up.

The "Found New Hardware" message should appear on screen. Check the "No" box and click "Next"

Insert the Prior Scientific drivers cd supplied with the PCI controller and click "Next".



You may see a warning screen because the PCI board has not passed Windows testing. Click "Install Anyway"

You should then receive a message to say that hardware installation has been successful

Prior Software Installation (if required)

Prior Scientific includes a powerful Test Application with all ProScan PCI controllers. If you are running a third party imaging package there is no need to install the Prior Software.

Should you wish to use the system as a stand alone imaging facility then the Prior VB Test Application is extremely comprehensive.

To install insert the Prior drivers CD as supplied wit the PCI controller and click "Install". Follow the on screen prompts to complete installation.

Click Start, All Programs and Prior Scientific. Select "Visual Basic Demonstration"

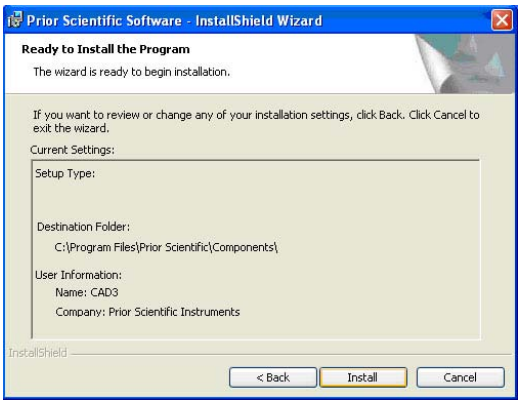
A screen opens (See Right) which incorporates a Digital Read Out (DRO) and Measure facility along with a series of stage and focus move buttons. It is possible to access a virtual joystick and focus control, these are used by clicking and dragging in the direction of desired travel.

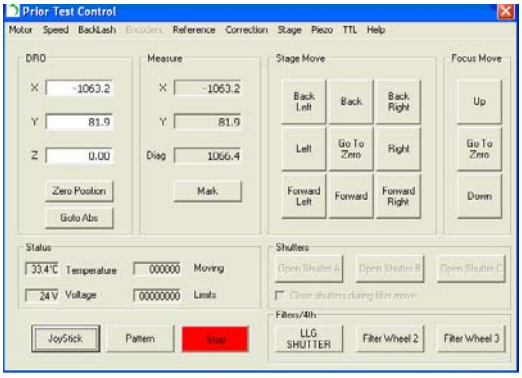
It is possible to define patterns by clicking the "Pattern" button. This area also allows the user to store a large number of points of interest for future re-call.

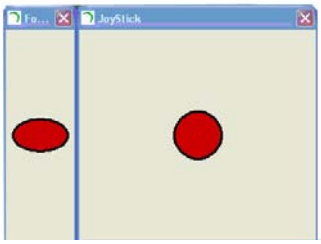
The VB Test Program also features full control of the Nano Scan range of piezo focusing stage inserts (where fitted). The software automatically detects the range of peripherals fitted and enables their associated menus.

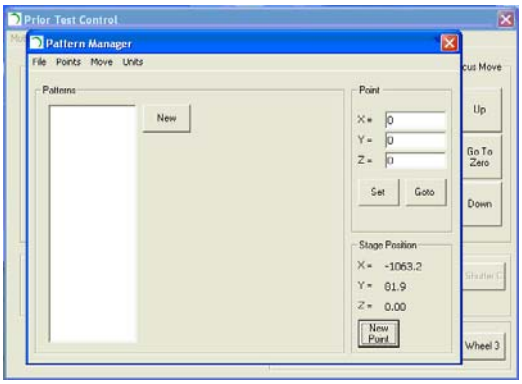
The software can distinguish between a standard filter wheel and shutter system and those built into the Lumen 200PRO. Where a Lumen 200PRO is used clicking the LLG Shutter button brings up not only an open/close button but also a slider to allow intensity selection in 100 increments.

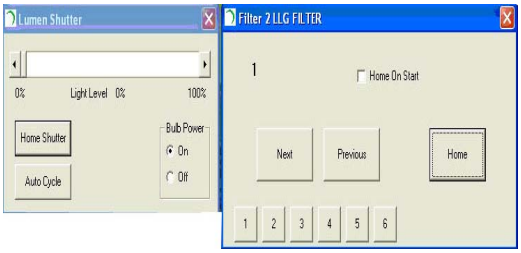
The software also offers a very user friendly interface for making adjustments to a whole raft of settings that affect the way the Prior equipment operates. Speeds, accelerations, ttl settings, electronic correction values and motor settings being some examples







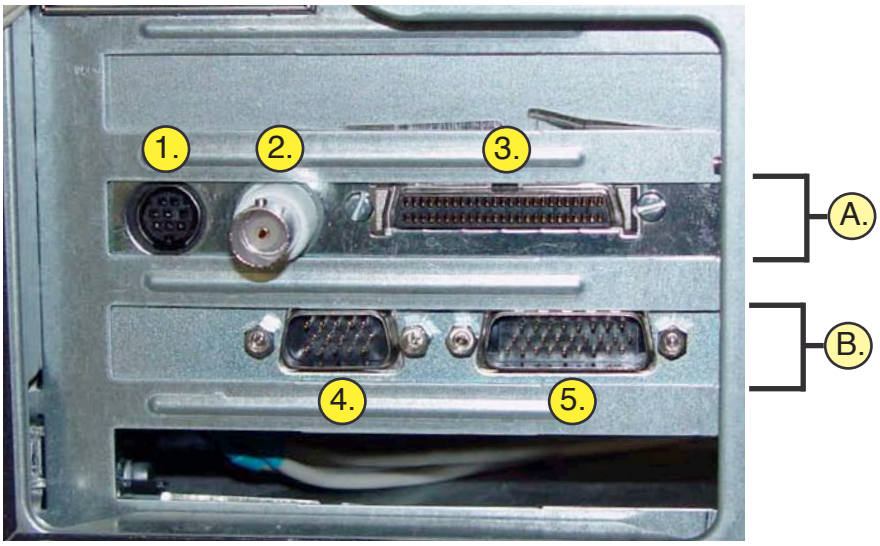




Connecting Hardware to the Prior PCI II Card

Before connecting or disconnecting any hardware to the board(s) it is recommended that the PC is turned off.

Figure 1 shows the back panel of the PC after the installation of both the Prior PCI2 Motion Control Board (part no. HP2PC1) and the optional Encoders and TTL I/O board (part no. HP2ETL). The HP2PC1 is shown in position A and the HP2ETL is shown in position B.



Use the table below to identify the connectors and where hardware should be plugged into the boards.

POSITION	HARDWARE
1.	Joystick
2.	BNC for analog output to NanoScan Piezo Z stage
3.	SCSI cable output to Adapter Hub
4.	TTL I/O, HP2TLC
5.	Encoder cable HP1ENC

Any additional connections will be made to the black Adapter Hub supplied with the HP2PC1. All the connections to the Adapter Hub are clearly labeled. Please note that when connecting the shutter/attenuator from the Prior Lumen 200PRO to the HP2PC1 card it must be connected to the Filter 1 position. It will not work on Filter 2 or Filter 3.