PCI 5331 Installation and operation instructions. Windows 98 or 2000.

<u>Introduction</u>

The 5331 PCI personality card is now offered by Hytec Electronics Ltd as an alternative to the old ISA personality cards for the 1330 and 1331 CAMAC interfaces and the 3331 VME interface. As a PCI device, its base address in the I/O area is not known until the operating system assigns resources and for this reason the settings must determined before any software can operate the interface. Apart from this change of 'base address' access to the external hardware is exactly the same as with the ISA boards.

<u>Installation Procedure</u>

Remove the cover of the PC and plug the 5331 PCI card into a vacant PCI slot.

Switch on the PC.

Plug the 1330 or 1331 into the CAMAC crate or the 3331 into the VME crate, connect up the cable and switch on.

The operating system will find the new PCI device and ask for information about the card – 'New Hardware Found' procedure.

You will need two files either supplied with the hardware on floppy disk or available from Hytec Electronics Ltd: **pci5331.inf** and **pci9050.sys**. Pci5331.inf is the information file about the hardware and pci9050.sys describes its operation. Neither file is essential for running simple programs like BASIC, CATY or CATY-VME under Windows 98 or Windows 2000 but they make it a lot easier for you to determine the base address you need for the software. Note that reliable operation under Windows 95 may not be possible with the 5331 – contact Hytec Electronics Ltd for details.

Having given the operating system the necessary information, you will need to re-boot but should not see the 'New Hardware Found' window again.

<u>Base Address Determination.</u>

Go to START > SETTINGS > CONTROL PANEL and double click on the 'SYSTEM' icon.

Click the Device Manager tab and look for the yellow question mark 'Other devices' and you will see the PCI5331 device; click Properties. Now click the 'Resources' tab, which brings up a table of I/O, Interrupt and DMA settings. There will be three areas of I/O space listed, the address you need is the start address of the third area in this list.

This start address is the value you need to tell CATY-VME and CATY.

When you run CATY, the test language for the 1330 and 1331 CAMAC controllers, the software always asks you for the base address of the personality card. The choices at this point used to be HEX 200, HEX 280, HEX 300 and HEX 380 – the values available for the old ISA card. There is a new option in the latest version of CATY, dated February 2001, which is number '4', which allows you to input your own value. The format for this address is HEX by default so you do not need to prefix the value you enter with any other characters. The operation of the VME version of this language, CATY-VME (or VIKY), is similar except that the first time you run the program and answer the initial question, it produces a file called VIKY.INI in which it puts the answer you gave to the startup address question. The next time you

run the program, if this file exists, it does not ask the question again, so if you get the answer wrong or the address assigned to the 5331 card has changed for any reason (other hardware installed etc.), you need to delete this file and start again.

PCI Host SDK System Operation.

As a simpler alternative to finding the device in the System Properties area, a GUI (Graphical User Interface) package is available which greatly simplifies the process. A file called 9050_install.exe is required, which at 1.7Mb is too large to fit on a floppy disk and so should be obtained by email from Hytec Electronics Ltd. Having copied this to an empty 'temporary' directory on your hard drive, run this program by double-clicking it or using the Run command in the Start Menu. This starts the install process, which will ask first for a temporary location into which to unzip itself and then for a preferred location for the main program files. Use the defaults for these unless you have any particular reason for not doing so. Versions of the driver files mentioned at the beginning of this document are installed during this process and they reside in the following locations:

Pcisdk.inf   is in C:\plx\pcisdk\win32\driver\wdm   and
Pci9050.sys is in C:\plx\pcisdk\win32\driver\wdm\pci9050\driver\checked\i386

DO NOT use Pcisdk.inf, use pci5331.inf instead. The difference is a change to the vendor and device Ids in the file.

If you install this package before you install the 5331 card, you could make use of one of these files but it is better to use those from the floppy disk which comes with the hardware.

You now also have a program called PlxMon2000 which you can reach through START>PROGRAMS> PLXHost SDK. This brings up a graphical window, which will locate the 5331 board (if it does not do so, you should contact Hytec) and allow you to view its settings. Use the LCR (Local Configuration Registers) button to do this. The start address you are looking for is the value in I/O area 3.

Operation with LabView.

A 'VI' is available from Hytec Electronics Ltd, which enables users to determine the base address of the I/O area automatically, contact Hytec for details.

PCI 5331 Installation and operation instructions. Windows NT.

Plug the 5331 PCI card into a vacant PCI slot.

Switch on the PC.

Plug the 1331 into the CAMAC crate or the 3331 into the VME crate, connect up the cable and switch on.

Using the first of the two floppies, run SETUP.EXE from that floppy in the normal way. This will install the NT driver, which knows the base address and can be called from applications in the normal way.

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