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# Engineering Note

Topic: ADC2000-PCI “Unrecognized By Windows” Solution

Product Affected: ADC2000-PCI A/D Converter

Date Issued: 05/06/2003

## Description

The ADC2000-PCI A/D Converter has a known problem, which is found on a small number of PC systems. The problem is with the cold boot (power cycle) of the PC. The time it takes for the PC’s Plug-n-Play (PnP) BIOS to start is faster than the initialization of the ADC2000-PCI. Therefore, the Windows operating system does not recognize the card. This can be tested and sometimes treated by delaying the PC’s PnP time through the BIOS system. This may be a future problem as PCs become faster with evolving technology.

To check if MS-Windows recognizes your ADC2000-PCI card, go to Control Panel → System Settings → Device Manager → Hardware and look for Ocean Optics devices. When checking under the ADC2000-PCI in the Ocean Optics devices, it is critical that Windows specifically sets the device resources. Under resources the ADC2000-PCI requires a single memory range, two I/O ranges, and a single IRQ. An unrecognized ADC2000-PCI would give two memory ranges, one I/O range, and a single IRQ.

Note that the boot problem is an anomaly. If an ADC2000-PCI is not recognized by the operating system, it is typically due to incorrect installation and/or an antiquated software driver (which would require updating). For technical assistance in deducing ADC2000-PCI problems, please contact Ocean Optics Technical Support at: [TechSupport@OceanOptics.com](mailto:TechSupport@OceanOptics.com) or by phone: (727) 733-2447.

## Instructions for BIOS Delay

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### Note

Any change of settings in the PC BIOS should be done by an IT administrator or advanced PC user. If you feel hesitant in making changes to your system settings, please contact Ocean Optics Technical support or your PC manufacturer’s customer support.

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► **Procedure**

1. Turn on your PC (Power cycle start. NOT Windows Restart). You should have the option to enter the BIOS or system setup before MS-Windows is loaded.
2. To test if a delay is required, enter the BIOS system setup and wait for the delay time (typically safe at 10-20 seconds). Then exit the BIOS and boot normally in Windows. If there is a boot-timing problem, Windows should recognize the ADC2000-PCI data acquisition card after the delayed PC boot. The delay gives the ADC2000-PCI card adequate time to initiate, before the PC queries the PCI ports.
3. In some BIOS systems, there is an option for setting up such a delay internally. The option is located in the Power (on/up) startup menu of the BIOS and is named either **Delay for SCSI/HDD**, **Post Delay**, or **Delay (in Seconds)**. Typically, you can set the Delay option to 10 seconds to fix the ADC2000-PCI boot problem. Each system has different boot times, so you may have to adjust this delay a few times before the correct timing is implemented.
4. If your system does not contain a Delay option in the BIOS settings, please contact Ocean Optics Inc. technical support for further recommendations and solutions.