PCI Interface Card Installation Guide

Revision 3
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IMPORTANT
Please read this entire document
before installing
the PCI Interface Card

Revision Status

Revision Number	Date	Description
3	31/08/05	Remove ToolBench reference and update to new template

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Read Me First!

Read this section before continuing with the rest of the guide.

Warnings

⚠️ **Warning!**	**In all NDI documentation, warnings are marked by this symbol. Follow the information in the accompanying paragraph to avoid personal injury.**

The following is a list of all the warnings that are contained in the guide.

1. Do not switch the power on. You can cause serious injury or death or damage to the equipment if the power is turned on.

Contact Information

If you have any questions regarding the content of this guide or the operation of this product, please contact us:

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Updates

NDI is committed to continuous improvements in the quality and versatility of its software and hardware. To obtain the best results with your NDI system, check the NDI Partner Site regularly for update information:

http://support.ndigital.com

1 Introduction

This guide is intended for both new and current Optotrak users who are upgrading their PC.

If you are an Optotrak 3020 user, refer to the "*Optotrak Getting Started Guide*" for further information.

If you are an Optotrak Certus user, refer to the *"Optotrak Certus User Guide"* for further information.

Note In this guide the term "Optotrak" applies to both the Optotrak 3020 and the Optotrak Certus systems.

System Requirements

- any Optotrak System.
- Windows XP/2000/NT v. 4.0 or higher.
- Intel Pentium II or better.

The installation process requires four stages:

1. Check that you have all the necessary equipment, see below.
2. Install the hardware, see "Install the Hardware" on page 3.
3. Install the software see "Install the Software" on page 5.
4. Check that the Optotrak System is operating correctly see "Check for Correct Installation" on page 9.

1.1 Do You Have Everything?

To install an NDI PCI interface card you will need:

- ❐ this guide
- ❐ an NDI PCI interface card
- ❐ the NDI PCI drivers CD, shipped with the interface card
- ❐ a Phillips (cross-slot) screwdriver, size 2 (user supplied)
- ❐ a grounding strap (user supplied, available from electronics shops)

❒ your computer, with an unoccupied PCI slot

❒ your computer manual

2   Install the Hardware

The installation of the PCI interface card is the same for all computers.
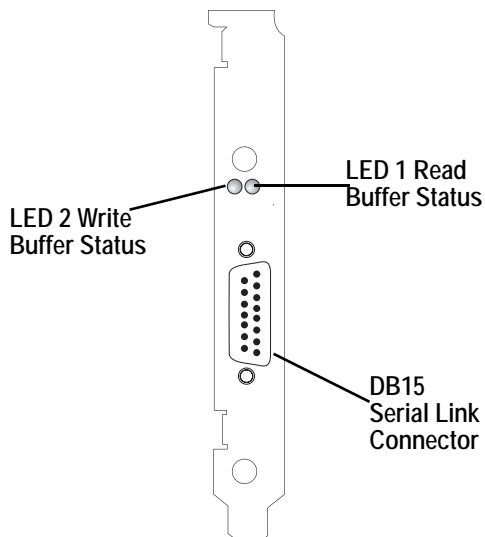
1.   Turn the computer off and unplug it from the mains power.

2.   Remove the computer cover according to the computer owner's
     manual.

3.   Reconnect the computer power cable to the mains power. This
     grounds the computer.

⚠️ **Warning!**   Do not switch the power on. You can cause serious injury or death or
damage to the equipment if the power is turned on.

4.   Ground yourself with a grounding strap. To do this, wrap a
     grounding strap around your wrist. Attach the copper foil end to bare
     metal on the host computer chassis. This step protects the card from
     static shock.

5.   Locate an unused, 32-bit PCI slot on the motherboard. A PCI slot is
     usually white (an ISA slot is usually black). A PCI card will only fit
     in a PCI slot.

6.   Remove the cover plate from the empty slot by removing the screw
     with the cross-slot screwdriver.

7.   Gently, but firmly, slide the card into the slot. **Do not press any of
     the interface card components. Press on the interface card edge
     only.** The metal face plate of the PCI card should face out through
     the back of the computer. You will be able to see the two, green, light
     emitting diodes and the 15 pin connector from the back of the
     computer. See Figure 2-1 on page 4.

Figure 2-1: PCI Interface Card Faceplate

8. Secure the card by refitting the cross-slot screw removed in step 6.

9. Remove the grounding strap and unplug the computer again. Refit the computer cover according to the manual.

10. Attach the end of the Optotrak communications cable to the 15 pin, male connector on the PCI interface card faceplate.

11. Reconnect the computer power cable and turn the computer on.

12. Proceed with installing the software.

3   Install the Software

Use the correct installation for your operating system. These procedures install a PCI card driver onto your computer.

The software installation instructions for the different operating systems can be found as follows:

- Windows XP
- Windows 2000
- Windows NT v. 4.0 or higher

If you encounter difficulties in the installation, please contact NDI Technical Support. For contact information see "Contact Information" on page ii.

3.1   Windows XP

After the PCI card has been installed and the computer is powered on, a window opens to inform you that the computer has found an unknown PCI card. A 'Found New Hardware Wizard' also opens. The wizard will install a driver onto your system.

The wizard provides several options. The steps required for the NDI PCI card driver installation are as follows:

1. Choose **Install the software automatically**.

2. Insert the NDI PCI drivers CD into the computer.

3. Click **Next** from the opening page to start the New Hardware Install Wizard.

   The operating system automatically searches for the driver and automatically installs it to the default location.

4. Click **Finish**.

If this is an upgrade:

You will need to change the type of interface card for your software in order for your system to function properly. Refer to the communication settings/interface card section of your application software or the "optotrak.ini" file.

To verify the driver is correctly installed

Select **Start > Settings > Control Panel > System > Hardware > Device Manager > Optotrak Driver**.

Below Optotrak Driver, '**NDOptItf Driver**' should be displayed.

3.2 Windows 2000

After the PCI card has been installed and the computer is powered on, a window opens to inform you that the computer has found an unknown PCI card. A 'Found New Hardware Wizard' also opens. The wizard will install a driver onto your system.

The wizard provides several options. The steps required for the NDI PCI card driver installation are as follows:

1. Click **Next** from the opening page to start the New Hardware Install Wizard.

2. From the list of options, choose **'Search for suitable driver for my device (recommended)**'.

3. Click **Next**.

4. Insert the NDI PCI drivers CD included in the package into your CD drive.

5. From the list of options, choose **'CD drive'**.

6. Click **Next**.

    The wizard will display a window stating that it has found the driver for the NDOptItf Device.

Note If the wizard does not find the driver, browse to the ndoptitf.inf file found on the NDI PCI drivers CD.

7. Click **Next**.

    The files will be copied into the correct directory on your computer.

8. Click **Finish**.

If this is an upgrade:

You will need to change the type of interface card for your software in order for your system to function properly. Refer to the communication settings/interface card section of your application software or the "optotrak.ini" file.

To verify the driver is correctly installed

Select **Start > Settings > Control Panel > System > Device Manager > Hardware > Optotrak Driver.**

Below Optotrak Driver, '**NDOptItf Driver**' should be displayed.

3.3   Windows NT 4.0 or higher

Before installing the drivers onto your system, ensure that the 'Plug and Play OS' option is set to 'No' in the BIOS. Please consult your computer manual for information on how to do this.

1.   Insert the NDI PCI drivers CD into your CD drive.

2.   Click on the **Start** menu on the task bar.

3.   Select **Run**.

4.   In the textbox, type **d:setup.exe** (use your actual CD drive letter).

5.   Click **Next**, in the opening screen of the NDI Install Wizard.

6.   Click **Yes**, on the Disclaimer screen if you agree to the terms.

7.   Click **Next** to install the driver to the default location.

Note You can browse to an alternative location from this screen if you wish.

8.   From the list of NDI drivers select **PCI Card Interface**.

9.   Click **Next**.

10. Choose **Restart the computer**.

11. Click **Finish**.

If this is an upgrade:

You will need to change the type of interface card for your software in order for your system to function properly. Refer to the communication settings/interface card section of your application software or the "optotrak.ini" file.

To verify the driver is correctly installed:

Select **Start > Settings > Control Panel > Devices.**

Look in the list for the file **'NDOptItf'** in the Device (left) column, and the word 'automatic' in the Startup (right) column.

4   Check for Correct Installation

If the installation is done correctly, your Optotrak will operate normally. If your Optotrak System no longer operates normally, contact NDI Technical Support.

The two green lights on the PCI interface card indicate the current status of the transmit and receive buffers. When LED 1 is on, the read buffer contains received data, and when LED 2 is on, the write buffer contains data to be transmitted. See Figure 2-1 on page 4.

5   Additional Information

If you have already upgraded your software with the most recent release, the names of the drivers for the interface cards were automatically changed during the upgrade to ensure consistency. The new names are:

- PCIlink.dll for the PCI card

- SCSIlink.dll for the SCSI unit

- etherlink.dll for Ethernet connections

You can install a PCI interface card in your PC without removing an existing NDI ISA interface card. You must remember to change the type of interface card in your software if you choose to switch between cards. Remember to also switch the cable connection.

If you have purchased the Secondary PCI Interface Kit, you may use a PCI card on one PC and an ISA card in the other. You should see the best performance enhancement if you collect data through the faster interface card.

The PCI card is normally shipped to operate at up to 10 Mbits per second. This matches the rate of the System Control Unit.

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