

4910 Alameda Blvd NE
Albuquerque NM 87113



*Great River
Technology*

Windows EFC API Install Guide
For use with Windows Vista/XP/2000/98 and NT 4
Gravity and EFC series products

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Overview

This document will outline the steps necessary to install the software and documentation for the GRT_EFCPCI-001 Fibre Channel card, the GRT-FCAV-PMC card or any of the GRAVITY or GRAVITY II (64-bit) series data and video cards on Windows Vista/98/2000/XP or NT 4.0.

This document describes the software and documentation installation only. After this installation, refer back to the Quick Start to determine your next step. Refer to the User's Manual for instructions on how to use the test applications. If you purchased the SDK for your card, refer to the SDK API User's Manuals for detailed information on custom programming using the SDK API.

Installed files and Directories

The following files will be installed to your harddrive.

Default install directory:

C:\EFCAPI

Test Executables and supporting Files

FCAV Products Only

Directory	Filename	Description
C:\EFCAPI	CREATEVID.EXE	Application for .BMP file manipulation and conversions. See application description at end of this document. <i>NOTE: This application is not supported and is for demonstration purposes only.</i>
C:\EFCAPI	GRAVFCAVTest.EXE	Gravity 64 specific FCAV test application
C:\EFCAPI	HOSTGRAV.INI	Gravity 64 specific FCAV test application initialization file. This file shows the driver number to open and can be changed for multiple instances of the Test Application for multiple Gravity64 FCAV cards.

Hotlink II Data Products only

Directory	Filename	Description
C:\EFCAPI	EFCDataTest.EXE	Hotlink II Data test application <i>NOTE: This application is not supported and is for demonstration purposes only.</i>
C:\EFCAPI	dataHOST.INI	EFCDATA Test Application Executable initialization file. This file shows the driver number to open and can be changed for multiple instances. Also contains initial control register value

Hotlink II Video Products only

Directory	Filename	Description
C:\EFCAPI	HL2VRcvr.EXE	Hotlink II Video Receiver test application <i>NOTE: This application is not supported and is for demonstration purposes only.</i>
C:\EFCAPI	HL2VXmit.EXE	Hotlink II Video Transmitter test application <i>NOTE: This application is not supported and is for demonstration purposes only.</i>
C:\EFCAPI	HL2V_RCVR.PARAM	Hotlink II Video Receiver Application Executable initialization file. Contains control register value
C:\EFCAPI	HL2V_XMIT.PARAM	Hotlink II Video Transmit Application Executable initialization file. Contains control register value

Documents

Install Guide

Directory	Filename	Description
C:\EFCAPI\DOCS	EFC_API_InstallGuide_Windows.pdf	This document. Describes the software installation process for all products.

Product User manuals

Note: Only the corresponding User manual for your product delivered will be installed

C:\EFCAPI\DOCS	GRAVITY_HL2D_UserMan.pdf	Document to describe the use of the EFCDataTest application and the data mode cards.
C:\EFCAPI\DOCS	GRAVITY_FCAV_UserMan.pdf	Document to describe the use of the EFC_FCAV application and the FCAV mode cards.
C:\EFCAPI\DOCS	GRAVITY_HL2V_UserMan.pdf	Document to describe the use of the HL2VRcvr and HL2VXmit applications and the HL2V mode cards.

API User manuals

Note: Installed with optional SDK, only the document corresponding to your card.

C:\EFCAPI\DOCS	SDK_HL2DAPI_UserMan.pdf	Document to describe the use of the HL2D API in a custom application.
C:\EFCAPI\DOCS	SDK_FCAVAPI_UserMan.pdf	Document to describe the use of the FCAV API in a custom application.
C:\EFCAPI\DOCS	SDK_HL2VAPI_UserMan.pdf	Document to describe the use of the HL2V API in a custom application.

API Code support Files

Note: Installed with optional SDK.

Directory	Filename	Description
C:\EFCAPI\CODE	EFCAPI.H	C/C++ Header file for usage of the EFC API.
C:\EFCAPI\CODE	EFCAPI.LIB	C/C++ link library file for usage of the EFC API. This file must be included in the C/C++ project for linking to the exported API functions.
C:\EFCAPI\CODE	modEFCAPI.BAS	Visual Basic module file to be included in any Visual Basic project that calls the EFC API.
C:\EFCAPI\CODE\EXAMPLES(product)	Example File directories for each product line installed	Example source code

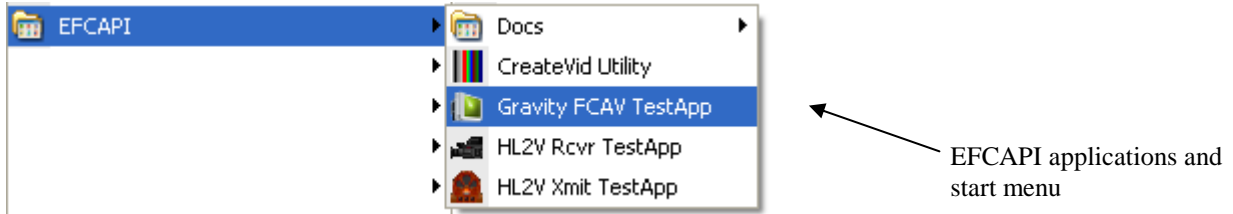
Misc Installed Files (common)

C:\EFCAPI\DRIVERWDM	Win98/2K/XP/Vista Driver kernel files and windows plug and play .INF file EFCAPI3.INF	Windows WDM device driver. Used in Win98/2K/XP/Vista only
C:\EFCAPI\DRIVERNT	Windows NT Driver files	Windows H/W information file (.INF) Used in Win98/2K only
C:\EFCAPI\VIDEO\	Misc BMP video files for transmitter loading	Misc sample 32-bit color bitmap files for loading
C:\EFCAPI\HEADERS	*.TXT	Misc sample header files for loading into the EFC and FCAV cards

Once EFCAPI is installed, the Windows Start menu Programs will contain a new item called EFCAPI. The applications are available from this menu as shown below.

Note: Sample below is for the FCAV product installation. The menu items will be different for each product line. Refer to the product user manual for more details

Shown below is an example of programs in the EFCAPI directory after an HL2V and a FCAV install.



Critical System Information

The EFCAPI device driver cannot be used on Windows systems with more than 3G bytes of memory and PAE turned on. This limitation requires that PAE (Physical Address Extension) not be used.

A system can be checked by showing Properties of "My Computer". The box should look similar to the following. Note memory is 3G bytes or less or there is no PAE

If more than 3G of memory is installed and PAE is turned off, the driver will work correctly.

Refer to Windows support for information on how to turn off PAE, but basically the boot.ini file must be modified to include the following line.

```
/fastdetect/noexecute=alwaysoff/NOPAE
```



Installation Steps

Windows XP Installation Steps

NOTE: Do not install the card at this time. All software must be installed first for the Plug and Play driver to be loaded properly.

1. Install the software

Install the software by inserting the supplied CDROM into the drive on your PC. Run “SETUP.EXE” from this disk. Follow the instructions on the screen to install all of the files to the specified directory. Restart the PC as specified at the end of the installation.

You must be logged in as an administrator or this install will fail.

2. Install the EFC or GRAVITY PCI card into the PC.

Turn off power to the PC and install the card into the first available PCI slot. Turn power on the PC and boot up normally. Once Windows has started the “New Hardware Wizard” will start. Follow the steps below to configure and finish installation of the Device Driver and optional SDK API.

- a. Select the ‘NO’ radio button and Click “Next” once the New Hardware Wizard Starts, as shown below.



- b. Select the “Install from a list or specific location” Radio button and click “Next”.



- c. Select “Include this location in search” form the list of options and use the browse button to fin and select C:\EFCAPI\DriverWDM. Click “Next”.



- d. Click on the “Continue Anyway” button when the Warning Dialog appears



NOTE:

The model “GRT_EFCPCI/GRAVITY Video Card” should appear if it is a 32-bit Gravity card. If it is a 64-bit GRAVITY II PCI card select the GRT GRAVITY II or GRAVITY64 Card entry. The Gravity 32-bit card will require the Pci9054.sys driver file and the Gravity II 64-bit card will require the Pci9656.sys driver file. These device driver files are both located in the C:\EFCAPI\DriverWDM directory if Windows needs location information.



The Device will be found and installed automatically
Once it is completed the following dialog will appear.
Click the “Finish” button to complete the install.



Write application to call the API or Run the Test Application

Write your application software to use functions in the API and control the EFC PCI card or run the Test Applications in the C:\EFCAPI directory.

Reference the SDK API “User’s Manual” for examples and function descriptions.

NOTE: Windows XP will sometimes require the Windows 2000 Compatibility mode to run some of the supplied test applications. If you are experiencing problems with a provided test app, you might have to enable this mode. To do this, you can right click on the executable filename and select the Compatibility tab. Click on the “Run this program compatibility mode” check box and select “windows 2000” in the pull down menu.

This is shown below.

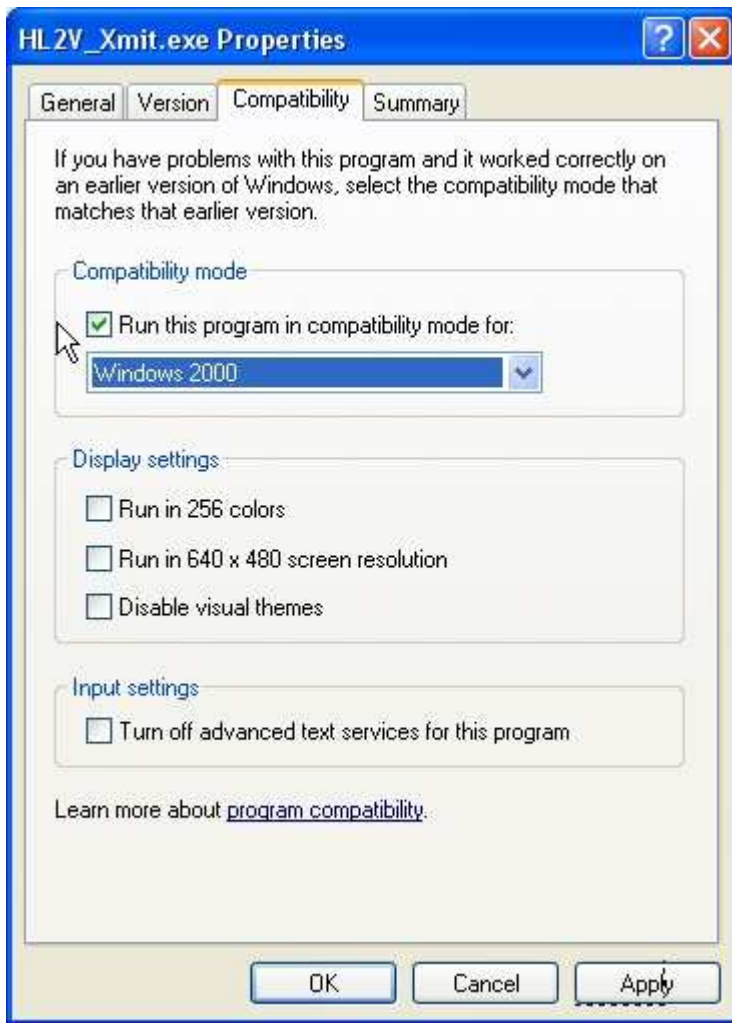


Figure 1: Windows XP properties dialog

Windows 2000 Installation Steps

NOTE: Do not install the card at this time. All software must be installed first for the Plug and Play driver to be loaded properly.

1. Install the EFC API

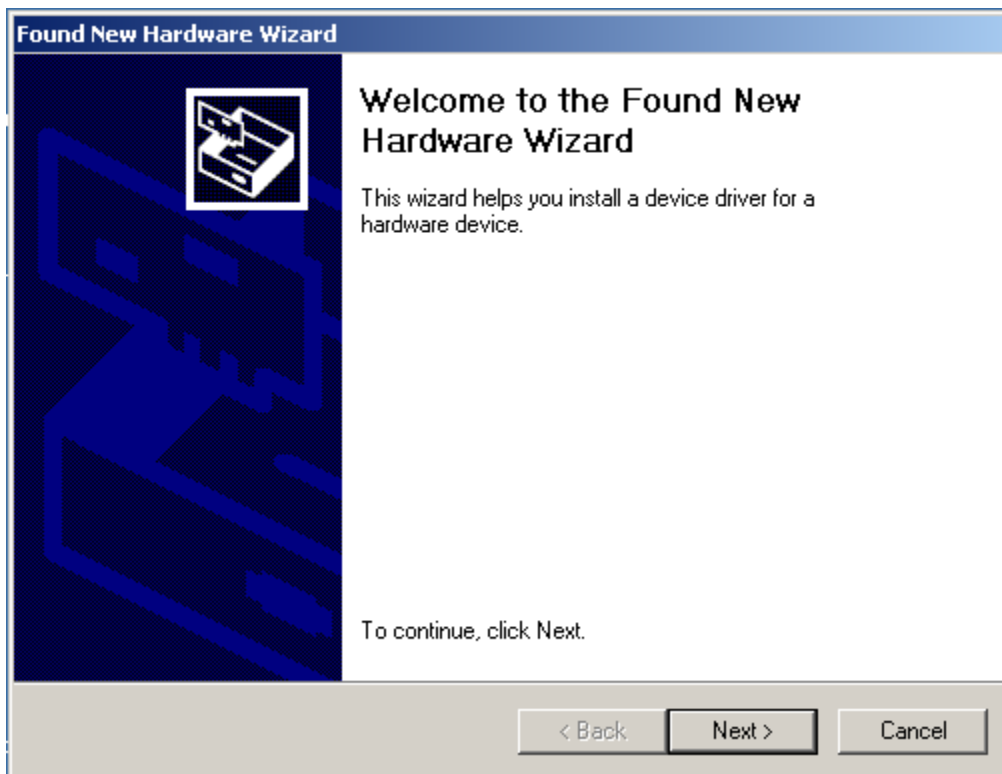
Install the software by inserting the supplied CDROM into the drive on your PC. Run "SETUP.EXE" from this disk. Follow the instructions on the screen to install all of the files to the specified directory. Restart the PC as specified at the end of the installation.

You must be logged in as an administrator or this install will fail.

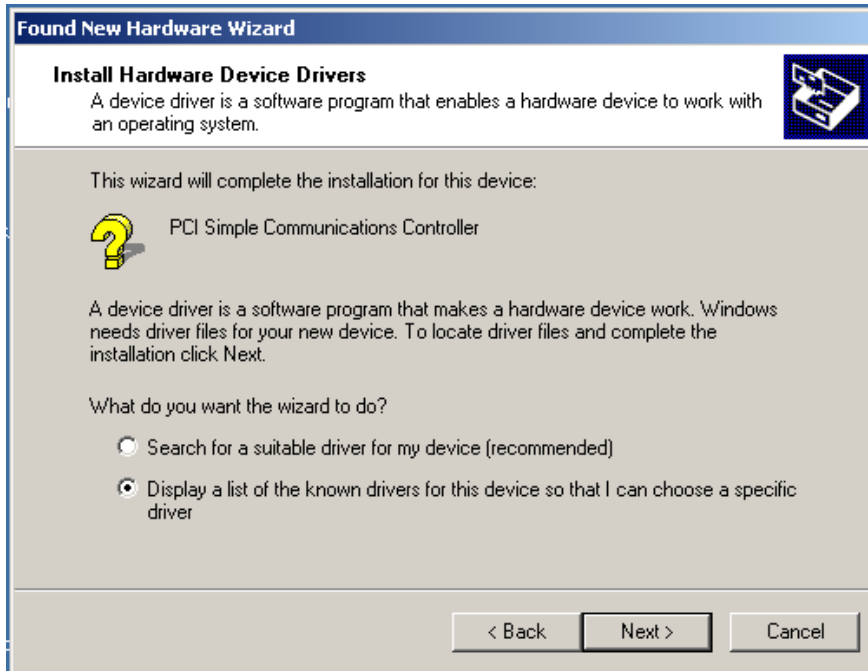
2. Install the EFC or GRAVITY PCI card into the PC.

Turn off power to the PC and install the GRT_EFCPCI card into the first available PCI slot. Turn power on the PC and boot up normally. Once Windows has started the "New Hardware Wizard" will start. Follow the steps below to configure and finish installation of the EFC API and Device Driver.

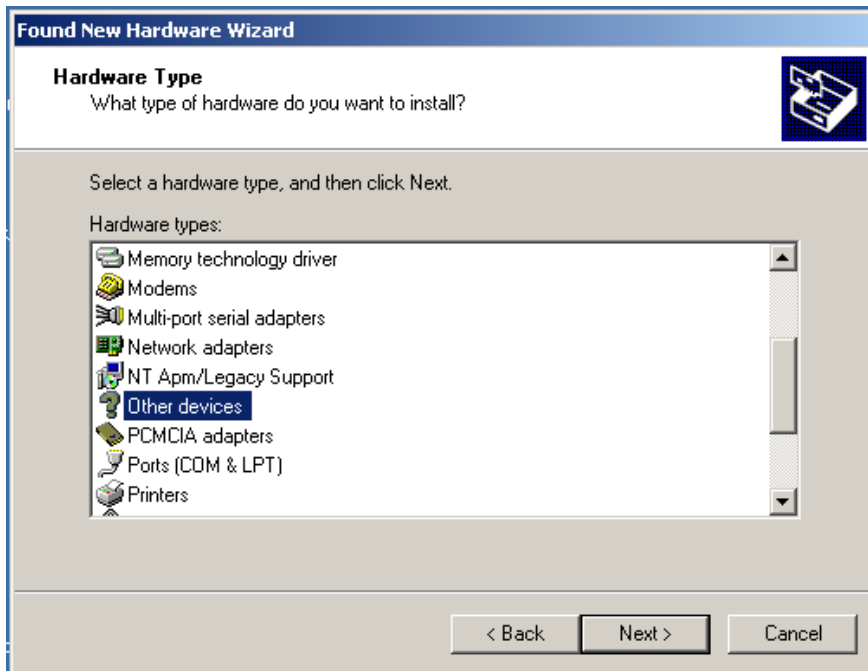
- e. Click "Next" once the New Hardware Wizard Starts, as shown below.



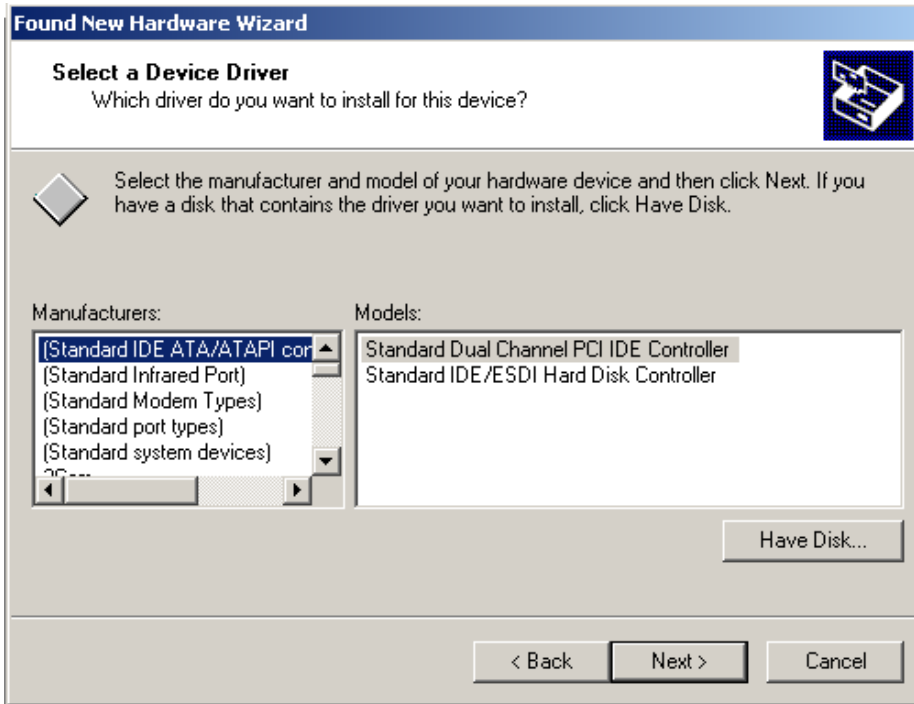
- f. Select the “Display a list of drivers in a specific location” Radio button and click “Next”.



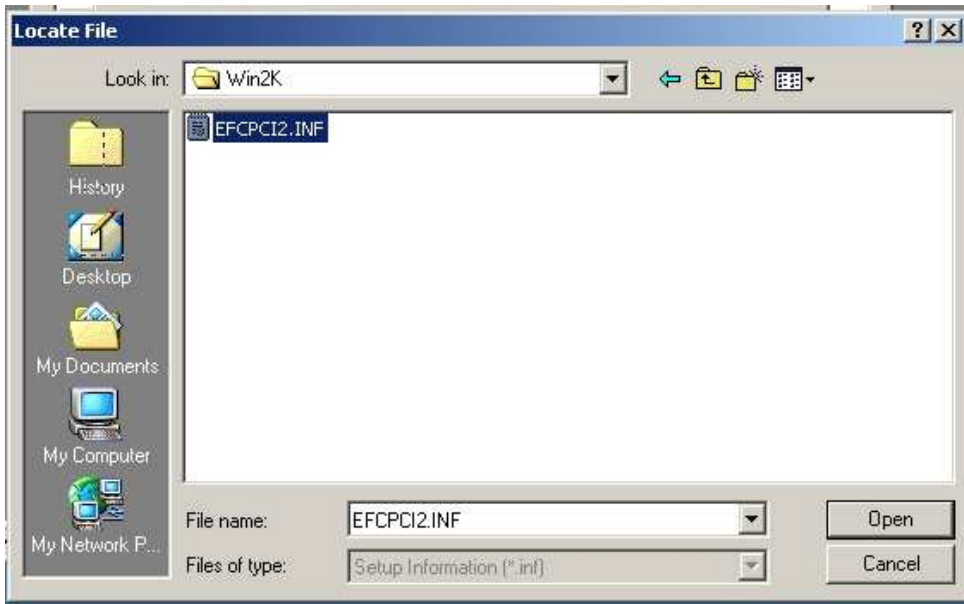
- g. Select “Other Devices” form the list of device types. And click “Next”.



- h. Click on the “Have Disk” button when the Models dialog appears



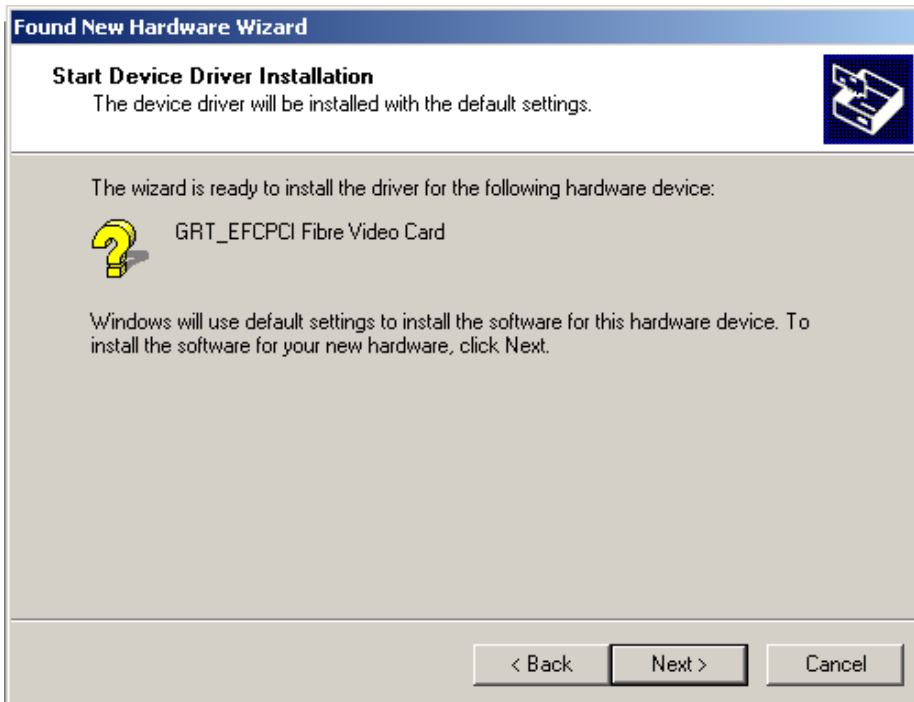
- i. Browse to the directory “C:\EFCAPI\DRIVERWDM” and select the file EFCPCI2.INF.



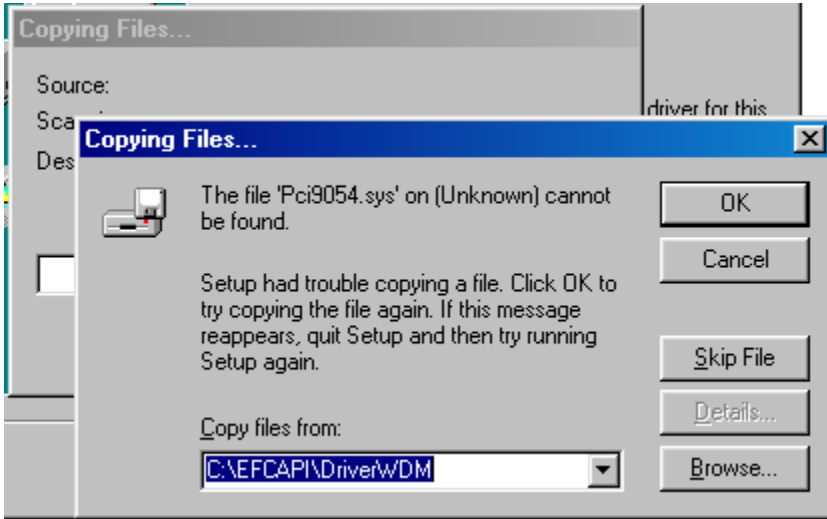
- f. The model “GRT_EFCPCI/GRAVITY Video Card” should appear as shown below. Click on this model and click on “Next” if this is an EFC or GRAVITY card. If it is a GRAVITY II 64-bit PCI card select the GRT GRAVITY II PCI Card entry



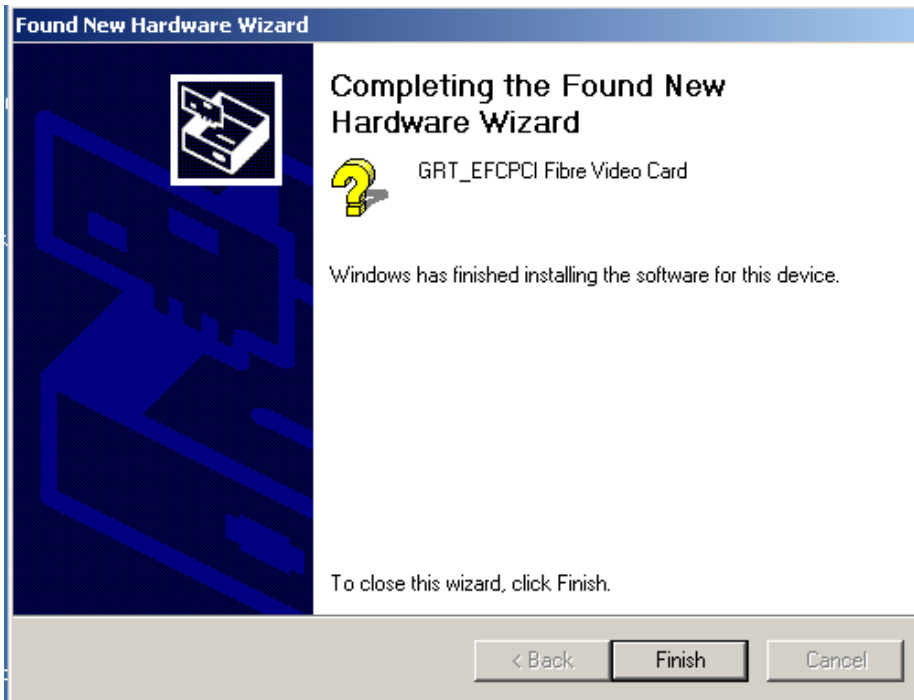
- g. The wizard will find the driver file and show the dialog below that shows that Windows is ready to install the driver. Click “Next”.



- h. Windows will probably not find the Driver file itself the first time and may show the prompt below. Just make sure the Copy files area shows the path “C:\EFCAPI\DRIVERWDM” and then click “OK” to tell windows to copy the Driver file form this location.
NOTE: If the card selected is the GRAVII 64-bit card, the driver file to load will be Pci9656.sys instead of Pci9054.sys as shown in the dialog below.



- i. Windows will install the driver and show this dialog that states the driver is ready to be used. Click on the “Finish” button to complete the installation



- j. Reboot the PC at this time so that the installed Driver Services can start.

Write application to call the API or Run the Test Application

Write your application software to use functions in the API and control the EFC PCI card or run the Test Applications in the C:\EFCAPI directory.

Reference the SDK API “User’s Manual” for examples and function descriptions.

Windows Vista Installation Steps

NOTE: Do not install the card at this time. All software must be installed first for the Plug and Play driver to be loaded properly.

1. Install the software

Install the software by inserting the supplied CDROM into the drive on your PC. Run "SETUP.EXE" from this disk. Follow the instructions on the screen to install all of the files to the specified directory. Restart the PC as specified at the end of the installation.

You must be logged in as an administrator or this install will fail.

2. Install the EFC or GRAVITY PCI card into the PC.

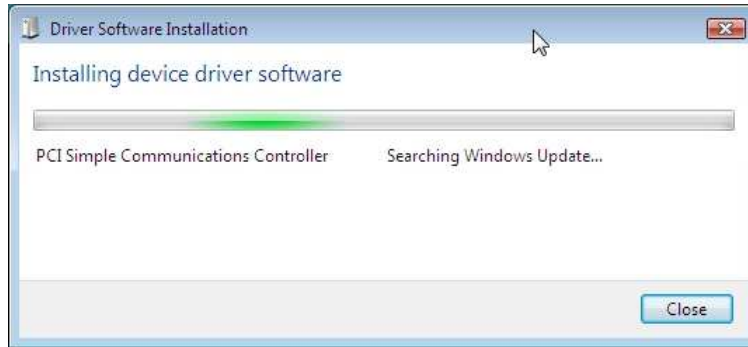
Turn off power to the PC and install the card into the first available PCI slot. Turn power on the PC and boot up normally. Once Windows has started the "New Hardware Wizard" will start. Follow the steps below to configure and finish installation of the Device Driver and optional SDK API.

- A. The dialog for the first time card install in Vista will show a dialog box like below. Choose the (Locate and install driver S/W) selection

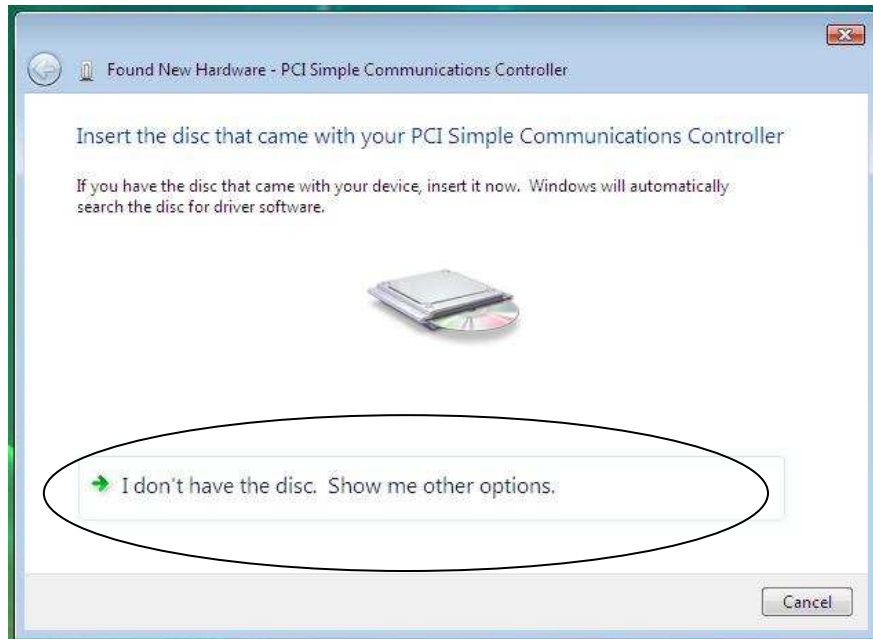


NOTE: At anytime Windows Vista will require you to authorize and action and a dialog will appear that states "Windows needs your permission to continue" This is normal and you must accept this to continue.

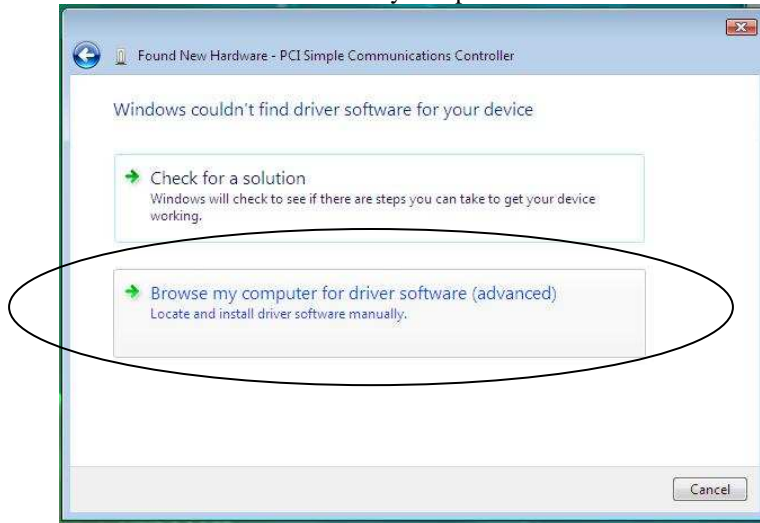
- B. The OS will search for files to install from and will identify the new card as shown below, this will take some time.



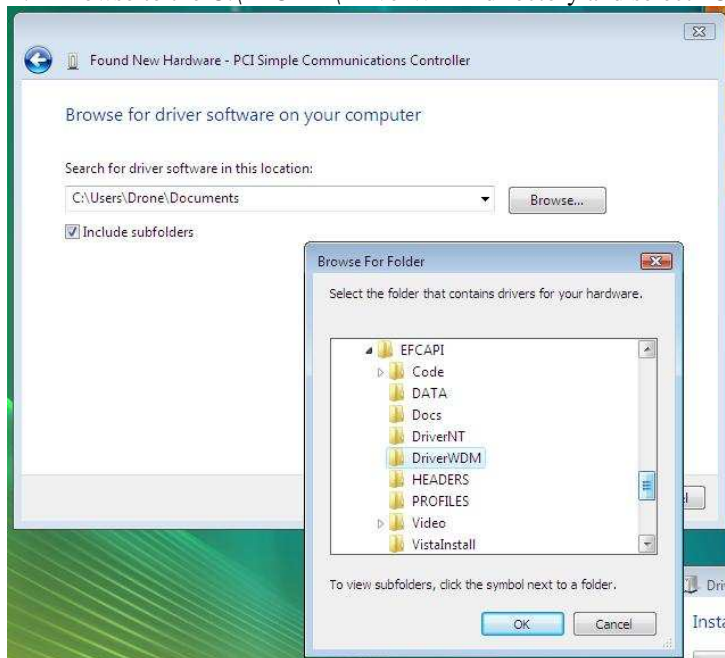
- C. Once no drivers are found select the "I don't have the disc" selection as shown below



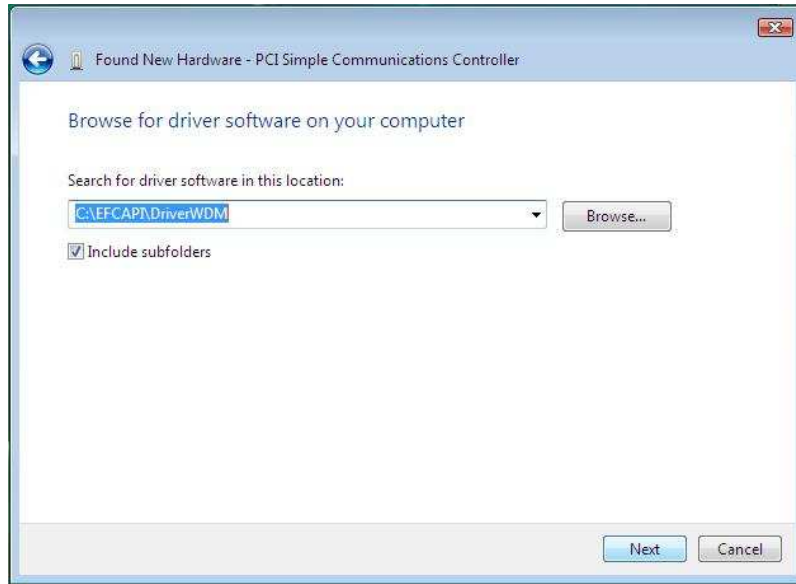
D. Now select the “Browse my computer” selection.



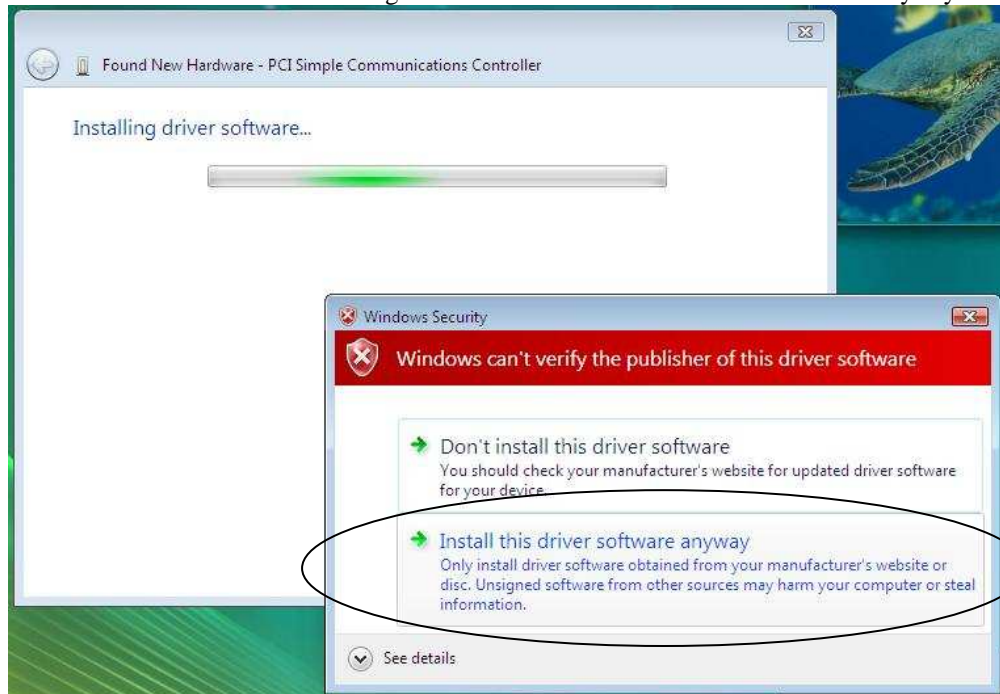
E. Browse to the C:\EFCAPI\DriverWDM directory and select “OK”



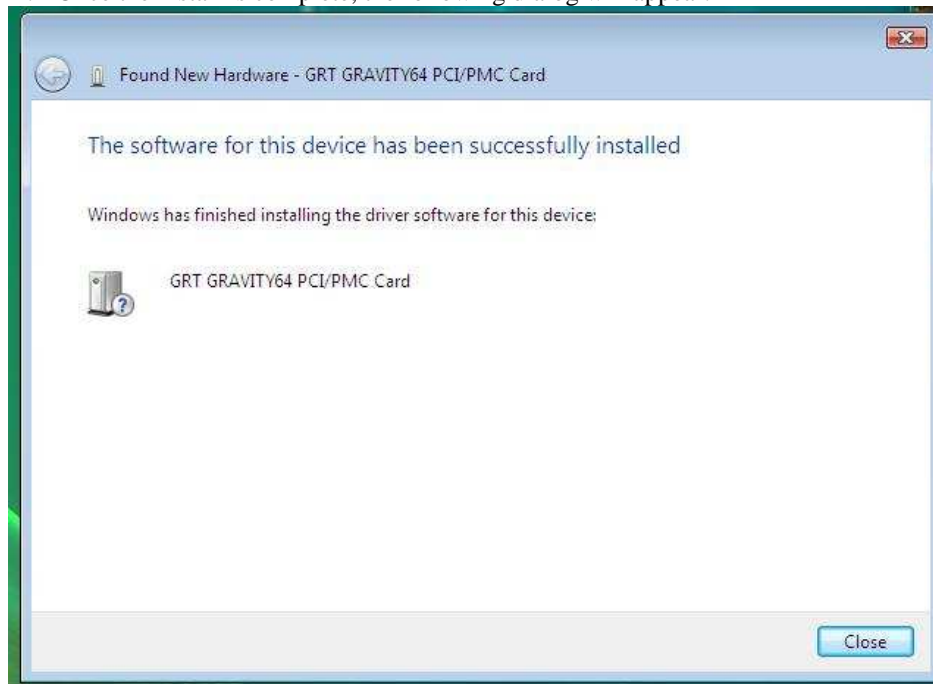
F. Now select the “Next” button



G. Windows will show the warning as below. Select the “Install driver software anyway”



H. Once the install is complete, the following dialog will appear.



I. Reboot the PC at this time so that the installed Driver Services can start.

Write application to call the API or Run the Test Application

Write your application software to use functions in the API and control the EFC PCI card or run the Test Applications in the C:\EFCAPI directory.

Reference the SDK API “User’s Manual” for examples and function descriptions.

NOTE: Any subsequent installs of Gravity or EFC hardware will result in an automatic driver installation and the above steps will not have to be run. Always re-boot after the new H/W has been installed so that the correct enumeration of the cards is performed.

Windows 98 Installation Steps

NOTE: Do not install the card at this time. All software must be installed first for the Plug and Play driver to be loaded properly.

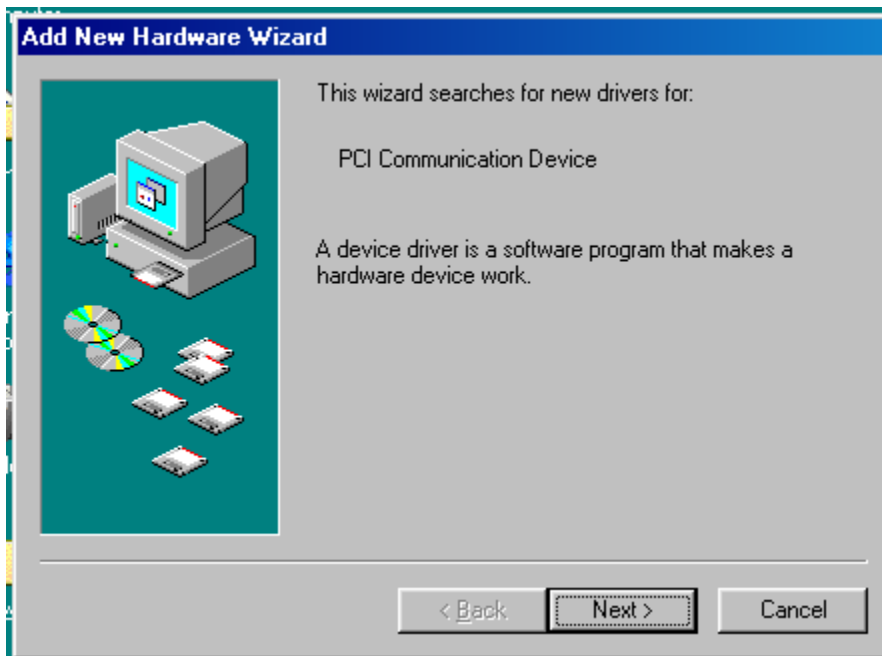
1. Install the EFC API

Install the software by inserting the supplied CDROM into the drive on your PC. Run "SETUP.EXE" from this disk. Follow the instructions on the screen to install all of the files to the specified directory. Restart the PC as specified at the end of the installation.

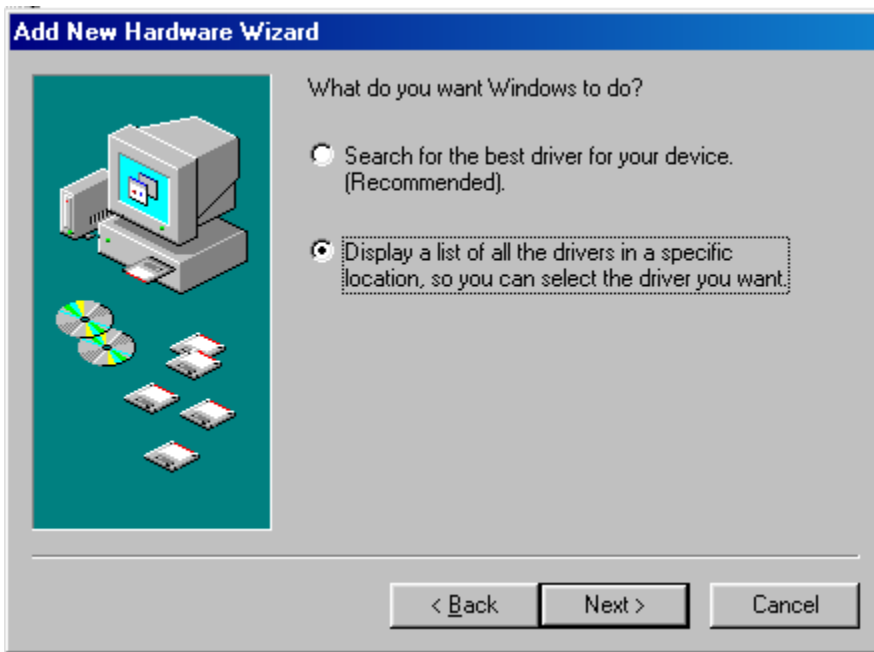
2. Install the EFC or GRAVITY PCI card into the PC.

Turn off power to the PC and install the GRT_EFCPCI card into the first available PCI slot. Turn power on the PC and boot up normally. Once Windows has started the "New Hardware Wizard" will start. Follow the steps below to configure and finish installation of the Device Driver.

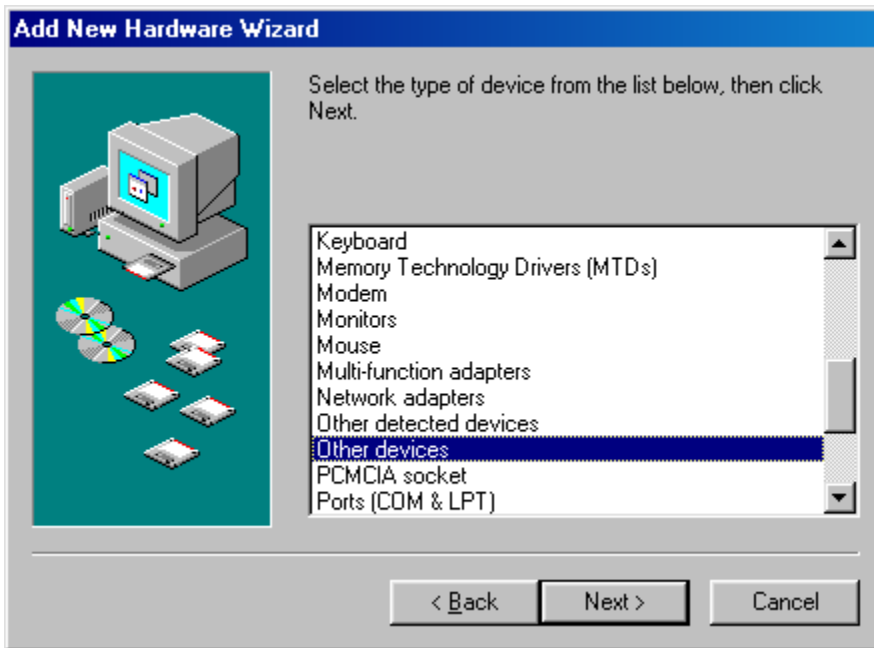
- a. Click "Next" once the New Hardware Wizard Starts, as shown below.



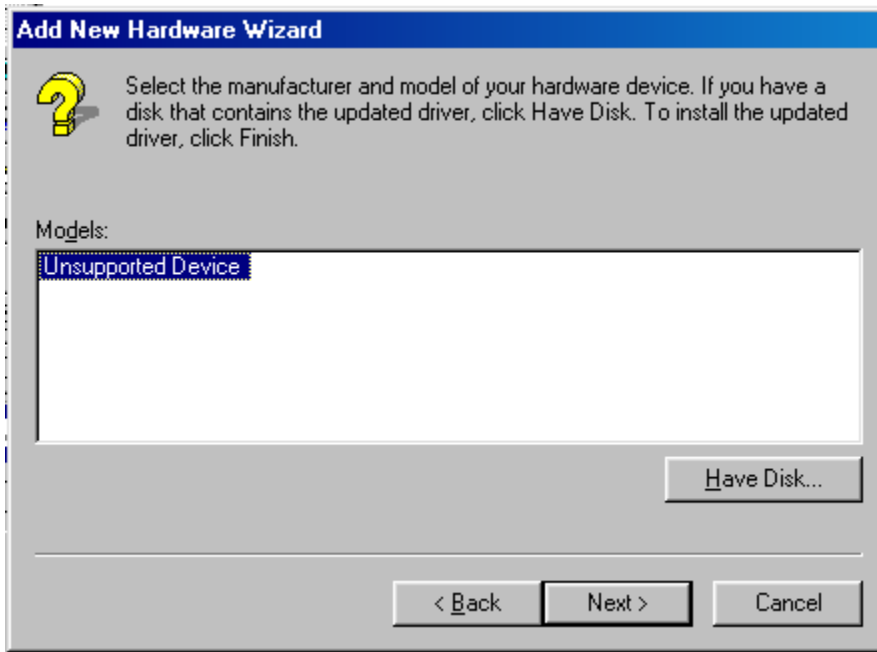
- b. Select the “Display a list of drivers in a specific location” Radio button and click “Next”.



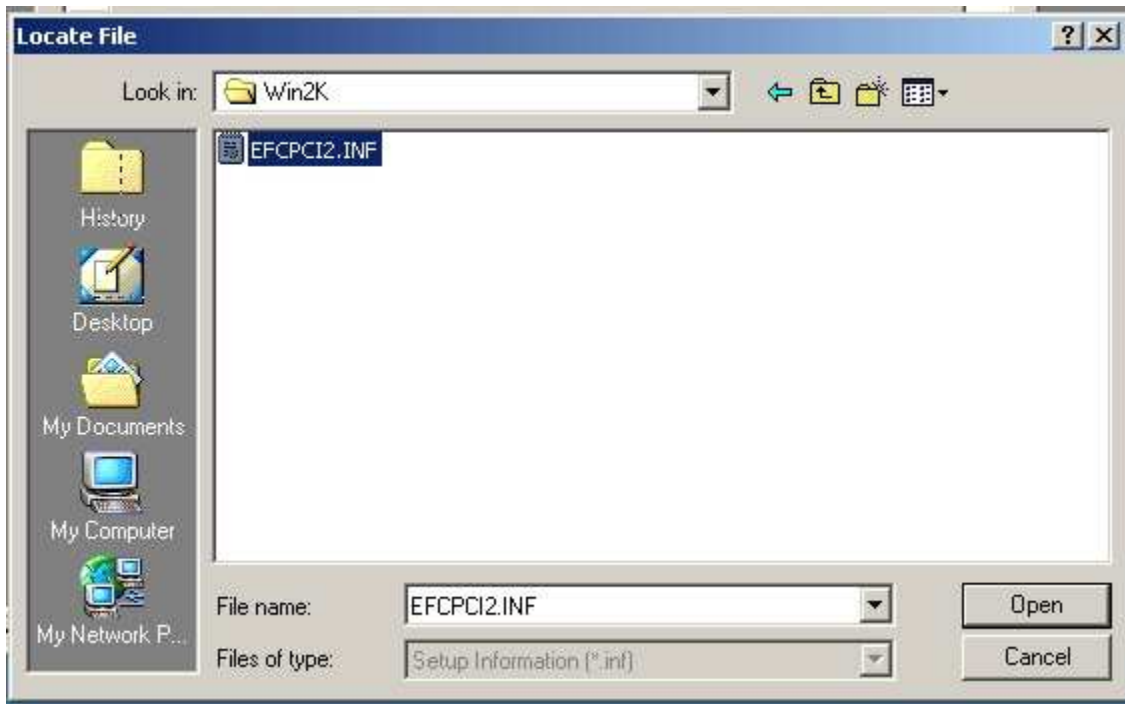
- c. Select “Other Devices” form the list of device types. And click “Next”.



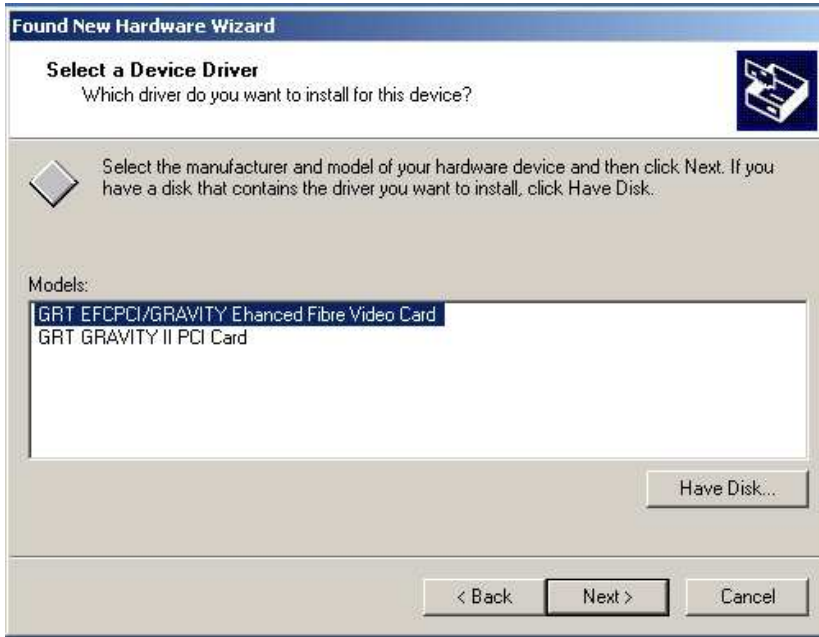
- d. Click on the “Have Disk” button when the Models dialog appears.



- e. Browse to the directory “C:\EFCAPI\DRIVERWDM” and select the file EFCPCI2.INF.



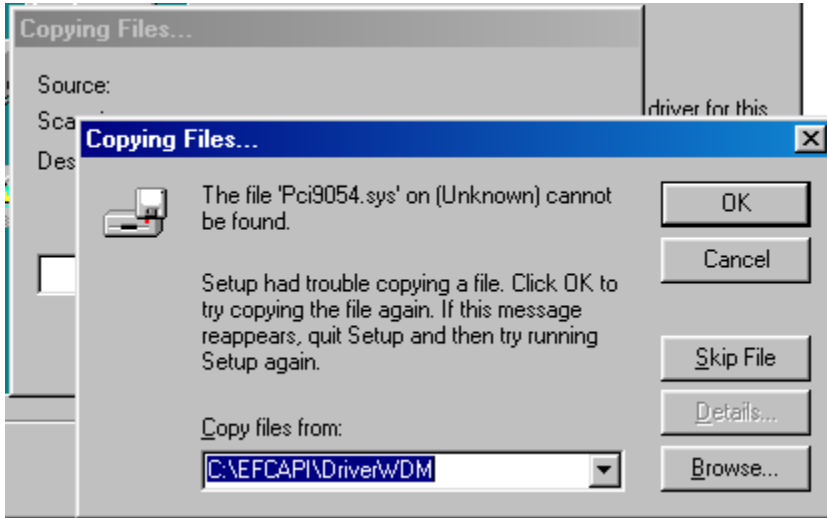
- f. The model “GRT_EFCPCI/GRAVITY Video Card” should appear as shown below. Click on this model and click on “Next” if this is an EFC or GRAVITY card. If it is a 64-bit GRAVITY II PCI card select the GRT GRAVITY II PCI Card entry



- g. The wizard will find the driver file and show the dialog below that shows that Windows is ready to install the driver. Click “Next”.



- h. Windows will probably not find the Driver file itself the first time and may show the prompt below. Just make sure the Copy files area shows the path “C:\EFCAPI\DRIVERWDM” and then click “OK” to tell windows to copy the Driver file form this location.



- i. Windows will install the driver and show this dialog that states the driver is ready to be used. Click on the “Finish” button to complete the installation.



4. Write application to call the API or Run the Test Application

Write your application software to use functions in the API and control the EFC PCI card or run the Test Applications in the C:\EFCAPI directory.

Reference the SDK API “User’s Manual” for examples and function descriptions.

Windows NT 4.0 Installation Steps

1. Install the EFC or GRAVITY PCI card into the PC.

Turn off power to the PC and install the GRT_EFCPCI card into the first available PCI slot. Turn power on the PC and boot up normally. Once Windows has started insert the CDROM into the drive on your PC. Run "SETUP.EXE" from this disk. Follow the instructions on the screen to install all of the files to the specified directory. Restart the PC as specified at the end of the installation.

You must be logged in as an administrator or this install will fail

Windows NT is not Plug and Play so the Driver and API are configured during setup and are now ready to use.

2. Write application to call the API or Run the Test Application

Write your application software to use functions in the API and control the EFC PCI card or run the Test Applications in the C:\EFCAPI directory.

Reference the EFC API "User's Manual" for examples and function descriptions.

END OF DOCUMENT