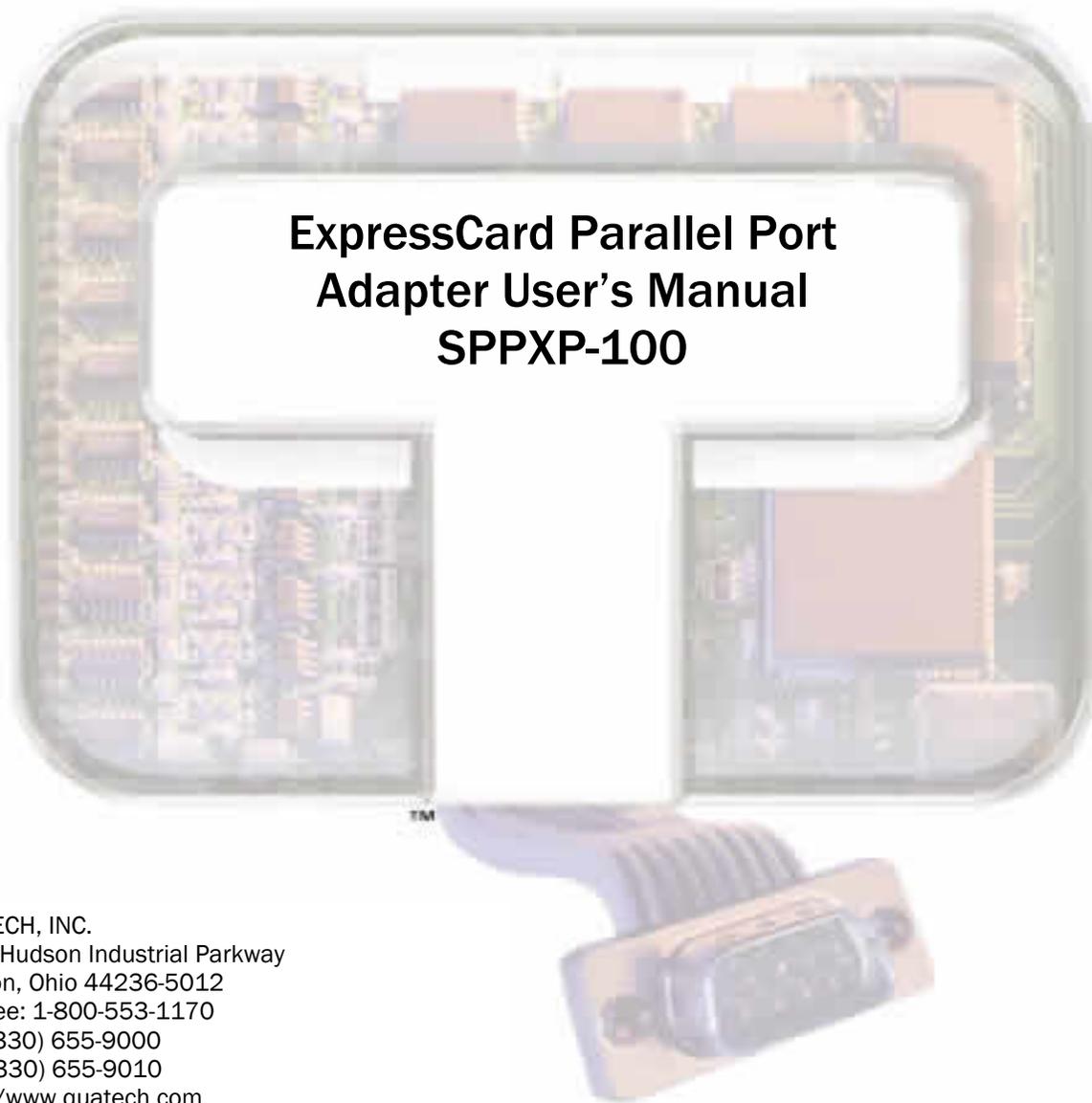


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**ExpressCard Parallel Port
Adapter User's Manual
SPPXP-100**

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Introduction

This User's Manual describes how to setup and install your Quatech Parallel Port Adapter.

The Quatech SPPXP-100 provides one parallel port to the host PC via the ExpressCard port.

The adapter is a Plug-and-Play device and requires no hardware configuration.

System requirements

Quatech Parallel Port Adapters are supported under the Windows XP (and later) operating systems. All device drivers are available for download from the Quatech World Wide Web site at <http://www.quatech.com/>.

Installing the Parallel Port Adapter

Caution! Be sure to allow the installation process to finish without interruption.

This section explains how to install the Parallel Port Adapter under different operating systems. Please locate and follow the procedure for your computer's operating system.

The Parallel Port Adapter uses the Windows system-supplied parallel drivers that enables the port to appear to Windows as a standard LPT port.

Installing under Windows XP

Follow these steps to install the adapter under Windows XP.

Step	Procedure	Description
□ Step 1	Turn on the power to your computer system.	<i>This is the system in which the device is to be installed.</i>
□ Step 2	Plug the ExpressCard into an available ExpressCard slot on the computer.	<i>Windows tells you that it has found new hardware and launches the Found New Hardware Wizard.</i>

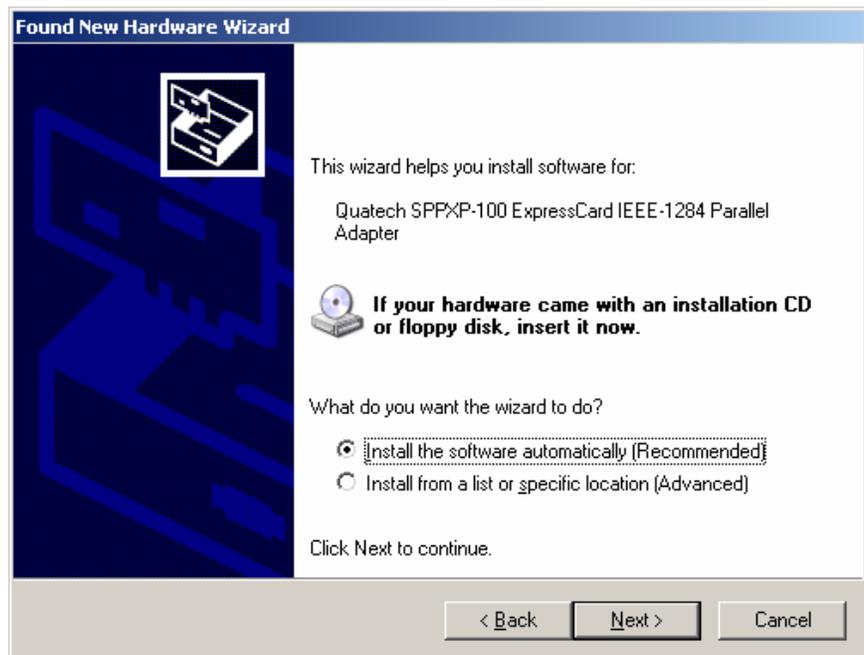
Figure 1 - Windows XP Found new hardware prompt

Figure 1 illustrates the Windows XP Found new hardware prompt. The Found New Hardware Wizard launches automatically when you first plug in the Parallel Port Adapter.



Step	Procedure	Description
□ Step 3	When the “welcome to the found new hardware wizard” appears, select the “No, not this time” option	<i>Please do NOT allow Windows Update to search for the software on the internet.</i>
□ Step 4	Click the Next button	<i>Windows will continue to the next step.</i>

Figure 2 - Windows XP Choose your installation options prompt



	Procedure	Description
□ Step 5	Insert the Quatech installation CD into your CD-ROM drive.	<i>This is the CD that shipped with the product.</i>
□ Step 6	Select the “install automatically (Recommended)” option.	<i>The installation options prompt displays.</i>
□ Step 7	Click the Next button.	<i>Windows searches for drivers for the adapter.</i>

Figure 3 - Windows XP “software has not passed Windows logo testing” prompt

Figure 3 illustrates the “software has not passed Windows logo testing” prompt. This prompt will only appear in the case of a new unsigned driver.



Step	Procedure	Description
□ Step 8	In the case of a new unsigned driver, the “software has not passed Windows logo testing” prompt will appear. Please click the [Continue Anyway] button to continue with the installation.	<i>Windows displays a warning prompt if the software drivers are not signed with the Windows logo. New drivers have been tested at our lab facilities, but may not yet have received the official logo from Microsoft.</i>
□ Step 9	The Wizard locates and starts to install the necessary software.	<i>The “wait while the Wizard installs the software” prompt displays (fig.4), followed by the “Finished installing” prompt (fig.5).</i>

Figure 4 - Windows XP "please wait" message

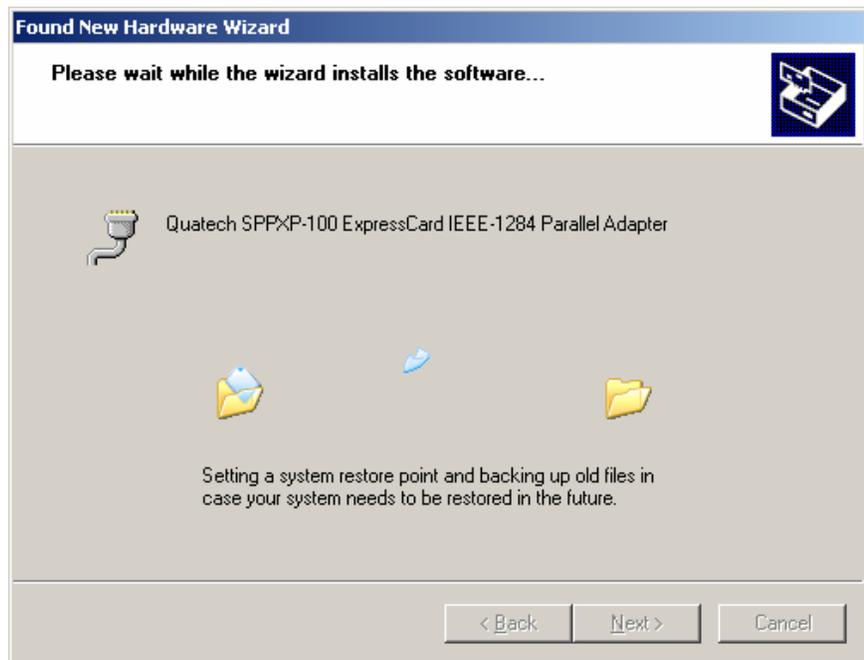


Figure 5 - Windows XP Finished installing prompt



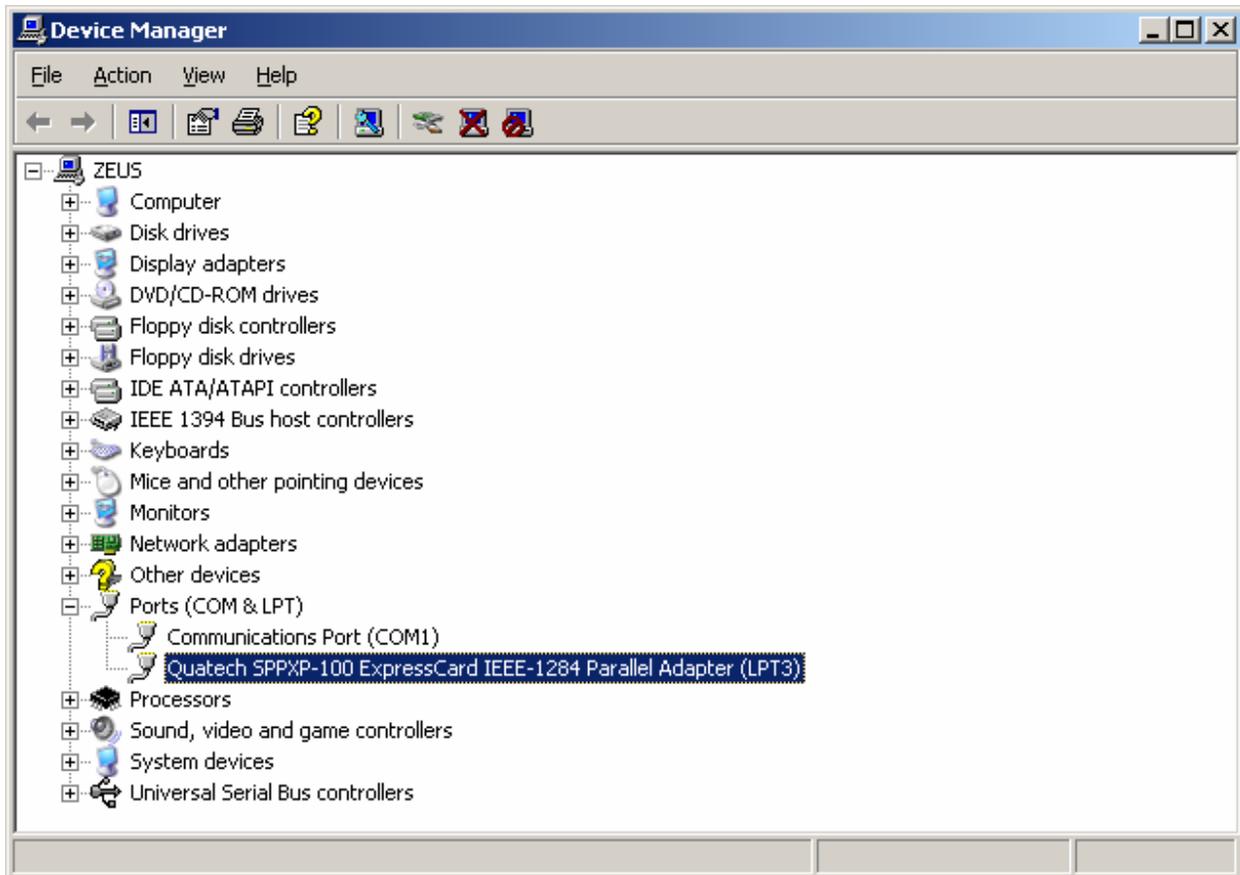
Step	Procedure	Description
□ Step 10	Press the Finish button to continue.	<i>The ExpressCard Adapter installation is complete.</i>

Uninstalling under Windows XP

Follow these steps in the event that you need to uninstall or reinstall the Parallel Port software.

1. From the Control Panel, select System.
2. Press the Hardware tab.
3. Click on Device Manager.

Figure 6 - Device Manager



4. Scroll down to PORTS and expand.
5. Highlight your Quatech Parallel Port Adapter; for example, Quatech SPPXP-100 ExpressCard IEEE-1284 Parallel Adapter (LPT3)
6. Select the Action menu option.
7. Select Uninstall from the drop down menu.
8. Click OK at the Confirmation screen. Note that this also removes the parallel port associated with your Parallel Port Adapter.

Installing under Windows Vista

Follow these steps to install the adapter under Windows Vista.

Step	Procedure	Description
❑ Step 1	Turn on the power to your computer system.	<i>This is the system in which the device is to be installed.</i>
❑ Step 2	Plug the ExpressCard into an available ExpressCard slot on the computer.	<i>Windows tells you that it has found new hardware and launches the Found New Hardware Wizard.</i>

Figure 7 - Windows Vista "Found new hardware" prompt

Figure 7 illustrates the Windows Vista Found new hardware prompt. The Found New Hardware Wizard launches automatically when you first plug in the Parallel Port Adapter.

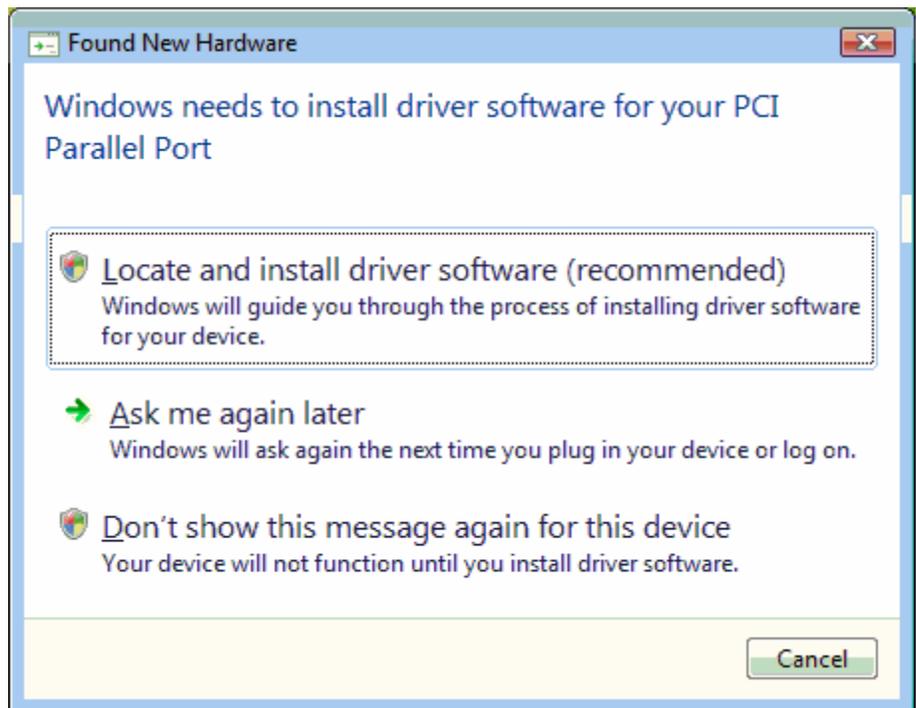
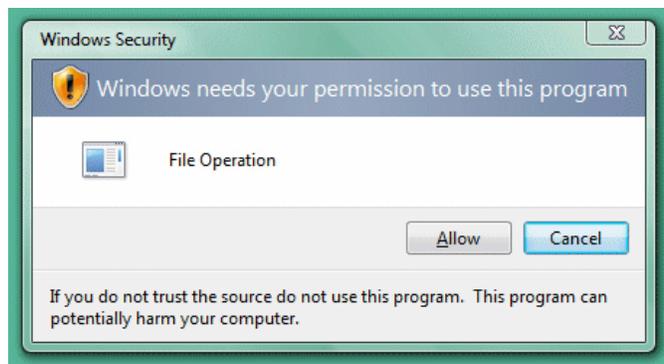
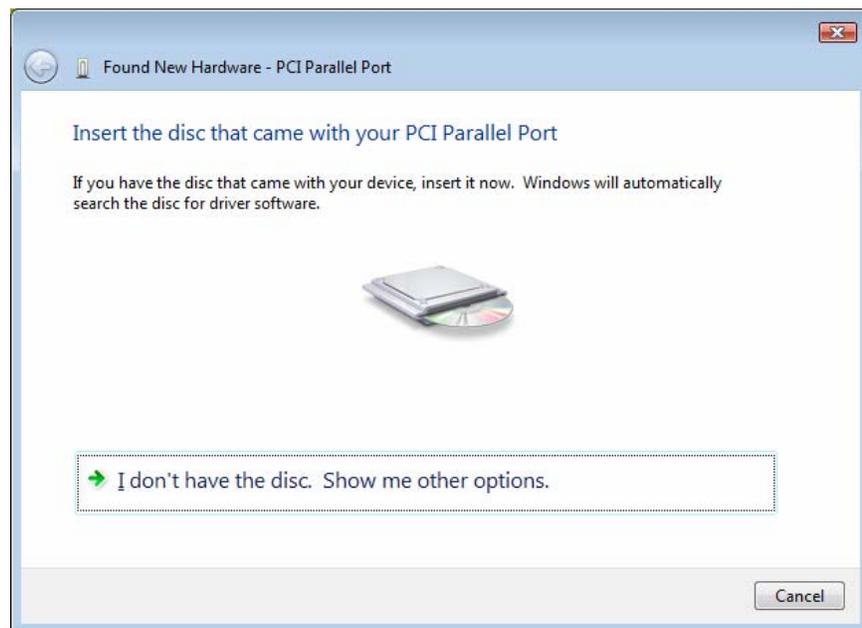


Figure 8 - "Windows needs your permission to use this program" prompt



Step	Procedure	Description
□ Step 3	When the “welcome to the found new hardware wizard” appears, select the “Locate and install driver software (recommended)” option	<i>Windows will pop-up the next prompt.</i>
□ Step 4	When the “Windows needs your permission to use this program” prompt appears, select [allow] to continue with the installation.	<i>Windows will continue to the next step.</i>

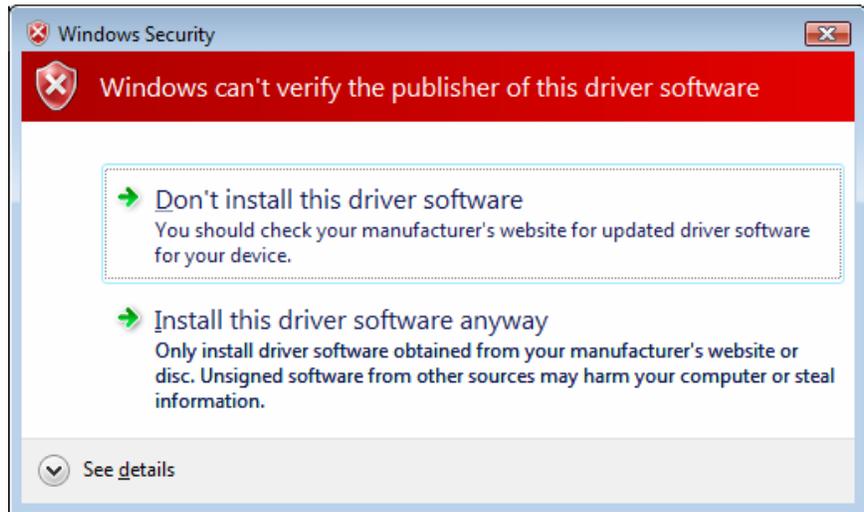
Figure 9 - Windows Vista "Insert the disc that came with your hardware" prompt



	Procedure	Description
□ Step 5	Insert the Quatech installation CD into your CD-ROM drive.	<i>This is the CD that shipped with the product.</i>
□ Step 6	Click the Next button	<i>Windows searches for drivers for the adapter.</i>

Figure 10 - Windows Vista “Windows can't verify the publisher of the driver software” prompt

Figure 10 illustrates the “Windows can't verify the publisher of the driver software” prompt. This prompt will only appear in the case of a new unsigned driver.



Step	Procedure	Description
❑ Step 7	In the case of a new unsigned driver, the “Windows can't verify the publisher of the driver software” prompt will appear. Please click on [Install this driver software anyway] to continue with the installation.	Windows displays a warning prompt if the software drivers are not signed with the Windows logo. New drivers have been tested at our lab facilities, but may not yet have received the official logo from Microsoft.
❑ Step 8	The Wizard locates and starts to install the necessary software.	The “wait while the Wizard installs the software” prompt displays (fig.11), followed by the “Finished installing” prompt (fig.12).

Figure 11 - Windows Vista "Installing driver software" message

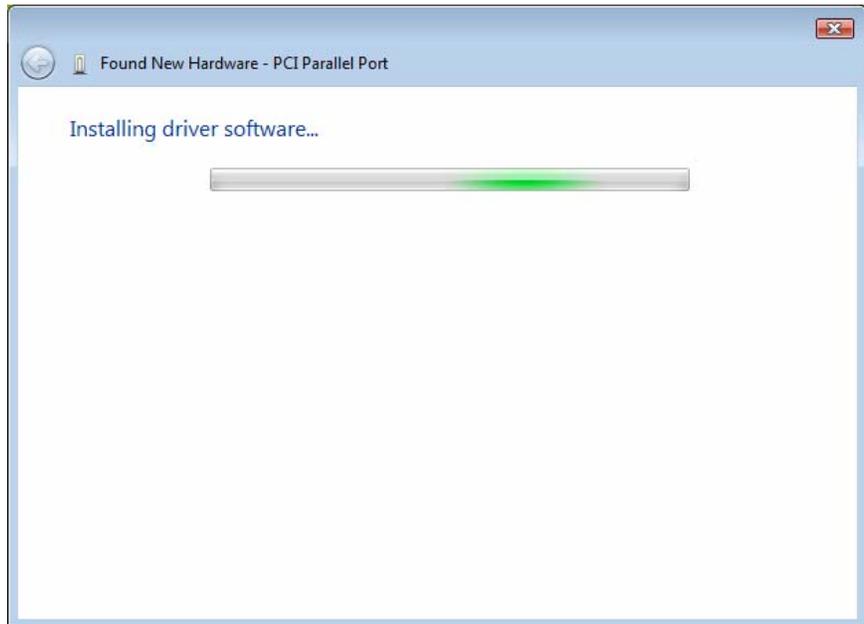
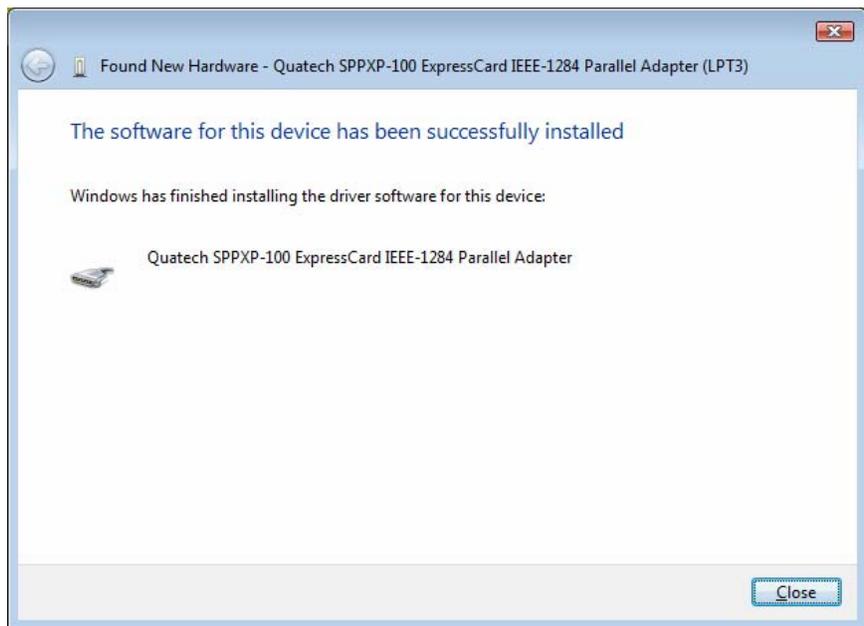


Figure 12 - Windows Vista "the software has been successfully installed" prompt



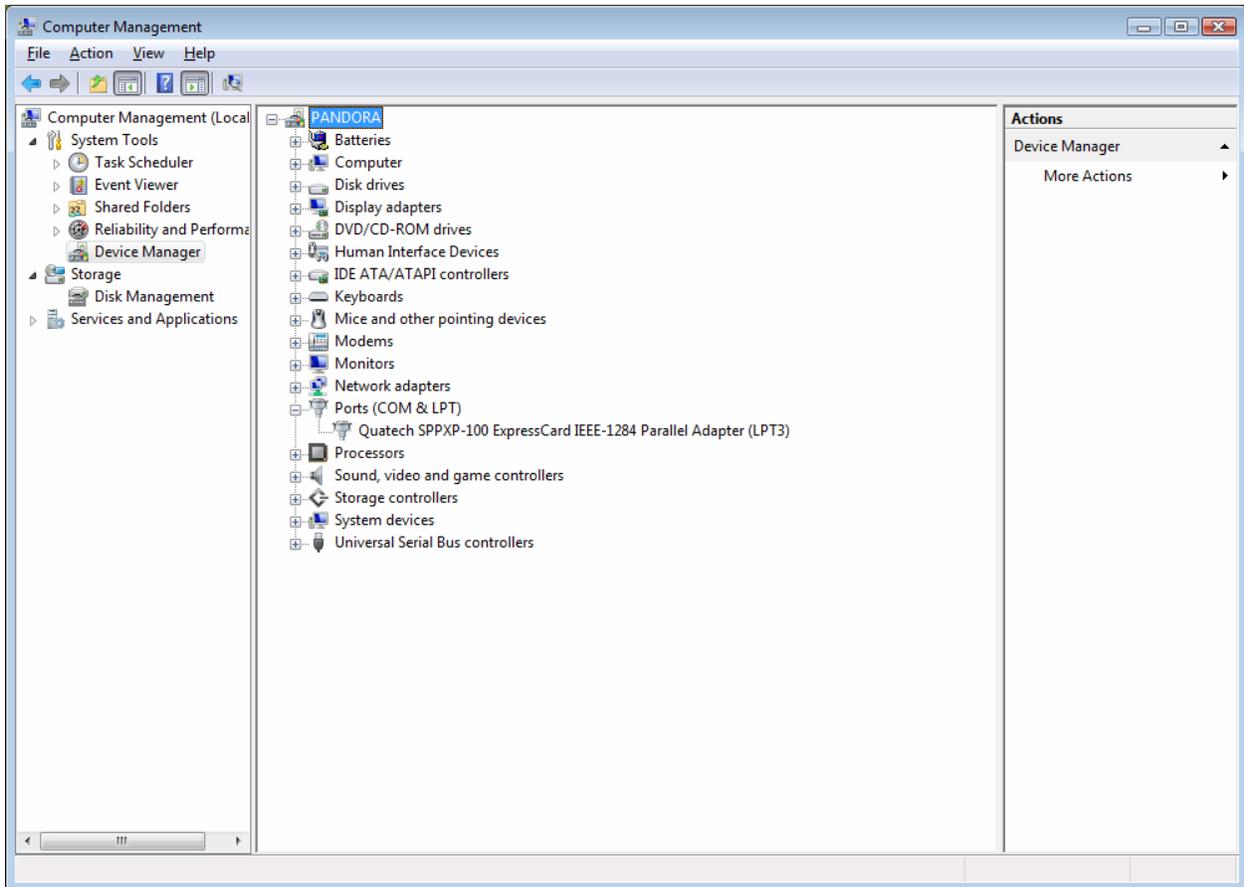
Step	Procedure	Description
□ Step 9	Press the Close button to continue.	<i>The ExpressCard Adapter installation is complete.</i>

Uninstalling under Windows Vista

Follow these steps in the event that you need to uninstall or reinstall the Parallel Port software.

1. From the Control Panel, select System.
2. Select "Classic view".
3. Click on Device Manager.
4. When the security prompt appears, click [allow] to continue.

Figure 13 - Device Manager



5. Scroll down to PORTS and expand.
6. Highlight your Quatech Parallel Port Adapter; for example, SPPXP-100 ExpressCard IEEE-1284 Parallel Adapter (LPT3).
7. Select the Action menu option.
8. Select Uninstall from the drop down menu.
9. Click OK at the Confirmation screen. Also click the check-box to remove the driver software. Note that this also removes the parallel port associated with your Parallel Port Adapter.

Making external connections

The following figures and tables show the parallel port pinouts.

Figure 14 - DB-25 female parallel port connector

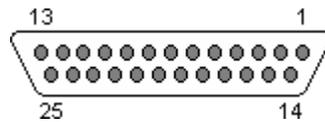


Table 1 - Parallel Port Pin Assignments

Pin #	Source	Compatible	Nibble	Byte	ECP	EPP
1	H	nStrobe	HostClk	HostClk	HostClk	nWrite
2	Bi-Di*	Data 1 (Least Significant Bit)				AD1
3	Bi-Di*	Data 2				AD2
4	Bi-Di*	Data 3				AD3
5	Bi-Di*	Data 4				AD4
6	Bi-Di*	Data 5				AD5
7	Bi-Di*	Data 6				AD6
8	Bi-Di*	Data 7				AD7
9	Bi-Di*	Data 8 (Most Significant Bit)				AD8
10	P	nAck	PtrClk	PtrClk	PeriphClk	Intr
11	P	Busy	PtrBusy	PtrBusy	PeriphAck	nWait
12	P	PError	AckDataReq	AckDataReq	nAckReverse	User defined 1
13	P	Select	Xflag	Xflag	Xflag	User defined 3
14	H	nAutoFd	HostBusy	HostBusy	HostAck	nDStrb
15	P	nFault	nDataAvail	nDataAvail	nPeriphRequest	User defined 2
16	H	nInit	nInit	nInit	nReverseRequest	nInit
17	H	nSelectIn	IEEE 1284 Active			nAStrb
18	Signal Ground (nStrobe)					
19	Signal Ground (Data 1 and Data 2)					
20	Signal Ground (Data 3 and Data 4)					
21	Signal Ground (Data 5 and Data 6)					
22	Signal Ground (Data 7 and Data 8)					
23	Signal Ground (Busy and nFault)					
24	Signal Ground (PError, Select, and nAck)					
25	Signal Ground (nAutoFd, nSelectIn, and nInit)					

Using Device Manager

This section explains how to use Device Manager to view the properties of the parallel ports enumerated by the Parallel Port Adapter.

Accessing Device Manager

Step	Procedure	Description
❑ Step 1	Select Start – Control Panel.	
❑ Step 2	Double click the System icon.	<i>The System Properties dialog box opens.</i>
❑ Step 3	Click the Hardware tab, and then press the Device Manager button.	<i>Device Manager lists all the hardware devices that are registered inside the Windows registry.</i>

Exploring Device Manager screens

Windows XP / Vista

Device Manager provides one property dialog that applies to the Parallel Port Adapter.

- Ports (COM & LPT) device group property box

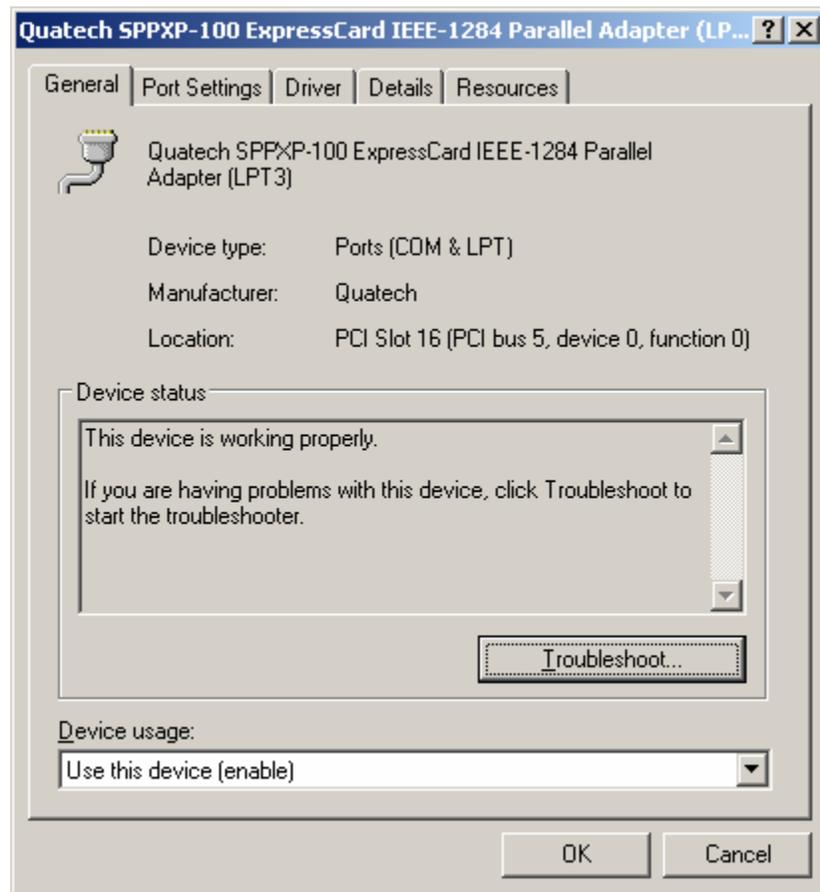
Use the Ports (COM & LPT) device group property box to view and set the port settings and to view device usage and driver information for the parallel ports.

Vista Users, please note that aside from some aesthetic changes, the on-screen displays are virtually identical to the ones shown from XP

Step	Procedure	Description
❑ Step 1	With Device Manager open, expand the PORTS group.	<i>Your Parallel Port Adapter should appear in the list – for example, SPPXP-100 ExpressCard IEEE-1284 Parallel Adapter (LPT3) (see fig.6)</i>
❑ Step 2	Double click the Parallel Port Adapter.	<i>The Properties dialog box opens and displays the General tab.</i>

Figure 15 - Windows XP Device Manager - Adapter properties, General tab

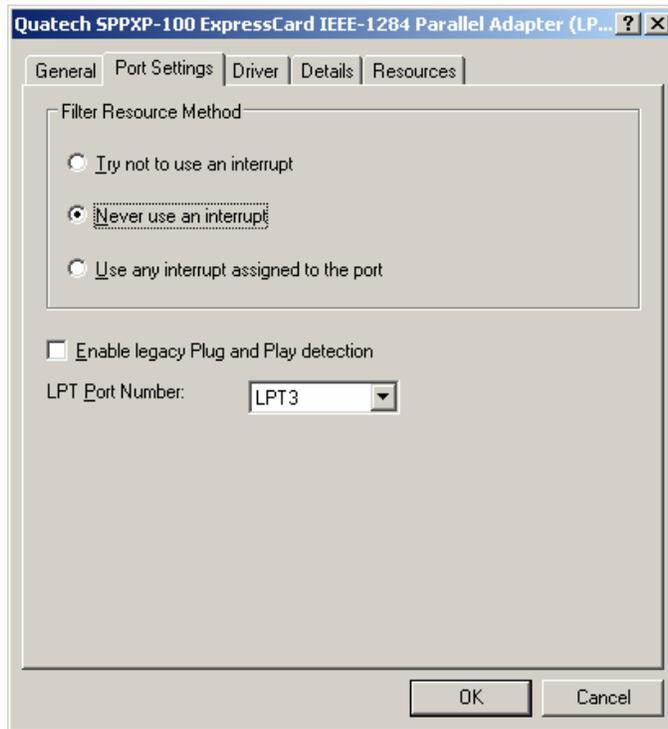
Figure 15 illustrates the Adapter Properties, General Tab which tells you whether the Adapter is working properly



Step	Procedure	Description
□ Step 3	Click the ExpressCard Parallel Adapter Port Settings tab to view the port setting properties.	<i>The Port Settings dialog box displays.</i>

Figure 16 - Windows XP Device Manager - Adapter properties, Port Settings tab

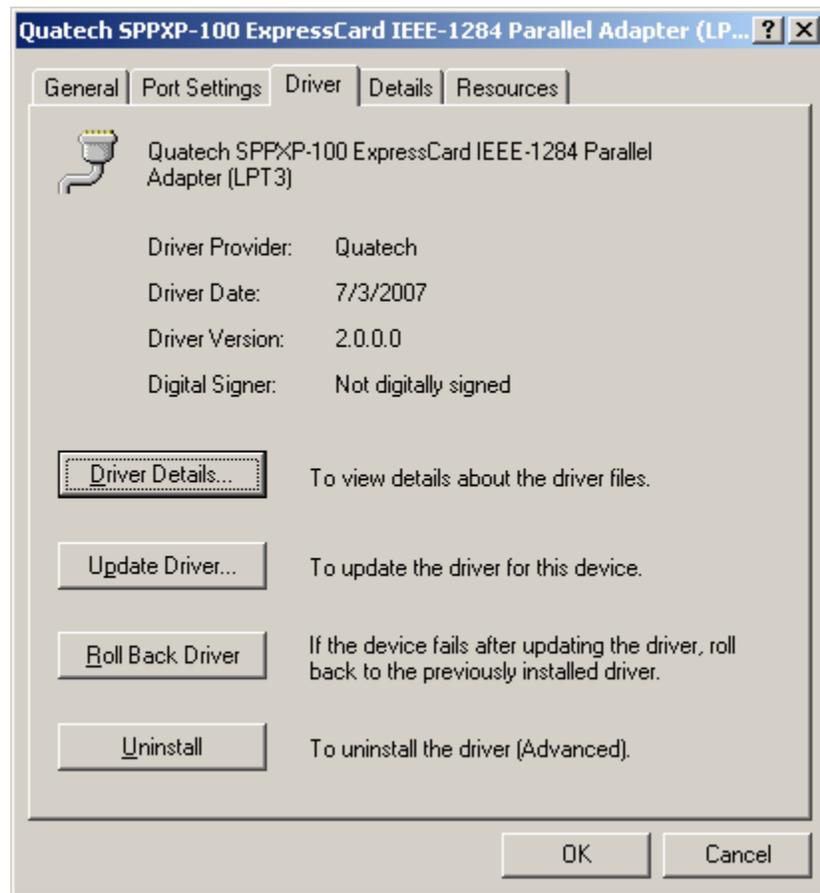
Figure 16 illustrates the Adapter Properties, Port Settings Tab.



Step	Procedure	Description
❑ Step 4	The ExpressCard Parallel Adapter Port Settings Tab allows you to ... <ul style="list-style-type: none"> ➤ Select interrupt options ➤ Select “plug & play” options ➤ Set the port number. 	<i>See the Setting advanced options section for details.</i>
❑ Step 5	Click Cancel or OK to close the property box.	

Figure 17 - Windows XP Device Manager - Adapter properties, Driver tab

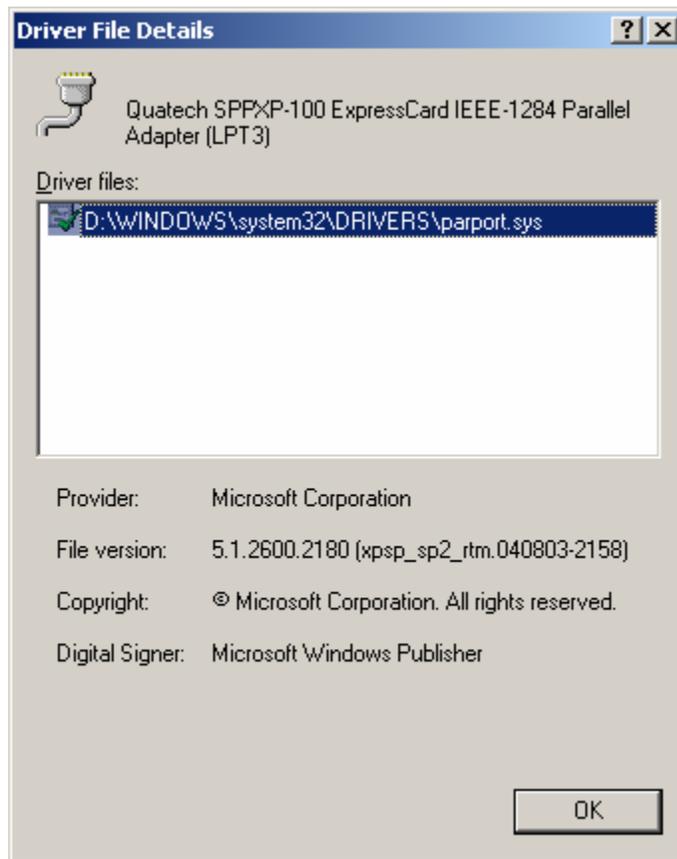
Figure 17 illustrates the Adapter Properties, Driver Tab, which lets you view the driver details and update, roll back, or uninstall the driver.



Step	Procedure	Description
❑ Step 6	Click the Driver tab to view the driver information and update the driver.	<i>The ExpressCard Parallel Port Driver properties dialog box displays.</i>
❑ Step 7	You have several options: <ul style="list-style-type: none"> ➤ View detailed driver information ➤ Update the device drivers ➤ Uninstall your Parallel Port Adapter. ➤ Return to the previously installed driver. ➤ Save your changes and exit. <p>Abandon your changes and return to the Device Manager.</p>	<i>See below.</i>
❑ Step 8	Click the Driver Details button to view detailed driver information.	<i>The Driver File Details dialog box opens. See the following figure.</i>

Figure 18 - Windows XP Device manager - Adapter properties, Driver file details box

Figure 18 illustrates the Driver Details dialog box, which tells you the name and location of the driver files, the provider, file version, copyright date, and the digital signature status of the driver.



Step	Procedure	Description
<ul style="list-style-type: none"> ❑ Step 9 	<p>The Driver File Details dialog box displays the following information</p> <ul style="list-style-type: none"> ➤ Provider ➤ File version ➤ Copyright ➤ Digital Signer (Windows XP only) <p>Click OK to return to the Driver tab.</p>	<p><i>Microsoft is the provider of the driver.</i></p> <p><i>This is the version number of the installed software.</i></p> <p><i>Copyright date and holder</i></p> <p><i>Indicates whether Microsoft has approved this version.</i></p>
<ul style="list-style-type: none"> ❑ Step 10 	<p>Click Cancel or OK to close the dialog.</p>	

Troubleshooting

Note: Any unauthorized repairs or modifications will void the adapter's warranty.

This section lists some common problems and their causes. If the information below does not provide a solution, contact Quatech technical support.

Problem	Cause	Solution
The Parallel Port Adapter cannot communicate with other equipment.	➤ The card is not seated properly.	1. Check the card to make sure that it is firmly seated in the card slot.
	➤ The device driver is not installed.	1. Double check the Device Manager per the instructions in Using Device Manager to ensure that drivers are installed correctly and that all devices are working properly. 2. Try uninstalling the ExpressCard Adapter from the Device Manager window and then repeat the hardware installation instructions.
	➤ The ExpressCard port is faulty.	1. If possible, connect a known good ExpressCard device to the PC and see if it operates properly.

Appendix A

Specifications

Bus interface	PCI Express, revision 1.1
Ports	SPPXP-100: 1
PPI	Custom Parallel Peripheral Interface Controller with 2048 byte ECP FIFO.
Transceivers:	<u>IEEE-1284 Output</u> Voltage Swing: 0.4 – 2.4V min, 0.5V typical <u>IEEE-1284 Input</u> Voltage Range: –0.5V min, +5.5V max Input Threshold Low: 0.8V max Input Threshold High: 2.0V min
Connectors:	DB-25 Female
Dimensions	See drawing
Power Requirements	+3.3v = <1000mA +3.3v aux = 0 mA +1.5v = 0 mA
Temperature:	Operating: 0 to 70 C Storage: –50 to 80 C
Humidity	10 to 90%
OS Support	Windows XP, Windows Vista

Appendix B

Warranty information

Quatech, Inc. warrants the SPPXP-100 to be free of defects for five (5) years from the date of purchase. Quatech, Inc. will repair or replace any board that fails to perform under normal operating conditions and in accordance with the procedures outlined in this document during the warranty period. Any damage that results from improper installation, operation, or general misuse voids all warranty rights. No representation is made regarding the suitability of this product for any particular purpose.

Please complete the following information and retain for your records.

DATE OF PURCHASE: _____
MODEL NUMBER: SPPXP-100
PRODUCT DESCRIPTION: Parallel Port Adapter
SERIAL NUMBER: _____

All products returned to Quatech for either warranty or non-warranty repair **MUST** be assigned a Returned Material Authorization (RMA) number prior to shipment. This RMA number must be clearly marked on the exterior of the product's return packaging and in any correspondence to ensure proper routing and prompt attention. To obtain an RMA number, contact Quatech Technical Support Department at 1-800-553-1170 or (330) 655-9000. In order to prevent damage to returned merchandise during shipment, please package electronic components in anti-static/shock proof materials.

For **warranty** repair/returns, please have the following information available when contacting the Technical Support department:

1. Model number and serial number of the product under warranty
2. Repair instructions and/or specific description of the problem

For **non-warranty** repairs or upgrades, contact the Technical Support department for current repair charges and please have the following information available:

1. Purchase order number to cover the cost of the service
2. Model number and serial number of the product
3. Repair or upgrade instructions relative to the product