Dual Voltage Serial Card

2 Port Serial and 1 Port Parallel Dual Voltage PCI Card
2 Port Serial and 1 Port Parallel Low Profile Dual Voltage PCI Card

PCI2S1PDV

PCI2S1PDVLP

Instruction Manual

Actual product may vary from photo

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

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Introduction

Thank you for purchasing a StarTech.com 2 Port Serial and 1 Port Parallel Dual Voltage PCI Card. This PCI I/O card allows you to connect additional DB-9M Serial and DB-25F Parallel devices to your computer - an all-in-one connectivity solution that maximizes functionality, while taking up minimal space inside the computer casing.

Features

- Dual voltage card supports both 64-bit(3.3V) and 32-bit(5V) PCI

- High speed serial ports support baud rates up to 921Kbps

- 128K transmit/receive FIFO buffer helps improve overall system performance

- IRQ sharing eliminates IRQ conflicts

- Plug and Play and re-map to ISA address 3F8, 3E8, 2F8 and 2E8

- Low profile design saves space

Before You Begin

System Requirements

- A computer with an available PCI port

- A computer running Windows 95/98SE/NT/ME/2000/XP/2003, Linux or DOS

- A CD-ROM, DVD-ROM, or other compatible optical drive (for software installation)

- 2 Serial + 1 Parallel connector cable

Contents

This package should contain:

- PCI Serial I/O card (1)

- Driver CD (1)

- Instruction Manual (1)

- 2 Serial + 1 Parallel connector cable (1)

Installation

Installing the PCI2S1PDV/PCI2S1PDVLP Card

1. Shut down all power connected to the computer, as well as all devices connected to the computer peripherally (i.e. Printers, Monitors, Scanners etc.). As an added step to ensure safe installation, unplug the power supply from the computer.

2. Remove the computer cover. For more detailed instruction on how to perform this step, please refer to the documentation that was included with your computer at the time of purchase.

3. Locate an empty PCI slot, removing the metal bracket covering the accompanying empty port/socket.

4. Position the serial card above the open PCI slot, ensuring that the card is aligned with the entire slot. Insert the card firmly into the slot, distributing force evenly across the length of the board. Once inserted, secure the card into the adjoining socket (previously covered by metal bracket), using the correct size screw (please consult documentation that accompanied purchase of computer).

5. Replace the computer cover and re-connect all power to the computer.

Driver Installation - Windows XP

Upon rebooting the computer for the first time following the installation of the serial card, the following screen will be displayed prior to the operating system welcome screen:

Bus No	Device No	Func No	Vendor ID	Device ID	Device Class	IRQ
0	7	1	8086	7010	IDE Controller	14
0	13	0	1409	7268	Simple COMM. Controller	10

Once Windows XP loads, it will detect the **PCI Parallel Controller** automatically and run the **Add New Hardware Wizard** to assist you in installing the new device.

1. Insert the Driver CD that was included with this PCI card.

2. Select **Install the software automatically(recommended),** and click **Next**.
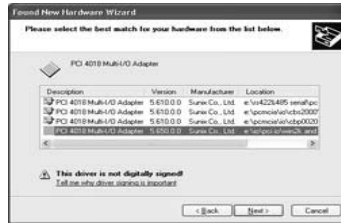
3. Windows will automatically search for the necessary drivers. Highlight **D:\IO\PCI\Win2k and xp,** where **D:** designates the letter assignment for your CD-ROM or DVD-ROM device, and click **Next**.

Please note: If Windows does not locate the driver, please click **Back**, and select **Install from a list or specific location** and click **Next**. At the screen that follows, please select **Search for the best driver in these locations**, and **Include this location in the search:**. Click the **Browse** button to locate the appropriate folder, or type **D:\IO\PCI\Win2k and XP** in the text box provided. Click **Next** to continue.
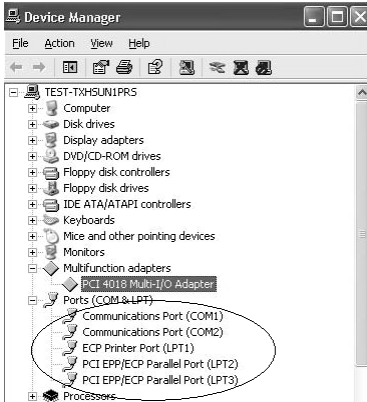

Figure 1-4

4. At the screen pictured in Figure 1-4, please click **Continue Anyway**.

5. Click **Finish** to complete the software installation.

Please note: Following the installation of each parallel/serial port, you will be prompted to reboot. Please omit the request to reboot, until all ports have been added. Instead, please follow steps 1-5 for each parallel and serial connection, then reboot the computer.

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Verifying installation - Windows XP

Once all connections have been installed and Windows has been rebooted, please browse to the **Device Manager** to verify that the additional ports are displayed. To locate this: Open the **Control Panel, System, Hardware, Device Manager**. The new ports will appear under **Ports (COM & LPT).**

Driver Installation - Windows 2000

Upon rebooting the computer for the first time following the installation of the serial card, the following screen will be displayed prior to the operating system welcome screen:

Bus No	Device No	Func No	Vendor ID	Device ID	Device Class	IRQ
0	7	1	8086	7010	IDE Controller	14
0	13	0	1409	7268	Simple COMM. Controller	10

Once Windows 2000 loads, it will detect the **PCI Parallel Controller** automatically and run the **Add New Hardware Wizard** to assist you in installing the new device.

1. Insert the Driver CD that was included with this PCI card.

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2. Select **Search for a suitable driver for my devices**, and click next to continue.

3. Please select **Specify a location**, and click **Next**.

4. Locate the necessary file by clicking **Browse** and selecting **D:\IO\PCI IP\Win2k and XP**. Click **Next** to continue installation.

5. Windows will then notify you that **The wizard found a driver for the following device: PCI Multi IO Adapter** (snxpci.inf). Please click **Next**.

6. The screen that follows will then notify you that **Windows has finished installing the software for this device**. Please click **Finish**, to complete installation.

Please note: Following the installation of each parallel/serial port, you will be prompted to reboot. Please omit the request to reboot, until all ports have been added. Instead, please follow steps 1-5 for each parallel and serial connection, then reboot the computer.

Verifying installation - Windows 2000
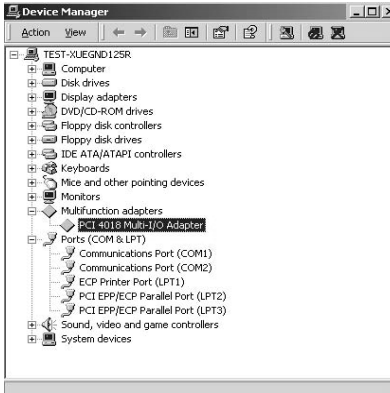
Once all connections have been installed and Windows has been rebooted, please browse to the **Device Manager** to verify that the additional ports are displayed. To locate this: Open the **Control Panel, System, Hardware, Device Manager**. The new ports will appear under **Ports (COM & LPT).**

Driver Installation - Windows 95/98SE/ME

Upon rebooting the computer for the first time following the installation of the serial card, the following screen will be displayed prior to the operating system welcome screen:

Bus No	Device No	Func No	Vendor ID	Device ID	Device Class	IRQ
0	7	1	8086	7010	IDE Controller	14
0	13	0	1409	7268	Simple COMM. Controller	10

Once Windows loads, it will detect the **PCI Parallel Controller** automatically and run the **Add New Hardware Wizard** to assist you in installing the new device.

1. Insert the Driver CD that was included with this PCI card.

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2. Select **Search for the best driver for your device (recommended)**, and click next to continue.

Please note: Windows ME will search the drive automatically. When given the option, please highlight **D:\IO\PCI IO\Win9x\SPCIMIO.INF** and click **OK**. Following this, please skip to **step 4** .
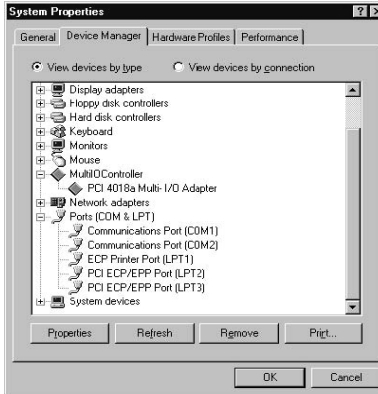

3. Please select **Specify a location** and click **Browse**. Locate **D:\IO\PCI IO\Win9x**, where **D:** is the CD-ROM or DVD-ROM drive designation, and click **Next.**

4. Windows will detect the driver (SPCIMIO.INF) and indicate that it is about to install the driver file for **Multi IO Controller**. Click **Next** to copy the necessary files.

Please note: Following the installation of each parallel/serial port, you will be prompted to reboot. Please omit the request to reboot, until all ports have been added. Instead, please follow steps 1-5 for each parallel and serial connection, then reboot the computer.

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Verifying installation - Windows 95/98SE/ME

Once all connections have been installed and Windows has been rebooted, please browse to the **Device Manager** to verify that the additional ports are displayed. To locate this: Open the **Control Panel, System, Hardware, Device Manager**. The new ports will appear under **Ports (COM & LPT).**

Driver Installation - Windows NT 4.0

1. Once Windows loads after rebooting your computer, please insert the Driver CD into your CD-ROM/DVD-ROM drive.

2. Browse to, and double-click on the **Setup.exe** file, located on the Driver CD (located in **D:\IO\PCI IP\WinNT**, where D:\ is the letter assigned to designate your CD-ROM or DVD-ROM drive)

3. Press **Continue** to install the necessary driver.

4. Once the driver installation has finished, you will be asked to reboot your system in order for the changes to take effect. Please select **Yes, I want to restart my computer now** and click **OK**.

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Verifying installation - Windows NT 4.0
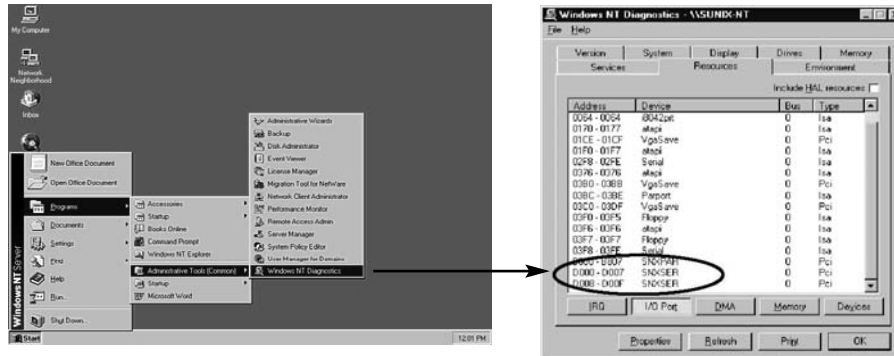
Once all connections have been installed and Windows has been rebooted, please open the **Windows NT Diagnostics utility**. Here, you will find the I/O addresses of the parallel port (SNXPAR) and two serial ports (SNXSER). The IRQ information can be found by clicking the **IRQ** button.

Driver Installation - Windows 3.1

Normally, serial and parallel I/O ports can be supported by Windows 3.1 default device drivers. However, there are only 4 serial ports (3F8h, 2F8h, 3E8h, 2E8h) and 3 parallel ports (3BCh. 378h, 278h) that are supported by default. Most likely, the ports added by this card will require manual port setting changes, however, it is important to determine the PCI serial and parallel port resources, prior to doing so:

[OS Platform] :
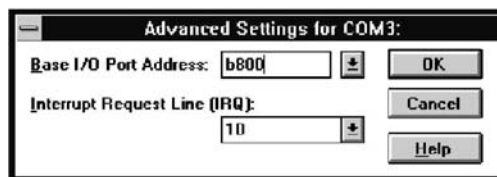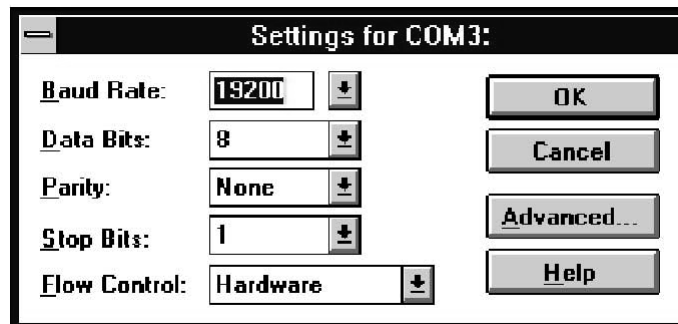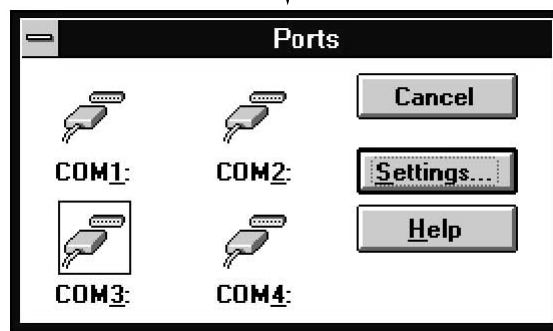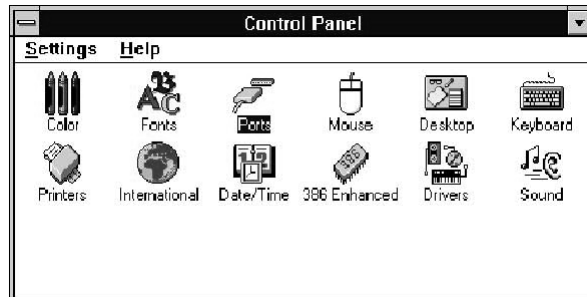
Microsoft Windows   :V3.1/3.11

1. Run PCIDOS.exe (located on the Driver CD under **\PCI IO\DOS\PCIDOS.exe**) to display the following information:

```
On-Board/ISA Serial COM1    3f8H
On-Board/ISA Serial COM2    2f8H
PCI Serial COM3             b800H,IRQ  10
PCI Serial COM4             b808H,IRQ  10


On-Board/ISA Parallel LPT1 3bcH
```

2. Make note of the information displayed in **PCIDOS.exe**.

3. Start Windows 3.1.

4. Change the port settings accordingly, based on the information displayed in **Step 2**, by entering **Ports**, located in **Control Panel**.

5. When asked if you wish to restart the computer, please select **Restart Now**.

6. To verify the PCI port settings, open **\Windows\system.ini**.

A note about remapping:

1. Since some PCI serial ports can support the remapping function
(4025D/4027D/4028D/4036D/4037D/4038D/4079D/E/F), please check the PCI card
using the **SunixPCI.exe** utility, located on the Driver CD.

Clock = 1.8432 MHz for remappable port

Item	Actual Baudrate	BIOS/DOS setting	Remark
1	921600		Does not support
2	460800		Does not support
3	230400		Does not support
4	115200	115200	
5	57600	57600	
6	38400	38400	
7	19200	19200	
8	9600	9600	
9	4800	4800	
10	2400	2400	
11	1200	1200	
12	300	300	

2. Since the PCI serial card is driven by a higher CLK (14.7456 MHz), the actual
baud rate is 8 times higher than the BIOS/DOS baud rate setting. The below
table illustrates the relationship:

| Item	Actual Baudrate	BIOS/DOS setting	Remark
1	921600	115200	
2	460800	57600	
3	230400	28800	Non-BIOS standard
4	115200	14400	Non-BIOS standard
5	57600	7200	Non-BIOS standard
6	38400	4800	Item
7	19200	2400	Item
8	9600	1200	Item
9	4800	600	Non-BIOS standard
10	2400	300	Item
11	1200	150	Item
12	300	37.5	Non-BIOS standard

Driver Installation - Linux

For detailed instructions on driver installation using a Linux operating system, please refer to the included Driver CD, in the following locations:
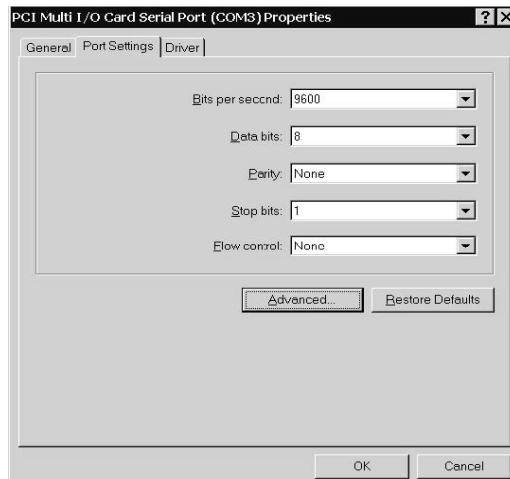
D:\IO\PCI IO\Linux\Red Hat V8.0.pdf
D:\IO\PCI IO\Linux\Red Hat V6.0.pdf

Configuration

Com Port Configuration - Windows 2000/XP
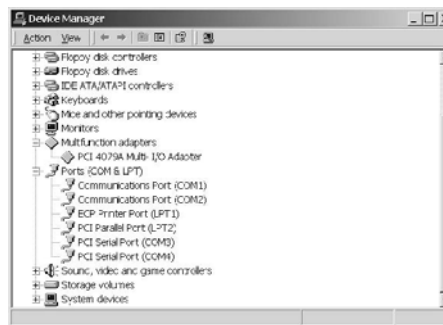
1. Enter the **Device Manager** utility, located in the Control Panel. The newly installed ports will be located under **Ports (COM & LPT)**. Please locate and select the ports you wish to configure by right-clicking on the COM Port name, and selecting **Properties**.
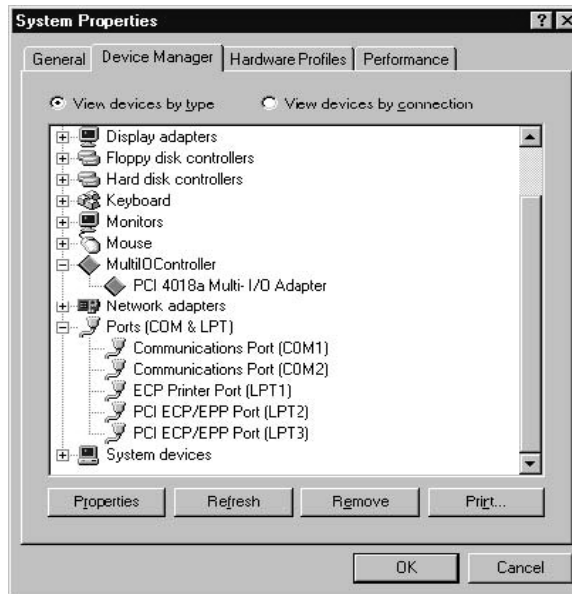

2. Select **Port Settings**. Here, you will be able to configure **Bits per second**, **Data bits**, **Parity**, **Stop bits** and **Flow control**.
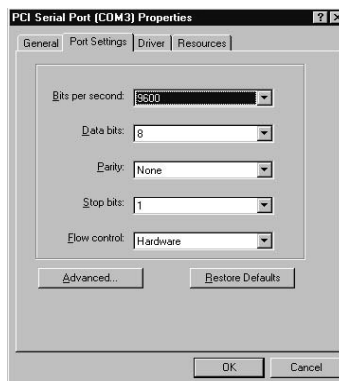
Please note: There are three kinds of flow control: **Xon/Xoff**, **Hardware**, and **None**. The **Xon/Xoff** selection uses a software protocol. **Hardware** indicates that the flow control is using **RTS/CTS**, however the **RTS/CTS** is controlled by software as well. None indicates that no flow control is present. Click the **Advanced** button, if you want to set more advanced features.

## Com Port Configuration - Windows 95/98/98SE/ME

1. Enter the **System Properties** utility, located in the Control Panel. The newly installed ports will be located under **Ports (COM & LPT)**. Please locate and select the ports you wish to configure by right-clicking on the COM Port name, and selecting **Properties**.

3. Select **Port Settings**. Here, you will be able to configure **Bits per second**, **Data bits**, **Parity**, **Stop bits** and **Flow control**.

Please note: There are three kinds of flow control: **Xon/Xoff**, **Hardware**, and **None**. The **Xon/Xoff** selection uses a software protocol. **Hardware** indicates that the flow control is using **RTS/CTS**, however the **RTS/CTS** is controlled by software as well. None indicates that no flow control is present. Click the **Advanced** button, if you want to set more advanced features.
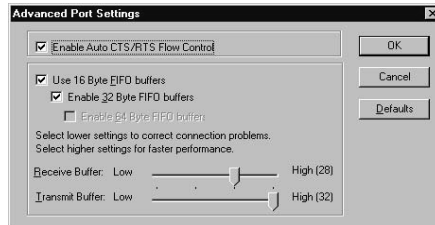
4. Configure the **Enable Auto CTS/RTS Flow Control**, **16/32/64 bytes FIFO length and Receive/Transmit Buffer trigger level** if necessary.

Enabling Auto CTS/RTS Flow Control means the CTS/RTS flow control is controlled by hardware automatcially. The system will remain more stable if the function is enabled.

Setting the **Receive/Transmit Buffer** to a higher value will get faster performance, because the interrupts will be reduced, but the time for interrupt service routine will become shorter. The receive buffer overflow will occur if the CPU is incapable of handling the request. If you notice system instability, please reduce this setting to a lower value.
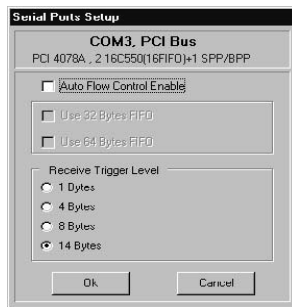
Com Port Configuration - Windows NT 4.0

1. Locate the **Multi-I/O Card Configuration** icon, located in the **Control Panel**.

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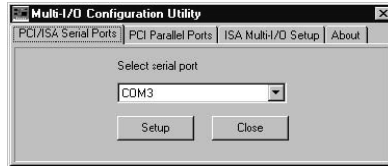
2. Select **PCI/ISA Serial Ports** and slect the serial port you wish to configure from the drop-down box. Press **Setup** to configure the serial port.

3. Set the **32 byte FIFO** or **Auto Flow Control** or **Recieve Trigger Level**, and click **OK**. **Please note**: If you stall the modem using **Auto Flow Control**, please remove the checkmark from **Auto Flow Control Enable**.

## LPT Port Configuration - Windows 95/98/98SE/ME

1. Please ensure that the desired parallel peripheral device is securely connected to the parallel port provided by PCI2S1PDVLP.

2. Enter **My Computer** and double-click on the **Printers** icon.

3. Double-click on the **Add Printer** icon and click **Next**.

4. Once the **Add Printer Wizard** appears, please click **Next**.

5. Install the drivers that were included with your printer at the time of purchase. If you want to connect the printer to the newly installed parallel port, please select PCI ECP/EPP port, and click **Next**.

6. If you wish to connect a scanner or zip disk to the newly installed port, you will need to remap the Parallel Port I/O address to 0x378 or 0x278. To do so:

   a. Open **System Properties**.

   b. Locate and double-click on **Multi IO Controller**, from within the **Device Manager**.

   c. Select **PCI Multi I/O Adapter** by right-clicking on the listing, and click **Properties**.
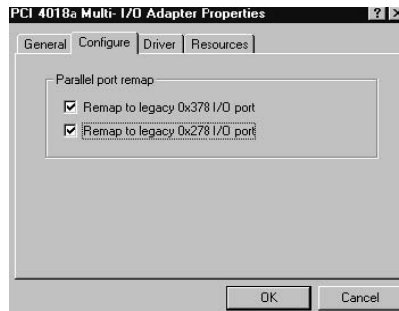

4. Select the **Configure** tab. If you need to remap the I/O address, please select **Remap to legacy 0x378 I/O port** and/or **Remap to legacy 0x278 I/O port**. This setting will be saved once you click **OK**, and will take effect once the computer has been rebooted.

LPT Port Configuration - Windows NT 4.0
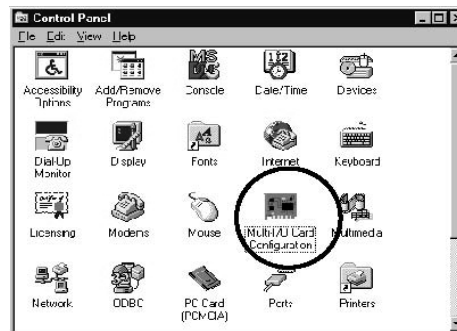
1. Double-click on the **Multi I/O Card Configuration** icon, located within the **Control Panel**.
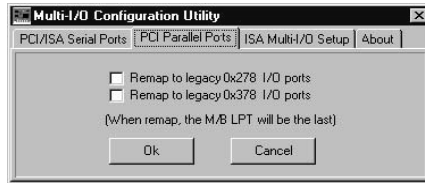
2. Select **PCI Parallel Ports** to configure the I/O address of the parallel port. Select **Remap to legacy 0x378** and/or **0x278**, if you wish to remap to these addresses.

3. Click **OK** to confirm your selection. These settings will take effect upon rebooting the computer.

Please Note: The onboard parallel port is always set to LPT1, if the remap function is disabled. When the parallel port is remapped to 0x378 or 0x278, the onboard parallel port will become the last available LPT port.

Please Note: When you connect a scanner to the remapped parallel port, you must turn on the scanner prior to turning on the computer, for it to function properly.

LPT Port Configuration - Windows 3.1

Since Windows 3.1 only supports 3 parallel ports (3BCh, 378h, 278h), the PCI parallel ports can only be recognized if the DOS driver is activated in advance.

```
On-Board/ISA Serial COM1      3f8H
    On-Board/ISA Serial COM2      2f8H
    PCI Serial COM3               b800H,IRQ  10
    PCI Serial COM4               b808H,IRQ  10


    On-Board/ISA Parallel LPT1  3bcH
```
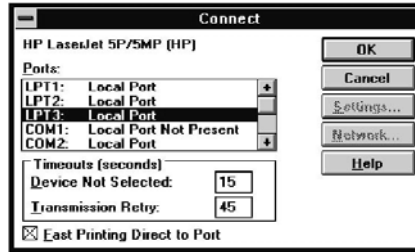
1. To activate the DOS driver, run **PCIDOS.exe**, located on the Driver CD under **D:\PCI IO\DOS\PCIDOS.exe.**
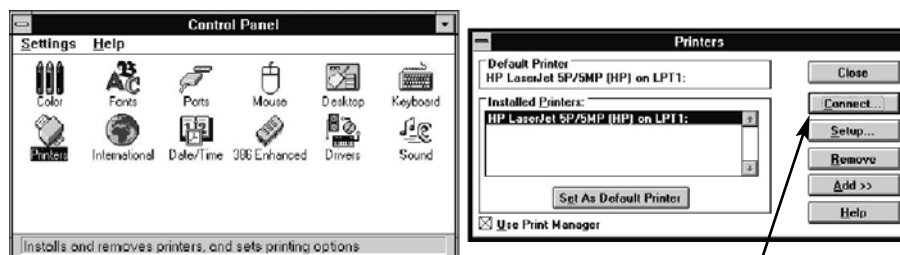
2. Install the printer in **Control Panel**

Click **Connect**

3. Select the parallel port you wish to use for the printer connection. For optimum compatibility, it is recommended that the onboard LPT1 is set to 3BCh.

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Specifications

Bus Type	PCI / PCI-X
Maximum Data Transfer Rate	921.6 Kbps/sec
Chipset	SUN1889
OS Support	Win 98/ME/NT, Win K/XP/2003, Win CE Linux 2.0.x / 2.2.x / 2.4.x / 2.6.x, and DOS
Operation Temperature	0 degrees C to 57 degrees C
Storage Temperature	-20 degrees C to 85 degrees C
Data bits	4,5,6,7, and 8
Stop bits	1, 1.5, and 2
Parity	None, Odd, Even, Space, Mark
Flow Control	None, Xon/Xoff, RTS/CTS

Accessory Products from StarTech.com

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MC3MF
3 ft. AT Modem Cable DB9F-DB25M

MC6MF
6 ft. AT Modem Cable (male to female)

MXT100
6 ft. 9-pin Straight Through Cable (male to female)

MXT100_25
25 ft. 9-pin Straight Through Cable (male to female)

AT925FF
Adapter DB9F to DB25F

MXT10010
10 ft. 9-pin Straight Through Cable (male to female)

MXT10050
50 ft. 9-pin Straight Through Cable (male to female) (Special Order)

AT925FM
Adapter DB9F to DB25M

AT925SFM
Slimline Adapter DB9F to DB25M

SCNM925FM
10 ft. Cross Wired Serial/Null Modem Cable DB9F to DB25M

SCNM9FF
10 ft. Cross Wired Serial/Null Modem Cable DB9 F/F

SCNM9FF25
25 ft. Cross Wired Serial/Null Modem Cable DB9 F/F

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