

Multi-IO RS-232 & Parallel Communication Board



Quick Installation Guide

Version 1.0

Introduction

This PCI Multi-IO communication board provides independent high speed RS-232 serial and IEEE1284 parallel interface, is compatible with both 32/64-bit PCI architecture supporting 3.3 and 5V Bus, allowing the board to be installed in virtually any PC system that is equipped with PCI slot. Majority of today's mainboard no longer come with serial and parallel port, with PCI Multi-IO board, users can expand two RS-232 DB9 male and one IEEE1284 DB25 female ports on your system, allowing them to connect RS-232 serial and IEEE1284 parallel devices. This board is the advanced and high efficient solution for commercial and industrial automation applications.

Features

General

- Designed to meet PCI Specification version 2.2.
- Universal PCI compatible with 64/32-bit PCI-X/PCI Bus and 3.3/5V connector key
- SUN1998 Multi-IO UART and Parallel controller on-board.
- Certified by Microsoft CE, FCC, RoHS approval.
- Support Intel® and AMD® system and Microsoft Windows 32/64-bit OS.

RS-232 Serial Interface

- Two independent RS-232 serial ports with communication speeds up to 115.2Kbps.
- High speed SUN1998 16C550 compatible UART controller on-board.
- On-chip hardware auto flow control to guarantee no data loss.
- Built-in 16 byte hardware FIFO.
- Built-in 2 KV ESD protection for all serial signals.

IEEE1284 Parallel Interface

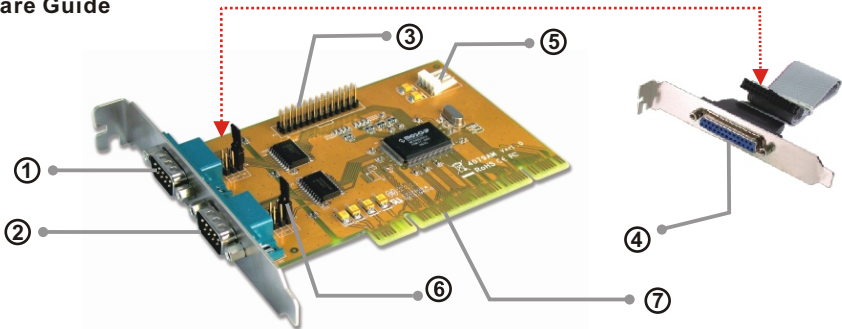
- One IEEE1284 parallel port with communication speeds up to 2.7Mbps.
 - High speed SUN1998 Parallel controller on-board.
 - Support IEEE 1284 -1994 parallel port standard.
- ECP(Enhance Capacity Port) / EPP(Enhance Parallel Port)
SPP(Standard Parallel Port) / BPP(Bi-direction Parallel Port)

Package List

Please check if the following items are present and in good condition upon opening your package. Contact your vendor if any item is damaged or missing.

1. PCI Multi-IO Communication Board
2. Quick Installation Guide (this document)
3. Driver CD ROM
4. Pin Header to DB9 / 25M Connector Bracket set (Optional)

Hardware Guide

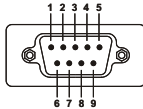


- ① RS-232 port 1 (COM1)
 - ② RS-232 port 2 (COM2)
 - ③ Pin Header to IEEE1284 Parallel Connector
 - ④ DB25F Connector Bracket set (LPT3)
 - ⑤ Mini 4-Pin Power
 - ⑥ Power switch (Appendix)
 - ⑦ PCI golden connector
- *Please connect ③ & ④ with each other.
*Power output must ⑤ connect the power supply

Specification

Model	PCI Multi-IO Communication Board
Bus Interface	64/32-bit PCI-X/PCI Bus and 3.3/5V connector key
Bracket	Standard 121 mm
Driver Support	Windows DOS / 98SE / ME / 2000 / XP / 2003 / XP-64bit / Vista
Regulatory Approvals	CE, FCC
Environment	Operation Temperature: 0℃ ~ 60℃ Storage Temperature: -20℃ ~ 85℃

RS-232 Communication

Number of Port	Two DB9 Male RS-232 Port																														
Controller	SUN1998 16C550 Compatible UART																														
IRQ & IO Address	Assigned by BIOS / O.S.																														
FIFO	16 byte hardware FIFO																														
Baud Rate	75 ~ 921,600bps																														
Data Bit	5, 6, 7, 8																														
Stop bit	1, 1.5, 2																														
Parity	Even, Odd, None, Mark, Space																														
Flow Control	None, Xon/Xoff, HardWare																														
Pin Assignment	<div>TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND</div> <table><thead><tr><th></th><th>DB9M</th><th>DB25M</th></tr></thead><tbody><tr><td>DCD</td><td>1</td><td>8</td></tr><tr><td>RxD</td><td>2</td><td>3</td></tr><tr><td>TxD</td><td>3</td><td>2</td></tr><tr><td>DTR</td><td>4</td><td>20</td></tr><tr><td>GND</td><td>5</td><td>7</td></tr><tr><td>DSR</td><td>6</td><td>6</td></tr><tr><td>RTS</td><td>7</td><td>4</td></tr><tr><td>CTS</td><td>8</td><td>5</td></tr><tr><td>RI/5V/12V</td><td>9</td><td>22</td></tr></tbody></table> 		DB9M	DB25M	DCD	1	8	RxD	2	3	TxD	3	2	DTR	4	20	GND	5	7	DSR	6	6	RTS	7	4	CTS	8	5	RI/5V/12V	9	22
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RI/5V/12V	9	22																													

Parallel Communication

Mode of Operation	ECP / EPP / SPP / BPP
Number of Ports	One DB25 Female Parallel Port
Controller	SUN1998 IEEE1284 Compatible
IRQ & IO Address	Assigned by BIOS / O.S.
FIFO	32 byte hardware FIFO
Baud Rate	Maximum up to 2.7 Mbps
Pin Assignment	

Driver Installation

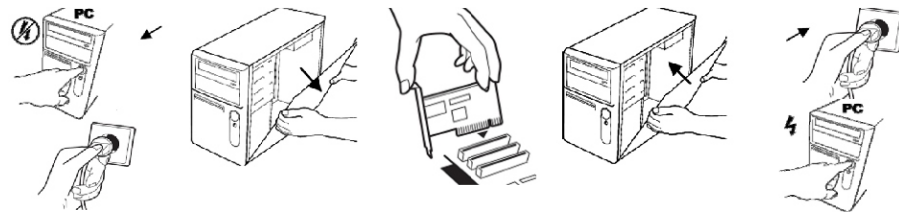
In order to ensure proper operation of your PCI Multi-IO board, the driver will be in the CD bound with your product. You can specify the location (folder) as below:

path : \IO\Multi IO\ (Choose OS)

Hardware Installation

Follow the instruction given below to install the PCI Card:

1. Turn your computer off and remove the power plug from the plug socket.
2. Remove the cover from the computer case.
3. Remove the metal cover plate on the rear of a free PCI slot.
4. Insert the PCI card into the free PCI slot and screw it firmly on the bracket side.
5. Place the cover back onto the computer.
6. Insert the plug into the plug socket.



Driver Installation Windows XP

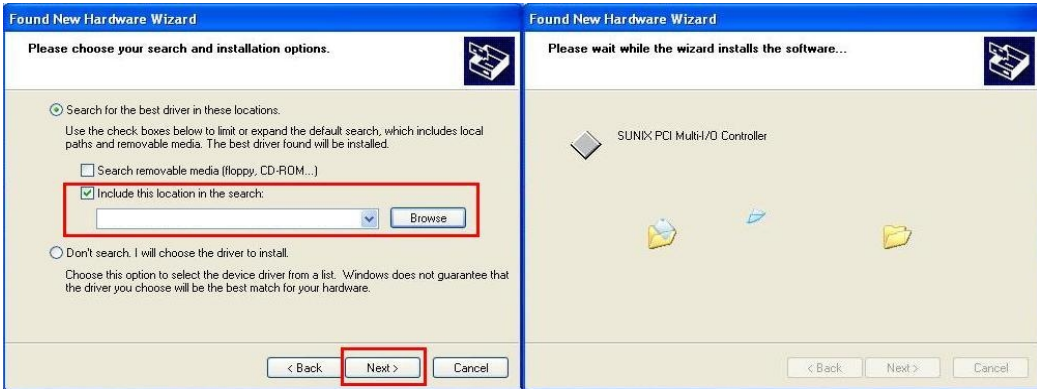
On booting up, system will detect present of the PCI Serial card and prompt for driver installation wizard, but ignore it . Please insert the driver CD in your CD/DVD ROM drive and run point directory setup file :

path : \IO\Multi IOWinXP

1. During OS boot up, Windows will display the "Found New Hardware Wizard". Then choose "Yes , this is time only" , and click " Next "
2. Choose "Install from a list or specific location (Advanced)". Then click "Next"



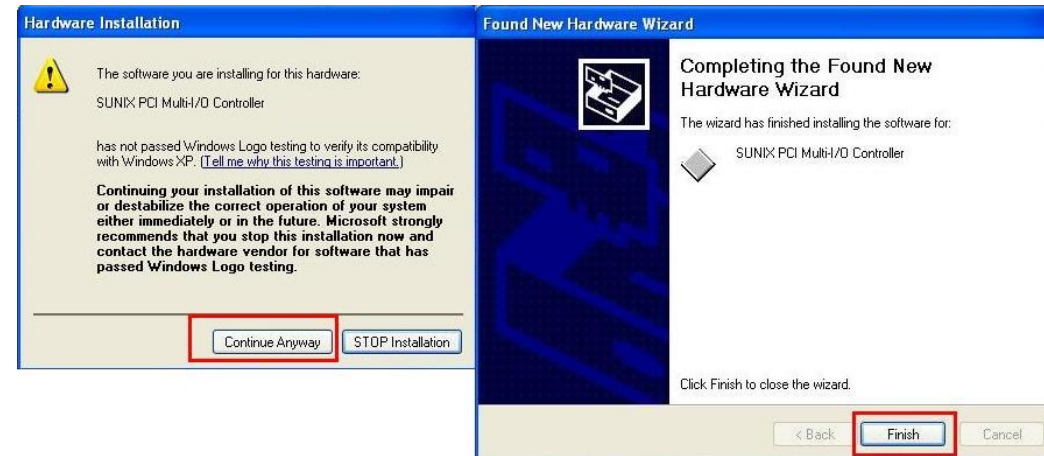
3. Select "Include this location in the search" . And Click "Browse". Choose the path Path : \IO\pecially IO\2S1PWinXP . Then click " Next "



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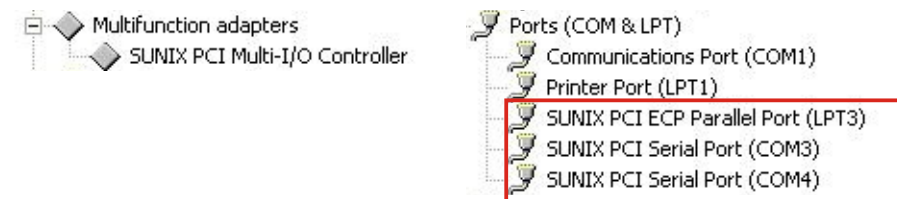
4. Choose "Continue Anyway"
5. Choose "Finish" to install ok



Hardware Verity

Please launch the "Device Manager" to verify hardware installation correctly.

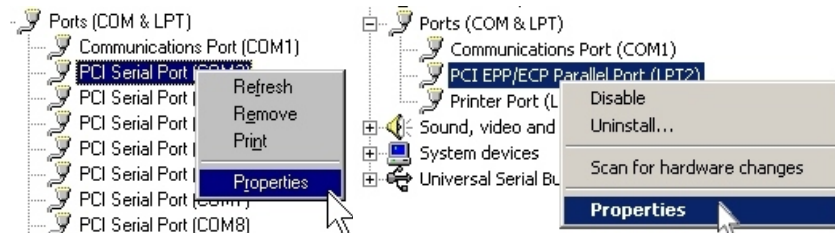
Start > Controller Panel > System > Device Manager



Port Setting

After installing PCI Multi-IO board successfully, you can modify the setting for each serial and LPT ports in device manager.

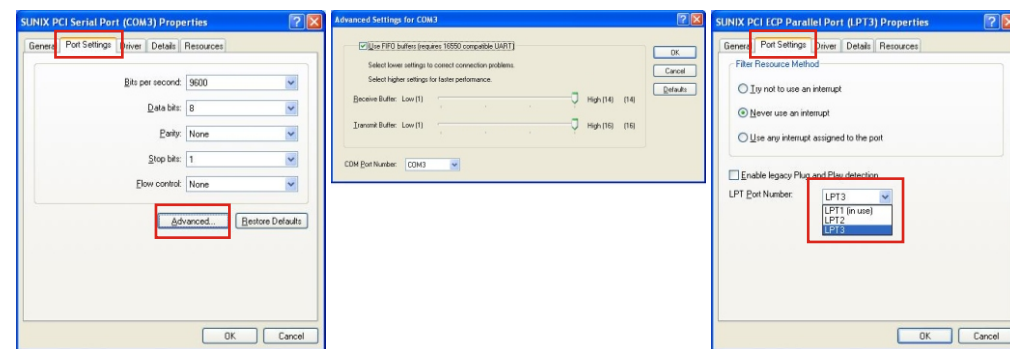
1. Right click your mouse on the COM or LPT port, and select "Properties".



2. Select "Port Setting" page to modify COM or LPT port setting.

Serial: Select "Advanced" icon, you can modify serial COM port number and FIFO length.

Parallel: Select LPT Port Number menu, you can modify LPT number as you need.

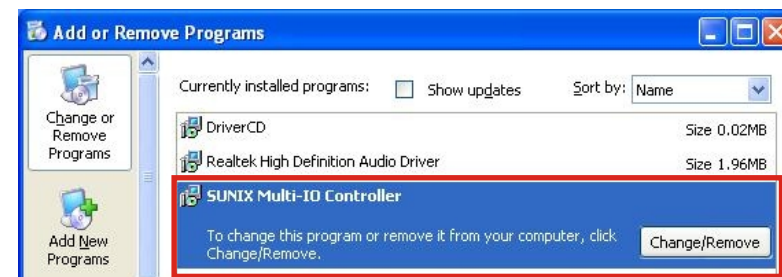


Because of PCI plug-n-play role, user can NOT specify LPT port to legacy ISA 278, 378 address and serial COM port to legacy ISA 3E8, 3F8, 2E8, or 2F8 address under Windows 2000, XP and 2003 operation system. It can be realized under Windows 98 operation system only.

Driver Uninstallation

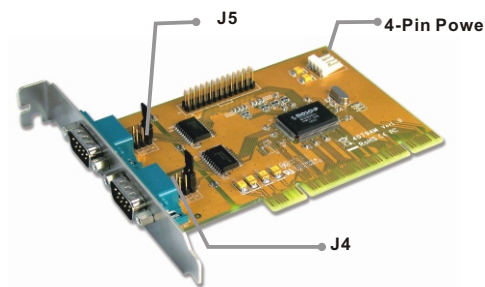
Please launch the "Add or Remove Programs" in the controller panel, and then click Remove button on "SUNIX Multi-IO Controller" to remove hardware and software installation correctly.

Start > Controller Panel > Add or Remove Programs



Appendix (Dual Ports Serial Communication PCI card Jumper Setting)

This serial Communication PCI card provide options to select internal (BUS) or external power 5V and 12V, or RI signal through the ninth pin. There are 3 jumpers (J4, and J5) must be modified before using for each port.



*You can select the power supply mode through J2 jumper.

Because of IC power consumption, you need to select both 5V and 12V power input from BUS power or External 4 pin power circuit.

*Please select 5V and 12V or RI signal through J4 and J5 jumper for COM1 ~ COM2.

	5V	12V	RI
J4 & J5 Jumper Setting			

CAUTION:
It will cause damage both on your device and PCI card,
if you sets jumpers as below:

Do NOT select J4 & J5 power supply both from 5V & 12V at the same time.

Make sure the direction of jumper setting must be vertical.

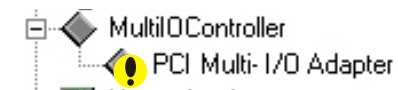
Troubleshooting

- If the card and devices connected to the computer do not seem to be working properly, please perform following basic troubleshooting steps:

1. Check that all cables are correct and securely connected.
2. Make sure the devices are turned on.
3. Make sure the devices are getting the power they require.
4. If a powered repeater is connected, make sure it is turned on.
5. Make sure there is no problem with the card installation.

- There are some exclamation marks in device manager or serial ports.

1. It caused by the wrong driver installing or hardware settings. Please turn off your computer and reinstall hardware and software.
2. If the exclamation marks on PCI Multi-I/O Adapter or COM port, please turn off your computer and reinstall hardware and software.



- System fails to find the PCI serial board or COM/LPT port.

It may cause by following issue:

- a. The board is not properly plugged into the PCI slot.
- b. Please clean the golden finger.
- c. The PCI slot may defective.
Please try other slots until you find one that works.
- d. The mainboard does not have available IRQ for the PCI serial board.
Enter the PC's BIOS and make sure an IRQ setting is available in the PCI/PnP settings.
- e. The board itself might be defective. You can try another mainboard testing this board working or not.

- After the system rebooting, I can not see this Multi-IO Board shown on the "PCI Device List" display.

After rebooting (before operation system starting), system will show the following information in the PCI device list:

BUS No	Device No	Func No	Vendor ID	Device ID	Device Class	IRQ
2	9	0	9710	9835	Simple Comm. Controller	10

This indicates that this board was found. If you do not see this information, please confirm the IRQ conflicts with another adapter. Check the PCI BIOS IRQ settings and then select an available IRQ for this boards. Also the board itself might be defective. You can try another main-board testing this board working or not.

- How can I select or configure between ECP, EPP, SPP, or BPP modes?

Under Microsoft windows operation system such as WinXP/2K/2003, PCI parallel board's LPT port will automatically communicate with the device to which it is connected and sets to that particular mode. For example if PC Multi-IO board is connected to a printer that support SPP mode, then this board will communicate with this printer and will automatically set to SPP mode. It means that this board will automatically handshakes with the device to which it is connected and configures to that mode. User does not require changing to any particular mode.

- My parallel device can not work on Multi-IO board's LPT port, but work properly when connecting on-board LPT port.

It caused by your parallel device problem, because your device only works under legacy ISA address. Due to PCI plug-n-play rule, IRQ and I/O resource are all assigned by BIOS or system. Mother-board's LPT port can remap or to ISA 278, 378, or 3BC address, but PCI Multi-IO board can not. Please ask new driver for your parallel device.