

4-port RS-232 & 2-port Parallel PCI Communication Board



Introduction

The majority of today's motherboards is not equipped with any RS-232 or parallel LPT port. With this Multi I/O board, users can expand four RS-232 and two IEEE1284 parallel ports on their system, allowing them to use both serial and parallel devices further. This card is compatible with both 32/64-bit PCI architecture supporting 3.3 & 5V Bus, allowing the board to be installed in virtually any PC system. Furthermore, its supports majority of the OS on the market. We provide driver support for Microsoft Windows X86/X64 platform and Linux 2.2.x ~ 2.6.x kernels, making it the best and most economical solution for commercial and industrial applications.

Features

- Fully compatible with PCI Spec. Version 2.3 / 2.2 / 2.1 standard.
- Supports both 64-bit & 32-bit PCI Bus and 3.3V & 5V connector keys.
- Expands 4 ports RS-232 and 2 ports IEEE1284 interface on system.
- High reliability UL7522EQ 16C750 compatible Multi-IO controller on-board
- On-chip hardware auto flow control to guarantee no data loss.
- Expands four RS-232 serial ports with communication speeds up to 230.4Kbps.
- Built-in ± 15 KV ESD protection for all serial signals meets IEC1000-4-2 standard.
- Support IEEE 1284-1994 parallel port standard
 - ECP(Enhance Capacity Port) / EPP(Enhance Parallel Port)
 - SPP(Standard Parallel Port) / BPP(Bi-direction Parallel Port)
- Plug-n-Play, I/O address and IRQ assigned by BIOS.
- Certified by CE, FCC, RoHS, and Microsoft WQHL approval.
- Support Microsoft Windows, Linux, and DOS.

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.

- RS-232 / Parallel Universal PCI Multi-I/O Communication Board
- CD Driver
- Quick Installation Guide (this document)
- DB44 Male to 4 ports DB9 Male connection cable
- Pin Header to DB9 Male & DB25 Female Connector Bracket Set x 2



Specification

Model	RS-232 / Parallel Universal PCI Multi-I/O Board
Bus Interface	PCI 33MHz Version 2.3/2.2/2.1 Specification
Controller	UL75212EQ 16C650 Compatible UART
Bracket	Standard 121 mm, Low Profile 79.2 mm
Driver Support	Windows 3.1 / 9x / NT / 2000 / XP / 2003 / Vista / 2008 Linux 2.2.x, 2.4.x, 2.6.x, DOS
Regulatory Approvals	CE, FCC / Microsoft WHQL
Operation Temperature	Operation Temperature: 0°C~ 60°C (32 to 140°F) Storage Temperature: -20°C~ 85°C (-4 to 185°F) Humidity: 5 ~ 95% RH

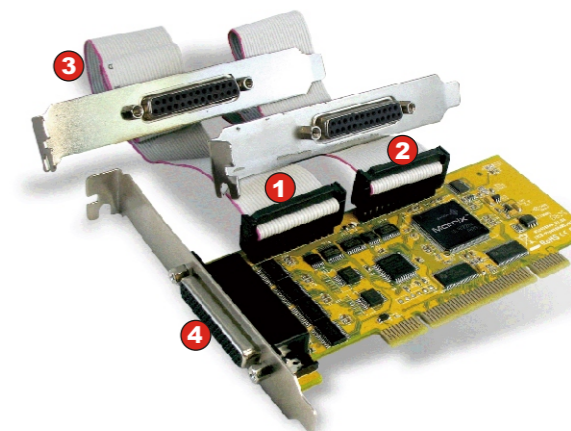
RS-232 Specification

Number of Ports	4 RS-232 Ports																																								
IRQ & IO Address	Assigned by BIOS / O.S.																																								
FIFO	32 byte hardware FIFO																																								
Baud Rate	75 ~ 115,200bps																																								
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	<p>TxD, RxD, RTS, CTS, DTR, DSR, DCD, RI, GND</p> <table border="1"> <thead> <tr> <th colspan="2">DB9M</th> <th colspan="2">DB25M</th> </tr> </thead> <tbody> <tr> <td>DCD</td> <td>1</td> <td>8</td> <td></td> </tr> <tr> <td>RxD</td> <td>2</td> <td>3</td> <td></td> </tr> <tr> <td>TxD</td> <td>3</td> <td>2</td> <td></td> </tr> <tr> <td>DTR</td> <td>4</td> <td>20</td> <td></td> </tr> <tr> <td>GND</td> <td>5</td> <td>7</td> <td></td> </tr> <tr> <td>DSR</td> <td>6</td> <td>6</td> <td></td> </tr> <tr> <td>RTS</td> <td>7</td> <td>4</td> <td></td> </tr> <tr> <td>CTS</td> <td>8</td> <td>5</td> <td></td> </tr> <tr> <td>RI</td> <td>9</td> <td>22</td> <td></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	9	22	
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Parallel Specification

Number of Ports	2 IEEE1284 Parallel LPT Ports																																																				
IRQ & IO Address	Assigned by BIOS / O.S.																																																				
FIFO	16 byte hardware FIFO																																																				
Data Speed	Maximum 2.7MBps																																																				
Operation Mode	ECP/EPP/SPP/BPP (System Auto-Switching)																																																				
Pin Assignment	<p>DB25F</p> <table border="1"> <tbody> <tr> <td>AUTO FEED</td> <td>14</td> <td>1</td> <td>STROBE</td> </tr> <tr> <td>ERROR</td> <td>15</td> <td>2</td> <td>DATA0</td> </tr> <tr> <td>INIT</td> <td>16</td> <td>3</td> <td>DATA1</td> </tr> <tr> <td>SELECT INPUT</td> <td>17</td> <td>4</td> <td>DATA2</td> </tr> <tr> <td>GND</td> <td>18</td> <td>5</td> <td>DATA3</td> </tr> <tr> <td>GND</td> <td>19</td> <td>6</td> <td>DATA4</td> </tr> <tr> <td>GND</td> <td>20</td> <td>7</td> <td>DATA5</td> </tr> <tr> <td>GND</td> <td>21</td> <td>8</td> <td>DATA6</td> </tr> <tr> <td>GND</td> <td>22</td> <td>9</td> <td>DATA7</td> </tr> <tr> <td>GND</td> <td>23</td> <td>10</td> <td>ACKNOWLEDGE</td> </tr> <tr> <td>GND</td> <td>24</td> <td>11</td> <td>BUSY</td> </tr> <tr> <td>GND</td> <td>25</td> <td>12</td> <td>PAPER EMPTY</td> </tr> <tr> <td></td> <td></td> <td>13</td> <td>SELECT</td> </tr> </tbody> </table>	AUTO FEED	14	1	STROBE	ERROR	15	2	DATA0	INIT	16	3	DATA1	SELECT INPUT	17	4	DATA2	GND	18	5	DATA3	GND	19	6	DATA4	GND	20	7	DATA5	GND	21	8	DATA6	GND	22	9	DATA7	GND	23	10	ACKNOWLEDGE	GND	24	11	BUSY	GND	25	12	PAPER EMPTY			13	SELECT
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Hardware Installation Guide



- Parallel Port 1 (LPT2) / 2x13 Pin Header Socket.
- Parallel Port 2 (LPT3) / 2x13 Pin Header Socket.
- Let flat cable first RED pin to the RIGHT connect to the socket set.
- RS-232 Serial Ports (COM1~4) / DB44 Female Connector.
Connect the 4-port fan out cable to this connector.

Driver Installation

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

Operation System	Driver Location
Windows 2000 / XP / 2003 / Vista (32-bit)	:\\IO\PCI IO\2K & XP & 2003&Vista_32bit\
Windows XP / 2003/Vista (64-bit)	:\\IO\PCI IO\XP& 2003&Vista_64 bit\
Windows 95 / 98 / Me	:\\IO\PCI IO\Win9x\
Windows NT4.0	:\\IO\PCI IO\WinNT\
Windows 3.1 / DOS	:\\IO\PCI IO\DOS\PCIDOS.exe
Linux 2.4.x, 2.6.x	:\\IO\PCI IO\Linux\

- Please double click the **Setup.exe** file or specify the driver location within folder of the attached driver CD.



- When the welcome screen appears, click "**Next**".
- System will search "**PCI 4096A Multi-I/O Adapter**" driver
- After installing driver successfully, please select "**Finish**" to complete the steps.

4-port RS-232 & 2-port Parallel PCI Communication Board

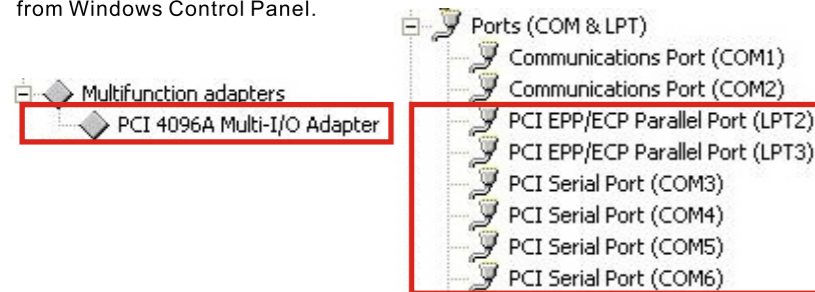


Hardware Verification

User can confirm the success of installation by checking the following message, which can be found in device manager.

Start > Controller Panel > System > Device Manager

Click on the "Device Manager" tab in System Properties, which you access from Windows Control Panel.



There are "PCI 4096A Multi-I/O Adapter", "4 (Four) RS-232 COM ports", and "2 (two) LPT ports" new hardware shown in the "Multifunction adapters" and "Ports" items. **Note:** The real COM and LPT port number will depend on your system allocated. You can modify any available COM or LPT port number in the setting page.

Driver Uninstallation

1. Access **Add / Remove Program** in control panel to remove adapter driver.

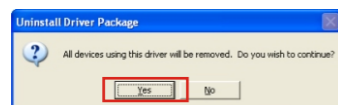
Start > Controller Panel > Add / Remove Program



2. Please select & remove Golden Adapter Driver and Port Driver one by one.



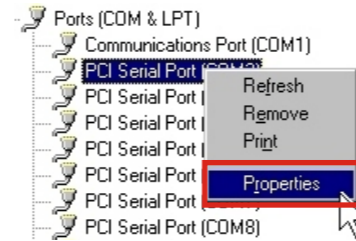
3. Then press "Yes" button to finish the uninstallation. After finishing the process, user need to reboot the system to ensure the uninstallation.



RS-232 COM Port Setting

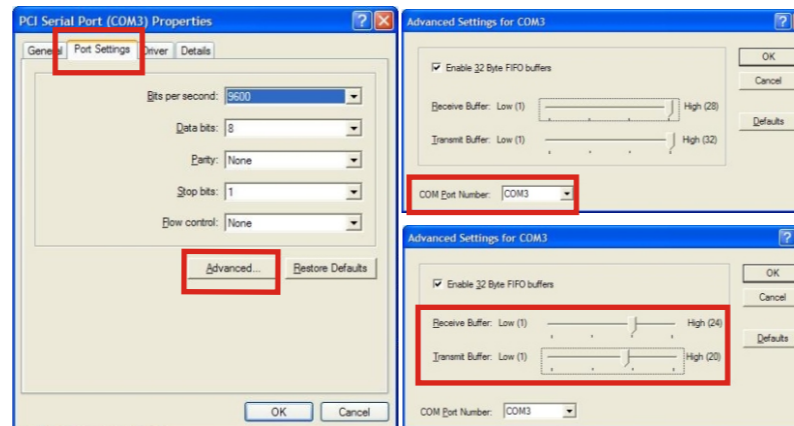
After installing RS-232 PCI serial board successfully, you can modify the setting for each serial port in device manager.

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



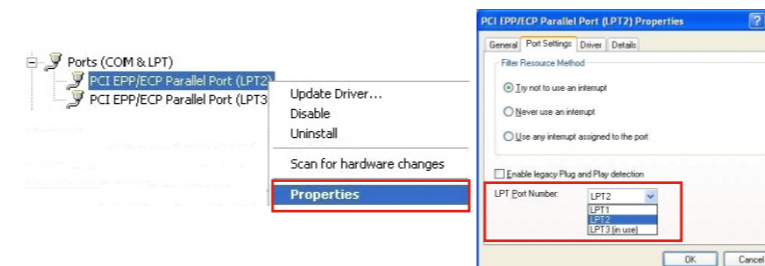
2. Select "Port Setting" page to modify COM port setting.

3. Select "Advanced" icon, you can modify COM port number and FIFO.



Parallel LPT Port Settings.

1. Please launch the "Device Manager" to verify hardware installation correctly.
2. Right click on your mouse on the LPT port and select "Properties".



3. Select "Port Settings" tab page, and you can select LPT port number from LPT 1 to LPT 3. Please do NOT select the "in use" LPT port to prevent system conflict.

Trouble Shootings.

1. How can I set the LPT port to the legacy 278 or 378 ISA address?

Because of PCI plug-n-play rule and windows operation system limitation, you can NOT remap to 278H or 378H legacy ISA IO address under Microsoft Windows 2000, XP, 2003 Vista, or Linux OS.

2. How come my serial or parallel device can not work on this Card, but works properly under on-board COM or LPT port?

- A. Please confirm your device connect to the COM or LPT port correctly.
- B. Make sure the COM or LPT port number you connected.
- C. Please confirm the RS-232 baud rate settings is correct.
- D. Your parallel device only works under 278/378 legacy ISA IO address, or serial device only works under 3E8/3F8/2E8/2F8 legacy ISA IO address. This card can not satisfy with this feature.

3. How large COM port FIFO length I should set?

PCI serial board supports 32 bytes FIFO, and you can use 0,16 or 32 bytes FIFO. The default value is 16 Byte FIFO buffers. Set the Receive / Transmit Buffer to 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 be easily happened if the CPU speed is not enough to handle. If the system is not stable or get over run error message, select lower trigger value to correct problems.

4. How can I set the different ECP / EPP / SPP / BPP operation mode?

On Windows OS such as Windows Vista/XP/2K/ME/98, LPT port will automatically communicate with the device to which it is connected and sets to that particular mode. For example if LPT port is connected to a printer that support SPP mode, then LPT port will communicate with this printer and will automatically set to SPP mode. It means that the this LPT port will handshakes with the device to which it is connected and configures to that mode. User does not require changing to any particular mode.