

PCI Serial Port series

Quick Installation Guide

Introductions

The **PCI Serial Port series** includes the PCI 1S, 2S, 4S and 8S cards. All of them provide high-speed serial I/O (RS232C) data transmission feature for various kinds of serial port devices.

1. Key Features and Benefits

- Conforms to PCI v2.2 Plug-N-Play
- Full support for Windows-base applications
- Reduces CPU load and improves system performance dramatically
- IRQ sharing feature eliminates IRQ conflicts
- Built-in FIFO buffers dramatically increase data transmit/receive speed, especially under Windows multitasking environment
- High-speed serial port (9-pin) works with 56K V.90 external modems, ISDN terminal adapters, PDAs and other serial port devices

2. System Requirements

- Pentium or equivalent computer with an available 32-bit PCI slot
- Windows 95b/98/98SE/ME/NT4.0/2000/XP/Server 2003
- Linux kernel 2.4.x or later

3. Installation

General instructions for installing the card are provided below, since the design of computer cases and motherboards vary. Refer to your computer reference manual for further information, if needed.

Caution: Static Electricity Discharge may permanently damage your system. To avoid possible static electricity discharge during the installation, please follow the guidelines below:

- Discharge any static electricity build up in your body by touching a large grounded metal surface or the computer case (if plugged in), for a few seconds.
- During the installation, avoid any contact with internal parts. Handle cards only by their external edges.

3.1 Hardware Installation

1. Turn OFF the power to your computer and any other connected peripheral devices.
2. Unplug the power cord from the back of the computer.
3. Remove the computer's cover, select an available 32-bit PCI slot.
4. Remove the slot bracket by unscrewing the holding screw and sliding it out. Save the screw for securing the board after it's installed. Follow the same procedure for the connector bracket.

Remark: If your computer chassis is low profile type, please change the attached low profile bracket before you plug the card into the PCI slot. Only the LP PCI 1S-L, LP PCI 2S Duet and LP PCI 4S Quartet support the low profile computer chassis.

5. To install the PCI I/O card, carefully align the board's bus connector to the expansion slot on the motherboard. Push the board down firmly, but gently, until it is well seated.

6. Replace the slot bracket holding screw to secure the board to the rear slot panel.
7. Replace the computer cover and reconnect the power cord.
8. Plug the attached fan-out cable into the card if yours is PCI 2S Duet / LP PCI 2S Duet / PCI 4S Quartet / LP PCI 4S Quartet / PCI 8S Octet.
9. Restart the system and refer to the next section for the software installation.

3.2 Software Installation

3.2.1 Windows 95b Driver Installation

1. After installing the board and boot up your system.
2. At the **Update Device Driver Wizard** windows, click **Next**.
3. Insert the driver CD, and click **Other Locations**.
Type in **E:\Win9x_ME**, click **OK**, then **Finish**.
(Assume E: is your CD-ROM drive)
4. From the **Insert Disk** windows, click **OK**.
5. When the **Copying Files** dialog box displays,
type in **E:\Win9x_ME**, then click **OK**.
6. Restart Windows to complete the installation.

3.2.2 Windows 98/98SE Driver Installation

1. After installing the board and boot up your system.
2. Insert the driver CD into your CD-ROM drive.
3. At the **Add New Hardware Wizard** windows, click **Next**.
4. Check **Search for the best driver for your device (Recommended)**, then click **Next**.

5. Check **Specify a location**, uncheck the other boxes, type in **E:\Win9x_ME**, then click **Next**. (Assume E: is your CD-ROM drive)
6. When **Add New Hardware Wizard** displays, click **Next**, then **Finish**.
7. When **PCI Function** displays, click **Next, Next, Next, Next**, then **Finish**. The software installation is then completed.

3.2.3 Windows ME Driver Installation

1. After installing the board and boot up your system.
2. Insert the driver CD into your CD-ROM drive.
3. At the **Add New Hardware Wizard** windows, check **Specify the location of the driver [Advanced]**, then click **Next**.
4. Check **Specify a location**, uncheck the other boxes, type in **E:\Win9x_ME**, then click **Next**. (Assume E: is your CD-ROM drive)
5. When **Add New Hardware Wizard** displays, click **Next**, then **Finish**.
6. When **PCI Function** displays, check **Specify the location of the driver [Advanced]**, then click **Next**.
7. Check **Specify a location**, uncheck the other boxes, type in **E:\Win9x_ME**, then click **Next**.
8. Check **The updated software [Recommended]** and click **Next, Next**, then click **Finish**. The software installation is then completed.

3.2.4 Windows NT 4.0 Driver Installation

1. After installing the board and boot up your system.
2. From the desktop, click **Start**, then **Run**.
3. Insert the driver CD, type in **E:\WinNT4\ Install_Serial.exe**, then click **OK**. (Assume E: is your CD-ROM drive).
4. When **Windows NT4 Device Installer** displays, click **Next**.

5. Check **INSTALL**, click **Next**, then click **Yes**.
6. When **Windows NT 4 Device Installation** windows message displays, then click **OK**.
7. Restart Windows NT system to complete the driver installation.

3.2.5 Windows 2000 Driver Installation

1. After installing the board, boots up your system.
2. When **Found New Hardware Wizard** displays, click **Next**.
3. Check **Search for a suitable driver for my device [recommended]**, click **Next**.
4. Check **Specify a location**, click **Next**.
5. Insert the driver CD, type in **E:\Win2k**, then click **OK**.
(Assume E: is your CD-ROM drive).
6. Click **Next**, when **Found New Hardware Wizard** displays, click **Finish**.
7. When **Found New Hardware Wizard** displays, click **Next**.
8. Check **Search for a suitable driver for my device [recommended]**, click **Next**.
9. Check **Specify a location**, click **Next**.
10. Type in **E:\Win2k**, then click **OK**, click **Next**.
When **PCI Function** displays, click **Finish**.
11. If the **Found New Hardware Wizard** window displays again, repeat steps 7-10, then click **Finish** until the software installation is completed.

3.2.6 Windows XP Driver Installation

1. After installing the board, boots up your system.
2. At the **Found New Hardware Wizard** window, check **Install from a list or specific location (Advanced)**, then click **Next**.
3. Insert the driver CD, check **Include this Location in the search**, uncheck the other boxes, type in **E:\WinXP_2k3**, then click **Next**. (Assume E: is your CD-ROM drive).
4. At the **Hardware Installation** window, click **Continue Anyway**, then click **Finish**.
5. If the **Found New Hardware Wizard** window displays again, repeat steps 2-4, then click **Finish** until the software installation is completed.

3.2.7 Windows Server 2003 Driver Installation

1. After installing the board, boots up your system.
2. At the **Found New Hardware Wizard** window, check **Install from a list or specific location (Advanced)**, then click **Next**.
3. Insert the driver CD, check **Include this Location in the search**, uncheck the other boxes, type in **E:\WinXP_2k3**, then click **Next**. (Assume E: is your CD-ROM drive).
4. At the **Hardware Installation** window, click **Continue Anyway**, then click **Finish**.
5. If the **Found New Hardware Wizard** window displays again, repeat steps 2-4, then click **Finish** until the software installation is completed.

3.2.8 Linux setup procedure (for reference only)

PCI 2S

1. Insert the PCI 2S card into your system
2. Boots up your Linux system
3. Type "lspci -v"
4. Then you shall see

03:02.0 Serial controller: Oxford Semiconductor Ltd EXSYS EX-41092
Dual 16950 Serial adapter (prog-if 06 [16950])

Subsystem: AFAVLAB Technology Inc: Unkown device 2130

Flags: medium devsel, IRQ 9

I/O ports at c000 [size=32]

Memory at dc000000 (32-bit, non-prefetchable) [size=4K]

I/O ports at c400 [size=32]

Memory at dc001000 (32-bit, non-prefetchable) [size=4k]

Capabilities: [40] Power Management version 2

5. Type "**setserial /dev/ttyS4 port 0xc000 irq 9 uart 16950 baud_base 1152000**"
6. Type "**setserial /dev/ttyS5 port 0xc008 irq 9 uart 16950 baud_base 1152000**"

Then the 2 serial ports will be pointed to /dev/ttyS4 & /dev/ttyS5. Then you shall be able to make it work either in "KPPP" or "minicom"

PCI 4S

1. Insert the PCI 4S card into your system
2. Boots up your Linux system
3. Type "lspci -v"

4. Then you shall see

03:02.0 Serial controller: Oxford Semiconductor Ltd OX16PCI954
(Quad 16950 UART) function 0 (prog-if 06 [16950])

Subsystem: Unknown device 2150

Flags: medium devsel, IRQ 10

I/O ports at c000 [size=32]

Memory at dc000000 (32-bit, non-prefetchable) [size=4K]

I/O ports at c400 [size=32]

Memory at dc001000 (32-bit, non-prefetchable) [size=4k]

Capabilities: [40] Power Management version 1

5. Type **"setserial /dev/ttyS4 port 0xc000 irq 10 uart 16950 baud_base 1152000"**

6. Type **"setserial /dev/ttyS5 port 0xc008 irq 10 uart 16950 baud_base 1152000"**

7. Type **"setserial /dev/ttyS6 port 0xc010 irq 10 uart 16950 baud_base 1152000"**

8. Type **"setserial /dev/ttyS7 port 0xc018 irq 10 uart 16950 baud_base 1152000"**

Then the 4 serial ports will be pointed to /dev/ttyS4, /dev/ttyS5, /dev/ttyS6, & /dev/ttyS7. Then you shall be able to make it work either in "KPPP" or "minicom"

