PCI Express Serial Port series

Quick Installation Guide

Introductions

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

1. Key Features and Benefits

- Compliant with one-lane (1X) 2.5Gb/s/direction PCI Express specification

- 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

- PCI Express-equipped PC with an available PCI Express slot

- Windows 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 PCI Express 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.

5. To install the PCIe Serial Port 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 PCIe 2S Duet or PCIe 4S Quartet.

9. Restart the system and refer to the next section for the software installation.

3.2 Software Installation

3.2.1 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.

3.2.2 Windows XP Driver Installation

1. After installing the board, boots up your system.

2. At the **Found New Hardware Wizard**, select **No, not this time**, then click **Next.**

3. At the **Found New Hardware Wizard** window, check **Install from a list or specific location (Advanced)**, then click **Next**.

4. 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).

5. At the **Hardware Installation** window, click **Continue Anyway**, then click **Finish.**

6. If the **Found New Hardware Wizard** window displays again, repeat steps 2-4, then click **Finish** until the software installation is completed.

3.2.3 Windows Server 2003 Driver Installation

1. After installing the board, boots up your system.

2. At the **Found New Hardware Wizard**, select **No, not this time**, then click **Next.**

3. At the **Found New Hardware Wizard** window, check **Install from a list or specific location (Advanced)**, then click **Next**.

4. 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).

5. At the **Hardware Installation** window, click **Continue Anyway**, then click **Finish.**

6. If the **Found New Hardware Wizard** window displays again, repeat steps 2-4, then click **Finish** until the software installation is completed.

3.2.4 Linux setup procedure (for reference only)

PCIe 2S Duet

1. Insert the PCIe 2S Duet 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"

PCIe 4S Quartet

1. Insert the PCIe 4S Quartet 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"

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