MOXA®

C218 Turbo/PCI Intelligent Serial Board
Quick Installation Guide

Fourth Edition, June 2008

1. Overview

C218 Turbo/PCI is an 8-port RS-232 serial board that is ideal for connecting a wide range of serial devices—including terminals, modems, printers, scanners, cash registers, bar code readers, keypads, numeric displays, electronic scales, and data acquisition equipment—to a PC.

C218 Turbo/PCI is a Moxa Green Product. Moxa's Green Products satisfy the RoHS directive of the European Parliament, and accordingly, do not contain cadmium and cadmium compounds, hexavalent chromium compounds, lead and lead compounds, mercury and mercury compounds, PBBs (polybrominated biphenyls), or PBDEs (polybrominated diphenyl ethers).

2. Package Checklist

Before installing the C218 Turbo/PCI board, verify that the package contains the following items:

- C218 Turbo/PCI async board
- Software CD
- C218 Turbo/PCI Quick Installation Guide

Notify your sales representative if any of the above items is missing or damaged.

3. Hardware Installation Procedure

The C218 Turbo/PCI board MUST be installed in the PC before installing the driver. The following directions explain how to install the board in the PC.

STEP 1: Power off the PC.
STEP 2: Insert the C218Turbo/PCI control board firmly into any free PCI or PCI-X slot.
STEP 3: Fasten the holding screw to fix the control board in place.
STEP 4: Use the cable to connect C218Turbo/PCI to the CPU module.
STEP 5: Power on the PC.
STEP 6: Enter the PC's BIOS to reserve a specific IRQ for C218Turbo/PCI.
STEP 7: Restart the PC.

P/N: 1802002182700

4. Software Installation Information

The board MUST be plugged in before installing the driver. See the previous section for instructions on how to install the board in your PC. Refer to the C218Turbo User's Manual for detailed instructions on installing the drivers for this board.

Windows 2003/XP Driver Installation

1. After powering on your PC, log into Win 2003/XP as Administrator.
2. Insert the C218Turbo software CD in your CD-ROM drive.
3. Select **Add/Remove Hardware** from Control Panel.
4. Select **Add a device**.
5. Select **Add new device**.
6. Select **No, I want to select the hardware from a list**.
7. Select **Multi-port serial adapters**.
8. Select **Have Disk,** and then use the browse button to navigate to the CD's **C218Turbo\Software\Win2K-XP-2003** folder.
9. Select the C218Turbo driver.
10. Start the installation.
11. Click **Yes** in response to any admonitions that the software doesn't contain a Microsoft digital signature.
12. Click **Finish** to complete the driver installation.
13. If your ISA board configuration is not set as the default, you will need to change the driver settings to match the hardware configuration. Use the **Device Manager** to check if I/O, IRQ, INT vector, etc. are correct.

Windows 2000 Driver Installation

1. After powering on your PC, log into Win 2000 as Administrator.
2. Insert the C218Turbo software CD in your CD-ROM drive.
3. Select **Add/Remove Hardware** from the Control Panel.
4. Select **Add a device**.
5. Select **Add new device**.
6. Select **No, I want to select the hardware from a list**.
7. Select **Multi-port serial adapters**.
8. Select **Have Disk,** and then use the browse button to navigate to the CD's **C218Turbo\Software\Win2K-XP-2003** folder.
9. Select C218Turbo driver.
10. Start the installation.
11. Click **Yes** in response to any admonitions that the software doesn't contain a Microsoft digital signature.
12. Click **Finish** to complete the driver installation.
13. If your ISA board configuration is not set as the default, you will need to change the driver settings to match the hardware configuration. Use the **Device Manager** to check if I/O, IRQ, INT vector, etc. are correct.

Windows 95/98 Driver Installation

1. After powering on your PC, log into 95/98 as Administrator.
2. Insert the C218Turbo software CD in your CD-ROM drive.
3. Run **Setup95.exe** for both Windows 95 and Windows 98. In both cases, be sure to install the driver from the CD's **C218Turbo\Software\Win9x\Windows.95** folder.
4. After the board has been installed, the installation wizard will open the port configuration window.
5. Configure the I/O, IRQ, INT vector, etc.
6. Restart the OS

Windows NT Driver Installation

1. After powering on your PC, log into NT as Administrator.
2. Copy the folder **C218Turbo\Software\WinNT\Windows.nt** to your hard drive.
3. Open the **Control Panel**, click on the **Network** icon, and select the **Adaptors** tab.
4. Click the **Add** button, and then **Have Disk…** in the **Select Network Adapter** window.
5. Specify the exact path to the folder created in Step 2 above.
6. Select **MOXA Intellio C218Turbo series multiport board** in the Select OEM Option window, and then click on **OK** to start installing the driver.
7. When the Moxa Configuration Panel dialog box appears, click on **Add** to open the **Property** window to modify port settings and advanced FIFO configuration done automatically by the system.
8. Configure the I/O, IRQ, INT vector, etc.
9. Restart the OS.

Linux Driver Installation

1. Execute the following commands from the Linux prompt:
```
#mount /dev/cdrom /mnt/cdrom
#cd /
#mkdir moxa
#cd moxa
#cp /mnt/cdrom/<driver directory>/mxdrv.tgz .
#tar xvfz mxdrv.tgz
```
2.
```
#cd mxdrv
#make clean; make install
```
3.
```
#cd /moxa/mxdrv/driver
#./mxmknod
```
4. Load the Moxa Driver
```
#insmod moxa
```
5. Download the firmware
```
# cd /moxa/mxdrv/driver
#./moxaload -y
```
6. You can use the Moxa diagnostic utility to verify the driver status:
```
# cd /moxa/mxdrv/utility/diag
#./mxdiag
```
7. You can use the Moxa terminal utility to test the tty ports:
```
#cd /moxa/mxdrv/utility/term
#./mxterm
```

5. Pin Assignments

The C218Turbo board has one female DB62 connector on the board. To connect the board to your serial devices, you may use one of the connection cables or connection boxes available from Moxa. In the following figures, we give the pin assignments for the serial device side of the various connection options.
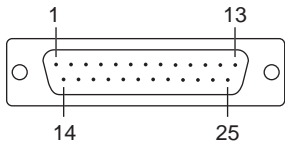
CBL-M62M25x8-100
Male DB62 to male DB25 x 8
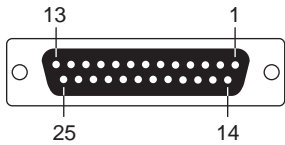
Opt8B
Male DB62 to male DB25 x 8

Male DB25

Pin	RS-232
2	TxD
3	RxD
4	RTS
5	CTS
6	DSR
7	GND
8	DCD
20	DTR

Opt8A, Opt8S
Male DB62 to female DB25 x 8

Female DB25

Pin	RS-232
2	RxD
3	TxD
4	CTS
5	RTS
6	DTR
7	GND
8	DCD
20	DSR

CBL-M62M9x8-100
Male DB62 to male DB9 x 8

Opt8-M9
Male DB62 to male DB9 x 8

Male DB9
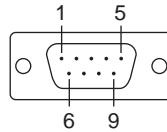
Pin	RS-232
1	DCD
2	RxD
3	TxD
4	DTR
5	GND
6	DSR
7	RTS
8	CTS

Opt8-RJ45
Male DB62 to 8-pin RJ45 x 8

8-pin RJ45
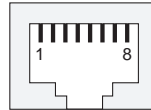
Pin	RS-232
1	DSR
2	RTS
3	GND
4	TxD
5	RxD
6	DCD
7	CTS
8	DTR

Opt8F, Opt8Z (RS-422 Converters)
Male DB62 to female DB25 x 8
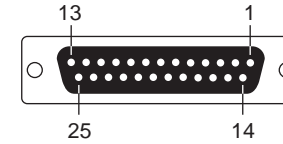
Female DB25

Pin	RS-422
2	RxD+(B)
3	TxD+(B)
14	RxD-(A)
16	TxD-(A)
7	GND

Opt8K (RS-422/485 Converter)
Male DB62 to female DB25 x 8

Female DB25
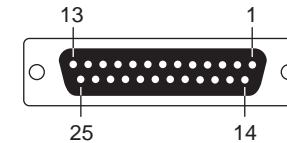
Pin	RS-422	4-wire RS-485	2-wire RS-485
2	RxD+(B)	RxD+(B)	Data+(B)
3	TxD+(B)	TxD+(B)	---
14	RxD-(A)	RxD-(A)	Data-(A)
16	TxD-(A)	TxD-(A)	---
7	GND	GND	GND