MOXA

CP-118U Smart Serial Board Quick Installation Guide

Third Edition, January 2005

1. Overview

CP-118U is an 8-port RS-232/422/485 Universal PCI serial board 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. The board's device drivers make full use of the 128-byte Tx/Rx FIFO and on-chip H/W and S/W flow control, which allow data transmission at speeds of up to 921.6 Kbps.

2. Package Checklist

Before installing the CP-118U board, verify that the package contains the following items:

- 1 CP-118U 8-port serial board
- Documentation and Software CD, which contains drivers for Windows 2000/XP/2003, Windows NT, Windows 95/98, DOS, FreeBSD, SCO, and Linux.
- CP-118U Quick Installation Guide

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

3. Hardware Installation Procedure

The CP-118U board MUST be plugged into the PC before the driver is installed. Follow these steps to install the board in the PC.

STEP 1: Power off the PC.
STEP 2: Use the DIP switches on the board to select the serial interface. Refer to the Mode vs. DIP switch table below (also shown on the board):

Mode	S1	S2	S3
RS-232	---	---	ON
RS-422	---	ON	OFF
4-WIRE RS-485	ON	OFF	OFF
2-WIRE RS-485	OFF	OFF	OFF

STEP 3: Plug the CP-118U control board firmly into an open PCI or PCI-X slot.
STEP 4: Fasten the holding screw to fix the control board in place.
STEP 5: Power on the PC; the BIOS will automatically set the IRQ and I/O address.
STEP 6: Proceed with installing the driver, as described in the next section.

P/N: 18020011802

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 CP-118U User's Manual for detailed instructions on installing the drivers for this board.

Windows 2003/XP Driver Installation

1. After powering on your PC, Windows 2003/XP will automatically detect the CP-118U board.
2. Insert the CP-118U software CD in your CD-ROM drive.
3. Select **Install from a list or specific location (Advanced)**.
4. After selecting **Search for the best driver in these locations**, check the **Include this location in the search** checkbox, and then use the browse button to navigate to the CD's **CP-118U\Software\Win2K-XP-2003** folder.
5. Click on **Continue Anyway** in response to any warnings that the software hasn't passed Windows Logo testing.
6. After the board has been installed, the installation wizard will guide you through the port installation procedure, starting with port 0.
7. If the board appears to be installed incorrectly, use the **Device Manager** to check the installation of the board and ports. Click on the + sign next to **Hardware**, and then check under **Multi-port serial adapters** and **Ports (COM & LPT)**. If there are no warning marks, such as a question mark or exclamation point in front of the board or port icons, examine the **Event Log** to determine what the problem is.

Windows 2000 Driver Installation

1. After powering on your PC, Windows 2000 will automatically detect the CP-118U board.
2. Insert the CP-118U software CD in your CD-ROM drive.
3. Select **Search for a suitable driver for my device (recommended)**.
4. In **Optional search location**, checkmark **specify a location**. Navigate to the **\CP-118U\Software\Win2K-XP-2003** folder on the software CD, and then click on **OK** to continue.
5. Click on **Continue Anyway** in response to any warnings that the software hasn't passed Windows Logo testing.
6. After the board has been installed, the installation wizard will guide you through the port installation procedure, starting with port 0.
7. If the board appears to be installed incorrectly, use the **Device Manager** to check the installation of the board and ports. Click on the + sign next to **Hardware**, and then check under **Multi-port serial adapters** and **Ports (COM & LPT)**. If there are no warning marks, such as a question mark or exclamation point in front of the board or port icons, examine the **Event Log** to determine what the problem is.

Windows 95/98 Driver Installation

1. After powering on your PC, Windows 95/98 will automatically detect the CP-118U board.
2. Insert the CP-118U software CD in your CD-ROM drive.
3. There are differences between the installation procedures for Windows 95 and Windows 98. However, in both cases, be sure to install the driver from the CD's **CP-118U\Software\Win9x\Windows.95** folder.
4. After the board has been installed, the installation wizard will open the port configuration window.
   NOTE: If an error message similar to "CP-118U board (BusNo=x, DevNo=x, Port1=COMx) interrupt number is invalid!" pops up, refer to the "Troubleshooting" chapter of the User's Manual for information on how to handle this error.

Windows NT Driver Installation

1. After powering on your PC, log into NT as **Administrator**.
2. Copy the folder **CP-118U\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 Smartio/Industio Family multiport board** in the **Select OEM Option** window, and then click on **OK** to start installing the driver.
7. When the Moxa Smartio/Industio 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.

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>/mxser.tgz .
   #tar xvfz mxser.tgz
   ```
2. ```
   #cd mxser
   #make clean; make install
   ```
3. ```
   #cd /moxa/mxser/driver
   #./msmknod
   ```
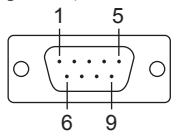4. ```
   #modprobe mxser
   ```
5. Use the Moxa diagnostic utility to verify the driver status:
   ```
   #cd /moxa/mxser/utility/diag
   #./msdiag
   ```
6. Use the Moxa terminal utility to test the tty ports:
   ```
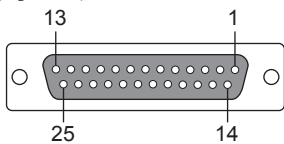   #cd /moxa/mxser/utility/term
   #./msterm
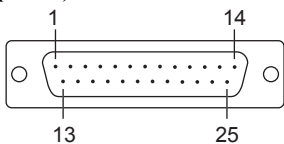   ```

5. Pin Assignments

Male DB9 (Opt8-D/Opt8-M9)

Pin	RS-232	RS-422 / 4-wire RS-485	2-wire RS-485
1	DCD	TxD-(A)	---
2	RxD	TxD+(B)	---
3	TxD	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	Data-(A)
5	GND	GND	GND
6	DSR	---	---
7	RTS	---	---
8	CTS	---	---
9	---	---	---

Male DB25 (Opt8B/C)

Pin	RS-232	RS-422 / 4-wire RS-485	2-wire RS-485
2	TxD	RxD+(B)	Data+(B)
3	RxD	TxD+(B)	---
4	RTS	---	---
5	CTS	---	---
6	DSR	---	---
7	GND	GND	GND
8	DCD	TxD-(A)	---
20	DTR	RxD-(A)	Data-(A)

Female DB25 (Opt8A/S)

Pin	RS-232	RS-422 / 4-wire RS-485	2-wire RS-485
2	RxD	TxD+(B)	---
3	TxD	RxD+(B)	Data+(B)
4	CTS	---	---
5	RTS	---	---
6	DTR	RxD-(A)	Data-(A)
7	GND	GND	GND
8	DCD	TxD-(A)	---
20	DSR	---	---

RJ45 (Opt8-RJ45)
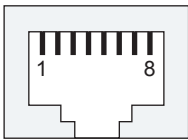
Pin	RS-232	RS-422 / 4-wire RS-485	2-wire RS-485
1	DSR	---	---
2	RTS	---	---
3	GND	GND	GND
4	TxD	RxD+(B)	Data+(B)
5	RxD	TxD+(B)	---
6	DCD	TxD-(A)	---
7	CTS	---	---
8	DTR	RxD-(A)	Data-(A)