MOXA®

CP-104UL Smart Serial Board Quick Installation Guide

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1. Overview

CP-104UL is a 4-port RS-232 Universal PCI serial board that is ideal for connecting a wide range of serial devices to a PC. Suitable devices include terminals, modems, printers, scanners, cash registers, bar code readers, keypads, numeric displays, electrical scales, and data acquisition equipment. 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.

CP-104UL 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 CP-104UL board, verify that the package contains the following items:

- 1 CP-104UL 4-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-104UL Quick Installation Guide
- 1 CBL-M44M9x4-50 Cable (with CP-104UL-DB9)
- 1 CBL-M44M25x4-50 Cable (with CP-104UL-DB25)

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

3. Hardware Installation Procedure

The CP-104UL 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 CP-104UL control board firmly into a free PCI or PCI-X slot.

STEP 3: Fasten the holding screw to fix the control board in place.

STEP 4: Connect one of the connection boxes or connection cables to CP-104UL, and connect an adaptor if required.

STEP 5: Power on the PC; the BIOS will set the IRQ and I/O address automatically.

4. Software Installation Information

The board MUST be plugged in before installing the driver software. See the previous section for instructions on how to install the board in your PC. Refer to the CP-104UL 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 detect the CP-104UL board automatically.
2. Insert the CP-104UL 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-104UL v2\Software\Win2K-XP-2003** folder.
5. Click **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. Use the **Device Manager** to check if the installation of the board and ports was successful. Click on the + sign next to **Hardware**, and then check under **Multi-port serial adapters** and **Ports (COM & LPT)**. If there are any special marks, such as a question mark or exclamation point, in front of the board or port icons, examine the **Event Log** as a first step to determine where the problem is.

Windows 2000 Driver Installation

1. After powering on your PC, Windows 2000 will detect the CP-104UL board automatically.
2. Insert the CP-104UL 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-104UL \Software\Win2K-XP-2003** folder on the software CD, and then click on **OK** to continue.
5. Click **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. NOTE: Be sure to install the software from the CD's **CP-104UL v2\Software\Win2K-XP-2003** folder.
7. Use the **Device Manager** to check if the installation of the board and ports was successful. Click on the + sign next to **Hardware**, and then check under **Multi-port serial adapters** and **Ports (COM & LPT)**. If there are any special marks, such as a question mark or exclamation point, in front of the board or port icons, examine the **Event Log** as a first step to determine where the problem is.

Windows 95/98 Driver Installation

1. After powering on your PC, Windows 95/98 will detect the CP-104UL board automatically.
2. Insert the CP-104UL software CD in your CD-ROM drive.
3. There some differences between the installations procedures for Windows 95 and Windows 98. However, in both cases, be sure to install the driver from the CD's **CP-104UL v2\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-104UL 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-104UL v2\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.
5. 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 by the system automatically.

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 and Cable Wiring

CP-104UL boards have one female DB44 connector on the board. You may use the cable included as a standard accessory to connect to your serial devices, or purchase one of the following optional accessories. In the following figures, we give the pin assignments for the serial device side of the four connection options.

CBL-M44M25x4-50:
Male DB44 to male DB25 x 4
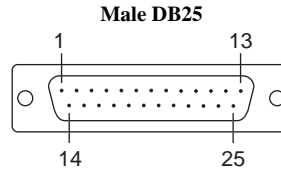
Male DB25

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

CBL-M44M9x4-50:
Male DB44 to male DB9 x 4

Opt4-M9A:
Male DB44 to male DB9 x 4
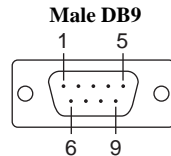
Male DB9

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

Opt4-RJ45A:
Male DB44 to 8-pin RJ45 x 4

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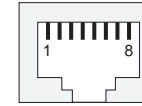
Pin	RS-232
1	DSR
2	RTS
3	GND
4	TxD
5	RxD
6	DCD
7	CTS
8	DTR

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