MOXA®

CP-112UL/114UL Series Quick Installation Guide

First Edition, April 2009

1. Overview

The CP-112UL/CP-114UL series is a 2/4-port RS-232/422/485 Universal PCI serial board that can be installed in a PC to connect 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. It is designed for POS and ATM applications as well as industrial automation systems. With on-chip hardware and software flow control, plus a built-in 128-byte Tx/Rx FIFO, the CP-112UL/CP-114UL series supports data transmission speeds of up to 921.6 Kbps.

The CP-112UL/CP-114UL series include following models:

CP-112UL-DB9: 2-port RS-232/422/485 low profile Universal PCI board, 0 to 55°C operating temperature (includes DB9 male cable).

CP-112UL-T: 2-port RS-232/422/485 low profile Universal PCI board, -40 to 85°C operating temperature.

CP-112UL-I-DB9: 2-port RS-232/422/485 low profile Universal PCI board with optical isolation, 0 to 55°C operating temperature (includes DB9 male cable).

CP-112UL-I-T: 2-port RS-232/422/485 low profile Universal PCI board with optical isolation, -40 to 85°C operating temperature.

CP-114UL: 4-port RS-232/422/485 low profile Universal PCI board, 0 to 55°C operating temperature.

CP-114UL-DB9: 4-port RS-232/422/485 low profile Universal PCI board, 0 to 55°C operating temperature (includes DB9 male cable).

CP-114UL-DB25: 4-port RS-232/422/485 low profile Universal PCI board, 0 to 55°C operating temperature (includes DB25 male cable).

CP-114UL-T: 4-port RS-232/422/485 low profile Universal PCI board, -40 to 85°C operating temperature.

CP-114UL-I: 4-port RS-232/422/485 low profile Universal PCI board with optical isolation, 0 to 55°C operating temperature.

CP-114UL-I-DB9M: 4-port RS-232/422/485 low profile Universal PCI board with optical isolation, 0 to 55°C operating temperature (includes DB9 male cable).

P/N: 1802001142321

CP-114UL-DB25M: 4-port RS-232/422/485 low profile Universal PCI board with optical isolation, 0 to 55°C operating temperature (includes DB25 male cable).

CP-114UL-I-T: 4-port RS-232/422/485 low profile Universal PCI board with optical isolation, -40 to 85°C operating temperature.

2. Package Checklist

Before installing the CP-112UL/CP-114UL series, verify that the package contains the following items:

- CP-112UL series or CP-114UL series Universal PCI board.
- Standard & low profile bracket.
- Documentation and Software CD-ROM.
- Quick Installation Guide.
- 5-year Product Warranty Statement.

Please notify your sales representative if any of the above items are missing or damaged.

3. Hardware Installation Procedure

The CP-112UL/CP-114UL series board MUST be installed in the PC before installing the driver. The following directions as CP-114UL an example explain how to install the board in the PC.

STEP 1: Power off the PC.

STEP 2: On the CP-114UL, select the serial interface using the DIP switches as shown below:

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 board firmly into an open PCI or PCI-X slot on the PC.

STEP 4: Use the screw to secure the control board into place.

STEP 5: Attach the connection cables.

STEP 6: Power on the PC. The BIOS will automatically set the IRQ and I/O address.

4. Software Installation

Do **NOT** install the driver until you have physically installed the board. Please refer to the previous section for instructions on installing the board. Refer to the Universal PCI User's Manual for detailed instructions on installing the drivers. The following installation using CP-114UL as an example:

Windows Vista (32-bit/64-bit)

1. After powering on your PC, Windows Vista will automatically detect the serial board.
2. Insert the Document and Software CD in your CD-ROM drive.

3. Select **Locate and install driver software(recommended)**.
4. When you receive a message stating "Windows needs your permission to continue", click **Next** to continue.
5. Select "**I don't have the disc, show me other options**".
6. Select "**Browse my computer for driver software(advanced)**".
7. For 32-bit (x86) systems, select the **\CP-114UL\Software\Windows Vista\x86** folder on the CD. For 64-bit (x64) systems, select the **\CP-114UL\Software\Windows Vista\x64** folder on the CD. Click **Next** to continue.
8. If you see a warning that the software has not passed Windows Logo testing, select **Install this driver software anyway**.
9. After the driver software has been installed, the installation wizard will guide you through the port installation, starting with port 0.
10. To verify successful installation, use **Windows Device Manager** and check under **Multi-port serial adapters and Ports (COM & LPT)** for any special marks, such as a question mark or exclamation point.

Windows 2003 and XP (32-bit/64-bit)

1. After powering on your PC, Windows 2003/XP will automatically detect the serial board.
2. Insert the Document and Software CD in your CD-ROM drive.
3. Select **Install from a list or specific location (Advanced).**
4. Select **Search for the best driver in these locations**, **Include this location in the search**, and click **Browse**.
5. For 32-bit (x86) systems, select the **\CP-114UL\Software\Windows XP_2003\x86** folder on the CD. For 64-bit (x64) systems, select the **\CP-114UL\Software\Windows XP_2003\x64** folder on the CD. Click **Next** to continue.
6. If you see a warning that the software has not passed Windows Logo testing, select **Continue Anyway**.
7. After the driver software has been installed, the installation wizard will guide you through the port installation, starting with port 0.
8. To verify successful installation, use **Windows Device Manager** and check under **Multi-port serial adapters and Ports (COM & LPT)** for any special marks, such as a question mark or exclamation point.

Windows 2000

1. After powering on your PC, Windows 2000 will automatically detect the serial board.
2. Insert the Document and Software CD in your CD-ROM drive.
3. Select **Search for a suitable driver for my device (recommended)**.
4. In **Optional search location**, select **specify a location**. Select the **\CP-114UL\Software\Windows 2K** folder on the CD and click **OK** to continue.

5. If you see a warning that the software has not passed Windows Logo testing, select **Continue Anyway**.
6. After the driver software has been installed, the installation wizard will guide you through the port installation, starting with port 0. Be sure to install the software from the **\CP-114UL\Software\Windows 2K** folder on the CD.
7. To verify successful installation, use **Windows Device Manager** and check under **Multi-port serial adapters and Ports (COM & LPT)** for any special marks, such as a question mark or exclamation point.

Linux (32-bit/64-bit)

Ensure that you are logged into the machine with superuser (root) privileges. Insert the Moxa driver CD-ROM into the CD-ROM drive.

If necessary, use the **mkdir** command to create a mount point for the CD-ROM. The following command creates a mount point in the directory /cdrom; you can mount the CD-ROM at any location in the machine's local file system.

mkdir /cdrom

The commands in the steps below assume the CD-ROM is mounted at /cdrom. If you mount the CD-ROM at a different location, use that location when issuing commands.

Mount the CD-ROM drive by entering the following command:

 # mount -t iso9660 -o ro /dev/cdrom /cdrom

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
#cd mxser
#make clean; make install
#cd /moxa/mxser/driver
#./msmknod
#modprobe mxser
```

2. Use the Moxa diagnostic utility to verify the driver status:
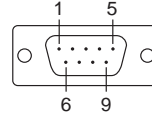
```
#cd /moxa/mxser/utility/diag
#./msdiag
```

3. Use the Moxa terminal utility to test the TTY ports:

```
#cd /moxa/mxser/utility/term
#./msterm #./msterm
```

5. Pin Assignments and Cable Wiring

The CP-112UL series has a female DB25 connector on the board. Cables with different connectors are available to help you connect your device to the board.
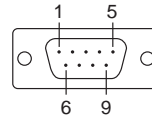
Male DB9 (CBL-M25M9x2-50)

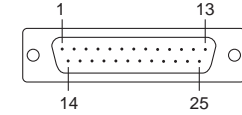| Pin	RS-232	RS-422	RS-485 4-wire	RS-485 2-wire
1	DCD	TxD-(A)	TxD-(A)	---
2	RxD	TxD+(B)	TxD+(B)	---
3	TxD	RxD+(B)	RxD+(B)	Data+(B)
4	DTR	RxD-(A)	RxD-(A)	Data-(A)
5	GND	GND	GND	GND
6	DSR	---	---	---
7	RTS	---	---	---
8	CTS	---	---	---

The CP-114UL series has a female DB44 connector on the board. Cables with different connectors are available to help you connect your device to the board.

Male DB9 (CBL-M44M9x4-50)

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

Male DB25 (CBL-M44M25x4-50)

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