MOXA®

CI-132 Industrial Serial Board Quick Installation Guide

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1. Overview

CI-132 is a 2-port RS-422/485 ISA 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. The board's well-designed device drivers make full use of the 16-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.

CI-132 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 CI-132 board, verify that the package contains the following items:

- 1 CI-132 2-port serial board
- Documentation and Software CD
- Quick Installation Guide

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

3. Hardware Installation Procedure

The CI-132 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 CI-132 control board firmly into an ISA slot.
STEP 3: Fasten the holding screw to fix the control board in place.
STEP 4: Short Jumper JP1.
STEP 5: Power on the PC.
STEP 6: Execute **io-irq.exe** from DOS mode, entry 0xA700.
STEP 7: Configure the I/O address, IRQ, INT vector, etc., and then press F10 to save the configuration.
STEP 8: Power off the PC, open Jumper JP1, and power on the PC.
STEP 9: Enter the BIOS to reserve a specific IRQ.
STEP 10: Restart the PC.

P/N: 1802001321200

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 CI-132 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 CI-132 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 **CI-132\Software\Win2K-XP-2003** folder.
9. Select the CI-132 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 CI-132 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 **CI-132\Software\Win2K-XP-2003** folder.
9. Select CI-132 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 CI-132 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 **CI-132\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 **CI-132\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.
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>/mxser.tgz .
#tar xvfz mxser.tgz
```
2. ```
#cd mxser
#make clean; make install
```
3. ```
#cd /moxa/mxser/driver
#./msmknod
```
4. Install the module driver at the I/O address that you configured. E.g., if the I/O address is 0x180, then execute the following command:
```
#modprobe mxser ioaddr=0x180
```
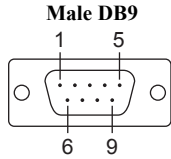5. You can use the Moxa diagnostic utility to verify the driver status:
```
#cd /moxa/mxser/utility/diag
#./msdiag
```
6. You can use the Moxa terminal utility to test the tty ports:
```
#cd /moxa/mxser/utility/term
#./msterm
```

5. Pin Assignments

CI-132 has two male DB9 ports on the board. In the following figure, we give the RS-422/485 pin assignments for the ports.

<u>**CI-132 Ports (on the board)**</u>

Male DB9

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