

# MOXA®

## C104H Smart Serial Board

### Quick Installation Guide

Third Edition, June 2008

#### 1. Overview

The C104H Series of 4-port RS-232 ISA serial boards are 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.

C104H 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 C104H board, verify that the package contains the following items:

- 1 C104H 4-port serial board
- Documentation and Software CD
- Quick Installation Guide
- CBL-M37M25x4-30 (Opt4C): DB37 to 4 x male DB25

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

#### 3. Hardware Installation Procedure

The C104H 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 C104H 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: 1802001041400**

#### 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 C104H 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 C104H 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 **C104H\Software\Win2K-XP-2003** folder.
9. Select the C104H 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 C104H 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 **C104H\Software\Win2K-XP-2003** folder.
9. Select C104H 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 C104H 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 **C104H\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 **C104H\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:

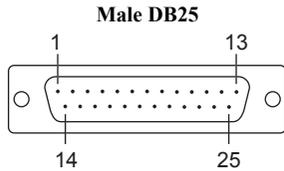
```
#cd /moxa/mxser/utility/term
#./mstern
```

## 5. Pin Assignments

C104H boards have one female DB37 connector on the board. You may use the male DB37 to 4 x male DB25 cable (included as a standard accessory) to connect to your serial devices, or purchase one of four optional accessories. In the following figures, we give the pin assignments for the serial device side of the four connection options.

### CBL-M37M25x4-30

Male DB37 to male DB25 x 4



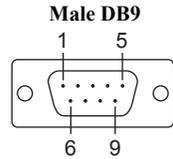
Pin	RS-232
2	TxD
3	RxD
4	RTS
5	CTS
6	DSR
7	GND
8	DCD
20	DTR

### CBL-M37M9x4-30

Male DB37 to male DB9 x 4

#### Opt4-M9A

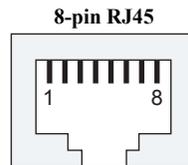
Male DB37 to male DB9 x 4



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

#### Opt4-RJ45A

Male DB37 to 8-pin RJ45 x 4



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

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