# MOXA Smartio & Industio Family Windows 2000 Driver Installation Guide

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#### 1. Introduction

The Installation Guide provides the procedure about MOXA multiport boards driver installation under Windows 2000 for all users.

The Windows 2000 driver for MOXA Smartio & Industio family multiport boards support following products.

#### • PCI Boards : C168H/PCI, C104H/PCI, CP -114, CT-114I, CP -132

• ISA Boards : C104 series, C168 series, CI-104J, C102, C114HI, CI -132, CI-134

For latest driver update, please refer to our web site at following address.

http://www.moxa.com or http://www.moxa.com.tw

# 2. PCI Boards Driver Installation Procedures

This paragraph illustrates the driver installation for MOXA Smartio &Industio PCI board under Windows 2000.

Note:

- Please refer to the User's Manual for hardware installation prior to install the board.
- The following illustration and demonstration will be based on C168H/PCI. The installation procedure for C104H/PCI, CP -114, CT-114I, CP-132 is same as C168H/PCI.

#### **First time Installation Procedure**

- 1. PC power off.
- Insert the PCI series board of MOXA Smartio & Industio Family into the PC's PCI slot.
- 3. PC power on.
- 4. The Windows 2000 can auto-detect the newly device and activate "Found New Hardware" for a suitable device driver via Plug & Play function.

Under the panel of "Found New Hardware Wizard", click [Next] to continue.

(As Figure.2-1~ Figure.2-2)

Found Ne	Found New Hardware		
»	PCI Serial Port		
Please v	vait		

Figure.2-1

Found New Hardware Wizard	
	Welcome to the Found New Hardware Wizard This wizard helps you install a device driver for a hardware device.
	< Back Mext> Cancel

Figure.2-2

5. Choose "Search for a suitable driver..." and click [Next] to continue. (As Figure.2-3)

Found New Hardware Wizard	
Install Hardware Device Drivers A device driver is a software program th an operating system.	nat enables a hardware device to work with
This wizard will complete the installation	for this device:
PCI Serial Port	
A device driver is a software program th needs driver files for your new device. T installation click Next. What do you want the wizard to do?	at makes a hardware device work. Windows o locate driver files and complete the
<ul> <li>Search for a suitable driver for m</li> </ul>	y device (recommended)
C Display a list of the known driver driver	s for this device so that I can choose a specific
	< <u>B</u> ack <u>N</u> ext > Cancel

Figure.2-3

6. Choose "Specify a location" and [Next] to install the board's driver. (As Figure.2-4)

Found New Hardware Wizard
Locate Driver Files Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
PCI Serial Port
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy disk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< <u>B</u> ack <u>N</u> ext > Cancel

Figure.2-4

 Insert the MOXA Driver CD-ROM and specify driver location for the Wizard. Assume that the CD-ROM driver letter is "F:", enter the driver location in the Windows. Then press [OK] to continue. (As Figure.2-5)



Figure.2-5

8. Press [OK], Windows will copy all necessary files into the system. Press [Next] to continue. (As Figure.2-6)

und New Ha	rdware Wizard
<b>Driver File</b> The wiz	s Search Results ard has finished searching for driver files for your hardware device.
The wiz	ard found a driver for the following device:
- P	PCI Serial Port
Window	is found a driver for this device. To install the driver Windows found, click Next.
2	f:\drivers\win2k\smartio\mxser.inf
	< Back Next > Cancel

Figure.2-6

9. Next, the Window "Completing the Found New Hardware Wizard" appears with the model number for the board. It means, Windows has finished the board's driver installation. Click [Finish] to continue rest of driver installation. (As Figure.2-7)



Figure.2-7

10. The screen pops up "Found New Hardware Wizard " window to continue the rest of procedures. Click [Next], when the "Found New Hardware Wizard" appears.

(As Figure.2-8 ~ Figure.2-9)



Figure.2-8



Figure.2-9

11. Choose "Search for a suitable driver..." and click [Next]. (As Figure.2-10)

Found New Hardware Wizard
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
MDXA communication port
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< <u>B</u> ack <u>N</u> ext> Cancel

Figure.2-10

12. Choose " Specify a location " and [Next] to install the driver. (As Figure.2-11)

Found New Hardware Wizard		
Locate Driver Files Where do you want Windows to search for driver files?		
Search for driver files for the following hardware device:		
PCI Serial Port		
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.		
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.		
Optional search locations:		
Floppy disk drives		
CD-ROM drives		
Specify a location		
Microsoft Windows Update		
< <u>B</u> ack <u>N</u> ext > Cancel		

Figure.2 -11

 Insert the MOXA Driver CD-ROM and specify driver location for the Wizard. Assume that the CD-ROM driver letter is "F:", enter the driver location in the Windows. Press [OK], Windows will copy all necessary files into system. Then press [Next] to continue.

(As Figure.2-12)

Found Ne	w Hardware Wizard	×
	Insert the manufacturer's installation disk into the drive selected, and then click OK.	ОК
		Cancel
	Copy manufacturer's files from:	
	F:\DRIVERS\WIN2K\SMARTIO	Browse
		Conversioners

Figure.2-12

Next, the Windows appears the message for driver search result with MOXA communication port to inform you that Windows found a driver for your device. Click [Next] to start installation. (As Figure.2-13)



Figure.2-13

15. After all files copy to the system, the window "Found New Hardware Wizard" displays " MOXA Port0". It means, Windows has finished the port0' driver installation and click [Finish] to install other ports' installation. This procedure will take for a while depends on the number of ports you install. (As Figure.2-14 ~ Figure.2-15)

Found New Hardware Wizard	
	Completing the Found New Hardware Wizard MOXA Port 0 MOXA Port 0
	windows nas innisned installing the software for this device.
	To close this wizard, click Finish.
	< <u>B</u> ack <b>Finish</b> Cancel

Figure.2-14

Found New Hardware	
×.	PCI Serial Port
Please (	wait

Figure.2-15

The whole procedure is finished, When the "Found New Hardware" disappears.

If you would like to know the result of this installation, please refer to the chapter four "Check the Installation Result".

# 3. ISA Boards Driver Installation Procedure

This driver installation supports the MOXA Smartio and Industio ISA Boards, which include C104 series, C168 series, CI -104J, C102, C114HI, CI-132, CI-134 under Windows 2000.

The ISA boards have to adjust the I/O address and IRQ by running the io-irq.exe under pure DOS for the I/O address and IRQ configuration first. The I/O address and IRQ should avoid conflicting with other devices, or Windows will ask you to reboot the PC, it means you have to verify all available devices' I/O address and IRQ. Please refer to the chapter regarding H/W Installation of MOXA User's Manual for more information.

The following procedure will base on our factory default settings.

- I/O Address : 180
- Interrupt Vector : 1C0
- IRQ : 10

#### **First Time Installation Procedure**

- 1. PC power off.
- 2. Insert the ISA series boards of MOXA Smartio or Industio Family into the PC's ISA slot.
- 3. PC power on.
- 4. Select "Start"→"Settings"→ "Control Panel"→"System"→ "Hardware" →

"Hardware Wizard". Under the panel of "System Properties", click "Hardware Wizard" to enter the procedure of "Add/Remove Hardware Wizard". Click [Next] to continue.

(As Figure.3-1~ Figure.3-2)

System Prop	erties			? ×
General N	etwork Identification	Hardware	User Profiles Ad	vanced
Hardware	e Wizard			
	The Hardware wizar unplug, eject, and c	d helps you onfigure you	install, uninstall, rep r hardware.	air,
			<u>H</u> ardware Wiz	ard
Device M	lanager			
	The Device Manage on your computer. U properties of any de	er lists all the Ise the Devid vice.	hardware devices ce Manager to char	installed nge the
	Driver <u>S</u> igning	j	<u>D</u> evice Manaj	ger
Hardware	e Profiles			
$ \ge $	Hardware profiles pr different hardware c	ovide a way onfigurations	for you to set up ar :.	nd store
		[	Hardware Prof	iles
		ОК	Cancel	Apply
and the second	1.521			

Figure.3-1



Figure.3-2

5. In the Window of "Add/ Remove Hardware Wizard", choose the "Add/Troubleshoot a device..." and click [Next] to enter the procedure of devices selected. (As Figure.3-3)

Add/Remove Hardware Wizard
Choose a Hardware Task Which hardware task do you want to perform?
Select the hardware task you want to perform, and then click Next.
<ul> <li>Add/Troubleshoot a device</li> <li>Choose this option if you are adding a new device to your computer or are having problems getting a device working.</li> </ul>
Uninstall/Unplug a device Choose this option to uninstall a device or to prepare the computer to unplug a device.
<u> &lt; B</u> ack <u>N</u> ext > Cancel

Figure.3-3

6. The next procedure is for users to choose a hardware device from devices list box. Select "Add a new device" and click [Next]. (As Figure.3-4)

d/Remove Hardware Wizard			
Choose a Hardware Device Which hardware device do you want to	troubleshoot?		E Contraction of the second se
The following hardware is already instally with one of these devices, select the de If you are attempting to add a device an device, and then click Next.	ed on your computer. If vice, and then click Ne d it is not shown below	you are having xt. , select Add a ne	problems ew
Devices Add a new device			-
Default Monitor			
Floppy disk drive			
EAC CD-532E-B			
BM-DJNA-371350			
ISAPNP Read Data Port			
LALIM1533 PCL to ISA bridge			
	< Back	Next>	Cancel

Figure.3-4

7. Select "No, I want to ..." and click [Next]. (As Figure.3-5)

Windows can	are also detect hardware that i	s not Plug and Play	compatible.	Č
When Window and installs the	s detects new hardware, i correct driver.	checks the current	settings for the dev	ice
Do you want W	indows to search for your	new hardware?		
O Yes, sea	rch for new hardware			
No, I wa	nt to select the hardware f	rom a list		
		< <u>B</u> ack	<u>N</u> ext >	Can

Figure.3-5

8. In the "Hardware Type", select "Multi-port series adapters" and click [Next] to enter the Manufacturers/ Models list box. (As Figure.3-6)

Add/Remove Hardware Wizard			
Hardware Type What type of hardware do you want to install?			
Select the type of hardware you want to install.			
Imaging devices			<b>_</b>
M Infrared devices			
Memory technology driver			
Modems 🧼			
Multi-port serial adapters			
Retwork adapters			
Regard Support			
2 Other devices			
			<b>•</b>
	< <u>B</u> ack	<u>N</u> ext >	Cancel

Figure.3-6

- 9. Press [Have Disk...] to enter the Window of "Install From Disk " and insert the CD-ROM contained the driver of MOXA Smartio and Industio Family.
- 10. Insert the MOXA driver CD-ROM and specify for the Wizard. Assume that the CD-ROM driver letter is "F:", enter the driver location into the Windows. Press [OK] to continue.

(As Figure.3-8)



Figure.3-8

11. Next, select the proper model number for your MOXA board. Click "Next" to continue

ld/Ren	nove Hardwa	re Wizard				
Seleo V	<b>ct a Device [</b> Vhich driver do	<b>Driver</b> you want to insta	ll for this de	vice?		E Como de la como de la Como de la como de la Como de la como de
$\Diamond$	Select the ma have a disk th	nufacturer and m nat contains the d	odel of your	hardware dev ant to install, cli	ice and then cli ick Have Disk.	ck Next. If you
~						
Models:	L L 2 0114					
MUXA MOXA	Industio C114F Industio CI-132	11 Series Series				
MOXA	Industio CI-134	Series				
MUXA	Smartio C104 9 Smartio C168 9	eries				
MOXA	Smartio CI-104	J Series				
						<u>H</u> ave Disk
						-
				< <u>B</u> ack	<u>N</u> ext>	Cancel
				States and states for	and the second second second	Contractor and a second

Figure.3-9

12. Next, the screen appears the message "Driver Files Search Results" with the model number of MOXA Smartio or Industio Family to inform users that Windows found a driver for this board. Click [Next] to continue.

Add/Remove Hardware Wizard
Start Hardware Installation Windows is ready to install drivers for your new hardware.
MOXA Smartio C168 Series
Windows will use default settings to install the software for this hardware device. To install the software for your new hardware, click Next.
< <u>B</u> ack <u>Next&gt;</u> Cancel

Figure.3-10

 Click [Finish] to continue the rest of ports' driver installation. And then, click [Next] to continue. (As Figure.3-11 ~ Figure.3-12)



Figure.3-11



Figure.3-12

14. Choose the "Search for a suitable driver..." and click [Next] to search for the suitable driver. (As Figure.3-13)



Figure.3-13

15. Select " Specify a location " and [Next] to install the driver. (As Figure.3-14)

Found New Hardware Wizard	
Locate Driver Files Where do you want Windows to search for	driver files?
Search for driver files for the following hardv	ware device:
MOXA communication port	
The wizard searches for suitable drivers in it any of the following optional search location	ts driver database on your computer and in hs that you specify.
To start the search, click Next. If you are se insert the floppy disk or CD before clicking N	earching on a floppy disk or CD-ROM drive, Next.
Optional search locations:	
Floppy <u>disk</u> drives	
Specify a location	
Microsoft Windows Update	
	< <u>B</u> ack <u>N</u> ext > Cancel

Figure.3-14

16. Insert the MOXA driver CD-ROM and specify for the Wizard. Assume that the CD-ROM driver letter is "F:", enter the driver location into the Windows. Press [OK] to continue.

(As Figure.3-15)

w Hardware Wizard	X
Insert the manufacturer's installation disk into the drive selected, and then click OK.	ОК
	Cancel
Copy manufacturer's files from:	
EADRIVERS\WIN2K\SMARTID	Browse
	W Hardware Wizard Insert the manufacturer's installation disk into the drive selected, and then click OK. Copy manufacturer's files from:

Figure.3-15

17. The window appears the message "Driver Files Search Results" with the name of MOXA communication port to inform you that Windows found a driver for your device. Click [Next] to continue. (As Figure.3-16)

Found New Hardware Wizard
Driver Files Search Results The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
MDXA communication port
Windows found a driver for this device. To install the driver Windows found, click Next.
f:\drivers\win2k\smartio\mxsport.inf
The wizard also found other drivers that are suitable for this device. To view a list of these drivers or install one of these drivers, select the following check box, and then click Next.
Install one of the other drivers
< <u>B</u> ack <u>Next</u> > Cancel

Figure.3-16

16. After all files copy to the system, the window "Found New Hardware Wizard" displays" MOXA Port0". It means, Windows has finished the port0' driver installation and click [Finish] to install other ports' installation.

(As Figure.3-17 ~ Figure.3-18)



Figure.3-17

Found Ne	Found New Hardware				
»)	PCI Serial Port				
Please v	vait				

Figure.3-18

#### 4. Change the Multi-port Board Properties

If your ISA board configuration is not set as default, you'll need to change the driver's settings to match hardware configuration.

- 4.1 Select "Start" → "Settings" → "Control Panel" → "System" → "Hardware" → "Device Manager".
- 4.2 Expand the "Multi-port Serial Adapters", you will see the MOXA board model number. Double click on the model number. Select "Resources" tab in MOXA board property window.

	s Properties	?
ieneral   Ports Configuratio	on Driver Resources	5
MOXA Smartio C	168 Series	
Resource settings:		
Resource type	Setting	
🛄 Input/Output Range	0180 - 01BF	
🛄 Input/Output Range	01C0 - 01C0	
🛄 Interrupt Request	10	
Setting based on: Basic	configuration UUUU	
) Г <u>U</u> s	e automatic settings	Change Setting
Conflicting device list:	e automatic settings	Change Setting
Conflicting device list:	e automatic settings	
Conflicting device list:	e automatic settings	hange Setting ▲

Figure 4.1

- 4.3 Select "Basic configuration 0000" in setting based on:" option.
- 4.4 Highlight "Input / Output range" and click "Change Setting...". You may change I/O address settings in "Edit Input / Output Range" window. Click [OK] to back to board properties window. (As Figure 4.2)

Edit Input/Output Range
Enter the input/output range you would like to set for this device.
You may either enter a specific range and the nearest valid range will be automatically selected, or you may select a range using the up and down arrows.
This resource is assigned to the following child device(s):
yalue: 0180 - 01BF → Conflict information The setting you have chosen does not conflict with any other devices.
No devices are conflicting.
OK Cancel

Figure.4-2

4.5 Highlight "Input / Output Range" and click "Change Setting...".You may change Interrupt Vector settings in "Edit Interrupt Request" window. Click [OK] back to board properties window. (As Figure 4-3)



Figure. 4-3

4.6 Highlight "Interrupt Request" and click "Change Setting...". You may change IRQ setting in "Edit Interrupt Request" window. Click [OK] back to board properties window.

(Figure. 4-4)

dit Inte	errupt Re	quest			? >
Enter ti	ne interrupt	request you	a would like to s	et for this	device.
You ma will be up and	ay either en automatical down arrov	er a specifi y selected, vs.	c value and the or you may sel	e nearest ect a valu	valid value ue using the
This re	source is as	signed to th	ne following chi	ld device	(s):
Value: ⊢Confl	10	on ———	<u>.</u>		
The device	setting you ces.	nave chose	en does not cor	nflict with	any other
No	devices are	conflicting.			
			ОК		Cancel

Figure4-4

4.7 In board properties window, click [OK] to finish the configuration. Then click [Yes] in "System Setting Change" WINDOW TO RESTART Windows system. (Figure. 4-5)



Figure.4-5

#### 5. Check the Installation Result

#### Note: The following procedures are based on MOXA C168H series.

To check the Installation Result, there are three approaches as following.

#### 5.1 Device Manager:

- a. You can diagnose the installation result by selecting "Start" → "Settings" →
   "Control Panel" → "System" → "Hardware" →" Device Manager". If the driver installation for new added device is successful, you can see the model number of the Moxa board.
- b. Click "Device Manager" to enter the devices' list box.

Select the "Mutiu-port serial adapter" and "Ports(COM&LPT)" folder and expend them.

- c. In Device Manager you can see the model number of MOXA boards after expanded the "Multi-port series adapters". (As Figure.5-1~ Figure.5-2)
- d. You may expand the "Ports (COM&LTP)" to check the status of COM ports. All illustrated in figure2, the illustration is successful. If there's any mark on the icon, the installation may have problem.
- e. You may refer to Even Log for detail reason.

stem Prop	perties		?			
ieneral   N	letwork Identification Hardware	User Profiles Adva	nced			
Hardwar	e Wizard		Seconds I			
	The Hardware wizard helps you install, uninstall, repair, unplug, eject, and configure your hardware.					
		Hardware Wizar	d			
Device	Manager					
	The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.					
	Driver <u>S</u> igning	Device Manage	r			
Hardwar	e Profiles					
Hardware profiles provide a way for you to set up and stor different hardware configurations.						
		Hardware Profile	s			
	OK	Cancel	Apply			

Figure.5-1



Figure.5-2

5.2 **PComm Diagnostic,** which is a convenient diagnostic program for MOXA boards only, provides internal and external testing as IRQ, TxD/RxD, UART, CTS/RTS, DTR/DSR, DTR/DCD test and so on. This program can verify correct operation of both the H/W and S/W for all MOXA boards and ports.

To run diagnostic, click on "Start" → "Programs" → "PComm Lite 2000 Ver.1.0" → "PComm Diagnostic".

Please refer to on-line help of PComm Lite 2000 for more information.

5.3 Even Log: To check the Even Log for MOXA boards, click "Start"→"Settings"
 →"Control Panel" → "Administrative Tools" → "Event Viewer" to enter Event Viewer program. in system category, find latest warring message relevant to MOXA driver.

### 6. Uninstall

 Select "My computer"→ "Control Panel"→ "System" then enter the picture of "System Properties".

Under the panel of "System Properties", select "Hardware" then click "Device Manager" into the devices selected list. (As Figure.6-1)

stem Prop	erties	? )				
General N	etwork Identification Hardware User Profiles Advanced					
- Hardwar	e Wizard					
	<ul> <li>The Hardware wizard helps you install, uninstall, repair, unplug, eject, and configure your hardware.</li> </ul>					
	Hardware Wizard					
Device N	Aanager					
	The Device Manager lists all the hardware devices installed on your computer. Use the Device Manager to change the properties of any device.					
	Driver <u>S</u> igning					
Hardwar	e Profiles					
$ \ge $	Hardware profiles provide a way for you to set up and store different hardware configurations.					
	Hardware <u>P</u> rofiles					
	OK Cancel App	ly.				
and the second second second						

Figure.6-1

 Select "Multiport serial adapters" and expend it, you can see the model number of the board. Select it and click right-hand key of mouse, you can see selected list. And then select "uninstall" to remove the device you have installed from your system. (As Figure 6.2)

🚇 Device Manager				- 🗆 ×
<u>A</u> ction ⊻iew	🖿 🗉 🔤 😫 🔜 😹 🗵	3		
E- 📕 MOXA-GMGOZGM1LI				
🗄 🛄 Computer				
🕀 🚍 Disk drives				
🗄 🖳 🖳 Display adapters				
DVD/CD-ROM drives				
Floppy disk controllers				
Floppy disk drives				
IDE ATA/ATAPI contro	liers			
Heyboards	n devices			
Mice and other pointin	Juevices			
E Multi-port serial adapt	ers			
MOXA Smartio C	OLINCI Cavias			
	Disable			
🕀 🚽 Ports (COM & LPT)	Uninstall			
⊕	Scan for hardware changes			
🗄 🥰 Universal Serial Bus 🛛	Properties			
_				
I				
				and the state
🏦 Start 🛛 🛃 🥭 😂 🗍 🙆	JC:\Phoebe_Lu	🕺 Control Panel	BDevice Man	9:47 AM

Figure.6-2

3. Click [OK] return to the default status. (As Figure.6-3)

![](_page_28_Picture_5.jpeg)

. Figure.6-3

4. Click [Finish] to close this wizard. (As Figure.6-4)

![](_page_29_Picture_2.jpeg)

Figure.6-4