

WI, Moxa Serial Port Expansion Box Setup

Document No: 77777	Revision: B
Change Order No: 70000	Date Edited: 6/2/26
Approving Department: Manufacturing Engineering	
<input checked="" type="checkbox"/> Manufacturing WI	<input checked="" type="checkbox"/> Installation WI

Revision History

Rev. Level	Change Order	Dated	Summary
01	12345	11/31/23	Pre-release
A	67892	06/06/24	Reformatted, restructured, re-worded steps and paragraphs, etc.
B	70000	07/22/26	Added step 3.1 and sub steps: setup 8 channel MOXA and configure device IP address

Scope

This procedure is used during the manufacture of semiconductor tools and describes how to set up or configure the Moxa Serial Port Expansion Box (which may also be referred to as a Serial Device Server or Moxa box). The procedure uses a setup program running on the system controller to configure the Moxa. The main tasks are as follows:

- [Reassign COM Ports 3, 4, 5, & 6](#)
- [Verify UPS Configuration](#)
- [Set Up the Moxa Box](#)

Purpose

To ensure a consistent build process that complies with Your-Company and customer requirements.

Personnel

This document applies to Your-Product Series Manufacturing and Field Service Engineers. The Manufacturing Engineering Manager is responsible for reviewing and approving all changes to this document.

Only personnel technically trained and certified by Your-Company, or personnel specifically assigned by Your-Company, shall perform the procedures defined in this document.

Familiarity with common Windows operations and XXX software is needed to perform this procedure.

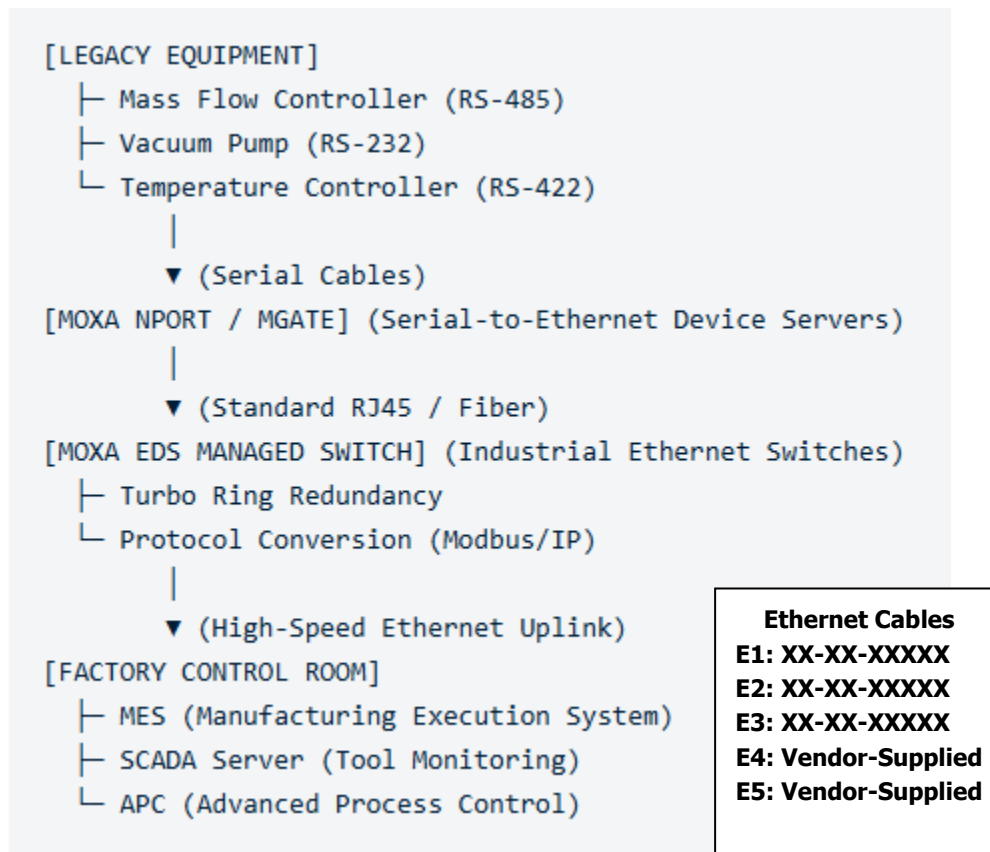
Background

The purpose of the Moxa box is to expand the number of serial ports available to the system controller. Unity tools have two boxes:

- An 8-port box in Network / Serial Distribution box XXX in the electronics rack
- A 16-port box in the front end

As shown below, the boxes use Ethernet to communicate with the system controller.

Figure 1: Moxa Boxes and Cables



The following COM numbers are allocated to the system:

- Ports 1 and 2 are provided by the system controller motherboard
- Ports 3-10 are assigned to the Moxa in the Network / Serial Distribution box
- Ports 11-26 are assigned to the Moxa in the front end

Note... Prior to starting this procedure, the system controller must have the base software image installed. The base image will contain the Moxa setup software. It is not necessary for serial cables to be attached to the Moxa box to set it up.

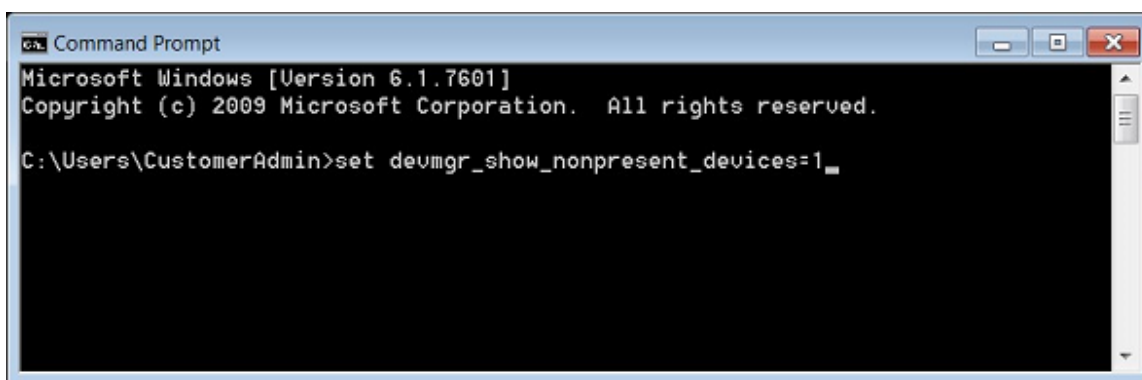
Method

1. Reassign COM Ports 3, 4, 5, & 6

Note... If there are no COM ports reassigned, skip ahead to section [Verify UPS Configuration](#).

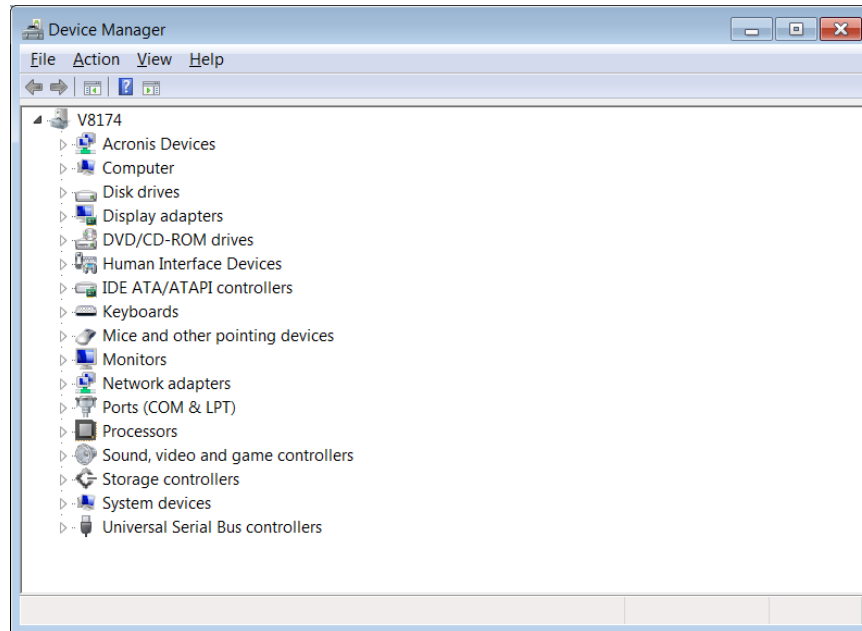
- 1.1. From the **Start Menu**, type Command Prompt.
- 1.2. Select **Command Prompt** from the list.
- 1.3. Type set **devmgr_show_nonpresent_devices** =1.
- 1.4. Press **Enter**.

Figure 2: Enabling Display of Hidden Devices



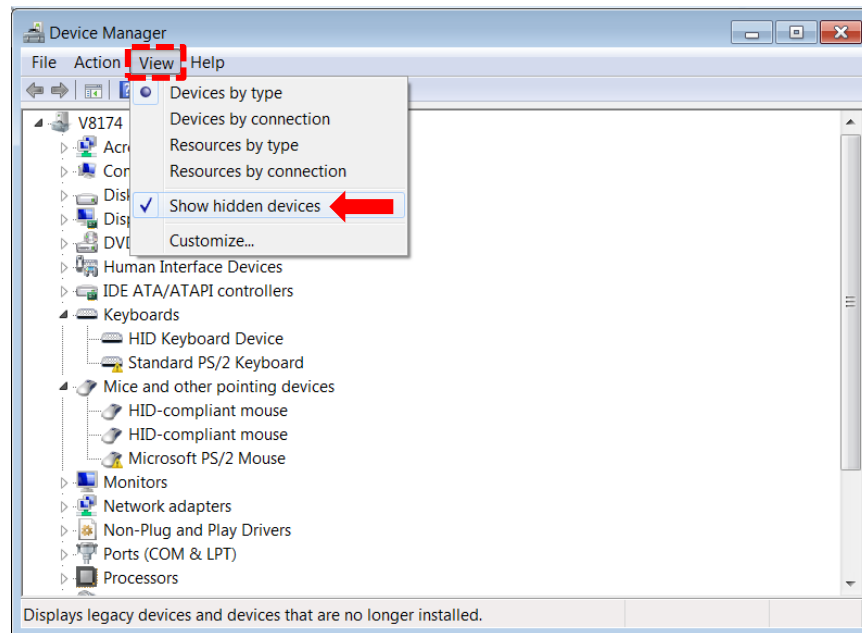
- 1.5. Close the Command Prompt window.
- 1.6. Select the **Start Menu**.
- 1.7. Type **Device Manager**.
The Device Manager window appears. See [Figure 3](#).

Figure 3: Device Manager



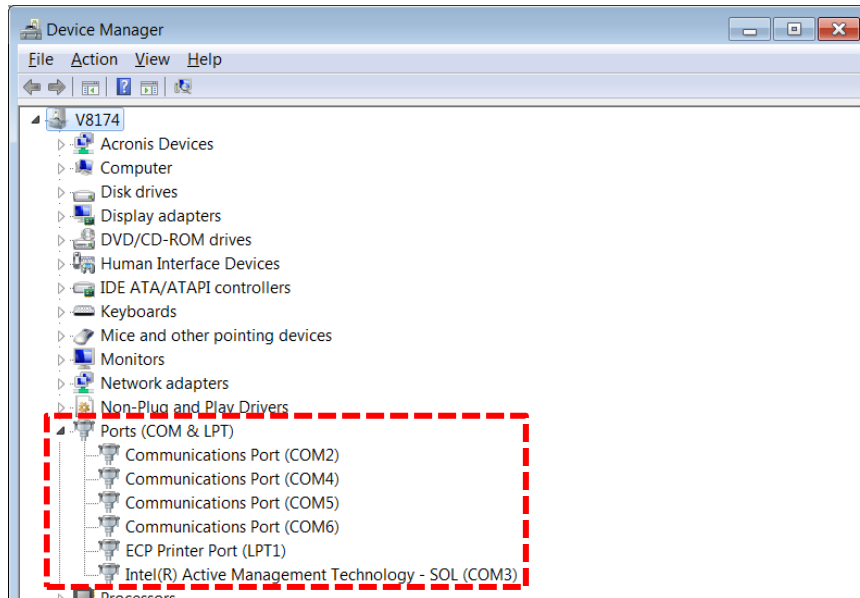
1.8. Select **View**, then check **Show hidden devices**.

Figure 4: Showing Hidden Devices



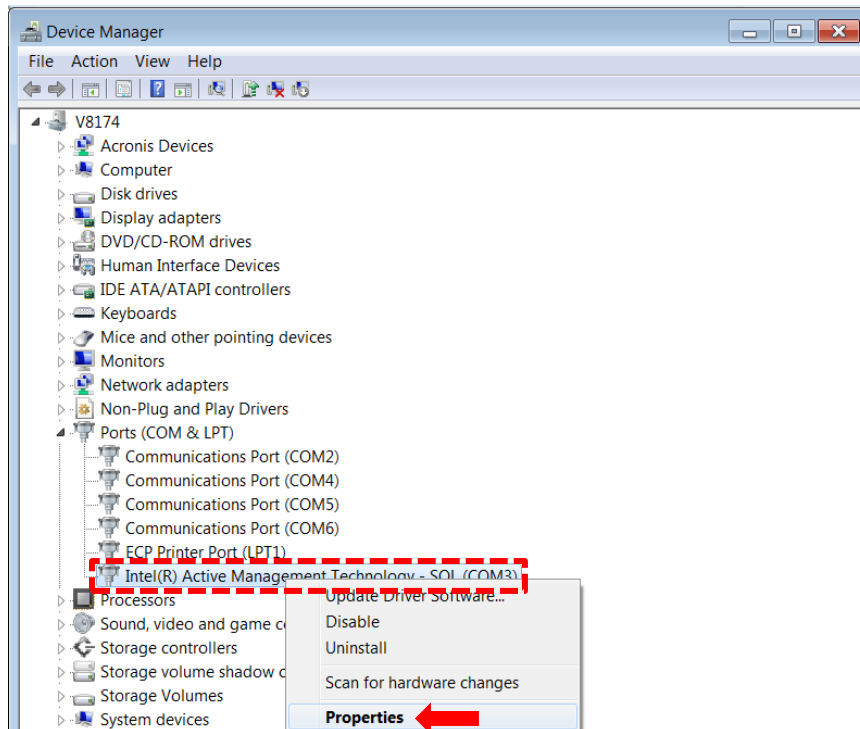
1.9. Expand **Ports (COM & LPT)** to see the COM ports.

Figure 5: Viewing COM Ports



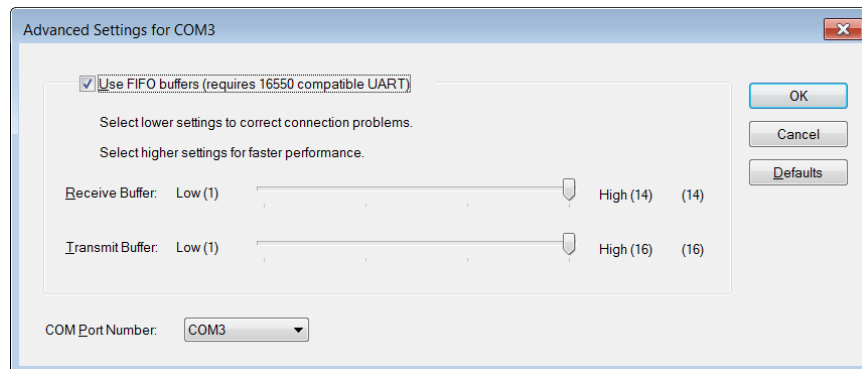
1.10. Right-click **COM3** and select **Properties**.

Figure 6: Accessing COM3 Properties



1.11. Select **Port Settings > Advanced**.

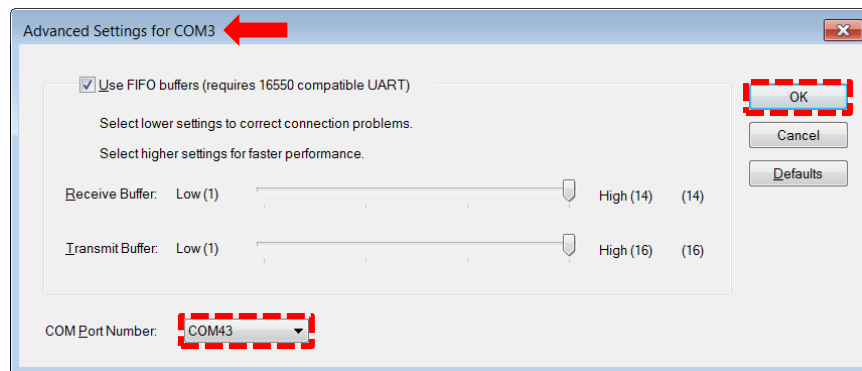
Figure 7: Advanced Settings for COM3



1.12. Change the COM Port Number from **COM3** to **COM43**.

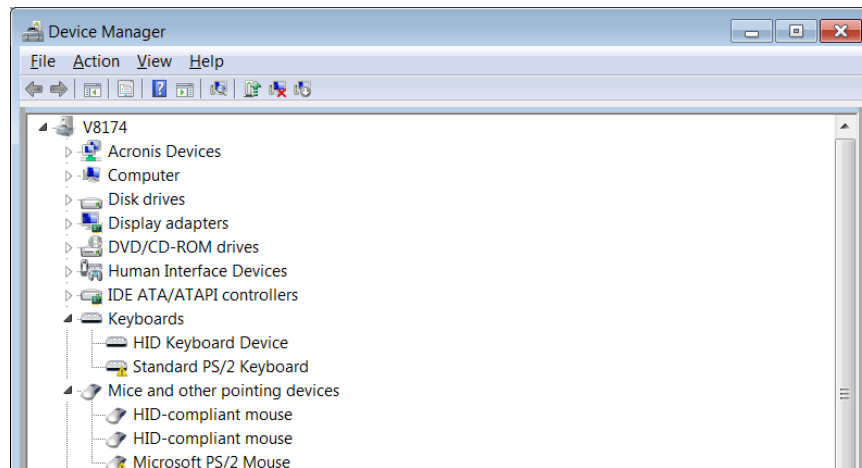
1.13. Click **OK**.

Figure 8: Re-assigning COM3 to COM43



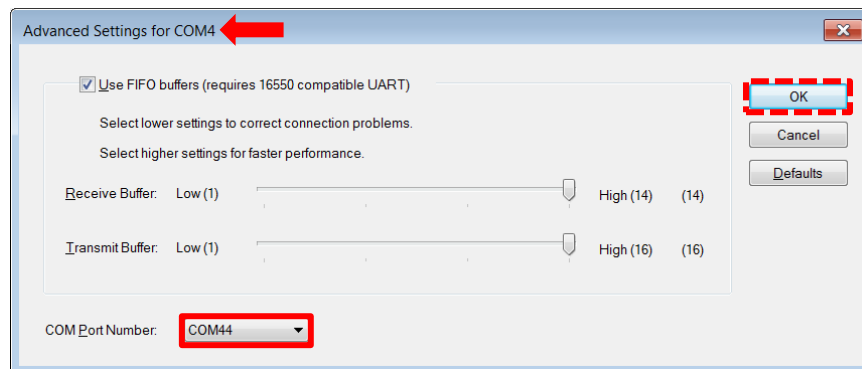
1.14. Click **OK** again to get back to the Device Manager.

Figure 9: Device Manager



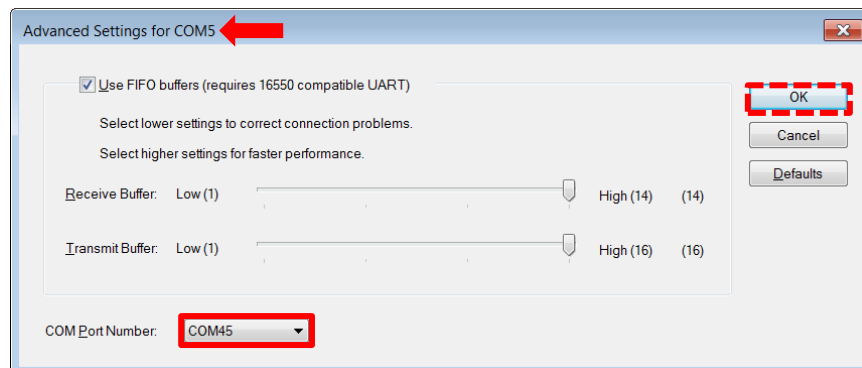
1.15. Repeat steps 1.10 to 1.14 to change **COM4** to **COM44**.

Figure 10: Re-assigning COM4 to COM44



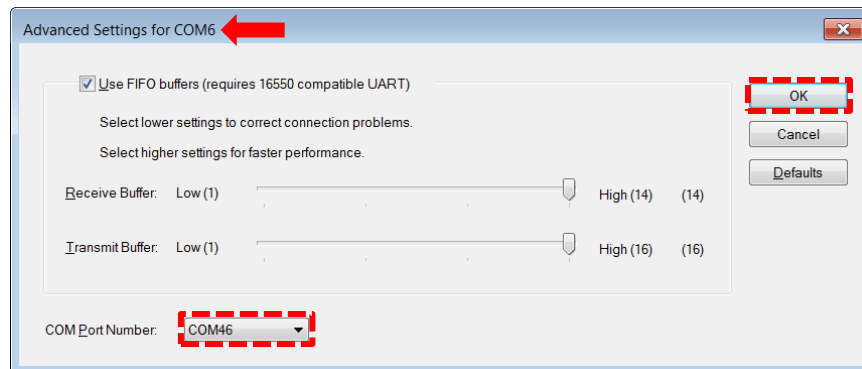
1.16. Repeat steps 1.10 to 1.14 to change **COM5** to **COM45**.

Figure 11: Re-assigning COM5 to COM45



1.17. Repeat steps 1.10 to 1.14 to change **COM6** to **COM46**.

Figure 12: Re-assigning COM6 to COM46



1.18. Close the **Device Manager** and **Control Panel**.

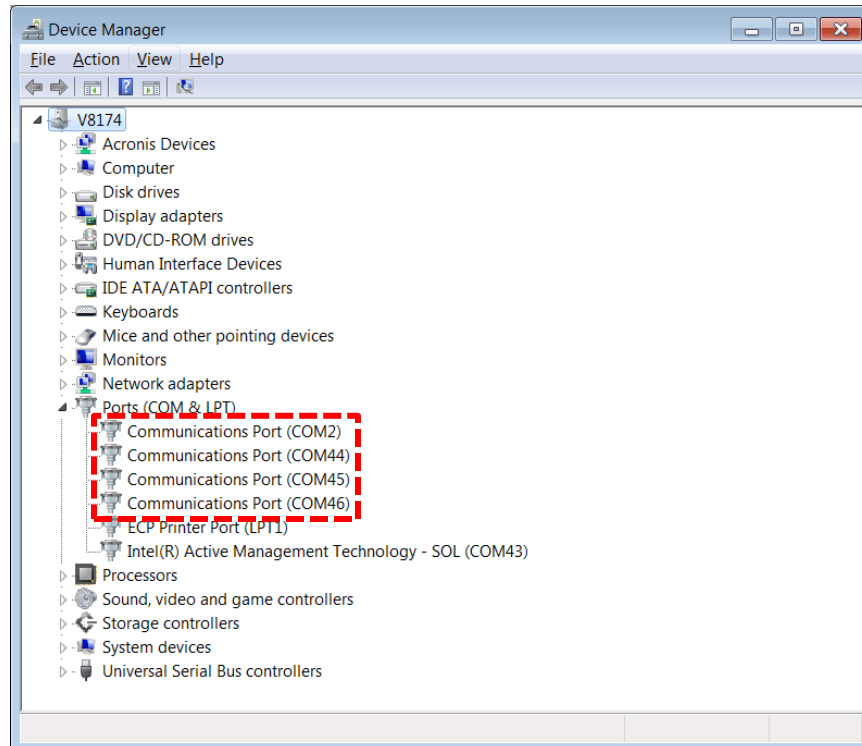
1.19. Reboot the system controller.

1.20. Select **Start > Control Panel > System and Security > Device Manager**.

1.21. Expand **Ports (COM & LPT)**

1.22. Verify that the changes are still in effect.

Figure 13: Re-assigned COM Ports



2. Verify UPS Configuration

Note... The steps in this section are intended for Windows 2000 and Windows XP.
For Windows 10, see WI 90210-90210.

The UPS must be set up to run on COM1. If it was set to another COM number, the UPS will not work. The configuration must be verified.

2.1. Log in to the Administrator account.

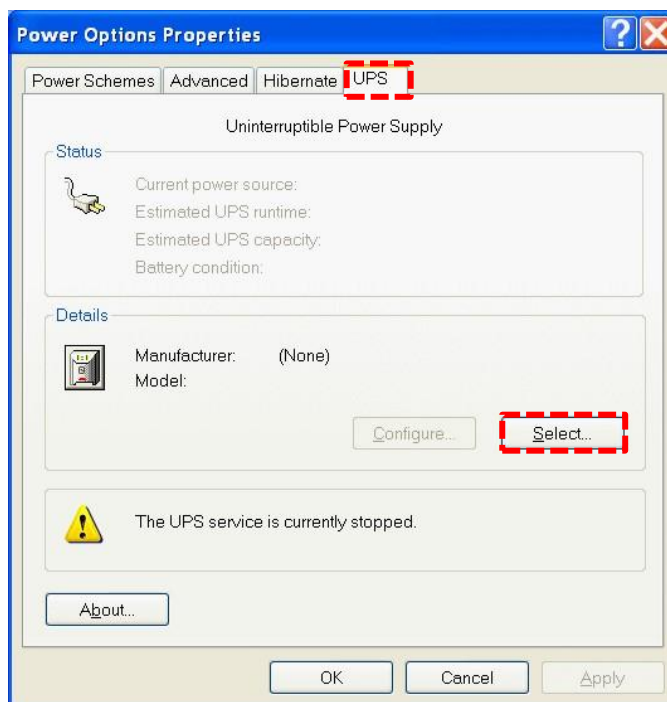
- ♦ Username: **Your-User-Name**
- ♦ Password: **Your-Password**

2.2. For Windows 2000: Select **Start > Settings > Control Panel > Power Options**.

2.3. For Windows XP: Select **Start > Control Panel > Performance and Maintenance > Power Options**.

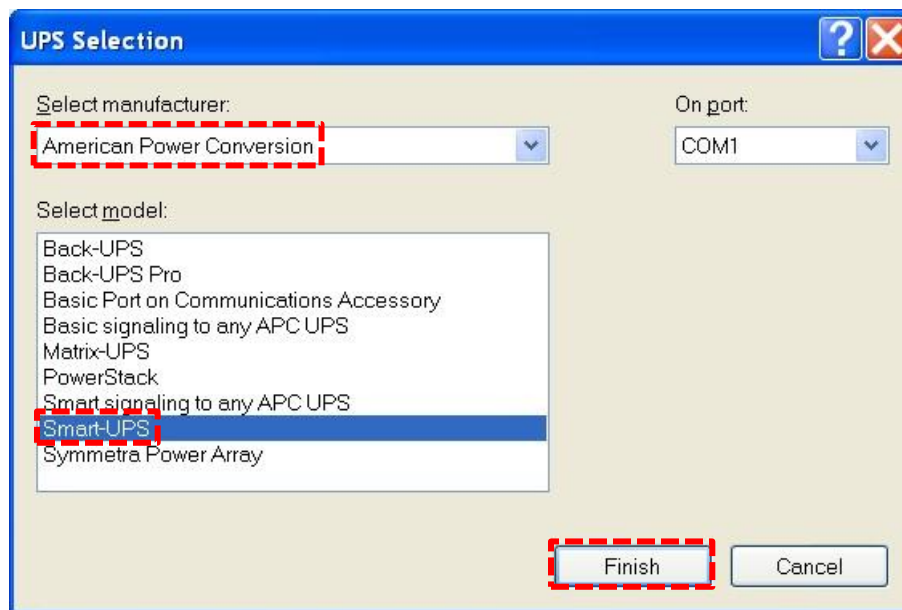
2.4. Select the **UPS** tab > **Select** button. See [Figure 14](#).

Figure 14: UPS Tab



- 2.5. Select **American Power Conversion** as the manufacturer. See [Figure 15](#).
- 2.6. Select **Smart-UPS** as the model.
- 2.7. Set the COM port to **COM1**.
- 2.8. Click **Finish**.

Figure 15: UPS Selection



- 2.9. Click **OK** in the Power Options window.
- 2.10. Close the Control Panel.

3. Set Up the Moxa Box

Figure 16: Moxa Box Ports and Indicators (new style)

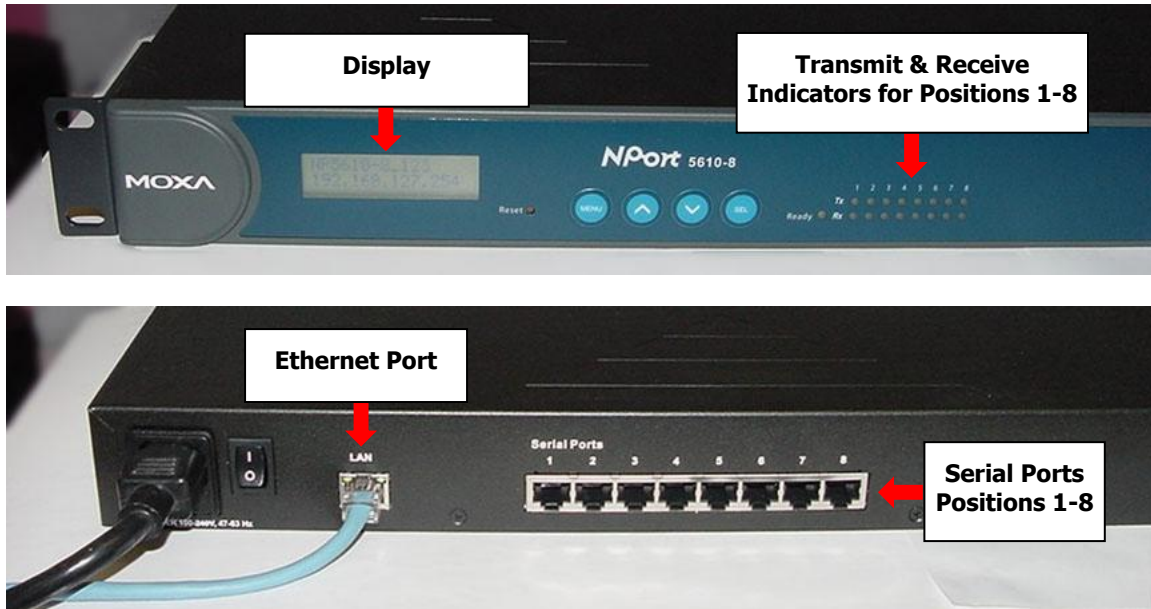


Table 1: Moxa Configuration

Model	NPort 5610-8	NPort 5610-16
Location	Electronics Rack	Front End
COM Port Assignment	5-11	11-27
IP Address	192.168.1.9	193.167.2.32
Setup Software	NPort Windows Driver Manager	

- 3.1. Set up device IP address. See [Figure 17](#) and [Figure 18](#).
 - 3.1.1. Do the following steps on NPort XXXX-X front panel:
 - 3.1.1.1. Press **Menu** button once.
 - 3.1.1.2. Use the **Up/Down** arrows to cycle to **IP Address** menu.
 - 3.1.1.3. Press **Sel** button.
 - 3.1.1.4. Use **Up/Down** arrows to cycle to IP Address menu.
 - 3.1.1.5. Press **Sel** button to select entry. The device IP address displays.

3.1.1.6. Use front panel buttons to change IP address to **192.168.1.9**.

3.1.1.7. Press **Menu** button to exit setup menu.

The new IP address will be displayed on main LCD screen.

Figure 17: MOXA Panel

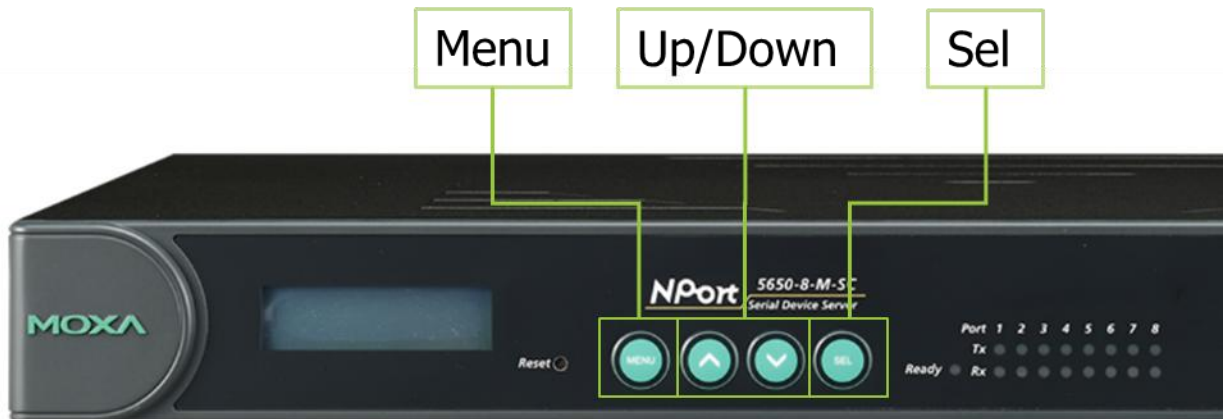
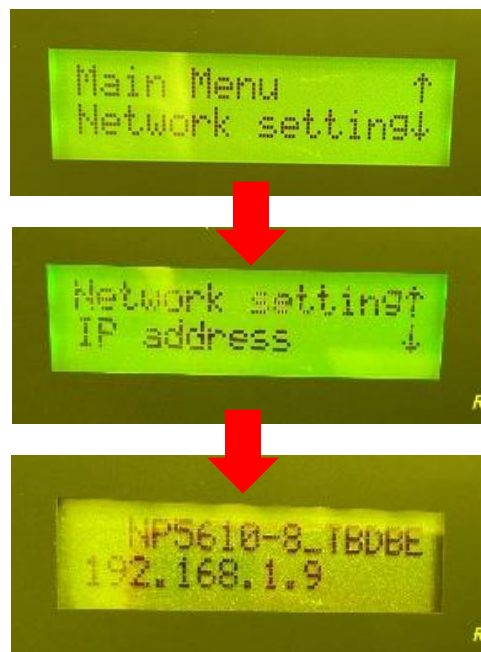


Figure 18: MOXA LCD



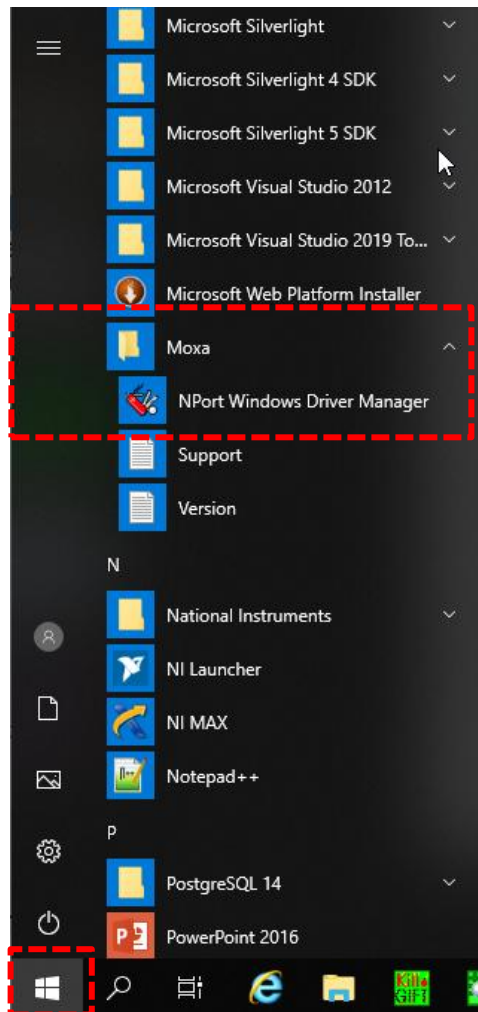
3.2. Launch Setup Program.

- 3.2.1. Verify that Moxa boxes are powered on.
- 3.2.2. If ECS is running > close it.
- 3.2.3. Restart system controller.
- 3.2.4. Log in to Administrator account:
 - ♦ Username: **Your-User-Name**
 - ♦ Password: **Your-Password**

3.3. Launch NPort Windows Driver Manager:

- 3.3.1. **Start > Programs > Moxa > NPort Windows Driver Manager.** See [Figure 19](#).

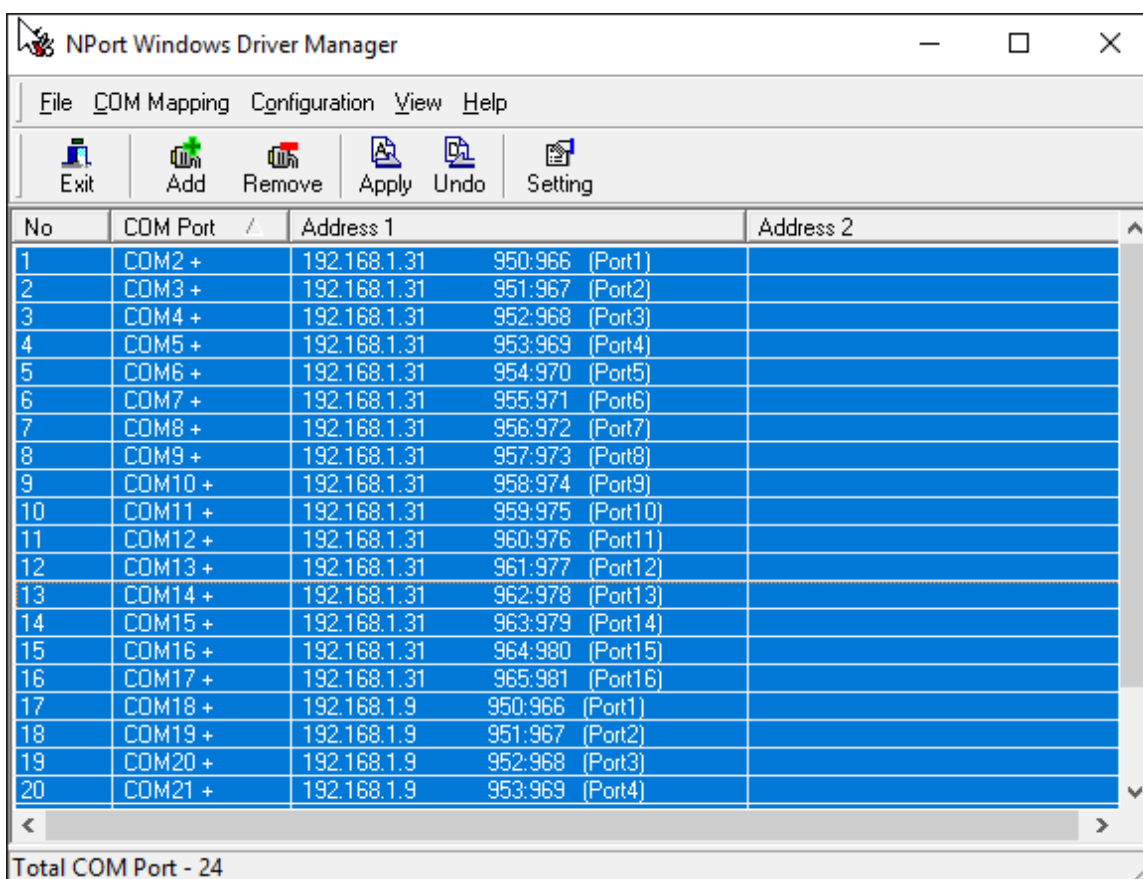
Figure 19: NPort Administrator



4. Set Up Moxa Configuration by Loading Configuration File

- 4.1. In NPort Windows Driver Manager, are the COM Ports already allocated?
 - ♦ Yes – Go to the next step.
 - ♦ No – Go to step 4.5.
- 4.2. Select all the COM ports as shown below.
- 4.3. Right-click the area you selected and select **Remove**.
- 4.4. Click the **Apply** button.
- 4.5. Select **Yes** to apply the changes. If some COM ports are still shown, repeat steps 4.2 – 4.4.

Figure 21: COM Ports Already Allocated



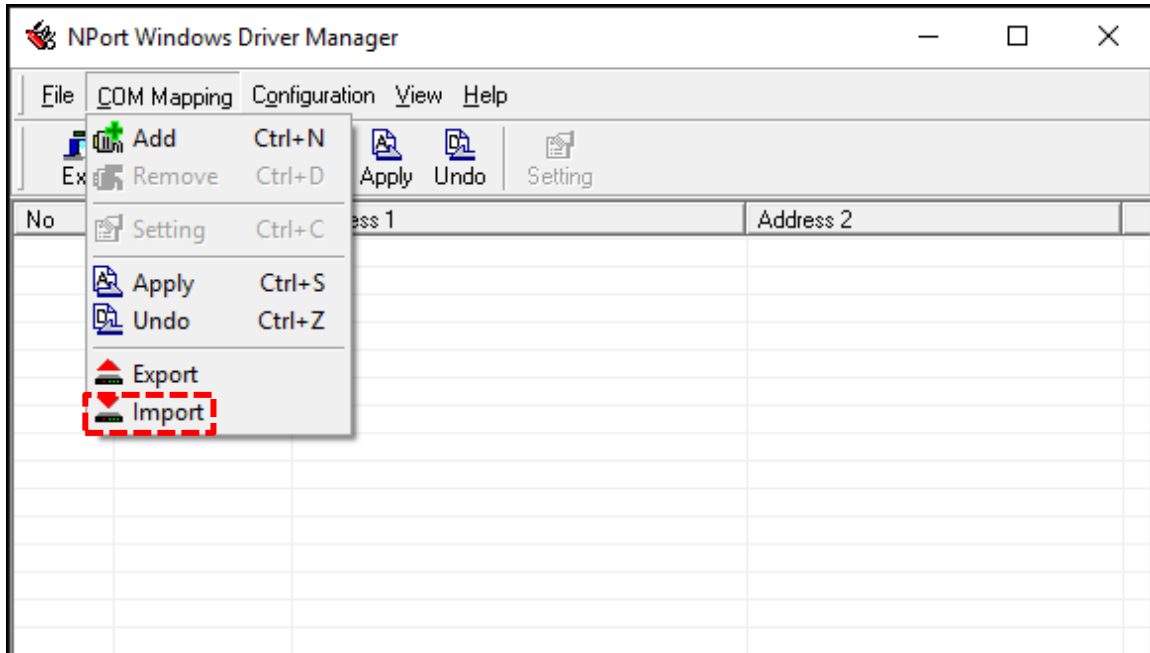
No	COM Port	Address 1	Address 2
1	COM2 +	192.168.1.31 950:966 (Port1)	
2	COM3 +	192.168.1.31 951:967 (Port2)	
3	COM4 +	192.168.1.31 952:968 (Port3)	
4	COM5 +	192.168.1.31 953:969 (Port4)	
5	COM6 +	192.168.1.31 954:970 (Port5)	
6	COM7 +	192.168.1.31 955:971 (Port6)	
7	COM8 +	192.168.1.31 956:972 (Port7)	
8	COM9 +	192.168.1.31 957:973 (Port8)	
9	COM10 +	192.168.1.31 958:974 (Port9)	
10	COM11 +	192.168.1.31 959:975 (Port10)	
11	COM12 +	192.168.1.31 960:976 (Port11)	
12	COM13 +	192.168.1.31 961:977 (Port12)	
13	COM14 +	192.168.1.31 962:978 (Port13)	
14	COM15 +	192.168.1.31 963:979 (Port14)	
15	COM16 +	192.168.1.31 964:980 (Port15)	
16	COM17 +	192.168.1.31 965:981 (Port16)	
17	COM18 +	192.168.1.9 950:966 (Port1)	
18	COM19 +	192.168.1.9 951:967 (Port2)	
19	COM20 +	192.168.1.9 952:968 (Port3)	
20	COM21 +	192.168.1.9 953:969 (Port4)	

Total COM Port - 24

4.6. Assign an IP Address as follows:

4.6.1. Select **COM Mapping > Import**.

Figure 22: Import



The Select Import File window appears. See [Figure 21](#).

4.6.2. Click the **Browse** button.

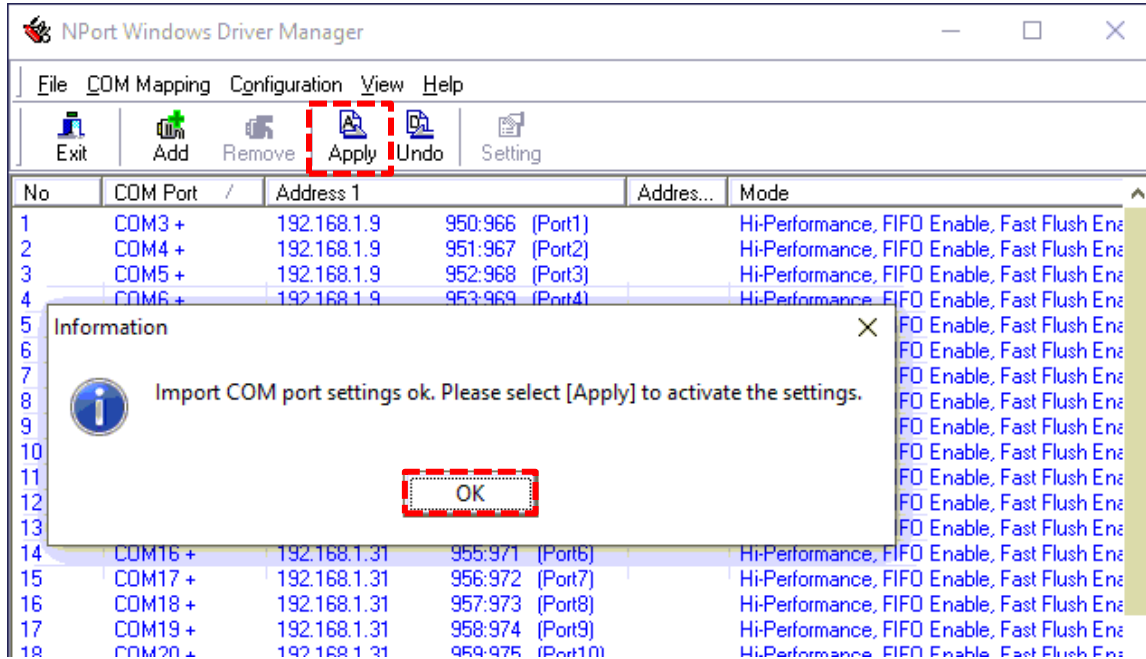
Figure 21: Select Import File



4.6.3. Navigate to folder **C:\Program Files (x86)\Equipment\Software\FirmwareManagement\SubSystemFirmware\LP\Moxa** Select the **Moxa_Configuration.ini** file.

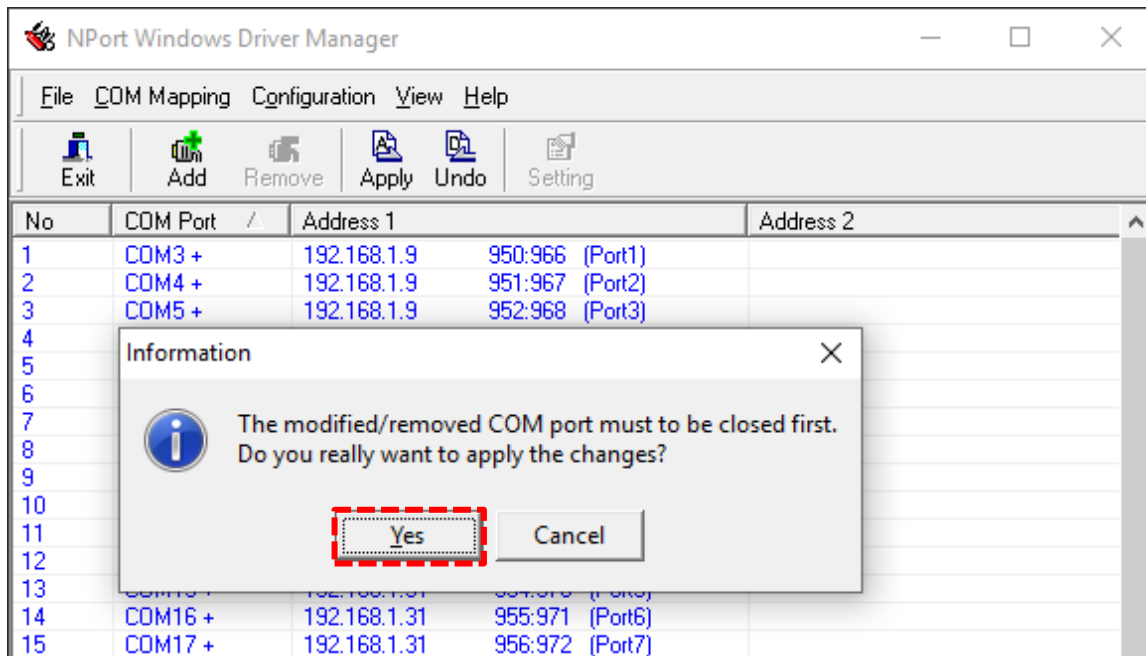
4.6.4. Click **OK** on Information pop-up window > click **Apply** button on NPort Windows Driver Manager window.

Figure 22: Information Window



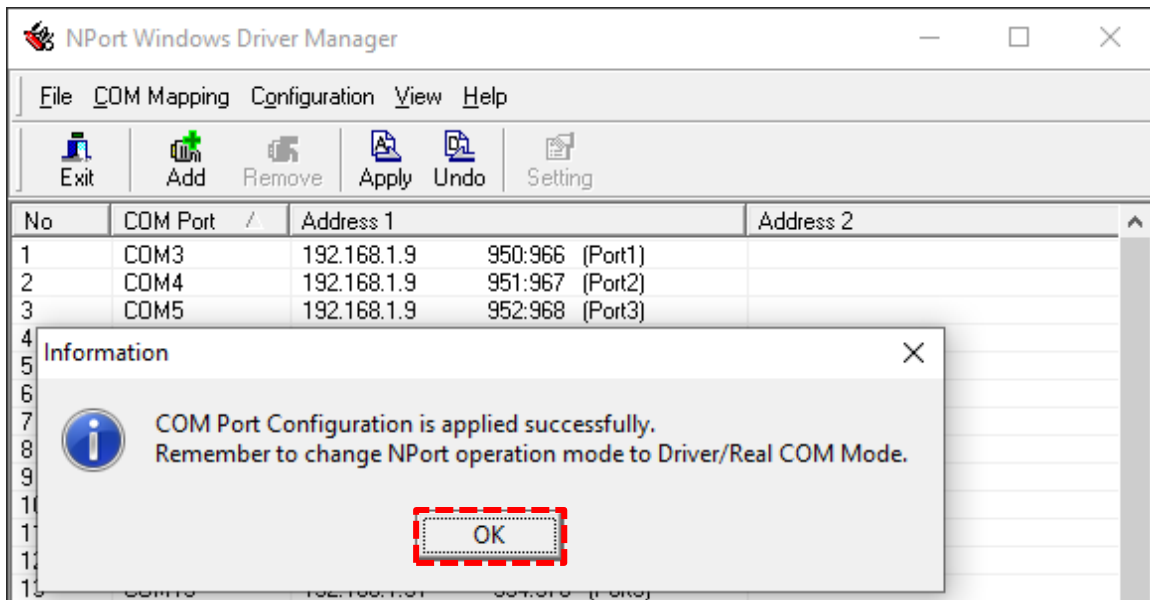
4.6.5. Click **Yes** to apply changes in Information pop-up window.

Figure 23: Information Window



4.6.6. Click **OK** at the Information pop-up window.

Figure 24: Information Window



4.6.7. Select **File > Exit**.

Figure 25: Exit NPort Windows Driver Manager

