

Software Manual
**Virtual COM for Ethernet
Driver Configuration Tool**

Ver. 1.01

AP3

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1. Manual Information

This manual provides information on the usage of the “Virtual COM for Ethernet Driver” and “Configuration Tool” software associated with Ethernet interface use on AP3 printers.

This software can be used to set and use the Ethernet interface via the serial communication mode.

2. Usage Environment

2-1 Operating System Environment

Microsoft Windows XP SP3 (32bit), SP1 (64bit)
Microsoft Windows Server 2003 SP1 (32bit)
Microsoft Windows Server 2003 (64bit)
Microsoft Windows VISTA (32bit, 64bit)
Microsoft Windows Server 2008 (32bit, 64bit)
Microsoft Windows Server 2008 R2 (64bit)
Microsoft Windows 7 (32bit, 64bit)
Microsoft Windows 8 (32bit, 64bit)
Microsoft Windows Server 2012 (64bit)
Microsoft Windows 10 (32bit, 64bit)

2-2 Supported Printer Models

- The “Virtual COM for Ethernet Driver” software can be used only with Ethernet-supported printers.

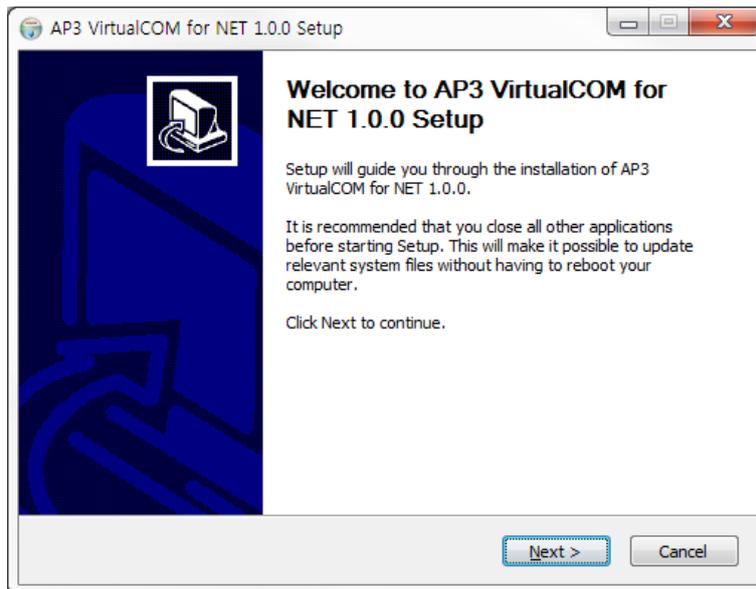
AP3 Printer(Only Ethernet Model)
AP3-3 Printer(Only Ethernet Model)

3. Software Installation & Uninstallation

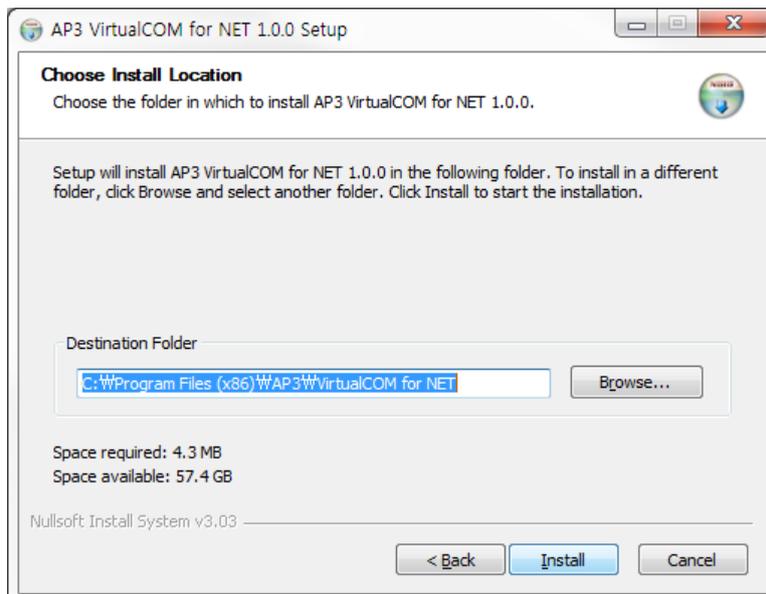
This document is based on Windows 7.

3-1 Installation

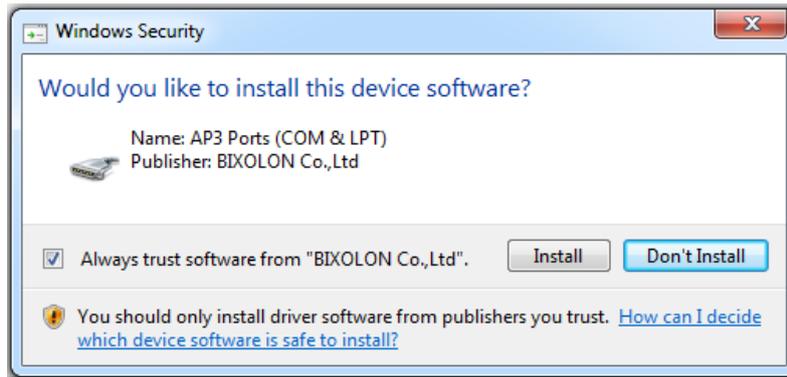
- 1) Execute the installation file.
- 2) Click the “Next” button.



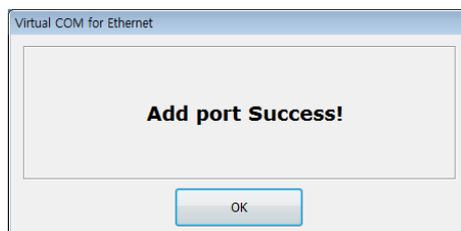
- 3) Clicking the “Install” button begins the installation process.



4) When the following message appears, click the “Install” button.

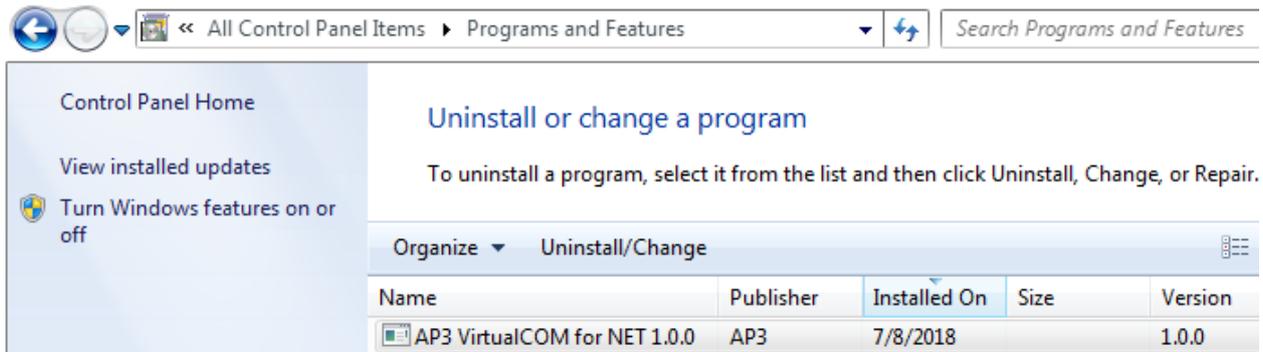


5) The following message appears upon the successful completion of installation.

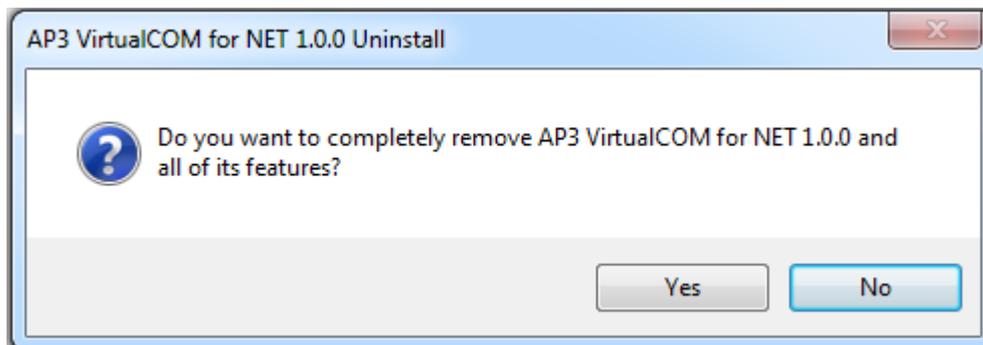


3-2 Uninstallation

- 1) Click and activate the “Uninstall a program” or “Programs and Features” icon in the Control Panel.
- 2) Select “Virtual COM for Ethernet Driver” and click the “Uninstall” button.



- 3) Click the “Yes” button to completely remove the application.

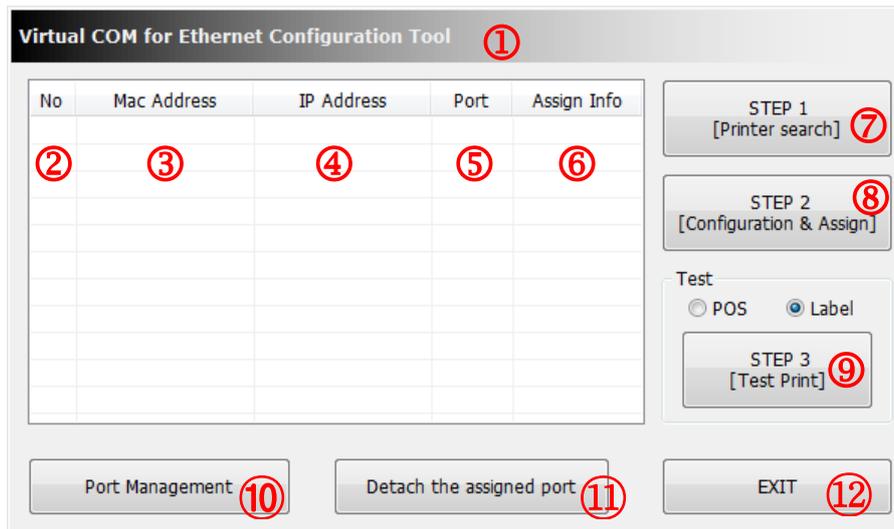


4. Configuration Tool Usage

The “Configuration Tool” program can be used to create a serial port, and set and/or delete printer devices.

4-1 Configuration Tool Functions

- Select from “Start ► All Programs ► AP3 ► “Virtual COM for Ethernet Driver” and open “VCOM4NET Configuration Tool”.



The “Configuration Tool” functions are described as follows.

- ① Main Screen
 - This is the main screen of the “Configuration Tool” program.
- ② Printer Device Sequence Number
 - This function displays the connection sequence of printer devices.
- ③ Mac Address of the connected Printer via the Ethernet interface
 - This function displays the printer device models that are turned on and connected via the Ethernet interface.
- ④ IP Address
 - This function displays the current IP Address of the connected printer via the Ethernet Interface.
- ⑤ Port Number
 - This function displays the current Port Number of the connected printer via the Ethernet Interface.
- ⑥ Assigned Info
 - This function displays the current set virtual COM port number. If one is not set, the status is shown as “Not Assigned”.

- ⑦ STEP 1 – Printer Search
 - This function is used to search the printer device models that are turned on and connected via the Ethernet interface.

- ⑧ STEP 2 – Configuration & Assign
 - This function is used to configure the Ethernet Interface and the Virtual COM port Number.

- ⑨ STEP 3 – Test Print
 - This function is used to perform a print test on the printer selected in the list box. The serial port must be set in order to perform a print test.

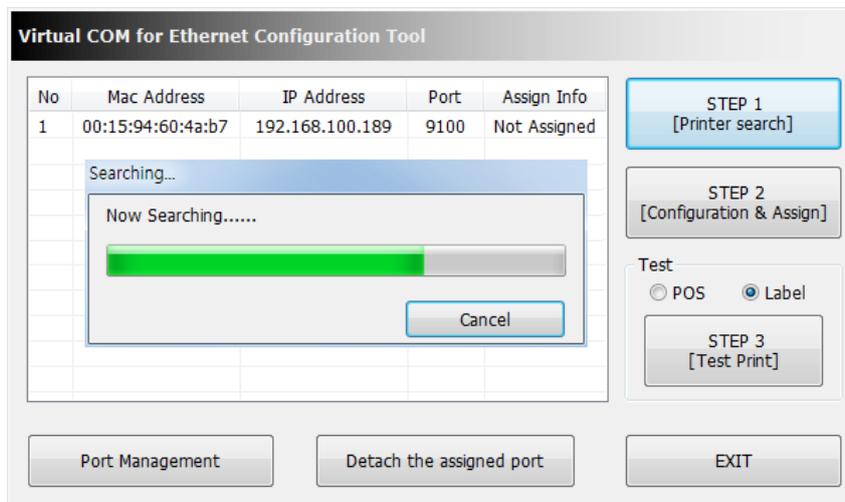
- ⑩ Port Management
 - This function is used to add/remove virtual COM ports.

- ⑪ Detach the assigned port
 - This function is used to disconnect a connection between a printer selected in the list box and a virtual COM port.

- ⑫ Exit
 - This function is used to exit the “Configuration Tool” program.

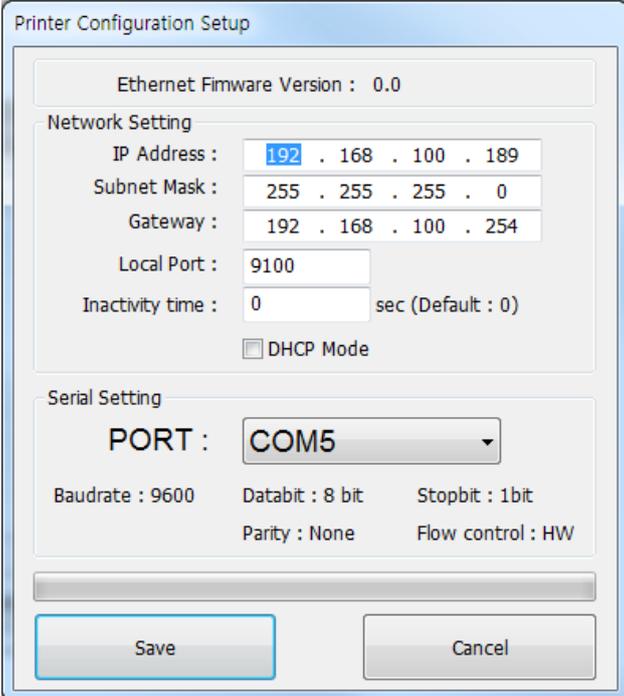
4-2 Printer Search

- The “Configuration Tool” program is used to search printers. To search the connected printer via Ethernet interface, click the “STEP 1 – Printer Search” button in the “Configuration Tool”. The following window appears while searching printers.



4-3 Configuration of the Ethernet and the Virtual COM Port

- To configure the Ethernet and the Virtual COM port, click the “STEP 2 –Configuration & Assign” button in the “Configuration Tool”. Clicking the Configuration” button brings up the following dialog box.



The dialog box is titled "Printer Configuration Setup". It contains two main sections: "Network Setting" and "Serial Setting".

Network Setting:

- Ethernet Firmware Version : 0.0
- IP Address : 192 . 168 . 100 . 189
- Subnet Mask : 255 . 255 . 255 . 0
- Gateway : 192 . 168 . 100 . 254
- Local Port : 9100
- Inactivity time : 0 sec (Default : 0)
- DHCP Mode

Serial Setting:

- PORT : COM5 (selected in a dropdown menu)
- Baudrate : 9600
- Databit : 8 bit
- Stopbit : 1bit
- Parity : None
- Flow control : HW

At the bottom, there are two buttons: "Save" and "Cancel".

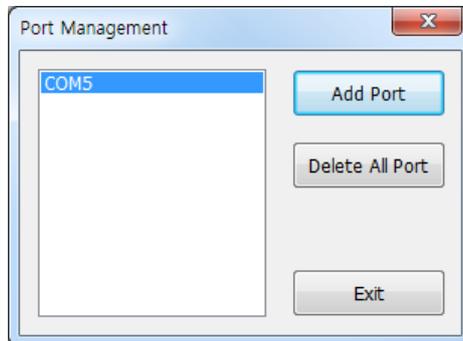
- 1) Enter the IP Address, Subnet Mask, Gateway, Local Port, and Inactivity Time in the Network Setting section of the Ethernet interface settings.
- 2) Select the port number to be used from the serial ports list.
- 3) After settings, click the “Save” button.



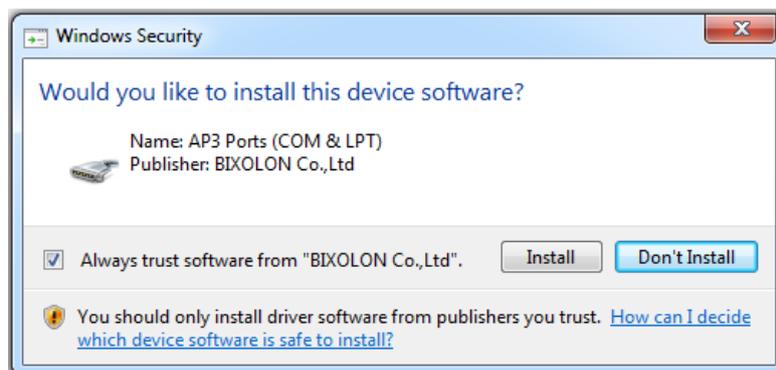
- For information regarding the “Network Setting” section, submit an inquiry to the network administrator of the corresponding area.
- When connecting a virtual COM port, if the corresponding port is connected to another printer, the existing connection is automatically disconnected and the connection is made to the selected printer.
- Following the saving of settings, a printer search is repeated.

4-4 Virtual COM Port Addition

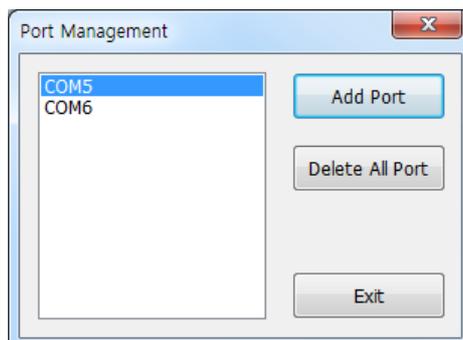
- The “Configuration Tool” program is used to add a virtual COM port. To create a port, click the “Port Management’ button in the “Configuration Tool”.
- 1) Clicking the “Port Management” button of the “Configuration Tool” brings up the following dialog box.



- 2) Click the “Add Port” button to add a port.
Click the “Install” when “Windows Security” screen below appears.



- 3) If the port has been added successfully, the virtual COM port added will appear as follows.

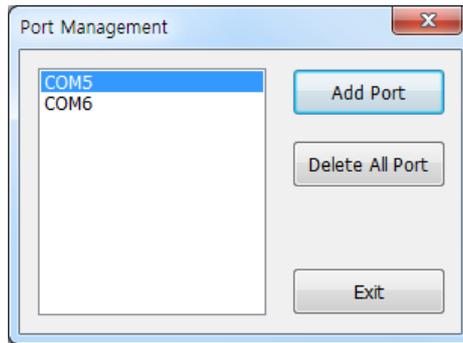


Note

- A port number is determined by operating system.
- Refer to section 5 (Virtual COM Port Management) of this manual for information on modifying the virtual COM port number.

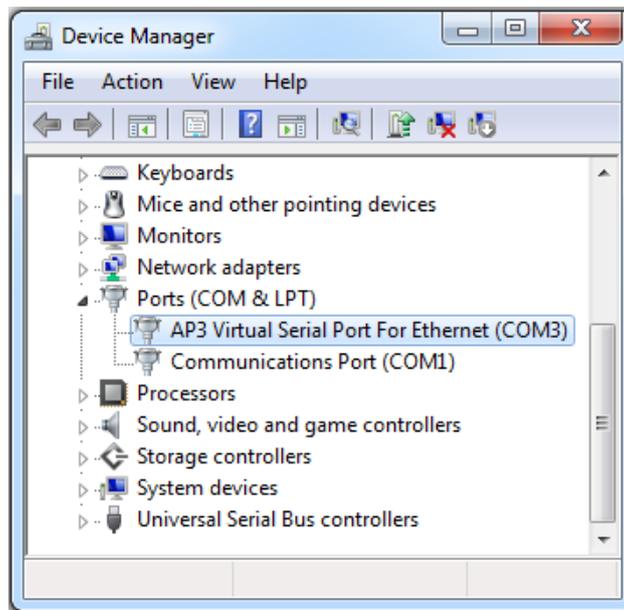
4-5 Virtual COM Port Deletion

- Click the “Port Management” button to delete the connection settings of virtual com ports. The “Delete All Port” button can be used to delete all virtual COM ports.



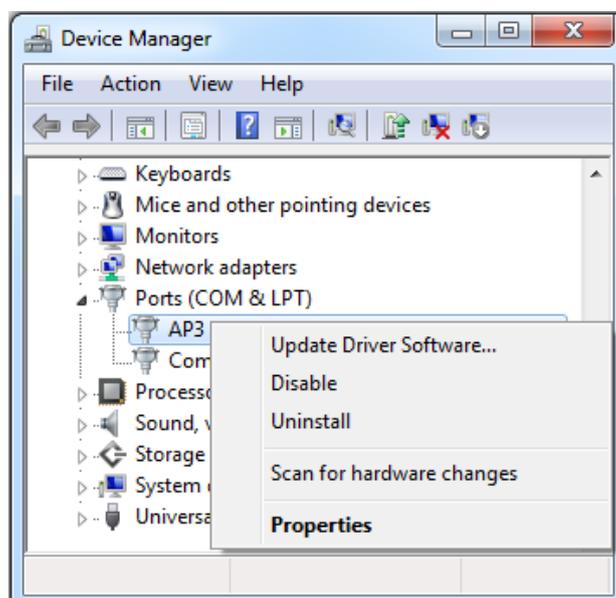
5. Virtual COM Port Management

- 1) Port number modification, port deletion, and serial communication setting are done via the Device Manager.
- 2) Control Panel ► System ► Device Manager: Upon examination of the ports (COM & LPT) section, the port(s) added previously via the “Configuration Tool” program can be seen.



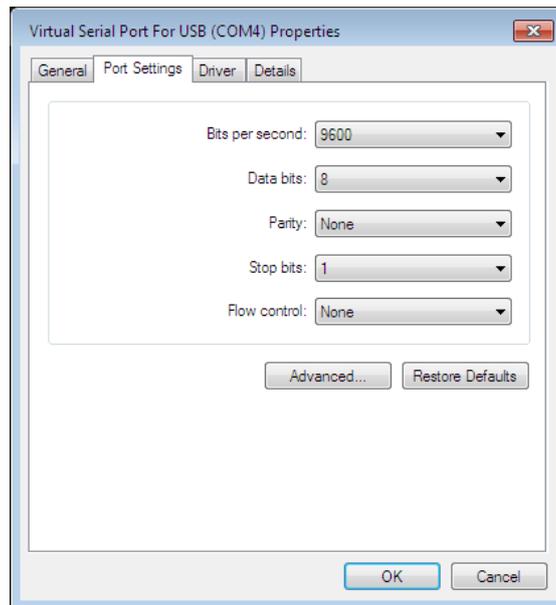
5-1 Port Deletion Via the Device Manager

- 1) Select the virtual COM port to be deleted and click the right mouse button. On the popup menu, select “Uninstall” to delete the port.
- 2) Following deletion, the “Configuration Tool” program must be executed, and the changes must be updated.

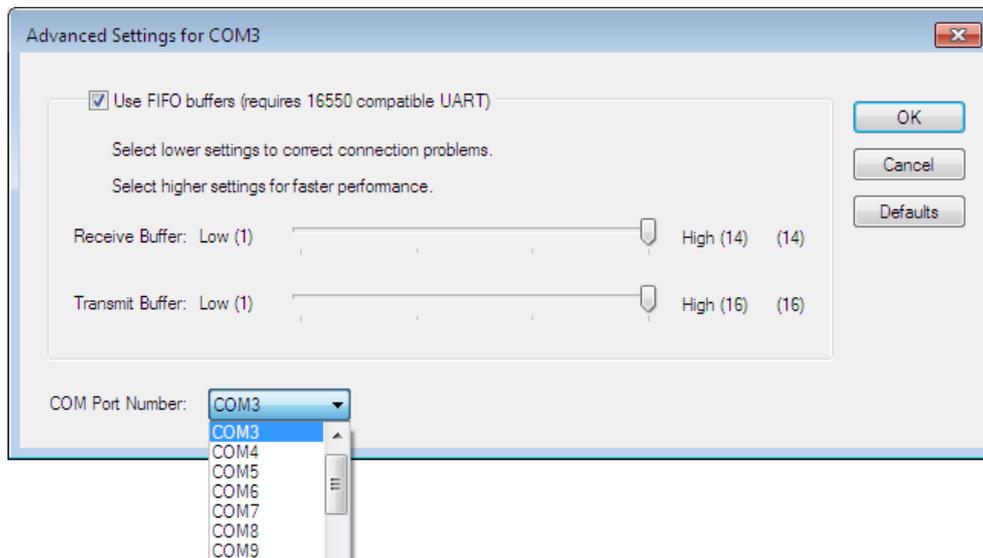
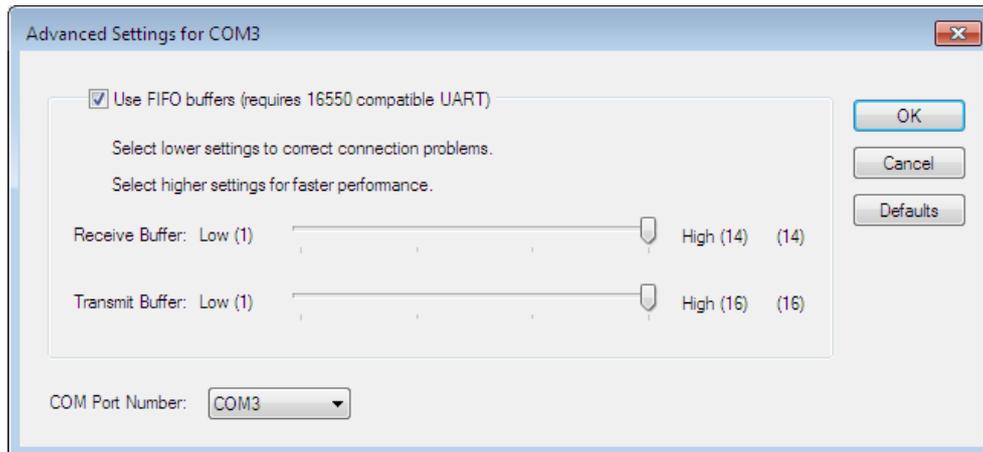


5-2 Port Setting/Number Modification Via the Device Manager

- 1) Select the desired virtual COM port and click the right mouse button.
On the popup menu, select “Properties”.
- 2) In the “Properties” window, click the “Port Settings” tab.
- 3) The “Port Settings” tab can be used to set the baud rate, data bits, parity, stop bits, and flow control of a port.



- 4) Click the “Advanced” button to modify the port number and/or designate buffer settings. Modification of buffer settings is not recommended. The COM port number is changed by selecting a number in the combo box.



Following port modifications, the settings utility must be run to update changes. If a printer was connected previously, the connection setting must be disconnected.



- A port not in use must be selected.
- Following port modification, clicking the “Yes” button can result in the appearance of a warning message. Click the “Yes” button to finalize and set the modified information and settings. Port modification on certain operating systems will require the repeat opening of the Device Manager to confirm changes.



After deleting a virtual COM port, the “Configuration Tool” program must be executed to update the Virtual COM for Ethernet Driver, and directly deleted connection information must be removed.

6. Win32 API

The “Virtual COM for Ethernet Driver” program can be used in serial communication programming. Refer to Microsoft MSDN regarding the Win32 API for serial communication.

6-1 File I/O API

API Name	Supported
CreateFile	O
WriteFile	O
ReadFile	O
CloseHandle	O

O : Supported, X : Unsupported

6-2 Communication API

API Name	Supported
BuildCommDCB	O
BuildCommDCBAndTimeouts	O
CommConfigDialog	O
DeviceIoControl	O
GetCommModemStatus	O
GetCommState	O
GetCommTimeouts	O
PurgeComm	O
SetCommState	O
SetCommTimeouts	O

O : Supported, X : Unsupported

6-3 Precautions for Serial Communication Programming

- When calling CreateFile function, you must prefix the port name with “\\.\.” depending on the range of COM port numbers. For details, refer to the ‘port name format’ below.

* Port name format

- COM1 ~ COM9 : “COM1” ~ “COM9”

- **COM10 ~ COM256** : “\\.\COM10” ~ “\\.\COM256”

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Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer "OFF", before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer "OFF".

