Software Manual
Virtual COM for USB Driver Configuration Tool

Ver. 1.01

AP3

Table of Contents

1. Manual Information

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

This software can be used to set and use the USB 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 USB Driver" software can be used only with USB-supported printers.

AP3 Printer
AP3-3 Printer

# 3. Software Installation & Uninstallation

This document is based on Windows 7.

3-1 Installation

1) Execute the installation file.

2) Click the "Next" button.
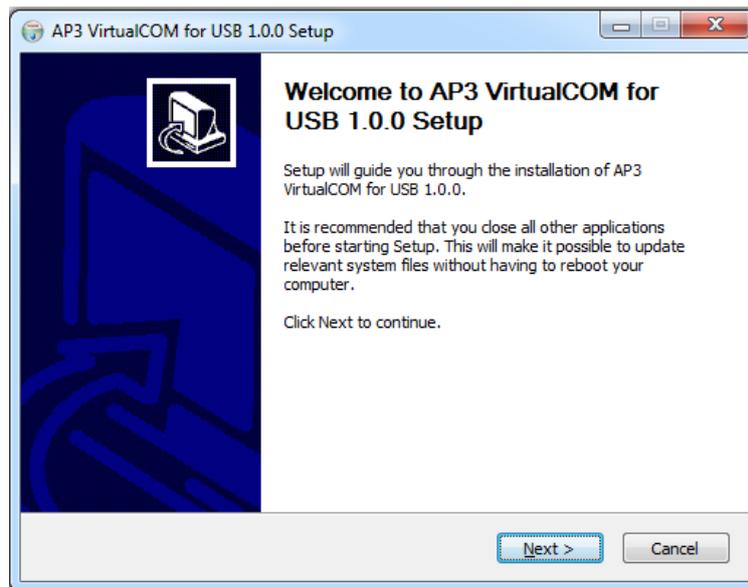
3) Clicking the "Install" button begins the installation process.
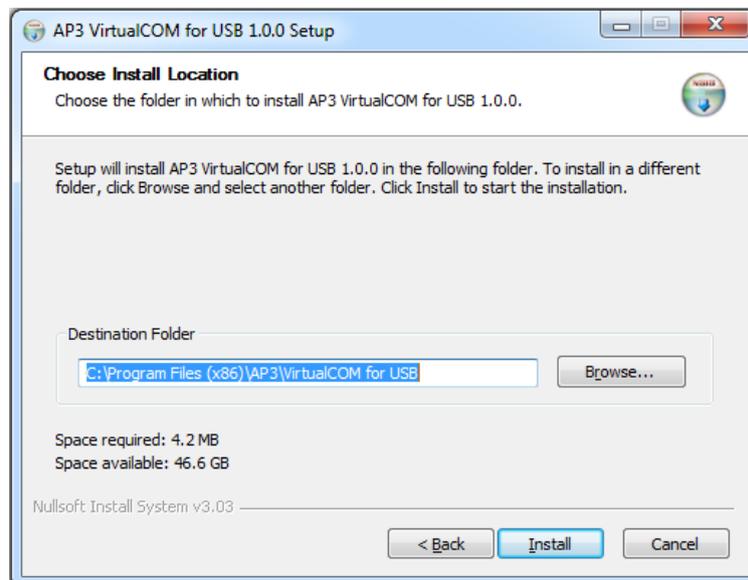
4) The following message appears upon the successful completion of installation.
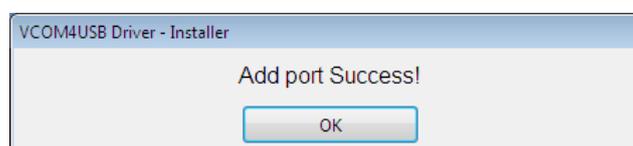
3-2 Uninstallation

1) Click and activate the "Uninstall a program" or "Programs and Features" icon in the Control Panel.

2) Select "Virtual COM for USB Driver" and click the "Uninstall" button.
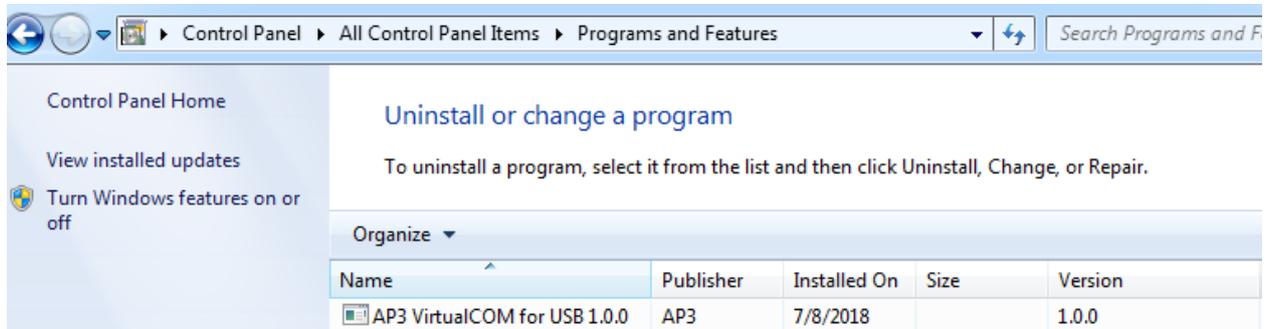
3) Click the "Yes" button to completely remove the application.
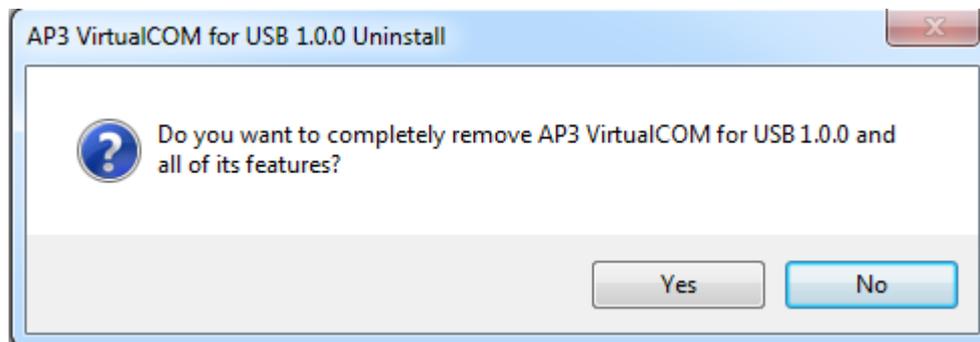
# 4. Configuration Tool Usage

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 USB Driver" and open "Configuration Tool".
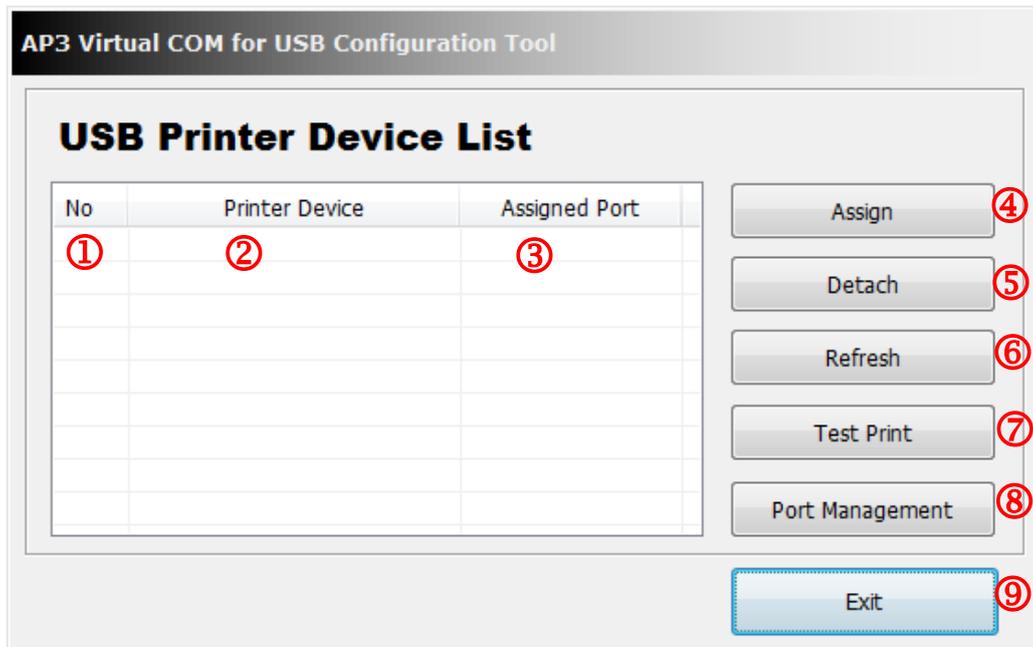
The "Configuration Tool" functions are described as follows.

① Printer Device Sequence Number
- This function displays the connection sequence of printer devices.

② Printer Device Name
- This function displays the printer device models that are turned on and connected via the USB interface.

③ Assigned Port
- This function displays the currently set virtual COM port number. If one is not set, the status is shown as "Not Assigned"

④ Assign
- This function is used to establish a connection between a printer selected in the list box and a registered virtual COM port.

⑤ Detach
- This function is used to disconnect a connection between a printer selected in the list box and a virtual COM port.

⑥ Refresh
  - This function is used to update the USB printer device list shown in the list box and set port information.

⑦ 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.

⑧ Port Management
  - This function is used to add/remove virtual COM ports.

⑨ Exit
  - This function is used to exit the "Configuration Tool" program.

4-2 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.
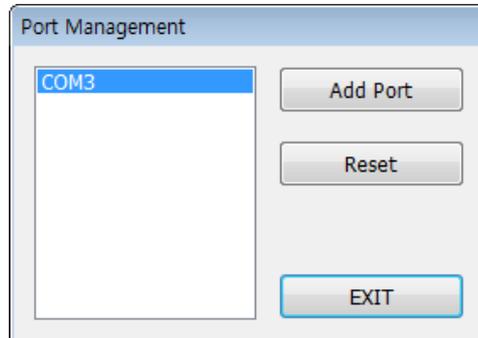
2) Click the "Add Port" button to add a port.

3) If the port has been added successfully, the virtual COM port added will appear as follows.
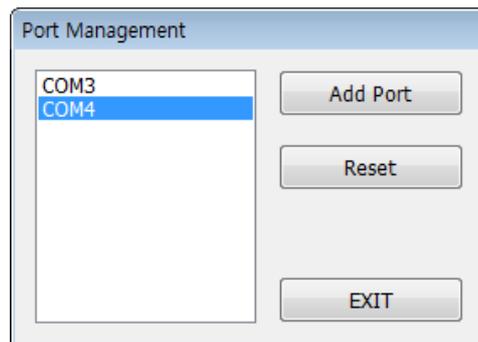
⚠ **Note**	- A port number is determined by operating system. - Refer to section 5 (Virtual COM Port Management) of this manual for information on modifying the virtual COM port number.

4-3 Printer Port Connection
• To use the added serial port and printer, click the "Assign" button and set the connection.
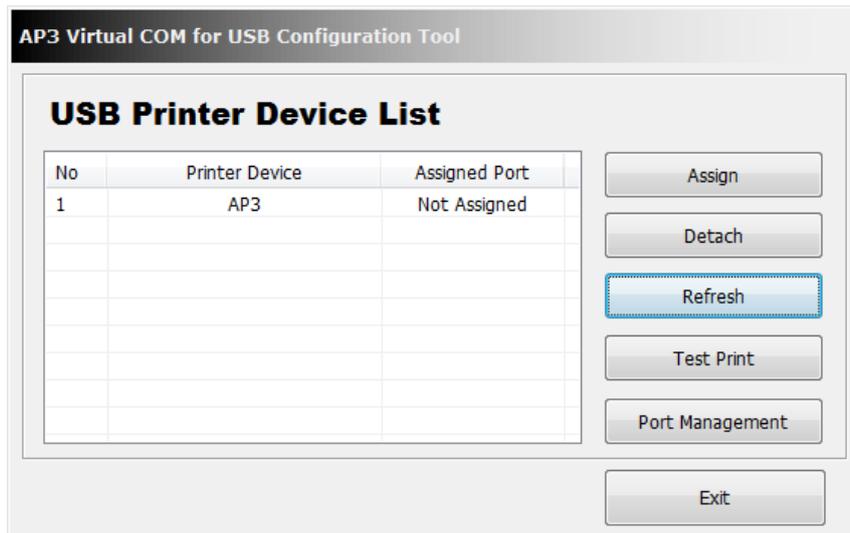
1) Select the printer to be connected from the list, and click the "Assign" button to bring up a dialog box.

2) Select the port number to be used among the virtual COM ports added via "Port Management" and click the "OK" button to automatically update the "Assigned Port" section of the main screen.
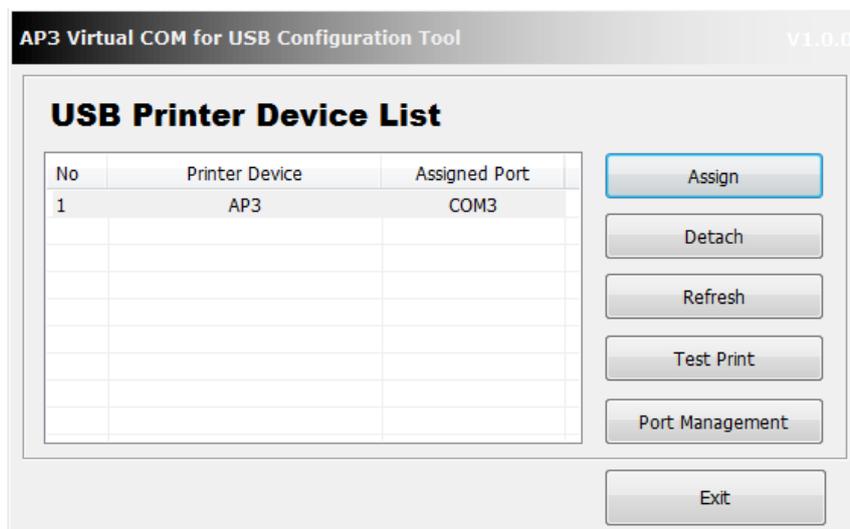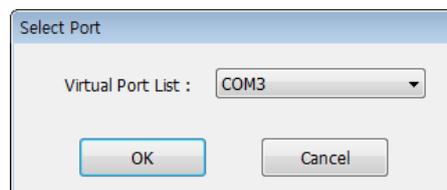
| ⚠️**Note** | When connecting a virtual COM port, if another printer is connected to the corresponding port, that existing connection is automatically disconnected, and the connection is established with the selected printer. |

4-4 Printer Port Disconnection

• Select the printer to be disconnected from the list of printers connected via virtual COM ports. Click the "Detach" button to disconnect the previously connected virtual COM port. This will result in reversion of the "Assigned Port" status of the printer to "Not Assigned".
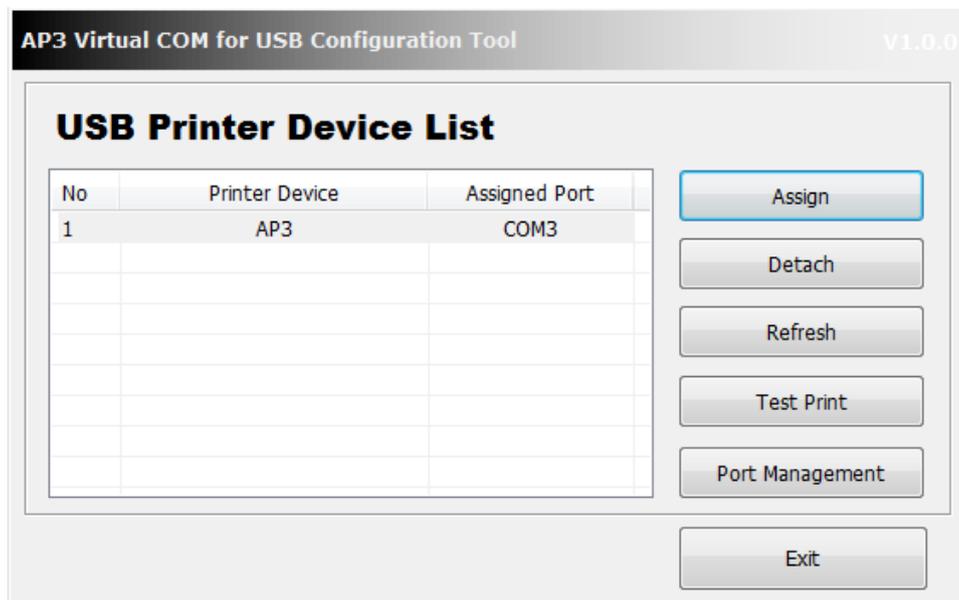
⚠ Note	- Although the port setting of the printer has been disconnected, the virtual COM port is not deleted. - The "Port Management" function can be used to delete all ports, or the Device Manager can be used to manually delete selected ports.

4-5 Print Test

• The "Test Print" button can be used to check the communication status between the printer and the virtual COM port.

4-6 Virtual COM Port Deletion

• Click the "Port Management" button to delete the connection settings of virtual COM ports. The "Reset" button can be used to delete all virtual COM ports and connected printer information.
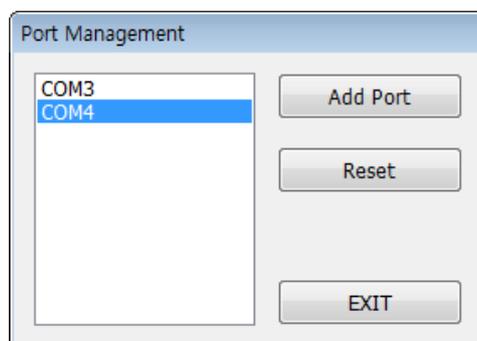
5. Virtual COM Port Management

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.
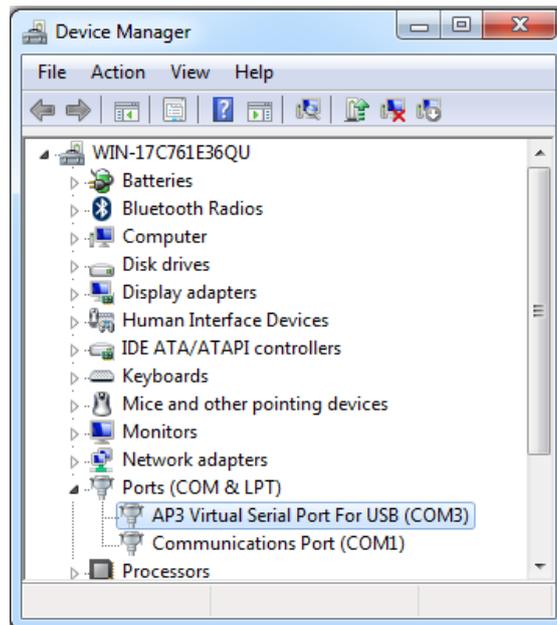
5-1 Port Deletion Via the Device Manager

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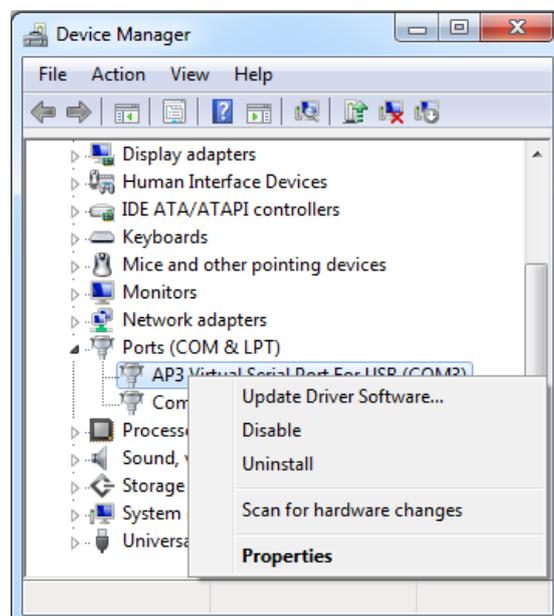
5-2 Port Setting/Number Modification Via the Device Manager

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.
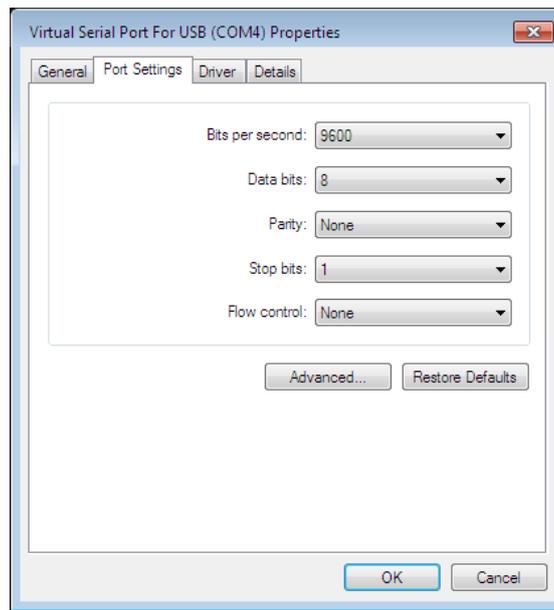
4) Click the "Advanced" button to modify the port number and/or designate buffer settings. Modification of buffer settings is not recommended. The COM port number is changed by selecting a number in the combo box.
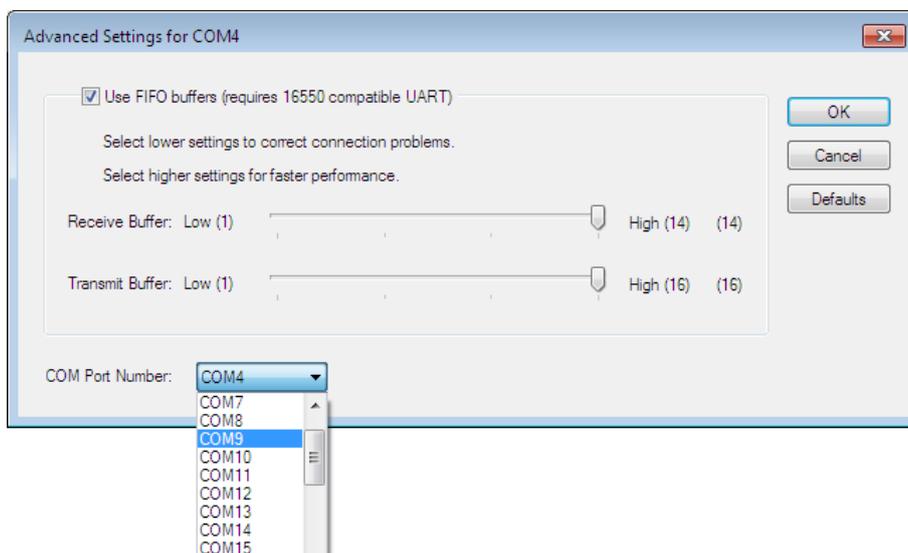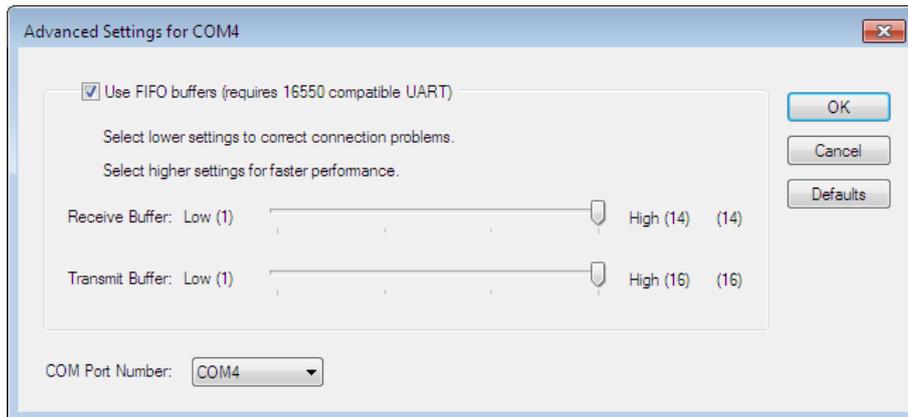
Following port modifications, the settings utility must be run to update changes.
If a printer was connected previously, the connection setting must be disconnected.

⚠️ Caution	- 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.

⚠️ Warning	**After deleting a virtual COM port, the "Configuration Tool" program must be executed to update the Virtual COM for USB Driver, and directly deleted connection information must be removed.**

6. Win32 API

The "Virtual COM for USB 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".

Revision history

Ver.	Date	Page	Description
1.00	17.07.18	-	New
1.01	24.04.19	4	Add AP3-3