

Ethernet user manual

RIF-350E/STD (10Base-T)



[Front picture]



[Rear picture]

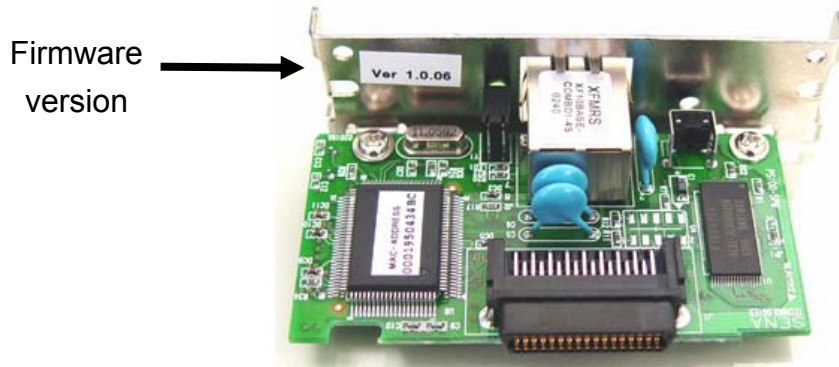
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1. Hardware & Software

1. Hardware (Ethernet interface card)

- 1) Model name: [RIF-350E/STD](#) (10Base-T)
- 2) Firmware version: [V2.0.0](#) (Marked on the metal bracket as below)



2. Software

1) Configurator

- It sets IP address and communication conditions of Ethernet.
- Software name: [Configurator_Vxxx.exe](#)

2) Virtual drivers

- It converts output of Serial(COM) port into output of Ethernet (TCP/IP) port.
- Software name: [Serial_IP_Vxxx.exe](#)
- Applicable operating systems: [Win XP, 2000, 98](#)

Note 1

- 1) The drivers specified above are only for Firmware [V2.0.0](#) or later version.
- 2) In case of previous version earlier than V2.0.0, use the following drivers.
[VirtualCOM_XP_Vxxx.exe](#): Win XP
[VirtualCOM_9X_Vxxx.exe](#): Win 98
- 3) It is recommended to install only one Virtual driver that fits your application to make sure the security of operation.

2. Applicable printers

1. SRP-350 : 1 station thermal receipt printer
2. SRP-270A/C/D : 1 station impact receipt printer

3. Specifications

1. Class: 10Base-T (10Mbps), IEEE802.3
2. Protocol: IP/ICMP/ARP, TCP/IP (Data, Telnet), UDP (Utility, DHCP)
3. IP mode
 - Static IP
 - DHCP (Dynamic Host Configuration Protocol)
4. RJ45 Connector: XF10BASE-COMBO1-4S
5. CPU: Rabbit2000 (8bit microprocessor), Ethernet Chip (RTL8019AS)
6. PC data RX buffer: 2400 Byte
7. Printer data RX buffer: 2048 Byte
8. RAM (168Kbyte), ROM (256Kbyte), Serial Connector (DHB-RA34)
9. Serial: Full-duplex, RTS/CTS flow control

4. How to install

1. Install Ethernet interface card with the printer in use.
 - 1) Printer power must be off and LAN cable disconnected before install.
2. Set the communication conditions by using dip switch laid on printer bottom
 - 1) Transmission speed: [57,600 bps](#) (Maximum bps available)
 - 2) Handshaking: [DTR/DSR \(RTS/CTS\)](#)
 - 3) [8](#) data bit
 - 4) [None](#) parity
 - 5) Refer to [appendix # 1. Printer dip switch setting](#)
3. Connect LAN cable to Ethernet card and turn on the printer.
 - 1) [Direct cable \(1 to 1 cable\)](#) recommended to connect to Hub.
 - 2) Cross cable recommended to connect to PC LAN card direct.
4. Set the communication conditions of Ethernet card by using [Configurator_Vxxx.exe](#) as shown in the below picture.
 - 1) Refer to [appendix # 2. Ethernet interface card setup](#)

The screenshot shows the 'Configurator V1.2.1' window with the following settings:

- Ethernet address: 00-01-95-05-22-24
- IP Mode: Static IP
- IP Address: 192 , 168 , 100 , 134
- Subnet mask: 255 , 255 , 255 , 0
- Default gateway: 192 , 168 , 100 , 254
- TCP port: 6000
- Multi TCP Session: ☒
- Baud rate: 57600
- Data bit: 8 Bit
- Parity: None
- Stop bit: 1 Stop
- Flow Control: Hardware
- Inactivity timeout: 0
- Received response: (empty text box)
- Buttons: Get parameters, Set parameters, Change admin username & password, Close

5. Installation instruction per each operating system and use of printer Windows driver.

Operating system	Use of printer driver	Instruction	Reference data
Win XP Win 2000	Use	1. Install printer driver 2. Add standard TCP/IP port	Appendix 3
	Out of use	1. Install virtual driver	Appendix 4 Appendix 5
Win 98	Use	1. Install virtual driver 2. Install printer driver	Appendix 4 Appendix 6
	Out of use	1. Install virtual driver	Appendix 4 Appendix 6

6. When develops application program in use of TCP/IP protocol, refer to [Appendix 7. TCP/IP protocol](#)

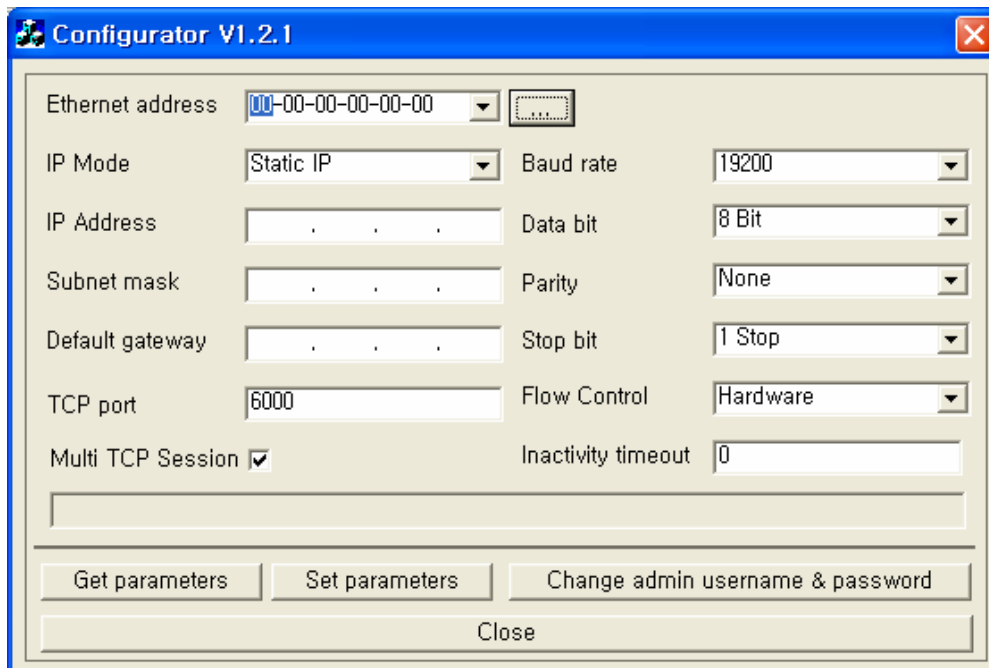
[Appendix 1] Printer dipswitch setting

Printer Model	Baud rate(bps)				Hand shaking & parity
SRP-350					DTR/DSR : SW1-3 off 8 data bit : SW1-4 off None parity : SW1-5 off
	bps	SW1-7	SW1-8	Firmware version	
	19200	Off	Off	Version earlier than V6.28	
	9600	On	Off		
	4800	Off	On		
	2400	On	On		
	57600	off	on	Version later than V6.29	
	38400	on	on		
	19200	off	off		
9600	on	off			
SRP-270					DTR/DSR : SW2-3 off 8 data bit : SW1-4 off None parity : SW1-5 off
	bps	SW2-7	SW2-8		
	9600	Off	Off		
	4800	On	Off		
	2400	Off	On		
	19200	On	On		

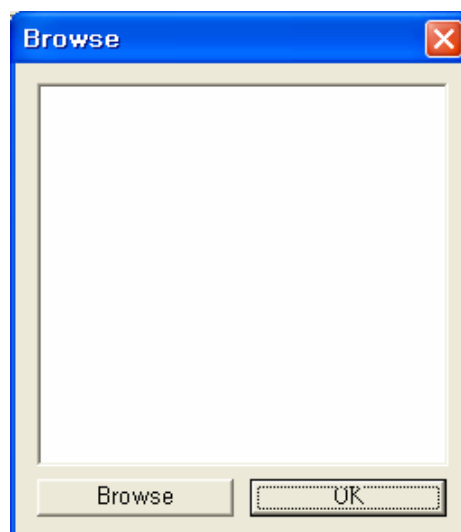
[Appendix 2] Ethernet interface card setup

Preset : Install Ethernet interface card to the printer and connect LAN cable referring to Article 4. How to install process.

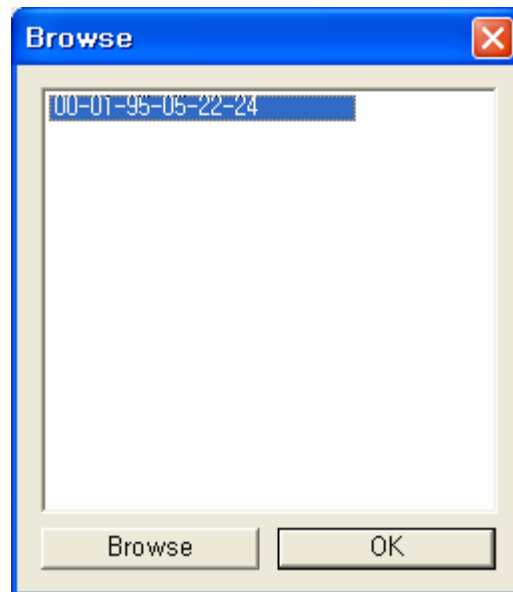
1. Run the program 'Configurator_Vxxx.exe'



2. Click the button (...) right next to Ethernet address box. Then Browse box pops up.



3. Click the button "Browse" and select MAC address. Then click "OK" button.



4. Select IP Mode at dialogue box (Configurator V1.2.1)

1) Static IP

- Used for fixed IP address
- Enter IP Address, Subnet mask, Default Gateway after check Sub settings.

2) DHCP (Dynamic Host Configuration Protocol)

- Used when IP address changes and IP share is available.
- IP address shows up automatically when click the button "Get parameters"

5. Set Baud rate (bps) same as the printer

6. Set the following conditions as default values.

1) TCP port: 6000

- The range of value is available from 6,000 up to 10,000 for the application in which more than 1 printer to use by IP share.

2) Multi TCP Session: checked

- Several PC can connect to TCP simultaneously

3) Inactivity timeout: 0

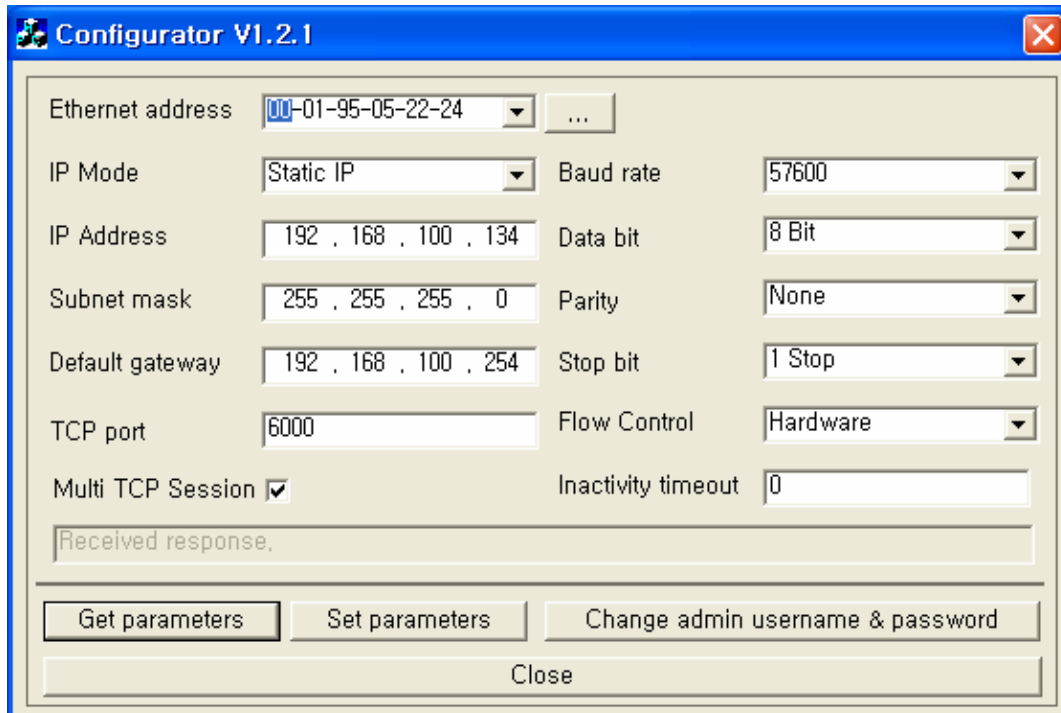
- It sets data holding time of Ethernet card when the printer is in Busy condition.
- The value varies from 0 to 3,600 sec.

4) 8 data bit, none parity, 1 stop bit, hardware flow control.

Note.

When you complete the setting successfully it must be same as below pictures.

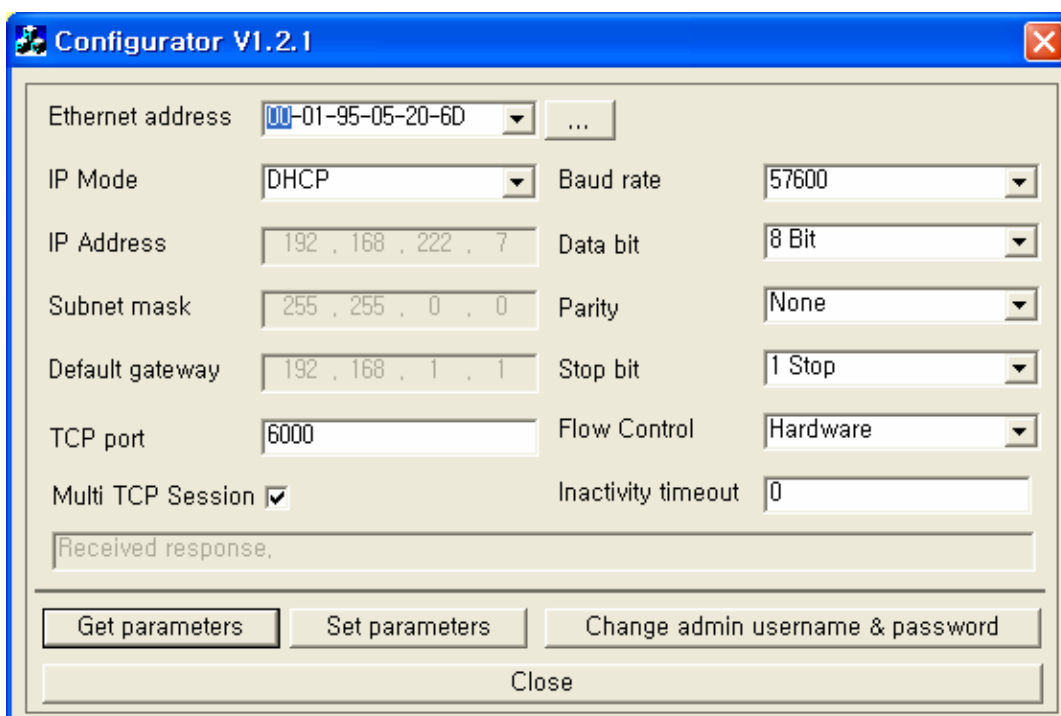
1. When chosen Static IP



The screenshot shows the 'Configurator V1.2.1' window with the following settings:

- Ethernet address: 00-01-95-05-22-24
- IP Mode: Static IP
- Baud rate: 57600
- IP Address: 192 , 168 , 100 , 134
- Data bit: 8 Bit
- Subnet mask: 255 , 255 , 255 , 0
- Parity: None
- Default gateway: 192 , 168 , 100 , 254
- Stop bit: 1 Stop
- TCP port: 6000
- Flow Control: Hardware
- Multi TCP Session: ☒
- Inactivity timeout: 0
- Received response: (empty text box)
- Buttons: Get parameters, Set parameters, Change admin username & password, Close

2. When chosen DHCP



The screenshot shows the 'Configurator V1.2.1' window with the following settings:

- Ethernet address: 00-01-95-05-20-6D
- IP Mode: DHCP
- Baud rate: 57600
- IP Address: 192 , 168 , 222 , 7
- Data bit: 8 Bit
- Subnet mask: 255 , 255 , 0 , 0
- Parity: None
- Default gateway: 192 , 168 , 1 , 1
- Stop bit: 1 Stop
- TCP port: 6000
- Flow Control: Hardware
- Multi TCP Session: ☒
- Inactivity timeout: 0
- Received response: (empty text box)
- Buttons: Get parameters, Set parameters, Change admin username & password, Close

7. Save the settings into Ethernet card by clicking the button "Set parameter"

1) Enter User and Password and click the button "OK"

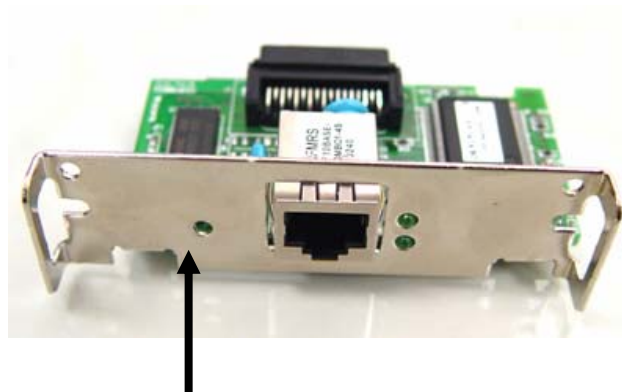
- User: admin

- Password: admin

2) How to change User and Password

- It can be changed by using button "Change admin user name & password"

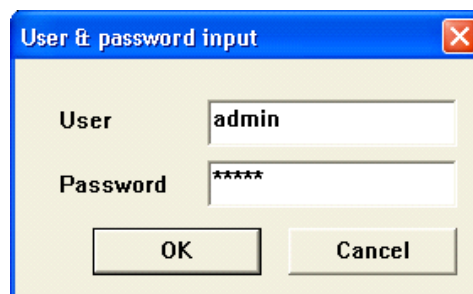
- When you can't remember User and Password, reset the Ethernet card by holding down reset switch laid on metal bracket at left (Next to RJ45 connector)



Reset
switch

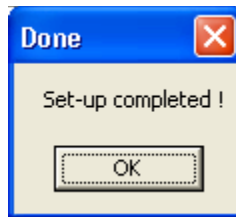
3) How to reset

- Turn the printer on while holding down Reset switch and wait about 3 seconds.
- Turn the printer off and on. Save User and Password as given above again.



8. Make sure that your setting has been saved successfully.

- 1) "Set-up completed" pops up when saving is made successfully.
- 2) If other message pops up, click the button "Set parameter" and save the setting again.
- 3) Call out the setting by clicking the button "Get parameter" and double check completion.
 - Same setting as you did must be indicated.
 - Re-set and save the setting if any of them is not correct.
 - The first try may fail occasionally depending on LAN condition.



9. Terminate the program by the button "Close"

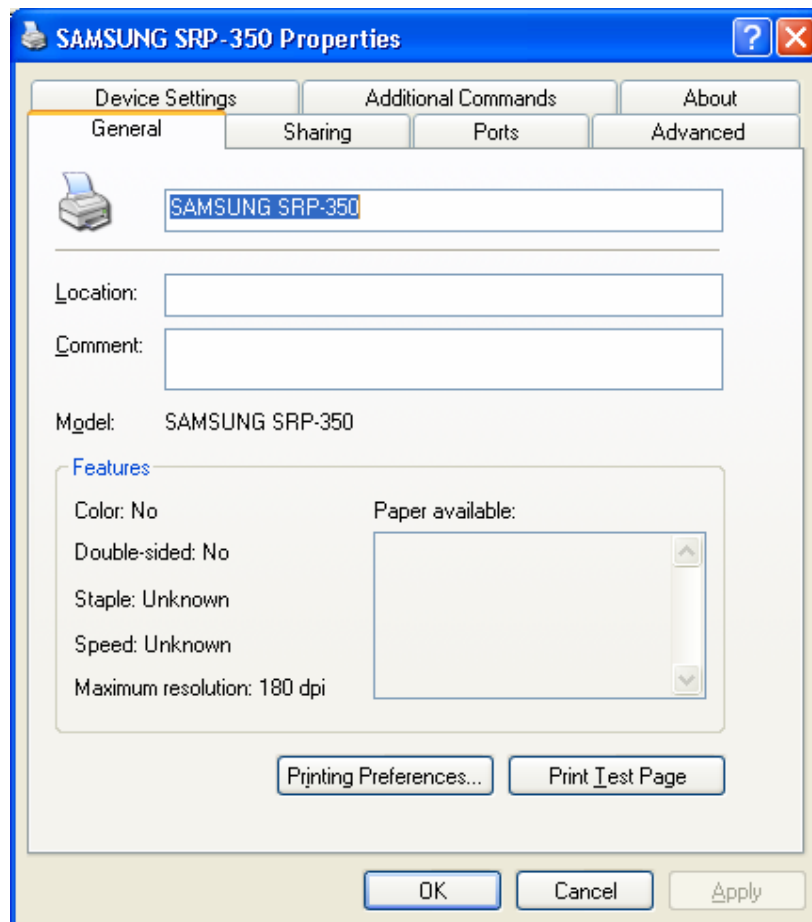
[Appendix 3] Standard TCP/IP port addition

It is used when application program works with **printer driver**. Applicable operating systems are **Win XP and Windows 2000**. Follow the Installation procedure below if required.

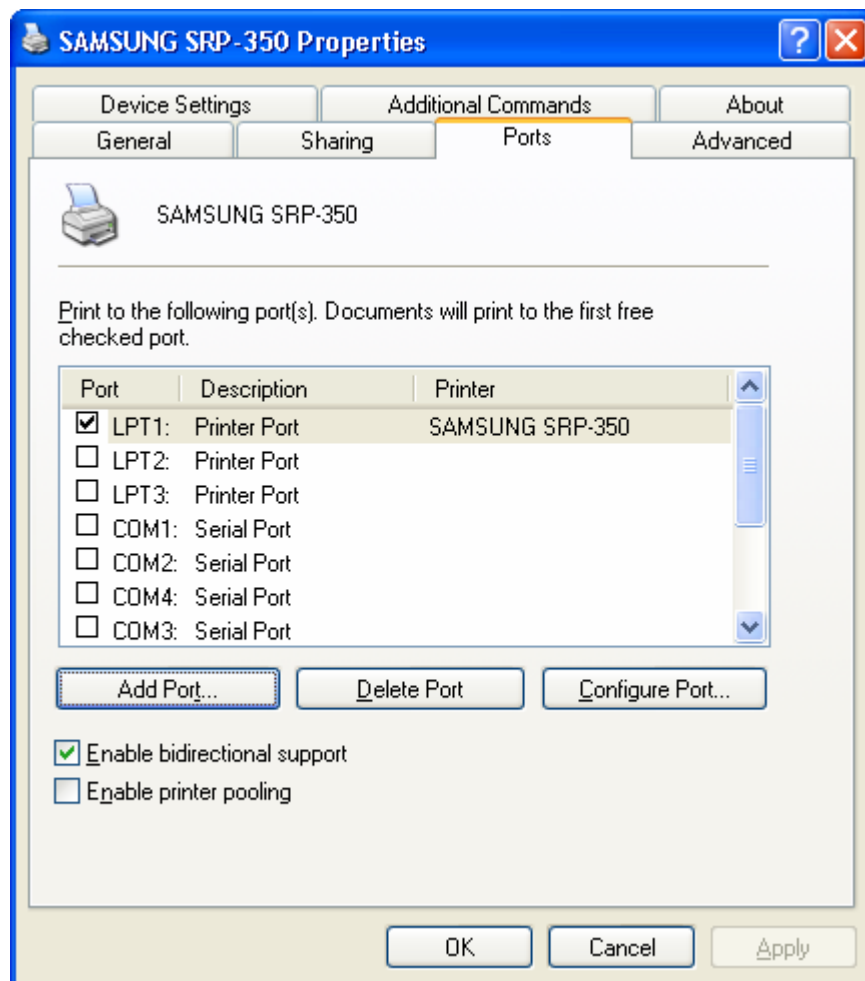
1. Install printer driver

- 1) Download and install the printer driver from homepage. www.samsungminiprinters.com
- 2) Re-boot the personal computer.

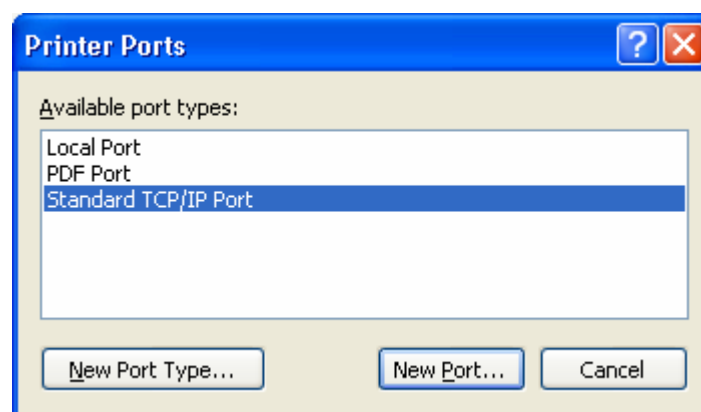
2. Open printer properties box at installed printer driver.



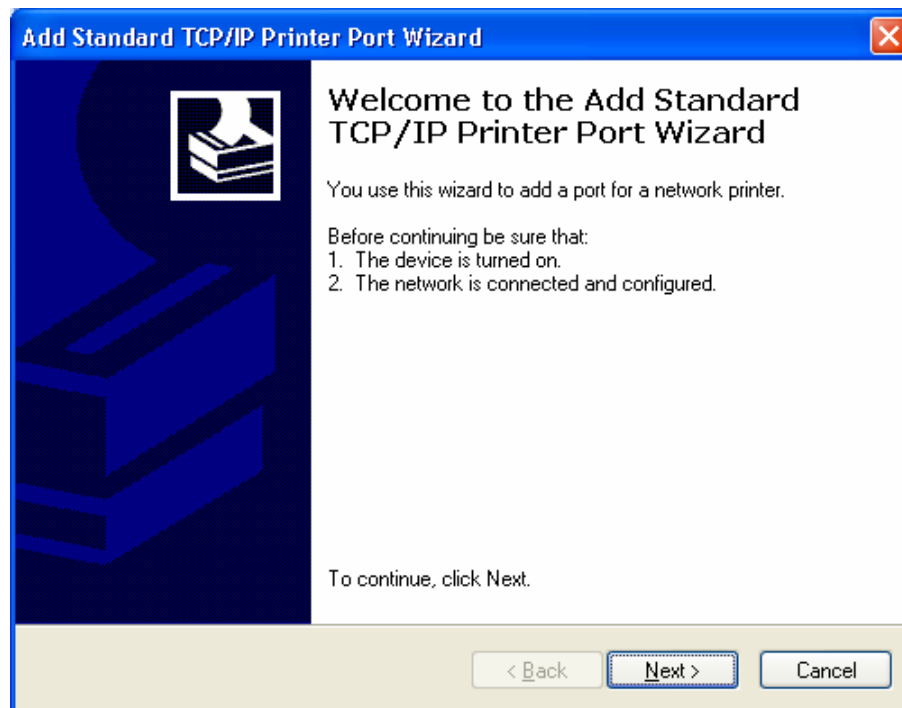
3. Select "Ports" and click the button "Add Port"



4. Select "Standard TCP / IP port" and choose "New Port"

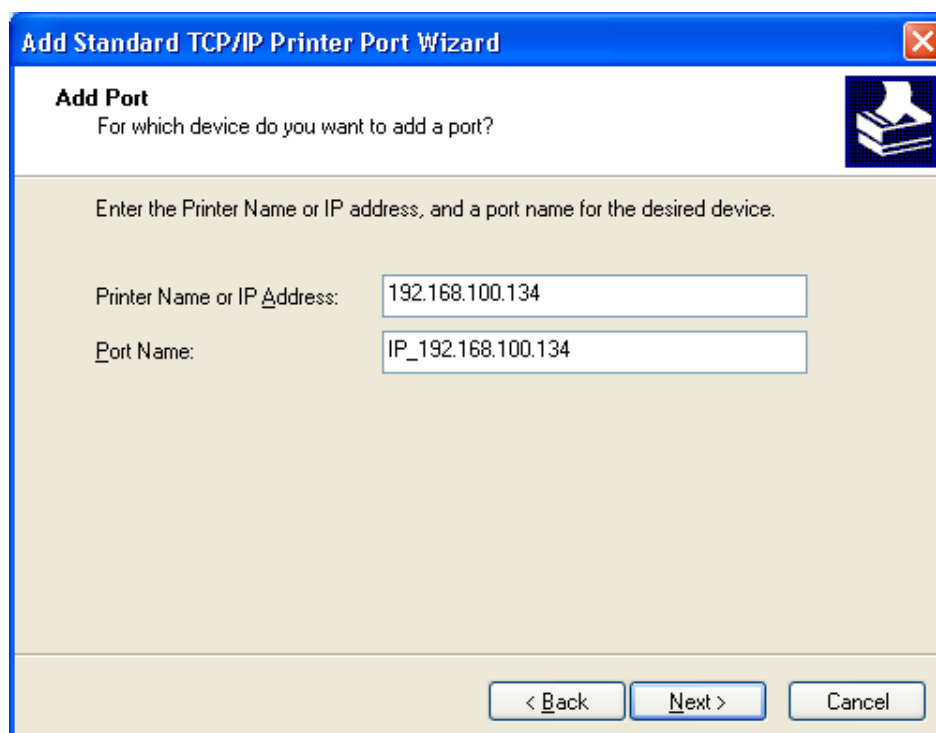


5. Go next when Standard TCP/IP Printer Port Wizard activated.

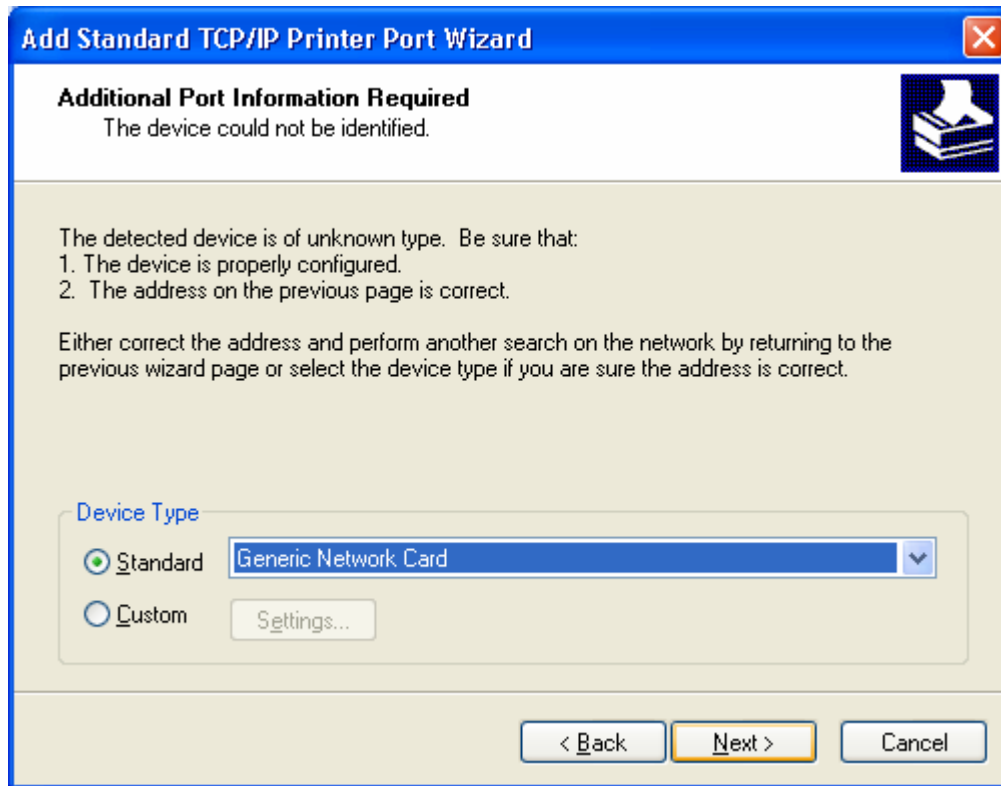


6. Write IP address at box "Printer Name or IP Address" and go next.

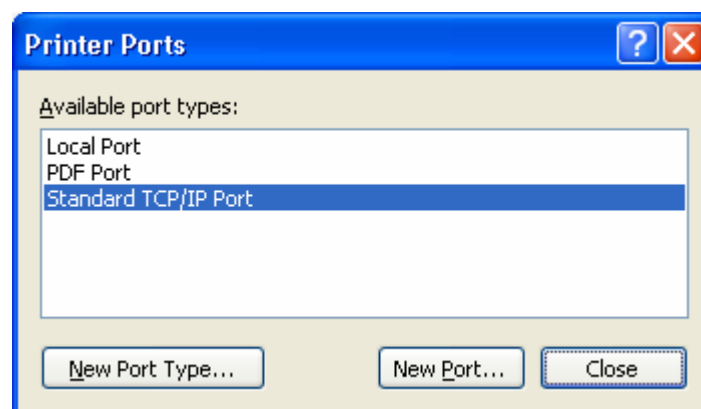
- IP address in this case must be the same as the value given to Ethernet card.



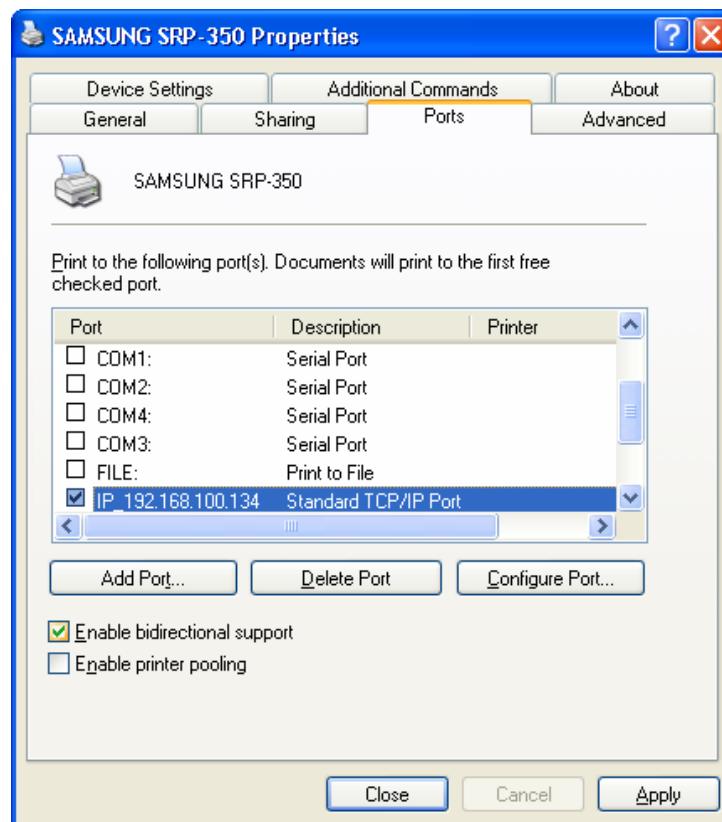
7. Go next.



8. Select Close.

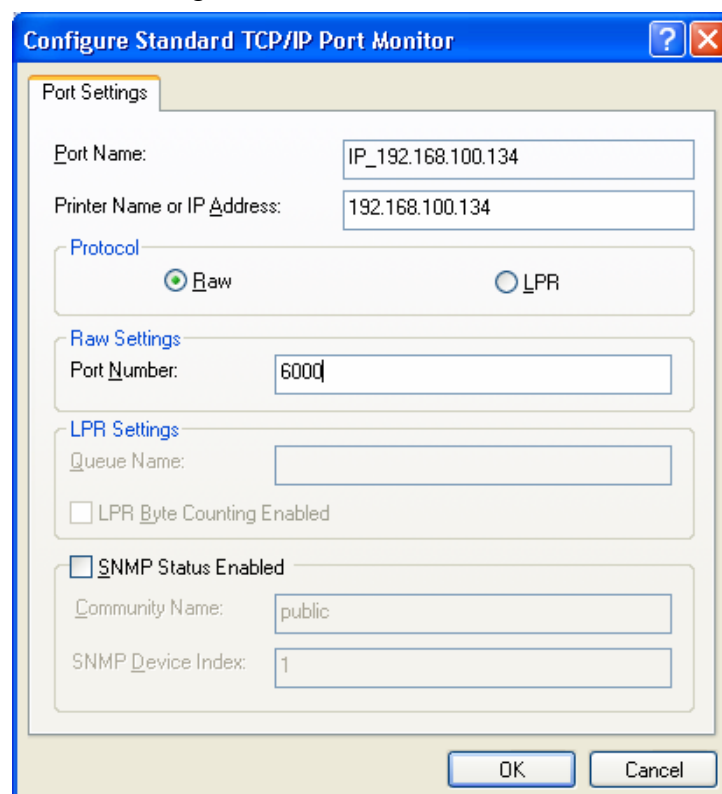


9. Click the button **"Configure Port"**

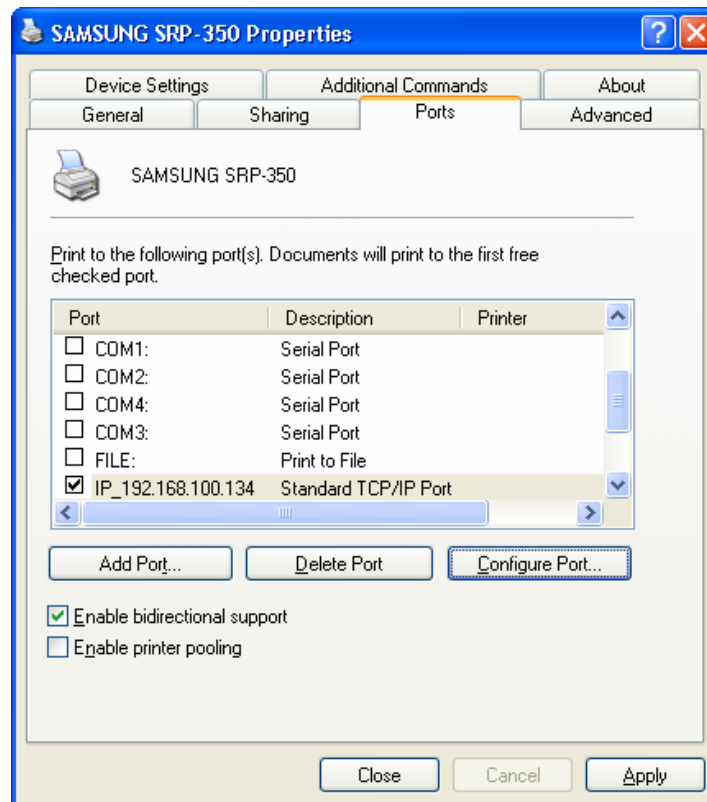


10. Enter **"Port Number"** and OK.

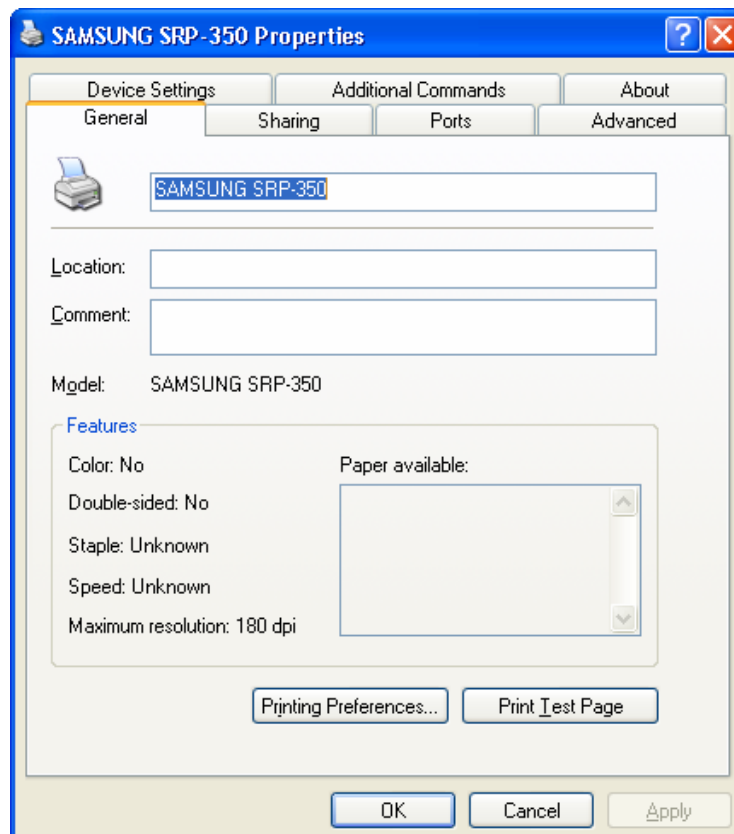
- It must be same as the value given to Ethernet card.



11. Go Apply.



12. Select General / Print Test Page and check whether print is okay.
- Appendix 2. Ethernet interface card setup must be preset.



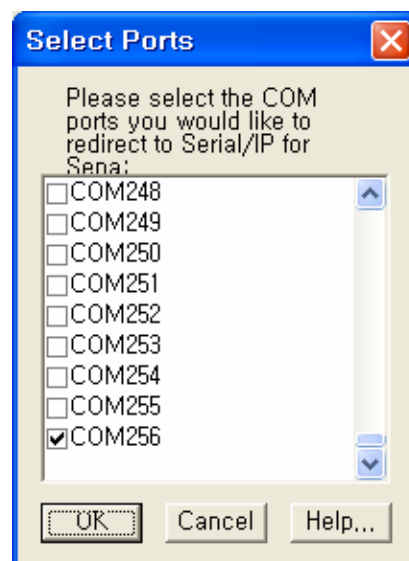
[Appendix 4] Serial_IP installation

If application program does not transmit the data thru printer driver but to Com port direct, use Virtual driver only. Meanwhile latest Ethernet interface card supports Serial / IP and check if your Ethernet firmware version accordingly.

- Firmware version of Ethernet interface card: **Later than V2.0.0**
- Firmware version is marked on interface metal bracket.
- Applicable operating system: **Win XP, 2000, 98**

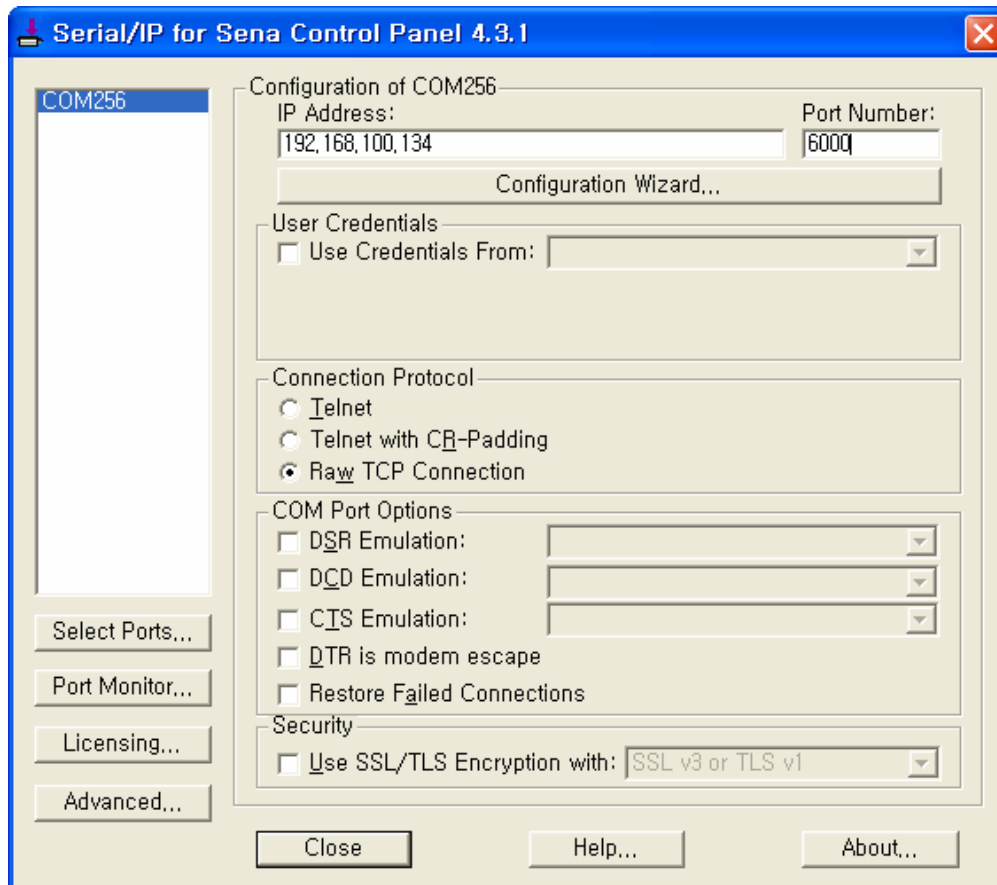
How to install

1. Run **"Serial / IP _Vxxx.exe"** and install Virtual driver.
2. After successful installation of virtual driver, Select Ports dialogue box will pop up. Then select the port and click the button OK.
 - 1) Applicable ports per operating system
 - Win XP, 2000: **COM3 ~ COM256**
 - Win 98: **COM3 ~ COM9**
 - 2) In case of Win 98, need to enter IP address and Port number and re-boot PC.



3. Enter "IP address" and "Port number"

- 1) It must be same as the value saved to Ethernet card.
- 2) Other settings should not change.



4. Close the box by button "Close"

5. Print the data thru the virtual port (i.e. Com 256 in above picture) that is chosen.

- 1) If wish to test with printer driver, refer to the below programs.

- Win XP, 2000: Refer to Appendix 5. Virtual driver test _Win XP
- Win 98: Refer to Appendix 6. Virtual driver test _Win 98

2) Setting more than Com 9 at Win 98 may damage the system and set less than 9.

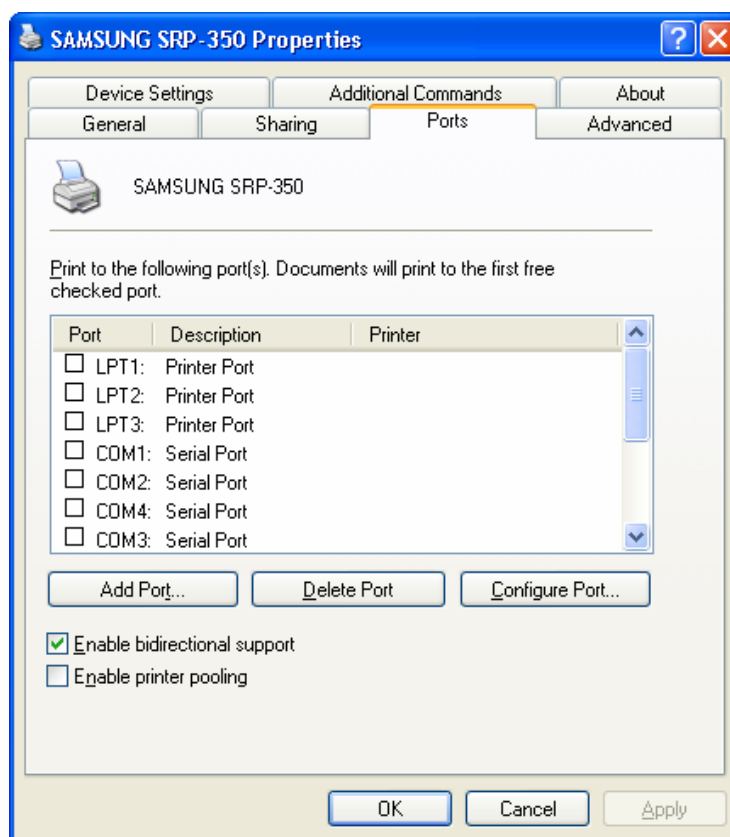
[Appendix 5] Virtual driver test _ Win XP

It is used to test Virtual driver thru printer driver.

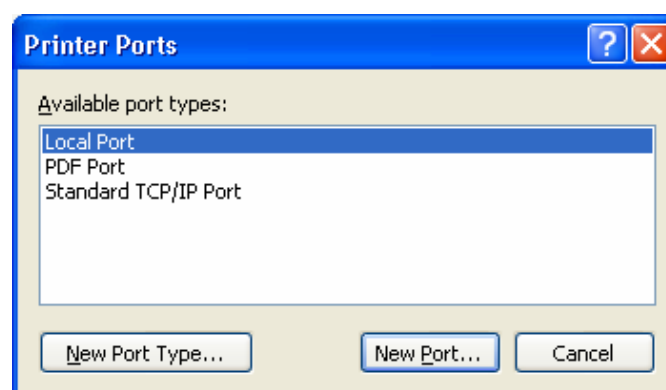
- Applicable operating system: Win XP (2000)

1. Download and install printer driver from homepage, www.samsungminiprinters.com

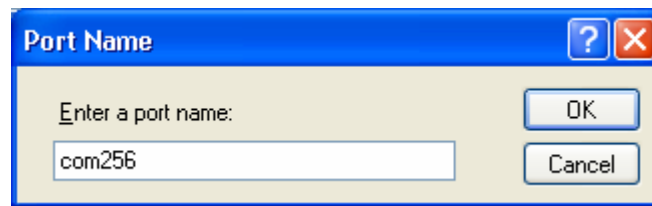
2. Open Ports at driver properties and choose "Add Port"



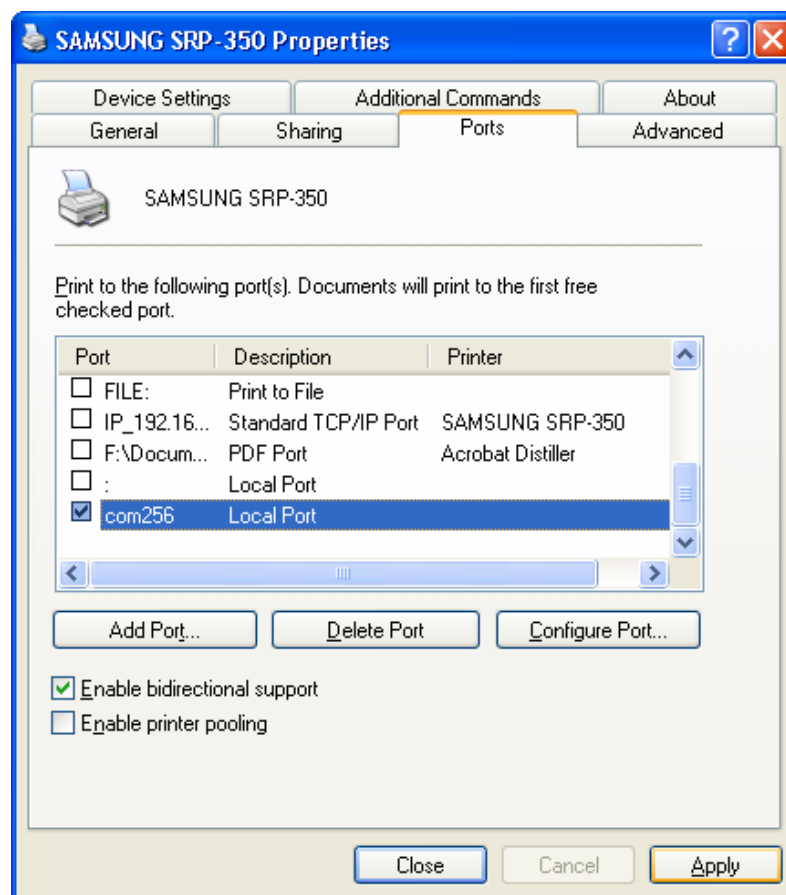
3. Select "Local port" and click the button "New Port"



4. Enter port name and it must be same as created at Virtual driver.



5. Select the port (i.e. COM256) and click the button **“Apply”**



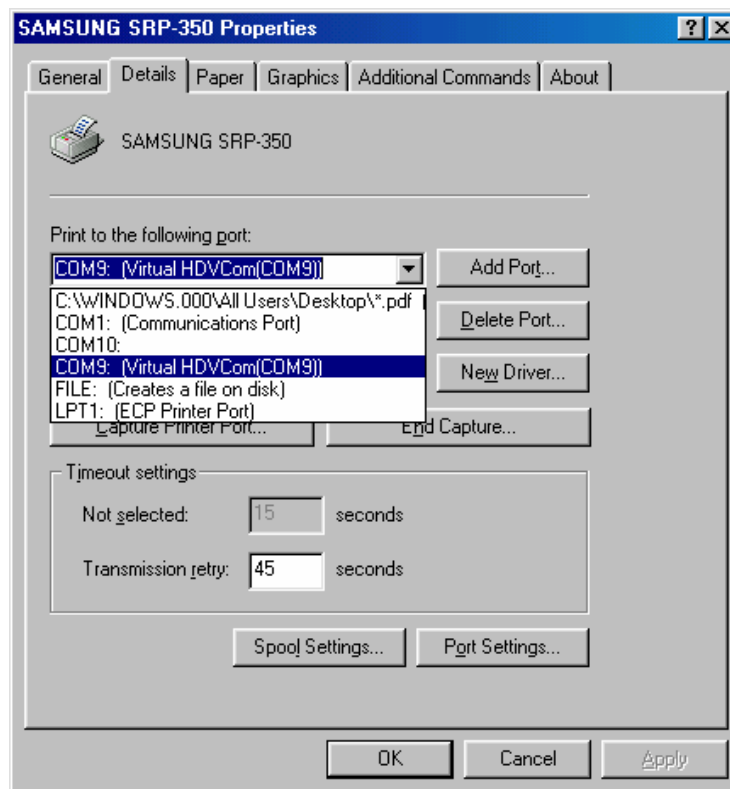
6. Select General and check the print out by Print Test Page.

[Appendix 6] Virtual driver test _ Win 98

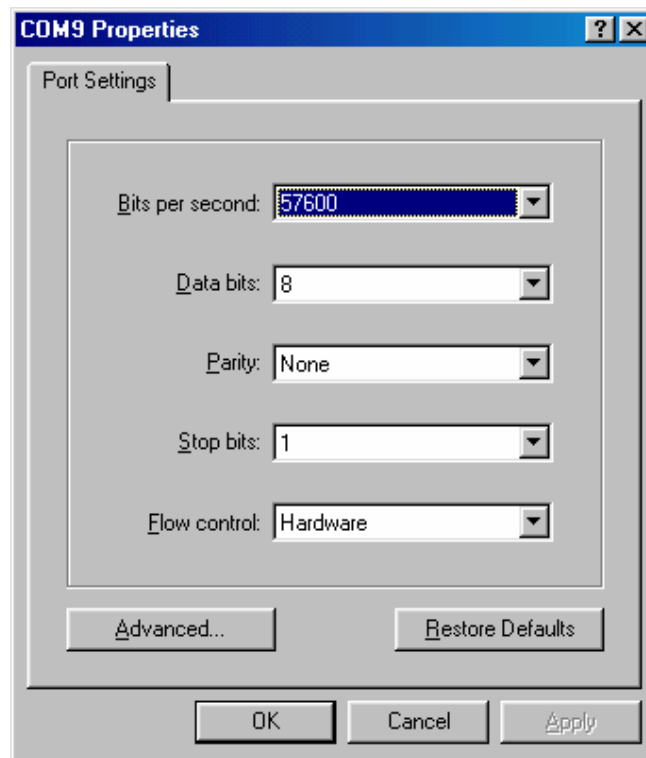
It is used to test Virtual driver thru printer driver.

- Applicable operating system: Win 98

1. Install printer driver.
2. Open printer properties and select Details.
3. Check and choose the created port at Virtual driver and “Apply”



4. Select the button "Port Settings" and set the communication conditions. Then click "OK"



5. Select General and check the print-out by Print Test Page.

[Appendix 7] TCP / IP protocol

1. Browse Protocol

1-1. UDP 2002 port Broadcast Message

- Request protocol
: 0x22 0x00 0x22 0x02 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xD0 0x00
- Ex: 22-00-22-02-FF-FF-FF-FF-FF-FF-D0-00

1-2. UDP Broadcast Response Message

- Response Protocol
: 0x22 0x00 0x22 0x02 MAC1 MAC2 MAC3 MAC4 MAC5 MAC6 0xD2
- Ex: 22-00-22-02-00-01-95-04-46-DA-D2

2. Get parameter Protocol

2-1. UDP 2002 port Broadcast Message

- Request protocol
: 0x22 0x00 0x22 0x02 MAC1 MAC2 MAC3 MAC4 MAC5 MAC6 0xA0 0x00
- Ex: 22-00-22-02-00-01-95-04-46-DA-A0-00

2-2. UDP Broadcast Response Message

- Response Protocol
: 0x22 0x00 0x22 0x02 MAC1 MAC2 MAC3 MAC4 MAC5 MAC6 GET_REP
IPMode IP1 IP2 IP3 IP4 SM1 SM2 SM3 SM4 GW1 GW2 GW3 GW4
Baudrate DataBit Parity StopBit FlowControl TimeoutI Timeouth
TCPportI TCPPortH Multiconnect
- Ex: 22-00-22-02-00-01-95-04-46-DA-A2
-01-C0-A8-12-E6-FF-FF-00-00-C0-A8-01-01
-05-08-01-01-02-0A-00
-70-17-01