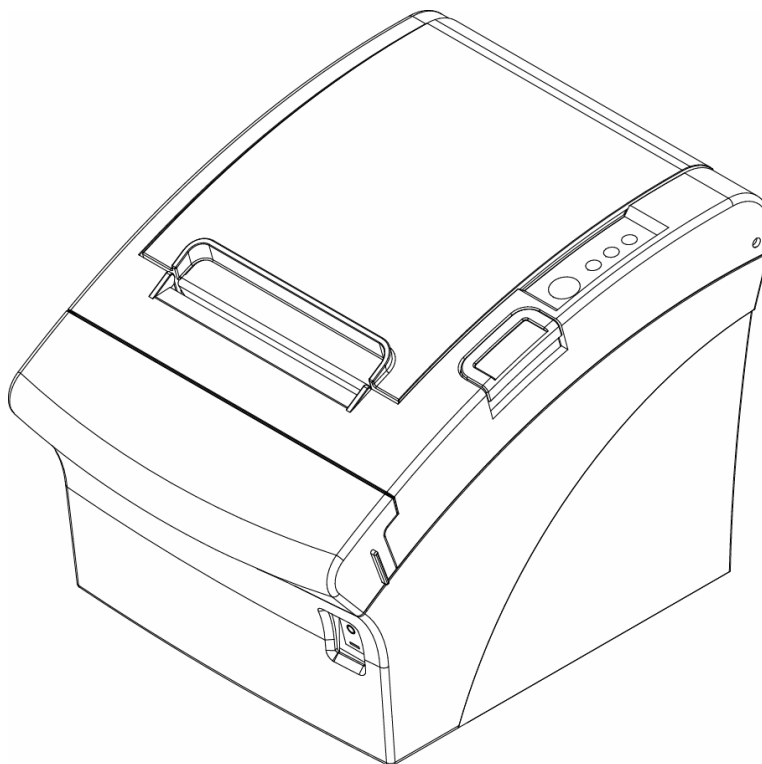


METAPACE

User Manual **Network Interface**

Rev. 1.00

Metapace T-3



<http://www.metapace.com>

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1. Manual Information

The purpose of this manual is to provide information on the operation and usage instructions of the Ethernet Interface for the Metapace Printers.

We at Metapace maintain ongoing efforts to enhance and upgrade the functions and quality of all our products. In following, product specifications and/or user manual content may be changed without prior notice.

2. Specifications

2-1 Hardware version

Interface Card	Picture
IFA-EP TYPE	

2-2 Configuration Tool

Metapace provides 2 types of network communication set up utilities as a below.

- **Configure_Vx.x.x.exe**
- **Web Server**


3. How to install

1) Check the interface version.

[Note]

Each version uses its own Configuration Tool.

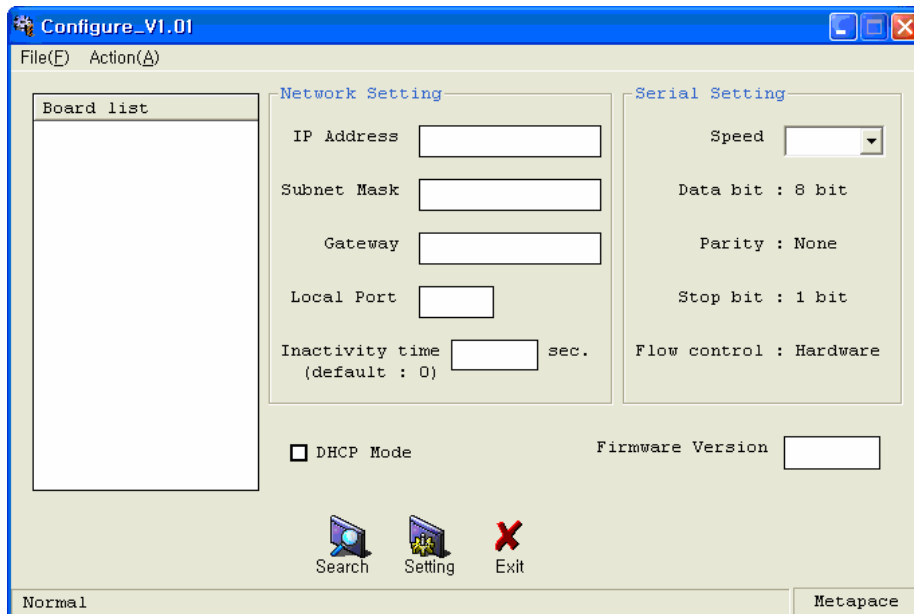
2) Turn off the printer and insert the interface card.

Interface Card	Printer	Picture
IFA-EP TYPE	Metapace T-3	

4. Configuration Tool

4-1 Static IP interface set up

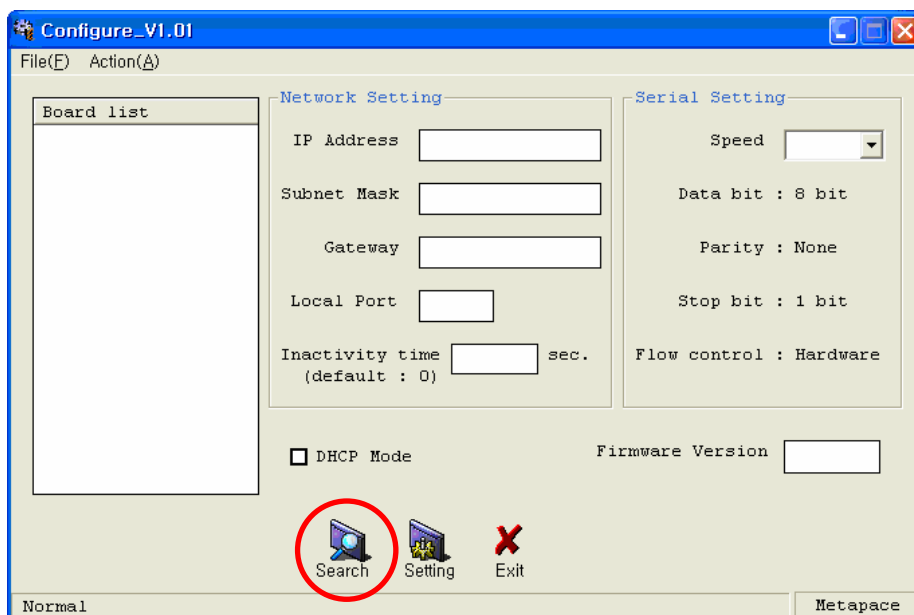
- 1) Turn on the printer.
- 2) Execute **Configure Tool**.



[Note]

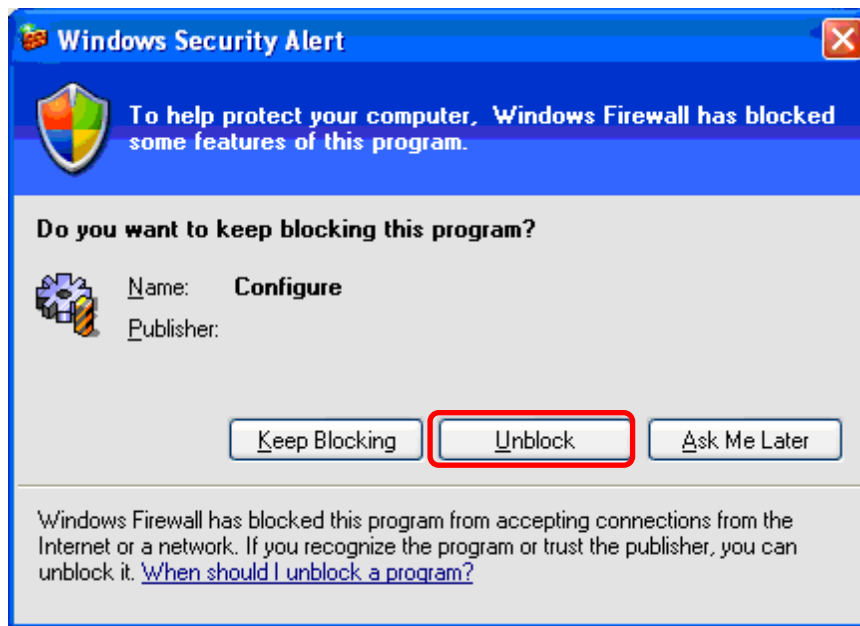
- Use proper Configuration Tool dependent on hardware version

- 3) Click **Search**.

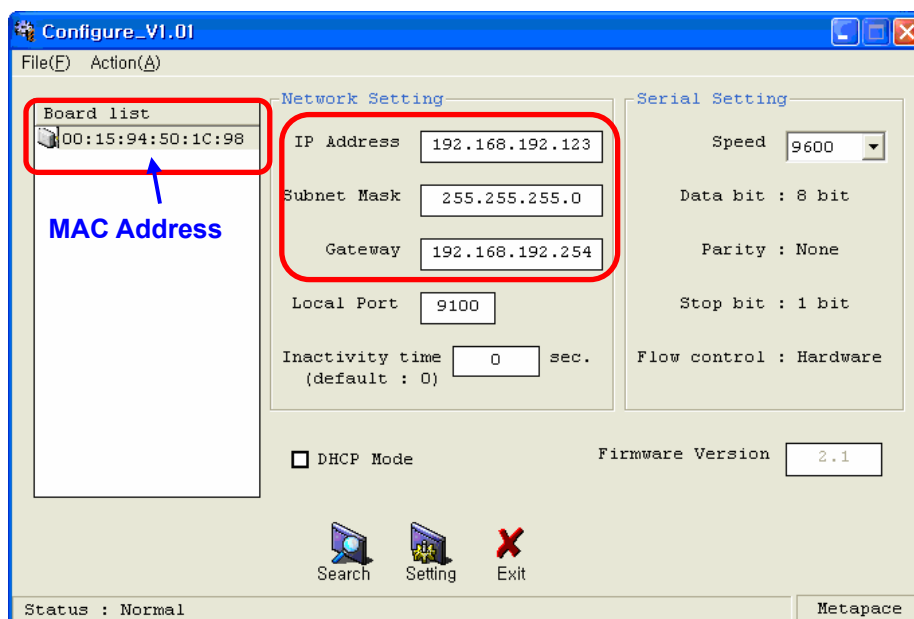


[Note]

- If Windows Security Alert pops up, please press Unblock.



4) Select MAC Address in **Board list** and **set up Network Setting**.



[Note]

- If many MAC addresses appear, refer to the MAC address on the label of the Interface card. Ask the Network administrator IP and its related information.

Network Interface

- If you are not aware of Subnet Mask, refer to the below.

When the IP address is

- (1) 1~126.xxx.xxx.xxx: Subnet Mask: 255.0.0.0
- (2) 128~191.xxx.xxx.xxx: Subnet Mask: 255.255.0.0
- (3) 192~223.xxx.xxx.xxx: Subnet Mask: 255.255.255.0

For example, when the IP address is 192.168.192.321,
Subnet mask is 255.255.255.0.

- If you are not aware of Gateway,

- (1) When the Network is connected to Internet (Router or Server computer),
Refer to the Network setting of other computers on the Network.
- (2) When the Network is not connected to Internet (Router or Server computer),
Enter 0.0.0.0 for Gateway.

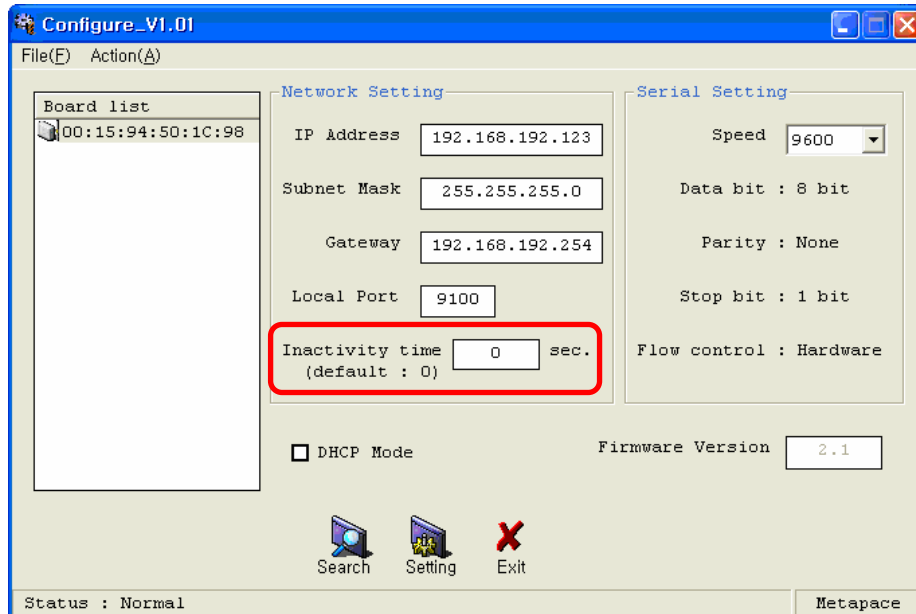
5) Enter value at **Local Port**.

The screenshot shows a window titled 'Configure_V1.01' with a menu bar 'File(E) Action(A)'. On the left is a 'Board list' with one entry: '00:15:94:50:1C:98'. The main area is divided into two panels: 'Network Setting' and 'Serial Setting'. In the 'Network Setting' panel, the 'Local Port' field is highlighted with a red rectangle and contains the value '9100'. Other fields in this panel include 'IP Address' (192.168.192.123), 'Subnet Mask' (255.255.255.0), 'Gateway' (192.168.192.254), and 'Inactivity time (default : 0) sec.' (0). There is a checkbox for 'DHCP Mode' which is unchecked. The 'Serial Setting' panel includes 'Speed' (9600), 'Data bit : 8 bit', 'Parity : None', 'Stop bit : 1 bit', and 'Flow control : Hardware'. At the bottom, there is a 'Firmware Version' field with the value '2.1'. Below the panels are three icons: 'Search', 'Setting', and 'Exit'. The status bar at the bottom shows 'Status : Normal' and 'Metapace'.

[Note]

- Default value is **9100**. Choose from 0 to 32767.

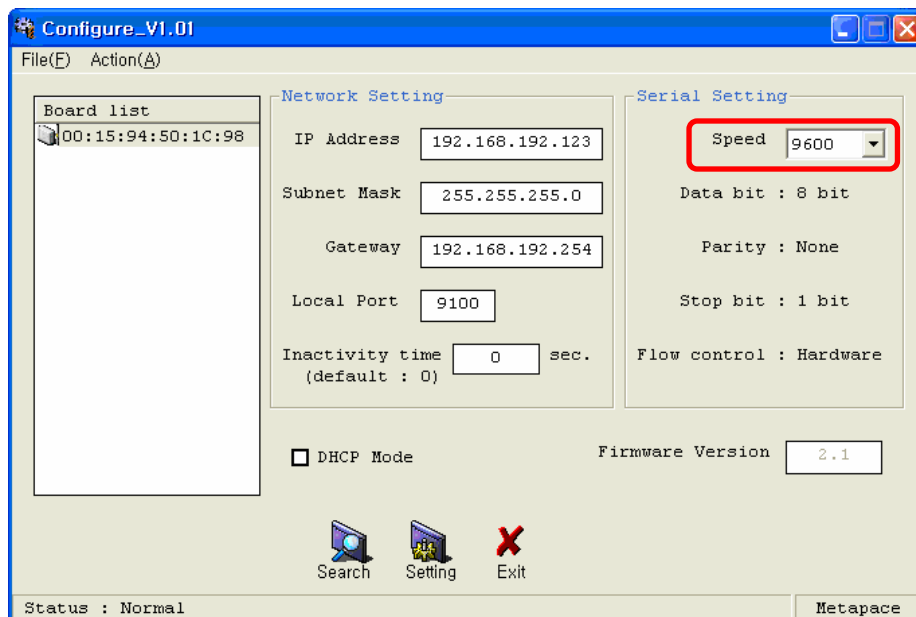
6) Set Inactivity Time as '0'.



[Note]

- Default value is 0. Choose from 0 to 32767.
- When you set Inactivity time, Ethernet interface will disconnect by force after designated time. When you set 0, Forced disconnection function is not available.

7) Set baud rate (Speed) at **Serial Setting**.

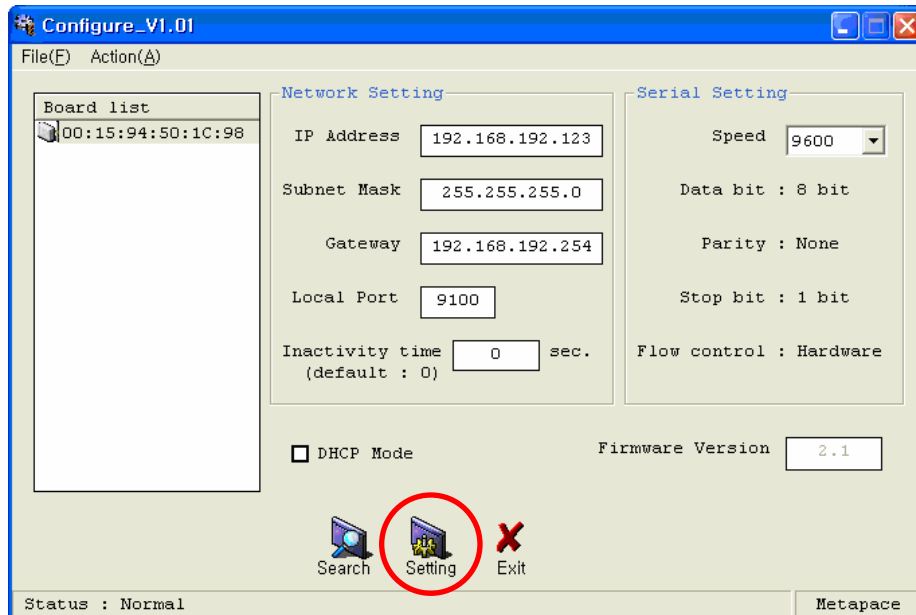


[Note]

- The baud rate (Speed) should be same as the baud rate of the printer. (Refer to [Appendix 1])
- Highest baud rate (Speed) can be used.
- The baud rate (Speed) of Metapace T-3 don't need to setting.

Network Interface

8) When setting finishes, click **Setting**.



[Note]

Successfully finished set up

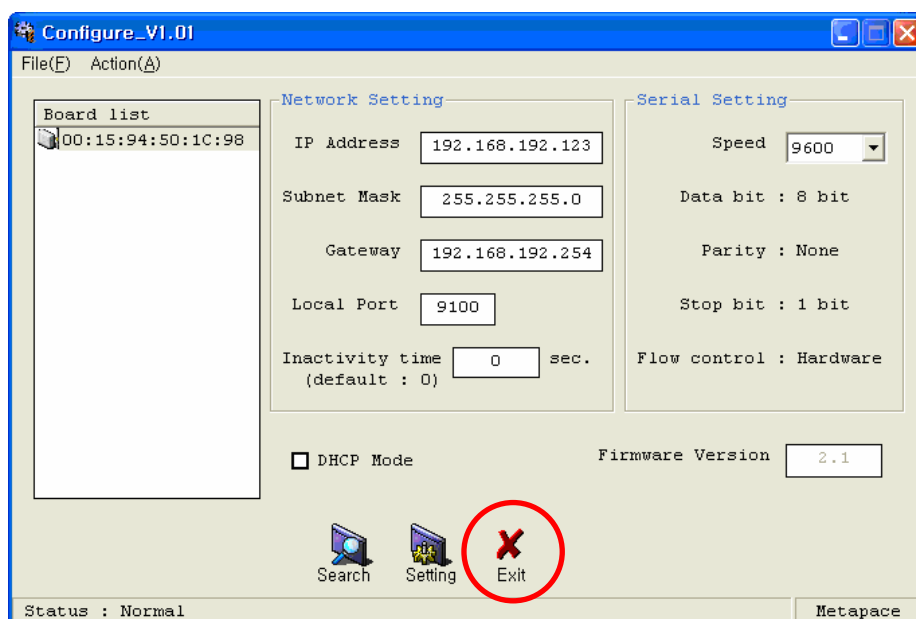


Unsuccessfully finished set up



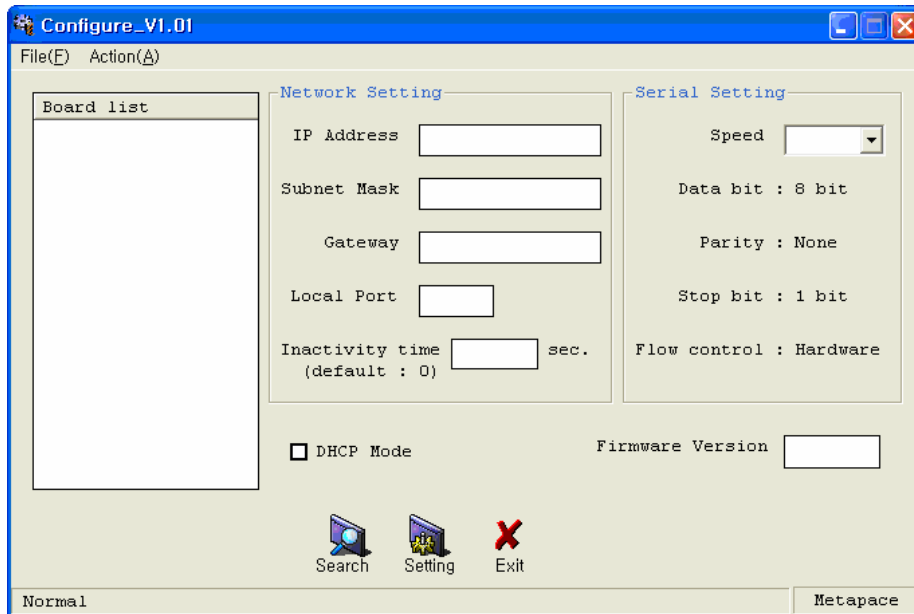
- When setting doesn't finish correctly, try again.

9) Click **Exit** to finish set up.



4-2 DHCP interface set up

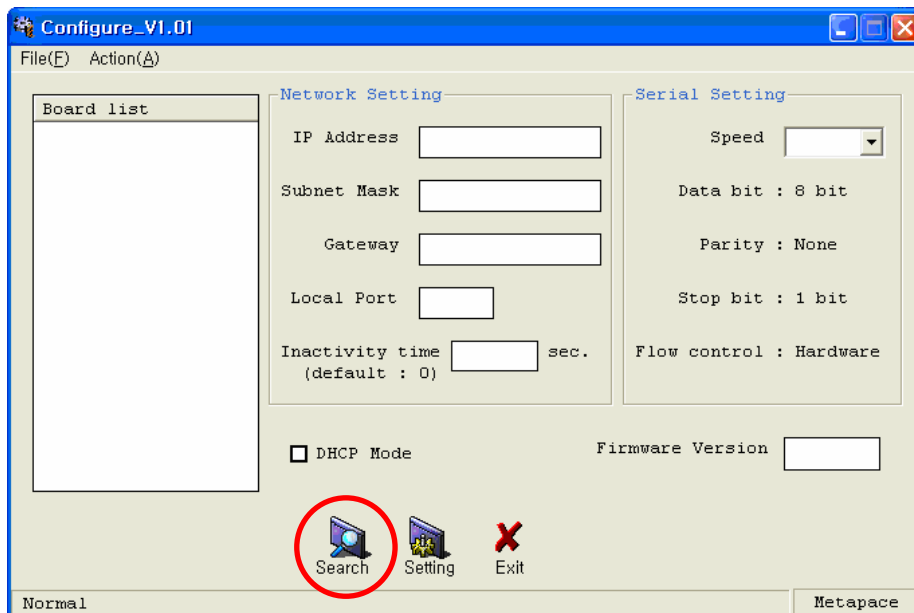
- 1) Turn on the printer.
- 2) Execute **Configure Tool**.



[Note]

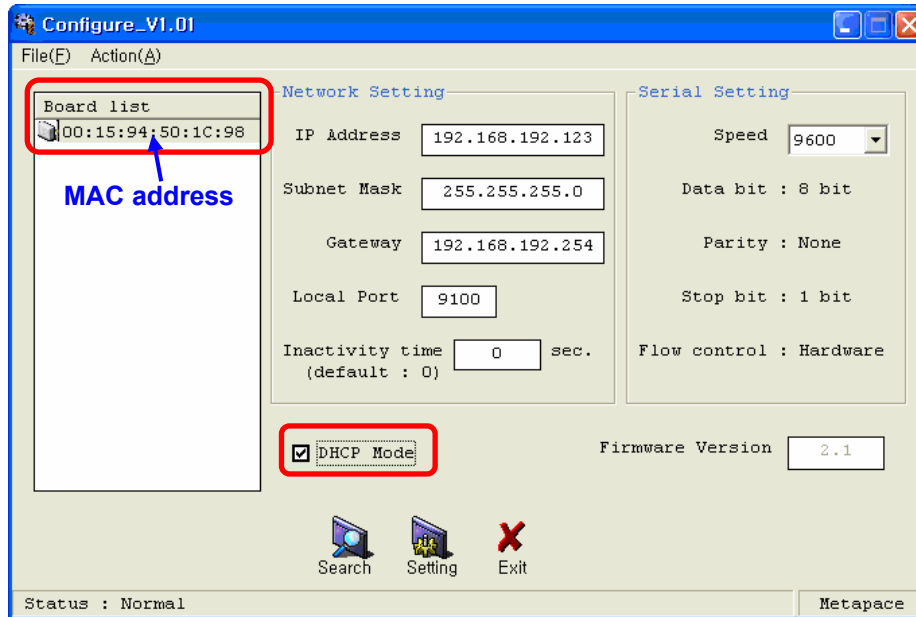
- Use proper Configuration Tool dependent on hardware version.

- 3) Click **Search**.



Network Interface

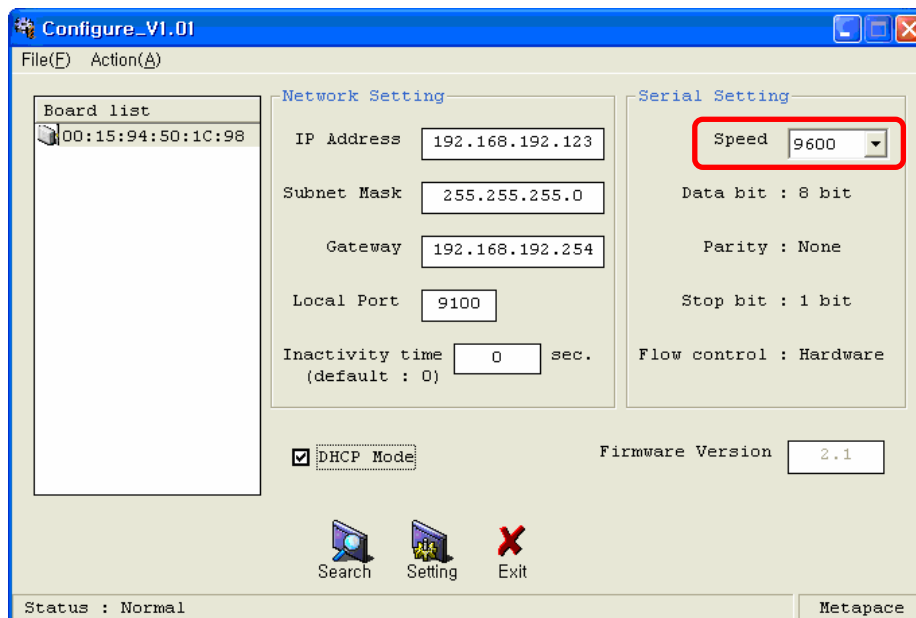
4) Select MAC Address in **Board list** and check at **DHCP Mode**.



[Note]

- If many MAC addresses appear, refer to the MAC address on the label of The interface card.
- Ask the Network administrator IP and its related information.

5) Set baud rate at “**Speed**.”

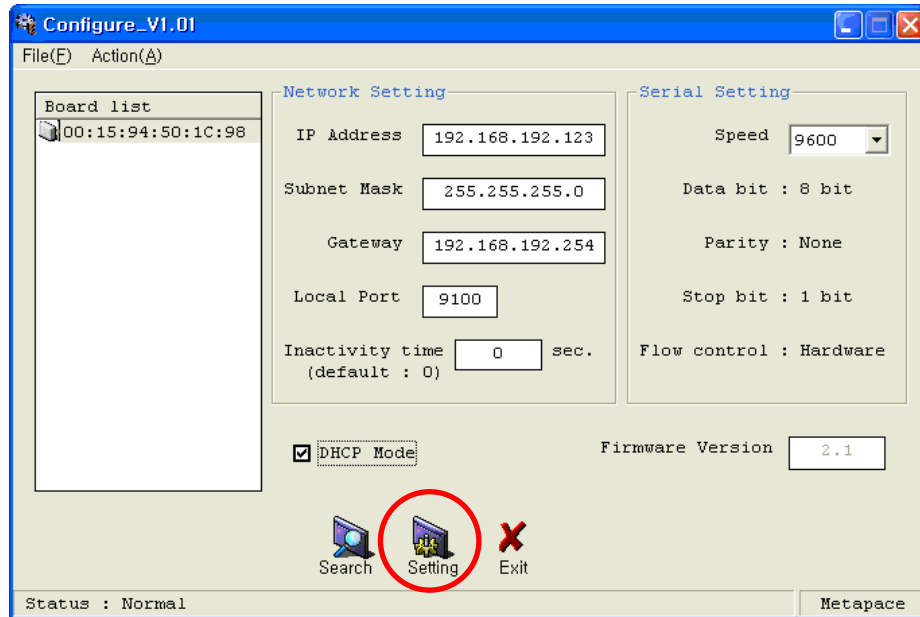


[Note]

- The baud rate (Speed) should be same as the baud rate of the printer. (Refer to [Appendix 3])
- Highest baud rate (Speed) can be used.
- The baud rate (Speed) of Metapace T-3 don't need to setting.

Network Interface

6) When setting finishes, click **Setting**.

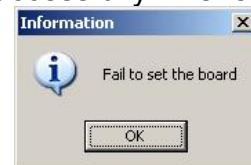


[Note]

Successfully finished set up



Unsuccessfully finished set up

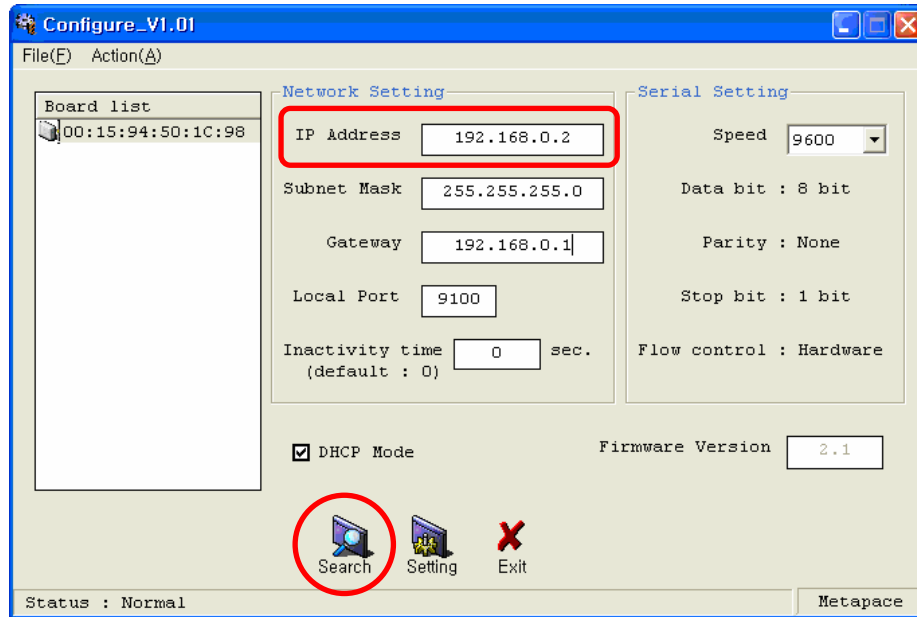


- When setting doesn't finish correctly, try again.

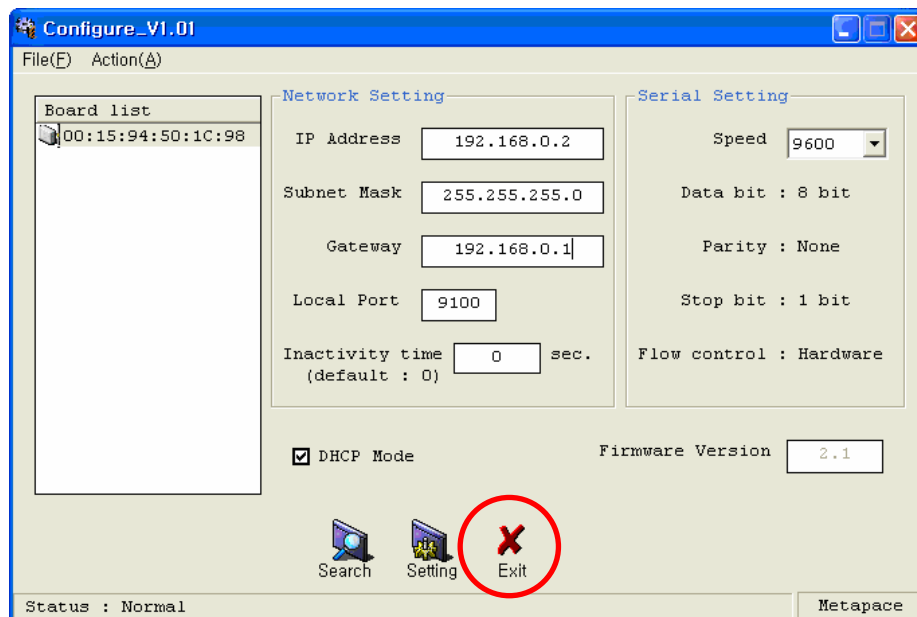
7) Wait approximately 10 or more seconds until the printer receives IP from the server.

Network Interface

8) Click **Search** to check given IP.

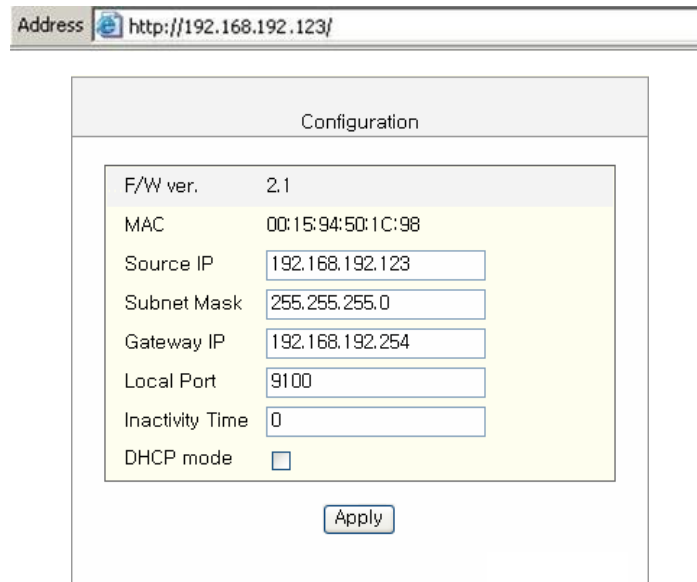


9) If the given IP is OK, click **Exit**.



5. Web Server

- 1) Execute Internet Explorer.
- 2) Enter IP address of the printer at **Address** of Internet Explorer and click **go**.



The image shows a screenshot of an Internet Explorer browser window. The address bar contains the text "http://192.168.192.123/". Below the browser window, a "Configuration" window is displayed. The window has a title bar "Configuration" and a yellow background. It contains the following fields:

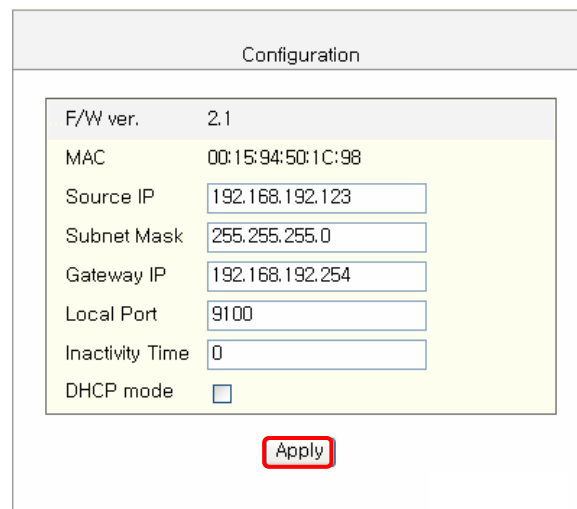
F/W ver.	2.1
MAC	00:15:94:50:1C:98
Source IP	192.168.192.123
Subnet Mask	255.255.255.0
Gateway IP	192.168.192.254
Local Port	9100
Inactivity Time	0
DHCP mode	<input type="checkbox"/>

At the bottom of the Configuration window, there is an "Apply" button.

[Note]

- If you are not aware of IP address, check IP address by pushing Function key.
- Ask Network administrator IP Address and its related information.

- 3) When **Configuration** Window appears, enter new **Network Setting**.



The image shows a screenshot of the "Configuration" window, which is identical to the one in the previous image. The "Apply" button at the bottom is highlighted with a red rectangle.

[Note]

- If you are not aware of Subnet Mask, refer to the below.

- When the IP address is

(1) 1~126.xxx.xxx.xxx: Subnet Mask: 255.0.0.0

(2) 128~191.xxx.xxx.xxx: Subnet Mask: 255.255.0.0

(3) 192~223.xxx.xxx.xxx: Subnet Mask: 255.255.255.0

For example, when the IP address is 192.168.192.321,
Subnet mask is 255.255.255.0.

- If you are not aware of Gateway,

(1) When the Network is connected to Internet (Router or Server computer),
refer to the Network setting of other computers on the Network.

(2) When the Network is connected to Internet (Router or Server computer),
enter 0.0.0.0 for Gateway.

[Note]

- When the setting finishes successfully, the following message appears.

Please press here if you would like to back to the configuration

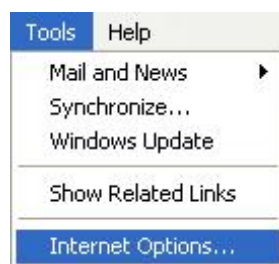
4) If you click the message, you can check your configuration setting.

[Note]

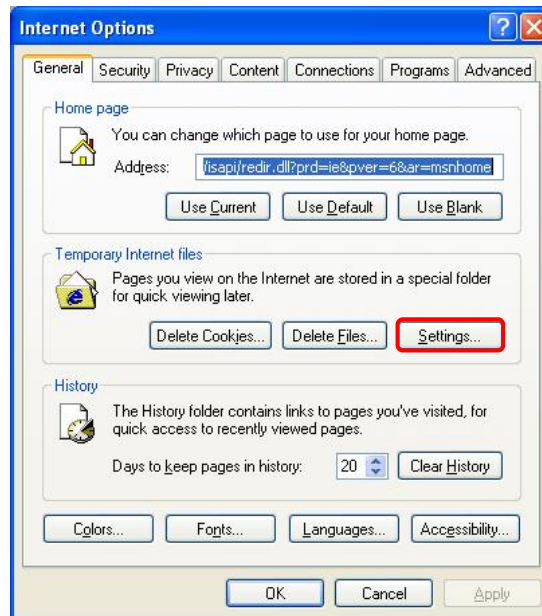
- If any change was not found after setting on Web Server, check the bellows.

(1) Execute Internet Explorer.

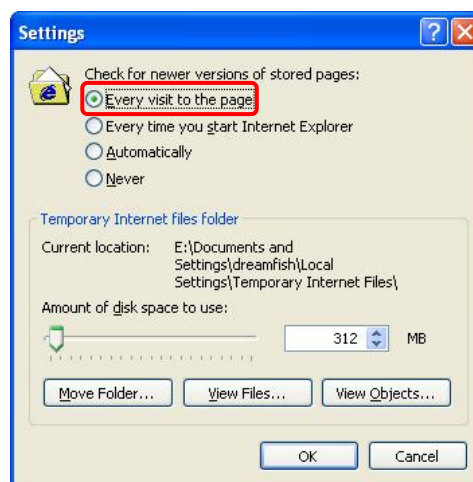
(2) Internet Explorer **Menu** → **Tools** → **Internet options**.



(3) **General tab** → **Temporary internet file** → **Settings**.



(4) **Check for newer version of stored pages** → Click **Every visit to the page**.



(5) Click **Refresh** in Internet Explorer.

6. Ethernet Test by using Windows Test Page

You can use the Windows printer driver as shown below when there is no test program. Operating systems that allow you to use the Windows printer driver are Windows 2000, XP, 2003 Server, VISTA, 2008 Server, 7.

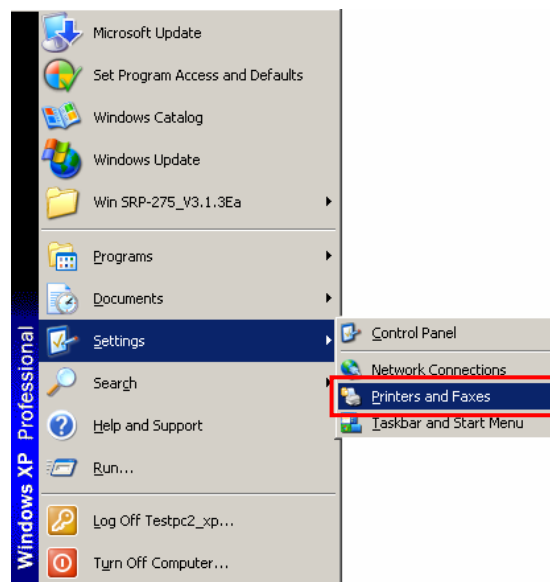
1) Install the Windows printer driver.

[Note]

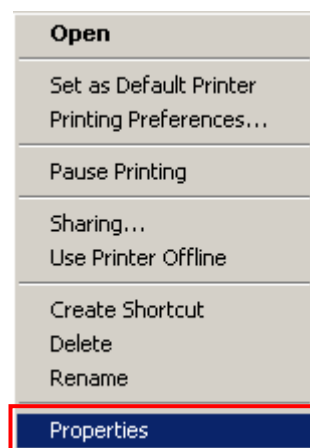
- The Windows driver is included in the CD, and you can download the latest version from our home page.

(www.metapace.com)

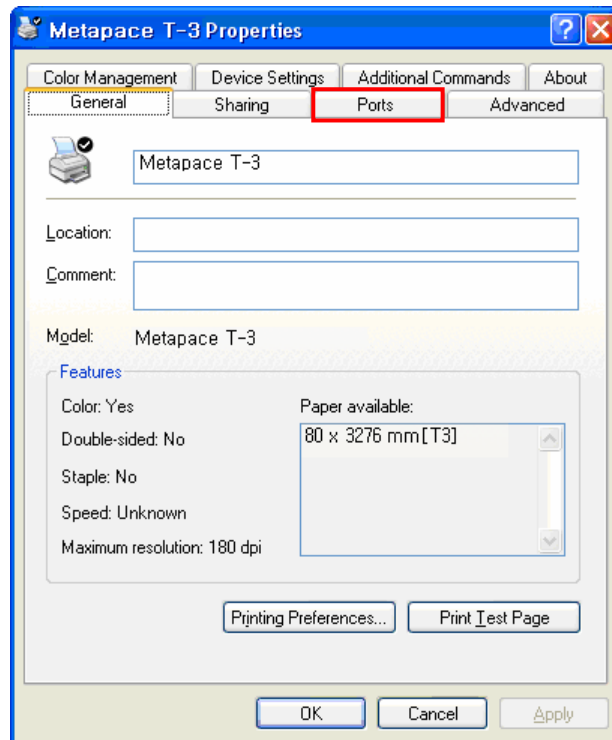
2) Click the Start button, and then select “Printers and Faxes.”



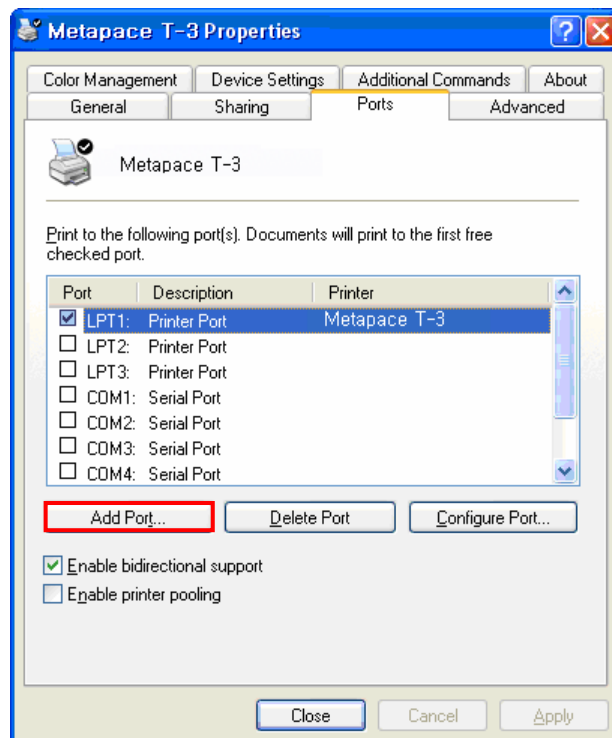
3) Select and right click on the corresponding model, and then select “Properties.”



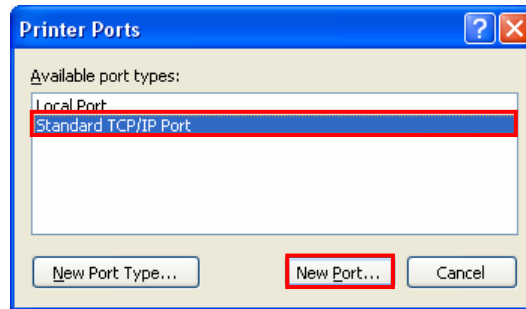
4) Select the “Ports” tab from the “Properties” window.



5) Click “Add Port...”



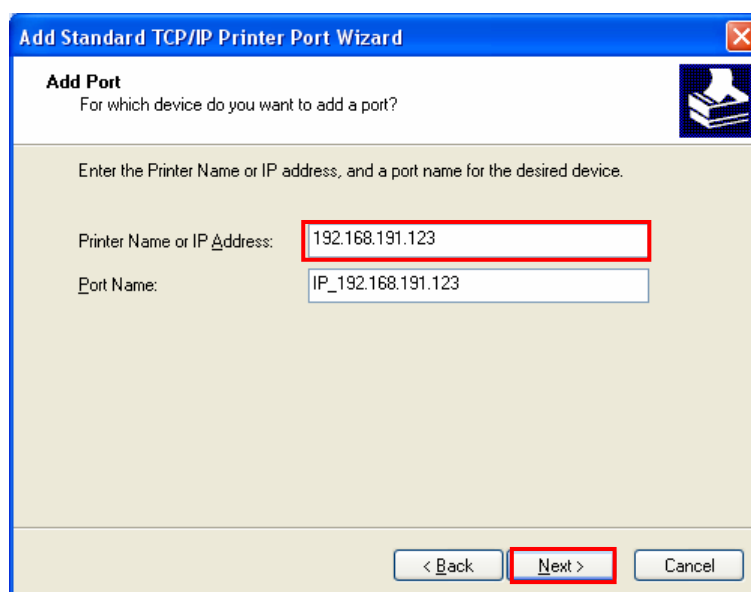
6) Select “Standard TCP/IP Port” and click “New Port...”



7) Click the [Next] button in the “Add Standard TCP/IP Printer Port Wizard” window.



8) Enter the IP address assigned to the printer in the “Printer Name or IP Address” field in the “Add Port” pop up window, and then click the [Next] button.

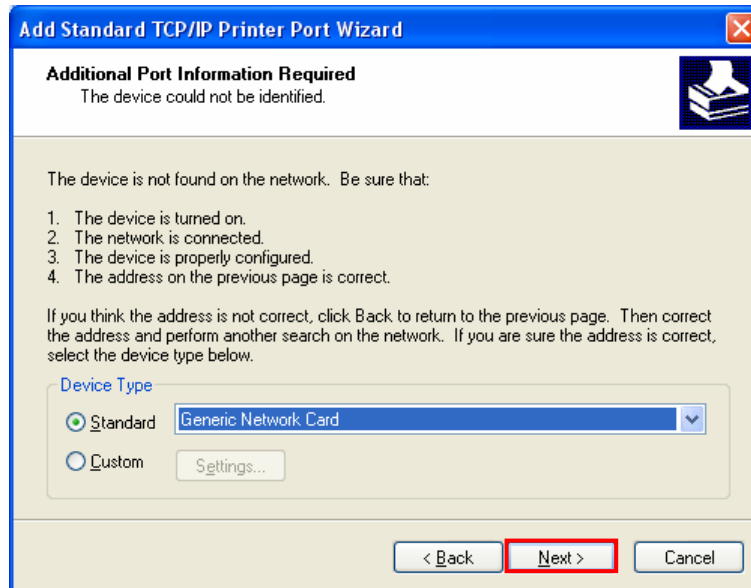


[Note]

- Enter the same IP address entered during the installation of the interface card.
Only enter the “Printer name or IP address.”

Network Interface

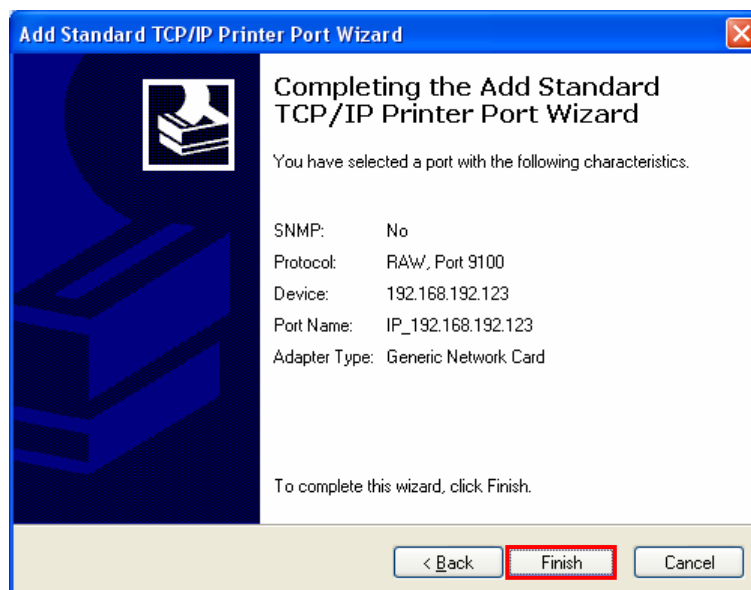
9) Click the [Next] button in the “Additional Port Information Required” window.



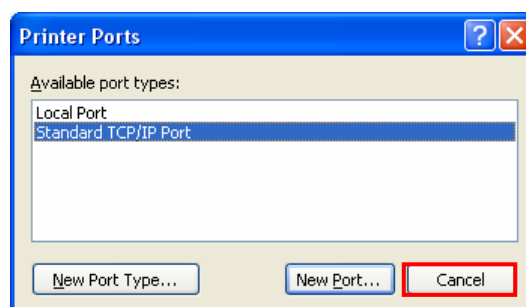
[Note]

- Click the [Next] button to proceed without any changes.

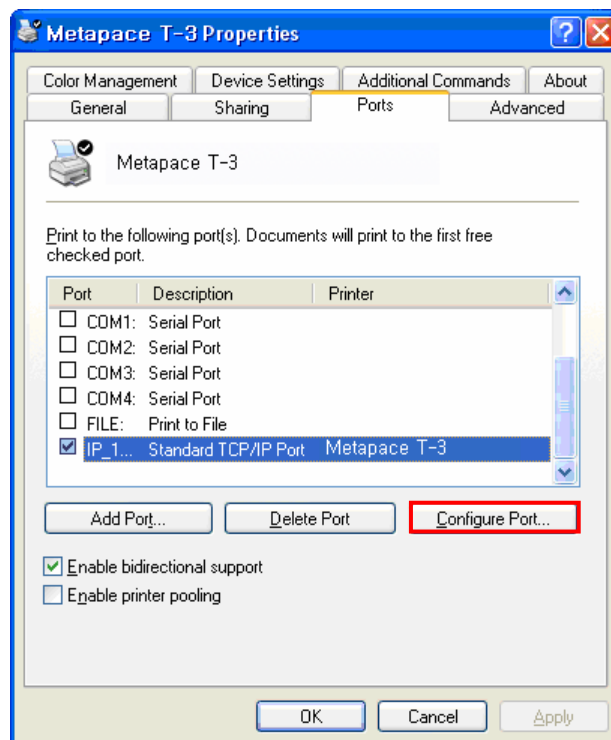
10) Click the [Finish] button at the “Completing the Add Standard TCP/IP Printer Port Wizard” window.



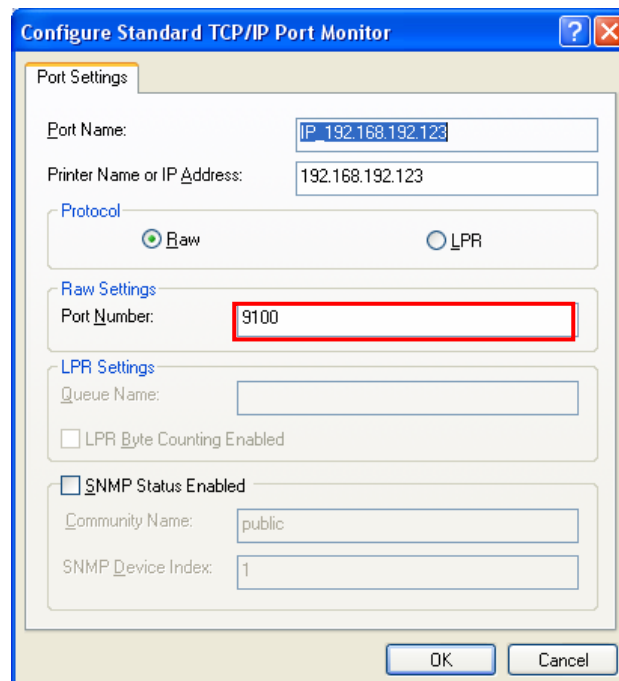
11) Click the “Cancel” button in the Printer Port window, closing the window.



12) Click the “Configure Port...” button in the “Properties” window.



13) Enter the same number as the local port number set during the installation of the interface card in the “Port Number” field in the Raw Settings.

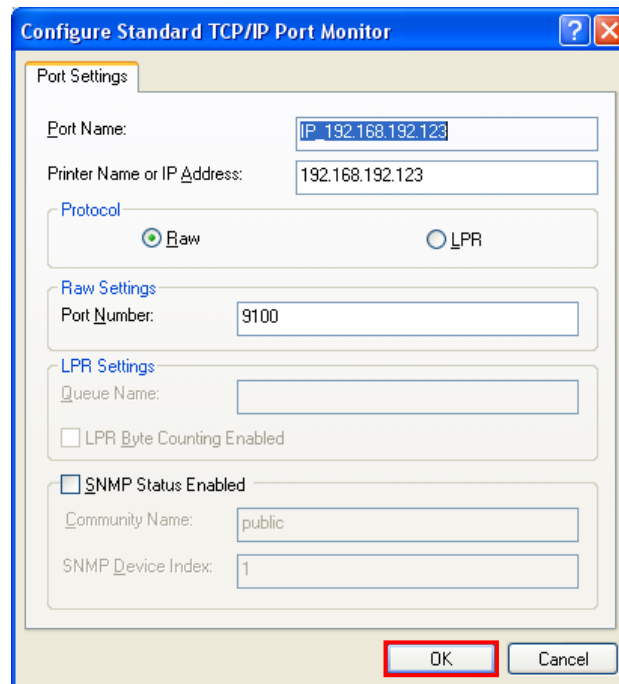


[Note]

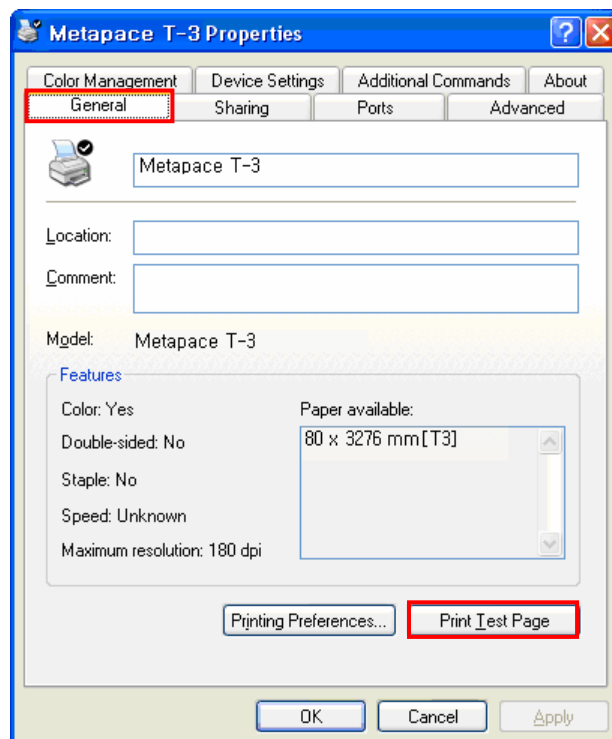
- Do not change any other items except the RAW Settings.

Network Interface

- 14) Click [OK] when you finish entering the required values, and then click the [Apply] button.



- 15) Select the "General" tab in the Properties window, and then select the "Print Test Page" to check the printing status.



7. Factory Reset

1) Default setting after factory reset

- Activate DHCP mode
- Local Port: 9100
- Inactivity Time: 0

2) How to reset

(1) Turn off the printer.

(2) Turn on the printer while pressing Function Key.

[Note]

- Press Function key 3 more seconds after turning on the printer.

(3) Wait 10 seconds until new IP address is allocated to the printer.

- The IP address will be allocated automatically under DHCP mode.

[Note]

- DHCP Network environment
Connect to web-server with newly allocated IP address.
Check new IP address by pressing Function key.

- Static IP Network environment
The IP address will not be allocated automatically.
Set up Static IP with Configuration utility.

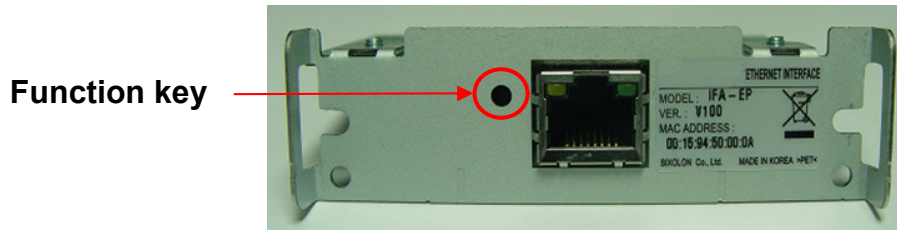
(4) Print Network setting information by pressing Function key.

- Connect web-server to change any network setting.

8. Function Key set up

1) How to use

- (1) Turn on the printer
- (2) Wait 10 or more seconds until the Ethernet interface boots up
- (3) Push the Function key



- (4) The settings will be printed only one time since the printer is turned on.
- (5) Turn off and on the printer to print them again.

2) Printed settings

- MAC address
- IP address
- Subnet Mask
- Gateway
- Port
- Inactivity time
- Firmware Version

9. Troubleshooting

When printing doesn't work

1) Check network setting

- IP Address
Check whether the IP Address band of the printer are the same. The first three digits of the four digit value in the IP Address must be the same.
- Subnet Mask
Check whether the subnet mask of the printer matches with the one in host(PC, PDA).
- Port
Check whether the port configured in the printer and the host (PC, PDA) are the same.

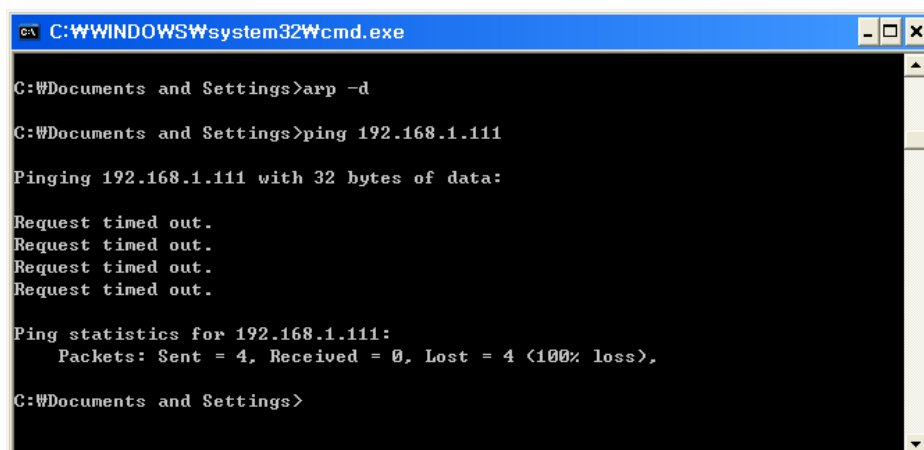
2) PING Check

Checking IP collision

- When entering IP address manually without using DHCP, you must check whether the corresponding IP address is used by other equipment. The printer may not work normally when there is a collision in the IP address.
- When the printer is turned off, carry out the Ping Test to the printer IP.

Ping TEST

- Turn off the printer.
- Select "Run" from the Windows Start menu, and then enter "cmd".
- Enter "ARP -d" and delete ARP table.
- Enter "ping {printer IP}".
- ARP -d, ping {IP address}



```
C:\WINDOWS\system32\cmd.exe

C:\Documents and Settings>arp -d

C:\Documents and Settings>ping 192.168.1.111

Pinging 192.168.1.111 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

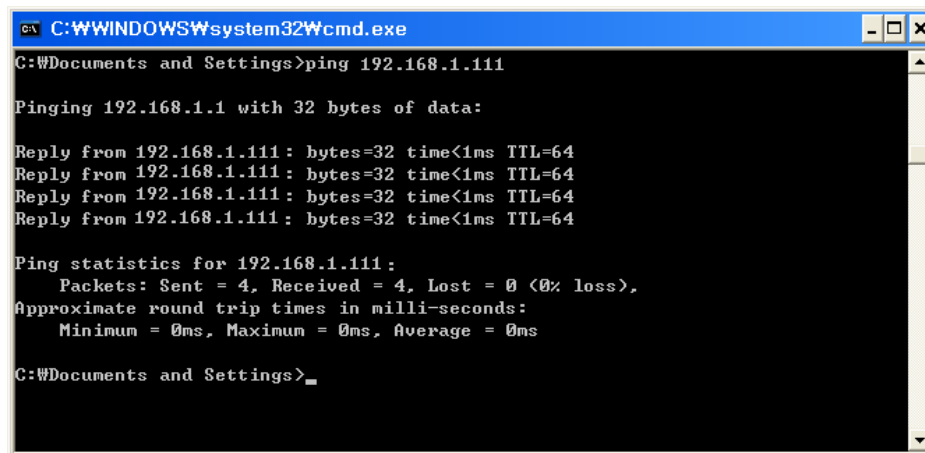
Ping statistics for 192.168.1.111:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\Documents and Settings>
```

Network Interface

When you see “Request timed out.” as shown below, it means that there is no collision. The corresponding IP can be used.

On the other hand, if there is a reply as shown below, then the corresponding IP is used by another network terminal and it cannot be used for the printer IP.



```
C:\WINDOWS\system32\cmd.exe
C:\Documents and Settings>ping 192.168.1.111

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.111: bytes=32 time<1ms TTL=64
Reply from 192.168.1.111: bytes=32 time<1ms TTL=64
Reply from 192.168.1.111: bytes=32 time<1ms TTL=64
Reply from 192.168.1.111: bytes=32 time<1ms TTL=64

Ping statistics for 192.168.1.111:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\Documents and Settings>
```

3) Check Cable

When using Ethernet

- In order to check whether the problem is due to the LAN cable, connect the cable connected to the printer to other terminals or the PC to confirm whether its operation is normal.

[Appendix 1] Details of interface card

Item	Details
Network interface	10/100 Base-T All in one (Auto detection)
Protocol	TCP, IP, ICMP,IGMP, ARP, HTTP
IP mode	static IP, DHCP (Dynamic Host Configuration Protocol)
RX buffer	2K Byte
Flow control	Hardware (RTS/CTS)

[Appendix 2] Virtual Driver

It converts output of Serial (COM) port into output of Ethernet (TCP/IP) port.
It is available for Windows 2000, XP, 2003 Server, VISTA, 7.