

METAPACE

Ethernet Interface Manual
Thermal / Label Printer

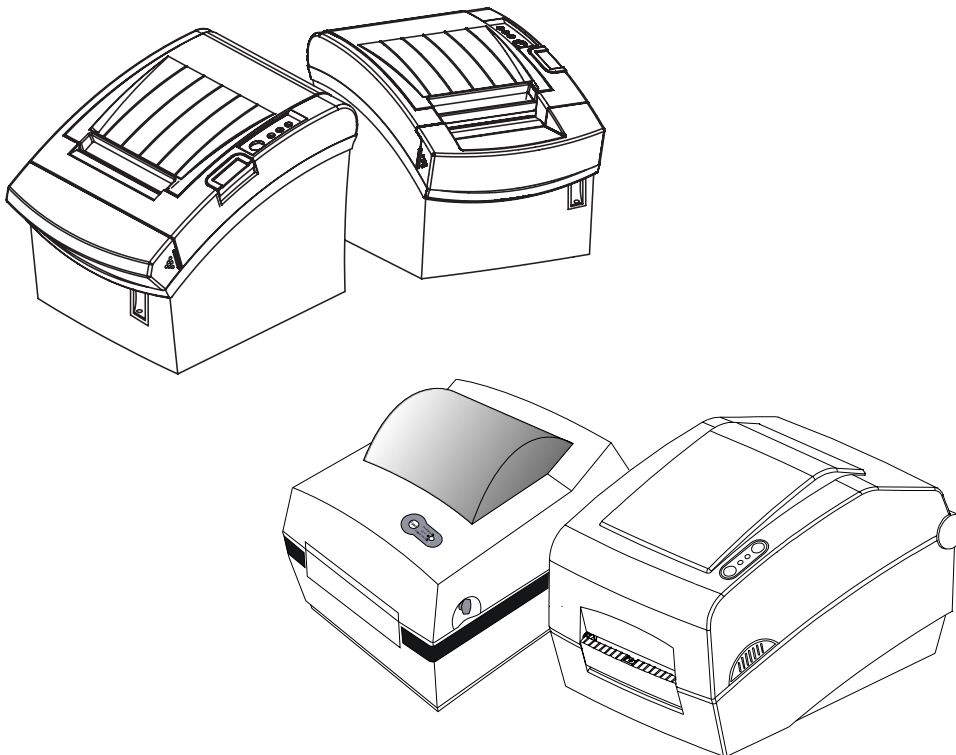
Rev. 1.01

Metapace T-1

Metapace T-2

Metapace L-1

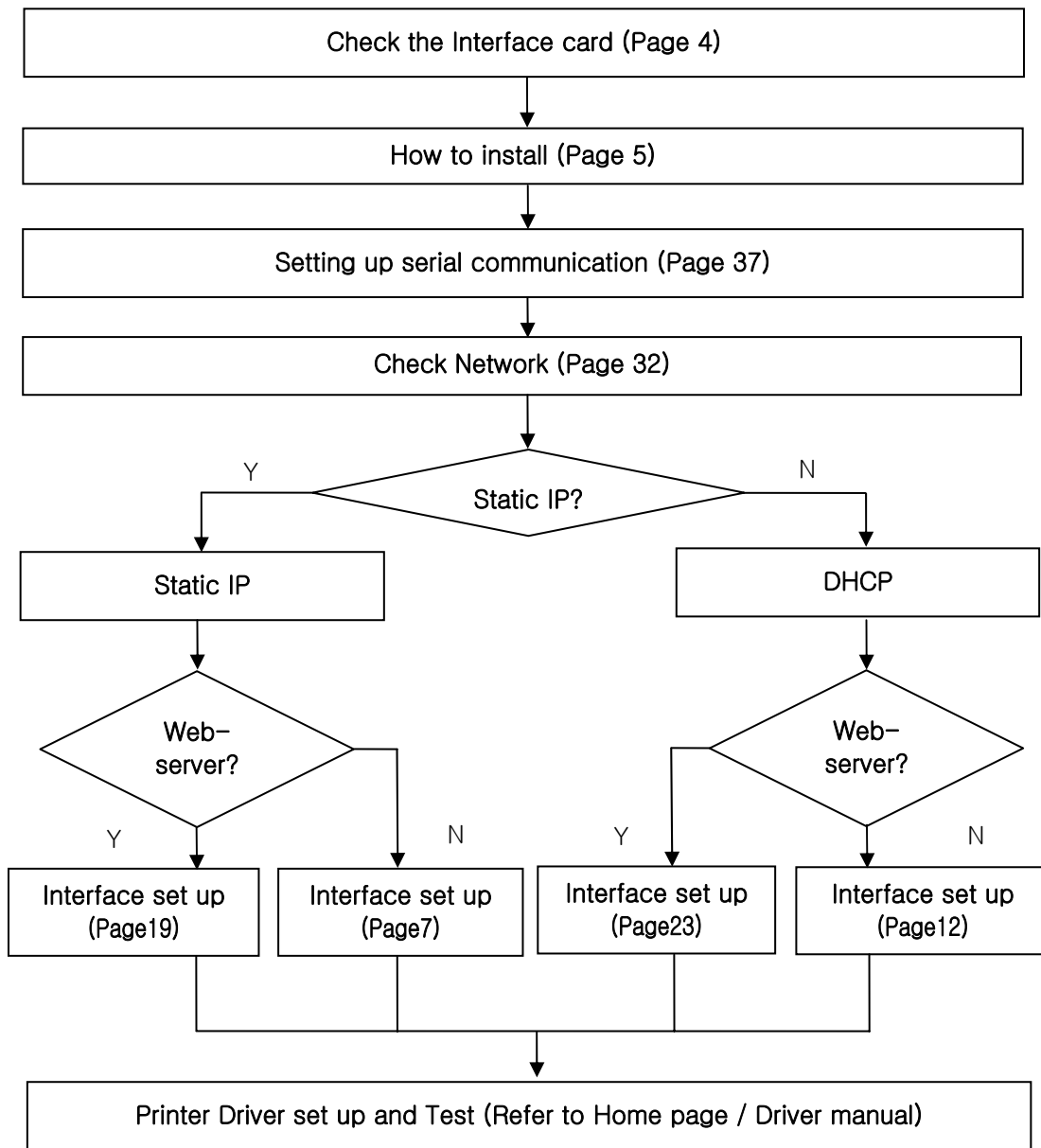
Metapace L-2



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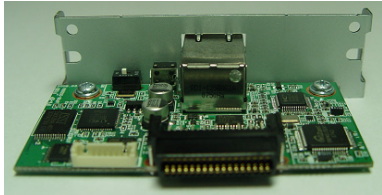
1. Interface setting Guiding



2. 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.

3. Interface card and available printer

Printer	Interface Card	Hardware version	Picture
Metapace T-1 / T-2	IFA-EP TYPE	V1.x.x	
Metapace L-1 / L-2	-	-	ON Board

4. How to install

- 1) Check the interface version

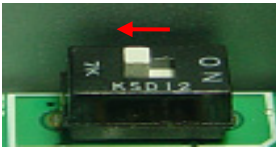

[Note]

Each version uses its own Configuration Tool.

- 2) Turn of the printer and insert the interface card.

[Note]

When a user installs IFA-EP on printer, The DIP switch on the interface board should always be OFF

Interface Card	Printer	Picture
IFA-EP TYPE	Metapace T-1	
	Metapace T-2	


- 3) Set the baud rate (Serial speed)
(Refer to [Appendix 3])

- 4) Connect LAN cable to the interface card and turn on the printer.

5. Specifications

5-1 Hardware version

Hardware version is marked on the label on the interface card bracket.

Interface Card	Picture
IFA-EP TYPE	

5-2 Configuration Tool

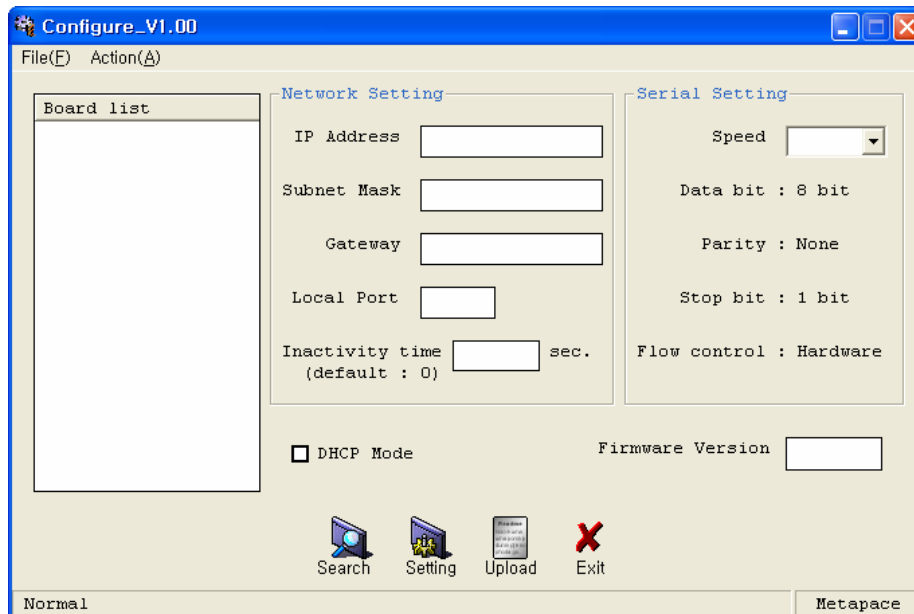
Metapace T-1 / T-2 / L-1 / L-2 provides 2 types of network and serial communication set up utilities as a below.

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

6. Configuration Tool

6-1 Static IP interface set up

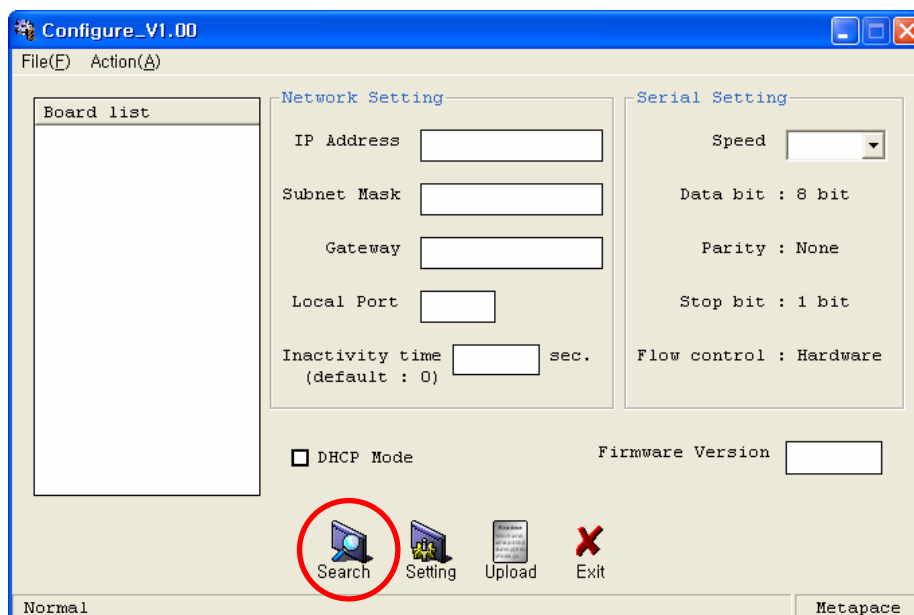
- 1) Turn on the printer.
- 2) Execute **Configure Tool**.



[Note]

- Use proper Configuration Tool dependent on hardware version

- 3) Click **Search**.

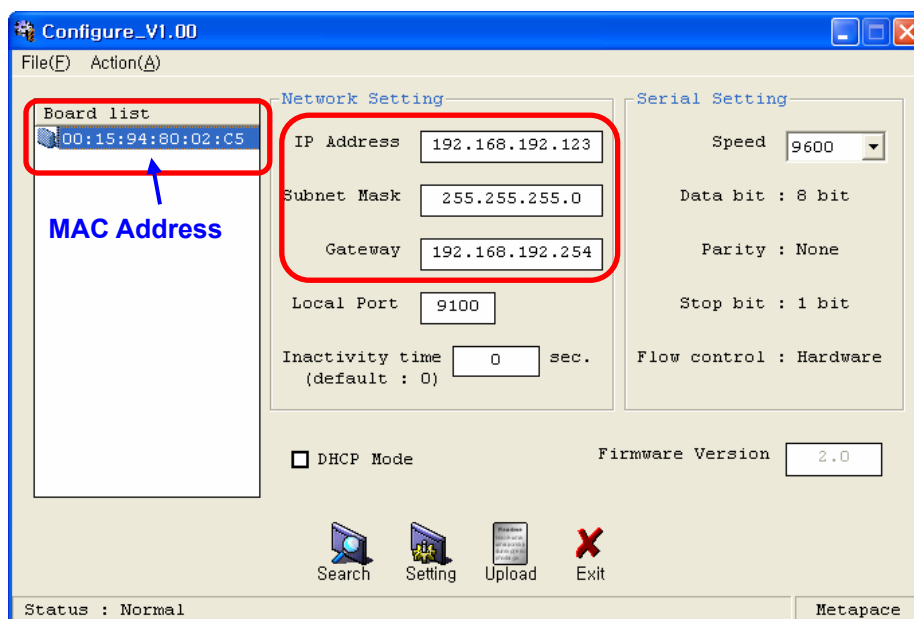


[Note]

- 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.

- 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,

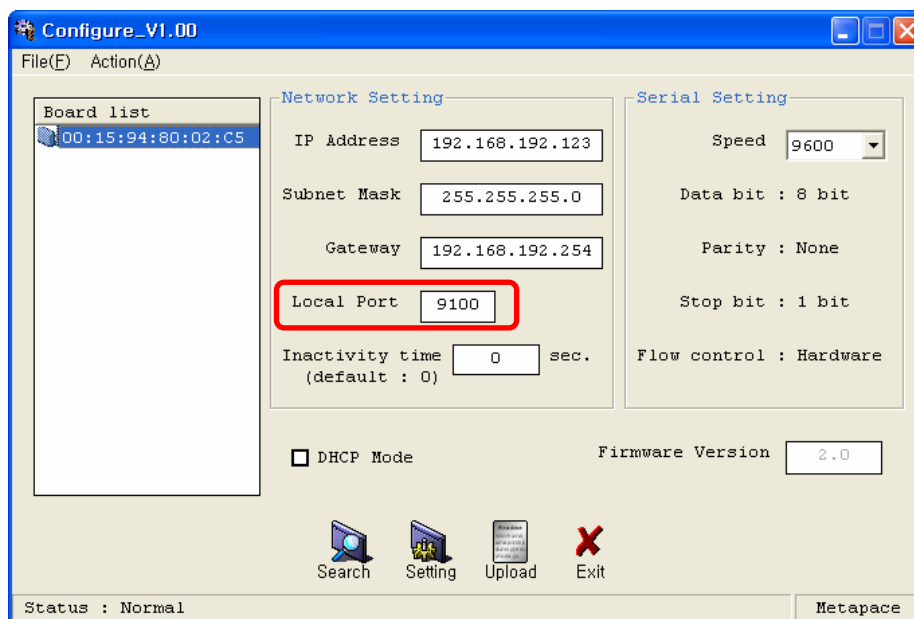
(1) When the Network is connected to Internet (Router or Server computer),

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.

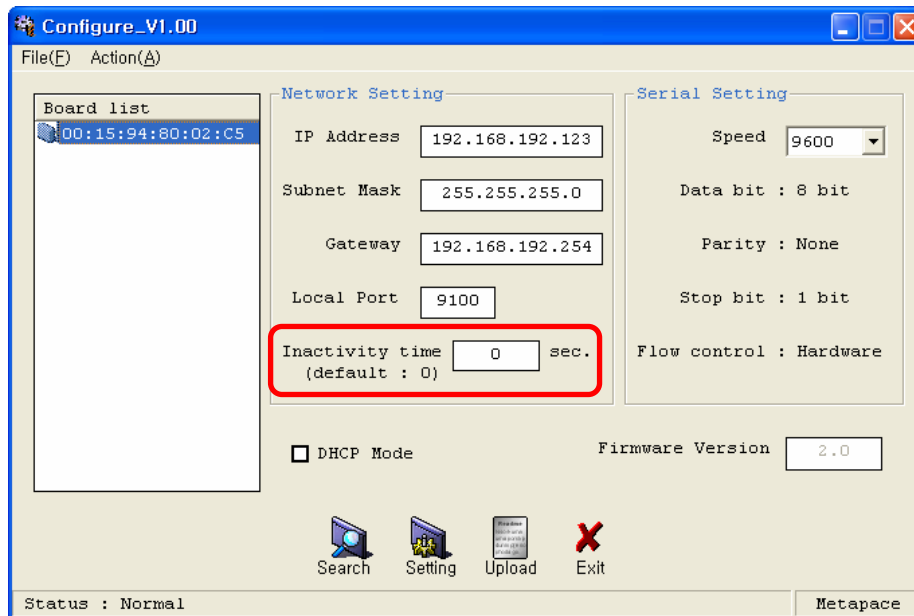
5) Enter value at **Local Port**.



[Note]

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

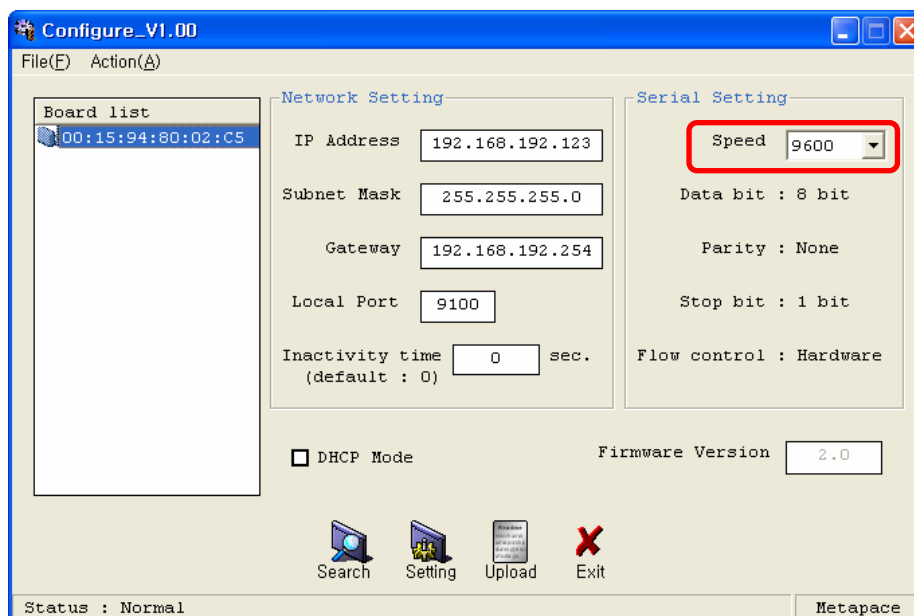
6) Set Inactivity Time as '0'.



[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.

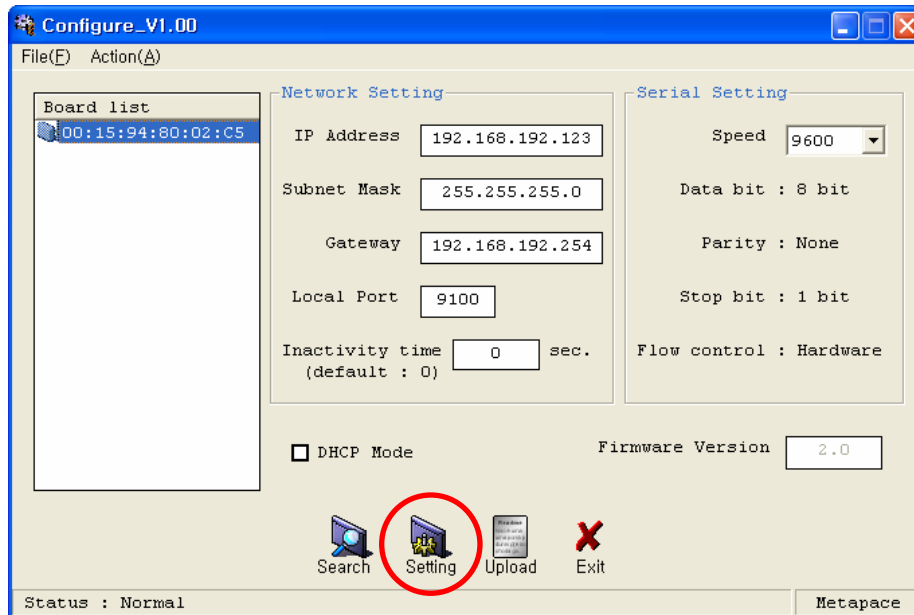
7) Set baud rate (Speed) at **Serial Setting**.



[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 L-1 need to setting.
- The baud rate (Speed) of Metapace T-1 / T-2 / L-2 don't need to setting.

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



[Note]

Successfully finished set up

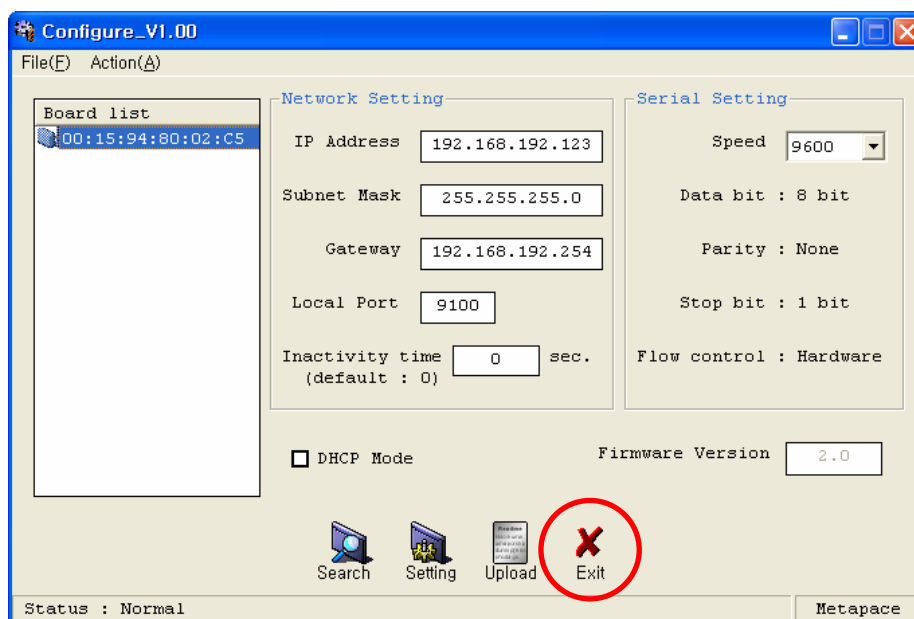


Unsuccessfully finished set up



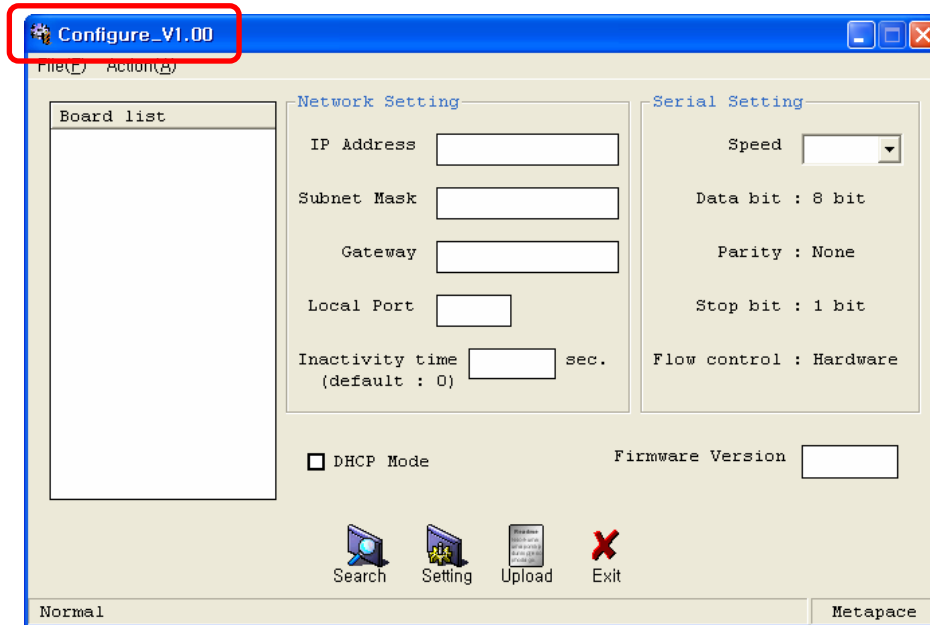
- When setting doesn't finish correctly, try again.

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



6-2 DHCP interface set up

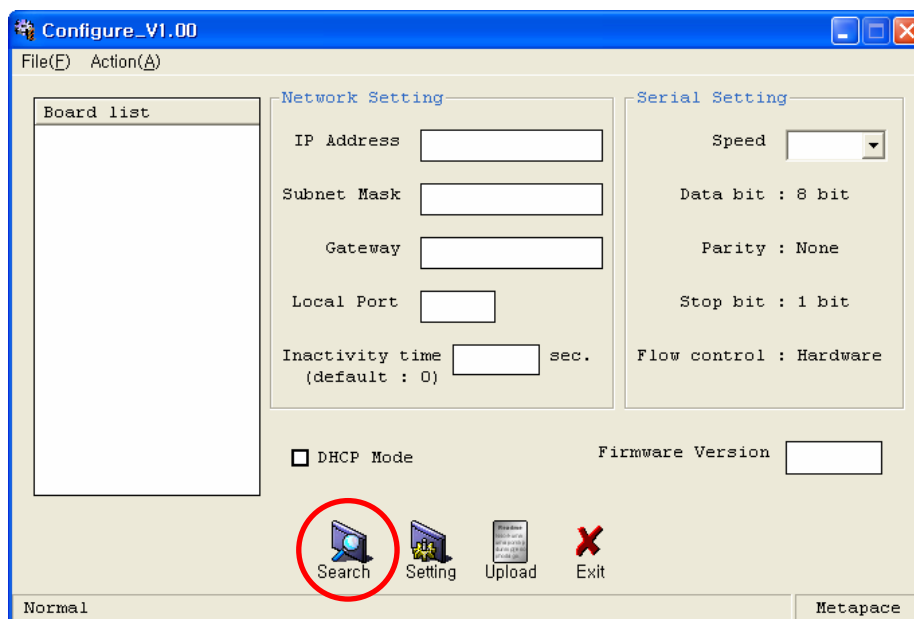
- 1) Turn on the printer.
- 2) Execute **Configure Tool**.



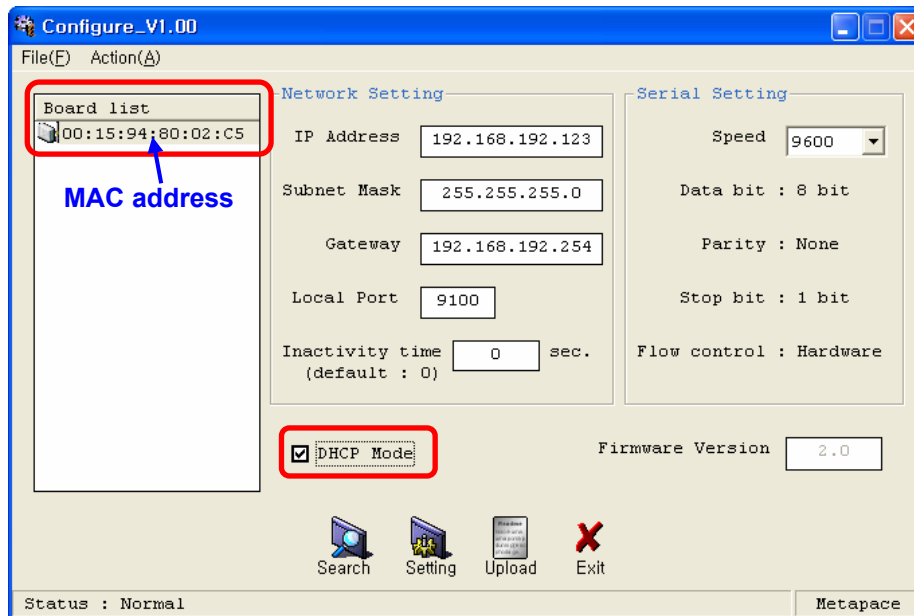
[Note]

- Use proper Configuration Tool dependent on hardware version.

- 3) Click **Search**.



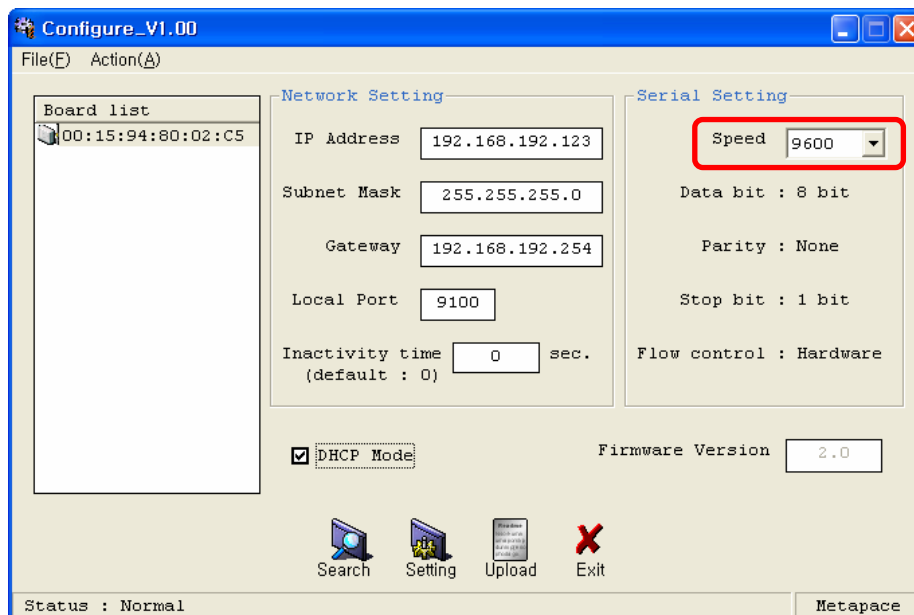
4) Select MAC Address in **Board list** and check at **DHCP Mode**.



[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.

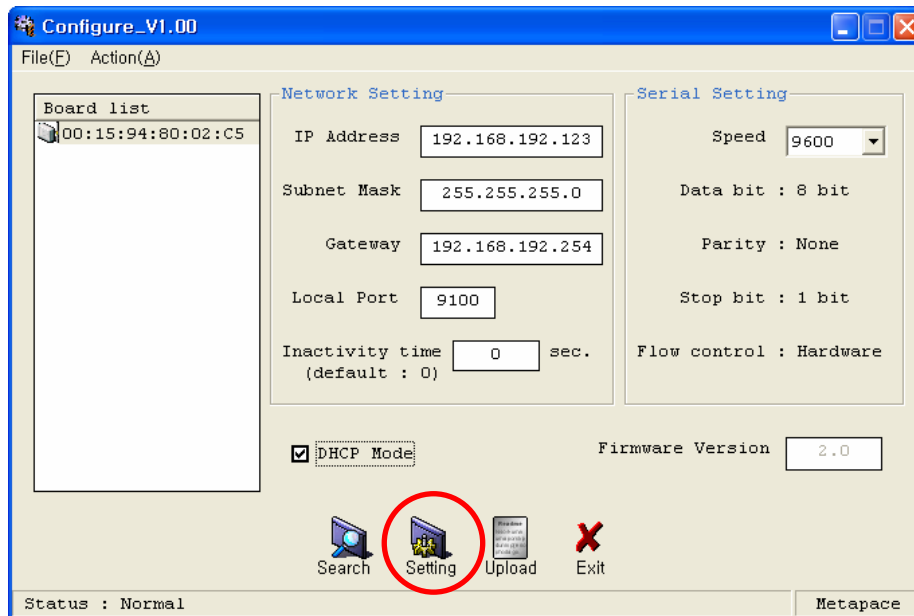
5) Set baud rate at “**Speed**”.



[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 L-1 need to setting.
- The baud rate (Speed) of Metapace T-1 / T-2 / L-2 don't need to setting.

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



[Note]

Successfully finished set up



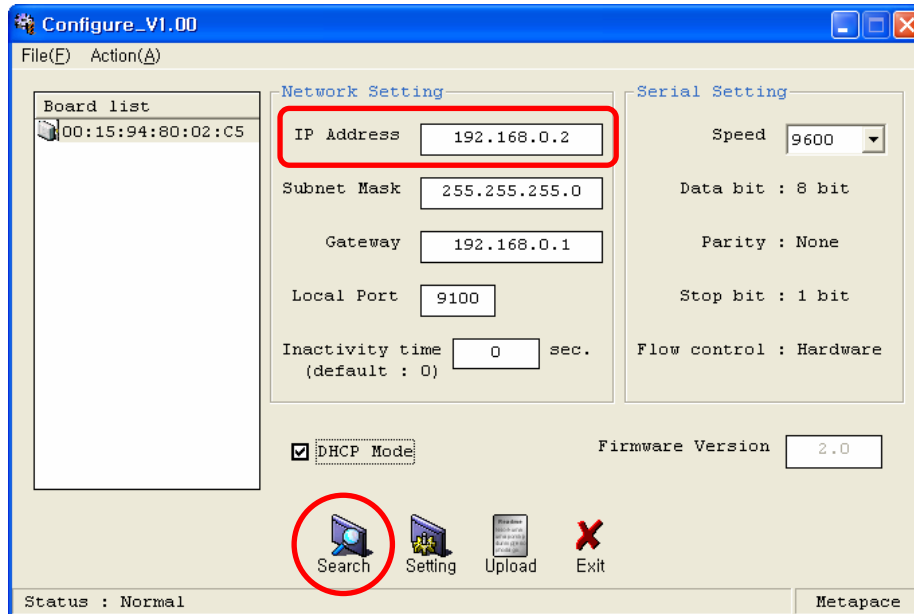
Unsuccessfully finished set up



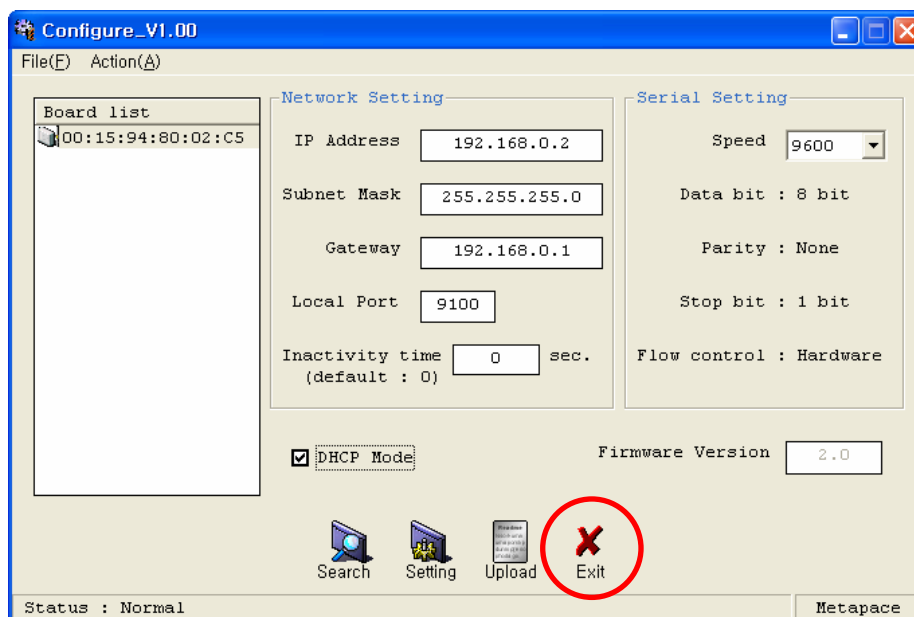
- When setting doesn't finish correctly, try again.

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

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

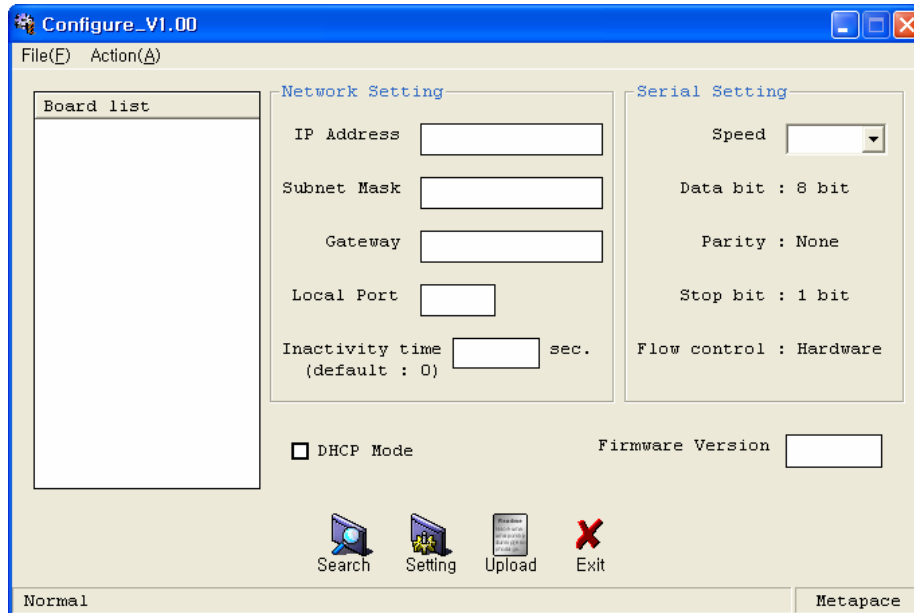


9) If the given IP is OK, click **Exit**.



6-3 Firmware update

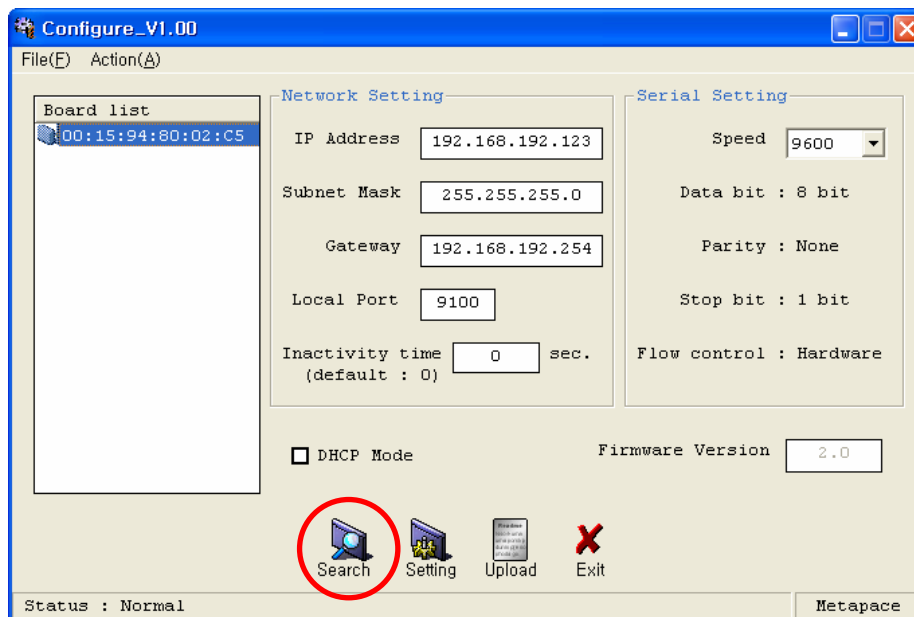
- 1) Turn on the printer.
- 2) Execute **Configure Tool**.



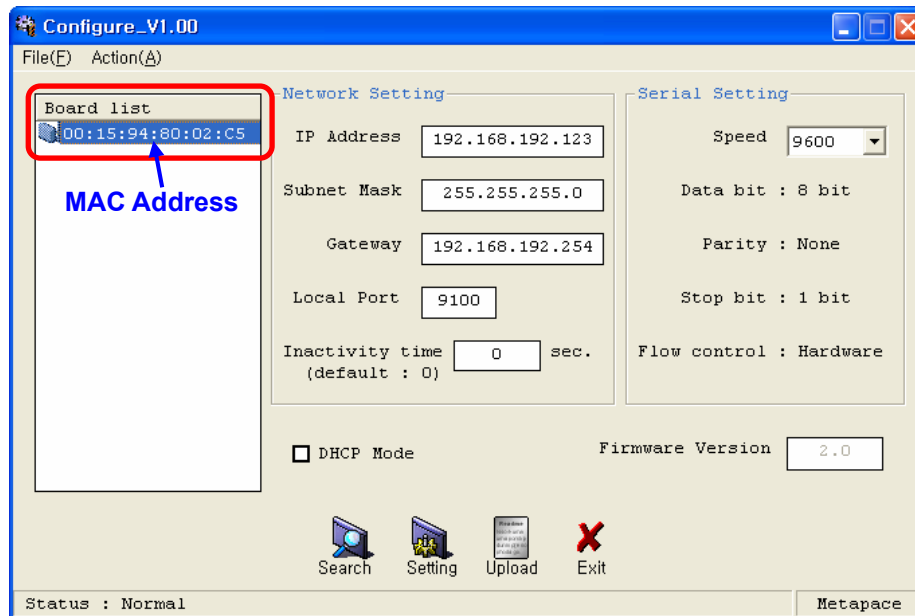
[Note]

- Use proper Configuration Tool dependent on hardware version.

- 3) Click **Search**.



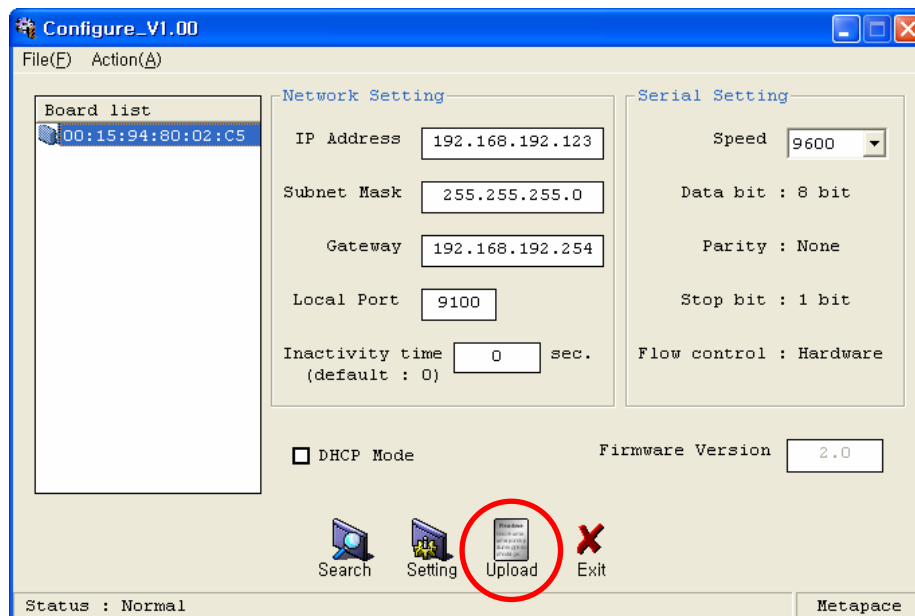
4) Select **MAC Address** in **Board**.



[Note]

- If many MAC addresses appear, refer to the MAC address on the label of the interface card.

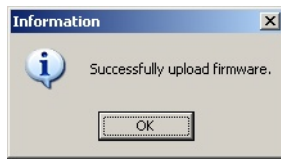
5) Click **Upload** and select file to download.



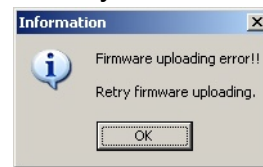
[Note]

- Check the extension of the file, which should be “bin”.

Successfully finished F/W update



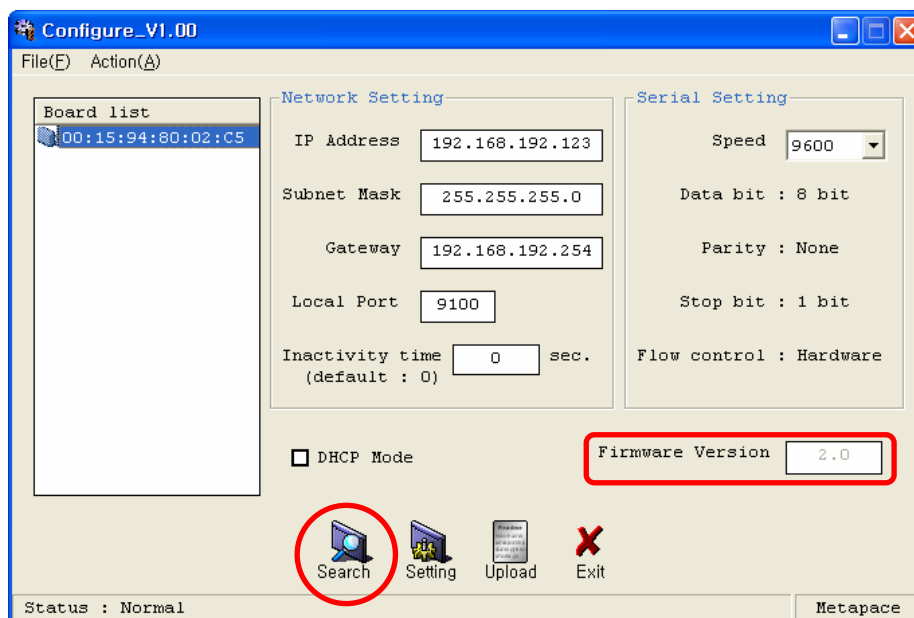
Unsuccessfully finished F/W update



[Note] Printer and available firmware

Interface Card	Hardware Version	Firmware
Metapace T-1 / T-2	V1.x.x	ETP_TCP_V2X.bin
Metapace L-2	ON Board	
Metapace L-1	ON Board	ETS_TCP_V5X.bin

6) When firmware update finishes, click **Search** to check if Firmware is updated successfully.



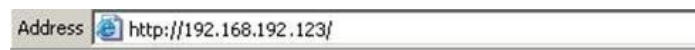
[Note]

- Don't turn off the printer while the firmware is updated. It causes fatal harm to interface card.

7. Web Server

7-1 Static IP interface set up

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

A screenshot of a web-based configuration window titled "Configuration". The window contains a table of network settings. The settings are: F/W ver. 2.0, MAC 00:15:94:80:02:C5, Source IP 192.168.100.226, Subnet Mask 255.255.255.0, Gateway IP 192.168.100.254, Local Port 9100, Inactivity Time 0, and DHCP mode (unchecked). Below the table is an "Apply" button. At the bottom right of the window is a link labeled "Firmware update".

F/W ver.	2.0
MAC	00:15:94:80:02:C5
Source IP	192.168.100.226
Subnet Mask	255.255.255.0
Gateway IP	192.168.100.254
Local Port	9100
Inactivity Time	0
DHCP mode	<input type="checkbox"/>

Apply

[Firmware update](#)

[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**.

A screenshot of the same "Configuration" window as above. A red rectangular box highlights the "Source IP", "Subnet Mask", and "Gateway IP" fields and their corresponding input boxes. The other settings and the "Apply" button remain visible.

F/W ver.	2.0
MAC	00:15:94:80:02:C5
Source IP	192.168.100.226
Subnet Mask	255.255.255.0
Gateway IP	192.168.100.254
Local Port	9100
Inactivity Time	0
DHCP mode	<input type="checkbox"/>

Apply

[Firmware update](#)

[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 not connected to Internet (Router or Server computer),
Enter 0.0.0.0 for Gateway.

4) Enter value of **Local Port**.

The screenshot shows a 'Configuration' window with the following fields:

F/W ver.	2.0
MAC	00:15:94:80:02:C5
Source IP	192.168.100.226
Subnet Mask	255.255.255.0
Gateway IP	192.168.100.254
Local Port	9100
Inactivity Time	0
DHCP mode	<input type="checkbox"/>

An 'Apply' button is located below the fields. A 'Firmware update' link is visible in the bottom right corner.

5) Set **Inactivity Time**.

The screenshot shows the same 'Configuration' window as above, but with the 'Inactivity Time' field highlighted by a red box. The 'Local Port' field is now visible and contains the value 9100.

F/W ver.	2.0
MAC	00:15:94:80:02:C5
Source IP	192.168.100.226
Subnet Mask	255.255.255.0
Gateway IP	192.168.100.254
Local Port	9100
Inactivity Time	0
DHCP mode	<input type="checkbox"/>

An 'Apply' button is located below the fields. A 'Firmware update' link is visible in the bottom right corner.

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

The screenshot shows a 'Configuration' window with the following fields:

F/W ver.	2.0
MAC	00:15:94:80:02:C5
Source IP	192.168.100.226
Subnet Mask	255.255.255.0
Gateway IP	192.168.100.254
Local Port	9100
Inactivity Time	0
DHCP mode	<input type="checkbox"/>

At the bottom of the window, there is an 'Apply' button highlighted with a red box and a 'Firmware update' link.

[Note]

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

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

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

[Note]

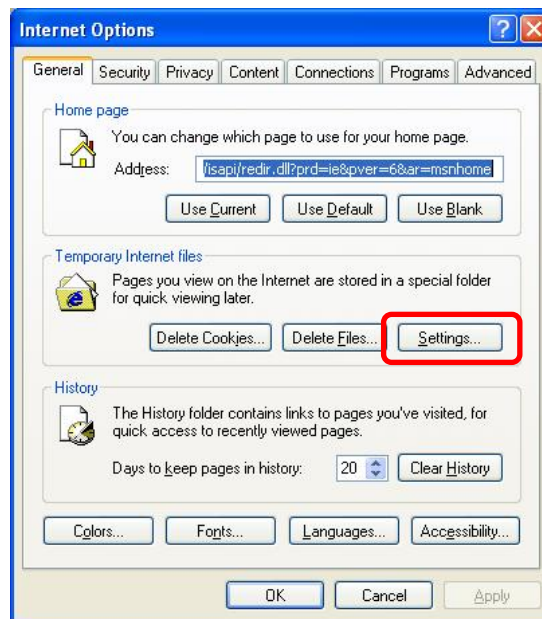
- If any change was not found after setting on Web Server, check the bellows;

(1) Execute Internet Explorer.

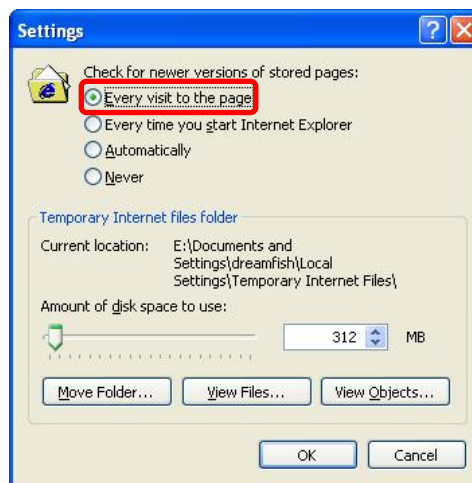
(2) Internet Explorer **Menu** → **Tools** → **Internet options**.



(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.

7-2 DHCP interface set up

1) Check at **DHCP mode** and click **Apply**.

Configuration	
F/W ver.	2.0
MAC	00:15:94:80:02:C5
Source IP	<input type="text" value="192.168.192.123"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway IP	<input type="text" value="192.168.192.254"/>
Local Port	<input type="text" value="9100"/>
Inactivity Time	<input type="text" value="0"/>
DHCP mode	<input checked="" type="checkbox"/>

[Firmware update](#)

2) Push the Function Key on the interface 10 or more seconds from finishing set up.
Enter given IP address at address of Internet Explorer to enter web server.

7-3 Firmware update

1) Click **Firmware update**.

The screenshot shows a 'Configuration' window with the following fields:

F/W ver.	2.0
MAC	00:15:94:80:02:C5
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 checked="" type="checkbox"/>

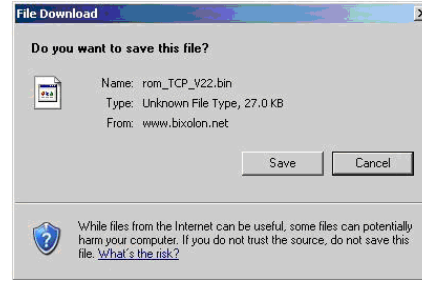
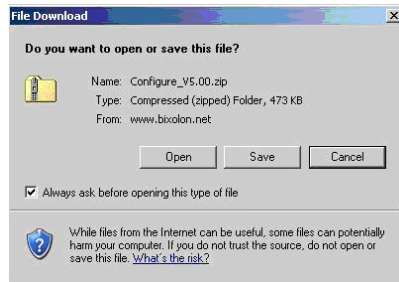
Below the fields are 'Apply' and 'Firmware update' buttons. The 'Firmware update' button is highlighted with a red rectangle.

2) Internet Explorer is executed and it moves to download site automatically.

[Note] Printer and available firmware

Interface Card	Hardware Version	Firmware
Metapace T-1 / T-2	V1.x.x	ETP_TCP_V2X.bin
Metapace L-2	ON Board	
Metapace L-1	ON Board	ETS_TCP_V5X.bin

3) Download **Configure_Vx.xx.zip** file and ***.bin** file.



[Note]

- You can download it by double-clicking icons or copy and paste.

4) Unzip **Configure_Vx.xx.zip** and execute **Configure_Vx.xx.exe** at **Configure_Vx.xx** folder.

COMDLG32.OCX	ActiveX Control	61 KB	No	138 KB	56%	5/22/2000 12:00 AM
Configure_setup.bat	MS-DOS Batc...	1 KB	No	1 KB	60%	6/15/2006 2:07 PM
Configure_V5.00.exe	Application	25 KB	No	80 KB	70%	6/16/2006 9:33 AM
MSCOMCT2.OCX	ActiveX Control	332 KB	No	633 KB	48%	5/17/2004 6:19 PM
MSWINSCK.OCX	ActiveX Control	54 KB	No	107 KB	50%	12/6/2000 12:00 AM
progress.avi	Video Clip	3 KB	No	135 KB	99%	1/27/2002 5:34 AM

[Note]

- In case **Configure_Vx.xx.exe** can't be executed, run **configure_setup.bat** first and retry it.

5) Click **Upload** at Configuration Tool and ***.bin** to update Ethernet firmware.

8. Ethernet test by using Windows test page

1) Install Windows driver of the printer. When the driver installation finishes, reboot the computer.

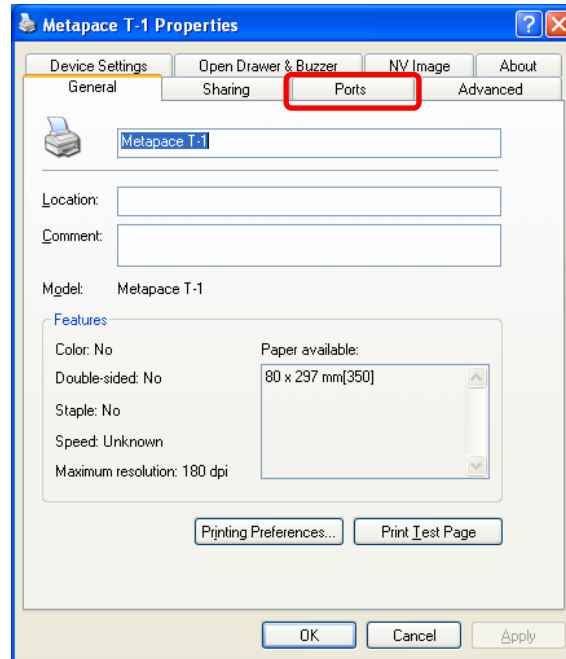
2) **Start > Control panel > Printers and Faxes**



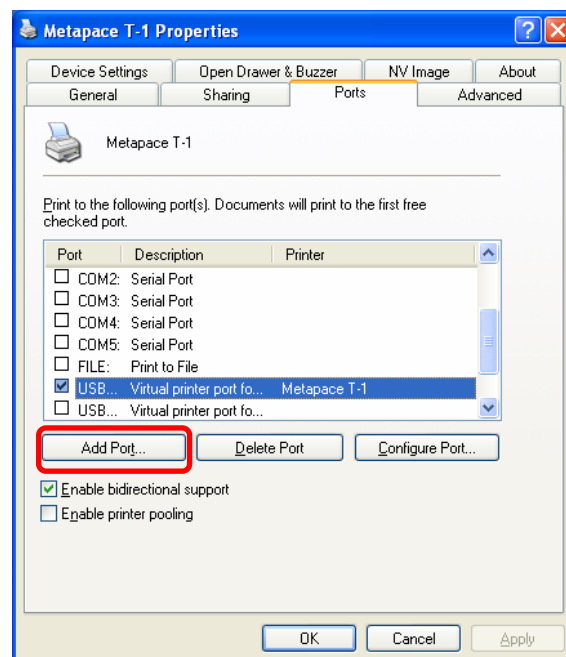
3) Select the printer icon and click it with the right button to select **properties**.



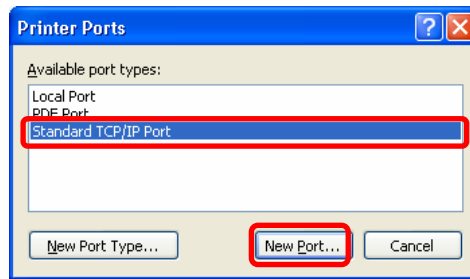
4) Select **Ports** tab.



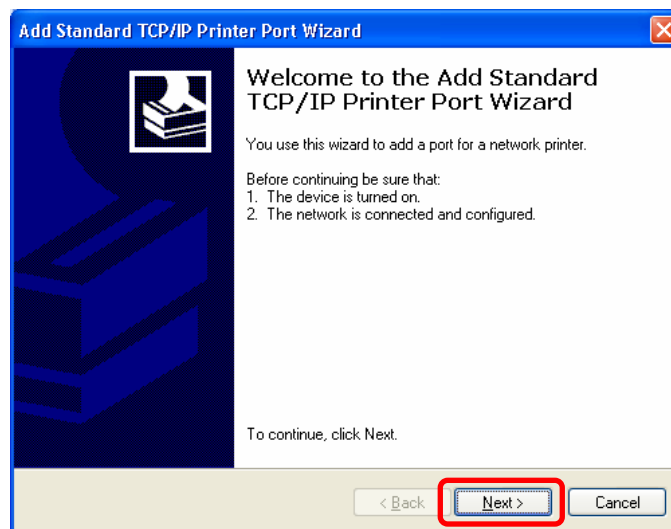
5) Click **Add Port**.



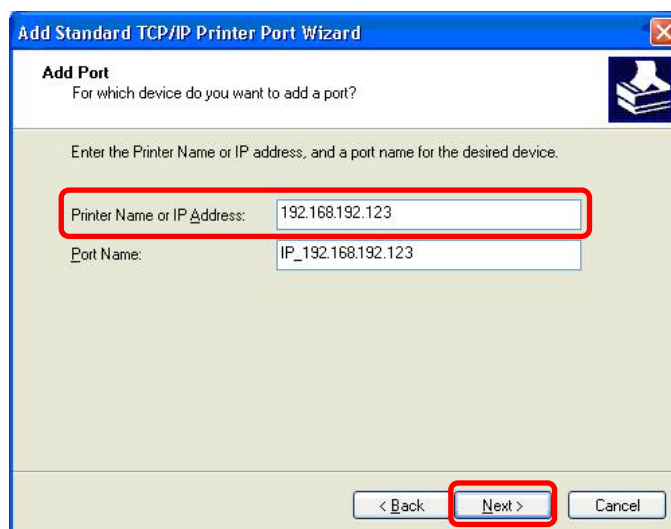
6) Select **Standard TCP/IP Port** and click **New port**.



7) When standard TCP/IP printer add wizard window pops up, click **Next**.



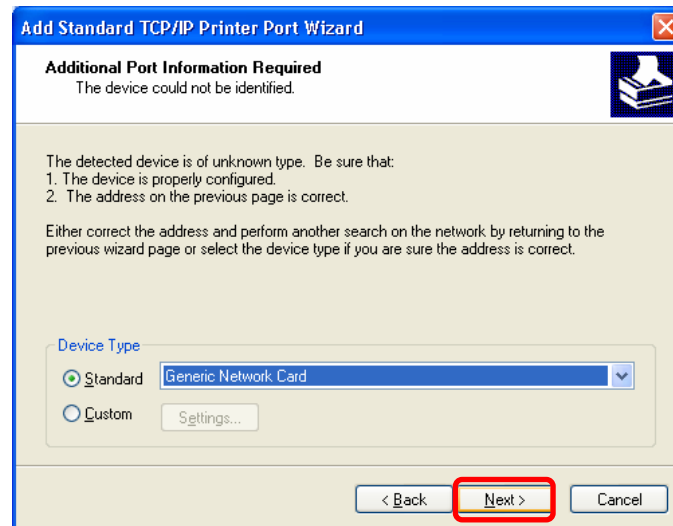
8) Enter printer IP at **Printer Name or IP Address** and click **Next**.



[Note]

- Enter same IP address as the Ethernet interface card. Enter only at **Printer Name or IP Address**.

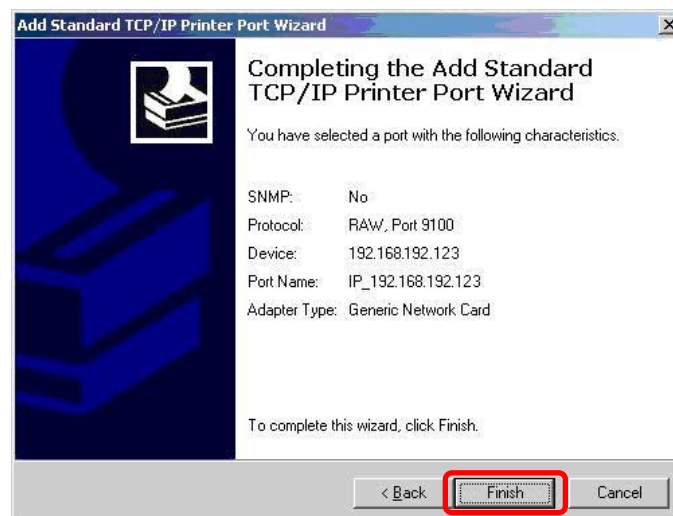
9) Click **Next**.



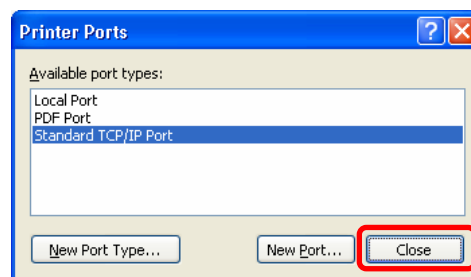
[Note]

- Click **Next** without any selection nor change.

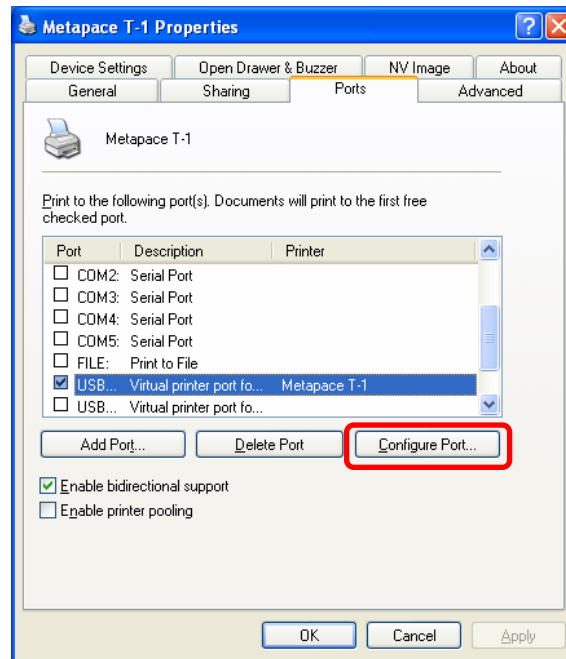
10) Click **Finish**.



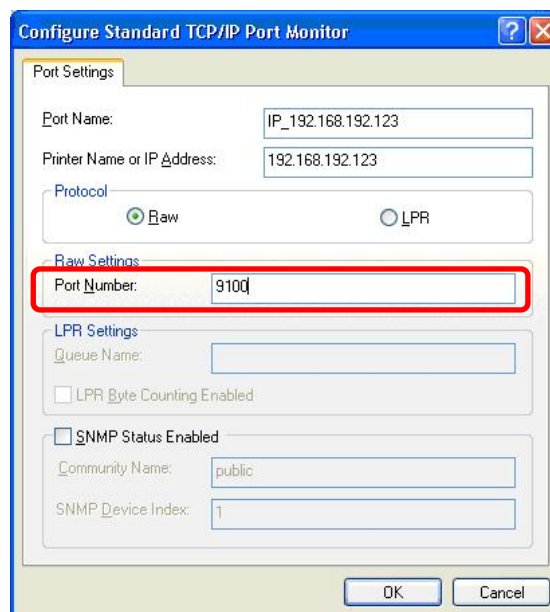
11) Click **Close** to close Printer port window.



12) Click **Configure Port**.



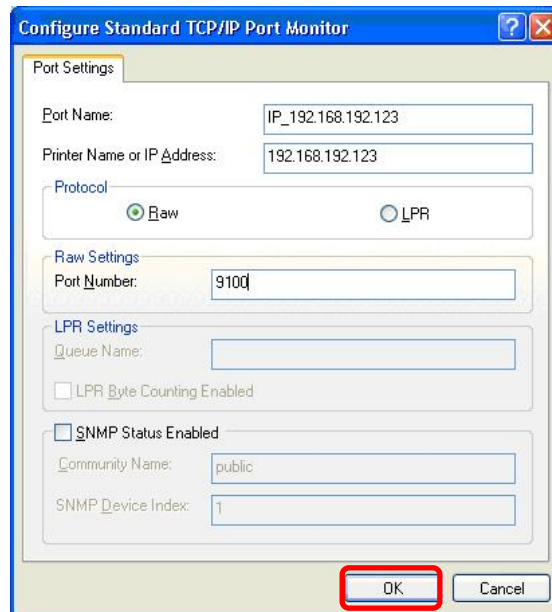
13) Enter same port number as the value of Local Port of the Ethernet interface at **Raw Setting**.



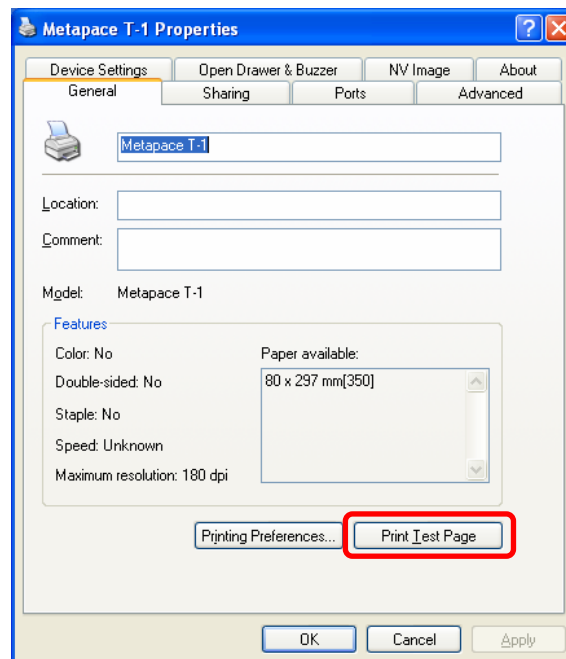
[Note]

- There is no change except **Raw Setting**.

14) Click **OK**.

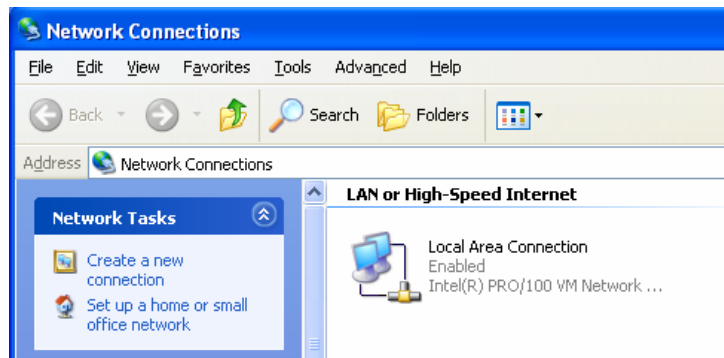


15) Select General tab and click **Print Test Page** to check if the printer works properly.

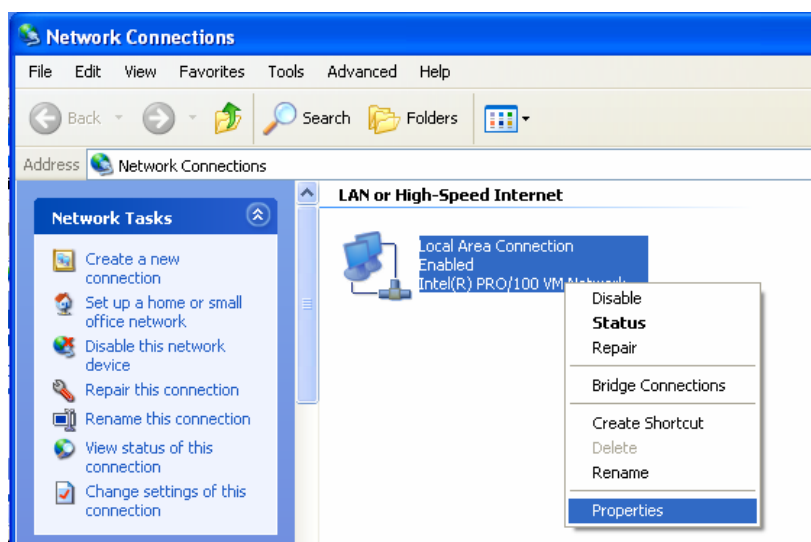


9. How to check Static IP or DHCP

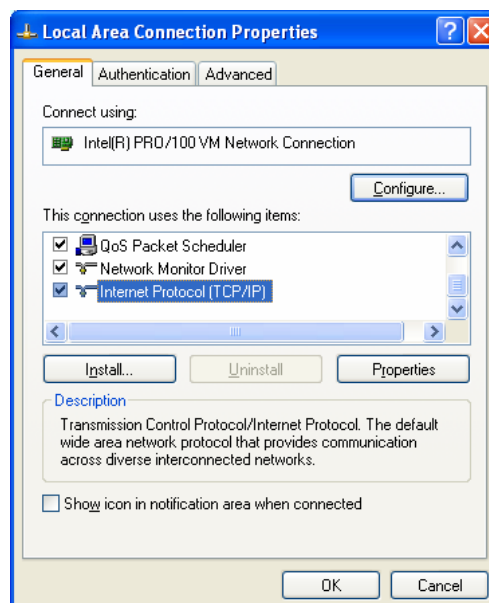
1) Start > Control panel > Network Connections.



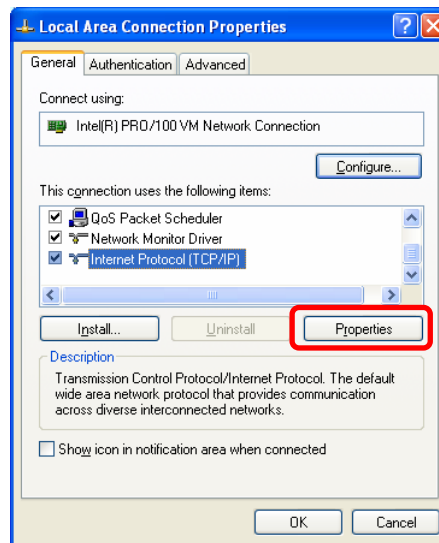
2) Select: “Local Area Connection and click it with the right button to select properties.



3) Select General tab and Select “Internet Protocol(TCP/IP)”.

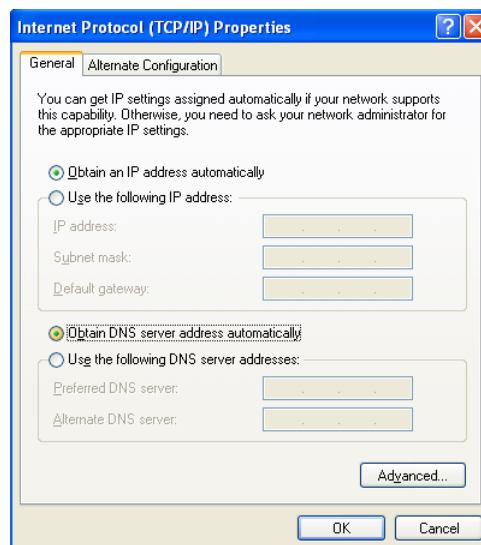


4) Click “**Properties**”.



5) Information of network registration with **Static IP**.

6) Information of network registration with **DHCP**.



10. Factory Reset

1) Default setting after factory reset

- Activate DHCP mode
- Local Port: 9100
- Inactivity Time: 0
- Speed (Except Metapace T-1/ T-2/ L-2)
Metapace L-1: 230400 bps

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.

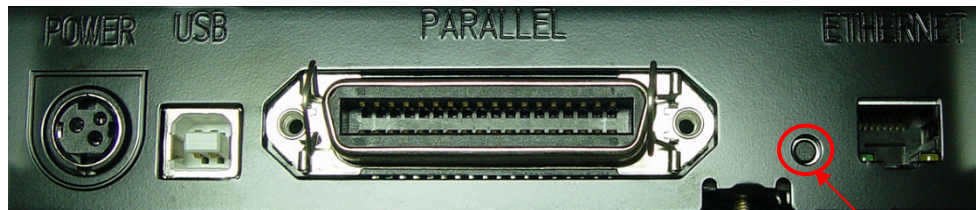
[Note]

- Check if the baud rate of the printer is set same as below.
Metapace L-1: 230400 bps (Except Metapace T-1 / T-2 / L-2)

11. 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.



Metapace L-1

Function key



Metapace L-2

- (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
- Serial speed
- Firmware Version

[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