



# Printer Tool

## User Guide

D2、D4、O4、P4、I4、iX4 Series Printer



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V1.0-02-10-2017

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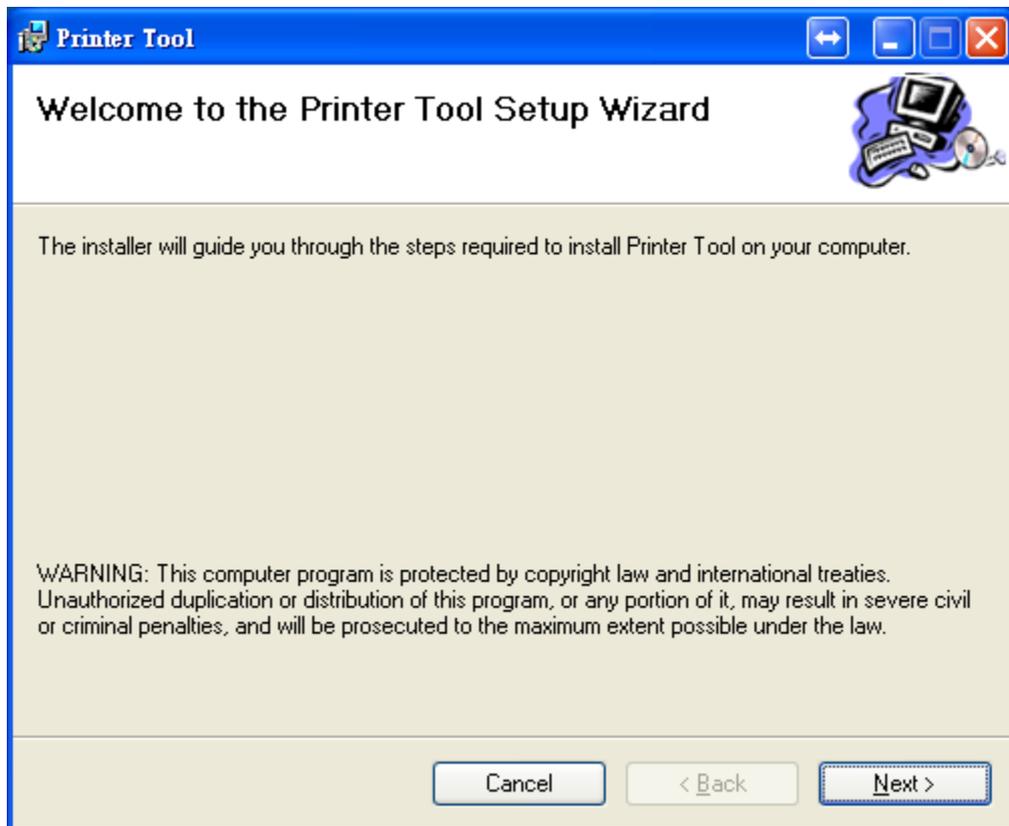
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# 1 Printer Tool

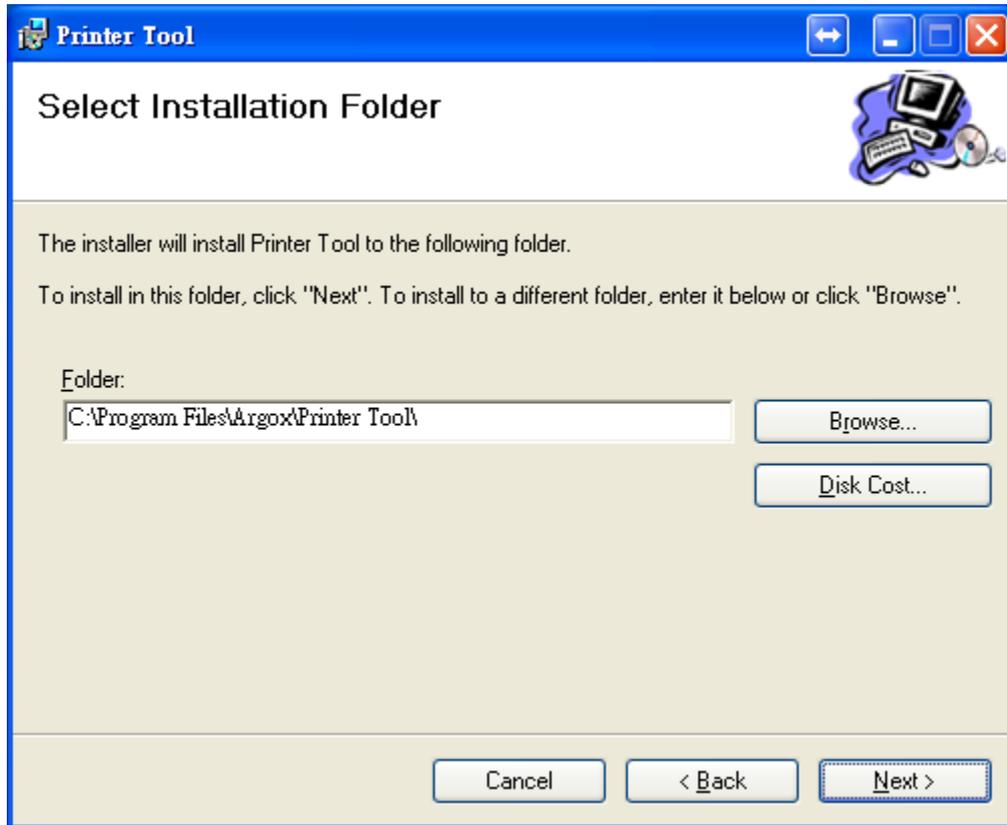
Printer Tool provides a user-friendly interface to configure your printer. You can define properties, update firmware and send commands in Printer Tool.

## 1.1 Install Printer Tool

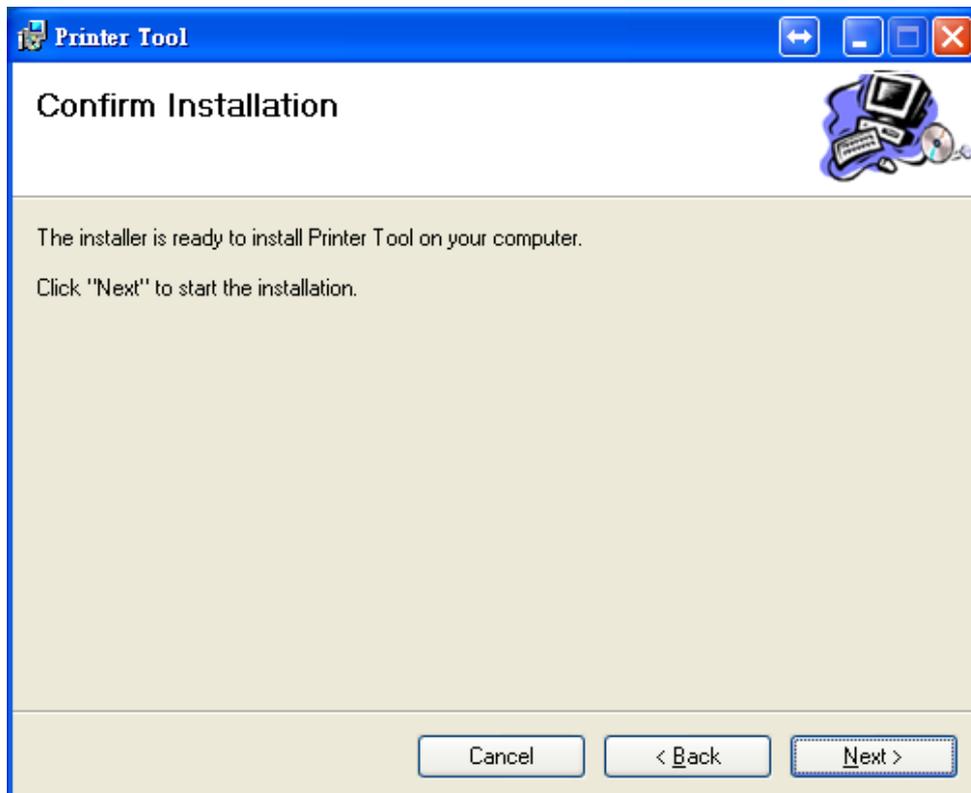
1. Insert the DVD into your DVD drive.
2. Locate the installation file on the DVD and click it.
3. In the **Printer Tool** dialog box, click **Next**.



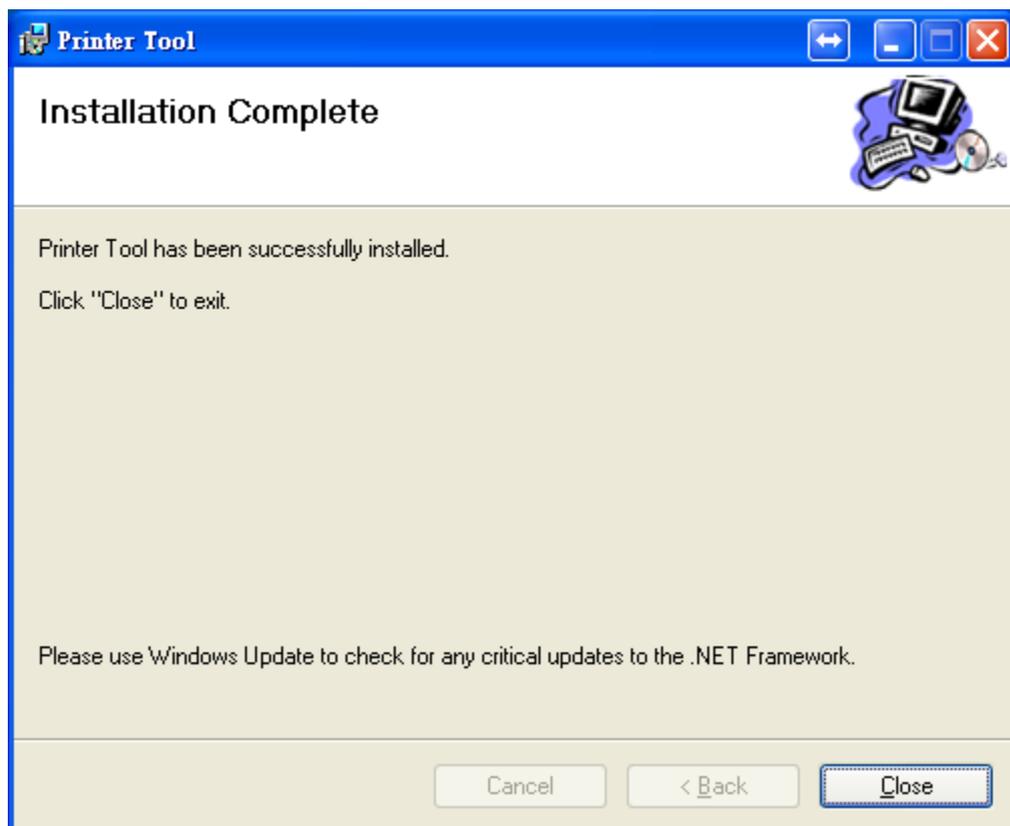
4. In this dialog box, follow the instructions to choose the installation path, and then click **Next**.



5. In this dialog box, click **Next**.

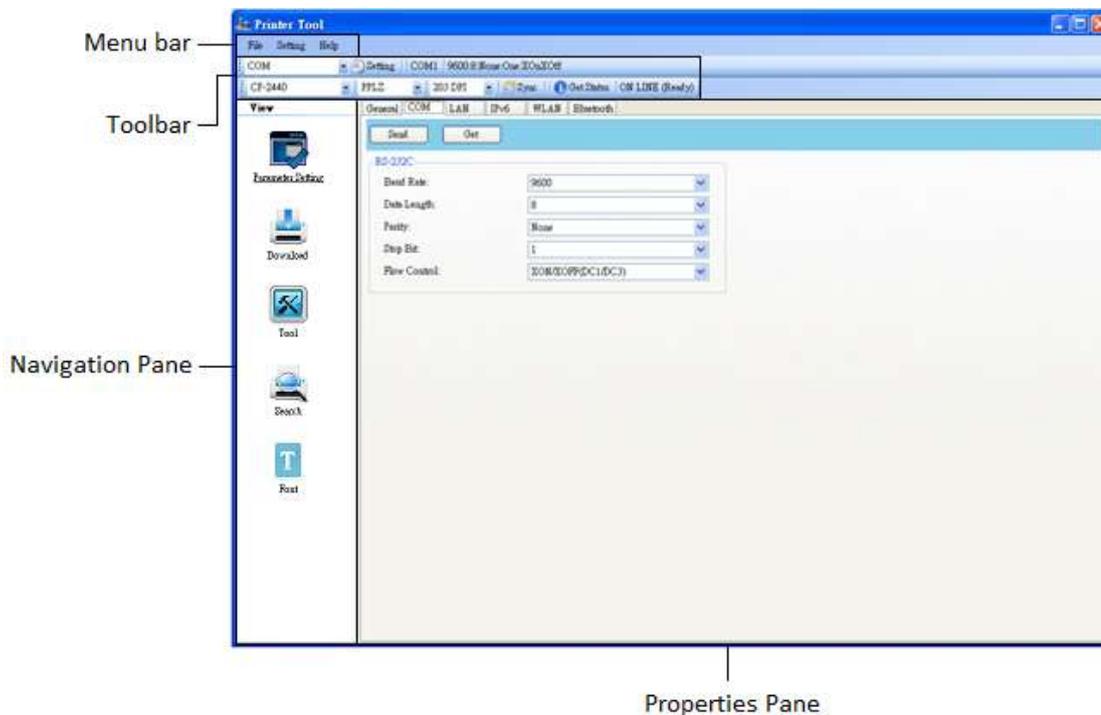


6. After the installation of Printer Tool is complete, click **Close**.



## 1.2 Work with Printer Tool

Start Printer Tool. Its interface looks like this:



- **Menu bar** It includes Printer Tool menus.
- **Toolbar** It provides ports, port settings, emulation languages, printer dpi and printer status.
- **Navigation Pane** You can switch between the listed items to view their tabs.
- **Properties Pane** You can view and manage printer properties or perform tasks.

### 1.2.1 Menu bar

File Setting Help

There are three menus in the menu bar: **File**, **Setting** and **Help**.

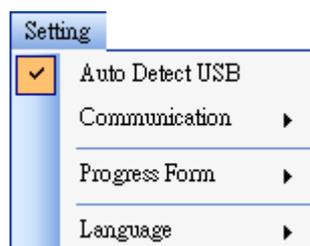
## File



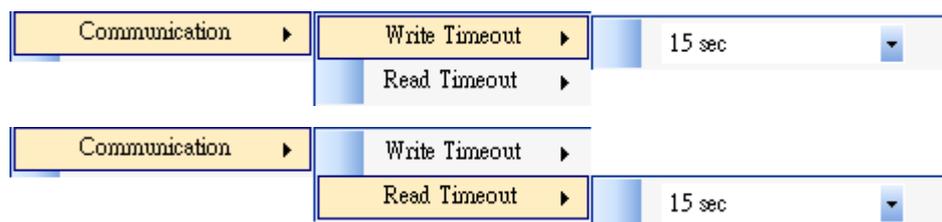
- **Export** Export your printer settings to an XML file, including all parameters, port settings and firmware information.
- **Import** Import printer settings from an XML file.
- **Exit** Exit Printer Tool.

## Setting

- **Auto Detect USB** When you connect your printer to a computer with a USB cable, Printer Tool automatically detects it and shows the USB information in the **Port Name** and **Port Information**. By default, it is enabled.



- **Communication**



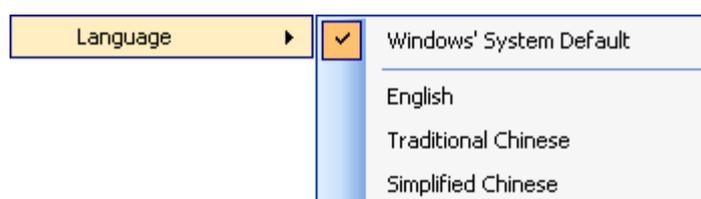
It includes **Write Timeout** and **Read Timeout**. They determine how long your computer (or other devices) waits printer's response when it attempts to write or read data to your printer. The default value is 15 seconds, meaning that the computer waits 15 seconds, and displays an error message if it doesn't receive any response.

- **Progress Form**



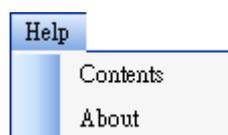
When **Add Date/Time information** is enabled, the current date and time are added into the message in the **Download Firmware** dialog box.

#### ■ Language



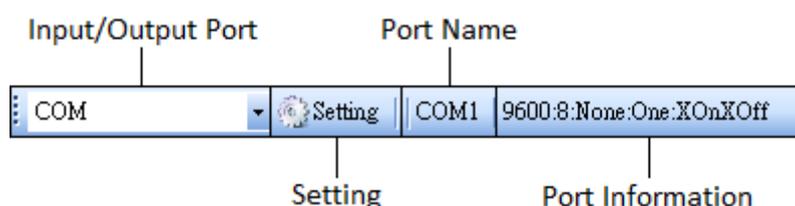
It is the language of Printer Tool interface. You can select **Windows's System Default**, **English**, **Traditional Chinese** or **Simplified Chinese**. By default, it uses your system default.

## Help



- **Contents** The help content of Printer Tool. You can press F1 to display it.
- **About** The version and copyright information about Printer Tool.

## 1.2.2 Toolbar

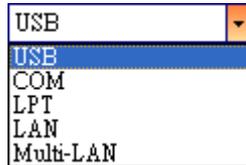


The toolbar has two rows. The first row includes three items.

- **Input/Output Port** The port you use for the data transmission between the computer and your printer.
- **Setting** You can click it to configure the port settings.
- **Port Name** It shows the port name.

- **Port Information** It shows the port information.

Printer Tool provides five ports for data transmission.



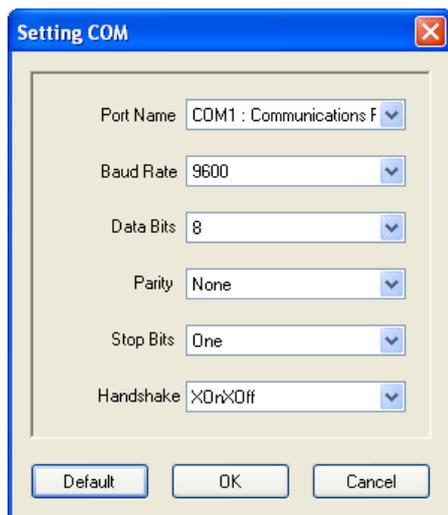
- **USB**

It shows the USB information in the **Port Name** and **Port Information** as soon as the computer detects your printer. By default, the computer automatically detects the **USB** port. You can select the printer you want if your computer is connected to multiple printers via USB. Click **Search** to search the hot-plugging USB printer.



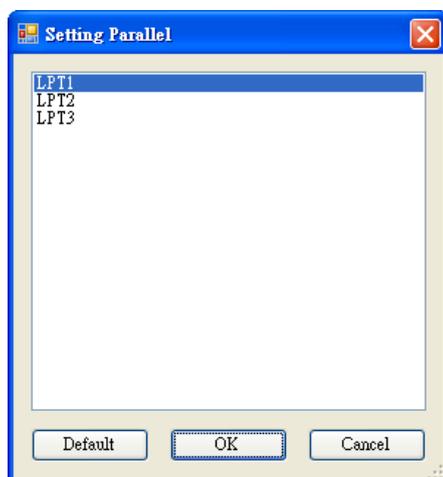
- **COM**

It is the serial port and related to the **COM** tab in **Parameter Setting**. The settings of the **COM** port need to be the same as those in the **COM** tab, except for **Port Name**, which lets you select the **COM** port you want if your computer is connected to multiple printers via COM. If you want to reset all of COM settings, click **Default**.



### ■ LPT

It is the parallel port and only supports simplex communication. That is, the computer can send data to your printer, but your printer can't send data back. You can select the printer you want if your computer is connected to multiple printers via LPT. The default **LPT** port is **LPT1**. If you want to reset the port, click **Default**.



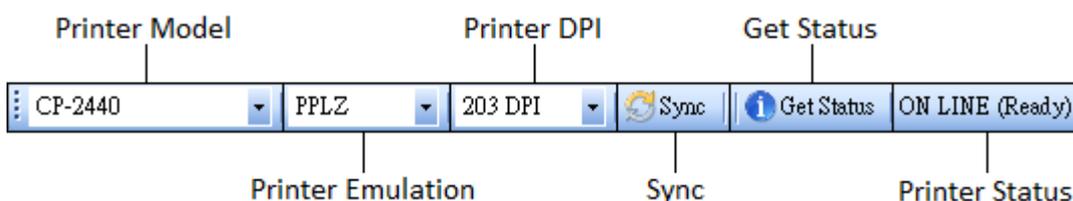
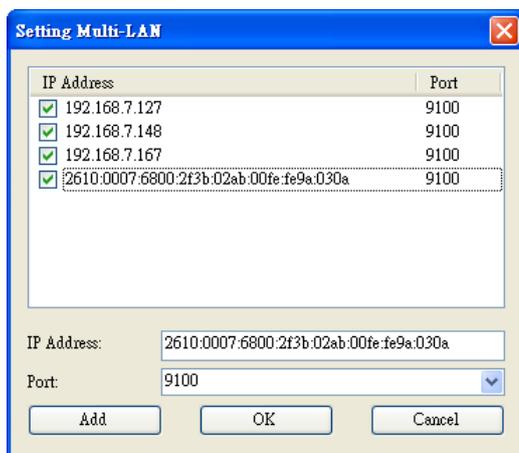
### ■ LAN

It is the Ethernet port and related to the **LAN** tab in **Parameter Setting**. It supports IPv4 and IPv6 addresses. For more information about setting up a network connection, see [Set up LAN connection](#), [Set up IPv6 connection](#) and [Set up WLAN connection](#).



■ **Multi-LAN**

It allows you to perform tasks on network printers. For example, you can add other printers' IP addresses in Multi-LAN setting, and update firmware for all printers at once. If any error has occurred during the connection, Printer Tool skips that IP address and tries the next one. Before you use the **Multi-LAN** port, you need to set up a network connection. For further details, see [Set up LAN connection](#), [Set up IPv6 connection](#) and [Set up WLAN connection](#).



The second row of the toolbar includes six items.

- **Printer Model** Printer models.
- **Printer Emulation** The emulation language of your printer. The emulation you choose affects the tabs displayed in the **Properties** pane.

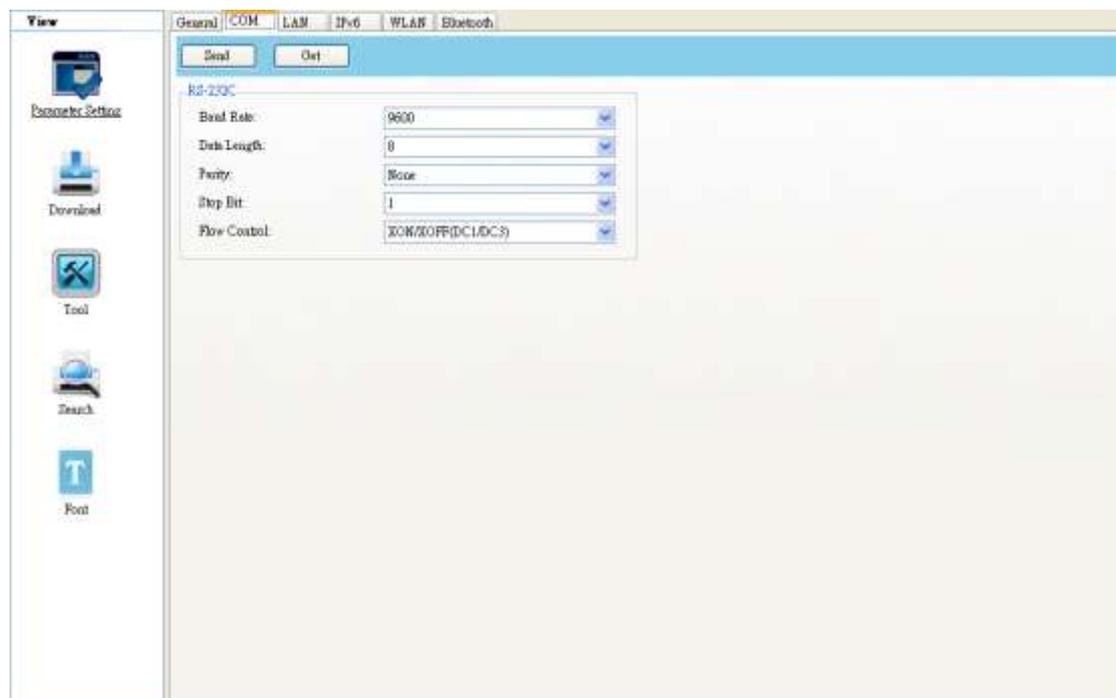
- **Printer DPI** The print resolution of your printer. It provides 203 dpi and 300 dpi.
- **Sync** Get the current settings of **Printer Model**, **Printer Emulation** and **Printer DPI** from your printer.
- **Get Status** Detect if your printer is ready for use.
- **Printer Status** It shows the result of **Get Status**.

## Printer status

Status	Description
ON LINE (Ready)	The top cover (head) was closed in the online mode.
HEAD OPEN	The top cover (head) was opened in the online mode.
ON LINE (Operating)	The printer is operating.
ACCESSED BY OTHER	Exclusively accessed by other host.
PAUSE	In pause.
ON LINE (Waiting for Stripping)	Waiting for stripping.
COMMAND ERROR	A command error was found while analyzing the command.
COMMS ERROR	A parity error, overrun error or framing error occurred during the RS-232C transmission.
PAPER JAM	A paper jam occurred during paper feed.
CUTTER ERROR	The cutter is experiencing issues.
NO PAPER	The label has run out.
HEAD OPEN ERROR	Attempt to feed or issue the label with the top cover (head) open.
HEAD ERROR	A broken pin has been found on the thermal head.
EXCESS HEAD TEMP	The thermal head temperature has become excessively high.
NO PAPER (Last label has been issued)	The last label has been issued properly and the label has run out.
LOW BATTERY	RTC battery is low (future option).
MEMORY WRITE ERROR	An error has occurred while writing data into the flash ROM or USB memory.

Status	Description
FORMAT ERROR	An erase error has occurred in formatting the flash ROM or USB memory.
MEMORY FULL	Saving failed because of the insufficient capacity of the flash ROM or USB memory.
SAVING	In font or PC command save mode. (to flash ROM or to USB memory) The flash ROM or USB memory is being initialized.
SAVING ERROR	An EEPROM for backup cannot be read or written properly.
UPDATING FIRMWARE NOW	The printer is updating firmware.
BLUETOOTH ERROR	Bluetooth initialization error. Bluetooth setting parameter error.
WIRELESSLAN ERROR	WirelessLAN initialization error. WirelessLAN setting parameter error.
UPDATING FIRMWARE ERROR	An error occurred during the firmware update.
UNKNOWN	The status is unknown.

### 1.2.3 Navigation pane



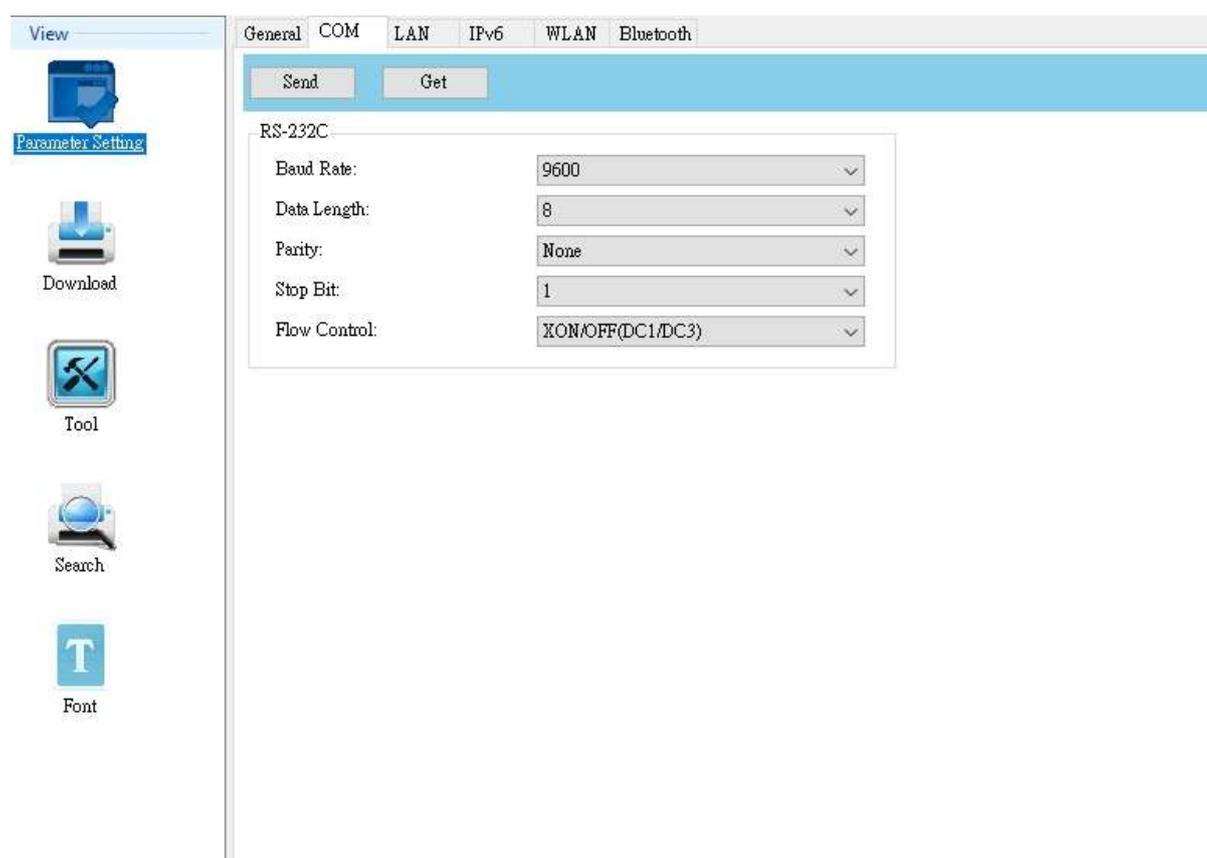
The **Navigation** pane includes five items: **Parameter Setting**, **Download**, **Tool**,

**Search** and **Font**. Each item has its own tabs, and each tab has a **Send**, **Get**, **Add** or **Delete** button (Some of them only have **Send**). **Send** is to send your settings to your printer; **Get** is to get the current settings of your printer; **Add** is to add file to the list object; **Delete** is to delete file from the list object. You can also right-click in the **Properties** pane and select **Send**, **Get**, **Add** or **Delete** in the shortcut menu. Each time you click **Send**, your printer restarts to apply the change.



**Important** You can send data via all ports, but can only get data via the **USB**, **COM** and **LAN** ports.

## Parameter Setting



**Parameter Setting** is used to configure printer settings. It includes six tabs: **General**, **COM**, **LAN**, **IPv6**, **WLAN** and **Bluetooth**.

## General

The **General** tab provides general printer settings. It is related to the emulation language you choose. Each language provides its own properties.

- PPLA, PPLB, PPLZ and AUTO

**PPLA, PPLB, PPLZ and AUTO** provide settings grouped in the **Supply, Control, Action, Buzzer, Label, Position Adjustment, Gap** and **RTC** area.

Property Name	Description
Sensor Type	It is the media sensor you are using. It includes <b>Reflective</b> , <b>Transmissive</b> and <b>None</b> . When you perform media calibration, the sensor is set to the one you select.
Ribbon Sensor	<b>Thermal Transfer</b> Your printer uses the ribbon sensor to detect the ribbon, it is mean <b>Thermal Transfer (TT)</b> . <b>Direct Thermal</b> Disable the ribbon sensor, it is mean <b>Direct Thermal (DT)</b> .
Feed Key	It defines the action of the <b>FEED</b> button. <b>Feed</b> Your printer feeds a blank label each time the button is pressed. <b>Print</b> Your printer reprints the last label each time the button is pressed.

Property Name	Description
Head Check(Power on)	<p><b>Enable</b> Your printer checks broken pins on the printhead automatically once your printer is turned on.</p> <p><b>Disable</b> Disable the auto head check.</p>
Auto Calibration	<p><b>ON (Power on)</b> Your printer automatically calibrates media using a media sensor once it restarts or is turned on.</p> <p><b>ON (Power on and Head close)</b> Your printer automatically calibrates media using a media sensor after power on and every time you close the print module when the printer is turned on.</p> <p><b>OFF</b> You need to manually calibrate media using a media sensor as you change the media, or your printer won't work properly.</p>
Calibration Mode	<p><b>Intelli Print</b> Just install labels, latch print module, press FEED button once, and then the printer will feed 1-2 labels to detect next gap / black mark before printing. The printer will feed 1-2 labels automatically before printing, if FEED button is not pressed.</p> <p><b>Smart Print</b> Print from the first label immediately according to label length setting. Make sure to carefully align label bottom edge at the tear-off position before printing.</p> <p><b>MANUAL PRINT</b> Calibrate labels manually before printing. If label size gets changed, manual calibration must be performed again.</p>
Reprint After Error	<p><b>Enable</b> Your printer when caused by the error condition. The label is reprinted as soon as the error condition is corrected.</p> <p><b>Disable</b> Disable the reprint after error.</p>
Print Darkness	Adjust the darkness relative to the current darkness setting. The range is 0 ~ +30, and the value is adjustable in increments of $\pm 1$ .
Print Speed	Determine the media speed during printing. The range is +2 ~ +8, and the value is adjustable in increments of $\pm 1$ ips.
Buzzer	<p><b>Enable</b> If the printer has buzzer, you can hear the sound.</p> <p><b>Disable</b> Disable the buzzer.</p>
Width	Set the print width. The range is 0 ~ +108.1, and the value is adjustable in increments of $\pm 0.1$ mm.
Height	Set the length of the label when using continuous media.

Property Name	Description
	The range is 0 ~ +999.0, and the value is adjustable in increments of $\pm 0.1$ mm.
X-coordinate	Move the print position horizontally. The positive number is left, and the negative number is right. The range is -800 ~ +800, and the value is adjustable in increments of $\pm 1$ dot.
Y-coordinate	Move the print position vertically. The positive number is forward, and the negative number is backward. The range is -800 ~ +800, and the value is adjustable in increments of $\pm 1$ dot.
Tear Off	Adjust the rest position of the media after a label is printed, which changes the position at which the label is torn or cut. The range is -12.0 ~ +12.0, and the value is adjustable in increments of $\pm 0.1$ mm.
Cutter	Adjust the cutter offset position at which the label is peel or cut. The range is -4.0 ~ +4.0, and the value is adjustable in increments of $\pm 0.1$ mm.
Big Gap	Setting detect length of media out when the gap is empty area. The range is 0.0 ~ +65535.4, and the value is adjustable in increments of $\pm 0.1$ mm.
Date	When <b>Using System Date/Time</b> is not checked, you can set the date of the printer by yourself.
Time	When <b>Using System Date/Time</b> is not checked, you can set the time of the printer by yourself.

## COM

The **COM** tab provides the settings of the RS-232C port. When you use COM as your port, make sure the settings in the **COM** tab are the same as the port settings, or your printer won't work properly.

The screenshot shows the 'COM' configuration tab in the Printer Tool. It features a 'Send' button and a 'Get' button. Below these is the 'RS-232C' configuration section with the following settings:

- Baud Rate: 9600
- Data Length: 8
- Parity: None
- Stop Bit: 1
- Flow Control: XON/XOFF(DC1/DC3)

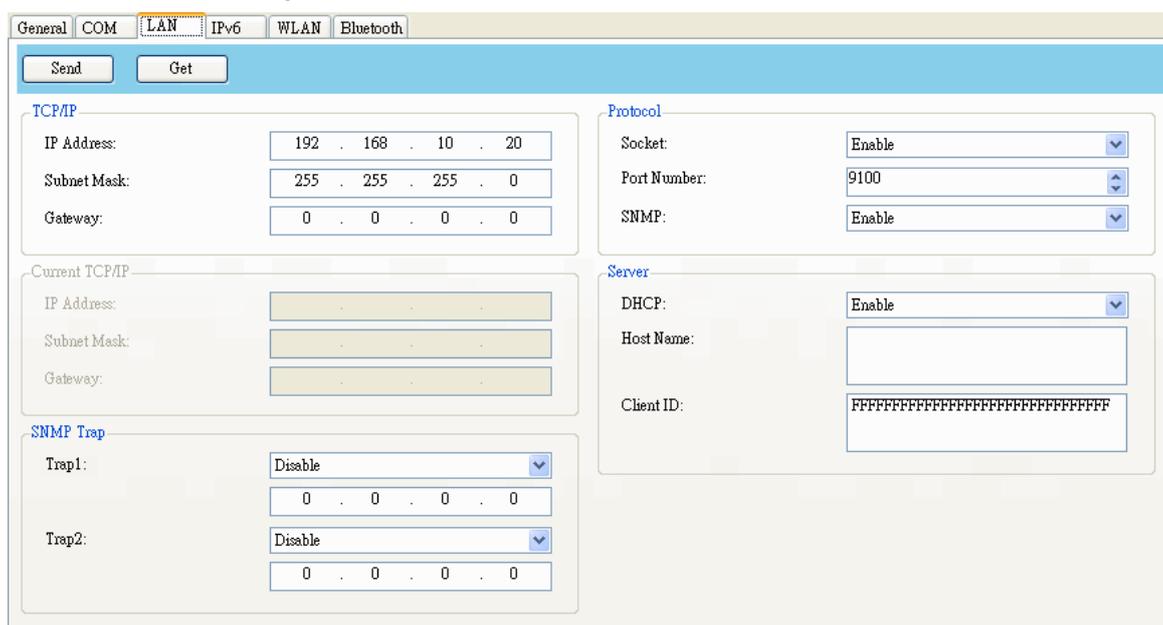
Property Name	Description
Baud Rate	The rate of signals transmitted per second. The larger the number, the faster the data transmission.
Data Length	The length of the data transmitted. It can be set to <b>7</b> or <b>8</b> bits.
Parity	It can be set to <b>Odd</b> , <b>Even</b> or <b>None</b> . A parity bit is added to a string of data bits to check if the data is correct. <b>Odd</b> The total number of “ones” in the data plus the parity bit is an odd number. <b>Even</b> The total number of “ones” in the data plus parity bit is an even number. <b>None</b> No parity check is used.
Stop Bit	The stop bit is at the end of a string of data bits. It is used in asynchronous transmission to let the receiver know that the string of data bits being transmitted is end.
Flow Control	Flow control is used to control the data flow between the computer and your printer. <b>XON/XOFF (DC1/DC3)</b> It is software flow control that uses control characters to handle data transmission. When your printer is unable to process the data the computer send, it sends an XOFF signal to tell the computer to stop sending data; once your printer is able to accept data, it sends an XON signal to notify the computer to resume sending data. <b>RTS</b> It is hardware flow control that uses dedicated wires to handle data transmission. When the computer is ready to send data to your printer, it sends a Request to Send (RTS) signal to your printer. If your printer is able to accept the

Property Name	Description
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data, it sends a Clear to Send (CTS) signal to the computer. That is, the computer starts sending data when it sees CTS on; it stops sending when it sees CTS off.

## LAN

The **LAN** tab provides network settings, including **TCP/IP**, **Current TCP/IP**, **Protocol**, **Server** and **SNMP Trap**.



Property Name	Description
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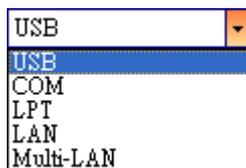
IP Address (TCP/IP)	The static IP address of your printer.
Subnet Mask (TCP/IP)	The manually specified subnet mask of your printer.
Gateway (TCP/IP)	The manually specified gateway of your printer.
IP Address (Current TCP/IP)	The current IP address of your printer.
Subnet Mask (Current TCP/IP)	The current subnet mask of your printer.
Gateway (Current TCP/IP)	The current gateway of your printer.
Socket	<b>Enable</b> The host communicates with your printer via the socket. <b>Disable</b> Disable the socket.
Port Number	The LAN port number of your printer.
SNMP	<b>Enable</b> The host gets or sets parameters registered as SNMP entities. <b>Disable</b> Disable SNMP.

Property Name	Description
DHCP	<p><b>Enable</b> The DHCP server assigns an IP address, the subnet mask and the gateway to your printer automatically. By default, it is enabled.</p> <p><b>Disable</b> You need to specify an IP address, the subnet mask and the gateway to your printer manually.</p>
Host Name	It is the name of a DHCP client. The host name allows up to 32 alphanumeric characters. You can leave it blank or type a name you want. By default, there is no host name.
Client ID	It is an arbitrary value sent to the DHCP server to reserve an IP address for your printer. <b>Client ID</b> allows up to 32 hexadecimal characters. If you leave it blank, your printer automatically assigns “FFFFFFFFFFFFFFFFFFFFFFFFFFFFFFFF” as the client ID.
Trap 1	Trap is a message type of SNMP. When <b>Trap 1</b> is enabled and its IP address is set correctly, your printer alerts the computer of the specified IP address as your printer is experiencing problems.
Trap 2	Same as Trap 1.

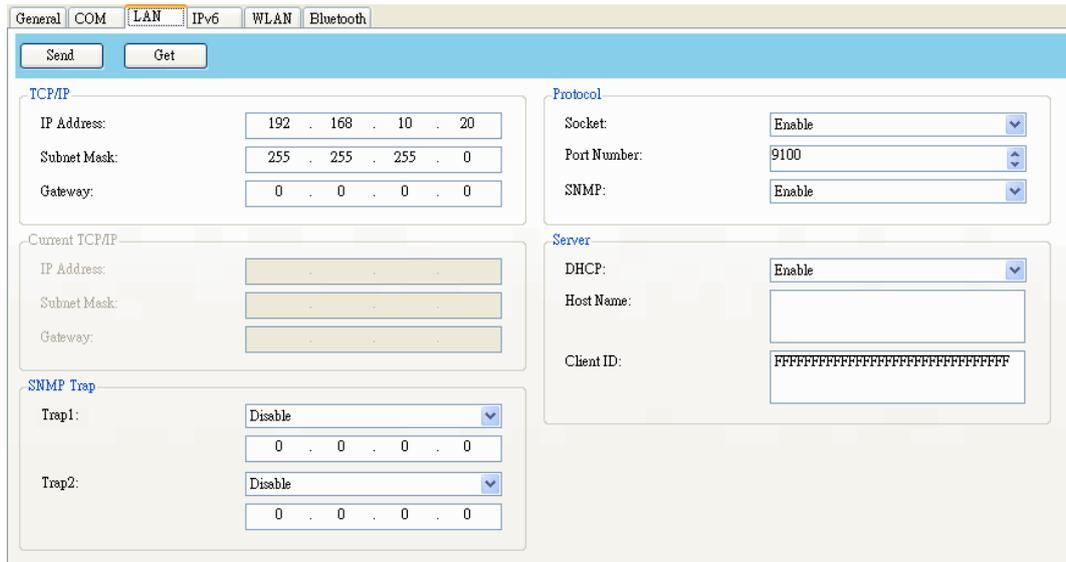
### Set up LAN connection

If you want to use the **LAN** or **Multi-LAN** port to transfer data, you need to set up the network connection in the **LAN** tab.

1. Connect your printer and computer to a network device (hub, switch or router) with Ethernet cables.
2. In the **Input/Output Port** list, click **USB** or **COM**.

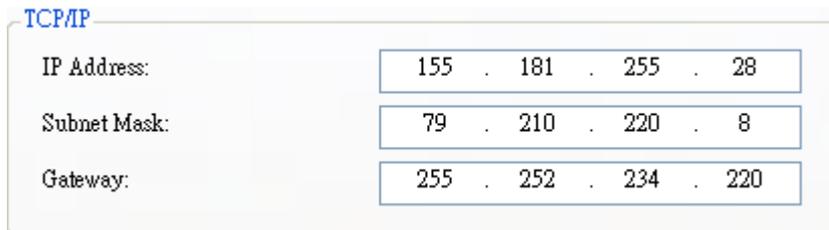


3. In the **Navigation** pane, click **Parameter Setting**, and click the **LAN** tab.

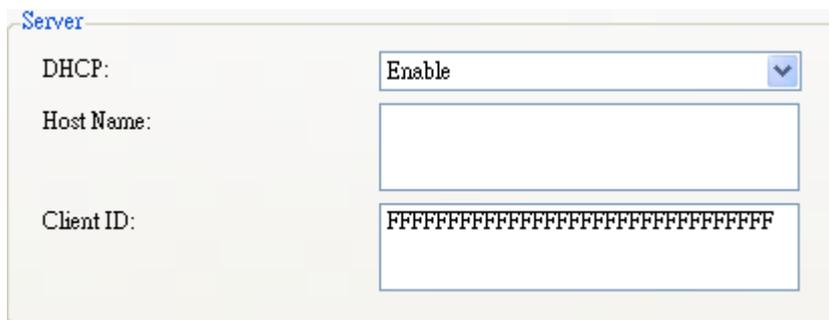


4. Do one of the following to configure your TCP/IP settings:

- If you have a static IP address, fill the **IP Address**, **Subnet Mask** and **Gateway** box under **TCP/IP** according to your network settings and click **Send**.

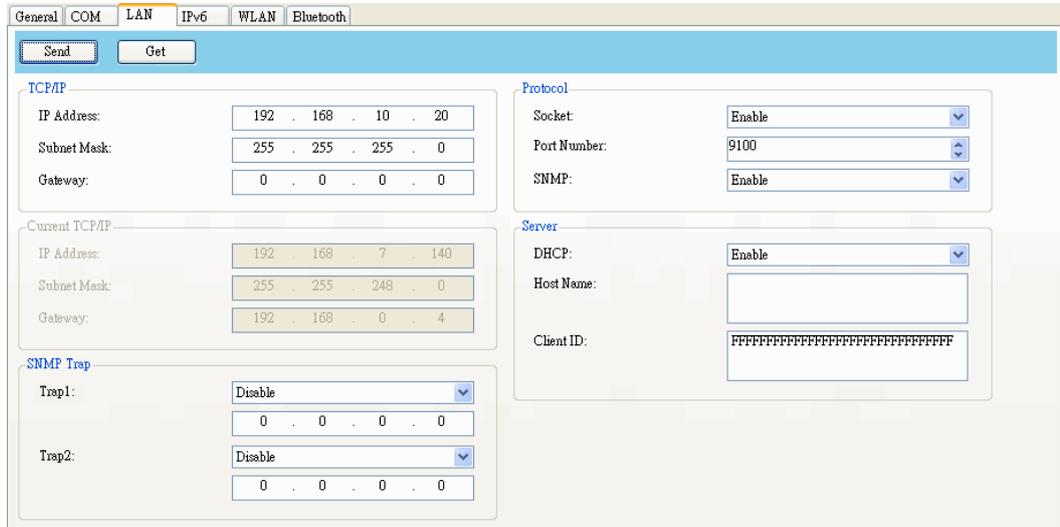


- If you don't have a static IP address, make sure **DHCP** is enabled and click **Send**.



5. After your printer restarts, click **Get** to get the TCP/IP information of your printer. If you are using a static IP address, you'll get the same TCP/IP settings as it is in the previous step; if you are using DHCP, The DHCP server will

automatically populate the **IP Address**, **Subnet Mask** and **Gateway** boxes under **Current TCP/IP**.

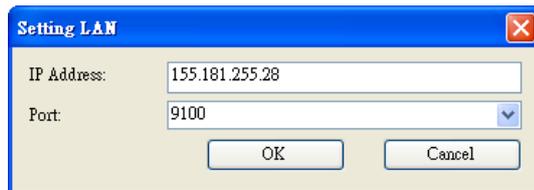


6. In the **Input/Output Port** list, click **LAN**, and click **Setting**.

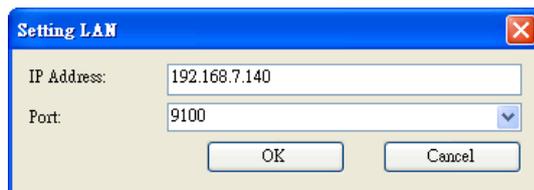


7. In the **Setting LAN** dialog box, do one of the following to configure your IP address:

- If you are using a static IP address, in the **IP Address** box, enter the IP address under **TCP/IP** in the **LAN** tab, and then click **OK**.



- If you are using a dynamic IP address provided by DHCP, in the **IP Address** box, enter the IP address under **Current TCP/IP** in the **LAN** tab, and then click **OK**.



**Note** When DHCP is enabled and your printer is idle for a long time, the IP address of your printer may change. Click **Get** to get the new IP address if you find

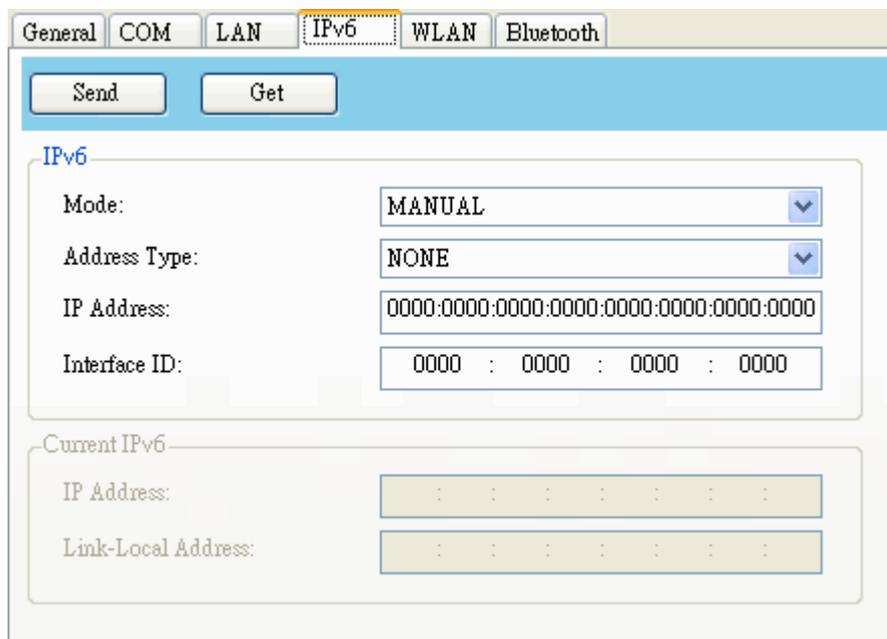
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the current IP address is not working.

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## IPv6

The **IPv6** tab provides IPv6 settings, including **IPv6** and **Current IPv6**.



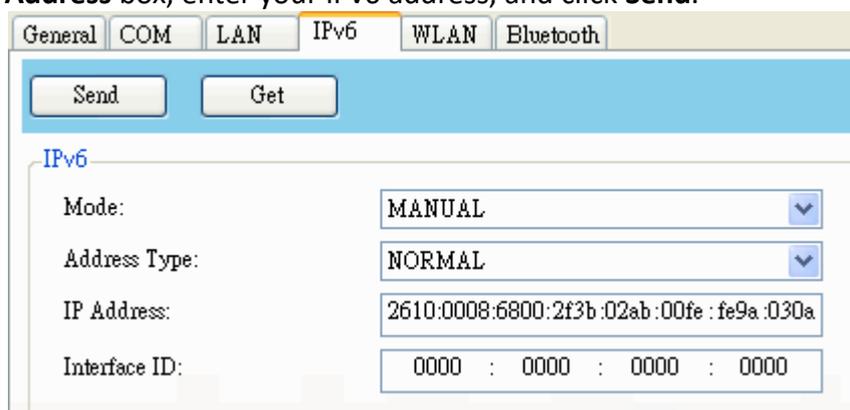
Property Name	Description
Mode	<p>It determines how you get the IPv6 address of your printer.</p> <p><b>MANUAL</b> Specify an IPv6 address manually.</p> <p><b>DHCPv6</b> An IPv6 address is assigned by a Dynamic Host Configuration Protocol for IPv6 (DHCPv6) server.</p> <p><b>AUTO</b> It uses a stateless address that doesn't require a DHCPv6 server to allocate an IP address. A host generates an IPv6 address from router advertisements and a MAC address. Stateless auto-configuration supports plug and play functionality, which allows the printer to generate an IPv6 address by itself once it connects to an IPv6 network.</p>
Address Type	<p>It is the IPv6 address type of your printer.</p> <p><b>NONE</b> The system won't use the address you specified to generate an IPv6 address. It sets 0000::0000 as the IPv6 address.</p> <p><b>NORMAL</b> It uses a 128-bit unicast address that you specified.</p> <p><b>EUI</b> It is 64-bit Extended Unique Identifier (EUI-64)</p>

Property Name	Description
	that generates the second half of a unicast IPv6 address (last 64 bits) from a MAC address. You can also specify the second half of the address by entering the interface ID. <b>ANY</b> It uses a 128-bit anycast address that you specify. The printer needs to remember that the current address is an anycast address, since its format is the same as a unicast address.
IP Address (IPv6)	The static IPv6 address of your printer.
Interface ID	Short for interface identifier. It is used to identify the network interface of a host. You can specify the interface ID here.
IP Address (Current IPv6)	The current IPv6 address of your printer.
Link-Local Address	It is used for communications on a local network. The address always starts with FE80.

### Set up IPv6 connection

Before you set up IPv6, make sure your have IPv6 connectivity.

- Do one of the following to configure your IPv6 settings:
  - If you have a static IPv6 address, in the **Mode** list, click **MANUAL**; in the **IP Address** box, enter your IPv6 address, and click **Send**.



- If you don't have a static IPv6 address, in the **Mode** list, click **DHCPv6**; in the **Address Type** list, click **Normal**, and click **Send**.

General COM LAN **IPv6** WLAN

Send Get

IPv6

Mode: DHCPv6

Address Type: NORMAL

IP Address: 0000:0000:0000:0000:0000:0000:0000:0000

Interface ID: 0000 : 0000 : 0000 : 0000

- After your printer restarts, click **Get** to get its IPv6 information. If you are using a static IPv6 address, you'll get the same settings as it is in the previous step; if you are using DHCPv6, the DHCPv6 server will automatically populate the **IP Address** and **Link-Local Address** boxes under **Current IPv6**.

General COM LAN **IPv6** WLAN

Send Get

IPv6

Mode: DHCPv6

Address Type: NORMAL

IP Address: 0000:0000:0000:0000:0000:0000:0000:0000

Interface ID: 0000 : 0000 : 0000 : 0000

Current IPv6

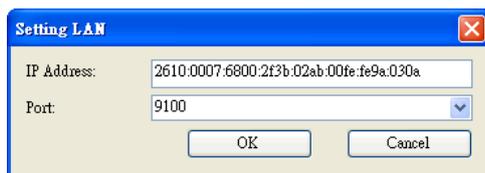
IP Address: 1111:0003:0000:0000:0000:0000:0000:0001

Link-Local Address: fe80:0000:0000:0000:1234:56ff:fe78:9aaa

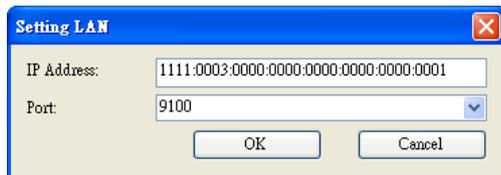
- In the **Input/Output Port** list, click **LAN**, and click **Setting**.



- In the **Setting LAN** dialog box, do one of the following to configure your IP address:
  - If you are using a static IP address, in the **IP Address** box, enter the IP address under **IPv6** in the **IPv6** tab and click **OK**.



- If you are using a dynamic IP address provided by DHCPv6, in the **IP Address** box, enter the IP address under **Current IPv6** in the **IPv6** tab and click **OK**.




---

**Note** If your IPv6 address has consecutive zeros, you can use a double-colon to compress them. For example, if your address is 2607:f0d0:1002:0051:0000:0000:0000:0006, you can shorten it like this: 2607:f0d0:1002:0051::0006. Remember that the double-colon can appear only once in the address. The leading zeros in a section can also be removed, so the shortest version of your address can be written as 2607:f0d0:1002:51::6.

---

## WLAN

The **WLAN** tab provides wireless network settings, including **IPv4**, **Current IPv4**, **Authentication**, **Information**, **WEP**, **WPA**, **Initialization**, **Protocol**, **Current Protocol**, **Server** and **EAP**.

The screenshot shows the WLAN configuration page of a printer tool. At the top, there are tabs for General, COM, LAN, IPv6, WLAN (selected), and Bluetooth. Below the tabs are 'Send' and 'Get' buttons. The configuration is organized into several panels:

- IPv4:** IP Address (192.168.10.200), Subnet Mask (255.255.255.0), Gateway (0.0.0.0).
- Current IPv4:** IP Address, Subnet Mask, Gateway (all empty).
- Information:** RSSI (0 dBm).
- Authentication:** Network Authentication (Open).
- WEP:** WEP (OFF), WEP Key Index (1), WEP Input Type (ASCII), WEP Key1-4 (all empty).
- WPA:** WPA Encryption (Disable), WPA Pre-shared Key (00000000).
- Initialization:** Module Restore Default (checkbox).
- Protocol:** Network Type (Infrastructure), Region (U.S.A.), Channel (11), SSID (CP SERIAL), Port Number (9100).
- Current Protocol:** Channel, SSID (both empty).
- Server:** DHCP (Auto), Host Name (empty).
- EAP:** EAP Method (Disable), EAP User Name (anonymous), EAP Password (anonymous).

Property Name	Description
IP Address (IPv4)	The static IPv4 address of your printer.
Subnet Mask (IPv4)	The manually specified IPv4 subnet mask of your printer.
Gateway (IPv4)	The manually specified IPv4 gateway of your printer.
IP Address (Current IPv4)	The current IPv4 address of your printer.
Subnet Mask (Current IPv4)	The current IPv4 subnet mask of your printer.
Gateway (Current IPv4)	The current IPv4 gateway of your printer.
RSSI	Short for received signal strength indicator. It measures your Wi-Fi signal strength. The bigger the number, the stronger the signal.
Network Authentication	<b>Open</b> It allows any device to authenticate to an access point (AP) and gain access to a

Property Name	Description
	<p>network, but only the device with the correct WEP key can receive encrypted data while the AP uses WEP encryption.</p> <p><b>WPA-Personal</b> WPA-Personal uses Pre-Shared Key (PSK) authentication, in which all users use the same password to access a network. WPA is designed to replace WEP. It uses RC4 encryption as WEP, but provides extra security through TKIP.</p> <p><b>WPA2-Personal</b> WPA2-Personal includes all features of WPA-Personal, but it uses AES encryption to enhance security.</p> <p><b>802.1X</b> 802.1X is an IEEE standard that provides EAP-based authentication methods for network access control. It enhances security by centralizing user identification, authentication and key management.</p> <p><b>WPA-Enterprise</b> WPA-Enterprise offers centralized control over a network. It requires an 802.1X authentication server (RADIUS server) to validate users. Each user needs to enter individual username and password to access a network. It uses TKIP and RC4 algorithm to encrypt data.</p> <p><b>WPA2-Enterprise</b> WPA2-Enterprise includes all features of WPA-Enterprise, but it uses AES encryption to enhance security.</p>
WEP	<p><b>ON</b> Turn on WEP encryption.</p> <p><b>OFF</b> Turn off WEP encryption.</p>
WEP Key Index	The default key of WEP. You can set four keys and choose one of them as the default.
WEP Input Type	<p>The type of your WEP key.</p> <p><b>ASCII</b> If your key is generated in ASCII, select this. ASCII includes the English alphabet, numbers and punctuation symbols.</p> <p><b>HEX</b> If your key is generated in hexadecimal (HEX), select this. HEX includes the numbers 0</p>

Property Name	Description
	to 9 and the letters A to F.
WEP Key 1-4	You can store four 128-bit WEP keys.
WPA Encryption	<p>It shows encryption methods depending on your network authentication.</p> <p><b>AUTO</b> It allows the access point to use either TKIP or AES encryption.</p> <p><b>TKIP</b> It is available for <b>WPA-Personal</b> and <b>WPA-Enterprise</b>. TKIP stands for Temporal Key Integrity Protocol. It is part of 802.11i standard of Wireless LAN. It enhances the security of WEP. TKIP uses 128-bit encryption. It dynamically changes keys for each packet using a rekeying mechanism, providing a strong protection against attackers.</p> <p><b>AES</b> It is available for <b>WPA2-Personal</b> and <b>WPA2-Enterprise</b>. AES stands for Advanced Encryption Standard. It uses a serial of mathematical operations that repeatedly rearrange data to encrypt it.</p> <p><b>Note</b> 802.11n can only use AES encryption.</p>
WPA Pre-shared Key	<p>It is a key shared between two parties that use a secure channel for communication. Anyone who knows the key can access the network. The length can be 1-63 alphanumeric characters excluding double quotation marks (“). Pre-shared key authentication is for home or small offices.</p>
Module Restore Default	<p>It resets all values in the Wi-Fi module.</p>
Network Type	<p>It determines how you connect your printer to a network.</p> <p><b>Infrastructure</b> If you connect through an access point, select this.</p> <p><b>Ad hoc</b> If you connect through a device which has connected to a network, select this. In Ad hoc mode, you can only use <b>Open</b> authentication.</p>
Region	The country or region.

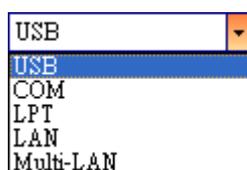
Property Name	Description
Channel	The Wi-Fi channel. You need to use the same channel as other devices for communication. The available channel varies according to your region.
SSID	The service set identifier. It is the name of a wireless network.
Port Number	The wireless LAN port number of your printer.
Channel (Current)	The current Wi-Fi channel.
SSID (Current)	The current service set identifier.
DHCP	<p><b>Auto</b> It tries to get an IP address from a DHCP server first. If failed, it uses the specified one.</p> <p><b>Enable</b> It keeps trying to get an IP address from a DHCP server until it succeeds.</p> <p><b>Disable</b> It uses the specified IP address.</p>
Host Name	It is the name of a DHCP client. The host name allows up to 32 alphanumeric characters. You can leave it blank or type a name you want. By default, there is no host name.
EAP Method	<p>It is available for <b>802.1X</b>, <b>WPA-Enterprise</b> and <b>WPA2-Enterprise</b> authentication.</p> <p><b>EAP-LEAP</b> LEAP stands for Lightweight Extensible Authentication Protocol. It changes the WEP key for each session, preventing attackers retrieving data by cracking the key.</p> <p><b>EAP-TLS</b> TLS stands for Transport Layer Security. EAP-TLS requires both a client and a server to exchange digital certificates to authenticate each other. It uses Public Key Infrastructure (PKI) to protect communication. A server and a client need to obtain certificates from a certification authority (CA), and use these certificates to validate each other's identity.</p> <p><b>EAP-TTLS</b> TTLS stands for Tunneled</p>

Property Name	Description
	<p>Transport Layer Security. It has two stages. First, a server sends its certificate to a client after it received an authentication request. This certificate is used to create an encrypted tunnel (TLS tunnel) between the server and the client. Second, both sides exchange attribute-value pairs (AVP) through this tunnel.</p> <p><b>PEAP</b> Short for Protected Extensible Authentication Protocol. Similar to EAP-TTLS, it creates an encrypted tunnel between a server and a client in the first stage. After that, it starts the second EAP exchange through this tunnel.</p> <p><b>EAP-FAST</b> FAST stands for Flexible Authentication via Secure Tunneling. Similar to PEAP, it has two stages. First, it uses a Protected Access Credentials (PACs) to create an encrypted tunnel. Second, it authenticates the client to the server within the tunnel.</p>
EAP Username	The username for EAP authentication. It accepts 1-63 alphanumeric characters.
EAP Password	The password for EAP authentication. It accepts 1-32 alphanumeric characters.

## Set up WLAN connection

Before you set up a wireless LAN connection, make sure your computer has connected to a wireless network.

1. In the **Input/Output Port** list, click **USB** or **COM**.



2. In the **Navigation** pane, click **Parameter Setting**, and click the **WLAN** tab.

The screenshot shows the 'WLAN' configuration tab in a software interface. At the top, there are tabs for 'General', 'COM', 'LAN', 'IPv6', 'WLAN', and 'Bluetooth'. Below the tabs are 'Send' and 'Get' buttons. The main area is divided into several sections:

- IPv4:** IP Address (192 . 168 . 1 . 1), Subnet Mask (255 . 255 . 255 . 0), Gateway (0 . 0 . 0 . 0).
- Current IPv4:** IP Address, Subnet Mask, Gateway (empty text boxes).
- Information:** RSSI (0 dBm).
- Authentication:** Network Authentication (Open).
- WEP:** WEP (OFF), WEP Key Index (1), WEP Input Type (ASCII), WEP Key1, WEP Key2, WEP Key3, WEP Key4 (empty text boxes).
- WPA:** WPA Encryption (Disable), WPA Pre-shared Key (00000000).
- Initialization:** Module Restore Default (checkbox).
- Protocol:** Network Type (Infrastructure), Region (U.S.A.), Channel (11), SSID (WIRELESS PRINTER), Port Number (9100).
- Current Protocol:** Channel, SSID (empty text boxes).
- Server:** DHCP (Auto), Host Name (empty text box).
- EAP:** EAP Method (Disable), EAP User Name (anonymous), EAP Password (anonymous).

3. In the **SSID** box, enter the network name you've connected, and do one of the following to enter your password:

A close-up of the 'SSID' field in the configuration interface. The text 'dlink' is entered into the text box.

- If you're using **Open** and **WEP** is on, choose your WEP password type in the **WEP Input Type** list. Next, enter your WEP password in one of the **WEP Key** box, and select the key you want to use from the **WEP Key Index** list.

**WEP**

WEP: ON

WEP Key Index: 1

WEP Input Type: ASCII

WEP Key1: 00000000

WEP Key2:

WEP Key3:

WEP Key4:

- If you're using **WPA-Personal** or **WPA2 Personal**, enter your password in the **WPA Pre-shared Key** box.

**WPA**

WPA Encryption: AUTO

WPA Pre-shared Key: 00000000

- If you're using **802.1X**, **WPA-Enterprise** or **WPA2 Enterprise**, choose your EAP authentication method in the **EAP Method** list, and enter your username and password in **EAP User Name** and **EAP Password** boxes respectively. If you're using TTLS mode, you can choose the TTLS encryption method from the **TTLS Method** list.

**EAP**

EAP Method: EAP-TTLS

EAP User Name: anonymous

EAP Password: anonymous

- Do one of the following to configure your IPv4 settings:
  - If you have a static IP address, fill the **IP Address**, **Subnet Mask** and **Gateway** box under **IPv4** according to your network settings, make sure **DHCP** is disabled, and click **Send**.

**IPv4**

IP Address:	155 . 181 . 255 . 28
Subnet Mask:	79 . 210 . 220 . 8
Gateway:	255 . 252 . 234 . 220

**Server**

DHCP:

Host Name:

- If you don't have a static IP address, make sure **DHCP** is enabled and click **Send**.

**Server**

DHCP:

Host Name:

5. After your printer restarts, click **Get** to get the IPv4 information of your printer. If you are using a static IP address, you'll get the same settings as it is in the previous step; if you are using DHCP, the DHCP server will automatically populate the **IP Address**, **Subnet Mask** and **Gateway** boxes under **Current IPv4**.

**Current IPv4**

IP Address:	192 . 168 . 0 . 120
Subnet Mask:	255 . 255 . 255 . 0
Gateway:	192 . 168 . 0 . 1

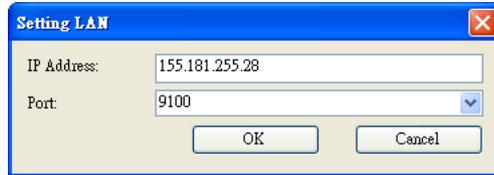
6. In the **Input/Output Port** list, click **LAN**, and click **Setting**.



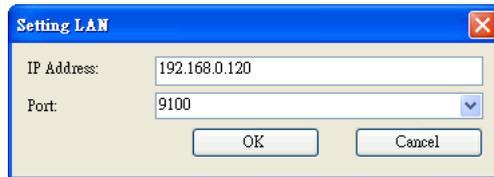
7. In the **Setting LAN** dialog box, do one of the following to configure your IP

address:

- If you are using a static IP address, in the **IP Address** box, enter the IP address under **IPv4** in the **WLAN** tab and click **OK**.

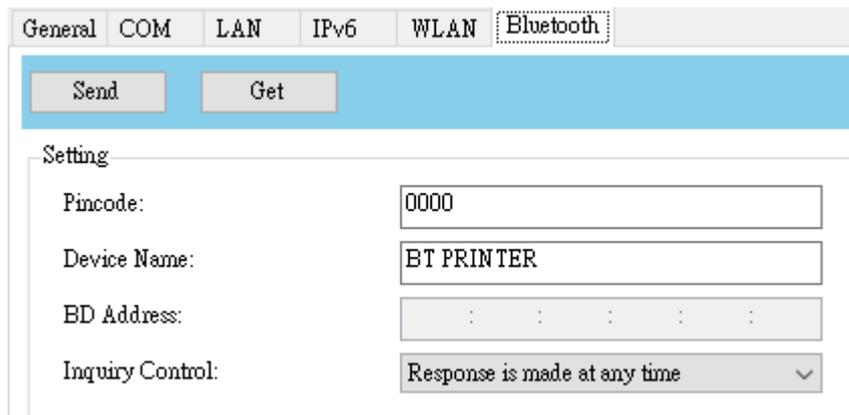


- If you are using a dynamic IP address provided by DHCP, in the **IP Address** box, enter the IP address under **Current IPv4** in the **WLAN** tab and click **OK**.



## Bluetooth

The **Bluetooth** tab provides Bluetooth settings.



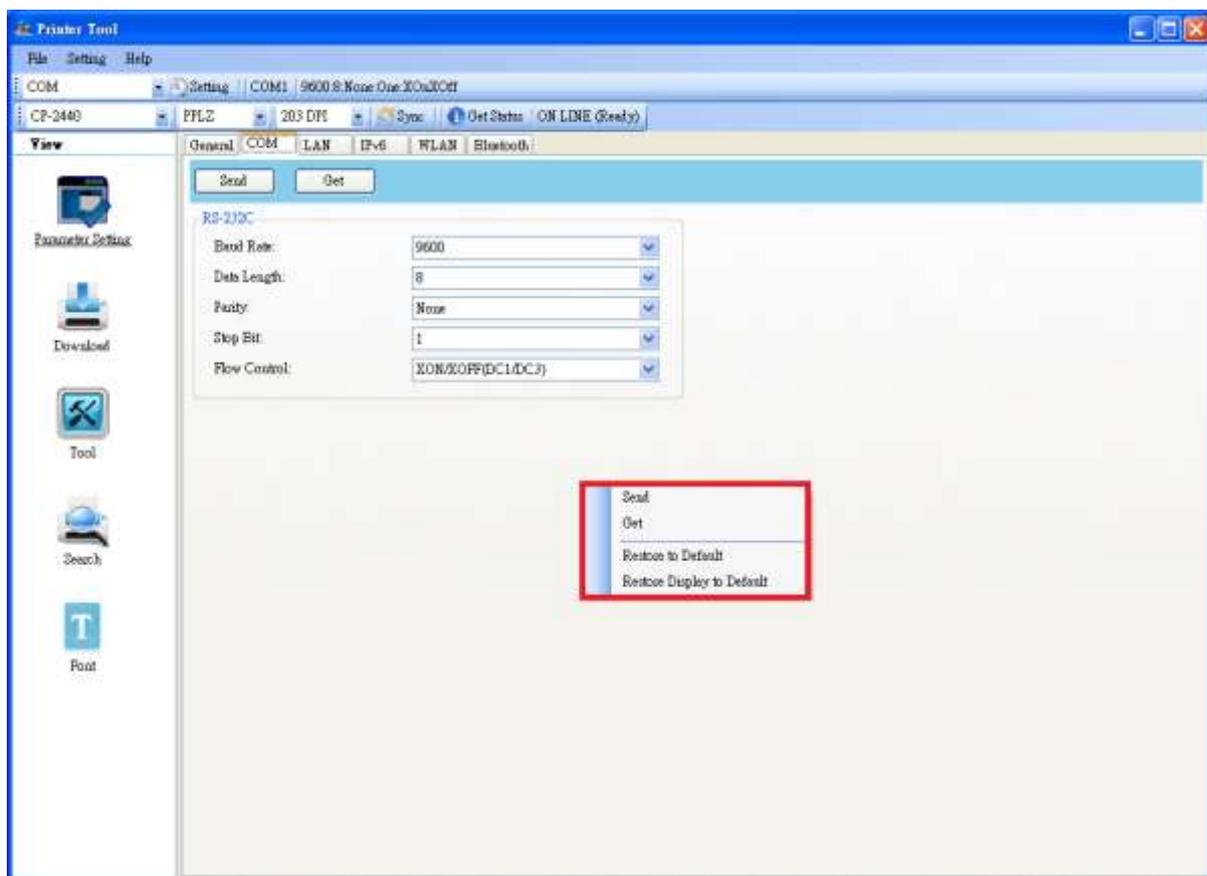
Property Name	Description
Pincode	The Bluetooth PIN code of your printer. The new PIN code takes effect when you reconnect your printer to your computer.
Device Name	The Bluetooth device name of your printer. The new device name takes effect after you reconnect your printer to your computer.
BD Address	The Bluetooth MAC address of your printer.
Inquiry Control	It determines how your printer is detected by other Bluetooth devices. <b>Response is made at any time</b> Your printer

Property Name	Description
	<p>is always detectable.</p> <p><b>No response</b> Your printer is not detectable.</p> <p><b>Response only within 60sec after a power on</b> Your printer is detectable in 60 seconds after it is turned on.</p>

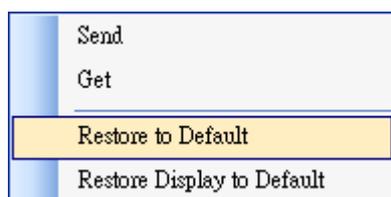
## Reset Parameter Setting

If you want to reset **Parameter Setting**, do this:

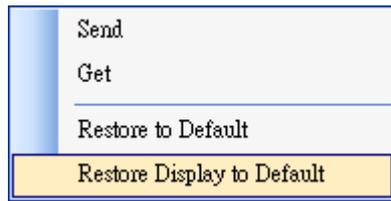
1. In **Parameter Setting**, right-click in the blank area in any tab.



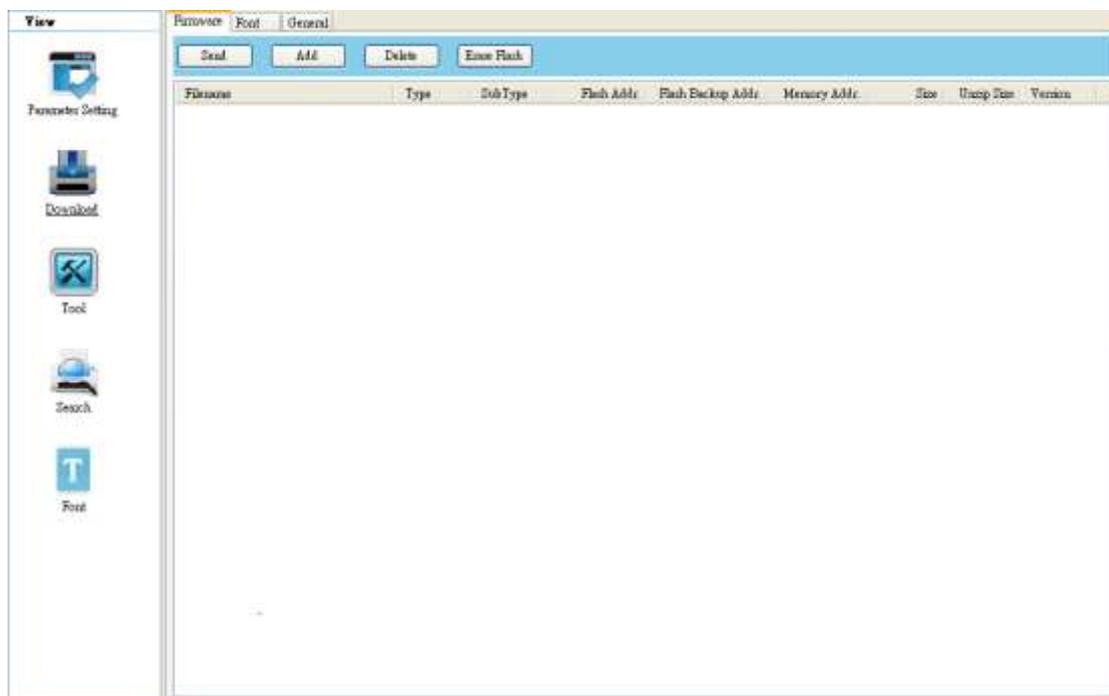
2. In the shortcut menu, do one of the following to reset **Parameter Setting**:
  - If you want to restore all of the settings to their default values, click **Restore to Default**.



- If you want to restore the settings of the current tab to their default values, click **Restore Display to Default**.



## Download



**Download** is used to download files to your printer. Tabs in **Download** are related to the emulation language you choose. Remember that you need to set up a network connection before you use the **LAN** or **Multi-LAN** port for the data transfer. For further details, see [Set up LAN connection](#), [Set up IPv6 connection](#) and [Set up WLAN connection](#).

## Firmware

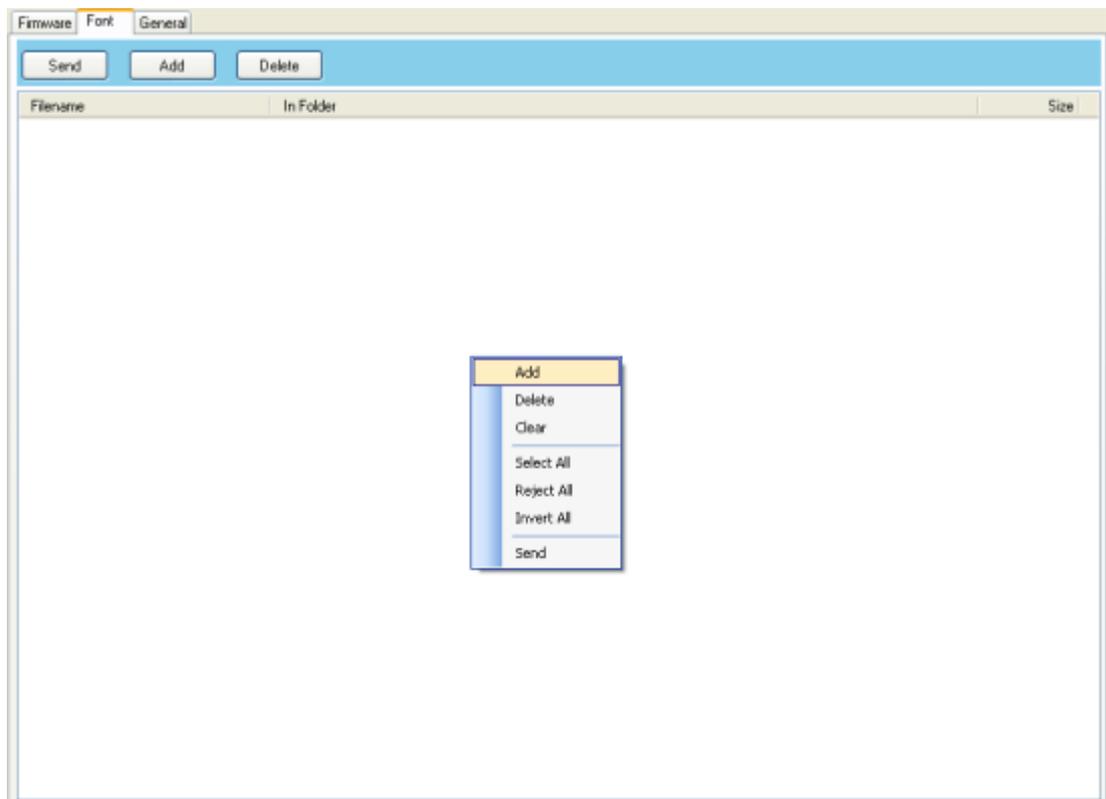
The **Firmware** tab displays in all emulation modes. It is used to update firmware. For information about update firmware in Printer Tool, see [Update firmware in Printer Tool](#).

## Font

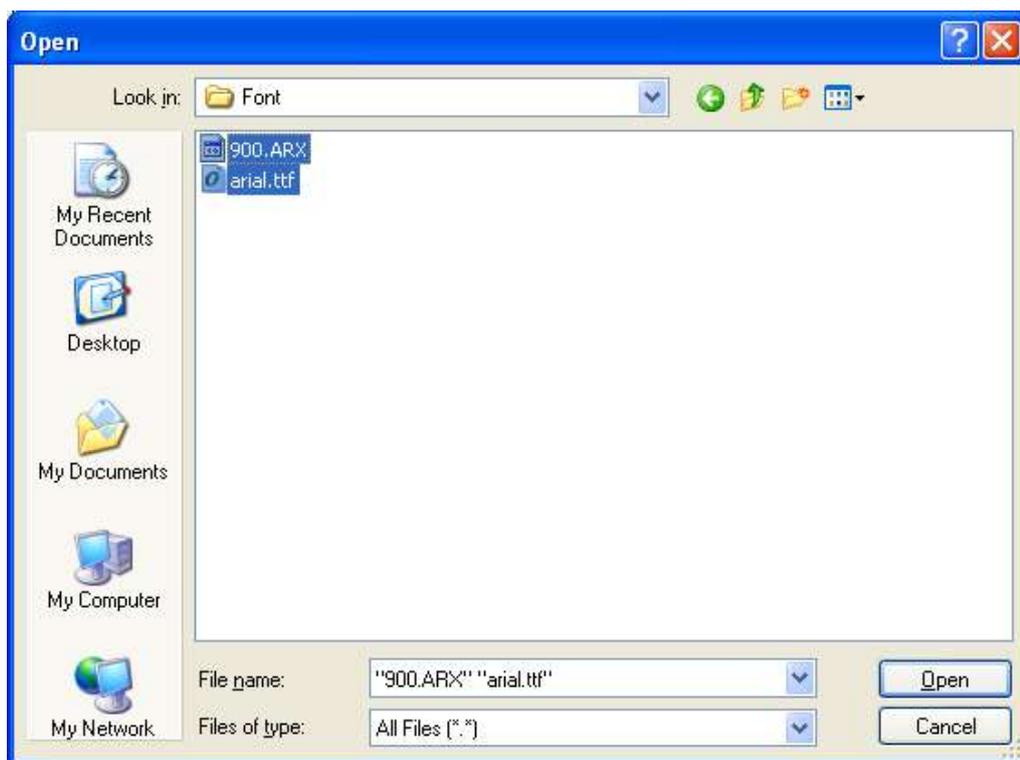
The **Font** tab displays in all emulation modes. It accepts **TrueType** fonts and **.ARX file extension** fonts. You can send fonts to your printer and store them in your printer's flash memory.

To send fonts to your printer:

1. Right-click in the blank **Font** list and click **Add**.



2. In the **Open** dialog box, browse to the folder that contains font files. Select all of them and click **Open**.



- In the **Font** list, select the font you want to use. You can select multiple fonts at a time.

Filename	In Folder	Size
<b>Bitmap Font</b>		
<input checked="" type="checkbox"/> 900.ARX	C:\Font	5396 B
<b>Unknown</b>		
<input checked="" type="checkbox"/> arial.ttf	C:\Font	367112 B

- Click **Send** to send the fonts to your printer.

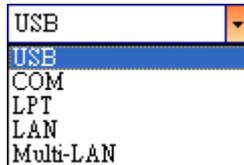


## General

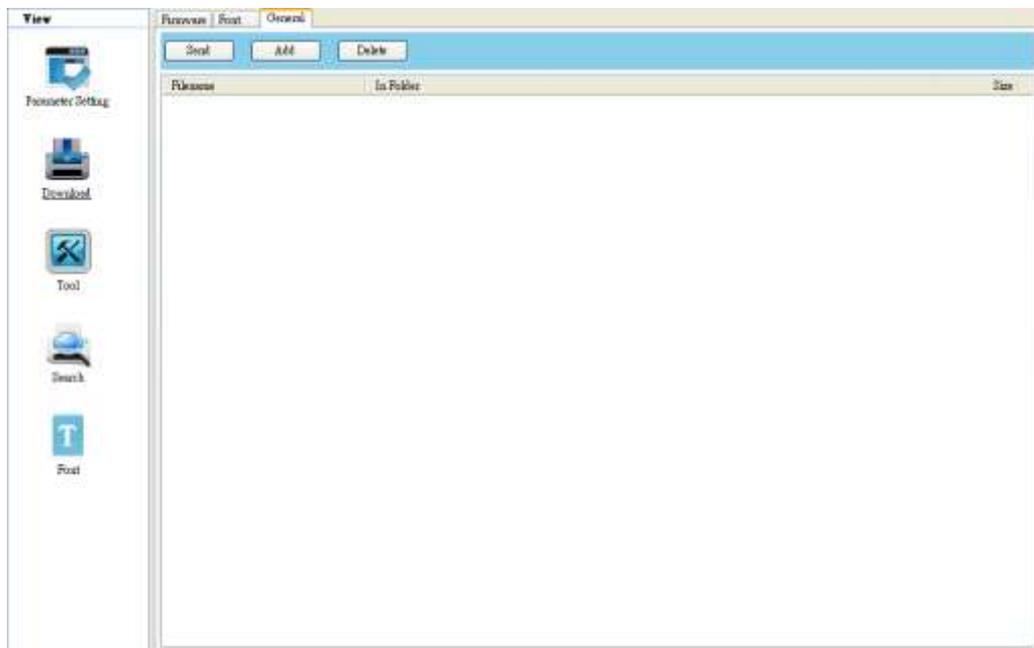
The **General** tab displays in all emulation modes. It is used to send command files to your printer and perform tasks. Command files only run in their corresponding emulations. For example, PPLZ command files only run in PPLZ emulation.

To run commands on your printer:

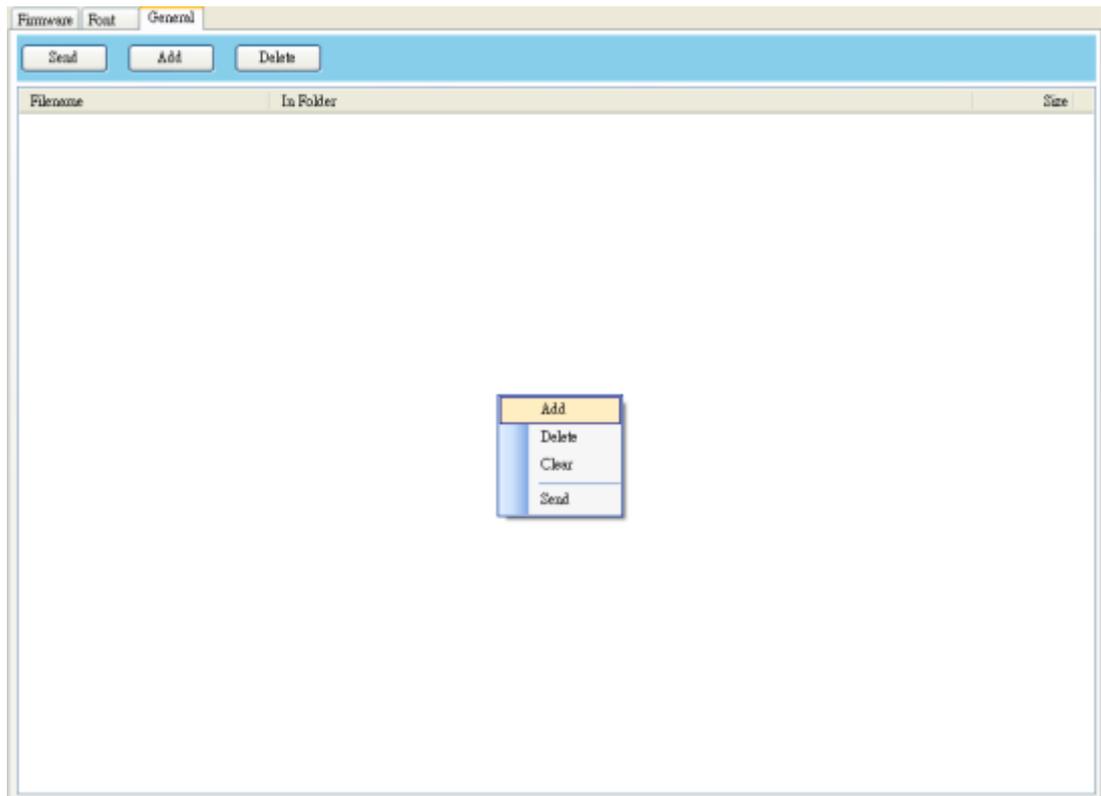
1. Type your commands in any text editor, such as Notepad or Wordpad.
2. Save your commands as text files (.txt).
3. In the **Input/Output Port** list, click the port you want to use.



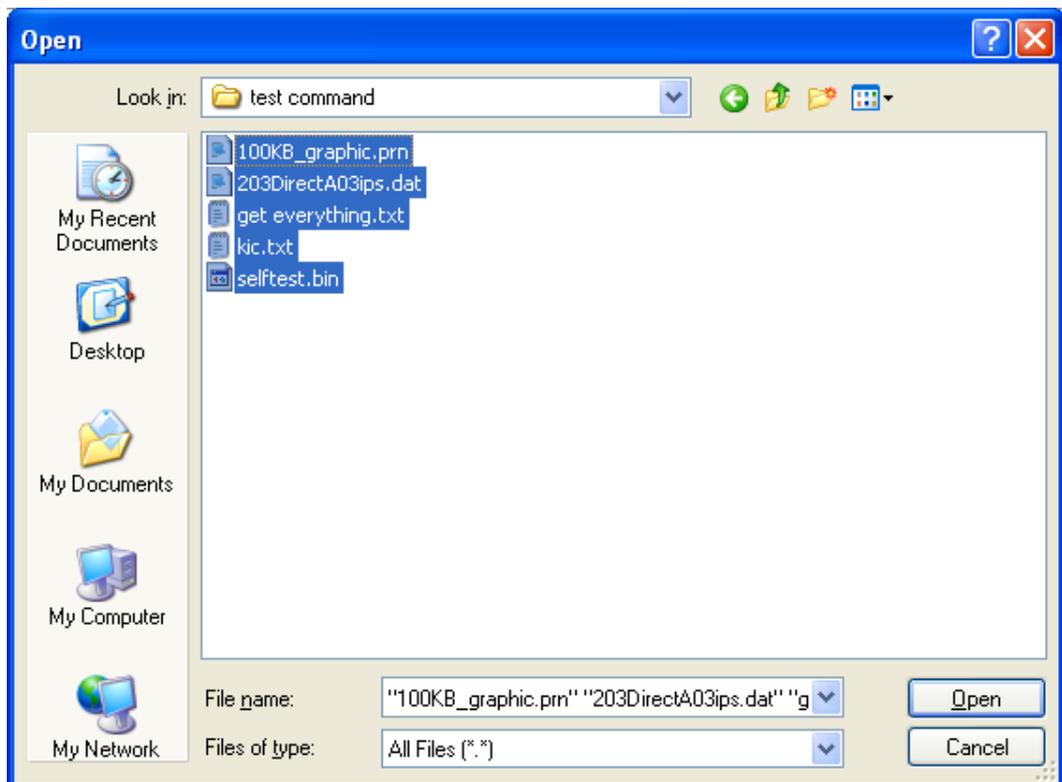
4. Click **Download** in the **Navigation** pane.



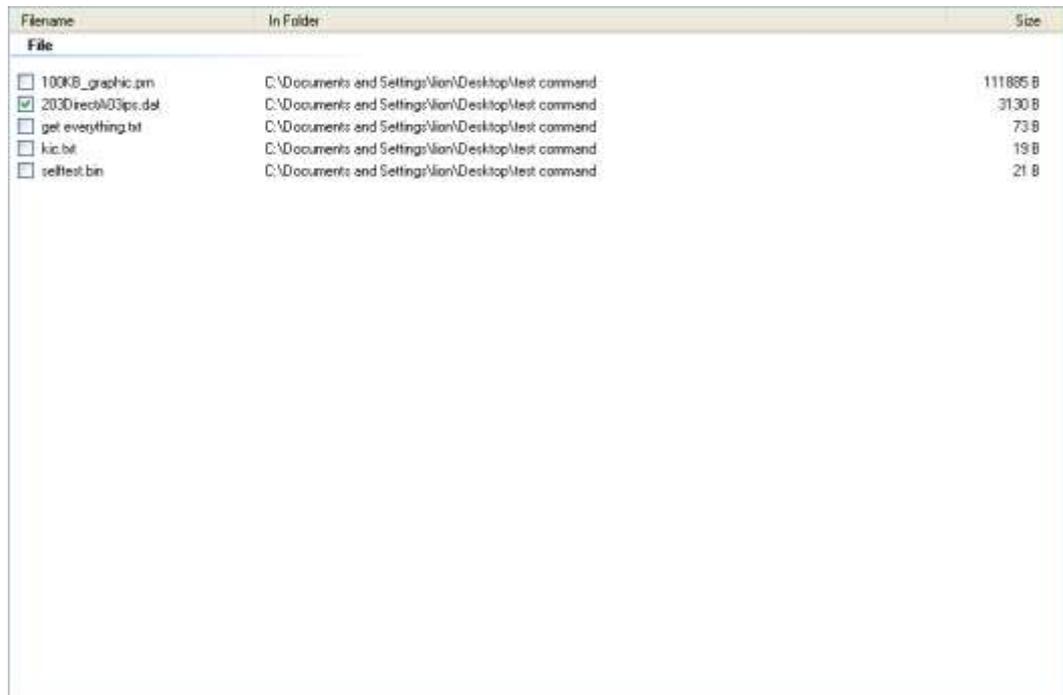
5. Under the **General** tab, right-click in the blank area and click **Add**.



6. In the **Open** dialog box, browse to the folder that contains command files, select them and click **Open**. The command files you select must correspond to the emulation language you use.



7. In the list, select the file you want to use. You can only select one file at a time.

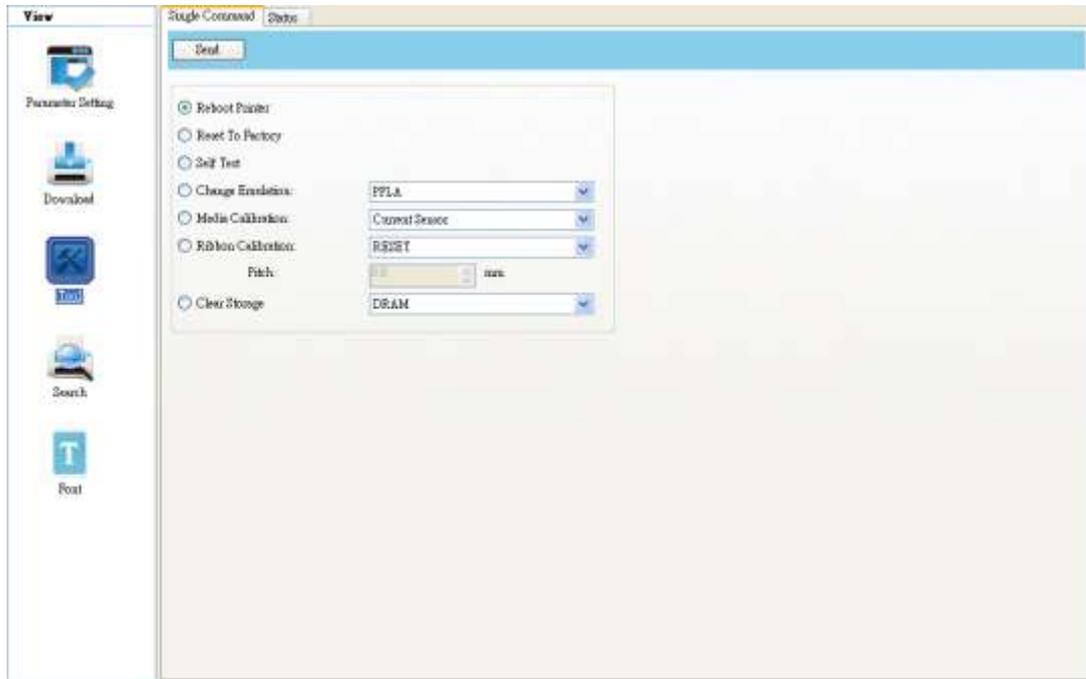


8. Click **Send** to run the command on your printer.



**Note** If you send a command file and your printer doesn't respond, it is possible that the emulation language is not set correctly. Click **Sync** to get the current setting of **Printer Emulation**.

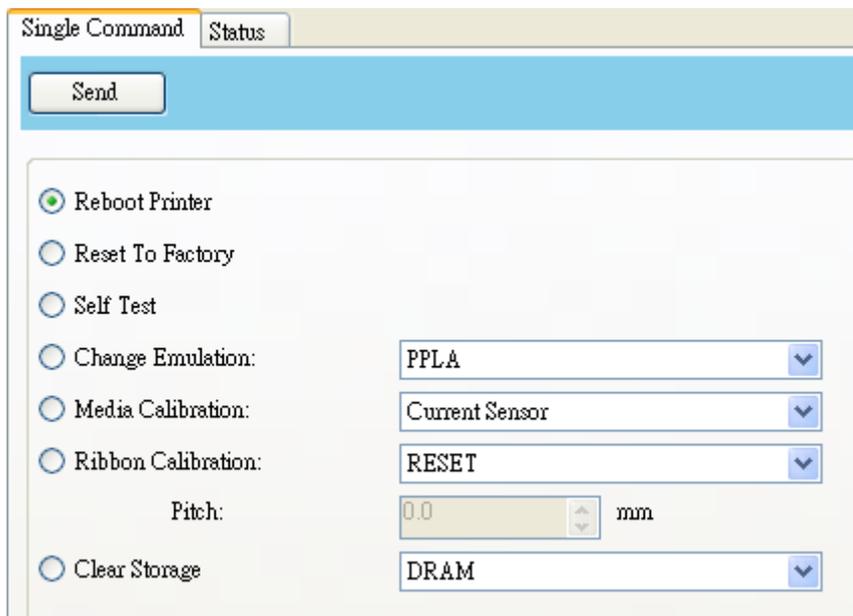
# Tool



**Tool** is used to send specific commands to your printer.

## Single Command

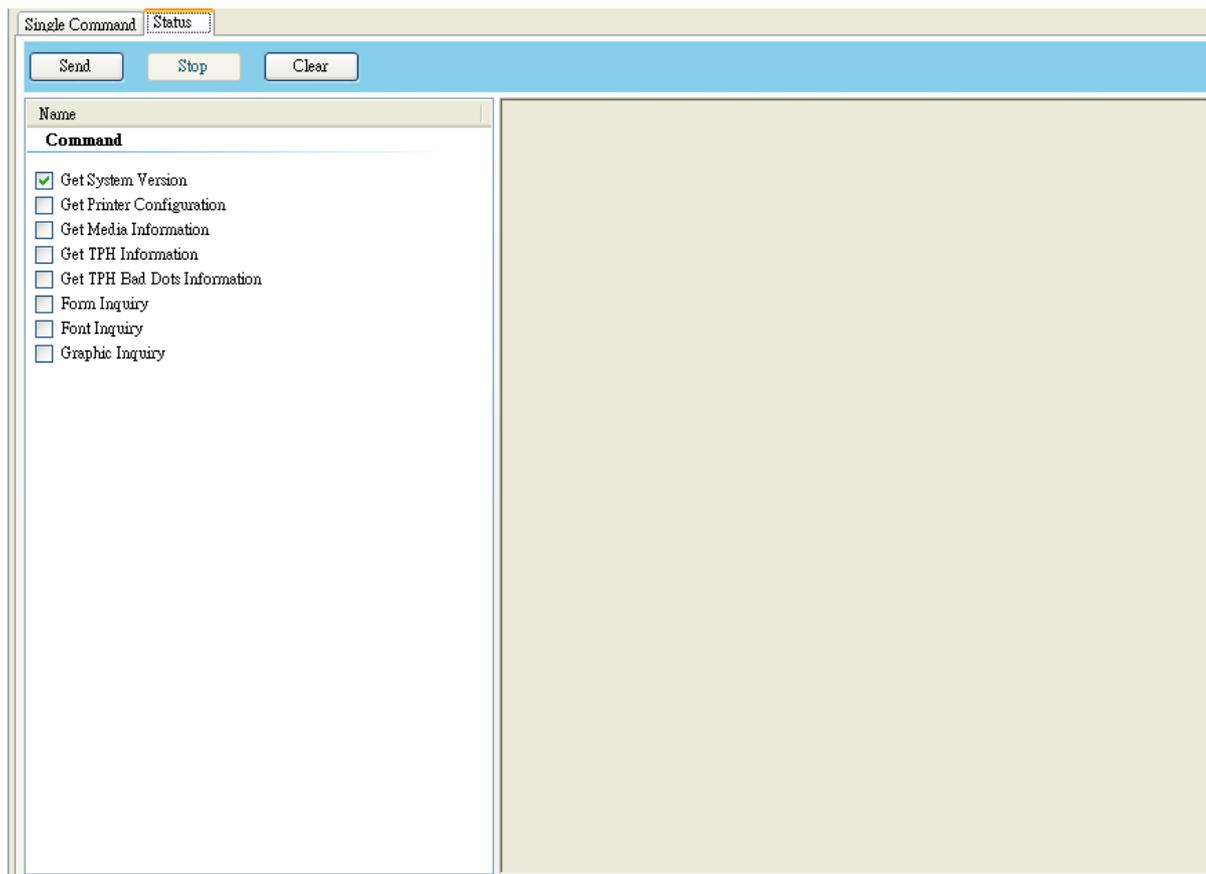
The **Single Command** tab which provides commands below.



- **Reboot Printer** Restart your printer.
- **Reset To Factory** Reload factory settings.
- **Self Test** Run a self test to print a configuration label.
- **Change Emulation** Change the emulation language for your printer.
- **Media Calibration** Change the media sensor for your printer.
- **Ribbon Calibration** It calibrates the ribbon so that your print start position will be more accurate.
  - **RESET** Turn off **Ribbon Calibration**.
  - **ON** Turn on **Ribbon Calibration**. Enter the height of your label in the scale box. For example, if the height of your label is 100 mm, enter 100 in the box.
- **Clear Storage** Select the storage, you can clear all of the form, font and graphic files for your printer.

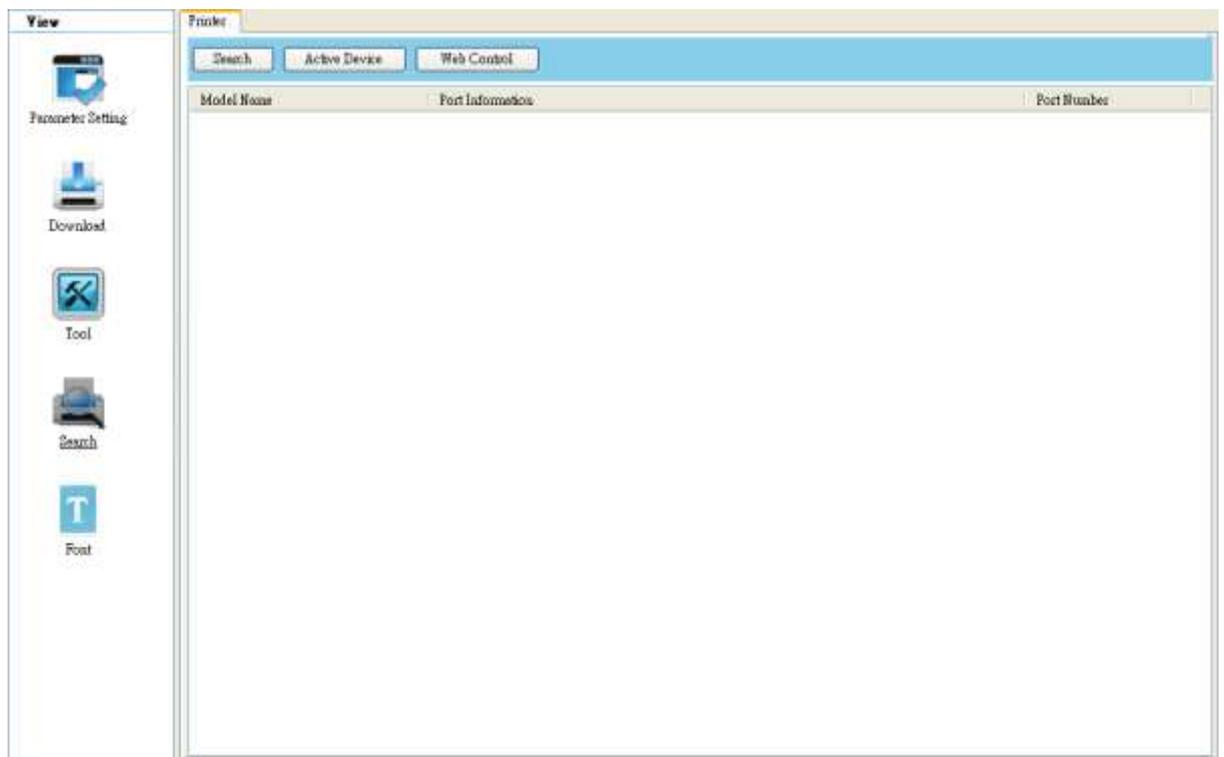
## Status

The **Status** tab provides to know the printer current status, select command and click **Send**. The status will show in the right sight. **Stop** can stop sending command to printer. **Clear** can clean the right side information.



- **Get System Version**(RS-232 only) Display the system information.
- **Get Printer Configuration** Get the printer configuration information.
- **Get Media Information**(RS-232 only) Display the media information.
- **Get TPH Information** Showing all TPH Information.
- **Get TPH Bad Dots Information** If bad TPH dots are detected, it will show [X].
- **Form Inquiry** Showing the form name and capacity in RAM and Flash. Form name will be different depends on the current emulation you set.
- **Font Inquiry** Showing the Font name and capacity in RAM and Flash. Font name will be different depends on the current emulation you set.
- **Graphic Inquiry** Showing the Graphic name and capacity in RAM and Flash. Graphic name will be different depends on the current emulation you set.

## Search



**Search** is used to find barcode printer. You can so easy and fast to find printer.

## Printer

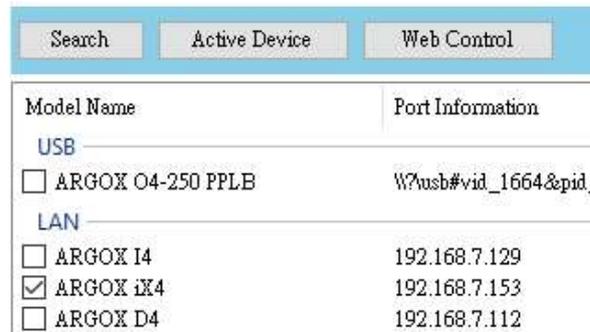
The **Printer** tab provides to search and control printer. Select a printer can rapidly change to control it.



- **Search:** Search will show USB and LAN connected printer. It is based on SNMP protocol and using broadcast to search in private network. Click **Search**, It will display Model Name, Port Information(IP address) and Port number.

- **Active Device:** Select a device and click **Active Device**.

Toolbar will be changed. If you click **Sync** and **Status** in the toolbar, then toolbar will be update. You can rapidly switch the printer by this function or select multiple printers to setup under **Multi-LAN** port.



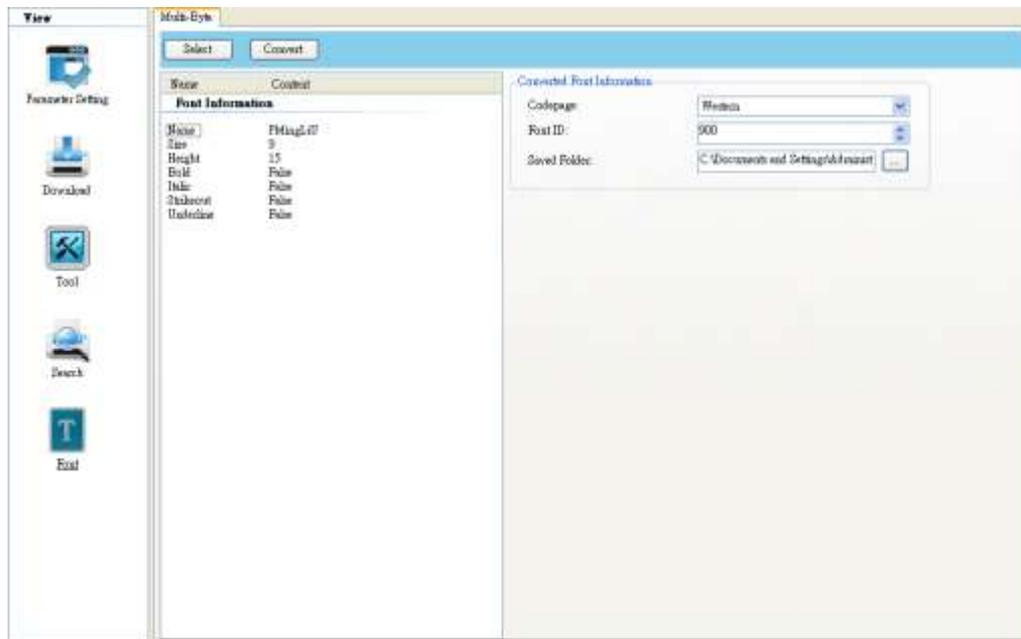
- **Web Control:**

If printer firmware supports web control, click **Web Control** to open a Web page. Default Login name and password is **admin**. You can also type the IP address to open **printer web setting tool** in your browser. **Printer web setting tool** is based on **Print Tool**. Each model may have a bit different setting because of the spec.

Model: iX4-350 | Emulation: PPLA | Resolution: 300 dpi | Status: ON LINE (Ready)

Parameter Setting	General
General	Supply
COM	Sensor Type: <input type="text" value="None"/>
LAN	Ribbon Sensor: <input type="text" value="Thermal Transfer"/>
IPv6	Control
<b>Download</b>	Feed Key: <input type="text" value="Feed"/>
Firmware	Head Check (Power on): <input type="text" value="Disable"/>
Font	Auto Calibration: <input type="text" value="OFF"/>
General	Calibration Mode: <input type="text" value="Intelli Print"/>
<b>Tool</b>	Reprint After Error: <input type="text" value="Enable"/>
Single Command	Action
<b>Device Setting</b>	Print Darkness: <input type="text" value="16"/> (0 ~ 30)
Export / Import	Print Speed: <input type="text" value="5"/> (ips)
Web Tool Language	Label
Change Login Password	Width: <input type="text" value="76.2"/> (0.0 ~ 104.0 mm)
<b>Logout</b>	Height: <input type="text" value="0.0"/> (0.0 ~ 999.0 mm)
Logout	Position Adjustment
	X Coordinate: <input type="text" value="0"/> (-800 ~ 800 dots)
	Y Coordinate: <input type="text" value="0"/> (-800 ~ 800 dots)
	Tear Off: <input type="text" value="0.0"/> (-12.0 ~ 12.0 mm)
	Cutter: <input type="text" value="0.0"/> (-4.0 ~ 4.0 mm)
	Gap
	Big Gap: <input type="text" value="0.0"/> (0.0 ~ 6553.4 mm)

## Font



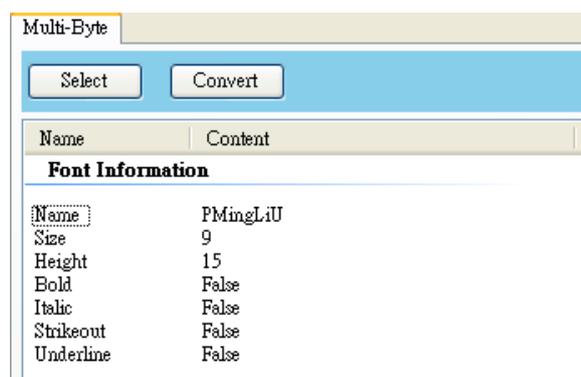
**Font** is used to create a **.ARX** file extension font file which can be downloaded in printer.

## Multi-Byte

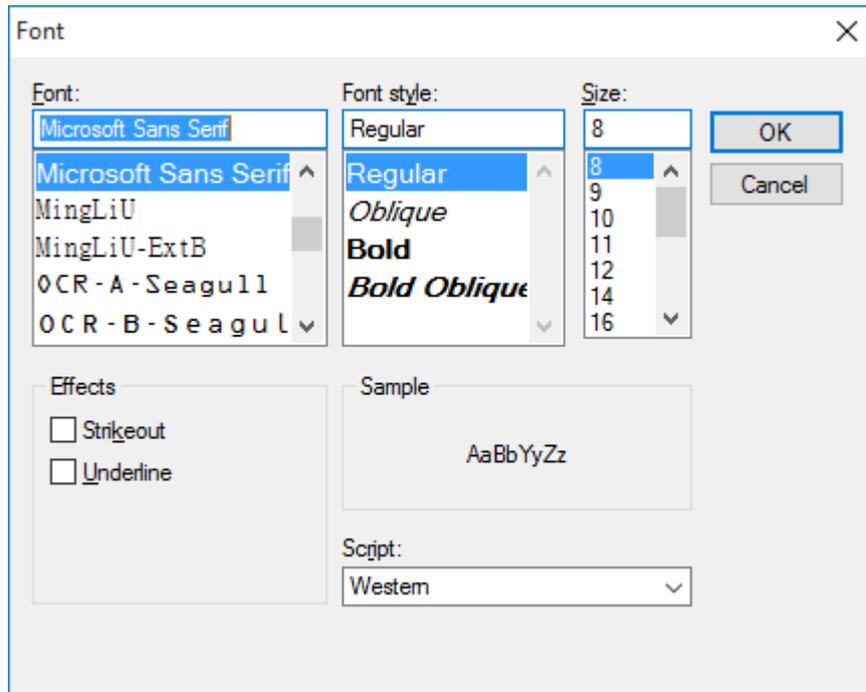
The **Multi-Byte** tab provides to create a font file. The file extension name is **.ARX**. After you convert a file, click **Download** in the **Navigation** pane. Click **Font** tab to transmit file to printer. To see more about download information, go to [Download -> Font](#) tab.

To create a **.ARX** font file:

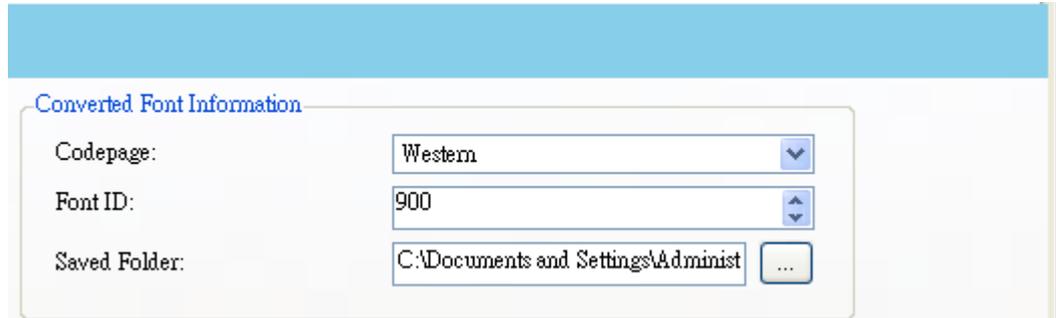
1. Click **Select**.



2. Choose the **Font**, **Font style** and **Size**. Click **OK**.



3. Font information will show in the left. Select the **codepage**, change the **Saved Folder** and define a **Font ID** as you want.



4. Click **Convert** to generate a **.ARX** font file.



## 2 Update firmware

Firmware is the code stored permanently in hardware. It instructs your printer to do its tasks. Benefits of updating firmware include new features, enhanced functionality and improved performance.



**Caution** Do not open the print module, disconnect your printer from the computer or cut your printer power during the firmware update.

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### 2.1 Update firmware in Printer Tool

This section describes how to update printer firmware in Printer Tool.

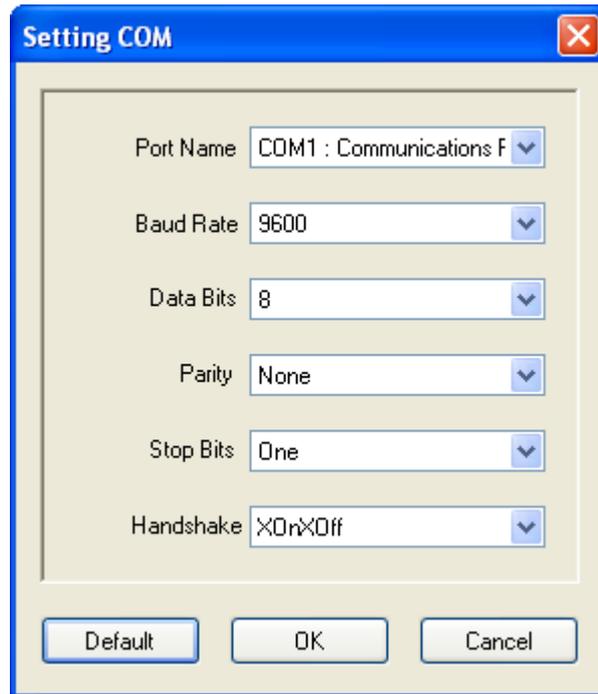
#### 2.1.1 Update via the USB or COM port

1. Connect your printer and the computer with a USB or a serial cable.
2. Make sure the print module is closed.
3. Turn on your printer, and start Printer Tool.
4. In the **Input/Output Port** list, click **USB** or **COM**, and do one of the following:
  - If you are using the **USB** port, the **Port Name** and **Port Information** automatically shows the USB information. You don't need to do anything.

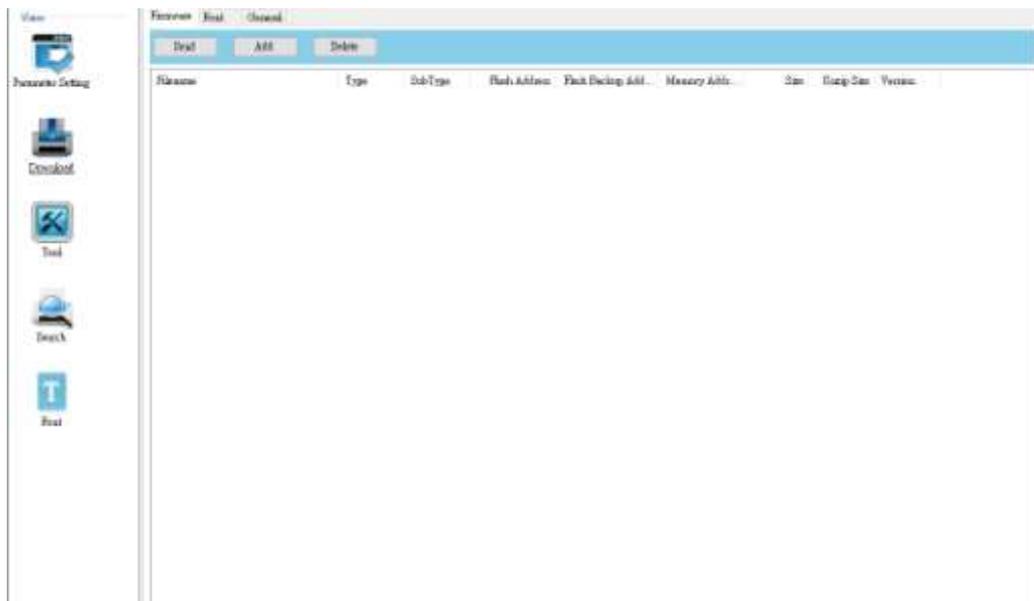


- If you are using the **COM** port, click **Setting**, and change the settings as you want. For example, you can change **Baud Rate** to a higher value to speed up the data transmission. Make sure the port settings are the same as those in the **COM** tab in **Parameter Setting**, or your printer won't work properly.

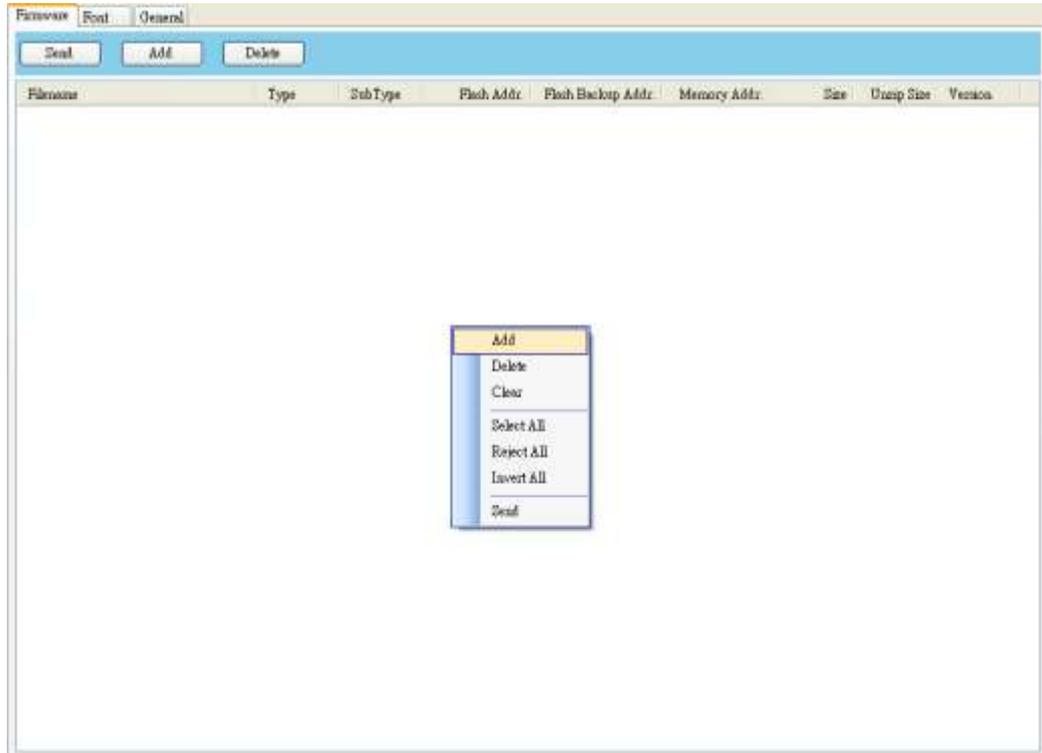




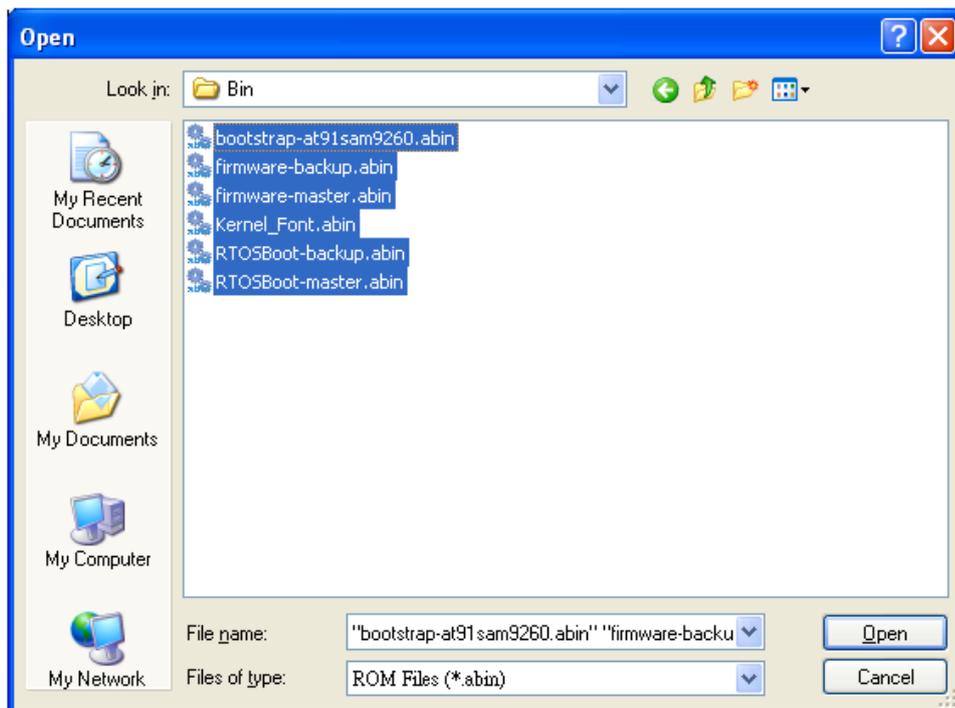
5. In the **Navigation** pane, click **Download**, and click the **Firmware** tab.



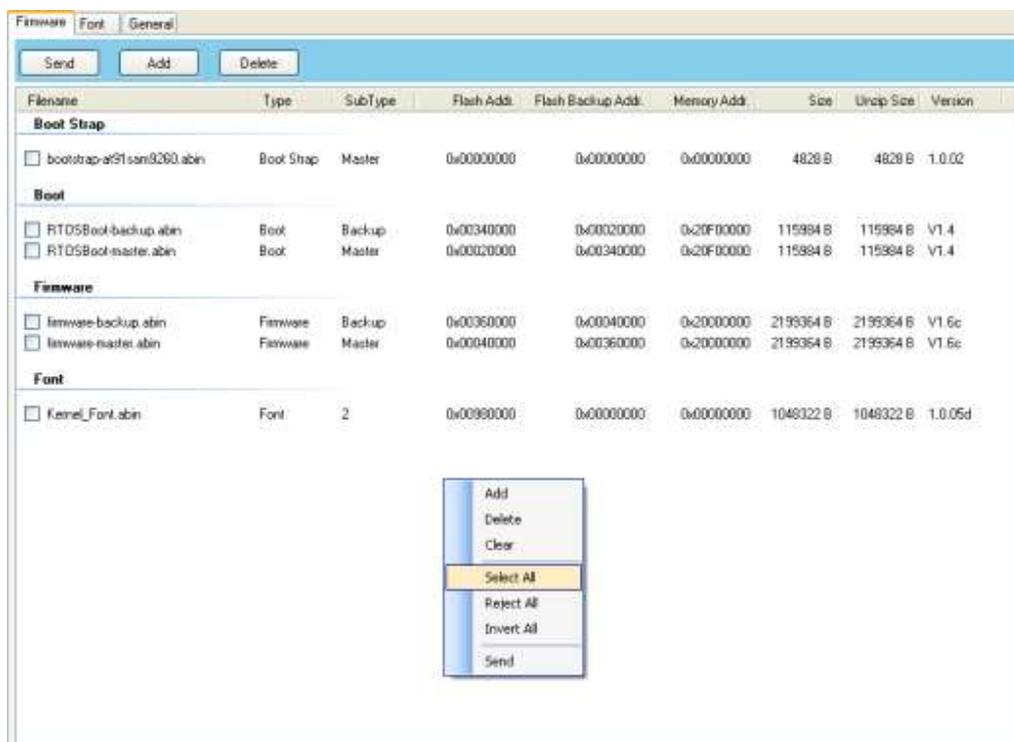
6. Right-click in the blank area and click **Add**.



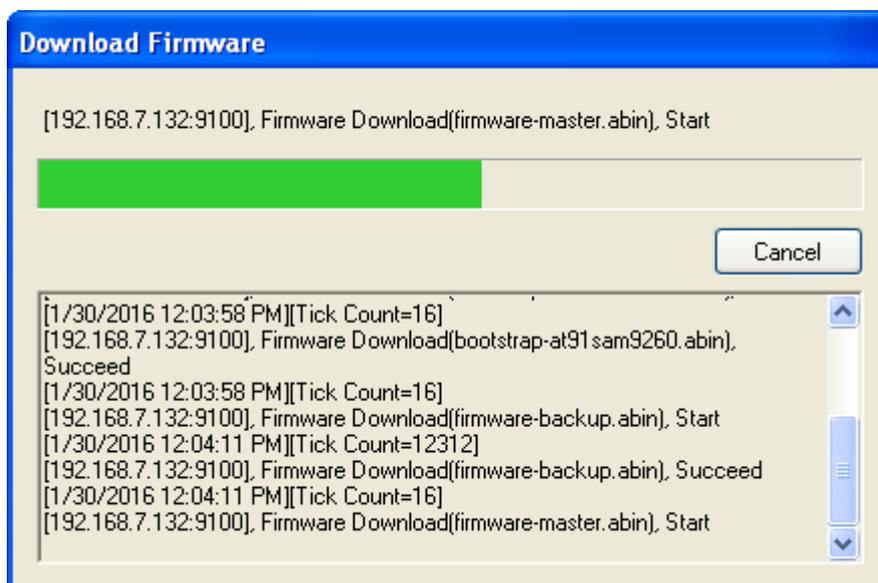
7. In the **Open** dialog box, browse to the folder that contains the firmware files. Select all of them and click **Open**.



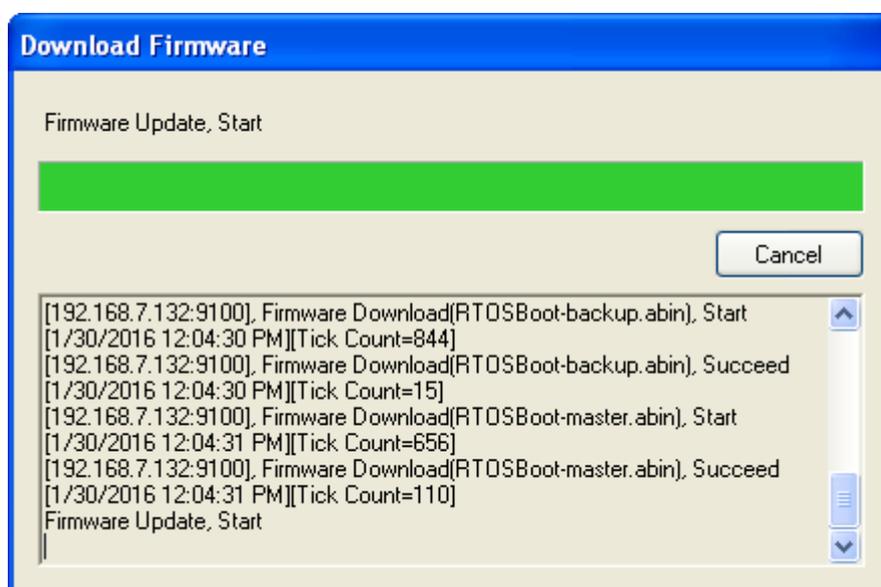
- If you want to update specific files, select the check boxes of those files; if you want to update all of the firmware files, right-click in the blank area in the list, and click **Select All**.



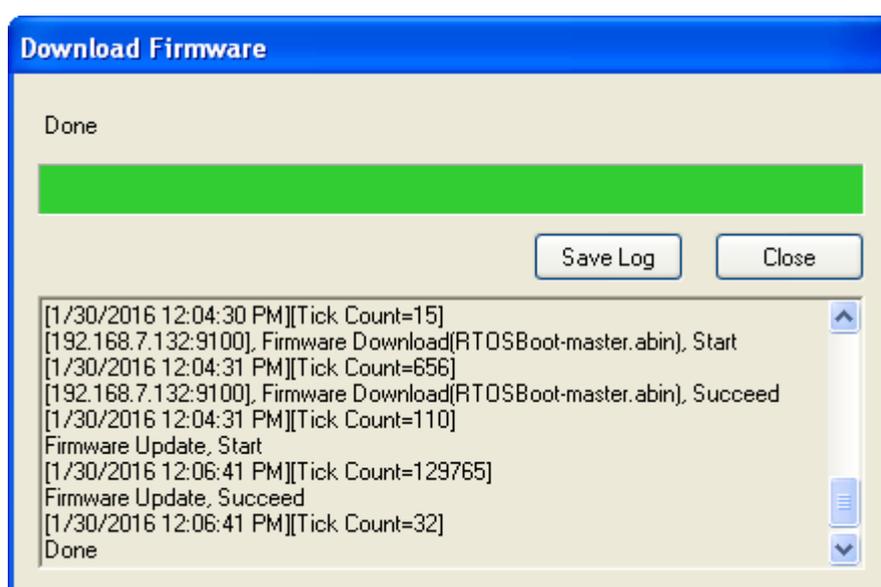
- Click **Send** to send the firmware files to your printer. During the transmission LED blinks green. In the **Download Firmware** dialog box, the message shows the file your printer is downloading, and the progress bar indicates the progress of downloading.



10. When the data transmission is complete, your printer starts to update its firmware. In the **Download Firmware** dialog box, the message shows that your printer is updating the firmware.



11. When the update is complete, the message “Done” appears. At the same time, your printer restarts itself. Click **Close** to close the dialog box, or click **Save Log** to save the firmware update log.



**Note** Your printer may update the other copy of firmware after the message “Done” appears. There are two copies of firmware stored in your printer: master and backup. They are used to restore each other in case the firmware is lost or

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corrupted. By default, the master is the primary copy. Your printer uses the backup if the master doesn't work.

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## 2.1.2 Update via the LAN or Multi-LAN port

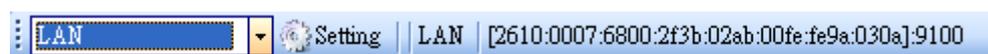
Before you update the firmware via the **LAN** or **Multi-LAN** port, you need to set up a network connection. For details, see [Set up LAN connection](#), [Set up IPv6 connection](#) and [Set up WLAN connection](#).

1. Connect your printer and computer to a network device (hub, switch or router) with Ethernet cables.
2. Make sure the print module is closed.
3. Turn on your printer, and start Printer Tool.
4. In the **Input/Output Port** list, click **LAN** or **Multi-LAN**, and do one of the following:
  - If you are using the **LAN** port, the **Port Name** and **Port Information** will show the LAN settings after you set up a network connection.

### LAN



### IPv6

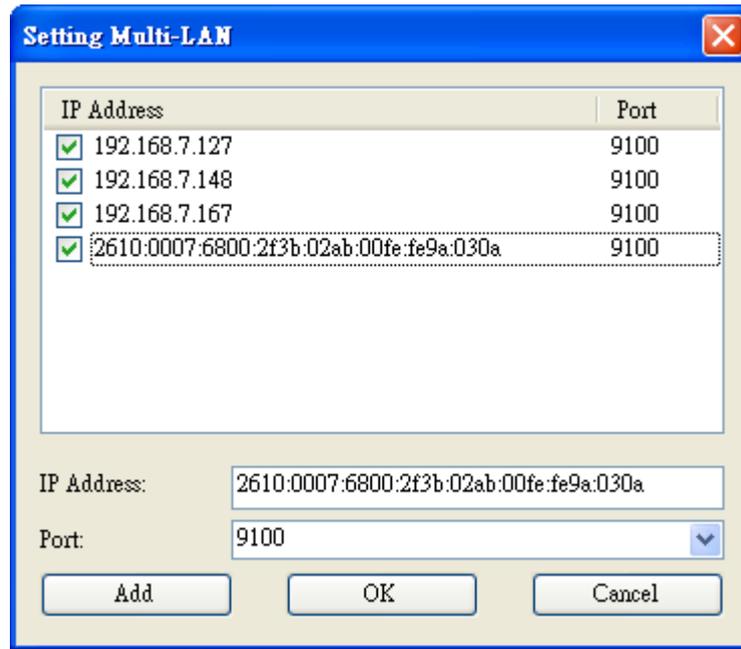


### WLAN

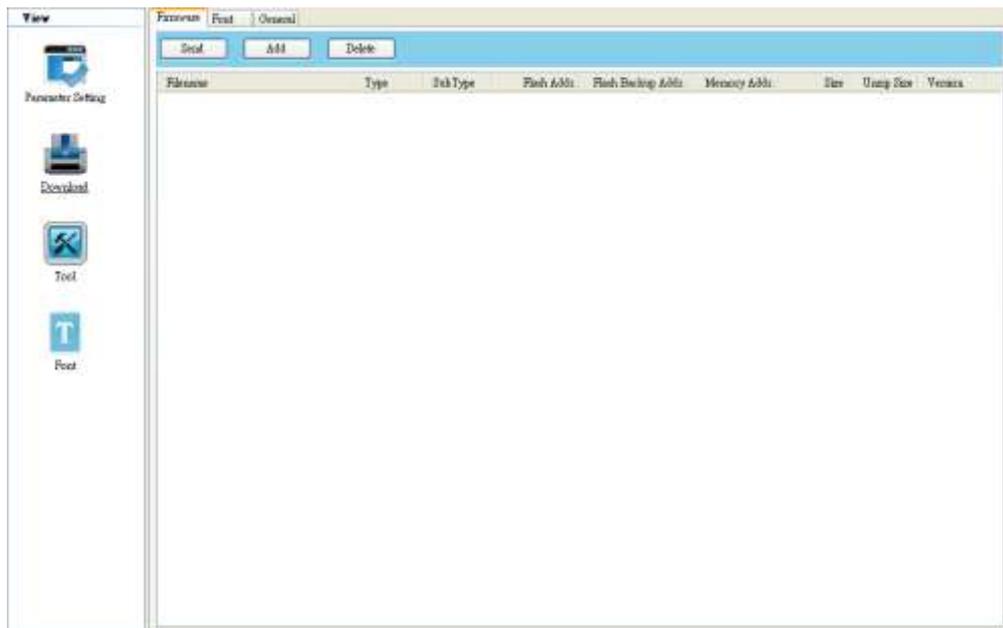


- If you are using the **Multi-LAN** port, click **Setting**. In the **Setting Multi-LAN** dialog box, in the **IP Address** box, enter your printer's IP address and click **Add**. If you want to update the firmware of multiple printers, keep adding their IP addresses, and then click **OK**.

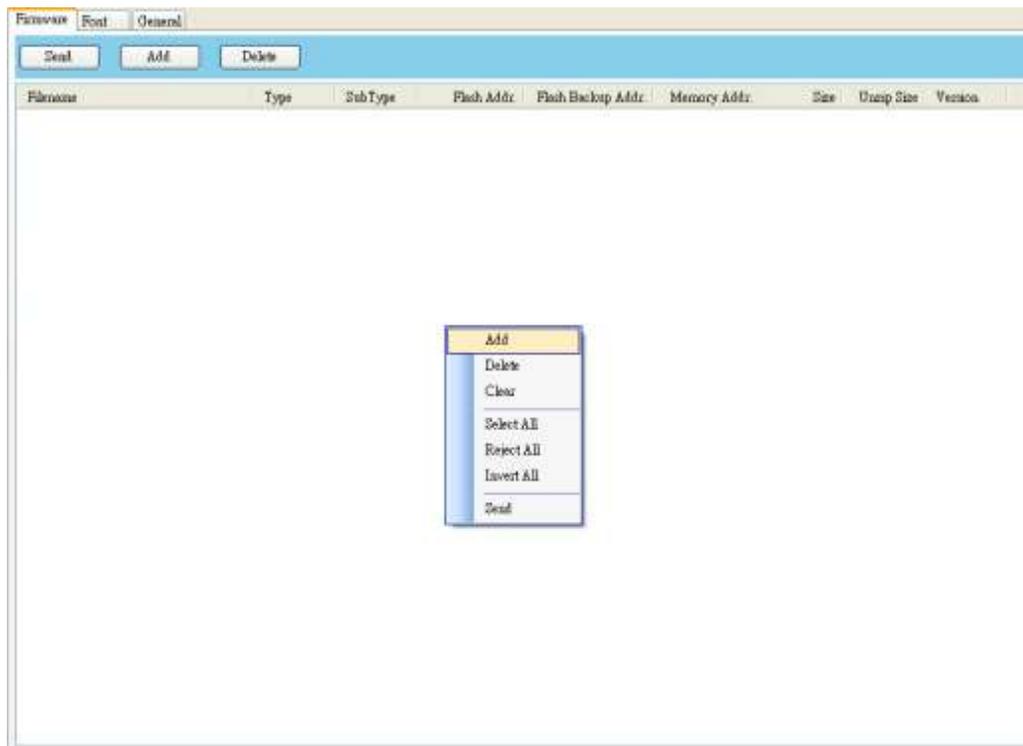




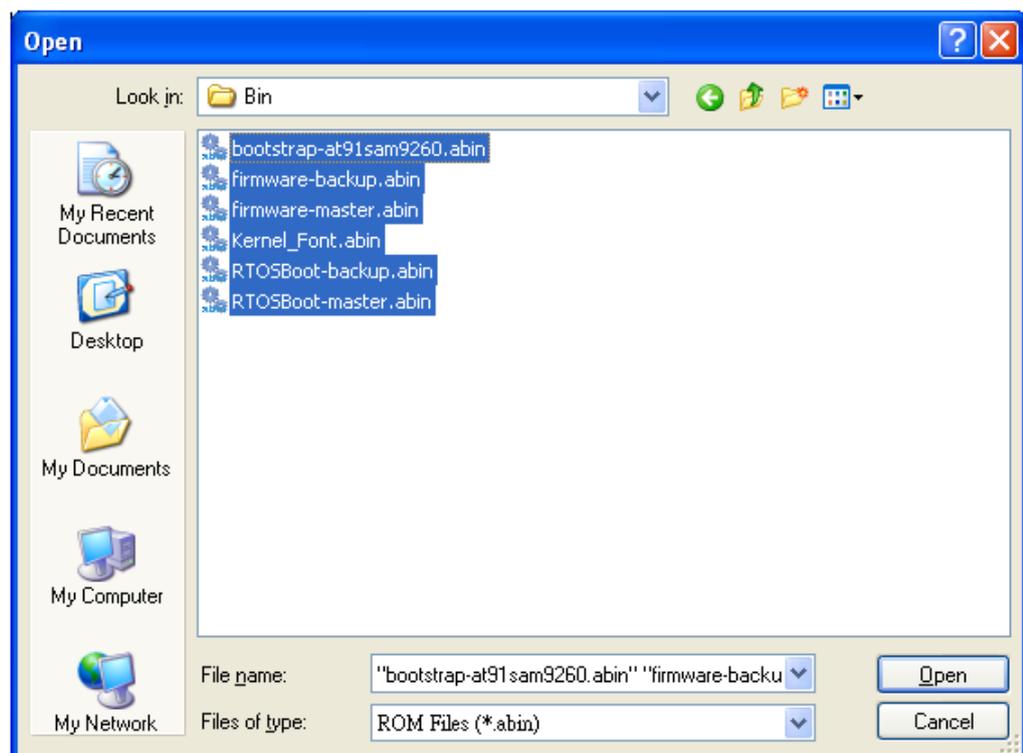
5. In the **Navigation** pane, click **Download**, and click the **Firmware** tab.



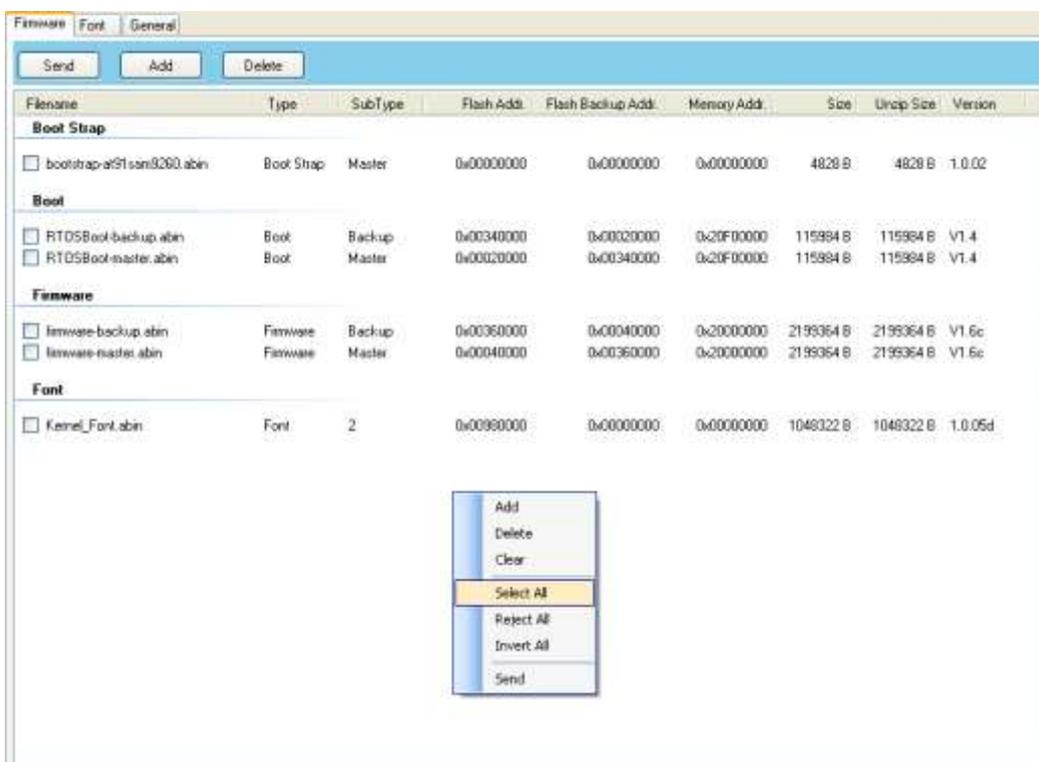
6. Right-click in the blank area and click **Add**.



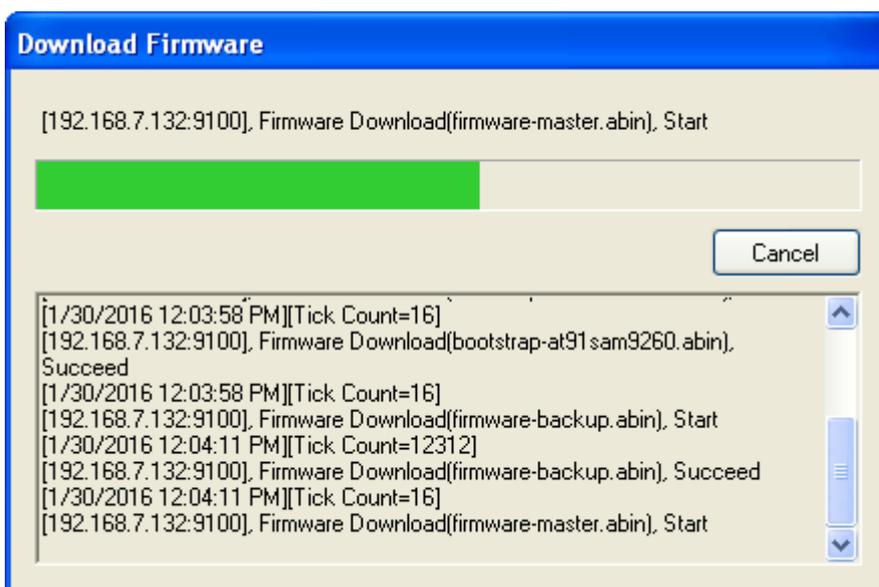
7. In the **Open** dialog box, browse to the folder that contains the firmware files. Select all of them and click **Open**.



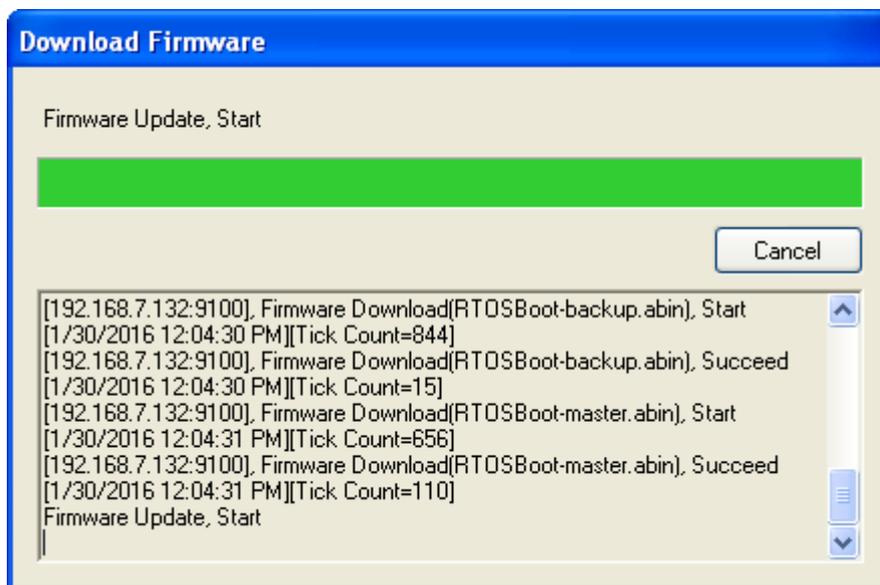
- If you want to update specific files, select the check boxes of those files; if you want to update all of the firmware files, right-click in the blank area in the list, and click **Select All**.



- Click **Send** to send the firmware files to your printer. In the **Download Firmware** dialog box, the message shows the file is downloading, and the progress bar indicates the progress of downloading.



10. When the data transmission is complete, your printer starts to update its firmware. In the **Download Firmware** dialog box, the message shows that your printer is updating the firmware.



11. When the update is complete, the message "Done" appears. At the same time, your printer restarts itself. Click **Close** to close the dialog box, or click **Save Log** to save the firmware update log.

