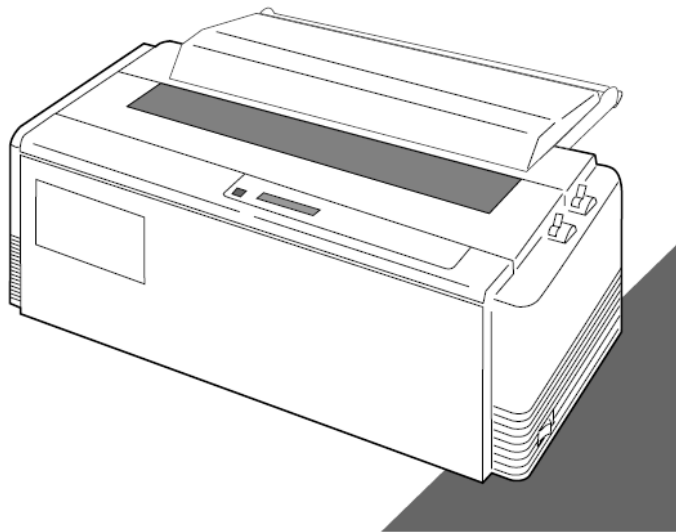


24pin Dot Matrix Printer

BP-9000E

OWNER'S MANUAL



Declare

About Trademark

Corporation names and product names are the registered trademarks or commodity names of the corporation.

- * EPSON and ESC/PK2 are the registered trademarks of Seiko Epson Corporation.
- * IBM and IBM 2391 are the registered trademarks of International Business Machines Corporation.
- * Windows is a registered trademark of Microsoft Corporation.

Important Safety Instructions

Read all of these instructions carefully and thoroughly and save them for later reference. The unauthorized operation would lead to malfunction or accident. Manufacturers have no responsibilities for the problems which are led by misoperations.

1. Follow all warnings and instructions in the manual as well as marked on the product.
2. Do not touch the print head if the printer has just been recently used as the print head may be hot.
3. Do not put your fingers under the left and right tractor covers of the tractor when installing the fanfold paper.
4. Unplug this product from the power outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to you or the product.
7. Slots and openings on the cabinet and the back or bottom are provided for air ventilation. To ensure reliable operation of the product and to protect it from overheating, do not block or cover these openings. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heater. This product should not be placed in a built-in installation or kiosk stand unless proper ventilation is provided.
8. This product should never be placed near or over a radiator or heat origin, and should avoid of direct sunshine.
9. Do not locate this product where the cord would be walked on. When the cord or the plug is mangled, please stop using and get a new one replaced. Make sure the old one is far away from the printer, so it can avoid someone who does not know the inside story getting damage.
10. Do not use in locations subject to high humidity or dust levels. Excessive humidity and dust may cause equipment damage or fire.
11. Never push objects of any kind into this product though cabinet slots as they may touch dangerous voltage dots or short out parts.
12. Don't remove the printer's out-cover and repair the printer. When needed, call or take it to the professional.
13. To ensure safety, please unplug this product prior to leaving it unused for an extended period. The wall outlet you plan to connect to should be nearby and unobstructed.
14. This product belongs to the impact printer, it produces obviously noise during printing, so we suggest placing this printer in a relatively independent area.
15. When using the printer in room where ventilation is not good or printing a large amount of files, it is suggest that to change the air in time.
16. Unplug this product from the power outlet and leave servicing to qualified service personnel under the following conditions:
 - A. When the power cord or plug is damaged or frayed.
 - B. If liquid has been spilled into the product.
 - C. If the product has been exposed to rain or water.
 - D. If the product does not operate normally when the operating instructions are followed.
 - E. If the product has been dropped or the cabinet has been damaged.
 - F. If the product exhibits a distinct change in performance, it indicates a need for service.

Note: The contents of this manual are subject to change without notice.

*** All parts of the printer can be recycled. When it is abandoned, we can call it back freely. Please contact us when you abandon it.**

Contents

Declare.....	i
Important Safety Instructions	ii
Chapter 1 Function Characteristic	1
Chapter 2 Preparation	2
2.1 Unpacking & Checking	2
2.2 Removing the Protective Materials.....	2
2.3 Main Parts of Printer	2
2.4 Installing the Printer	3
2.5 Installing the Paper Rack	3
2.6 Installing the Sound Seal Cover	4
2.7 Installing the Ribbon cassette	5
2.8 Connecting the Computer	6
2.8.1 Connecting to the Parallel Interface.....	6
2.8.2 Connecting to the Serial Interface	7
2.8.3 Connecting to the USB Interface	7
2.8.4 Connecting to the Ethernet Interface	7
2.9 Connecting to the Power Cord	8
2.10 Installing Driver	8
2.10.1 Auto-installing way.....	8
2.10.2 Manual installing way.....	9
2.11 Network Settings	11
2.11.1 Connecting Printer	11
2.11.2 Setting IP Address	11
2.11.3 Installing Printer Network Driver.....	13
Chapter 3 Operator Panel	20
3.1 Operator Panel.....	20
3.1.1 Operator Panel View.....	20
3.1.2 Function Keys.....	20
3.1.3 LCD	22
3.1.4 LED indicator	22
3.1.5 Paper Select Lever	22
3.1.6 Head Adjustment Lever	22
3.1.7 Self-test	23
3.1.8 Tear Off.....	23
3.1.9 Shortcut Key Function	24
3.2 How to Use the Functional Setup.....	24
3.2.1 Menu setup functional key.....	24
3.2.2 Setting examples	25
Chapter 4 Printer Setting	27
4.1 Setting up the Manual Mode	27
4.2 Setting up the Tractor Mode	27

4.3 Print position	28
4.4 Head Adjustment Lever	29
Chapter 5 Menu Function Description	30
5.1 MULTIPART	30
5.2 PAGE FANFOLD	30
5.3 PAGE SINGLE	30
5.4 FONT SELECT	31
5.5 CHAR PITCH	31
5.6 CHINESE PITCH	31
5.7 COMPRESS PRN	32
5.8 TOF FANFOLD	32
5.9 TOF SINGLE	32
5.10 SELECT SETUP	32
5.11 EMULATION	33
5.12 CODE PAGE	33
5.13 CHR TBL EPSON	33
5.14 CHR TBL IBM	33
5.15 AGM IBM	33
5.16 CR SETTING	34
5.17 LF SETTING	34
5.18 LF PITCH	34
5.19 ZERO STYLE	34
5.20 INTL FONT	34
5.21 PRINT MODE	35
5.22 FONT LOCK	35
5.23 PITCH LOCK	35
5.24 QUALITY LOCK	35
5.25 TOP MARGIN	35
5.26 BOTTOM MARGIN	36
5.27 LEFT MARGIN	36
5.28 RIGHT MARGIN	36
5.29 PARITY BIT	36
5.30 DATA LENGTH	37
5.31 STOP BIT	37
5.32 PROTOCOL	37
5.33 BAUD RATE	37
5.34 PRINT DIR	37
5.35 COVER DETECT	38
5.36 QUIET MODE	38
5.37 TEAR OFF	38
5.38 DISPLAY LANG	38
5.39 INVERT DISP	38

5.40 DHCP	38
5.41 IP ADDRESS.....	39
5.42 SUBNET MASK	39
5.43 GATEWAY	39
5.44 MENU LISTING.....	39
Chapter 6 Troubleshooting	40
6.1 How to Solve the Problem.....	40
6.2 How to Solve the Error Message.....	41
6.3 Maintenance.....	42
6.3.1 Clean the printer	42
6.3.2 Lube	43
6.3.3 How to remove the printer cover.....	44
Chapter 7 Printer Specification	46
7.1 General	46
7.2 Interface Specification	47
7.2.1 Parallel Interface.....	47
7.2.2 USB Interface	49
7.2.3 Ethernet Interface	49
7.2.4 Serial Interface	49
Chapter 8 Paper Specification	52
8.1 Paper Specification and Printable Area	52
8.1.1 The Notice Relates to Paper.....	52
8.1.2 Useable Paper Types and Guarantee Area	52
8.1.3 Single Sheet Paper.....	53
8.1.4 Fanfold paper	57
8.1.5 Envelope.....	64
8.1.6 Delivery Note	69
8.1.7 Postcard	69
8.1.8 Passbook.....	69
8.1.9 Label.....	69
8.1.10 Reborn Paper	69
Appendix A Self-test and Adjustment	70
A.1 Self-test Function.....	70
A.1.1 ASCII Test Mode.....	70
A.1.2 Hex Dump Mode	70
A.2 Alignment Adjust Mode	70
Appendix B Barcode command.....	72

Chapter 1 Function Characteristic

- Rolling Paper-feed Mechanism.
- Paper type and paper thickness are selectable: It can print with single sheet paper and fanfold paper (1~9 plies) of different thicknesses (Max. 0.9mm).
- Paper feeding way is adjustable: Friction feeding way can be chose when printing with single sheet paper; Tractor feeding way can be chose when printing with fanfold paper.
- It supports 50%, 75%, 83% and 100% Compress Printing.
- The printer supports EPSON ESC/PK2 and IBM 2391 emulations as standard.
- The printer can be configured with parallel interface, serial interface, USB interface or Ethernet interface.
- Contain the following standard bar codes: EAN-13, EAN-8, Interleaved 2 of 5, Matrix 2 of 5, Industrial 2 of 5, Code 39, Code 128 B, Code 128 C, NW-7.

Chapter 2 Preparation

2.1 Unpacking & Checking

Check each item against the following packing list, if any of these items are missing, please contact your dealer.

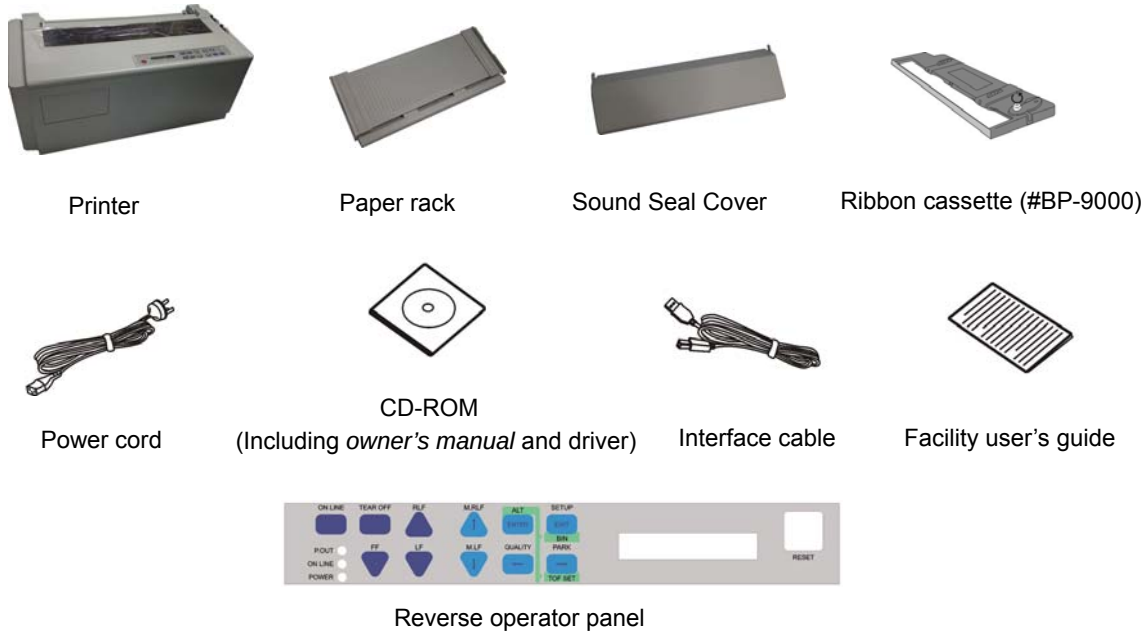


Figure 2-1 Packing list

2.2 Removing the Protective Materials

1. Open the packing box, take out the printer, and remove the packing materials.
2. Save all the original packing materials, so that they can be used when transport the printer.

2.3 Main Parts of Printer

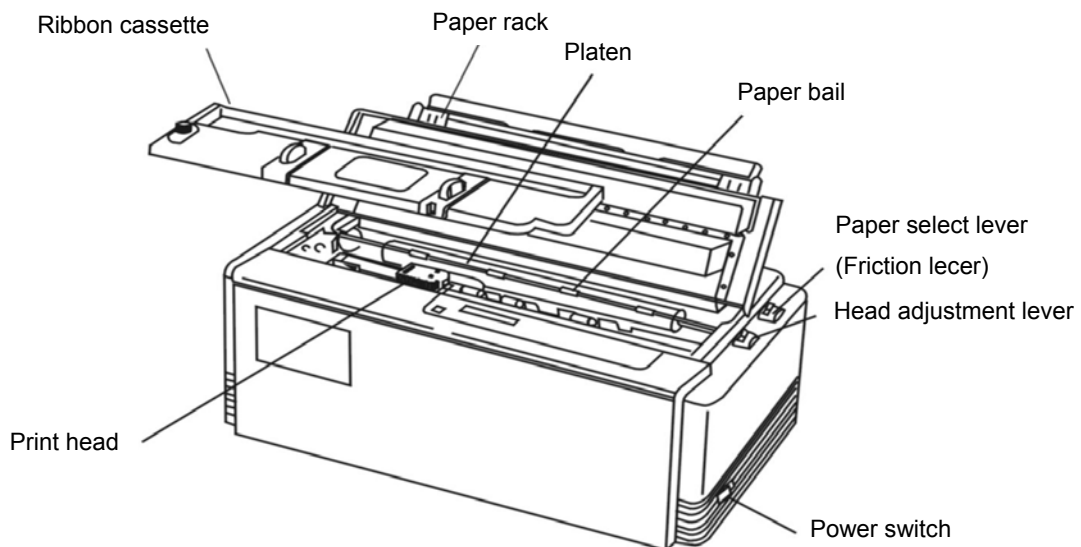


Figure 2-2 Main parts of printer (front view)

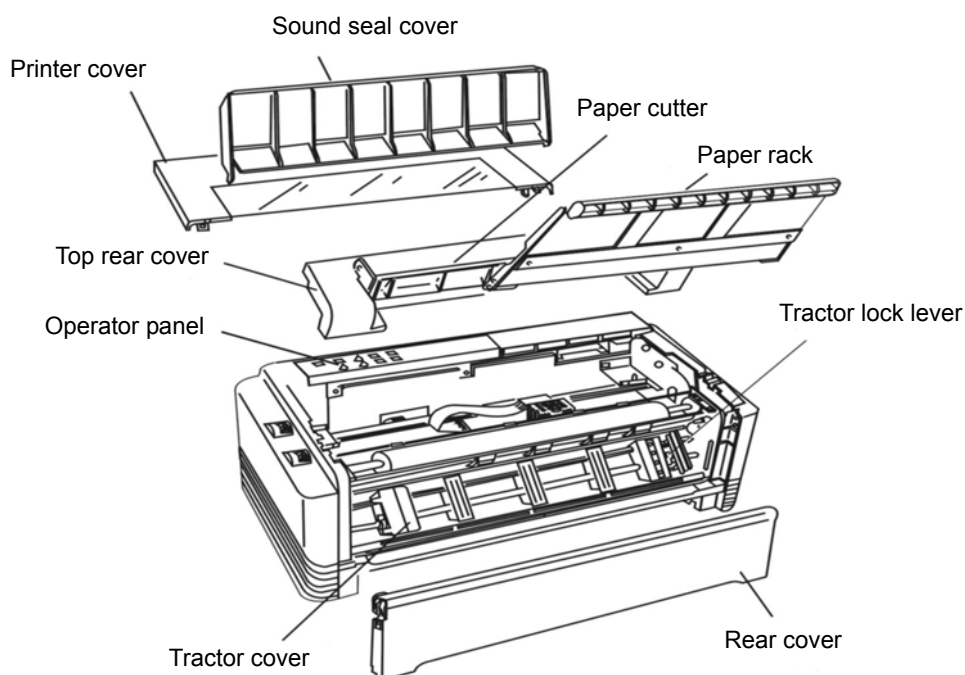


Figure 2-3 Main parts of printer (rear view)

Note: According to specific interface standards

2.4 Installing the Printer

Before placing the printer in your chosen location, consider the following guidelines:

- This printer should be placed on a normal table, printer stand or desk. Be sure that the surface is level, to avoid an uneven load on the carriage as it operates.
- Do not place the printer where belong to the following conditions:
The place is overheating or humidity.
The place is shaking.
- Do not install the printer where it may be subjected to unsuitable conditions such as:
Where there is excessive dust.
Where it may be splattered with oil or metallic dust.
Where it may be exposed to direct sunlight.
Where it may be accidentally splashed with water.

2.5 Installing the Paper Rack

1. Slide the right and left paper guiders to both sides of paper rack.
2. Install the pivots on both sides of paper rack vertically into the groove of top rear cover. (As shown in Figure 2-4)

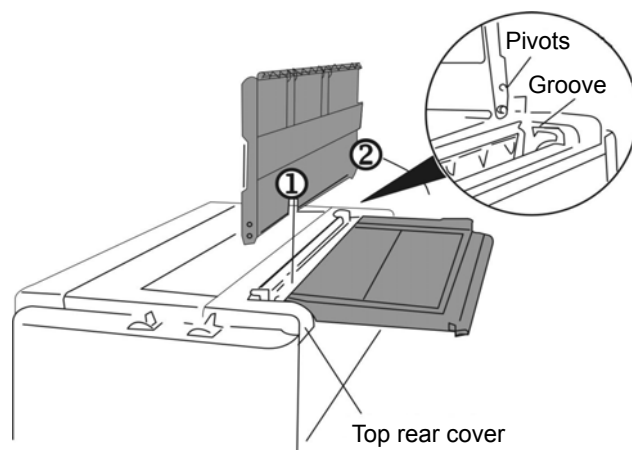


Figure 2-4 Installing the Paper rack

Note: When installing or removing paper rack, please move the right and left paper guiders to the corresponding right and left ends.

- Put the paper rack vertically when using single sheet paper; when using fanfold paper, please put it horizontally. (As Figure 2-5 shown)

Note: As the multi-ply paper is hard, so in order to avoid paper jam during printing, please put the paper rack slantingly when using such kind of paper.

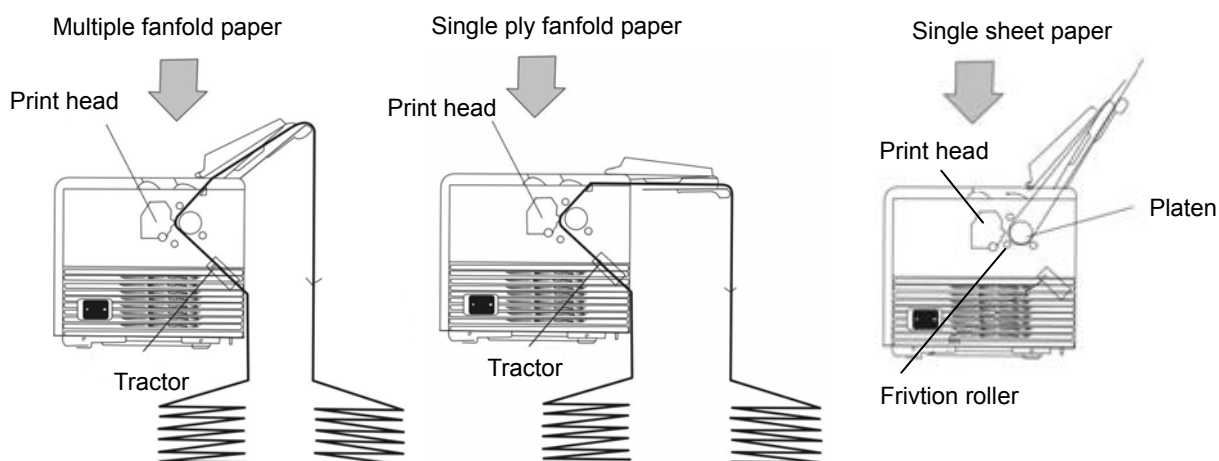


Figure 2-5 Placing the paper rack

2.6 Installing the Sound Seal Cover

- Reverse sound seal board and place it horizontally on the printer.
- Plug one hole of sound seal cover into the tab of the L-angle hinge on one side of the printer.
- Press the L-angle hinge on the other side inwards gently, plug the other sound seal cover hole into the tab, and then loosen it. (As Figure 2-6 shown)

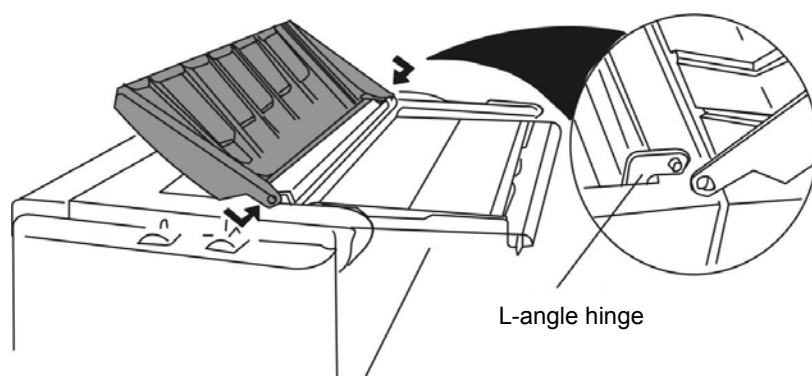


Figure 2-6 Installing the sound seal cover

Note: Make sure the two tabs are plugged into the Sound Seal Cover holes entirely, or else, the Sound Seal Cover would get stuck.

2.7 Installing the Ribbon cassette

1. Make sure the printer is turned off.
2. Open the printer cover.
3. Move the print head to the leftmost position, so that it is easier to install the ribbon cassette.
4. Turn the ribbon feed knob in the direction of the arrow to remove any slack from the ribbon so it is easier to install. (As Figure 2-7 shown)

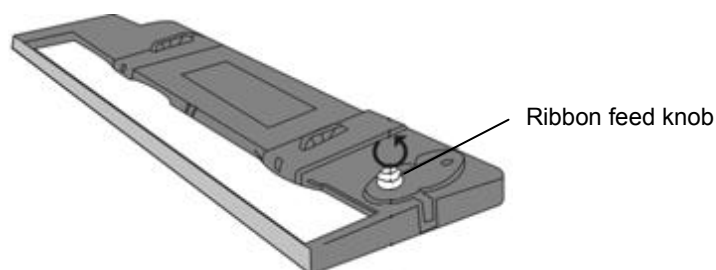


Figure 2-7 Ribbon cassette

5. Place ribbon cassette into the cassette holders on the right and left sides, ribbon should be in the ribbon guide. Check and make sure the ribbon drive shaft on the left side of the cassette holders has plugged into the holes on the ribbon cassette bottom. (As shown in Figure 2-8)
6. Turn the ribbon feed knob in the direction of the arrow to remove any slack from the ribbon.
7. Close the printer cover, pull the head adjustment lever to the proper position to get the best printing result.

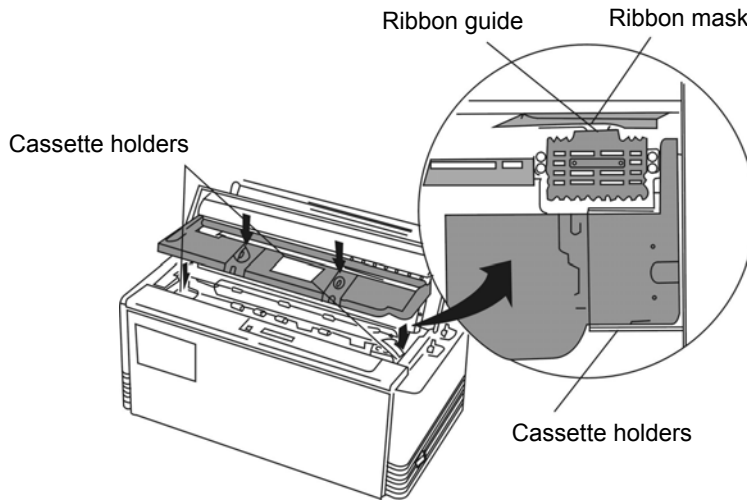


Figure 2-8 Installing the ribbon cassette

- Note:** 1. When your print becomes faint, you need to replace the ribbon cassette. Otherwise, the print quality will be affected and the print head may be damaged.
2. To remove the old ribbon cassette, first make sure the power is turned off, move the print head to the left of the printer. Then pull out the ribbon from ribbon guide, hold the ribbon cassette handle on both sides and lift it out of the printer forwards. Install a new one as the above steps.
 3. Never move the print head when printer is on, or else the printer may get damaged. Besides, do not touch the print head if the printer has just been recently used as the print head may be hot.
 4. Please use the original #BP-9000 ribbon cassette only. Manufacturer will not honor warranty when using unauthorized ribbon cassette.

2.8 Connecting the Computer

Your printer can be configured with parallel interface, USB interface, serial interface or Ethernet interface, (Please take the specific interface as standard.). Connect the printer to your computer as described below. As Figure2-9, 2-10, 2-11 and 2-12 shown.

Note: Before connecting the parallel interface or the serial interface, please make sure the power of the printer is shut down. Must after tighten the cable you may turn on the power, or it will damage the printer.

2.8.1 Connecting to the Parallel Interface

1. Turn off both the computer and the printer. Plug the parallel cable connector securely into the printer's parallel interface. Squeeze the wire clips together until they lock in place on both sides of the connector. As shown in Figure 2-9.
2. Plug the other end of the cable into the computer's parallel interface; then tighten the screws on both sides of the connector, make sure it is tight to the interface.

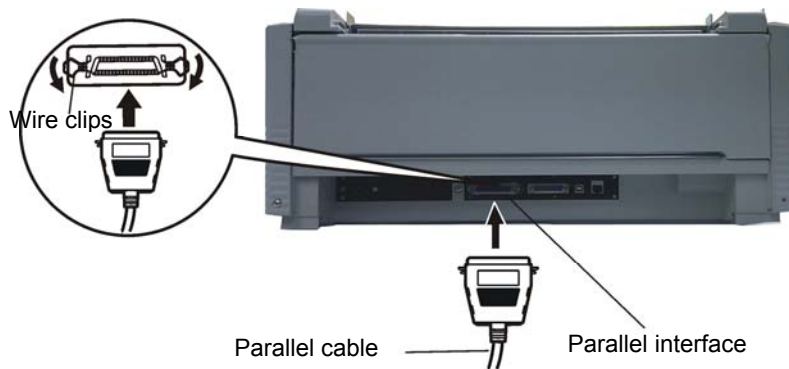


Figure 2-9 Connect to the parallel interface

2.8.2 Connecting to the Serial Interface

1. Turn off both the computer and the printer. Plug the serial cable connector securely into the printer's serial interface. Then tighten the screws on both sides of the connector. As shown in Figure 2-10.
2. Plug the other end of the cable into the computer's serial interface; then tighten the screws on both sides of the connector, and make sure it is tight to the interface.

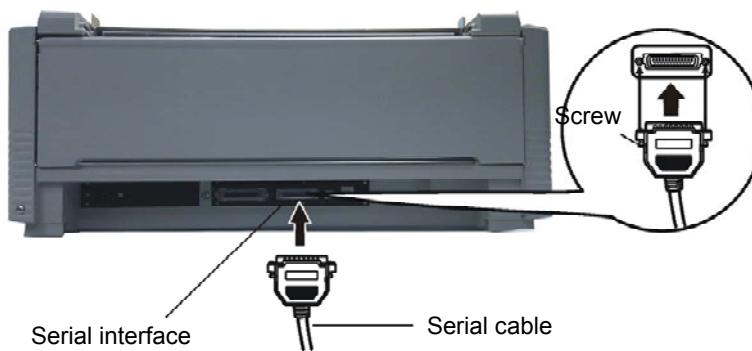


Figure 2-10 Connect to the serial interface

2.8.3 Connecting to the USB Interface

1. Plug the USB cable A end (flat shape) into the computer's USB interface.
2. Plug the USB cable B end (square shape) into the printer's USB interface. (As Figure 2-11 shown)

Note: Don't impact the plug after connecting the USB cable.

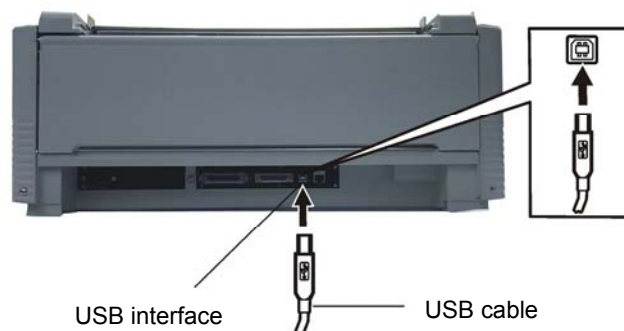


Figure 2-11 Connect to the USB interface

2.8.4 Connecting to the Ethernet Interface

Plug the RJ-45 crystal plug of the Ethernet cable into the printer, and plug the other plug into the LAN. As shown in Figure 2-12.

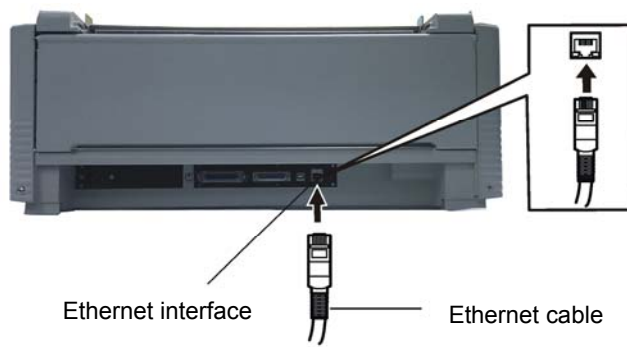


Figure 2-12 Connect to Ethernet interface

Note: The details of the network setting please refer to the relative contents in this. *owner's manual.*

2.9 Connecting to the Power Cord

1. As shown in Figure 2-13. Make sure the printer is turned off. (The pressed down side of the power switch with "O" marks denotes the printer is off.)
2. Make sure the voltage required by the printer matches that of your electrical outlet.
3. Plug one end of the power cord into the printer's power supply inlet.
4. Plug the other end of the power cord into a properly grounded electrical outlet.

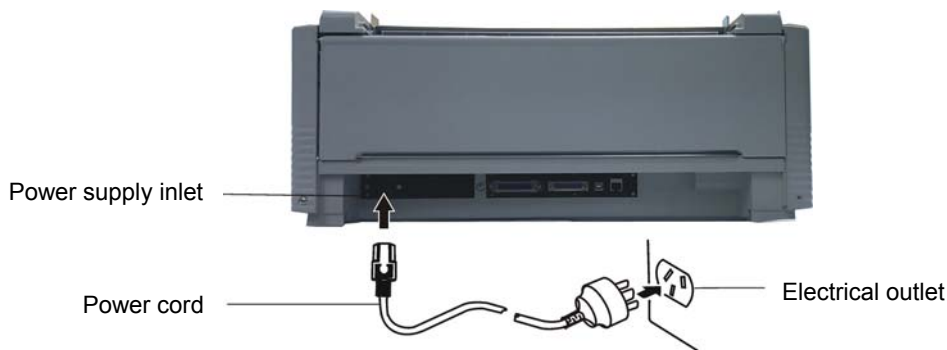


Figure 2-13 Connect the power cord to the printer

- To turn the printer ON, press the I mark at the side of the power switch.
- To turn the printer OFF, press the O mark at the side of the power switch.

Caution: 1. If the rated voltage doesn't match the outlet voltage, contact your dealer for assistance. Do not plug in the power cord.

2. Use the electrical outlet connecting the ground properly.

Note: After turn off the printer, you should wait more than 3 seconds before you restart the printer. Or it may lead to initialization error.

2.10 Installing Driver

Please use the cable to connect computer with printer, then turn on the computer and the printer, put the driver CD into the CD-ROM. Install driver by the following way:

2.10.1 Auto-installing way

Double click the file "Setup.exe" in the driver disc, install driver by the following direction.

Note: The auto-installing way just runs in the operation system of Windows 2000 or above.

2.10.2 Manual installing way

Note: The hand-operated installing ways of serial interface and parallel interface are the same.

1) The installing steps of parallel interface for Windows 2000/XP/Vista are as follows:

- 1 Click "Start" → "Settings" → "Select Printers".
2. Click "Add Printer", then it pops up a printer cover of "Add Printer Wizard", click "Next", then please read the select guide carefully, such as, select "Local printer" in the "Local or Network Printer" printer cover, then click "next".
3. A printer cover of "Select a Printer Port" pops up, select a usable port. Such as, select "LPT1: (Recommended Printer Port)", click "Next".
4. A printer cover of "Install Printer Software" pops up, click "Have Disk...", click "Next".
5. A printer cover of "Install From Disk" pops up. Please according to the operating system environment, you should select the path as follow: CD-ROM → "Driver" → "WIN2000 (XP-Vista-Win7)", click "Open", then click "OK" to return to the printer cover of "Install Printer Software", select the respective model, click "Next".
6. Follow the guide click "Next" gradually till the installation is finished.

2) The installing steps of parallel interface for Windows 7 are as follows:

1. Click "Start" → "Device and Printers".
2. Click "Add Printer", then it pops up a printer cover of "Add Printer Wizard", click "Next", then please read the select guide carefully, such as, select "Local printer" in the "Local or Network Printer" printer cover, then click "next".
3. A printer cover of "Select a Printer Port" pops up, select a usable port. Such as, select "LPT1: (Recommended Printer Port)", click "Next".
4. A printer cover of "Install Printer Software" pops up, click "Have Disk...", click "Next".
5. A printer cover of "Install From Disk" pops up. Please according to the operating system environment, such as Windows XP operating system, you should select the path as follow: CD-ROM → "Driver" → "WIN2000 (XP-Vista-Win7)", click "Open", then click "OK" to return to the printer cover of "Install Printer Software", select the respective model, click "Next".
6. Follow the guide click "Next" gradually till the installation is finished.

The USB interface installing steps for Windows 2000/XP/Vista/Win7 are as follows:

The following steps are used Windows XP as example. There are slight differences among different operating systems.

1. Connect the printer to computer with an USB cable and turn on the printer.
2. After the computer find out new hardware and finish searching, pop up a printer cover of "Found New Hardware Wizard", choose "Install from a list or specific location (Advanced)", click "Next".
3. A printer cover of "Found New Hardware Wizard" — "Please choose your search and installation options" pops up, choose "Don't search, I will choose the driver to install", click "Next".
4. A printer cover of "Add Printer Wizard" pops up, click "Have Disk...", click "Browse".
5. A printer cover of "Install From Disk" pops up. Please according to the operating system environment, you should select the path as follow: CD-ROM → "Driver" → "WIN2000 (XP-Vista-Win7)", click "Open", then click "OK" to return to the printer cover of "Add Printer Wizard", select the respective model, click "Next".
6. Follow the guide click "Next" gradually till the installation is finished.

The installing steps for Windows 98 are as follows:

(1) The installing steps with a parallel cable or a serial cable:

1. Click "Start" → "Settings" → "Printers".
2. Click "Add Printer", then a printer cover of "Add Printer Wizard" pops up, click "Next", then please read the select guide carefully, such as, select "Local printer" in the "Local or Network Printer" printer cover, then click "Next".
3. A printer cover of "Click the manufacturer and model of your printer" pops up, click "Have Disk...", please click "Browse", select the path as follow: CD-ROM → "Driver" → "WIN98 (WINME)", then click "OK".
4. A printer cover of "Install From Disk" pops up, click "OK", return to a printer cover of "Add Printer", select the respective model, and then click "Next".
5. A printer cover of "Printer port" pops up, select "Available ports", such as, select "LPT1: Printer Port", click "Next", and then show the printer's name. If the system is not installed by other printer driver process, the printer is treated as default printer by the application process of printer cover 98 environment, click "Next". Otherwise, according to prompt, choose the printer is default: "Yes", click "Next", choose "Yes-(recommended)", click "Finish". A printer cover of "Printer test page completed" pops up, click "Yes".
6. The printer driver process is installed successfully.

(2) The installing steps with an USB cable:

Note: 1. As the system of Windows 98/ME doesn't have integrated USB driver control, please install USB driver before using USB interface printing. Then install USB printer driver.

2. If it has installed the USB driver, please install the USB printer driver directly as the following steps.

USB driver installing steps:

1. Connect an USB cable and turn on the printer.
2. After the computer find out new hardware and finish searching, a printer cover of "Add New Hardware Wizard" pops up, click "Next".
3. A printer cover of "Add New Hardware Wizard" — "Windows operation" pops up, choose "Search the best driver for the device (recommended)", and click "Next".
4. A printer cover of "Search for new drivers" pops up, check "Specify a location", click "Browse", select the path as follows: CD → ROM → "Driver"-[WIN98 (WINME) \ USBdriver], then click "OK".
5. Return to a printer cover of "Search for new drivers", click "Next"; a printer cover of "Windows driver file search for the device" pops up, click "Next".
6. After the system finishing installing the file automatically, a window of "USB Print Supported" pops up, click "Finish".
7. The printer USB driver process is installed successfully.

USB printer driver installing steps:

1. Click "Start" → "Settings" → "Printers".
2. Click "Add Printer", then a printer cover of "Add Printer Wizard" pops up, click "Next".
3. A printer cover of "Click the manufacturer and model of your printer" pops up, click "Have Disk...", please click "Browse", select the path as follow: CD-ROM → "Driver" → "WIN98 (WINME)", and then click "OK".
4. A printer cover of "Install From Disk" pops up, click "OK", return to a printer cover of "Add Printer", then click "Next".

5. A printer cover of "Printer port" pops up, select "Available ports", select "JMUSB", click "Next", and then show the printer's name. If the system is not installed by other printer driver process, the printer is treated as default printer by the application process of printer cover 98 environment, click "Next". Otherwise according to prompt, choose the printer is default: "Yes", click "Next" choose "Yes-(recommended)", click "Finish". A printer cover of "Printer test page completed" pops up, click "Yes".
6. The printer driver process is installed successfully.

2.11 Network Settings

Caution: The network printing function needs the operation system of Windows 2000 or above.

2.11.1 Connecting Printer

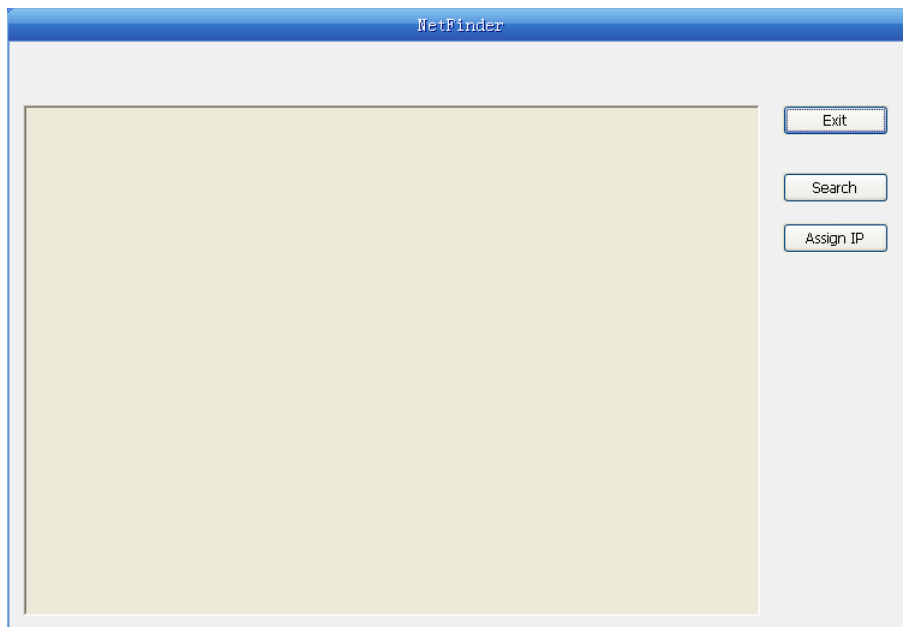
Power on the printer, connect with the Ethernet cable which has been connected to LAN, and look into the information of Ethernet LED indicator to ensure the printer has entered into the normal connection.

Yellow LED	Green LED	Description
ON	BLINK	Connect to network
OFF	OFF	Not connect to network

2.11.2 Setting IP Address

1. Run NetFinder Software

Double click NetFinder.exe in the PC, which connects the printer in the same LAN. The figure of the software is shown as follows:



Button description:

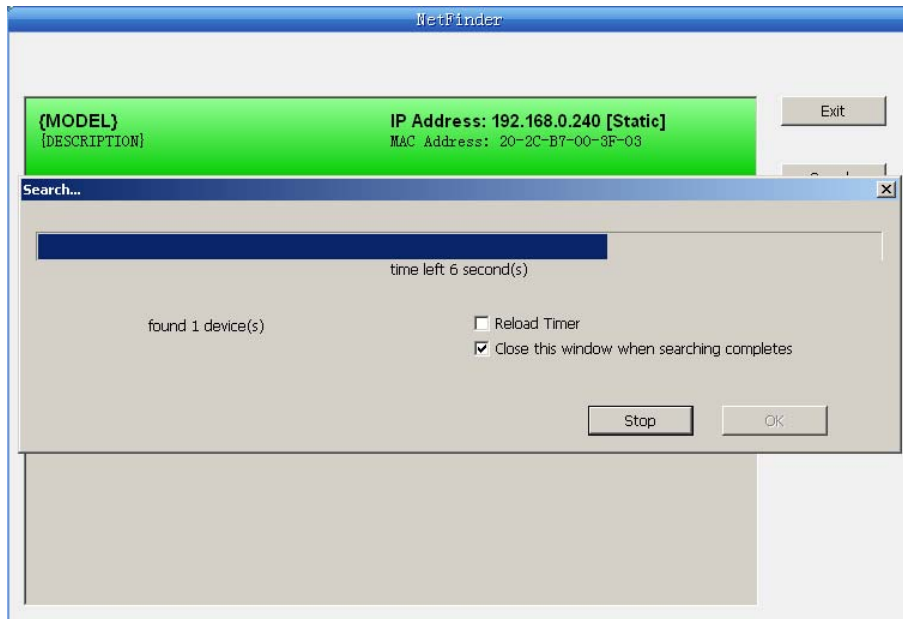
Exit — Exit from the software

Search — Search printers in the same LAN

Assign IP — Modify the IP address and other settings for the specified printer.

2. Search printer

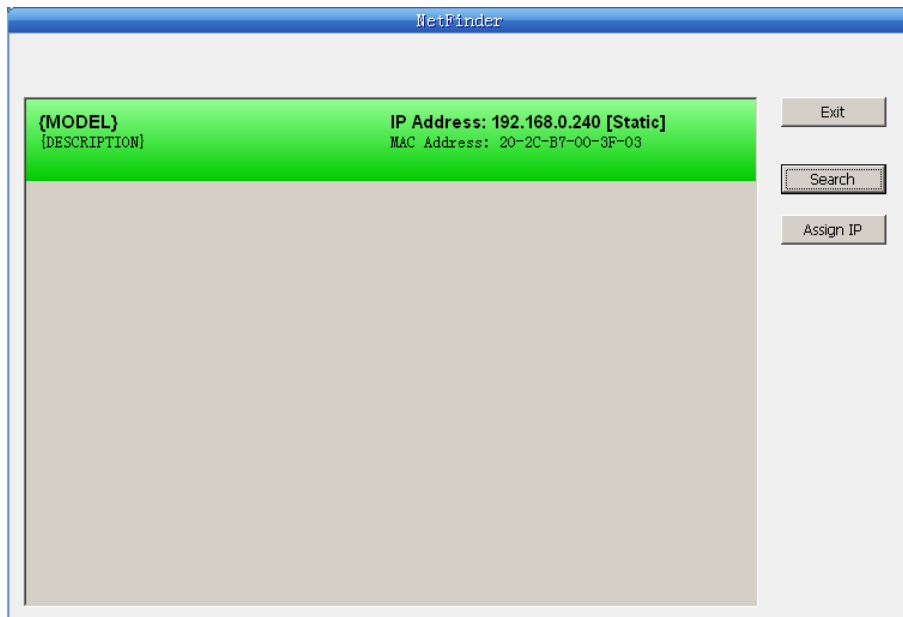
Click "Search" button in the main interface, the dialog box appearing will begin searching automatically and show appearance, listing a printer in the main interface if found. The time is counting down in the progress bar (10s in total) and the search will finish as soon as the time is over. When going on searching, press "search" button again.



If the printer still can not be found out when the network connection is correct and in the same network, Please check whether the network fire wall on the PC open or not. If there is a fire wall, please close it temporarily, open it again after finishing searching and setting a printer completely.

3. Setting printer's IP address

The printer's information is listed in the main interface, the left side of which is the model and description and the right is the IP and MAC address. What's more, the assign mode (dynamic/static) is noted behind the IP address.



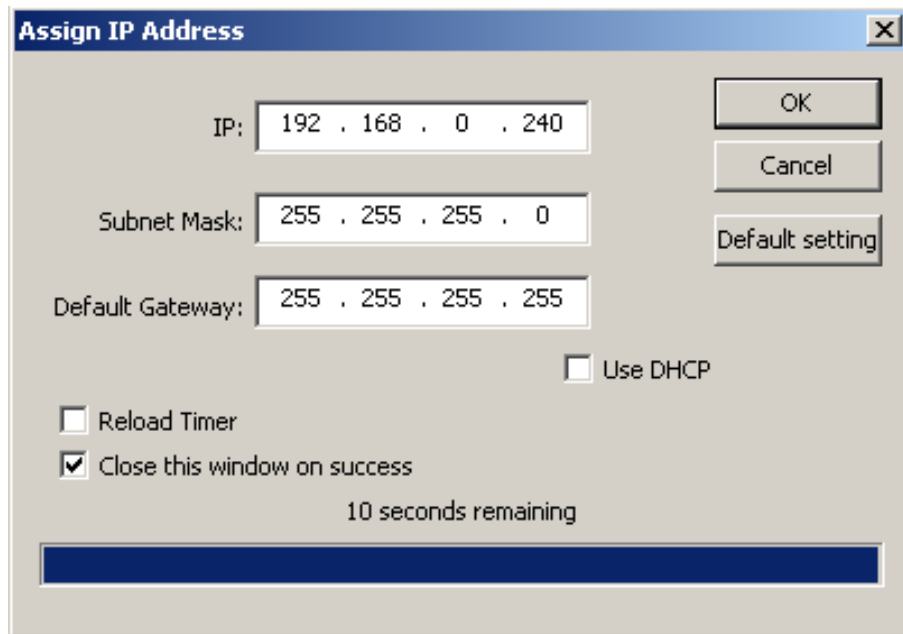
1) Correlative description for IP address settings

In order to search and set printer's IP address conveniently for the first time, the factory default setting is DHCP mode which assigns IP address dynamically. If there is no DHCP server in the connected LAN and printer is set to DHCP mode as well, then it will use the internal pre-set address (IP: 10.0.0.1, Subnet Mask: 255.255.255.0) automatically.

It is suggested that printer's IP set to static in actual usage, which can cut down the time when initializing the Ethernet interface as the printer is turned on and prevent IP conflicts (The dynamic address used in printer may conflict with another one). The network segment part of the IP address and Subnet Mask must be the same as those of PC connecting with a printer. For example, the address of working PC is 192.168.0.1/255.255.255.0 (IP/Subnet Mask), then which of printer should be set to 192.168.0.x/255.255.255.0 (x=2~254 and should avoid the IP in used. It is not restricted for NetFinder to search printers in the same network but different segment parts (can not stride gateway). Relative glossary of IP address may refer to corresponding information.

2) Setting printer's IP address

Select the printer information to be modified (black frame appears), click "Assign IP" button. Set the IP in the dialog box appearing.



The image shows a dialog box titled "Assign IP Address". It contains three input fields for IP configuration: "IP:" with the value "192 . 168 . 0 . 240", "Subnet Mask:" with "255 . 255 . 255 . 0", and "Default Gateway:" with "255 . 255 . 255 . 255". To the right of these fields are three buttons: "OK", "Cancel", and "Default setting". Below the input fields, there are three checkboxes: "Use DHCP" (unchecked), "Reload Timer" (unchecked), and "Close this window on success" (checked). At the bottom, a progress bar is shown with the text "10 seconds remaining".

Check the "Use DHCP" if need to assign dynamic address, the settings above will be disabled automatically. Please make sure there is a DHCP server in the network, or the printer can not receive an effective IP address.

When to specify static address, uncheck "Use DHCP" and fill in "IP address", "Subnet Mask" and "Default Gateway". If there is no gateway in the network, fill 255.255.255.255 in the "Default gateway". "IP address" and "Subnet Mask" should obey the assigning rules of local LAN (Ethernet), please enquire the administrator of networks which the printer connects to for more details.

Click "OK" to send address setting information to the specified printer. The printer takes response after "Close this printer cover on success" is checked, and then this dialog is closed automatically. Select "Reload Timer" then the software will wait for the printer's response. Generally, printer will take response in a circle time if network connection is correct.

Click "Cancel" if you abandon the modification.

Click "Search" in the main interface again to update printer information after modifying the printer's IP address.

3) Report printer's IP address

Report the printer's IP address, which will be used in the section "Newly-install printer network driver" or "Upgrade-install printer network driver (setting driver's network port)".

2.11.3 Installing Printer Network Driver

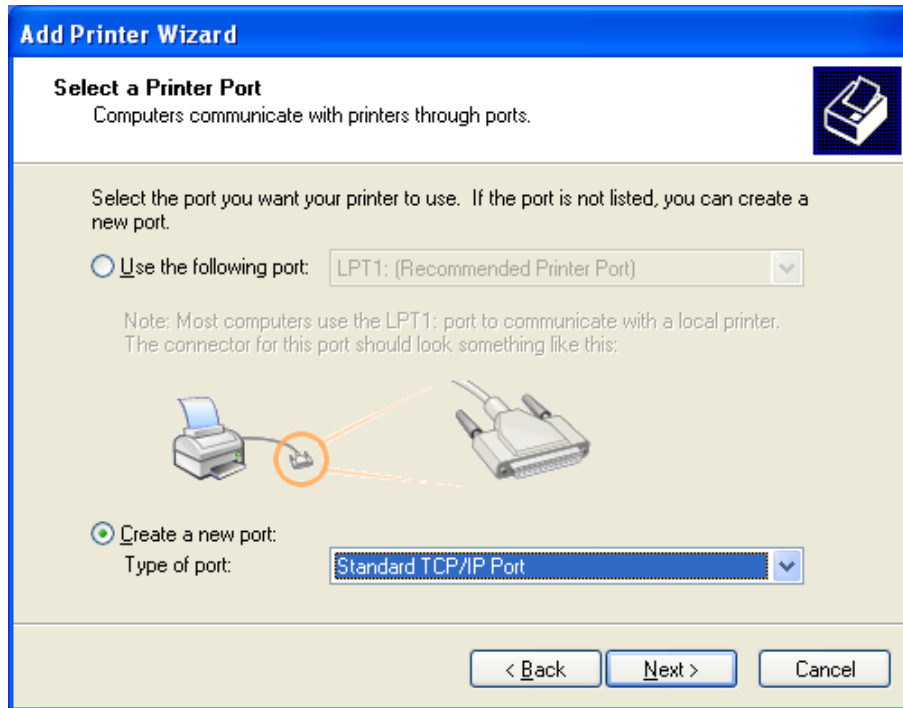
The ways of installing network driver are divided into Newly-install way and Upgrade-install way according to whether the PC installs the printer driver or not.

If the printer driver hasn't been installed on the PC, adopt newly-install way whose steps are shown in "Newly-install printer network driver".

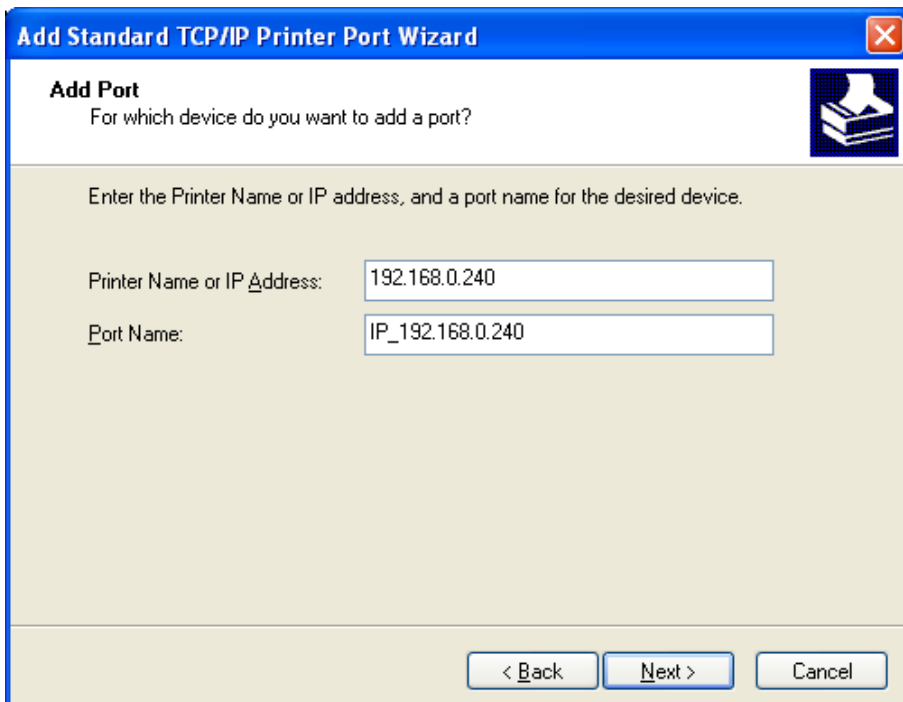
If the printer driver has been installed on the PC, adopt Upgrade-install way whose steps are shown in "Upgrade-install printer network driver".

1. Newly-install printer network driver

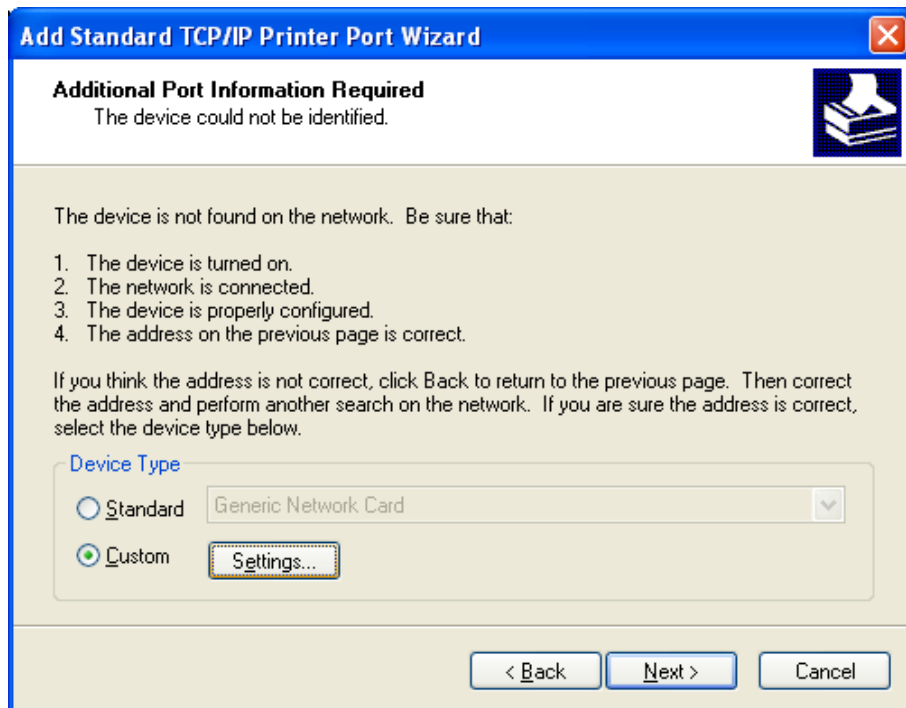
- 1) Click "Start" → "Settings", select "Printers".
- 2) Click "Add printer", then a printer cover of "Add Printer Wizard" pops up, click "next", then please read the select guide carefully. Such as, select "Local or Network Printer", then click "next".
- 3) A printer cover of "Select the Printer port" pops up, select a port you want your printer to use. For example, select "Create a new port", select "Standard TCP/IP Port" in the port, click "next".



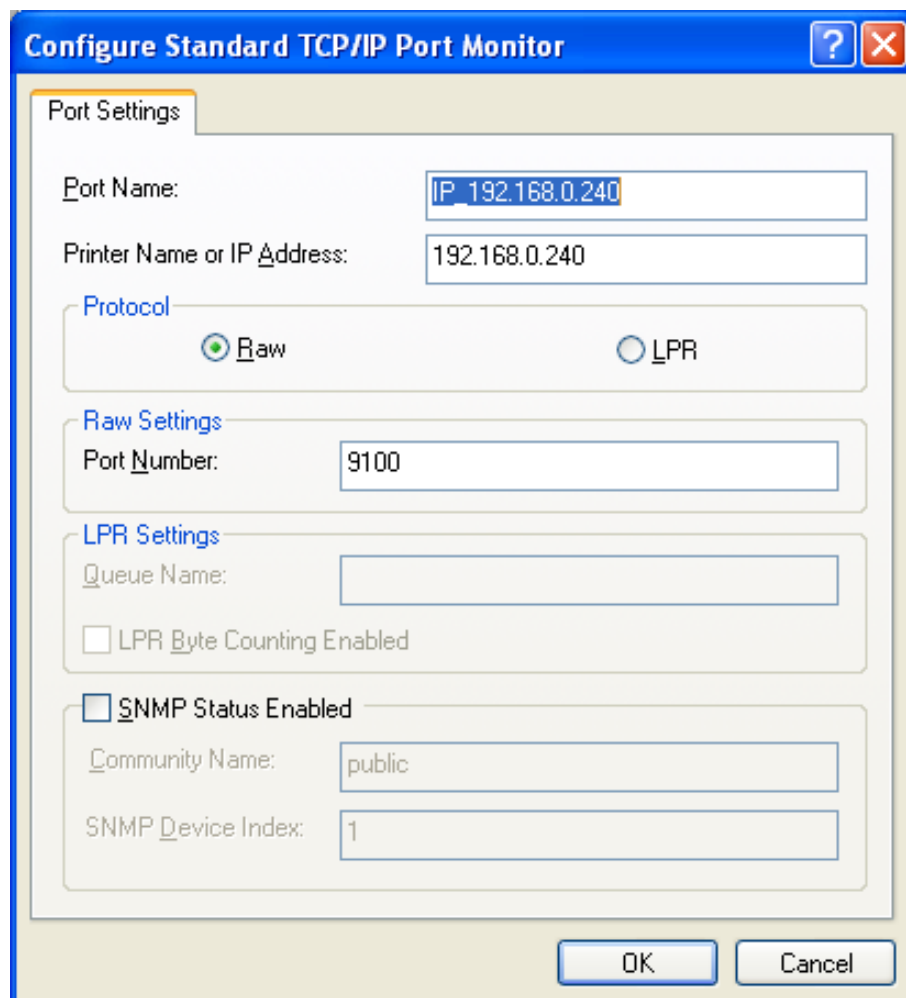
- 4) A printer cover of "Add standard TCP/IP Printer Port Wizard", click "Next".
- 5) A printer cover of "Add Port" pops up, enter the IP address reported by the "Setting printer's IP address" in the "Printer Name or IP Address" column. Take IP address "192.168.0.240" for example. "Port Name" is created automatically after finishing filling in IP address.



- 6) A printer cover of “Additional Port Information Required” pops up, select “Custom” in the “Device Type”, then click “Settings”.



- 7) A printer cover of “Port Settings” pops up. Affirm that “Port name” and “Printer name or IP address” are correct, “Protocol” is “RAW” and “Port Number” is “9100”, click “OK”.

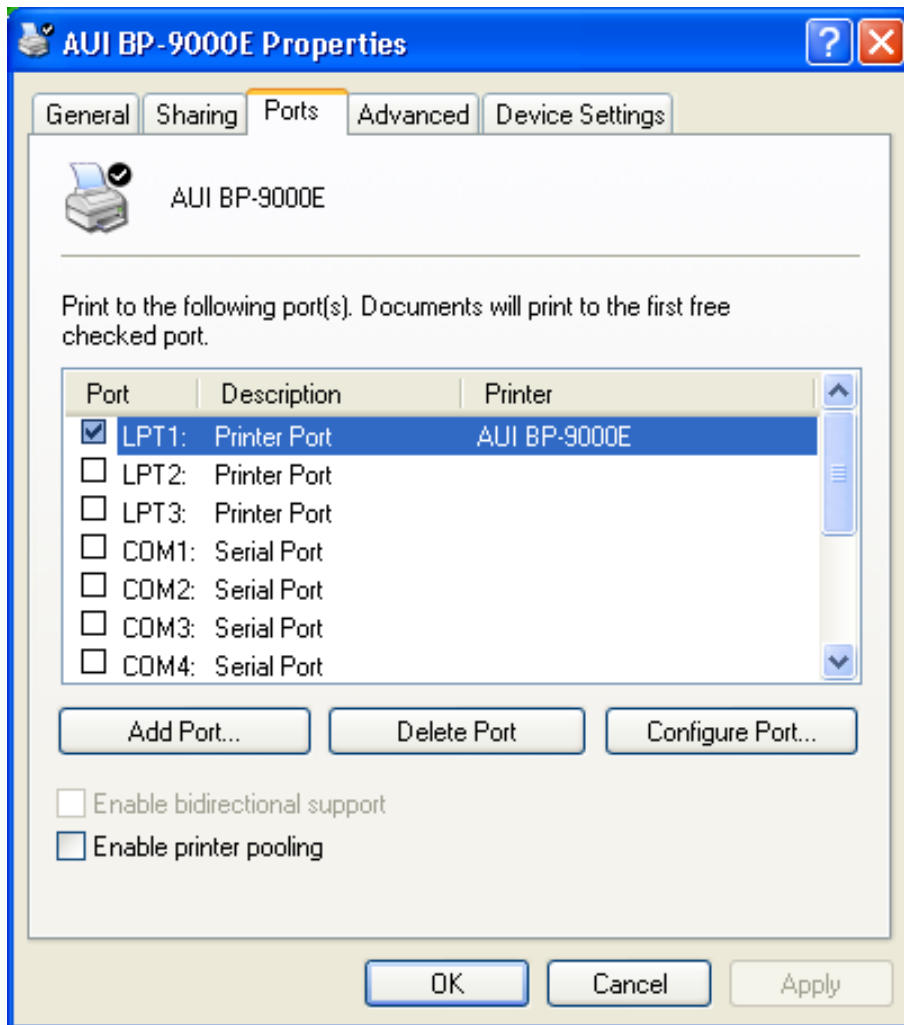


- 8) Return to "Additional Port Information Required", click "Next".
- 9) A printer cover of "Completing the Add Standard TCP/IP Printer Port Wizard" pops up, click "Finish".
- 10) In the selection of "Manufacturers/Printers", click "Have Disk", and then click "Next".
- 11) A printer cover of "Install From Disk" pops up. Please according to the operating system environment, such as Windows 2000/XP/Vista/Win7 operating system you should select the path as follows: CD-ROM → "Driver" → "WIN2000 (XP-Vista-Win7)", click "open", then click "OK", then return to the window "install printer software", select the respective model, click "next".
- 12) Follow the direct click "next" gradually till the installation is finish. At this time, printer network driver is installed completely.

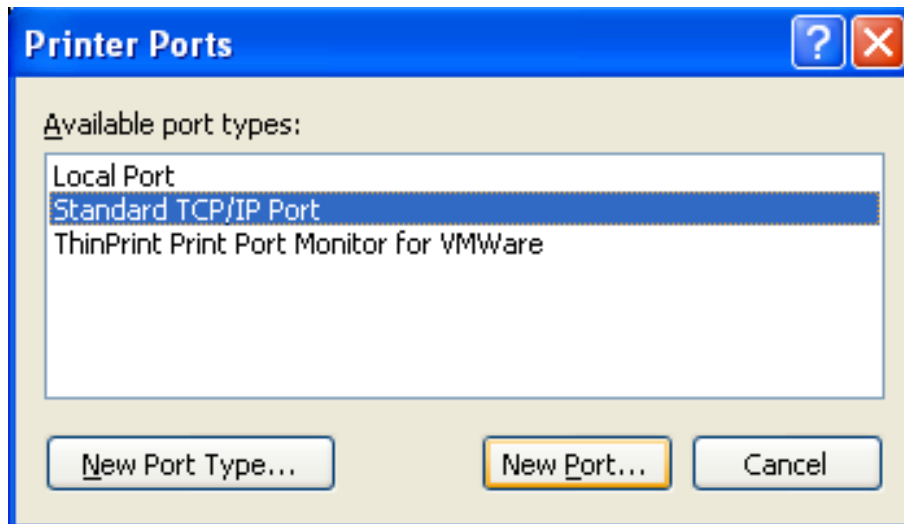
2. Upgrade-install printer network driver (setting driver's network port)

If PC has installed the printer's driver, set driver's network port to carry out network printing. The concrete steps are shown below:

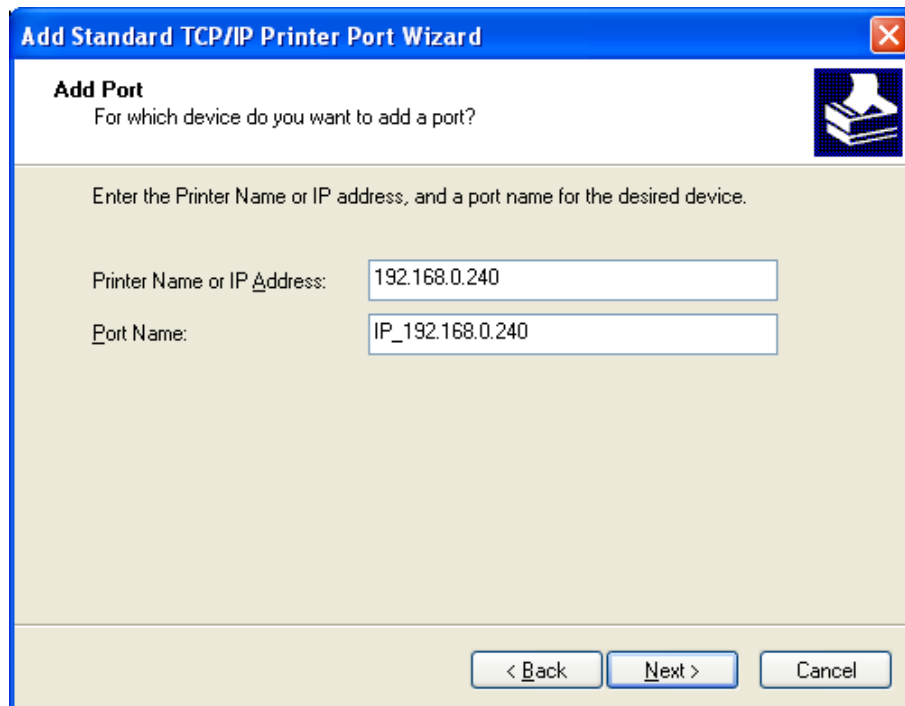
- 1) Click "Start" → "Settings", select "Printers".
- 2) Right click this printer driver, click "Properties" on the printer cover coming out.
- 3) A printer cover of "Properties" pops up, click "Ports" and "Add Ports".



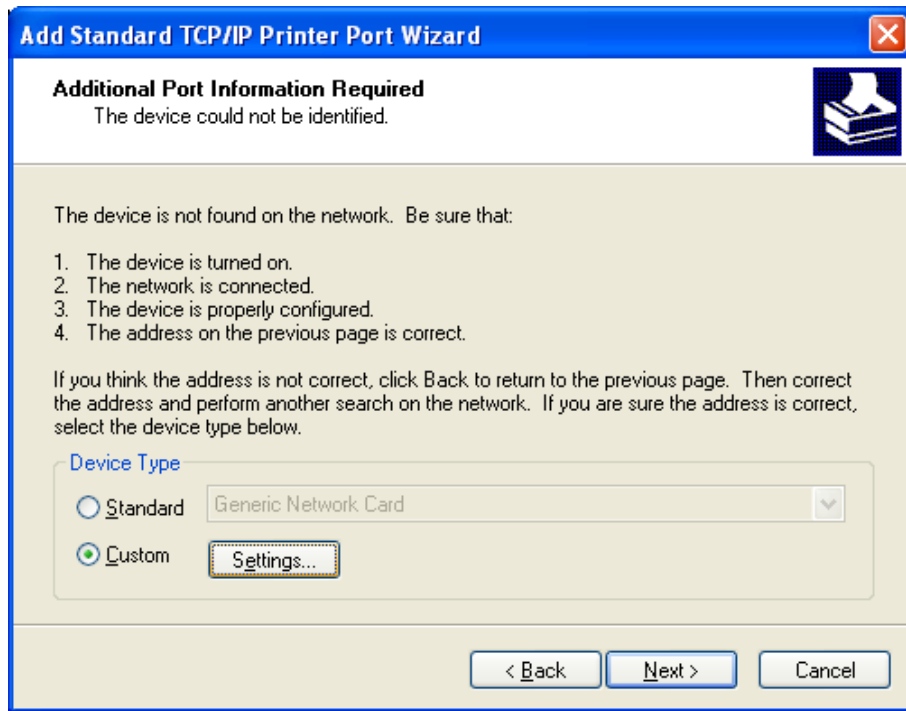
- 4) A printer cover of "Printer port" pops up, select "Standard TCP/IP Port", click "New port".



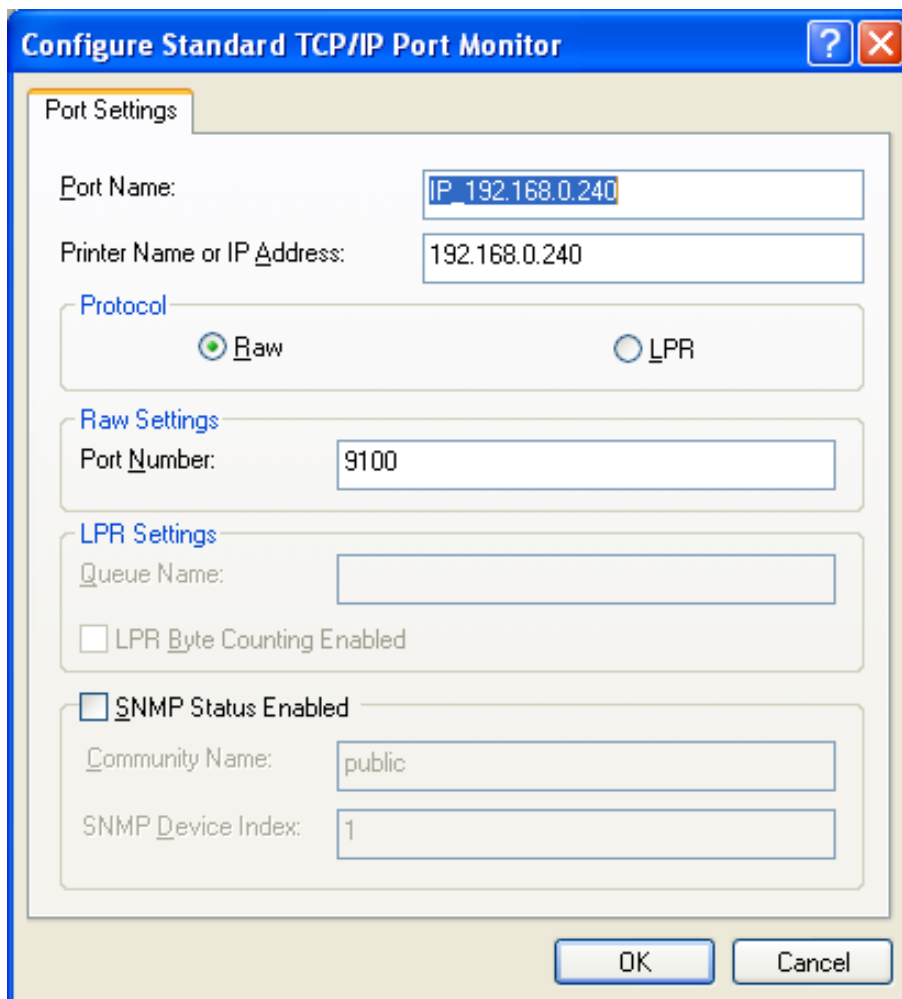
- 5) A printer cover of "Add Standard TCP/IP Printer Port Wizard" pops up, click "Next".
- 6) A printer cover of "Add a port" pops up, import the IP address reported by the "Setting printer's IP address" in the "Printer name or IP address" column. Take IP address "192.168.0.240" for example. "Port name" is created automatically after finishing filling in IP address. Click "Next".



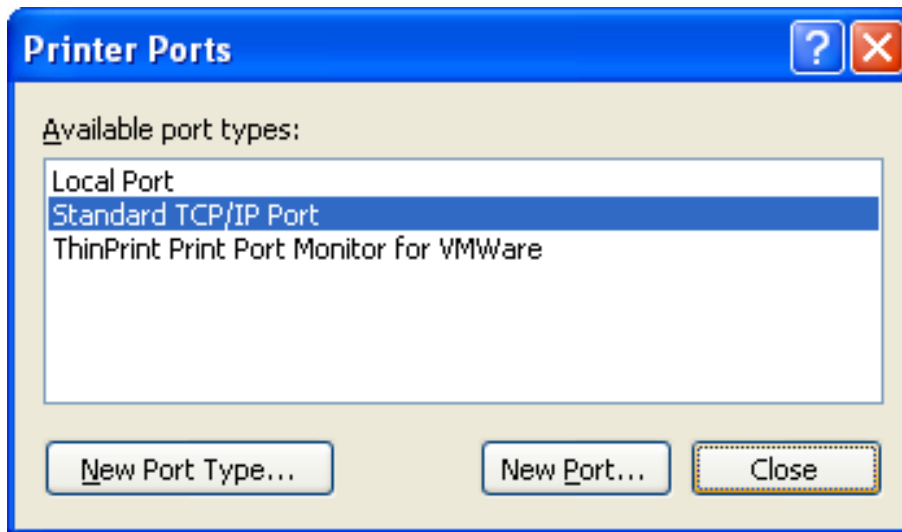
- 7) A printer cover of "Additional Port Information Required" pops up, select "Custom" in the "Device Type", then click "settings".



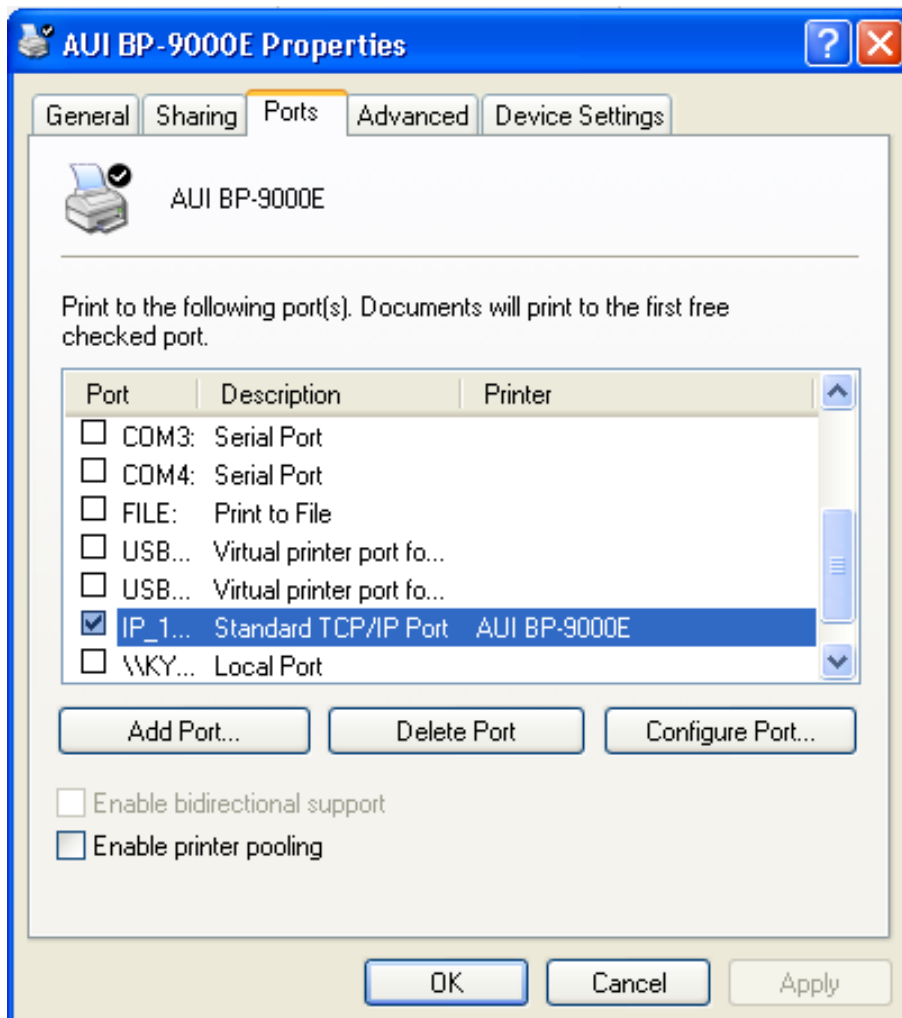
- 8) A printer cover of “Port Settings” pops up. Affirm that “Port name” and “Printer name or IP address” are correct, “Protocol” is “RAW” and “Port Number” is “9100”, click “OK”.



- 9) Return to "Additional Port Information Required", click "Next".
- 10) A printer cover of "Completing the Add Standard TCP/IP Printer Port Wizard" pops up, click "Finish".
- 11) Return to "Printer Ports", click "Close".



- 12) Return to "Properties", make sure the network port is selected, click "Apply", and then click "Close". Thus, printer's network port setting is finished.



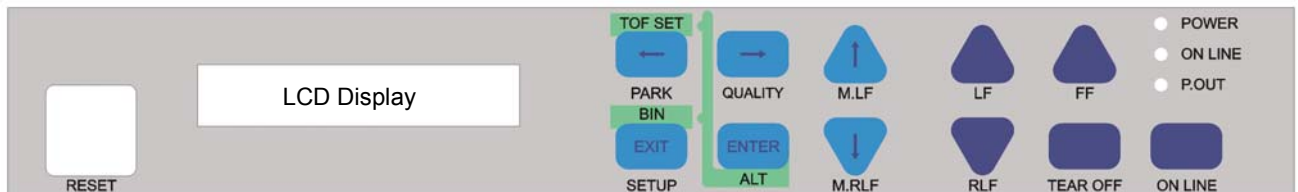
Chapter 3 Operator Panel

3.1 Operator Panel

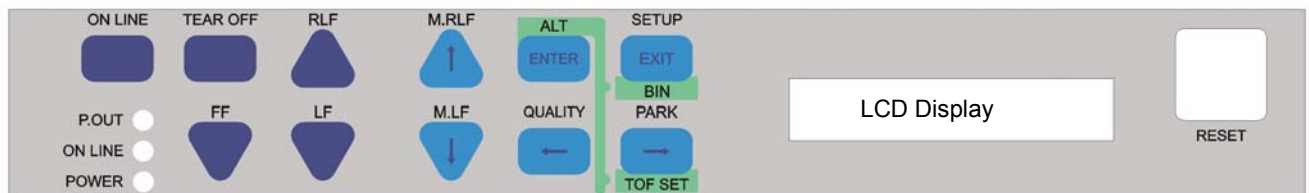
The liquid crystal display (LCD) on the operator panel displays the processing conditions of the printer and the setting of the functions. The keys on the operator panel provide various functions.

3.1.1 Operator Panel View

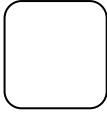
Standard operator panel

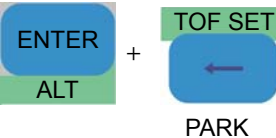
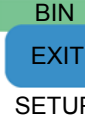


Reverse operator panel



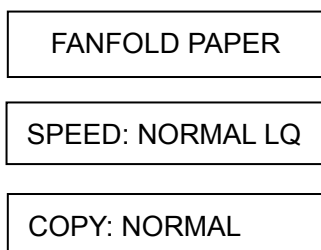
3.1.2 Function Keys

No.	Function key	Function description
1	RESET  RESET	Press the RESET key, then "INITIALIZING..." is displayed on the LCD, and then the printer restarts and initializes which will clean the printing buffer. (Each time 132K) Note: Both Online and Offline are workable.
2	ONLINE  ON LINE	Press ONLINE key to switch between ONLINE mode and OFFLINE mode.
3	FF  FF	When using fanfold paper, press FF key to feed paper to the printing top position of the next page; When using single sheet paper, press FF key to eject paper.
4	TEAR OFF  TEAR OFF	When the paper is in the printing home position, press TEAR OFF key, the printer will feed paper to tear off position automatically (Only for fanfold paper), press this key once more, the printer will feed the paper back to the printing home position.

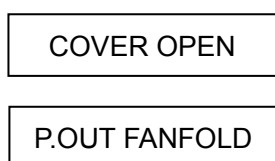
5	LF 	According to the LF pitch of the menu setting, press LF key once will feed paper in forward direction according to the LF pitch. Hold on pressing this key can continuously feed paper in forward direction according to the LF pitch.
6	RLF 	According to the LF pitch of the menu setting, press RLF key once will feed paper in reverse direction according to the LF pitch. Hold on pressing this key can continuously feed paper in reverse direction according to the LF pitch.
7	M.LF 	Press M.LF key can feed the paper in forward direction at a pitch of 1/90 inch. Hold on pressing M.LF key can feed the paper continuously in forward direction at the pitch of 1/90 inch.
8	M.RLF 	Press M.RLF key can feed the paper in reverse direction at a pitch of 1/90 inch. Hold on pressing M.RLF key can feed the paper continuously in reverse direction at the pitch of 1/90 inch.
9	QUALITY 	Press QUALITY key once can display the current speed on the LCD, press this key one more time will change the speed in turn, loosen the key to choose the shown print speed. As shown below. NORMAL LQ (High density), HI1 HLQ1 (High speed), HI2 HLQ2 (High speed 1), HI3 DRAF (high speed 2) HI3 SD (High speed draft 1) or HI3 SSD (Super high speed draft 2).
10	ENTER 	Pressing ENTER key with other corresponding key can operate the following functions. ENTER + TOP SET → TOF RESET
11	TOP SET 	Tanfold paper mode: When there is paper in, press TOP SET key to eject paper (each time 22 inches) till it entirely being ejected; when there is no paper in the printer, install the paper onto the tractor, then the printer would load paper to the printing home position automatically. Printing home position is depend on the menu setup. Single sheet paper mode: Press this key when paper in, the paper would be ejected automatically; press this key when there is no paper, then the printer would load paper automatically.
12	TOF RESET 	In Offline mode and there is paper in the printer, press ENTER + TOP SET keys, then the TOF position would be reset to the top of the paper (that is to say, TOF is 0/60 inch). ※TOF: Top of Form
13	EXIT 	In Offline mode, Press EXIT key to enter the menu setup mode.

3.1.3 LCD

1. LCD display shows the current working state (standby state).



2. Error information shown on the LCD display.

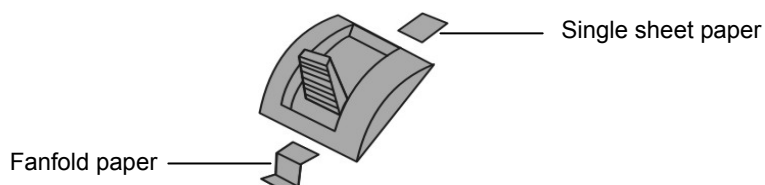


3.1.4 LED indicator

LED indicator	State Description
POWER (Green)	ON: The power of printer is ON. OFF: The power of printer is OFF.
ONLINE (Green)	OFF: Printer is in OFFLINE mode. ON: Printer is in ONLINE mode. BLINK SLOWLY: Printer cover is open or the print head overheating. FAST BLINK: Receive data.
P.OUT (Orange)	ON: Printer is paper out or malfunction occurs. OFF: No error is detected. BLINK SLOWLY: Functional error has occurred. FAST BLINK: Functional error has occurred.

3.1.5 Paper Select Lever

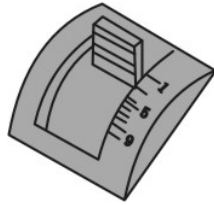
This paper select lever is used for choosing the paper feed way.



1. Select the paper feed way through setting the paper select lever.
2. Before changing paper feed way, please remove the paper out of the printer (press **TOP SET** key).

3.1.6 Head Adjustment Lever

This lever is for adjusting the gap between the print head and the platen.



Pull the head adjustment lever between graduations 1 – 13 for difficult paper thickness.

3.1.7 Self-test

Before self-test, please make sure ribbon cassette has been installed correctly and paper in. There are kanji self-test and ASCII self-test.

During self-test, ONLINE LED turn on and LCD shows the current self-test state.

SELF TEST DRAFT

☐ DRAFT ASCII self test

When the printer power is off, press **LF** key while turning on the printer; then press **LF + RESET** keys at the same time, then loosen **RESET** key but go on pressing **LF** key until the self-test starts.

☐ LQ ASCII self test

When the printer power is off, press **LF + ON LINE** key while turning on the printer; then press **LF + ON LINE + RESET** keys at the same time, then loosen **RESET** key but go on pressing **LF + ON LINE** key until the self-test starts.

☐ Kanji test

When the printer power is off, press **LF + FF** keys while turning on the printer; then press **LF + FF + RESET** keys at the same time, then loosen **RESET** key but go on pressing **LF + FF** keys until the self-test starts.

☐ Stop self-test

Press **ONLINE** key to stop self-test temporarily.

☐ Go on self-test

After stopping self-test temporarily, press **ONLINE** key to go on self-test.

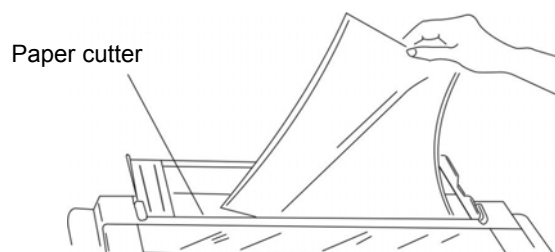
☐ End the self-test

During self-test, press **RESET** key or turn off the printer to end the self-test.

3.1.8 Tear Off

Tear off function is only for fanfold paper.

After pressing **TEAR OFF** key, paper would be fed to the paper cutter for tear off.



Note: When you tear off the paper for the first time, if the top of paper does not over the paper cutter, please press **TEAR OFF** key one more time to feed the paper back to the original position.

3.1.9 Shortcut Key Function

Function	Key
Resume default setting (Initialization 1)	TOP SET + QUALITY + LF + M.RLF + POWER ON
kanji self-test	LF + FF + POWER ON
Letter quality self-test	LF + ONLINE + POWER ON
ASCII Draft self-test	LF + POWER ON
H-Dump in LQ mode	FF + ONLINE + POWER ON
H-Dump in Draft mode	FF + POWER ON
Adjust the tear off position (For fanfold paper state)	There is paper in the printer as well as the printer is in Online mode, long press TEAR OFF key. M.LF key: Advance. M.RLF key: Backwards. ENTER key: Confirm and save. EXIT key: Give up saving the setting during adjustment press this key to eject and the printer will restart automatically.

3.2 How to Use the Functional Setup

The setup modes enable various printer functions through the function keys on the operation panel. This section provides the outline of the setup modes and the details of the setup functions.

3.2.1 Menu setup functional key

- 1) Enter the Menu Setup Mode

Press   key to enter the Menu Setup Mode.


- 2) Mainmenu select key

After entering the Menu Setup Mode, it will in the state of dealing with mainmenu at once.

Press ← or → key to skim over the mainmenu (long press can quickly skim over it).

- 3) Submain select key (item select key)

Press ↓ key to enter submain, press ↑ or ↓ key can skim over the submain (long press can quickly skim over it).

- 4) **ENTER** 

To select the shown menu item, please press **ENTER** key. After press the **ENTER** key, the selected item is confirmed and sign with “※” in the back.

- 5) Exit the submain

Press ← key to exit the submain and return to the mainmenu.

6) Exit the Menu Setup Mode

In the mainmenu or submenu setting mode, press



key to exit the Menu Setup Mode.

3.2.2 Setting examples

- 1) Press



key to enter Menu Setup Mode, the LCD shows as below:

1. MULTIPART

- 2) Press ← or → key to select the menu item (as shown below).

2. PAGE FANFOLD

BP-9000E printer now totally contains 44 menu items (mainmenu):

1	MULTIPART	2	PAGE FANFOLD	3	PAGE SINGLE	4	FONT SELECT
5	CHAR PITCH	6	CHINESE PITCH	7	COMPRESS PRN	8	TOF FANFOLD
9	TOF SINGLE	10	SELECT SETUP	11	EMULATION	12	CODE PAGE
13	CHR TBL EPSON	14	CHR TBL IBM	15	AGM IBM	16	CR SETTING
17	LF SETTING	18	LF PITCH	19	ZERO STYLE	20	INTL FONT
21	PRINT MODE	22	FONT LOCK	23	PITCH LOCK	24	QUALITY LOCK
25	TOP MARGIN	26	BOTTOM MARGIN	27	LEFT MARGIN	28	RIGHT MARGIN
29	PARITY BIT	30	DATA LENGTH	31	STOP BIT	32	PROTOCOL
33	BAUD RATE	34	PRINT DIR	35	COVER DETECT	36	QUIET MODE
37	TEAR OFF	38	DISPLAY LANG	39	INVERT DISP	40	DHCP
41	IP ADDRESS	42	SUBNET MASK	43	GATEWAY	44	MENU LISTING

- 3) Press ↓ key to enter into submemu.

Such as, select BAUD RATE, press ↓ key to enter BAUD RATE and the particular items are shown (as shown below):

32. BAUD RATE



SPEED: 115200 B
SPEED: 57600 B
SPEED: 38400 B
SPEED: 19200 B
SPEED: 9600 B ※
SPEED: 4800 B
SPEED: 2400 B
SPEED: 1200 B

The right side of the figure shows the items belong to BAUD RATE, item with “※” sign is the current setting.

4) Press ↑ or ↓ key can select in the submenu.

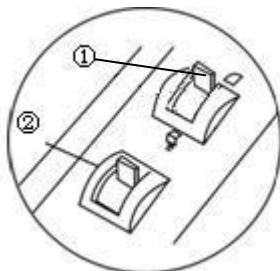
Such as, If need to change the baud rate to “19200 BPS”, press ↑ or ↓ key to select the item of “19200 BPS”, and then press **ENTER** key to save the setting. The newly select item will mark with “※” in the back.

5) Press   key to exit the MENU SETUP MODE.
SETUP

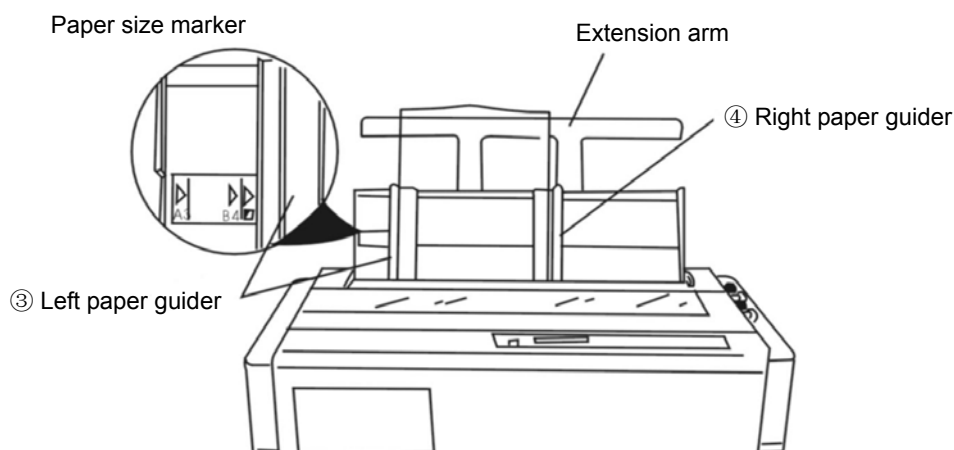
Chapter 4 Printer Setting

4.1 Setting up the Manual Mode

1. Push the paper select lever ① to the single sheet paper position.



2. Adjust head adjustment lever ②. In most time, pull the head adjustment lever to graduation 1 when using single sheet paper.
3. Install the paper rack, move the left paper guider ③ to the single sheet paper limiting position.



Note: If the paper does not in the correct position, printer would detect no paper and warn a piece of error information of PAPER OUT.

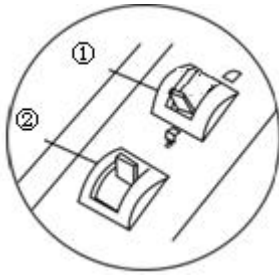
4. Put a piece of single sheet paper on the paper rack and let it slide into the paper bail gap.
5. Move right paper guider ④, make the paper between the two paper guiders.
6. Press **TOP SET** key to load paper.

Note: If the paper has not been loaded entirely, please push it downwards slightly, if it is still not load entirely, please refer to the Malfunction and Solution for assistance.

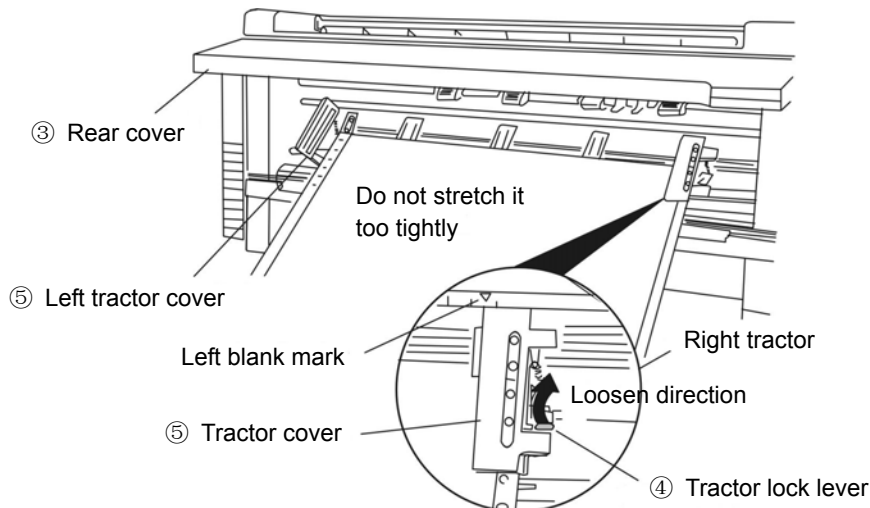
7. When the distance between printing position and paper edge is 7 lines, paper bail will go down and press against the paper automatically.

4.2 Setting up the Tractor Mode

1. Pull the paper select lever ① to the fanfold paper position.



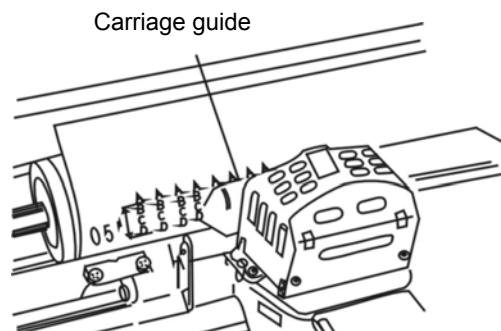
2. Adjust head adjustment lever ②. In most time, pull the head adjustment lever to graduation 1 when using single sheet paper.
 3. Remove or open the top rear cover ③, stop it in the open position.
 4. Loosen the tractor lock lever ④ (upwards), slide the right tractor to the Figure shown position.
 5. Open the tractor cover ⑤, install fanfold paper, and then close the tractor cover carefully.
- Note: When closing the tractor cover, be careful or it may pinch your fingers.**
6. After installing the paper, adjust the left tractor to the proper position to make the paper flat (do not stretch the paper too tightly).
 7. Press **TOP SET** key or **FF** key to feed paper.
 8. When the distance between printing position and paper edge is 7 lines, paper bail will go down and press against the paper automatically.



4.3 Print position

Current print position

The current printing line (DDD...) is the third line from the top of the carriage guide (line spacing is 6LPI).

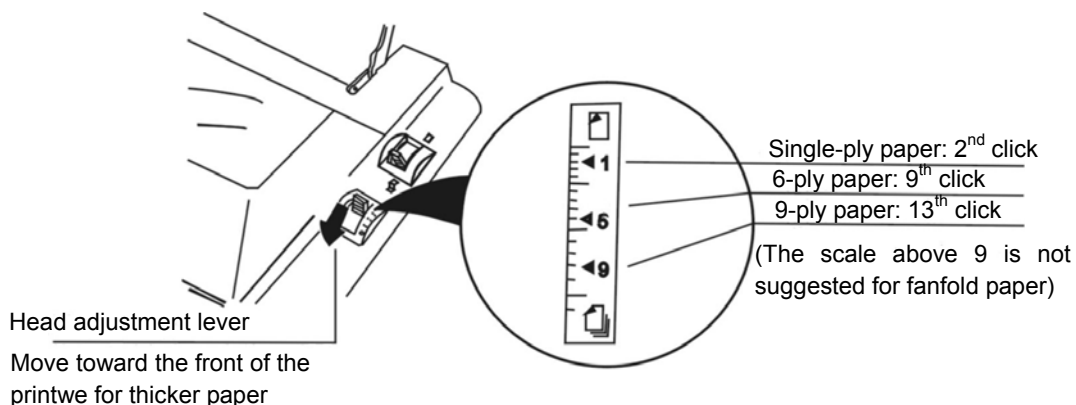


4.4 Head Adjustment Lever

Head adjustment is used to obtain the best print quality possible when using different paper types. When using multi-ply paper, pull the head adjustment lever toward the multi-ply paper position to widen the gap between the print head and the platen.

In general, position 1 is for single-ply paper. Moving the head adjustment lever one notch adjusts the print head gap an amount corresponding to the addition of one more paper ply. Re-adjustment of the lever may be required depending on the quality of the actual printout:

- If the ribbon smears on the paper, the gap is too narrow.
- If the printed image is too light to read, the gap is too wide.



Note: 1. Before loading paper, please adjust the head adjustment lever to avoid paper jams.

2. If the printed image on the last copy of the multi-ply paper is too light to read, please set the "MULTIPART" item in the Menu Setup Mode to DARK 1 or DARK 2.

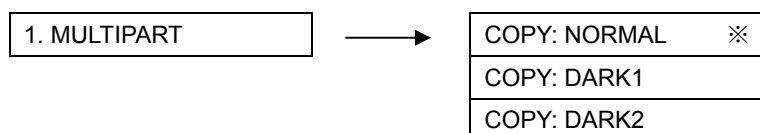
Chapter 5 Menu Function Description

This section is mainly introducing the item functions in the Menu Setup Mode.

5.1 MULTIPART

Select this function ON during printing. The multipart mode increases the print intensity on multi-ply papers.

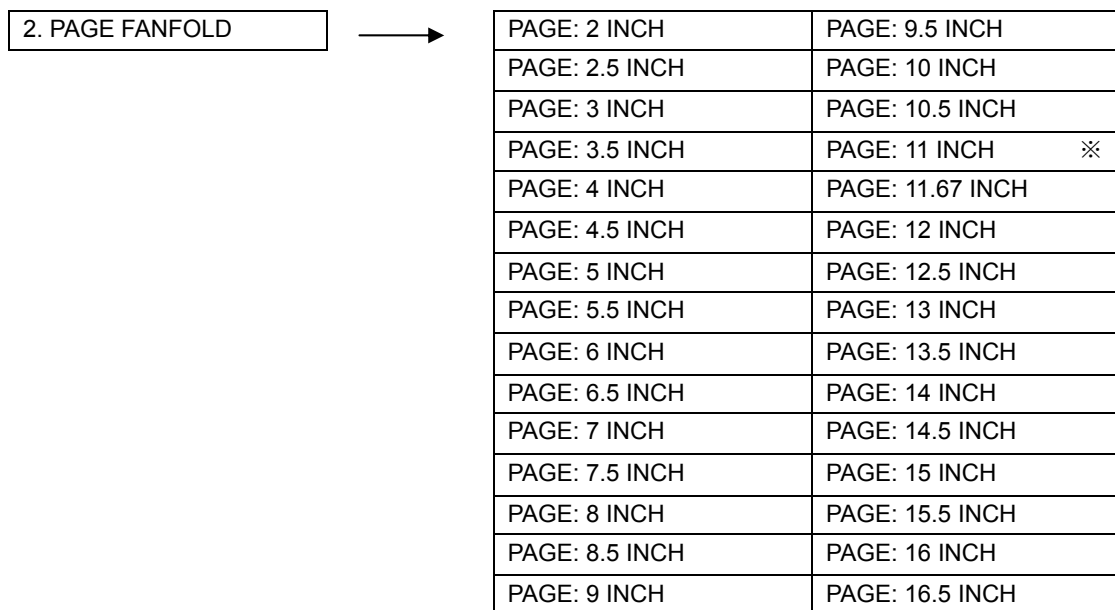
Setting process:



5.2 PAGE FANFOLD

Specify the page length of the continuous paper. Printer feeds to next page according to the specified page length. If the print data with page length instruction, printer would give priority to print data instruction.

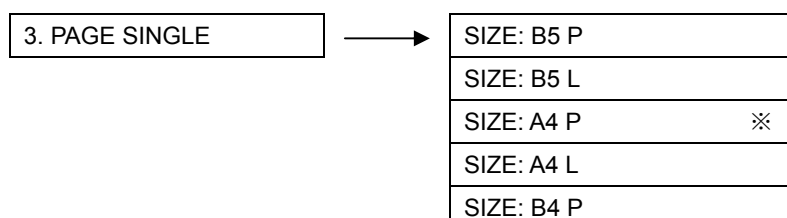
Setting process:



5.3 PAGE SINGLE

Specify the page length of the single sheet paper. Printer feeds to next page according to the specified page length. If the print data with page length instruction, printer would give priority to print data instruction.

Setting process:



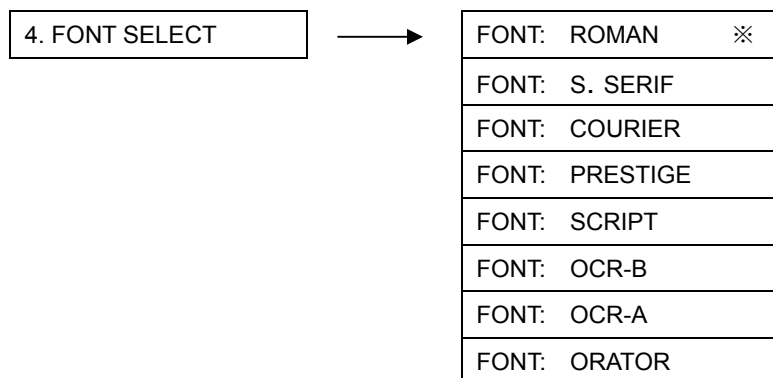
SIZE: B4 L
SIZE: LETTER P
SIZE: LETTER L
SIZE: LEGAL P
SIZE: LEGAL L
SIZE: A3 P
SIZE: A3 L

Note: P refers to portrait while L refers to landscape orientation. The default setting is A4 P.

5.4 FONT SELECT

Specify a kind of character fonts to print when printer receives character printing task. If the print data with font instruction, printer gives priority to print data instruction. (Only valid when CHARACTER MODE is choosing ASCII)

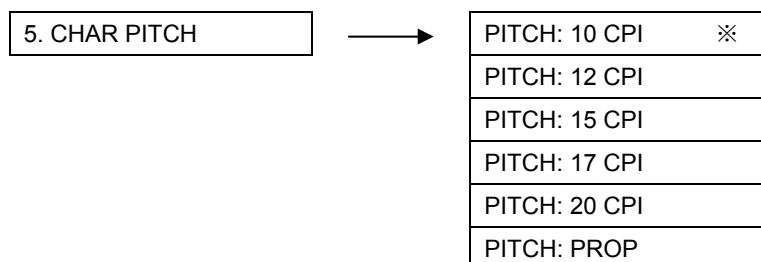
Setting process:



5.5 CHAR PITCH

Specify the ASCII character spacing in characters per inch (cpi).

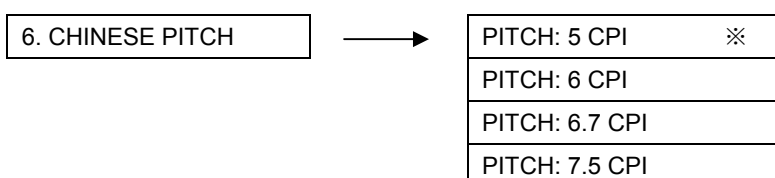
Setting process:



5.6 CHINESE PITCH

Specify the Chinese character spacing in characters per inch (cpi).

Setting process:



5.7 COMPRESS PRN

After turning this function on, printer would compress the printing content transversely in the setting precentum, printing speed is set to normal speed automatically.

Setting process:

7. COMPRESS PRN	→	COMPRESS: 100% ※
		COMPRESS: 83%
		COMPRESS: 75%
		COMPRESS: 50%

5.8 TOF FANFOLD

Set the printing home position of fanfold paper. After loading paper, printer starts to print according to the TOF FANFOLD value.

Setting process:

8. TOF FANFOLD	→	TOF: 10/60 INCH ※
		...
		TOF: 116/60 INCH
		(-10/60 ~ 116/60 INCH)

5.9 TOF SINGLE

Set the printing home position of single sheet paper. After loading paper, printer starts to print according to the TOF SINGLE value.

Setting process:

9. TOF SINGLE	→	TOF: 10/60 INCH ※
		...
		TOF: 116/60 INCH
		(-10/60 ~116/60 INCH)

5.10 SELECT SETUP

Select users. This printer supports 6 user modes, after selecting user mode, you could change and save the new parameters of that user mode.

Setting process:

10. SELECT SETUP	→	SETUP: FORMAT 1 ※
		SETUP: FORMAT 2
		SETUP: FORMAT 3
		SETUP: FORMAT 4
		SETUP: FORMAT 5
		SETUP: FORMAT 6

5.11 EMULATION

Specify printer's control commands.

Setting process:

11. EMULATION	→	EML: EPSON ※
		EML: IBM

5.12 CODE PAGE

Select the code page according to different national characters use circumstances.

Setting process:

12. CODE PAGE	→	C.P.: U.S.A. ※	C.P.: TURKEY	C.P.: WIN LAT1
		C.P.: MULTI	C.P.: ICELAND	C.P.: WIN LAT2
		C.P.: PORTUGAL	C.P.: BULGARIA	C.P.: ISO LTN1
		C.P.: CANADA	C.P.: MAZOVIA	C.P.: ISO LTN2
		C.P.: NORWAY	C.P.: GRK 437	C.P.: TUR8859-9
		C.P.: EAST EURO	C.P.: GRK 851	C.P.: ISO LTN9
		C.P.: CYRILLIC	C.P.: GRK8859-7	C.P.: KBL
		C.P.: RUSSIAN	C.P.: GRK 1253	C.P.: LATIN 7
		C.P.: HUNGARY	C.P.: ARAB NLS	
		C.P.: KAMENICKY	C.P.: ARAB EXT	

5.13 CHR TBL EPSON

Specify character set as Italic Character or Graphic Character.

Setting process:

13. CHR TBL EPSON	→	TBL: ITALICS
		TBL: GRAPHICS ※

5.14 CHR TBL IBM

Specify the IBM character table 1 or character table 2.

Setting process:

14. CHR TBL IBM	→	TBL: SET 1 ※
		TBL: SET 2

5.15 AGM IBM

When AGM is ON in IBM emulation, printer will use the similar way of some commands in EPSON emulation during printing high-density image. The relative commands are shown as follow:

	AGM: OFF	AGM: ON
ESC 3 n	Choose n/216 LPI	Choose n/180 LPI
ESC J n	Choose n/216 LPI	Choose n/180 LPI

ESC A n	Choose n/72 LPI	Choose n/60 LPI
ESC * m n1 n2	Not support	can choose different image mode

Setting process:

15. AGM IBM	→	AGM: OFF
		AGM: ON ※

5.16 CR SETTING

Specify the printer to advance the paper one line automatically after receiving every carriage return instruction.

Setting process:

16. CR SETTING	→	CR: CR ONLY ※
		CR: CR + LF

5.17 LF SETTING

Specify the printer to carriage return automatically after receiving every line feed instruction.

Setting process:

17. LF SETTING	→	LF: LF ONLY
		LF: LF + CR ※

5.18 LF PITCH

Specify the character line pitch. It can be 1/3 inch, 1/4 inch, 1/6 inch (initial value), 1/8 inch or 1/9 inch.

Setting process:

18. LF PITCH	→	LF: 3 LPI
		LF: 4 LPI
		LF: 6 LPI ※
		LF: 8 LPI
		LF: 9 LPI

5.19 ZERO STYLE

Select the printing character for zero with a slash (/) or without, to distinguish it from the letter O.

Setting process:

19. ZERO STYLE	→	SLASH: NO-SLASH ※
		SLASH: SLASHED

5.20 INTL FONT

Specify the printer internal character set according to different using circumstances of international characters.

Setting process:

20. INTL FONT



CNTRY: U.S.A. ※	CNTRY: NORWAY
CNTRY: FRANCE	CNTRY: DENMARK2
CNTRY: GERMANY	CNTRY: SPAIN 2
CNTRY: U.K.	CNTRY: LATIN AM
CNTRY: DENMARK1	CNTRY: KOREA
CNTRY: SWEDEN	CNTRY: LEGAL
CNTRY: ITALY	CNTRY: NETHERLAND
CNTRY: SPAIN 1	CNTRY: TURKEY
CNTRY: JAPAN	

5.21 PRINT MODE

Select ASCII or Chinese character mode to print when printer receives character printing task.

Setting process:

21. PRINT MODE	→	MODE: ASCII ※
		MODE: CHINESE

5.22 FONT LOCK

Lock the setting of ASCII characters. Printer will ignore other relative commands in the print data.

Setting process:

22. FONT LOCK	→	LOCK: OFF ※
		LOCK: ON

5.23 PITCH LOCK

Lock the setting of character pitch. Printer will ignore other relative commands in the print data.

Setting process:

23. PITCH LOCK	→	LOCK: OFF ※
		LOCK: ON

5.24 QUALITY LOCK

Lock the setting of print speed. Printer will ignore other relative commands in the print data.

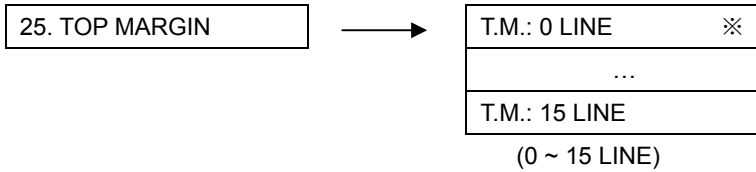
Setting process:

24. QUALITY LOCK	→	LOCK: OFF ※
		LOCK: ON

5.25 TOP MARGIN

Set the printing home position (use LF pitch as unit).

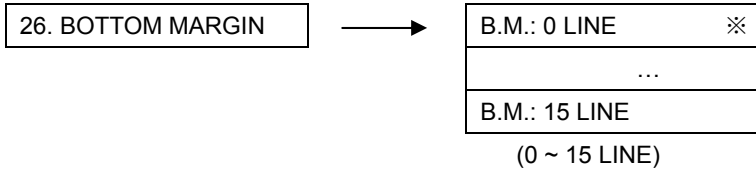
Setting process:



5.26 BOTTOM MARGIN

Specify the distance between the bottom of the paper printable area and the printing home position of the next page (use the LF pitch as unit).

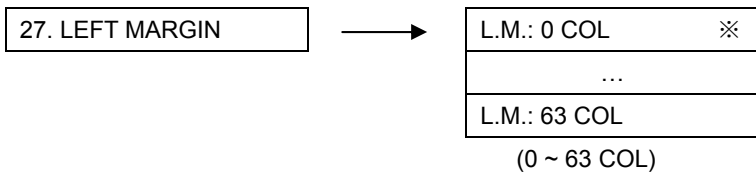
Setting process:



5.27 LEFT MARGIN

Set the non-printable area on the left, which is the distance between the default printing home position and the set printing home position (left margin).

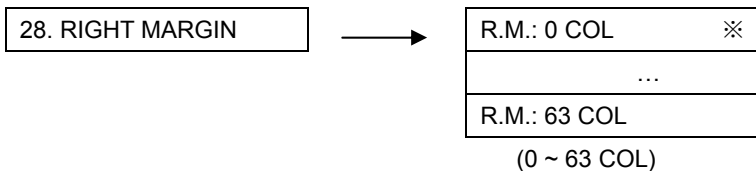
Setting process:



5.28 RIGHT MARGIN

Set the non-printable area on the right, this is the distance between the rightmost print position (right edge) and the maximum printing position of the printer (136 columns / 10CPI).

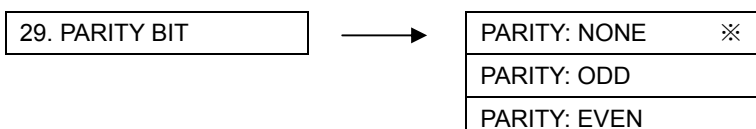
Setting process:



5.29 PARITY BIT

Specify the parity bit for serial data transfer.

Setting process:



5.30 DATA LENGTH

Specify the serial data bits.

Setting process:

30. DATA LENGTH	→	LENGTH: 8 BITS ※
		LENGTH: 7 BITS

5.31 STOP BIT

Specify the serial data transfer stop bit.

Setting process:

31. STOP BIT	→	STOP: 1 BIT ※
		STOP: 2 BITS

5.32 PROTOCOL

Specify the protocol of printer serial data transfer as software control (XON/XOFF) or hardware control (DTR).

Setting process:

32. PROTOCOL	→	PROT.: XON/XOFF
		PROT.: DTR ※

5.33 BAUD RATE

Specify the printer serial data transfer rate.

Setting process:

33. BAUD RATE	→	SPEED: 115200 B
		SPEED: 57600 B
		SPEED: 38400 B
		SPEED: 19200 B
		SPEED: 9600 B ※
		SPEED: 4800 B
		SPEED: 2400 B
		SPEED: 1200 B

5.34 PRINT DIR

Specify the print direction of printer.

Setting process:

34. PRINT DIR	→	PRINT: BI-DIR ※
		PRINT: UNI-DIR

5.35 COVER DETECT

Specify whether the printer detects cover open or not.

Setting process:

35. COVER DETECT	→	COVER: OFF
		COVER: ON ※

5.36 QUIET MODE

Disable or enable the low noise function, when this function is on, print speed would reduced.

Setting process:

36. QUIET MODE	→	QUIET: OFF ※
		QUIET: ON

5.37 TEAR OFF

When there is no data in buffer, printer receives no data in the set time, printer would sent paper to tear off position automatically.

After receiving data, printer will feed paper to the top of the next page.

Setting process:

37. TEAR OFF	→	TEAR OFF: OFF ※
		TEAR OFF: 0.5 SEC
		TEAR OFF: 5 SEC
		TEAR OFF: 10 SEC
		TEAR OFF: 15 SEC

5.38 DISPLAY LANG

Specify the current display language.

Setting process:

38. DISPLAY LANG	→	LANG: ENGLISH ※
		LANG: CHINESE

5.39 INVERT DISP

Specify whether the language in the display shows invertly.

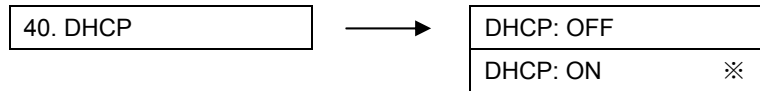
Setting process:

38. INVERT DISP	→	INVERT: OFF ※
		INVERT: ON

5.40 DHCP

Select whether to use dynamic IP.

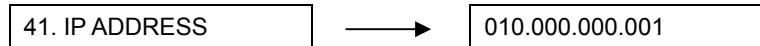
Setting process:



5.41 IP ADDRESS

Set the printer Ethernet IP address.

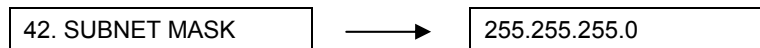
Setting process:



5.42 SUBNET MASK

Set the printer Ethernet subnet mask.

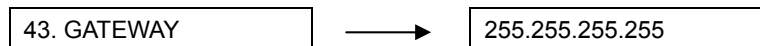
Setting process:



5.43 GATEWAY

Set the printer Ethernet gateway.

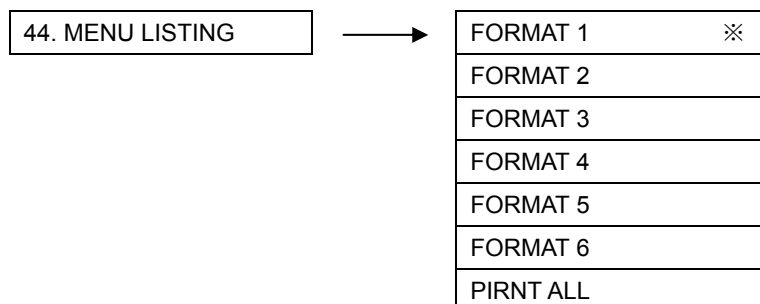
Setting process:



5.44 MENU LISTING

Menu listing of printer

Setting process:

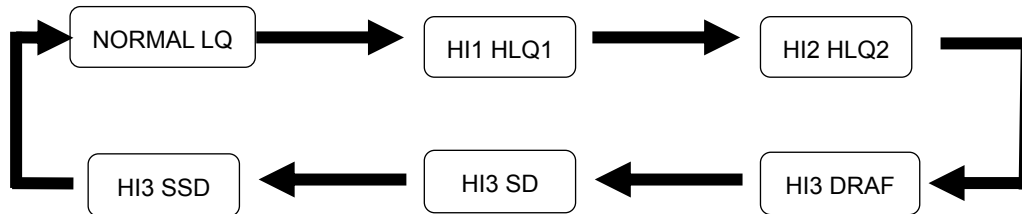


Chapter 6 Troubleshooting

6.1 How to Solve the Problem

1. Printing speed is slow

Press **QUALITY** key and select Speed Mode.



NORMAL LQ speed is slowest while the print quality is the best; HI3 SSD (Super high-speed draft 2) is fastest while the print quality is the worst. The printing speed and the print quality relate in inverse ratio.

2. Printing is light

Check the condition of ribbon.

— If the surface of ribbon becomes whitish, replace the cartridge with a new one.

The head adjustment lever may be in the improper position.

— The head adjustment lever may be in the uncorrect position. Please adjust the head adjustment lever.

When using multiply paper.

— Select MULTIPART mode: press **EXIT** key on the operator panel to select the copy printing to DARK 1 or DARK 2.

3. Paper jam

The head adjustment lever may be in improper position.

— The head adjustment lever may be in the uncorrect position. Please adjust the head adjustment lever.

4. The paper feed sensor cannot detect the paper or the improper position of the printing home position.

The paper feed sensor is not set properly.

— Please contact your dealer for assistance.

5. The printer can not detect paper out.

The printer continuous printing even though paper out, it may be caused by the improper set of other menu items.

— Through the Menu Setup Mode, modify the page size then save the setting.

6. The printed vertical or transverse line has clearance.

— Modify the corresponding print direction in Menu Setup Mode.

— Adjust the printer's alignment (see detailed in Appendix A2).

7. Print the wrong characters.

The communicate transportation of the printer may be incorrect.

— Check if the connection of the cable is correct or damaged.

Check if the control system of the computer and the data code are consistent with the printer setting.

—— In the Menu Setup Mode, set the correct emulation according to the requirement.

The printing driver may be incorrect.

—— Please reinstall the printer driver correctly.

8. The printed result does not align.

The top of form margin and the bottom margin are not the same.

—— In the Menu Setup Mode, modify the parameters of the TOF FANFOLD and TOF SINGLE.

The left margin is not consistent with the right margin.

—— Adjust the paper guider position of the tractor.

—— In the Menu Setup Mode, modify the left margin's parameters.

The fanfold paper appears unaligned printing from the second page.

—— Page length setting may be incorrect, modify PAGE FANFOLD in Menu Setup Mode. Reset the page length and make sure the page length setting in the computer too.

9. Restore all the settings in the Menu Setup Mode to the factory default settings.

EEPROM Initialization 1 —— Restore the settings to the factory default settings.

[Procedure]

Press the **TOP SET + QUALITY + LF + M.RLF** keys while turning on the printer.

The LCD displays as follow, it goes back to normal display state after initialization.

EEPROM INITIAL 1

6.2 How to Solve the Error Message

Error Message	Function Description
HEAD PROTECTION	The print head is being cool to prevent it from overheating. ONLINE light blinks. The print head is easy to become too hot during high-density printing. When the print head is overheating, the printing speed is reduced (from bidirectional printing to unidirectional printing) or printing stops (the print head move transversely but print nothing). When the print head temperature drops, the printer restarts printing.
PAPER OUT	Install fanfold paper on the tractor and press the TOP SET key. Put a single sheet paper on the paper rack and load it into the printer.
HOME SENSOR ERROR	The printer detects the home sensor error automatically. 1. Remove the paper and restart the printer. 2. If the malfunction can not be solved, please contact your dealer for assistance.
PRINTER COVER IS OPEN	Power on the printer, open the printer cover, the LCD display will display this information, then the printer will enter into stop state which the ONLINE key blinks at the same time. Please close the printer cover and the printer will recover to normal state.

6.3 Maintenance

6.3.1 Clean the printer

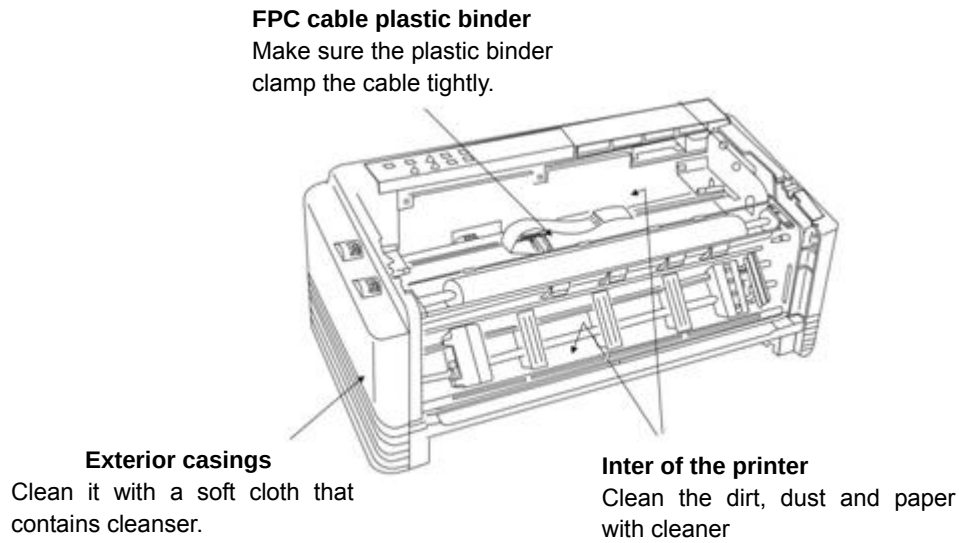


Figure 6-1

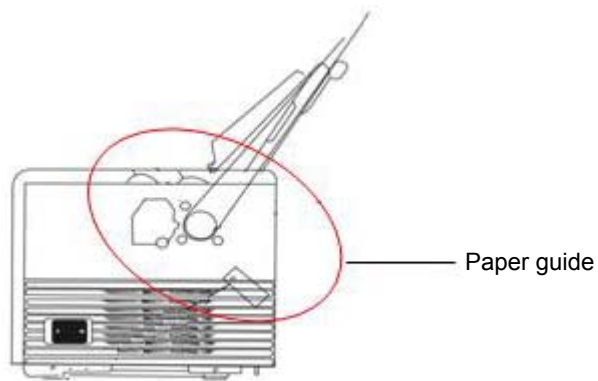


Figure 6-2

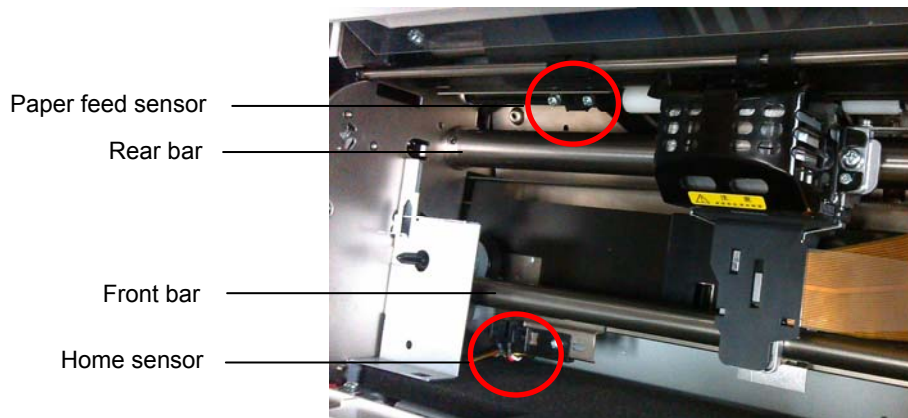


Figure 6-3



Figure 6-4

■ Cleaning periodically and the cleaning tool

Periodical cleaning: every six months or every 300 working hours once

Cleaning tool: dry cloth (please use soft cloth to clean metal parts.)

■ Cleaning the paper guide

Please wipe off wasted paper and clean dirt and dust. (As Figure 6-2 shown)

■ Cleaning the rear bar

There is a layer of oil covered on the rear carriage bar which guarantees the carriage runs smoothly. But the oil is easy to absorb dust, please clean the dust with soft cloth first, and then add proper lube (NYE 180 lube of NYE Company is recommended), move print head back and forth to make lube scattered. (As Figure 6-3 shown)

■ Cleaning the photoelectric sensor part

As the paper sensor and the paper edge sensor are correlation photoelectric sensors. You should clean the parts periodically. (As Figure 6-3\6-4 shown)

Clean the sensor and its shield every three months.

When the paper sensor or the paper edge sensor can not detect paper and malfunction occurs, you should take the following actions:

1. Clean the dust on the sensor.
2. If the malfunction still appears, please contact the local dealer.

Note: 1. Turn off printer and pull out the power cord before cleaning. (When cleaning roller, it may need to turn on the power.)

2. Being used under dust circumstance, the rear carriage bar may stack much dust and affect the print quality.

3. Do not touch the print head if the printer has just been recently used as the print head may be hot.

4. Please use a soft cloth for cleaning, do not use combustible solvent.

6.3.2 Lube

If the printer is being used for a long time, please add the specified lube to the front and rear metal shafts periodically. When adding lube, please move the print head back and forth to make lube scattered.

Please use the recommended lube instead of the unspecified one, or else, the printer life would be shortened.

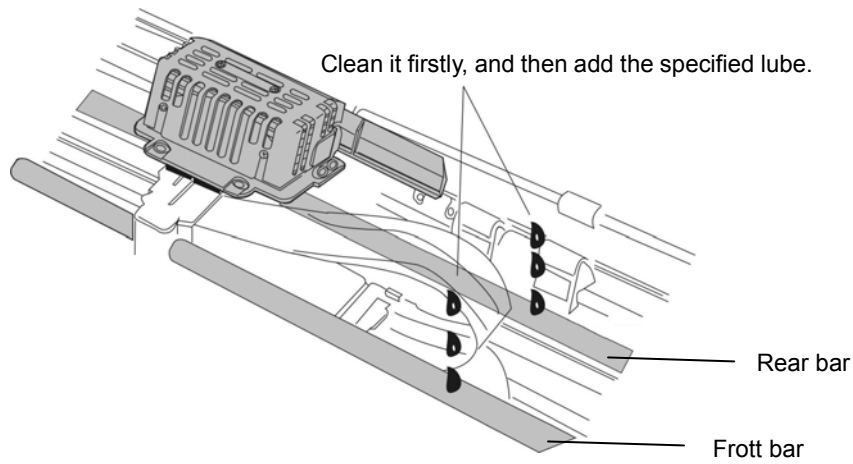
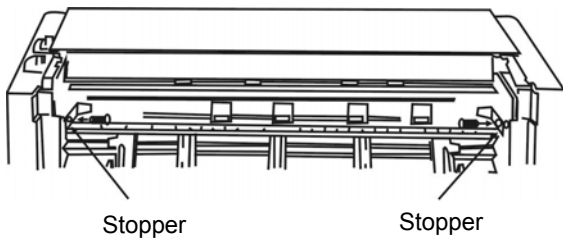


Figure 6-5

6.3.3 How to remove the printer cover

L-angle hinge	Sound seal cover ◆ Pull the sound seal cover out of the printer L-angle hinge, and then pull out the L-angle tab from the sound seal cover hole, at last, remove the whole sound seal cover.
Guide Pivot	Printer cover ◆ Open the printer cover, turn it to the upright position and then pull it out.
	Paper rack ◆ Move the right and left guiders to both sides, then pull up the back of paper rack and make it upright, then pull it out upwards.
	Rear cover ◆ Open the rear cover and pull it out.



Top rear cover

- ◆ Remove the two cover stoppers at the top of printer.

Loosen the screws on both sides of the top rear cover bottom, and then take out the stoppers.

- ◆ Remove the top rear cover

Move the top rear cover towards the inner of the printer, and then turn it 90° reversely, at last, pull it out upwards.

Chapter 7 Printer Specification

7.1 General

Item	Description
Printing method	24-Pin Dot Matrix Impact Printer
Printing direction	Bidirectional logic seeking
Number of columns	136 columns (10 CPI)/ 345.44 mm
Printing speed	Speed
	ASCII
	CPI
	10 CPI
	NORMAL LQ
	180 CPS (10 CPI)
	HI1 HLQ1
	240 CPS (10 CPI)
	HI2 HLQ2
	360 CPS (10 CPI)
	HI3 DRAF
	564 CPS (10 CPI)
	HI3 SD
	674 CPS (12 CPI)
	HI3 SSD
	846 CPS (15 CPI)
Print head	Diameter of wire: 0.25 mm
Resolution	360×360DPI (Max.)
Character set	ASCII: 17 international character sets (U.S.A., France, Germany, Britain, Denmark 1, Sweden, Italy, Spain 1, Japan, Norway, Denmark 2, Spain 2, Latin Am, Korea, LEGAL, Netherland, Turkey)
Code page	U.S.A., MULTI, PORTUGAL, CANADA, NORWAY, EAST EURO, CYRILLIC, RUSSIAN, HUNGARY, KAMENICKY, TURKEY, ICELAND, BULGARIA, MAZOVIA, GRK 437, GRK 851, GRK8859-7, GRK 1253, ARAB NLS, ARAB EXT, WIN LAT1, WIN LAT2, ISL LTN1, ISO LTN2, TUR8859-9, ISO LTN9, KBL, LATIN 7
Fonts	ASCII: Draft, Roman, Sans Serif, Courier, Prestige, Script, OCR-B, OCR-A Note: In high speed mode or super high mode, printer would automatically change the ASCII font to Draft when printing ASCII characters.
Bar code	EAN-13, EAN-8, Interleaved 2 of 5, Matrix 2 of 5, Industrial 2 of 5, Code 39, Code 128 B, Code 128 C, NW-7
Character pitch	ASCII: 10 CPI, 12 CPI, 15 CPI, 17.1 CPI, 20 CPI, proportional
Line space	1/3 inch, 1/4 inch, 1/6 inch, 1/8 inch, 1/9 inch and n/360 inch
Paper feed speed (Max.)	254 mm per second / 10 inches per second (continuous feed)
Emulation	EPSON ESC/PK2, IBM 2391,
Interface	Parallel interface: Parallel (IEEE1284 NIBBLE) USB interface: 2.0 Full-Speed Serial interface: RS-232C (DB 25Pin) Ethernet interface: 10/100Base-T Note: Please take the specific interface as standard.
Input buffer	132 KB
Ribbon	Model: #BP-9000
	Life: 20 million characters (draft mode)
Noise	<55 dB (A) (ISO7779 standard)

Operator panel	Keys + LCD Display	
Paper feed type	Single sheet paper: Load and eject from top	
	Fanfold paper: Back load and top eject	
Thickness adjust	Through the head adjustment lever	
Paper specification	Single sheet paper	Width: 127 ~ 420 mm
		Length: 182 ~ 420 mm
		Thickness: 0.08 ~ 0.12 mm
		Weight: 64 ~ 105 g/m ²
	Fanfold paper	Width: 127 ~ 406 mm
		Length: 50.8 ~ 419.1mm
		Thickness: 0.06 ~ 0.12 mm
		Weight: 53 ~ 105 g/m ²
	Multi-ply paper	Weight (each sheet): 40 ~ 64 g/ m ²
Max printing thickness	0.9 mm	
Copy	NORMAL: Original + 4 copies	
	DARK 1: Original + 6 copies	
	DARK 2: Original + 8 copies	
Compress print	50%, 75%, 83%, 100%	
Especial functions	LCD display	
Physical dimensions	620 mm (width) × 305 mm (depth) × 260 mm (height) (no paper rack)	
	620 mm (width) × 455 mm (depth) × 295 mm (height) (with paper rack)	
Weight	Approx. 20 Kg	
Environmental conditions	Operating environment	Temperature: 5 ~ 40°C
		Humidity: 25 ~ 80%RH (No condensation)
	Storage environment	Temperature: -40 ~ 55°C
		Humidity: ≤93%RH (40°, No condensation)
Power requirements	Rated voltage range: 85 ~ 264 V(AC)	
	Rated frequency range: 50/60 Hz	
Power	①Operation: 140 W; ②Maximum: 210 W; ③Sleep mode: 2.0 W. Caution: Only when the product is unconnected with outer power supply, it can achieve zero energy consumption state.	
Wireless disturbance	Grade B	

7.2 Interface Specification

This printer can be configured with 2.0 Full-Speed USB interface, Centronics (IEEE1284 NIBBLE) parallel interface, RS-232 serial interface or 10/100Base-T Ethernet interface (Please take the specific interface as standard). You can connect the printer to computer according to your requirement.

7.2.1 Parallel Interface

Standard Centronics (IEEE1284 NIBBLE) parallel interface connector is DB-36 pin type connector. Its pin numbers are as Figure 7-1 shown.

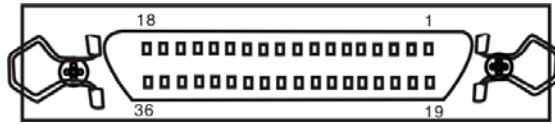


Figure 7-1 Parallel interface connector pin number

Sequence and signal level

Sequence Diagram as 7-2

Signal level

Input High level: 2 ~ 5 V Low level: 0 ~ 0.8 V

Output High level: 2.4 ~ 5 V Low level: 0 ~ 0.4 V

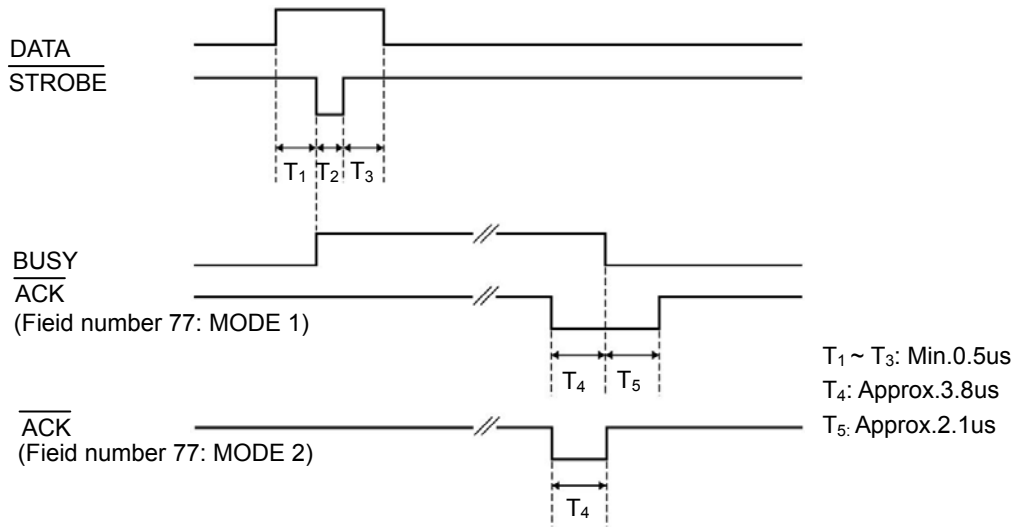


Figure 7-2 Sequence diagram

Connector Pin Assignments

Signal Pin No.	Return Line Pin No.	Signal Name	Signal Direction
1	19	STROBE	Printer $\leftarrow$ Host
2 ~ 9	20 ~ 27	DATA	Printer $\leftarrow$ Host
10	28	ACK	Printer $\rightarrow$ Host
11	29	BUSY	Printer $\rightarrow$ Host
12	30	PE	Printer $\rightarrow$ Host
13	—	SELECT	Printer $\rightarrow$ Host
14	—	AUTO FEED	Printer $\leftarrow$ Host
15	—	NC	NC
16	—	SIGNAL GND	Printer $\longleftrightarrow$ Host
17	—	CHASSIS GND	Printer $\longleftrightarrow$ Host
18	—	+5V	Printer $\rightarrow$ Host
31	—	PRIME	Printer $\leftarrow$ Host
32	—	ERROR	Printer $\rightarrow$ Host
33	—	SIGNAL GND	Printer $\longleftrightarrow$ Host

34	—	NC	Printer → Host
35	—	PULLED UP 5V	Printer → Host
36	—	$\overline{\text{SELECTIN}}$	Printer ← Host

7.2.2 USB Interface

USB 2.0 Full-Speed

The following table provides the standardized contact terminating assignments by number and electrical value for Series “A” and Series “B” connectors.

Contact Number	Signal Name	Colour
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black

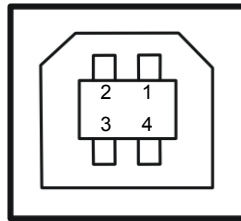


Figure 7-3 USB-B Type connector

7.2.3 Ethernet Interface

10/100Base-T Ethernet interface, it can connect to 10/100M Ethernet.

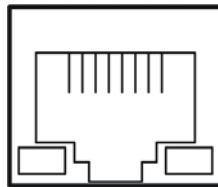


Figure 7-4 Ethernet Interface

7.2.4 Serial Interface

BP-9000E printer serial interface can be compatible with RS-232C, and supports RTS/CTS and X-ON/X-OFF handshaking. Its interface connector is DB-9 type connector or DB-25 type connector.

DB-25 serial interface connector's pin number is shown as Figure 7-5:

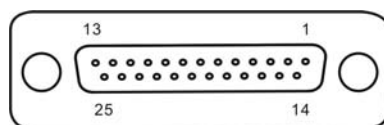


Figure 7-5 DB-25 serial interface connector pin number

Data input/output mode: 7-bit or 8-bit serial interface

Data input code: ASCII, JIS 7-bit or 8-bit, International character code, CG, Dot matrix graphic code based on graphic symbol code (8-bit)

Data buffer: 132K bytes most

Signal level: RS-232C, $\pm 12V$

Data transit speed (baud rate) RS-232 C: 1200 bps, 2400 bps, 4800 bps, 9600 bps, 19200 bps, 38400 bps, 57600bps, 115200 bps

Data transmission protocol RS-232C: READY/BUSY (DTR) or X-ON/X-OFF

Synchronous system: Original bit: 1 bit Stop bit: 1 ~ 2 bit

Character length: 7 ~ 8bits

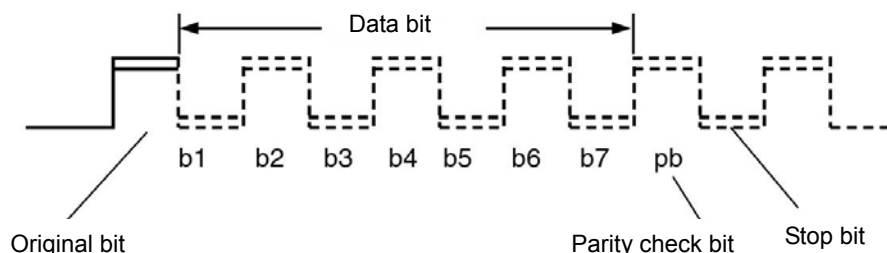


Figure 7-6 Serial data format

Connector Pin Assignments

RS-232C default settings

PIN	ABBREVIATION	NAME	DIRECTION	RDY/BSY	X-ON/X-OFF
1	FG	Frame Ground	—	O	O
2	SD	Transmitted Data	OUT	X	O
3	RD	Received Data	IN	O	O
4	RTS	Request to Send	OUT	*	*
7	SG	Signal Ground	—	O	O
20	DTR	Data Terminal Ready	OUT	O	O

O: USE X: NOT USE *: HIGH LEVEL

Signal description:

Prescription of signal level on RS-232C

1=Low (Mark): -25 ~ -3 V

0=High (Space): +3 ~ +25V

RDY/BSY protocol (RS-232C)

PIN 1 FG (Frame Ground — connect to the printer rack)
Connect to the circuit frame ground

PIN 3 RD (Received Data)

Receive serial data from the computer through this pin. This pin is low level when it receives no data.

PIN 7 SG (Signal Ground)
Connect to the signal ground

PIN 20 DTR (Data Terminal Ready)

This pin is high level when the printer is ready to receive data. It is low level when not ready to receive data.

X-ON/X-OFF Protocol (RS-232C)

PIN 1	FG (Frame Ground---connect to the printer rack) Connect to the circuit frame ground.
PIN 2	SD (Transmitted Data) Send serial data to the printer through this pin. This pin is low level when it receives no data.
PIN 3	RD (Received Data) Receive serial data from the printer through this pin. This pin is low level when it receives no data.
PIN 4	RTS (Request to Send) Send Request to send signal from the printer. This pin is high level when the printer is turned on.
PIN 7	SG (Signal Ground) Connect to the signal ground.
PIN 20	DTR (Data Terminal Ready) Output the signal from the printer. This pin is high level when the printer is turned on.

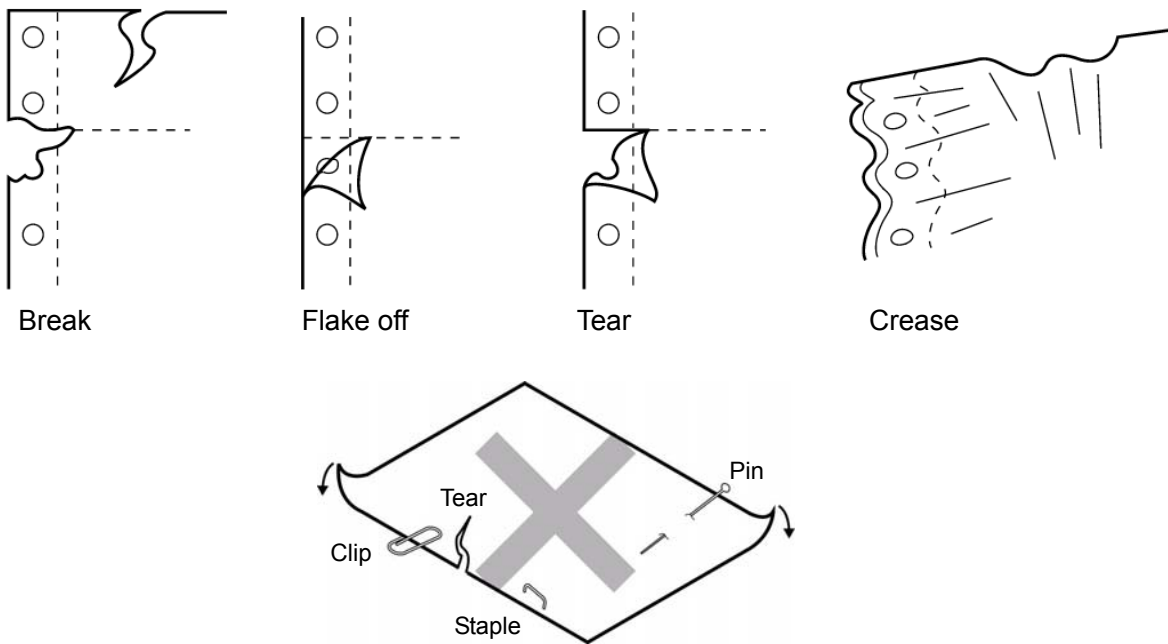
Chapter 8 Paper Specification

8.1 Paper Specification and Printable Area

8.1.1 The Notice Relates to Paper

Using the following paper will cause unstable paper feeding, paper jam or paper crease, even leads to break pin. So it is forbidden using.

- Too thin or too thick, or the thickness of which are uneven. (The paper which doesn't accord with paper specification)
- Too small or too large. (The paper which doesn't accord with paper specification)
- Paper being cut out or has hole.
- Paper with metal such as pins, clips and staples.
- Paper with paste outside, or which is uneven or flake off.
- Rough paper
- Fanfold paper has crease besides the cross-perforation.
- Paper corner breaks or creased.
- Postcard or envelope sticks with stamp or seal.



Note: 1. The storage of the paper should be in the temperature between 10℃ to 30℃ and the relative humidity between 30% to 70%.

2. When there is difference between operating environment and storage environment, please put the sealed paper in the operating environment a period of time. Use it after the paper is adapted to the operating environment.

8.1.2 Useable Paper Types and Guarantee Area

Useable papers are shown in the following table:

Paper type	Guarantee grade	Other conditions
Single sheet paper	•	

Continuous paper	●	
Envelope	▲	
Delivery order form	▲	
Label	▲	
Post card	×	
Card	×	
Deposit book	×	
Reborn paper	×	

Caution: “Guarantee” here means the specifications which accord with print specification, noise specification and paper feed performance, etc.
The meanings of symbol in Guarantee grade column are shown as follows:

- : Guarantee
- ▲ : Can use in some conditions, not guarantee.
- × : Forbid using.

- Caution:** 1. To guarantee the print quality, please ensure the contents are all within printable area.
2. If the print contents are out of the printable area, it may cause the print head to break pins.

8.1.3 Single Sheet Paper

The detailed specification of single sheet paper is shown in the following table.

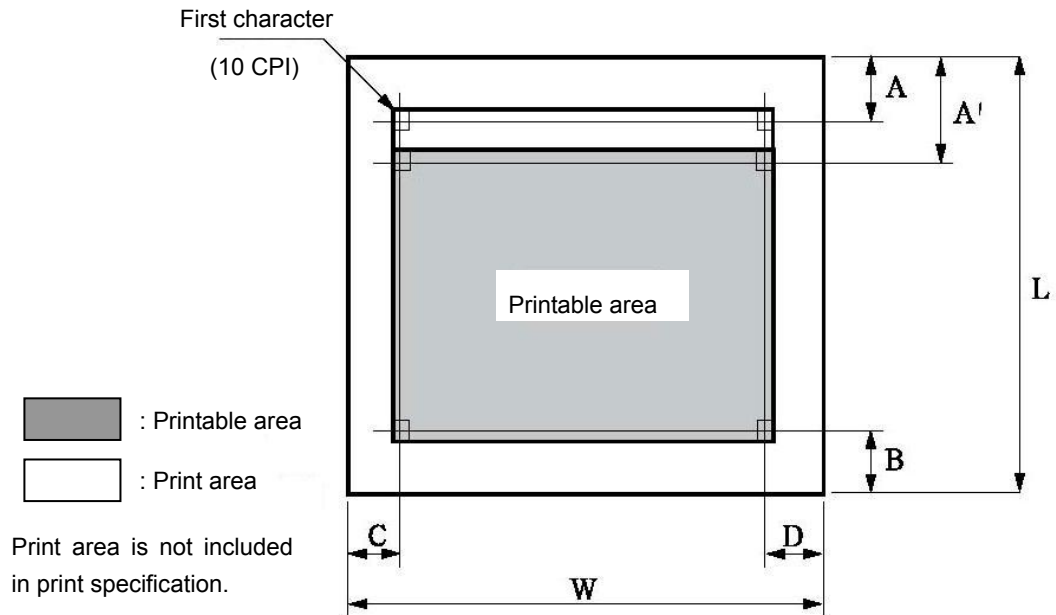
Paper	Single-ply paper	White paper, Copy paper
	Multi-ply paper	NCR paper
Copy capability (Max.)	9 copies (Original + 8 copies), paper weight bases on 40g/ m ² standard.	
Weight	Single-ply paper: 64 ~ 105 g/m ²	
	Multi-ply paper (each sheet): 40 ~ 64 g/m ² [Note: See details in the multi-ply paper (NCR paper) requirement table]	
Total thickness	Single-ply paper	≤0.9 mm (Note 1)
	Multi-ply paper	≤0.585 mm (Note 2)

Note: 1. This thickness is added by multi single-ply papers, and it is only achieved when just printing on the upper paper. (No need to copy)

2. Refer to the requirement of the multi-ply paper (NCR paper), the mount paper can be thicker than other plies, but we can't guarantee the printing effect as it is influenced by paper difference.

◆ Single sheet paper Dimension and Printable area

○ Single-ply paper



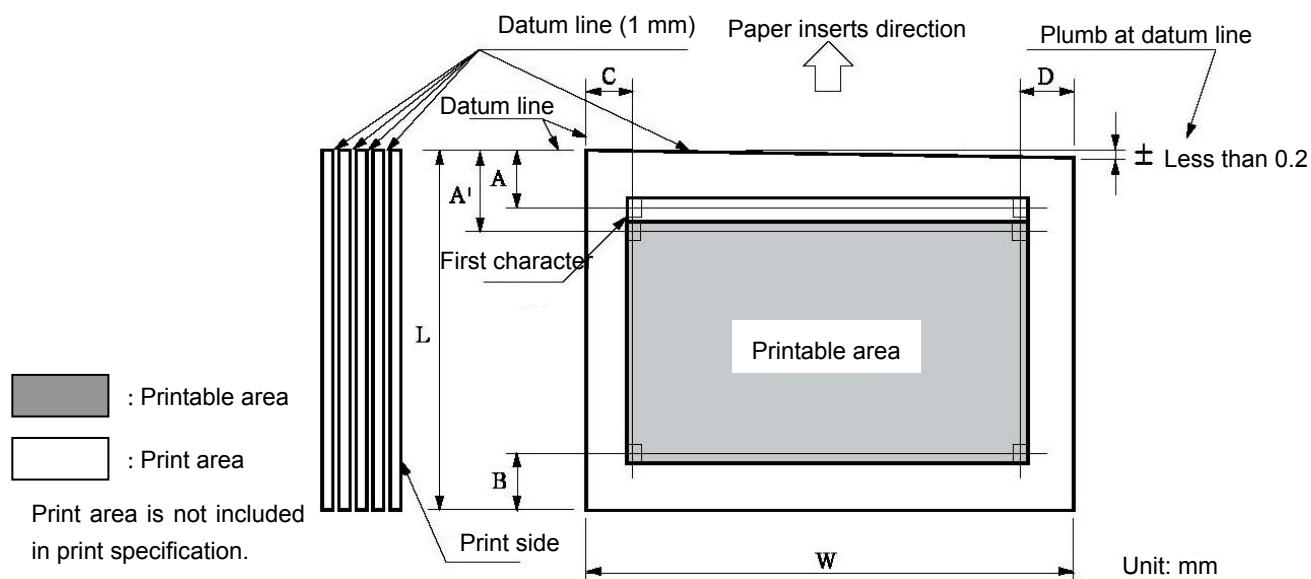
Mark	Name	Specification value
W	Paper width	127 ~ 420 mm
L	Paper length	182 ~ 420 (Note 1)
A	Home position	≥ 3 mm
A'	Top printing unguaranteed area	≥ 3 mm
B	Bottom printing unguaranteed area	≥ 3 mm
C	Left printing unguaranteed area	≥ 3 mm
D	Right printing unguaranteed area	≥ 3 mm

Caution: 1. Paper less than 45 kg (52 kg/m²) is worse in rigidity, so it is not in the guarantee list.

2. Please use the paper with no crease or bend.

3. Do not print beyond the printable area, or it may cause print head break pins and affect print head life.

○ Multi-ply paper (NCR paper)



Mark	Name	Specification value
W	Paper width	127 ~ 420 mm
L	Paper length	182 ~ 420 mm (Note 1)
A	Home position	≥ 3 mm
A'	Top printing unguaranteed area	≥ 3 mm
B	Bottom printing unguaranteed area	≥ 3 mm
C	Left printing unguaranteed area	≥ 3 mm
D	Right printing unguaranteed area	≥ 3 mm

Caution: 1. Please use paper with no crease or bend.

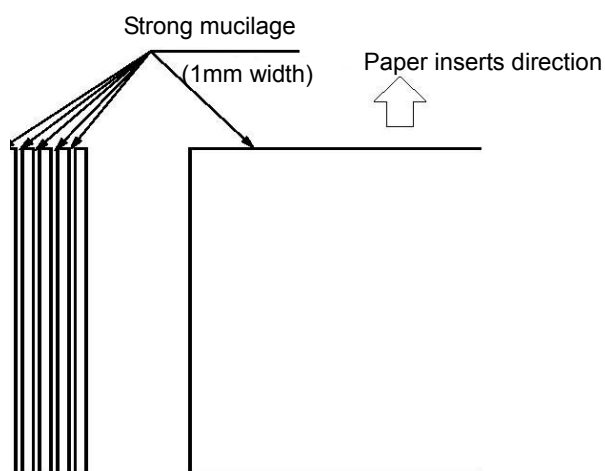
2. Please sizing the top at the paper feed direction.

3. Do not use the paper with binding holes.

◆ The fixing requirements of multi-ply paper (NCR paper)

○ Fixing method:

- The fixation method of fanfold paper is to sizing on the 1 mm line which in the front of paper inserts direction.
- Sizing with strong mucilage and press it tightly to avoid cocking.
- Please not make the glue come out of paper edge.
- Sizing place can not have obvious creases or burr.



◆ The combination requirements of multi-ply paper (NCR paper)

We recommend using the perfect paper or which the quality is above. The low quality NCR paper will affect the copy effect and the printing life.

The papers which accord with the specification are shown as follows.

Pages	2-ply	3-ply	4-ply	5-ply	6-ply	7-ply	8-ply	9-ply
Page 1	40~64 g/m ²	40~50 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 2	40~80 g/m ²	40~50 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 3	----	40~80 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 4	----	----	40~80 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 5	----	----	----	40~80 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 6	----	----	----	----	40~80 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 7	----	----	----	----	----	40~80 g/m ²	40 g/m ²	40 g/m ²
Page 8	----	----	----	----	----	----	40 g/m ²	40 g/m ²
Page 9	----	----	----	----	----	----	----	40 g/m ²

◆ Binding hole and clipped corner

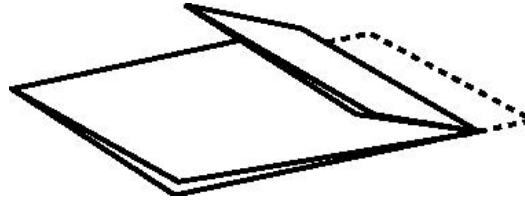
It doesn't support the paper with binding holes and clipped corners.

Note: 1. Do not use the paper with binding holes and clipped corners which are not included in the guarantee list.
2. When using this kind of paper, the device and capability can not be guaranteed.

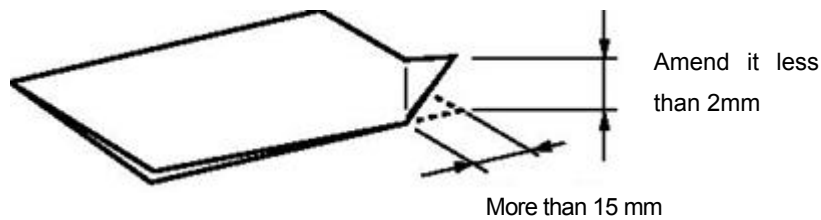
◆ The relative regulations of fold, bend and curliness

According to different storage conditions, paper would easily become fold, bend or curliness through manually disposal, transport and deposit. Therefore, they would affect paper feeding when using these papers. Thus, please use them after amending according to the following regulations. The papers which failed to come up to specifications would affect paper feeding seriously, please do not use them.

- Fold (Single sheet paper, continuous paper)
 - The paper that the whole page has folded can not be used.
(As the paper strength has been changed even though after amending.)
 - Please amend the fold of the corner for less than 2 mm.

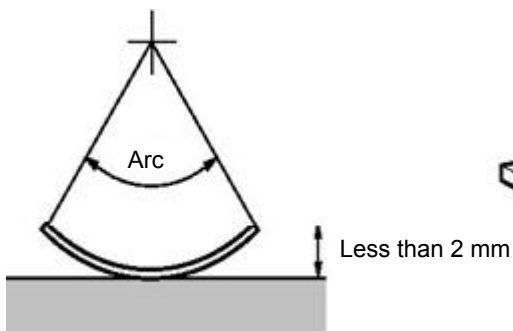


The paper that the whole page has folded can not be used.

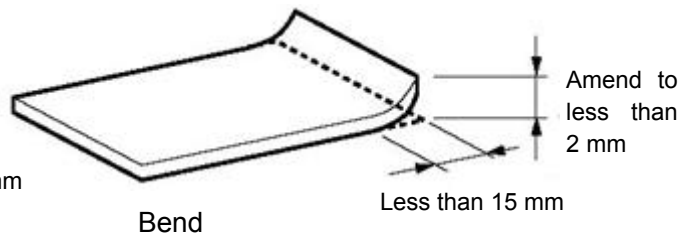


The fold of corner

- Bend and curliness (Single sheet paper, fanfold paper)
 - The paper can be used when the bend of the whole page less than 2 mm.
 - The bend length starts from the bend point should within 15mm. But when the bend height is over 2 mm, paper can not be used.



Whole page bend



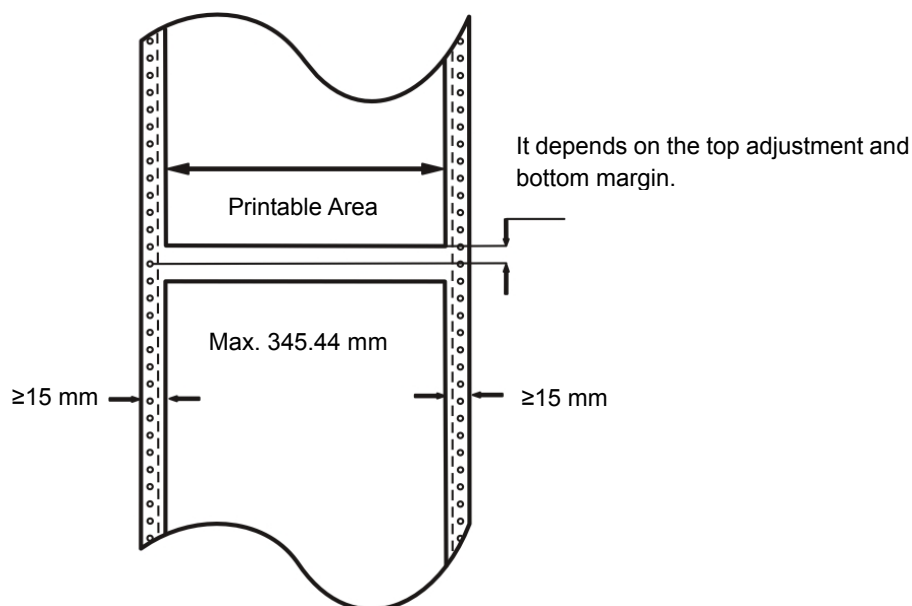
Bend

8.1.4 Fanfold paper

Fanfold paper is the continuous paper which has gear holes and the traverse perforations lines.
Refer to the following table for the requirement of fanfold paper.

Paper	Single-ply paper	White paper
	Multi-ply paper	NCR paper
Width	127 ~ 406 mm	
Length	≥ 140 mm	
Copy capability (Max.)	9 copies (Original + 8 copies), paper weight bases on 40g/m^2 standard.	
Weight	Single-ply paper: $53 \sim 105 \text{ g/m}^2$	
	Multi-ply paper (each sheet): $40 \sim 64 \text{ g/m}^2$ [Note: See details in the multi-ply paper (NCR paper) requirement table]	
Total thickness	Single-ply paper	≤ 0.9 mm (Note 1)
	Multi-ply paper	≤ 0.585 mm (Note 2)

- Note:** 1. This thickness is added by multi single-ply papers, and it is only achieved when just printing on the upper paper. (No need to copy)
2. Refer to the requirement of the multi-ply paper (NCR paper), the mount paper can be thicker than other plies, but we can't guarantee the printing effect as it is influenced by paper difference.

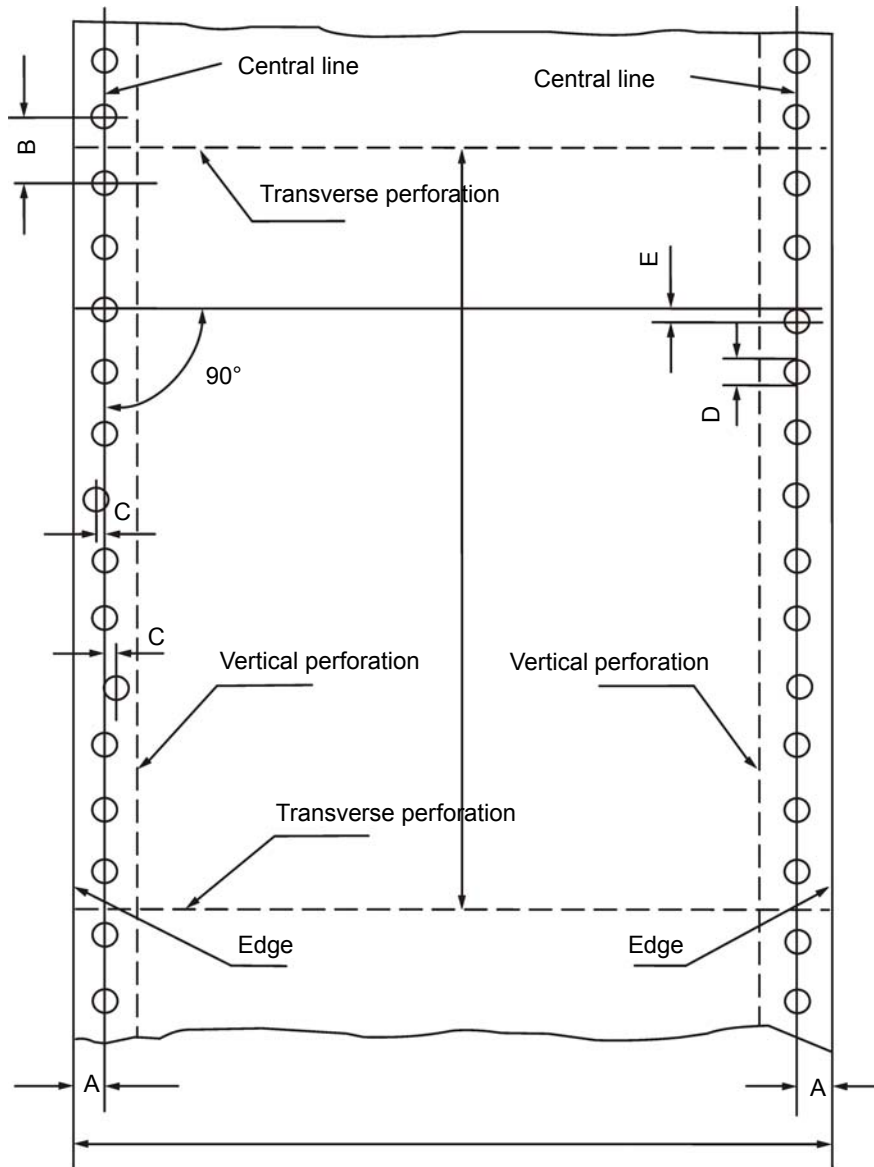


◆The position and size of gear hole

The gear hole of fanfold paper should accord with the specification.

The positions and sizes of gear hole are shown below. The central line here refers to the line between any two gear hole centers which in the distance of 254mm in either side of the paper.

Figure of fanfold paper specification and gear hole



Item	Mark	Size (mm)	Function
Position of Central line	A	6.0 ± 0.7	The distance from central line to the nearer edge. The standard distance is 6.35mm.
Diameter of gear hole	D	4.0 ± 0.1	It is the hole with gear edge, its minimal diameter is the D value and its maximal diameter is 4.5mm. When using the multi-ply paper with gear holes, it is allowed that the diameter of the gear hole is bigger than 4.1mm.
Distance between gear hole centers	B	12.70 ± 0.05	Distance between nearby gear hole centers in the same side.
Accumulative error of distance between gear hole centers	—	Below ± 0.3	The accumulative error along the central line of any two gear holes which are 254mm apart.
Warp of gear hole center	C	Below 0.1	The maximal warp of the gear hole center in the same side.
Central warp of right and left gear holes.	E	Below 0.15	The warp value of the beeline which perpendiculars to central line through any gear

			hole in the left and the center of corresponding gear hole in the right.
Lean of right and left central line	—	Below 0.15	The distance to other end when the parallel moved right and left central lines superposes with one end.

◆ Requirement of transverse perforation

The transverse perforation should not across the gear hole, but it should at the center of two adjacent gear holes, as well as, the wrap should not over 0.1mm.

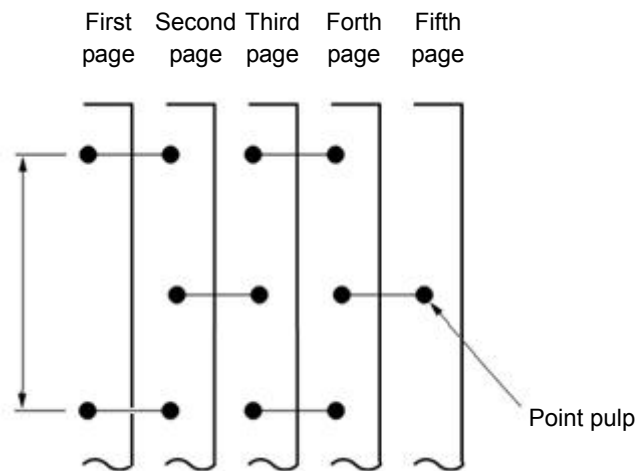
The edge of the transverse perforation should be straight, it should not be broken, and the crease should superpose with the transverse perforation.

◆ Requirement of Multi-ply paper

This printer support the multi-ply paper which the fixed method is point pulp, line pulp or paper binding. It is strictly prohibited to use the multi-ply paper which is fixed through metal staple.

○ Point Pulp

- Point pulp should be in both ends, it is not allow pointing pulp only in one end.
- The point pulp position should be the same. and the size is $\Phi 3 \sim \Phi 5 \text{mm}$.
- The position of point pulp should be pressed down tightly to avoid warping.
- There should not be any obvious crease on the point pulp position.
- Each page of the point pulp paper is interleaving. (Interleaving between each ply)
- The position of point pulp is shown as below.

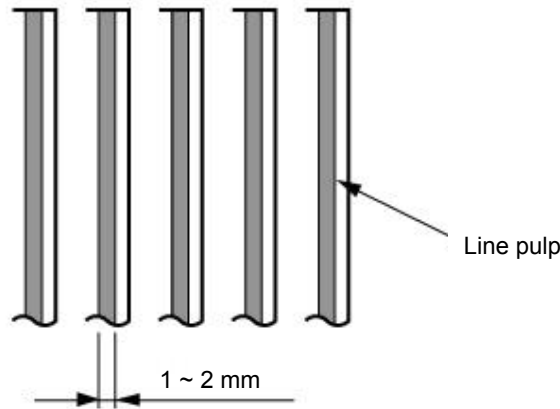


○ Line Pulp

- The line pulp position should be the same. and the width is 1 ~ 2mm.
- The position of line pulp should be pressed down tightly to avoid warping.
- Line pulp fixing should not use the paper which is obviously crease.
- Please don't bare the pulp at the edge of paper.

Note: If the place with pulp is hard, as the result, the paper will not be fed precisely.

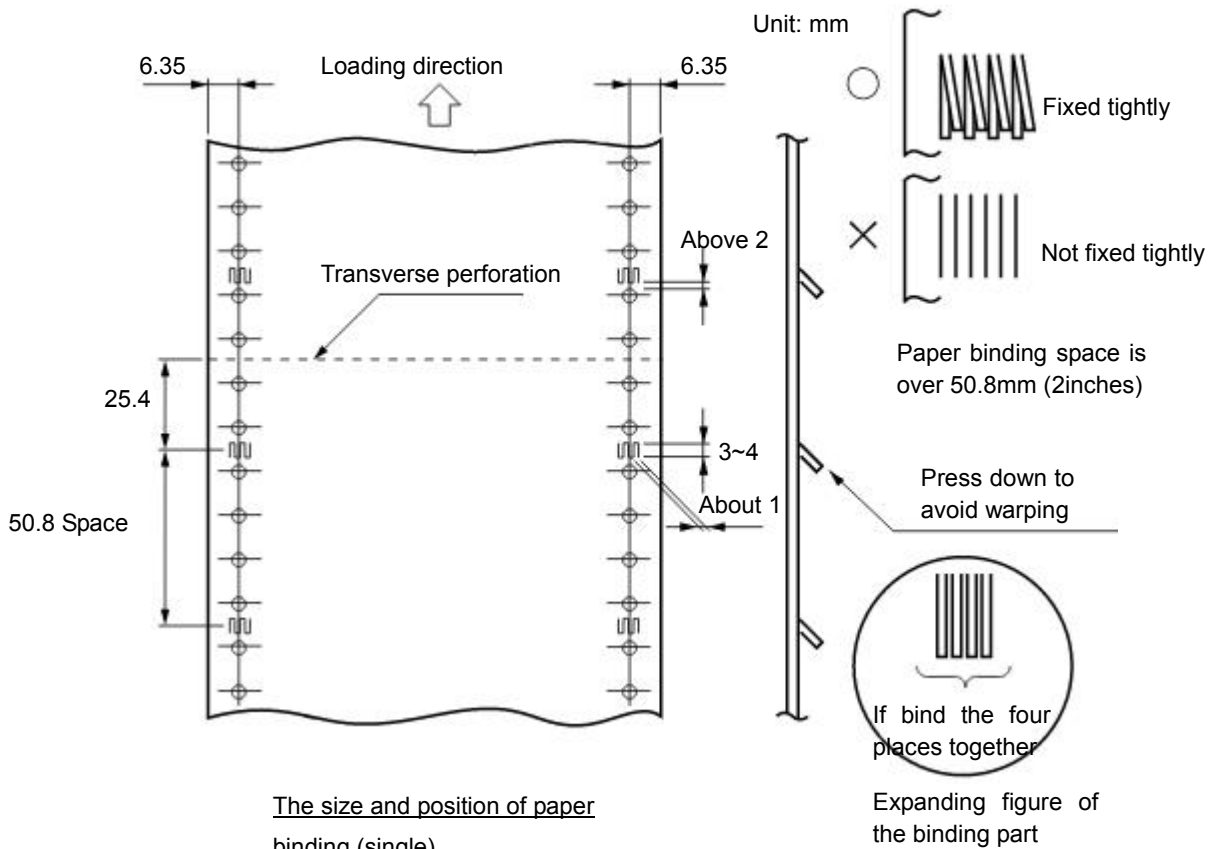
First page Second page Third page Forth page Fifth page

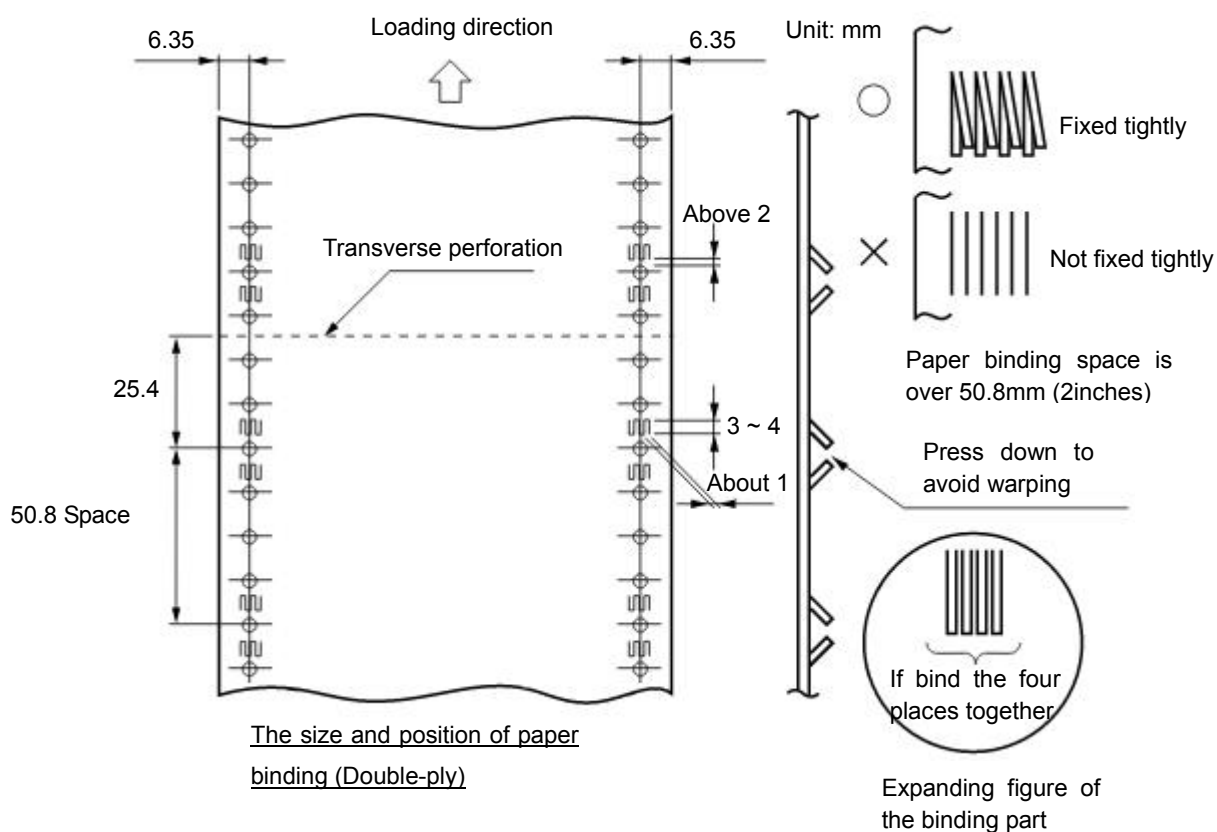


○ Paper Binding

- Paper binding should be in both ends, it is not allow paper binding only in one end.
- Paper binding should be in the paper side and the surface should be even.
- Please operate double-ply paper binding along the paper feeding direction.
- Make sure paper binding part is fixed tightly and does not wrap.
- Please press it down tightly after paper binding to avoid warping.

Note: Use the paper which is not accordance with the paper binding requirement and the specification shown below, paper feeding precision may be affected and the printing performance can not be guaranteed.





◆ Requirement of Multi-ply paper (NCR paper)

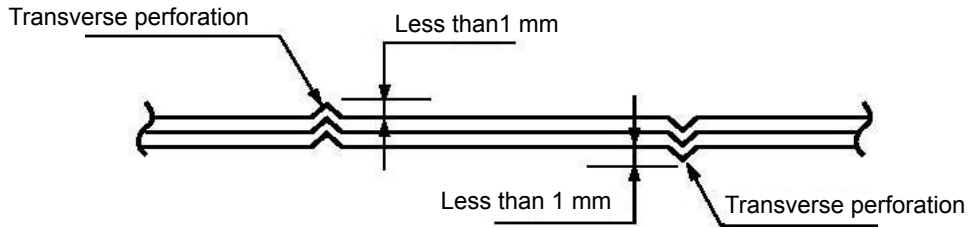
It is recommended to use the multi-ply paper which is first class or above. Low class NCR paper would affect the copy effect and printer life.

Specification of NCR multi-ply paper is shown below:

Pages	2-ply	3-ply	4-ply	5-ply	6-ply	7-ply	8-ply	9-ply
Page 1	40~64 g/m ²	40~50 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 2	40~80 g/m ²	40~50 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 3	----	40~80 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 4	----	----	40~80 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 5	----	----	----	40~80 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 6	----	----	----	----	40~80 g/m ²	40 g/m ²	40 g/m ²	40 g/m ²
Page 7	----	----	----	----	----	40~80 g/m ²	40 g/m ²	40 g/m ²
Page 8	----	----	----	----	----	----	40 g/m ²	40 g/m ²
Page 9	----	----	----	----	----	----	----	40 g/m ²

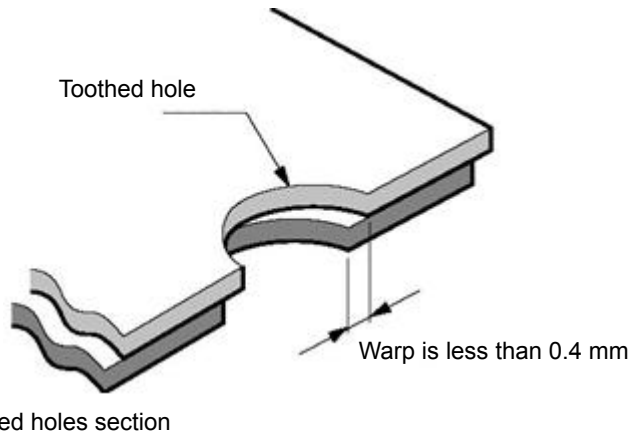
◆ The protuberance of transverse perforation

When the fanfold transverse perforation sticks up, it may cause print quality decrease, unstable paper feed or paper jam etc. Especially when the multi-ply paper with many pages, it will deeply affect the stable of paper feed. Please ensure the protuberance height less than 1 mm.



◆ Warp between toothed holes of each ply

Please use the paper which toothed holes warp between each ply (causes by the warp of multi-ply papers superposition) is less than 0.4 mm.



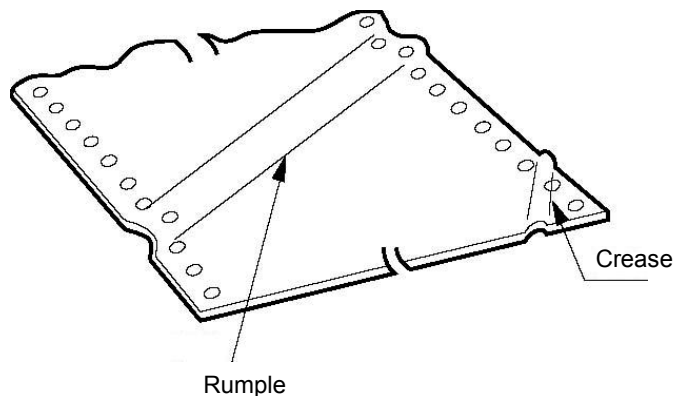
◆ Binding hole, Clipped corner

It is not support the paper which is with binding holes and clipped corners.

Caution: Do not use the paper with clipped corner or binding hole which is not include in the guarantee list. It can not guarantee device's capability after using it.

◆ Rumble, crease

The paper should not have creases or rumples, especially for new paper. The first and last pages are easy to have creases or rumples, so please do not use them.



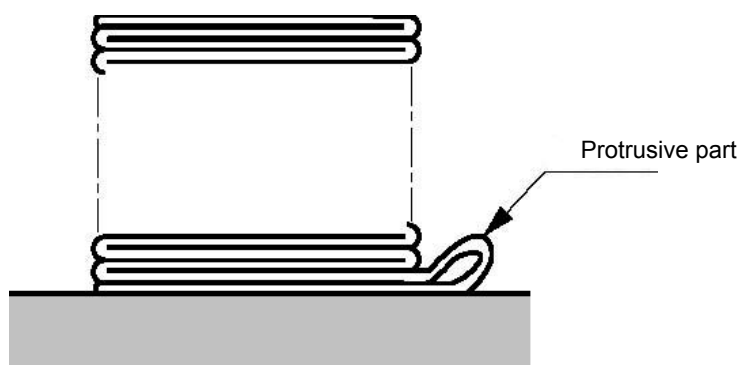
◆ The crease, crimp, fold and upturning of the paper top and bottom

Please do not use the paper which is crease, puckered, crimp and upturning in the top and bottom. Or it may cause cheap printing quality or paper jam. Especially for the new paper, if it is crease from the first few pages, please do not use it.

◆ Paper folding part

Please fold the paper base on the transverse perforation. It will affect paper feeding while the

folding part sticks up as the following figure shown, please not use it.



8.1.5 Envelope

Envelope specification should accord with the following table. In this specification, some envelopes are beyond the support range because of shape, size and so on.

◆ Print Size and Printable Area

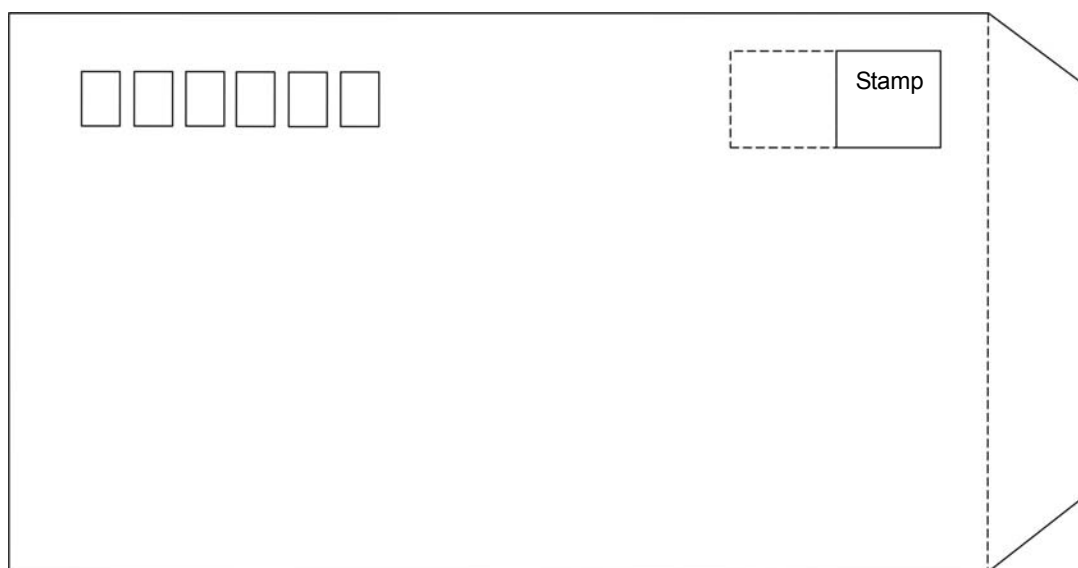
Envelope type	Code name	Length (mm)	Width (mm)	Support
Sample 1 Envelope	B6	176	125	Yes
	DL	220	110	Yes
	ZL	230	120	Yes
	C5	229	162	Yes (Note 1)
	C4	324	229	Yes
Sample 2 Envelope	C6	162	114	Yes (Note 2)
	DL	220	110	Yes
	C5	229	162	Yes
	C4	324	229	Yes
Material	Envelope which is Grade or above			
Weight	80 ~ 120 g/m ²			
Non-guarantee Area	Top		6.25 mm	
	Bottom		6.25 mm	
	Left		6.25 mm	
	Right		12 mm (Note 3)	
	From pulp position		5 mm	

Note: 1. Envelope should not with solid edge (the folding part in both sides and the bottom).

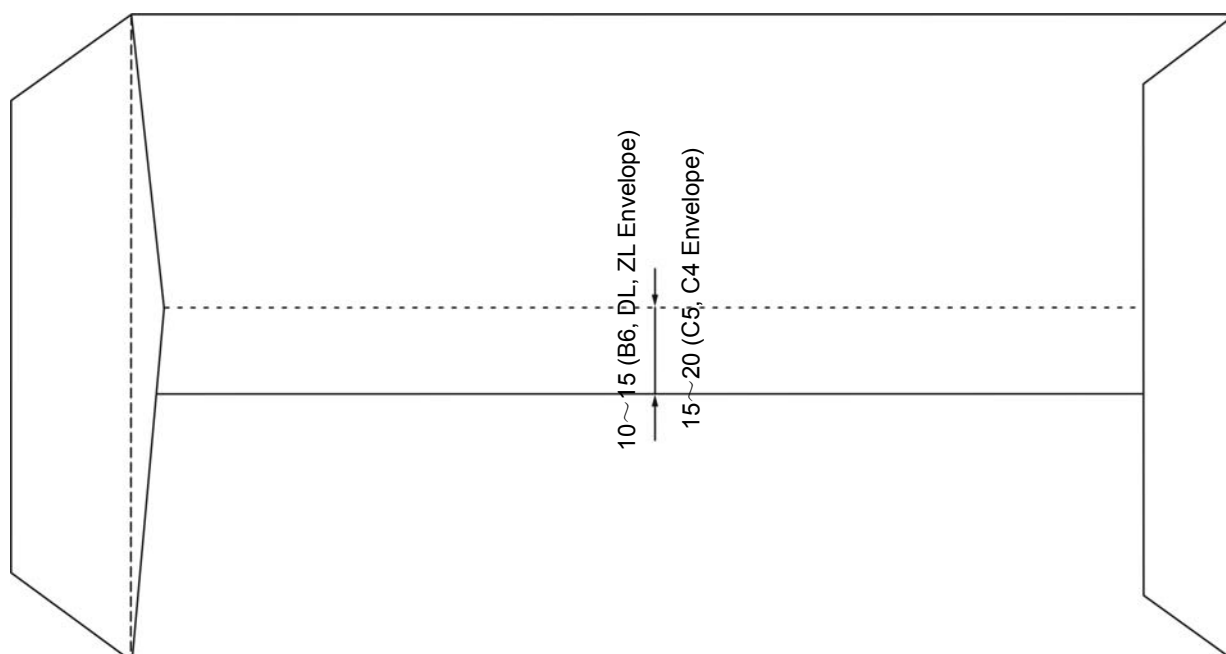
2. Sample 2 Envelope need to be printed vertically.

3. Right margin doesn't include seal lip, and the distance from printing content to the bottom sunken line is not less than 5mm.

Sample 1 Envelope (Front view)

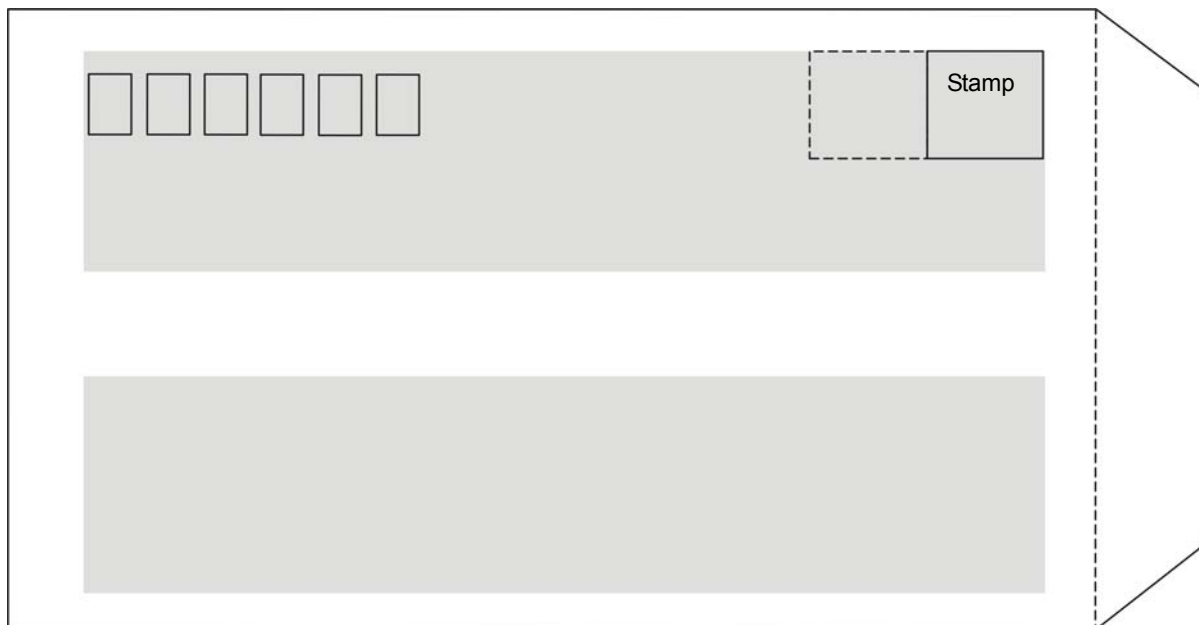


Sample 1 Envelope (Rear view)

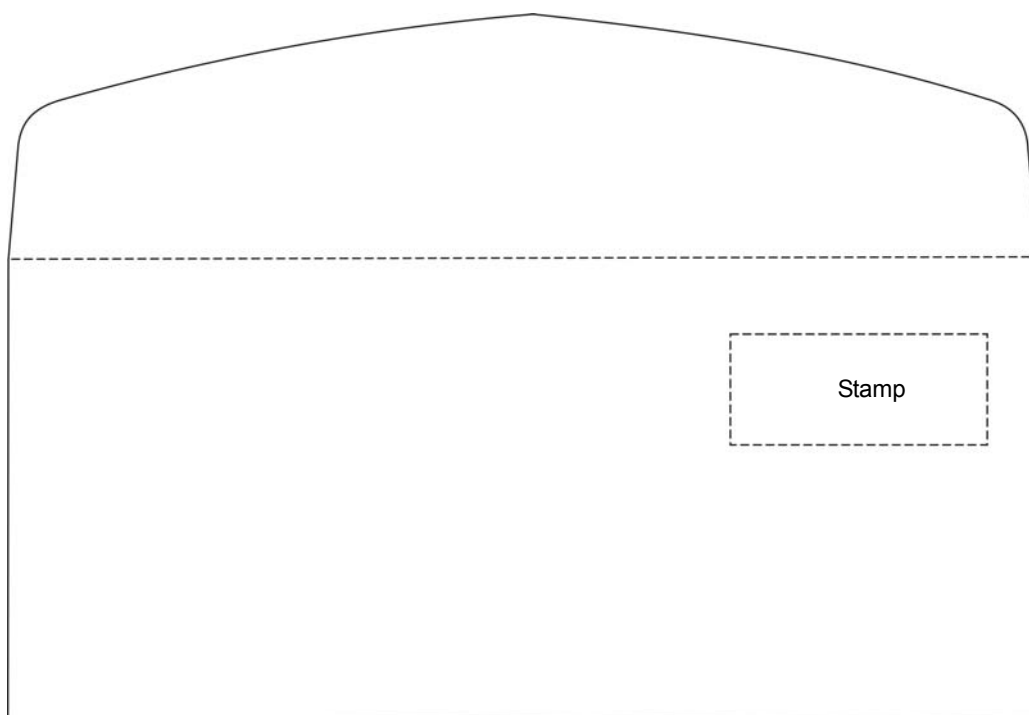


Sample 1 Envelope print direction and printable area

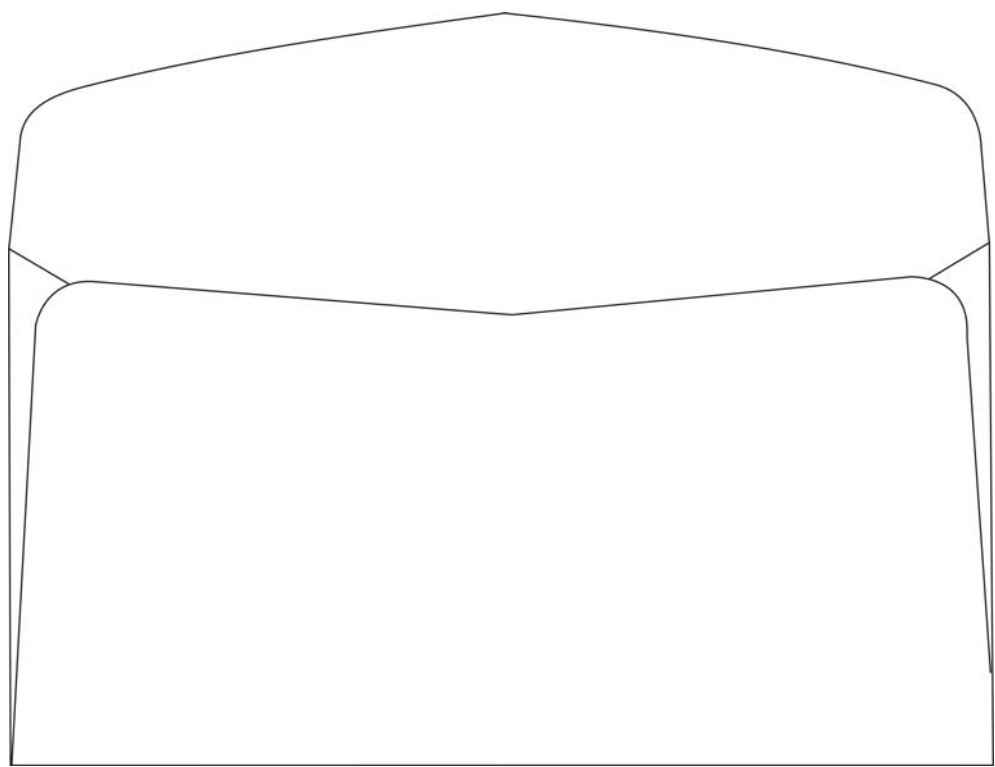
Note: To load envelope, please place it on the paper guide with the front downwards and the back upwards.



Sample 2 Envelope (Front view)

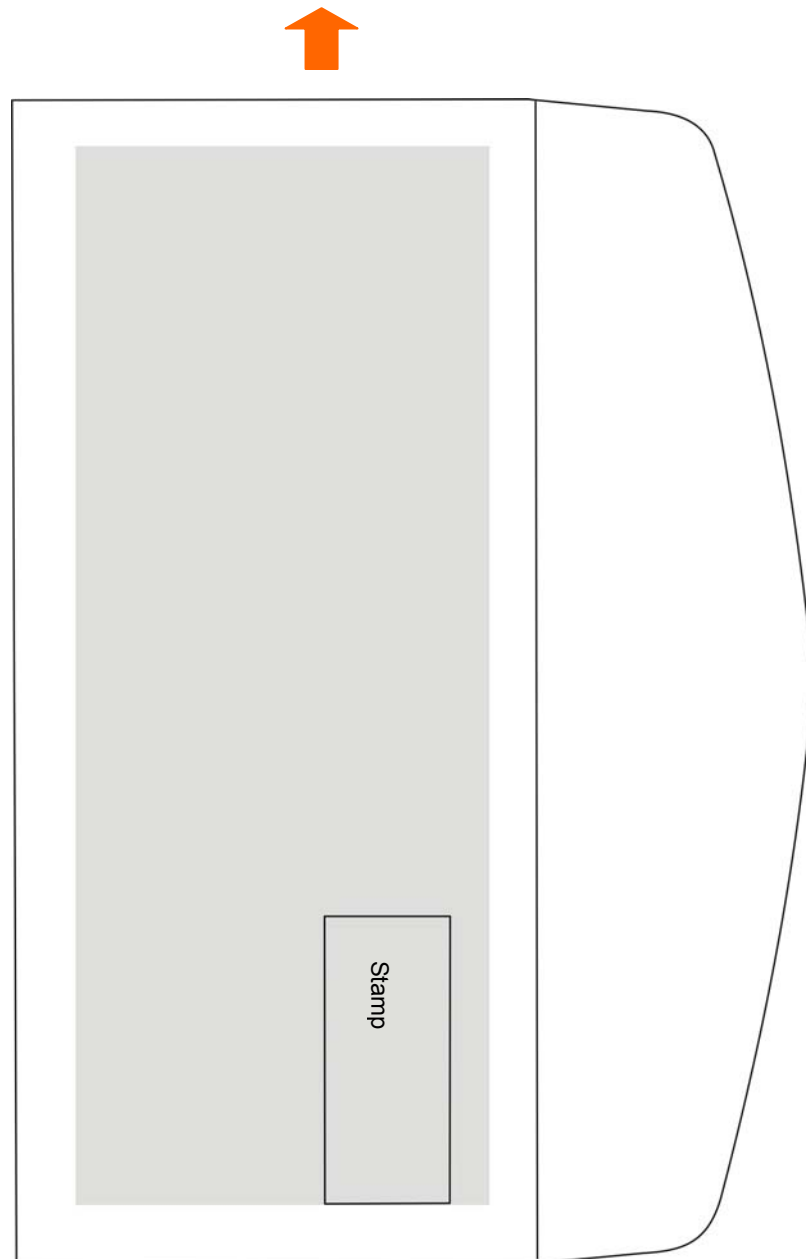


Sample 2 Envelope (Rear view)



Sample 2 Envelope print direction and printable area

Note: To load envelope, please place it on the paper guide with the front downwards and the back upwards.



- Note:**
- Envelope refers to single layer envelope. Printer doesn't support double layer envelope and the envelope should not with solid edge.
 - When the envelope pulp at the top or bottom, please don't print at that area with 5mm.
 - The sunken place in the bottom of the envelope belongs to the non-printable area. Please ensure the distance from the bottom sunken line to the printing area is not less than 5mm.
 - Do not use following envelopes:
 - Envelopes which with contents in it.
 - Envelopes with holes and which both sides are coherent in the middle.
 - Envelopes which seal lip parts are folded.

- **Envelopes which seal lip parts are pulped.**
- **If you print near the pulped area, even though it belongs to the printable area, it may also cause paper dirt because of the pulp (especially when the edge is folded or stuck up.**

8.1.6 Delivery Note

Delivery notes here refers to the multi-ply papers (2-ply ~ 7-ply). Its paper size and printable area base on the specifications of fanfold paper and single sheet paper. Moreover, the copy capability and printing precision are not guaranteed because they are affected by paper thickness and inner paper quality (such as, thickness). In addition, do not use the paper which is not even to avoid paper dirt or printing slant.

8.1.7 Postcard

As the specification of standard postcard overruns this printer's guarantee range, therefore, this printer does not support standard postcard printing.

8.1.8 Passbook

This printer does not support passbook printing.

8.1.9 Label

It does not guarantee the printing with labels.

Note: 1. Label is not include in the guarantee list, please don't use it.

2. Problem occurs when using labels, we will not guarantee the device and performance

8.1.10 Reborn Paper

Due to the reborn papers are easily produce paper powder and affected by humidity, this printer does not guarantee the printing with reborn papers.

Appendix A Self-test and Adjustment

A.1 Self-test Function

BP-9000E printer supplies several print-test functions that make you run the self-test of the printer in different states.

A.1.1 ASCII Test Mode

After installing the paper (fanfold paper: 136 lines, single sheet paper feed: A4 paper), then use the following way to run the ASCII self-test.

- Turn on the printer, firstly, press **RESET** key to initialize the printer, during the initialization, press **LF** key.
- Turn off the printer, press down **LF** key and turn on the printer.

The printer will continuously print out ASCII characters.

ASCII TEST MODE

```
Version: BP-9000E   VX.X XXX   XXXX-XX-XX
SN: XXXXXXXXXXXXXXXXXXXX   MAC Address: XX-XX-XX-XX-XX-XX
DHCP: OFF   IP: 10.0.0.1   Subnet mask: 255.255.255.0   gateway: 255.255.2
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQ
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQR
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRS
!"#$%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNPOQRST
```

A.1.2 Hex Dump Mode

Hex Dump mode can analyse if there is any malfunction in the interfaces of the printer and the computer.

- Turn on the printer, firstly, press **RESET** key to initialize the printer, during the initialization, press **FF** key to enter Hex Dump printing.
- Turn off the printer, press down **FF** key while turning on the printer.

The printer will printer out the data from the computer in Hex Dump mode.

***** HEXADECIMAL DUMP *****

```
(0000) 1B 40 A9 A6 29 29 A9 A6 2A 2A A9 A6 2B 2B A9 A6
(0010) 2C 2C A9 A6 2D 2D A9 A6 2E 2E A9 A6 2F 2F A9 A6
(0020) 30 30 A9 A6 31 31 A9 A6 32 32 A9 A6 33 33 A9 A6
(0030) 34 34 A9 A6 35 35 A9 A6 36 36 A9 A6 37 37 A9 A6
```

Caution: Load the paper along the left side (the “0” mark on the ruler).

A.2 Alignment Adjust Mode

Enter the alignment adjust mode to improve the print quality when the printer is used for a long time.

Enter method: In ONLINE mode, long press “**EXIT**” key + “**ENTER**” key.

M.RLF: Select to adjust the next DPI alignment.

→: Each press this key, the second line will move left with one step (Value decreased)

←: Each press this key, the second line will move right with one step (Value increased)

ENTER: Save and print.

EXIT: Press this key to exit the adjust mode, and then the printer will restart automatically.

Note: There are totally 5 adjustments modes (MODE 0~4).

Note: Alignment adjust mode will affect the printing quality, think over before adjust it and strict to the instructions while adjusting.

Appendix B Barcode command

	ESC	}	n	R	k	m1	m2	v1	v2	c	data (i)
HEX.	1B	7D	n	52	k	m1	m2	v1	v2	c	data (i)

n	Data count	Including the total data count (besides ESC)
R	R	Character R
k	Barcode type	Select the barcode type: 0xB1: NW 7 B2: EAN 13 B3: EAN 8 B4: Code 39 B5: Industrial 2of5 B6: Interleaved 2of5 B7: Matrix 2of5 BE: Code 128 Type B BF: Code 128 Type C
m1,m2	barcode width	Set the barcode width: m1*256+m2 0D: 2/180inch (default) 8D: 2/180inch 16D:2/180inch 24D:3/180inch 32D:4/180inch
v1,v2	barcode height	Set the barcode height (Value range: 192 ~ 4095): v1*256+v2
c	Verify	c: Option: 7 6 5 4 3 2 1 0 0: check sum 1: Not print the check sum (only used for 39 barcode and 3 kinds 25 barcodes) 0: print character, 1: Not print characters (apply to all barcodes) Disposal of EAN13 check sum (0 : in the middle1: 0: barcode (If it is 1, it won't print the barcode.
data (i)	Barcode data	data

aui

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