USER'S MANUAL

Receipt Printer

BTP-M300

Shandong New Beiyang Information Technology Co., Ltd.

Declaration

Information in this document is subject to change without notice. SHANDONG NEW BEIYANG INFORMATION TECHNOLOGY CO., LTD. (hereinafter referred to as "SNBC") reserves the right to improve products as new technology, components, software, and firmware become available. If users need further data about this product or have any doubt about safety issues that might arise from using it, please feel free to contact you dealer.

No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose without the express written permission of SNBC.

Copyright

Copyright © 2013 by SNBC

Printed in China

Version 1.0

Trademarks

SNBC registered trademarks are:

Warning and Caution

⚠ Warning: Items should be strictly followed to avoid damages to body and equipment.

⚠ Caution: Items with important information and prompts for operating the printer.

SNBC has passed following certifications:

ISO9001 Quality Control System Certification

ISO14001 Environmental Management System Certification

OHSAS18001 Occupational Health and Safety management System Certification

IECQ QC080000 Hazardous Substance Process Management System Certification

Contact us

Address: No.169 huoju road, high-tech zone, Weihai, China

Hot line: 400-618-1368 800-860-1368

Fax: +86-631-5656098

PC: 264209

Website: www.newbeiyang.com.cn

General Safety Instruction

Before installing and using the printer, please read the following items carefully:

1. Safety Instructions

Warning: Do not touch the cutter and tear-off bar of the printer.

Warning: The print head is at a high temperature during printing or just after operation, do not touch it or its peripherals for reasons of safety.

Warning: The print head is an ESD-sensitive device. To prevent damage, do not touch either its printing parts or connecting parts.

2. Cautions

1) Install the printer on a flat and stable surface.
2) Reserve adequate space around the printer so that convenient operation and maintenance can be performed.
3) Keep the printer away from water sources, direct sunlight, strong light and heat.
4) Do not use or store the printer in a place exposed to heat or fire, moisture or other pollution.
5) Do not place the printer on a place exposed to vibration or impact.
6) Avoid exposing the printer to condensation. In case of condensation, ensure it has been completely removed before turn on the power.

7) Connect the power adapter to an appropriate grounded outlet. Avoid sharing a single electrical outlet with large power motors and other devices that may cause the fluctuation in voltage.
8) The power socket should be installed near the equipment and should be easily accessible.
9) Turn off the power if you do not use the printer for a long time.
10) Do not spill water or other electric substances (like metal) on the printer. If this happens, turn off the power immediately.
11) Do not allow the printer to start printing without paper loaded, otherwise the print head and platen roller will be damaged.
12) To ensure print quality and normal lifetime, use recommended or good quality paper and ribbon.
13) Shut down the printer when connecting or disconnecting interface connectors to avoid damage to the control board.
14) Do not disassemble the printer without guidance from a technician, even for the purpose of repair.
15) Keep this manual safe and at hand for reference purpose.

Contents

1 Overview 1
1.1 Outline 1
1.2 Features.....1
2 Specifications 2
2.1 Main Specification.....2
2.2 Cutter specification 3
2.3 Paper Specification.....3
2.3.1 Continuous paper.....3
2.3.2 Marked paper 4
2.3.3 Recommended paper.....5
2.4 Ribbon specification.....6
2.4.1 Ribbon model 6
2.4.2 Dimensions 6
2.5 Print and Tear-off Position.....7
2.5.1 Print position 7
2.5.2Tear-off position.....8
3 Outline and Parts.....9
3.1 Outline and Parts 9
3.2 LEDs and Buzzer.....13

4 Installing 14
4.1 Unpacking 14
4.2 Mounting the Printer 14
4.2.1 Horizontal mounting 14
4.2.2 Wall-mounting (optional) 15
4.3 Connecting power cord 16
4.4 Connecting optional interface cable 17
4.5 Connecting cash drawer 18
4.6 Installing Ribbon 19
4.7 Loading Paper Roll 20
4.7.1 Paper type 20
4.7.2 Loading/replacing paper roll 20
4.8 Printer self-test 22
4.8.1 Turn on the printer 22
4.8.2 Print self-test page 22
4.9 Installing the Printer Driver 23
4.9.1 Typical installation` 23
4.9.2 Advanced installation 26
4.9.3 USB device driver installation 29
4.10 How to Use the Driver 36
4.10.1 User-defined page 36

4.10.2 Parameter explanation 39
5 Maintenance 49
5.1 Platen roller cleaning 49
5.2 Mark sensor cleaning 50
5.3 Clear paper jam 50
6 Interface Signal 51
6.1 USB interface 51
6.2 Parallel interface 51
6.3 Serial interface 53
6.4 Ethernet 53
6.5 Cash drawer definition 55
7 Troubleshooting 57
7.1 Cutter error troubleshooting 57
7.2 Printer doesn't Work 57
7.3 Error LED and Buzzer 58
7.4 Problems during Printing 58
7.5 Problems Using Driver 59

1 Overview

1.1 Outline

The BTP-M300 is a 9-pin serial impact dot matrix receipt printer offering high quality, high speed, and stable performance. It is widely used in POS system, kitchen and finance applications, etc.

The BTP-M300 can be connected with other devices via USB, parallel, serial, and Ethernet interface, and it can provide drivers for operating systems such as Windows 98 /NT4.0 /2000 /2003 /XP /Vista.

1.2 Features

- Support bi-directional printing.
- Support two color printing
- Support two interfaces
- Support bi-directional carriage return
- Supports multi-layer paper
- Easy paper loading
- Easy operation and maintenance
- Supports marked paper and continuous paper for printing
- Compatible with paper in various widths
- Automatic paper cut
- Cash drawer control connector
- Communication interface optional
- Printer firmware updated online.

2 Specifications

2.1 Main Specification

<table>
<tr><th colspan="2">Item</th><th colspan="5">Specification</th></tr>
<tr><td colspan="2">Print mode</td><td colspan="5">9-pin serial impact dot matrix</td></tr>
<tr><td colspan="2">Print speed</td><td colspan="5">Max. 4.7LPS (400 dots/line)</td></tr>
<tr><td colspan="2">Print width</td><td colspan="5">Max. 400 (half dots)/200(full dots)</td></tr>
<tr><td rowspan="3">Paper</td><td>Paper type</td><td colspan="5">Continuous paper or marked paper</td></tr>
<tr><td>Single layer</td><td colspan="5">Paper width: 80±0.5mm, 76±0.5mm, 69.5±0.5mm, 57.5±0.5mm;
Paper thickness: 0.06—0.085mm</td></tr>
<tr><td>Multi-layer paper (1 original+1 copies)</td><td colspan="5">Paper width: 80±0.5mm, 76±0.5mm, 69.5±0.5mm, 57.5±0.5mm;
Paper thickness: 0.05—0.08mm (single page), total thickness≤0.14 mm (total pages)</td></tr>
<tr><td rowspan="6">Character</td><td>Character type</td><td colspan="5">Font A: 9×9 Font B: 7×9 Chinese: 16×16</td></tr>
<tr><td rowspan="4">Characters/line (Default)</td><td></td><td>80/76mm</td><td>69.5mm</td><td>57.5mm</td></tr>
<tr><td>Font A</td><td>33 CPL</td><td>30 CPL</td><td>25 CPL</td></tr>
<tr><td>Font B</td><td>40 CPL</td><td>36 CPL</td><td>30 CPL</td></tr>
<tr><td>Chinese</td><td>22 CPL</td><td>20 CPL</td><td>16 CPL</td></tr>
<tr><td>Character size (Default)</td><td colspan="5">Font A: 1.6×3.1mm Font B: 1.2×3.1mm
Chinese: 2.7×2.9mm</td></tr>
<tr><td>Characters/inch (Default)</td><td colspan="5">Font A: 13.3CPI Font B: 16CPI
Chinese: 8.9CPI</td></tr>
<tr><td rowspan="3">Data buffer</td><td>Receive buffer</td><td colspan="5">64K/4KB/40bytes</td></tr>
<tr><td>NV bit image data area</td><td colspan="5">128KB</td></tr>
<tr><td>User NV memory</td><td colspan="5">8KB</td></tr>
<tr><td colspan="2">Ribbon specification</td><td colspan="5">ERC-38 ribbon cartridge</td></tr>
<tr><td colspan="2" rowspan="3">Ribbon lifetime</td><td>ERC-38 (P)</td><td colspan="4">4,000,000 characters</td></tr>
<tr><td>ERC-38 (B)</td><td colspan="4">3,000,000 characters</td></tr>
<tr><td>ERC-38 (B/R)</td><td colspan="4">Black: 1,500,000 characters
Red: 750,000 characters</td></tr>
<tr><td colspan="2">Communication interface</td><td colspan="5">USB / IEEE1284/RS-232 / Ethernet interface</td></tr>
<tr><td colspan="2">Cash drawer connector</td><td colspan="5">1～2 cash drawers</td></tr>
<tr><td colspan="2">Power supply</td><td colspan="5">DC 24V±5% average current 1.5 A</td></tr>
</table>

Item		Specification
Reliability	Printing Mechanism lifetime	10,000,000 lines
	Print head lifetime	150,000,000 characters
	Cutter lifetime	800,000 cuts (paper thickness:0.08mm, standard test condition)
Operating temperature and humidity		5～45℃,20～90%RH (40℃)
Storage temperature and humidity		-40～60℃,20%～93%RH (40℃)
Dimensions		160mm(W)×245mm(D)×154mm(H)
Weight		3.0kg

2.2 Cutter specification

Item	Parameters	Remark
Cut method	Sliding blade	
Cut time	600ms	Time for one cutter action
Cut interval	2s	30 cuts/minutes (Max.)
Adapt Paper	0.065～0.1mm	Normal paper with same thickness
Operation voltage	24VDC	
Max. repose current	1.5A	24VDC
Cutter lifetime	1800,000 cuts	Paper thickness:0.08mm, standard test condition

2.3 Paper Specification

2.3.1 Continuous paper

1) Normal paper

- Paper width:

  80±0.5mm / 76±0.5mm / 69.5±0.5mm / 57.5±0.5mm
- Max. paper roll O/D: Φ83mm
- Paper roll core: ID Φ12.5mm; OD Φ16mm
- Paper thickness: 0.06 - 0.085mm

2) Multi-layer paper (1 original +1 copy)

- Paper width:
  80±0.5mm / 76±0.5mm / 69.5±0.5mm / 57.5±0.5mm
- Paper thickness:
  0.05 - 0.08mm (single layer), total thickness≤0.14 mm (multi-layer)

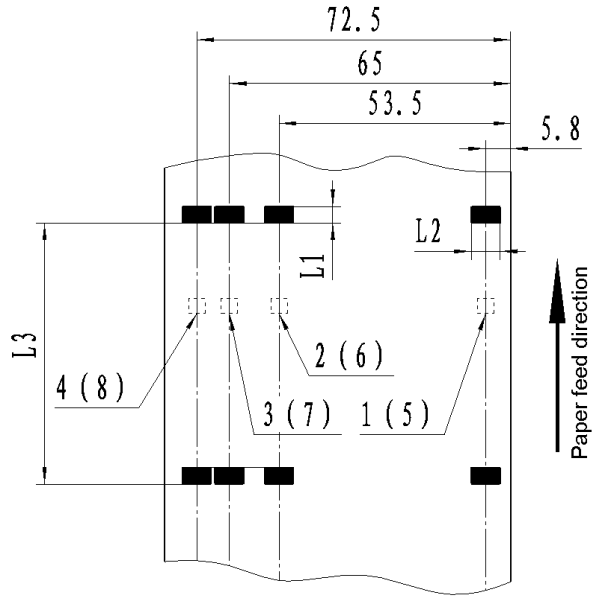
Caution:

✧ Use the multi-layer paper (1 original + 1 copy) with the original layer thicker than its under-layer.

2.3.2 Marked paper

Besides the requirements of the continuous paper, marked paper should meet the following requirements:

1) Mark position
   - BTP-M300 printer reserves 8 positions for mark sensor, which can detect marks on either the front side or the reverse side of paper. Position of the sensor is as shown in the figure.
   - Mark sensor can be equipped and adjusted according to user's needs. The default position of mark sensor is on the right side of paper (paper feed direction) as shown in the figure to detect the mark on the front side.



2) Following parameters are recommended for marks:
   - Mark width (L1): 5mm≤L1≤10mm
   - Mark height (L2): 12mm≤L2≤ paper width
   - Distance between marks (L3): 20mm≤L3≤500mm
3) The black mark's reflectivity should be ≤ 15%, and the other part's reflectivity should be ≥ 85%. There should be no image between the two marks, such as the advertisement etc.

Caution:

✧ Do not paste the paper to the core.

2.3.3 Recommended paper

Oji paper mfg. Co., Ltd.: Register paper

Caution:

✧ To ensure quality print and normal lifetime of print head and cutter, please use recommended paper or its equivalent;

✧ Do not stick paper to the paper roll core shaft.

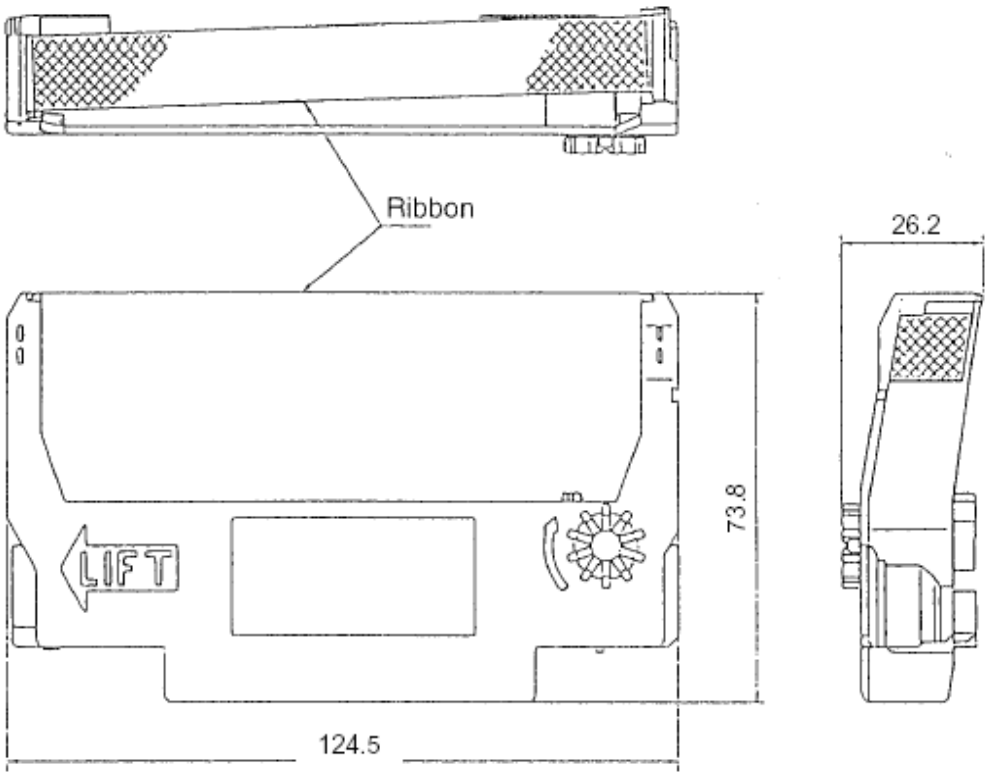
2.4 Ribbon specification

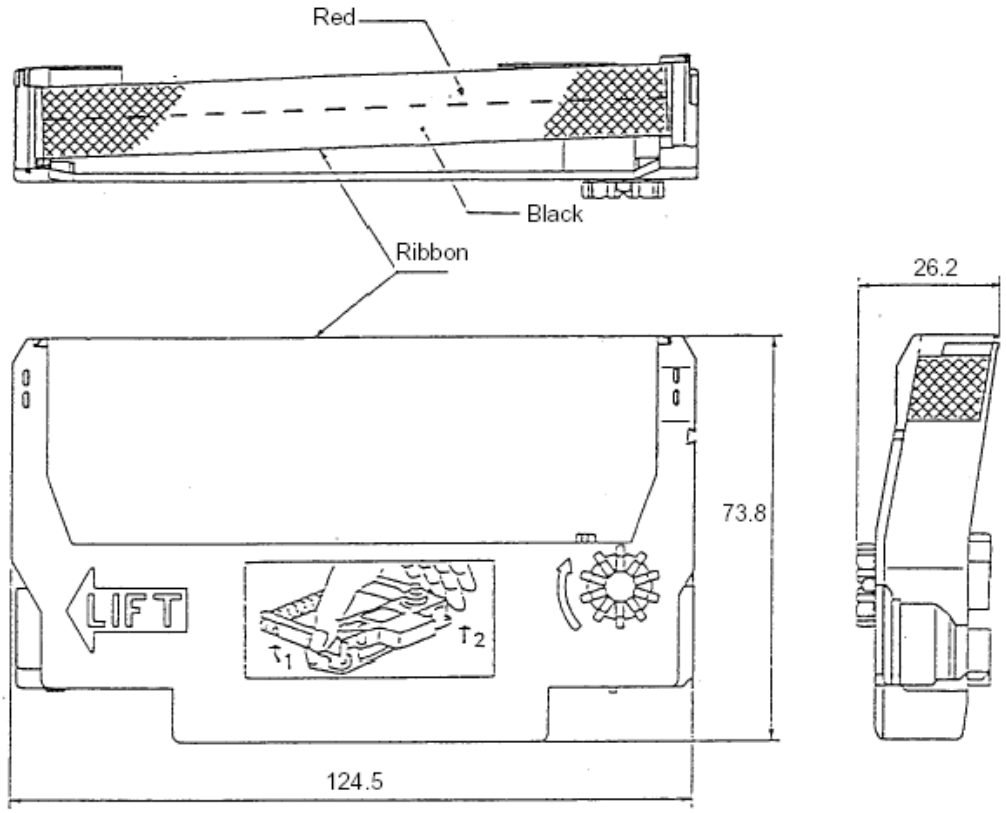
2.4.1 Ribbon model

Model	Color
ERC-38(P)	Purple
ERC-38(B)	Black
ERC-38(B/R)	Black / Red

2.4.2 Dimensions

Unit:mm



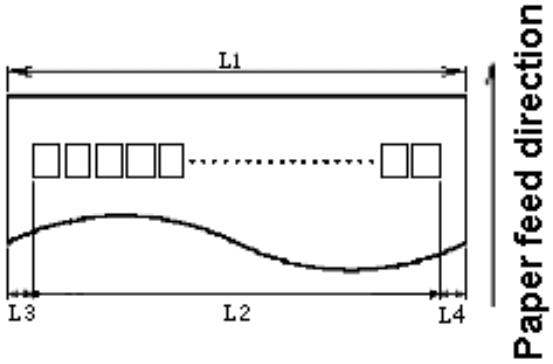


Caution:

✧ Please use the recommended original ribbon to ensure the printing quality and lifetime of the printer transmission part.

2.5 Print and Tear-off Position

2.5.1 Print position



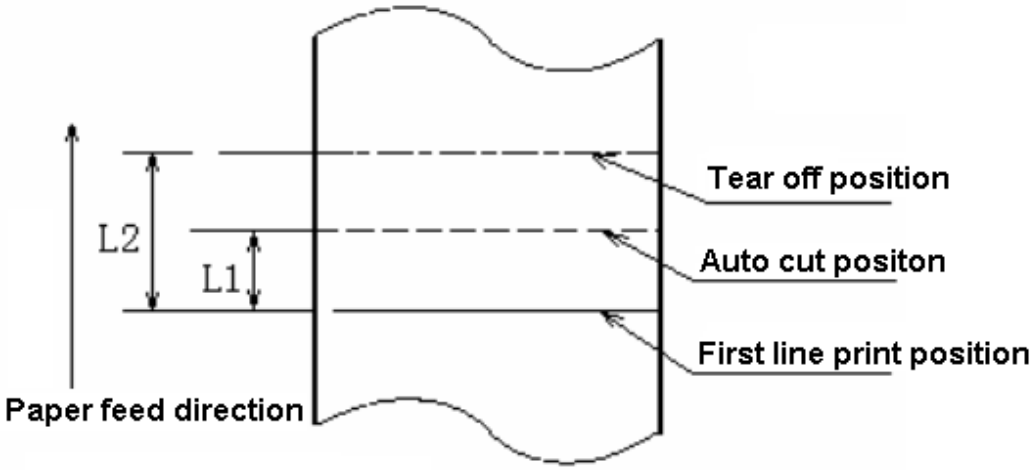
L1: Paper width L2: Print width

L3: Print left margin L4: Print right margin

According to the different paper width of the L1, the print width (L2) and the left/right margin (L3/L4) should be changed as below:

Paper width (L1)	Print width (L2)	Left margin (L3)	Right margin (L4)
80mm	63.4mm	6.8mm	9.8mm
76mm	63.4mm	6.8mm	5.8mm
69.5mm	57mm	6.8mm	5.7mm
57.5mm	47.5mm	6.8mm	3.2mm

2.5.2Tear-off position

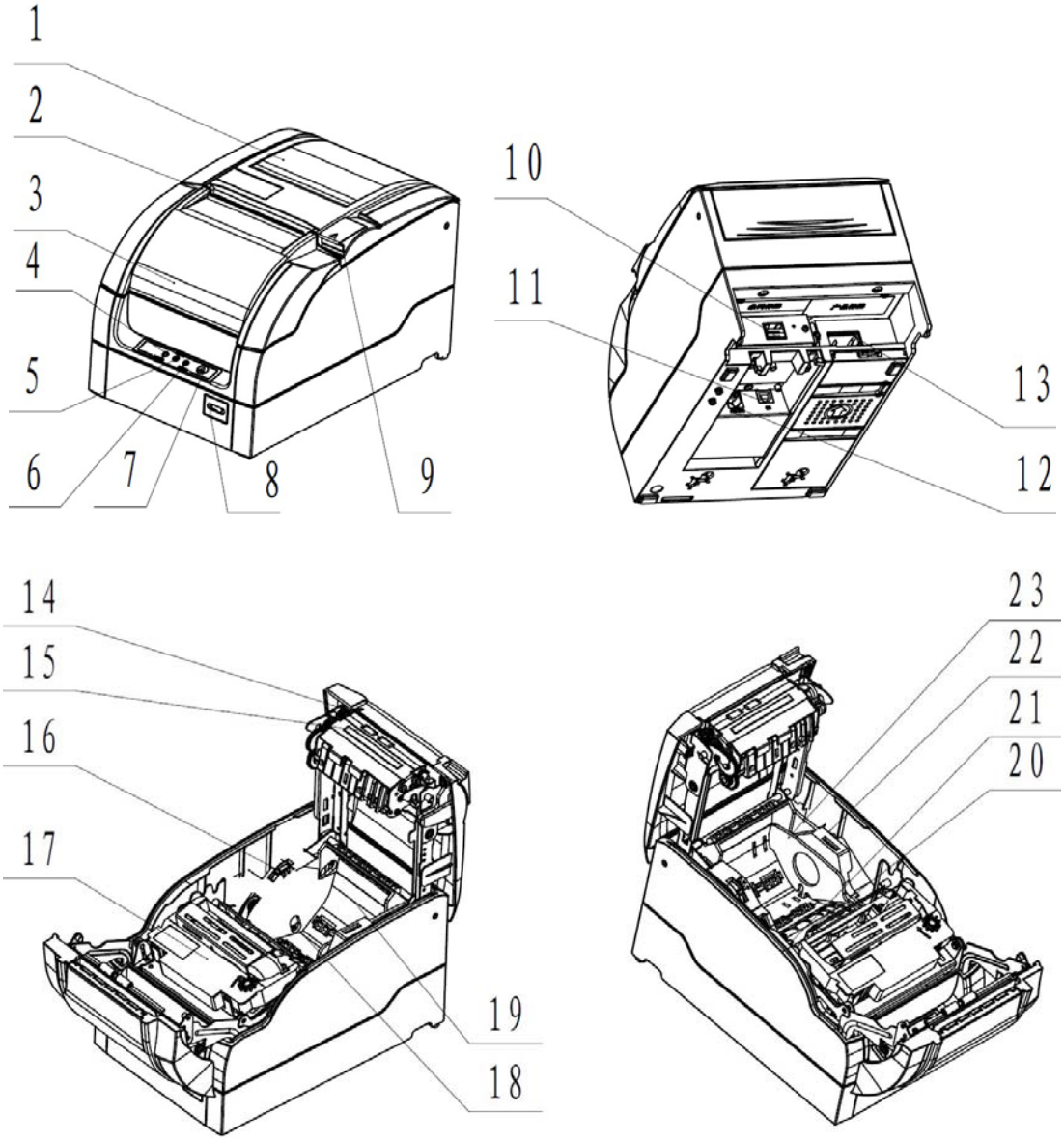


L1: About 21.5mm

L2: About 34mm

3 Outline and Parts

3.1 Outline and Parts



1—Rear cover

2—Tear-off bar

3—Front cover

4—POWER LED

5—ERROR LED

6—PAPER LED

7—FEED button

8—Power switch

9—Latch for opening rear cover

10—Horizontal pluggable communication interface (optional)

11—Vertical pluggable communication interface (optional)

12—Cash drawer connector

13—Power connector

14—Cutter sliding Blade

15—Platen roller

16—Adjusting lever of paper near end sensor

17—Ribbon

18—Paper near end sensor (optional)

19—Paper cabinet

20—Paper end sensor

21—Mark sensor (optional)

22—Sensor on rear cover

23—Paper guide

Functions of parts:

1) POWER LED(4)

Indicate power status (on/off). When turning on printer, POWER LED is always on; when turning off printer, POWER LED is always off.

2) ERROR LED(5)

Indicate all error status. Under normal conditions, ERROR LED is always off; under error conditions, ERROR LED will flash

3) PAPER LED(6)

Indicate paper status of the printer. Under normal conditions,

PAPER LED is always off; under paper end or paper near end conditions, it is always on

4) FEED button(7)

- Press the button while turning on the printer, a self-test page will be printed.
- In the normal status, press the FEED button for a short time, the printer will feed paper one line at a time. Under continuous paper mode, hold the FEED button, the printer will feed paper constantly. Under marked paper mode, it will feed paper to the next mark.
- In HP error status, hold the FEED button for a long time, the printer will recover from HP error and start carriage verify check.
- In cutter error status, hold the FEED button for a long time, the printer will recover from cutter error and start cut.
- In error status other than described above, press FEED button, the printer will have no action.

5) Power switch(8)

Turn on/off the printer. "O" is to turn off the printer; "—" is to turn on the printer.

6) Latch for opening rear cover(9)

Pull the latch to open the rear cover.

7) Paper near end sensor(18)

Detect the status of paper roll. If paper near end, the PAPER LED will be on, the ERROR LED will flash and indicate user to replace paper. The printer will continue printing until the paper is out.

8) Paper end sensor(20)

Paper end sensor is used to detect the paper status (paper presence/paper end).

9) Mark sensor(21)

When using mark paper, mark sensor is used to detect mark.

10) Rear cover sensor(22)

Rear cover sensor is used to detect the status of the rear cover (open / close).

11) Paper guide(23)

There are three long slots at the bottom of paper cabinet. The paper guide could be plugged in different slot which is suitable for different wide paper, such as 76.5±0.5 mm, 69.5±0.5 mm, 57.5±0.5 mm. If paper guide is not been used, the printer is suitable for 80±0.5 mm paper width.

Caution:

✧ The paper guide is a necessary part of the printer for adjusting paper width, please keep it carefully.

3.2 LEDs and Buzzer

The table below shows LEDs and buzzer in error status:

Error	Buzzer	ERROR LED	PAPER LED
HP error	Interval beep	Interval flash	Off
Print head overheated	Six beeps	Six times	Off
Abnormal input voltage	Five beeps	Five times	Off
Cutter error	Four beeps	Four times	Off
Rear cover up	Three beeps (S-S-S)	Three times (S-S-S)	Off
Front cover up	Three beeps (S-S-L)	Three times (S-S-L)	Off
Paper end	Two beeps	Two times	On
Paper near end*		One time	On
Pause to wait		Off	Flash

Caution:

✧ The printer checks the print head temperature via thermal resistor. If the print head is extremely overheated, the printer will stop printing.

4 Installing

4.1 Unpacking

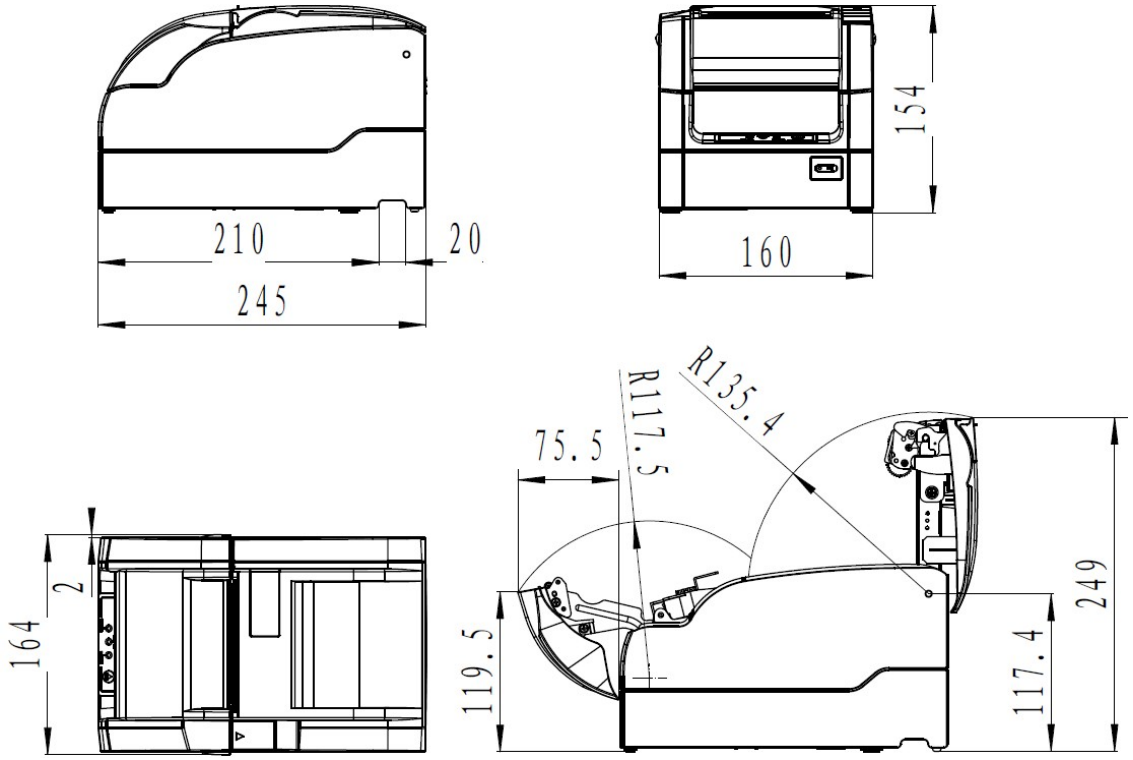
Unpacking the package, check all the items according to the packing list. If there is any shortage or damage, please contact your local dealer or the manufacturer.

4.2 Mounting the Printer

BTP-M300 has two mounting modes: horizontal mounting and wall-mounting.

4.2.1 Horizontal mounting

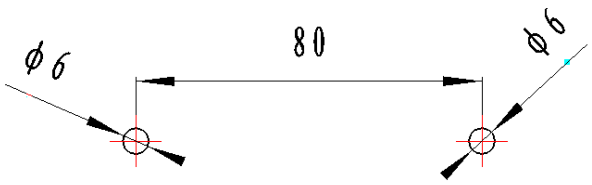
The printer should be mounted on a flat and stable surface. For operation and maintenance, we suggest user reserve space as below to ensure the printer's reliability and easy operation.



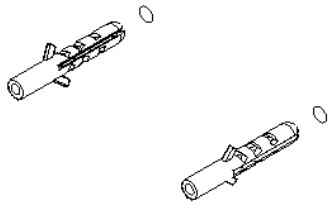
4.2.2 Wall-mounting (optional)

Wall-mounting is an optional function. The method of wall-mounting is shown as below.

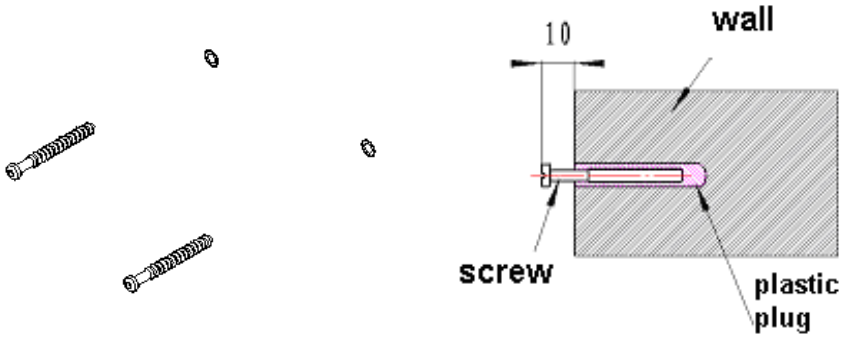
1) Two 50mm-deep holes should be made with a hammer-drill in a suitable wall, of the sizes shown below.



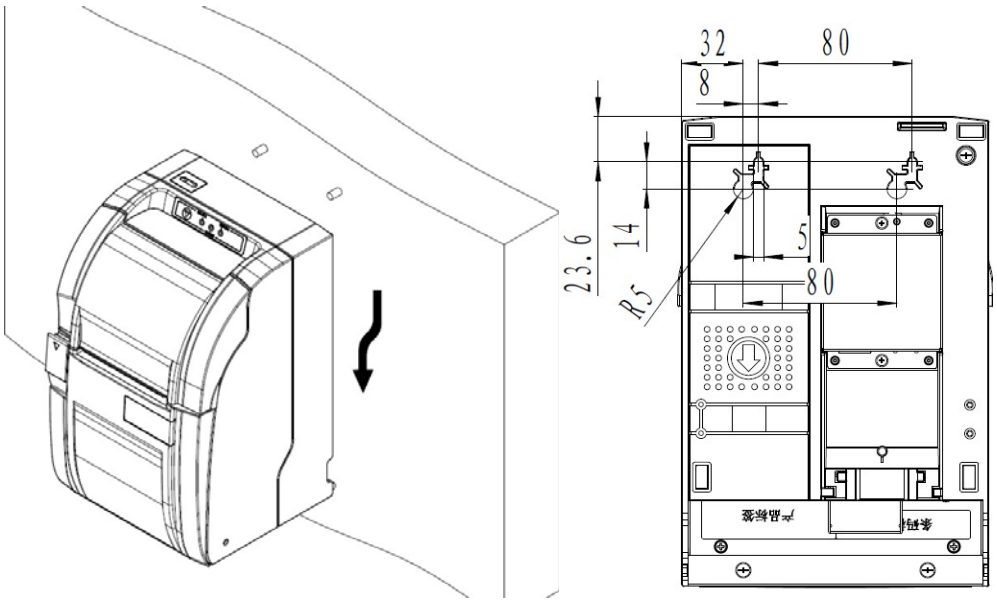
2) Insert plastic plugs and screws into Φ6 holes and ensure that the end sides of the plugs are flush with the surface of the wall.



3) Put the screws into plastic plugs with screwdriver, keeping a distance of 10mm between screw head and wall side.



4) Install the printer according to the arrowhead.

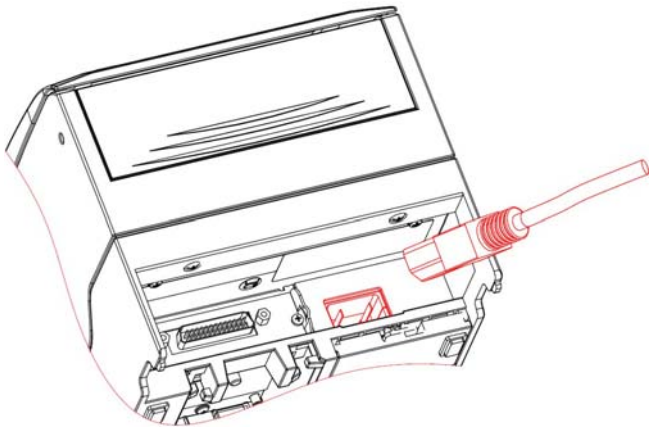


⚠ Caution:

- ✧ Under the wall-mounting mode, the printer must be oriented upwards.
- ✧ The hook on the wall should be firmly positioned to avoid printer damage or risk of falling.

4.3 Connecting power cord

1) With the flat side of the power adapter's cable connector facing downward, insert the cable connector into the power connector on the rear of the printer.
2) Turn on the input power source of the adaptor.

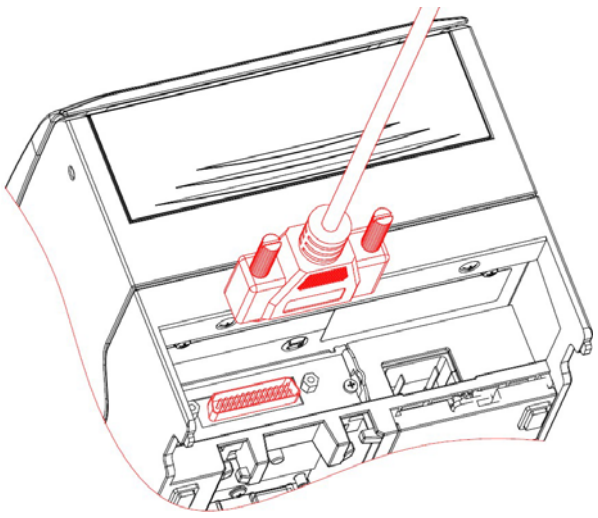


Caution

- ✧ Use only the supplied power adapter or other equal model.
- ✧ When connecting or disconnecting cable connector of the power adapter, you should pull on the connector, not pull on the cable by force.
- ✧ Do not pull on the power adapter cord. Otherwise the cord may be damaged or broken, causing a risk of fire or electric shock.
- ✧ Do not place the power adapter cord near a heating device, otherwise, the cover of the cord may melt, causing a risk of fire or electric shock.
- ✧ When the printer is not used for a long period of time, disconnect the power adapter from the wall outlet for safety.

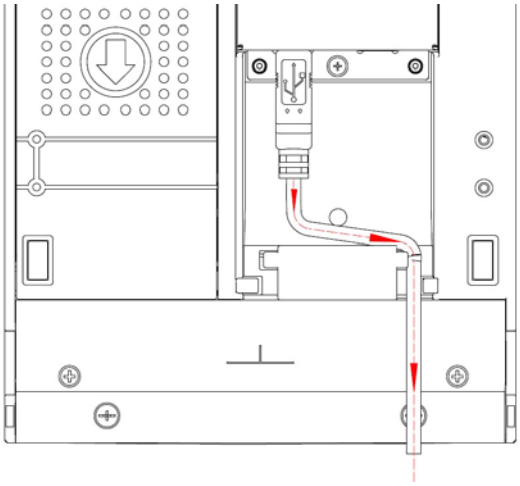
4.4 Connecting optional interface cable

1) Turned off the printer.
2) Put the interface cable into suitable connector and fix it with plug screw (or clip spring).
3) Connect other end of the interface cable to host.



Caution

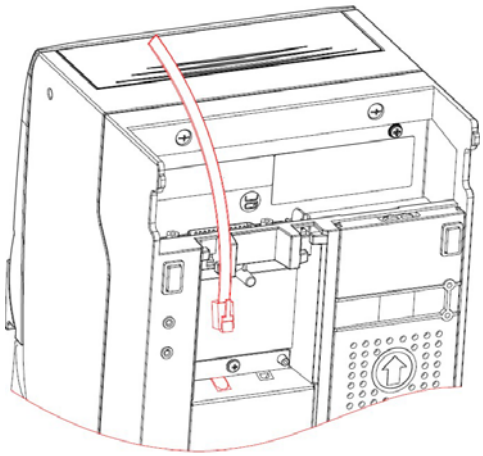
✧ When vertical USB pluggable interface or vertical Ethernet pluggable interface is used, please arrange the cable as following figure:



4.5 Connecting cash drawer

1） Turned off the printer.

2） Insert the cash drawer cable into the cash drawer connector on the rear of printer.

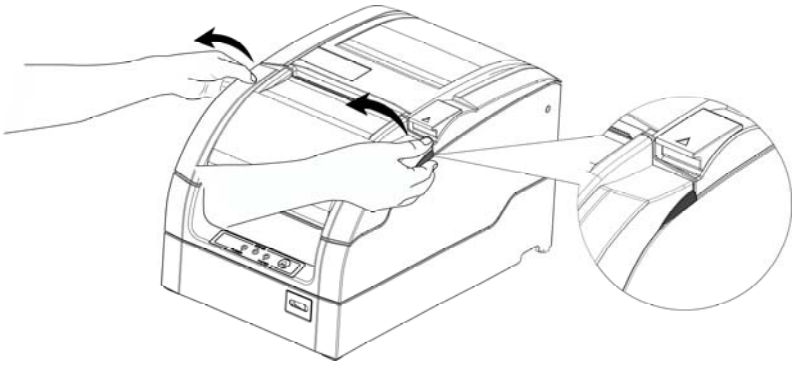


Caution:

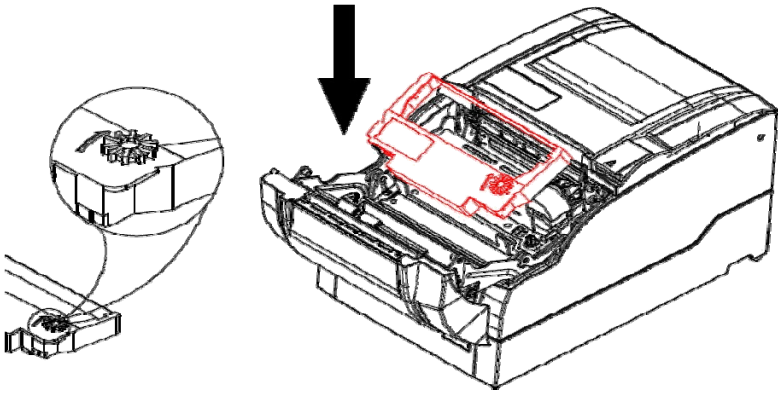
✧ Cash drawer interface can be connected only with a cash drawer device (Do not connect a telephone line and so on).

4.6 Installing Ribbon

1) Pull the bulges on both sides of the front cover to open the front cover as shown in the figure.



2) Ensure that ribbon type is standard ERC-38
3) Turn the ribbon knob for two or three times according to the mark to tighten the ribbon.
4) Refer to the figure to install ribbon to the correct position.



5) Turn the ribbon knob for two or three times according to mark to tighten the ribbon again.

Caution:

✧ The print head will become hot during printing. To avoid harm or injury, please do not replace the ribbon until it has cooled down.

✧ The ribbon should be mounted between print head and paper, without folds or drapes.

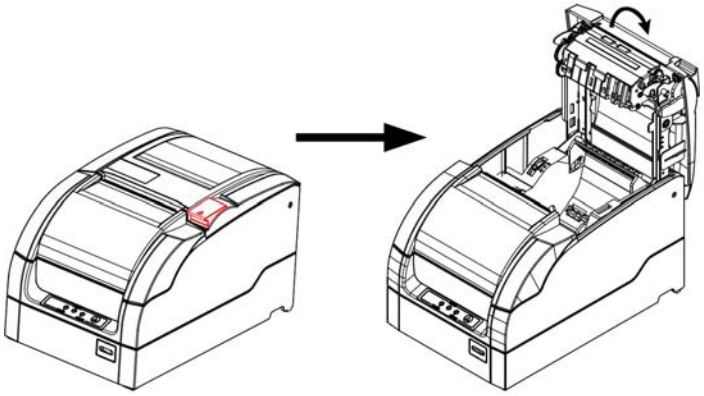
4.7 Loading Paper Roll

4.7.1 Paper type

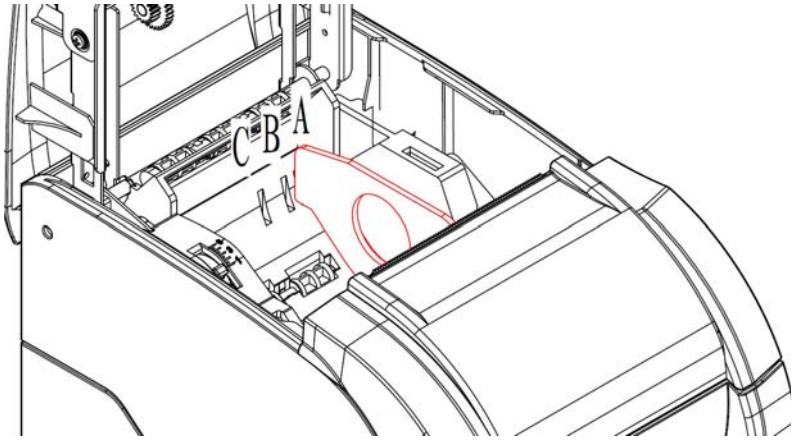
Before loading the paper roll, you should confirm the type of the paper that will be used for printer. The default paper type is continuous paper. If marked paper will be used, please contact your local dealer for assistance.

4.7.2 Loading/replacing paper roll

1） Pull the rear cover latch to open the rear cover of printer.



2） Hold the hole in the paper guide to rotate upward and disassemble it. When using 76mm, 69mm, 57mm width paper roll, user needs to insert paper guide vertically into a suitable location. When using 80mm paper roll, the paper guide will not be used, please keep the paper roll well.

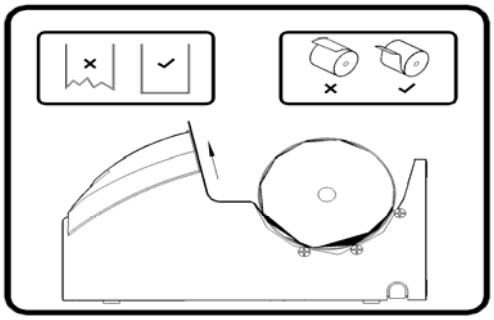


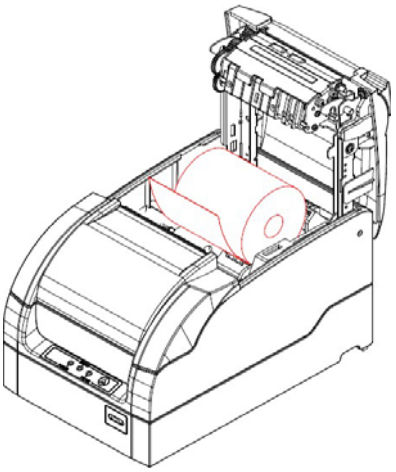
Notes:

With paper guide: A: 76±0.5mm; B: 69.5±0.5mm; C: 57.5±0.5mm

Without paper guide: 80±0.5mm

3） Ensure the paper head is trimmed, and drop the paper roll into the paper cabinet.



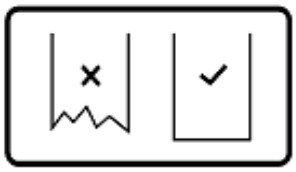


4） Pull out the paper head of paper roll along the paper feeding direction, close the rear cover, and tear off the surplus portion of the paper.

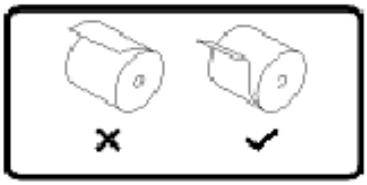
Caution:

✧ User should adjust the paper guide according to the width of paper roll being used.

✧ Paper roll should meet the requirements shown in the following figure:



Trim paper head



Paper load mode

✧ Paper roll should be rolled tightly to eliminate risk of paper jam or other faults.

- ✧ Paper should be loaded in paper cabinet firmly and straight; otherwise, paper auto-load and print will be affected.
- ✧ The edge of the paper head is not allowed to deviate from the paper path.

4.8 Printer self-test

4.8.1 Turn on the printer

1) Ensure the printer is connected with power cable.
2) Press "—" of the power switch to turn on and initialize the printer.

4.8.2 Print self-test page

1) Ensure the printer is connected with power cable; sufficient ribbon and paper roll have been loaded.
2) Ensure the printer is powered off.
3) Hold FEED button while pressing "—" of the power switch. After ERROR LED flashes once, release FEED button, and printer will print out configuration information and prompt characters "Press and Release FEED key to print characters" and "Press and Hold FEED key to configure the printer". Then printer enters pause and waiting status, and the paper LED is flashing.
4) Press the FEED button for a short time, the printer will print a second page of character test page; press the FEED button for a long time, the printer will enter into button configuration mode. For detail function and operation method of button configuration mode, please contact your dealer or the manufacturer.

4.9 Installing the Printer Driver

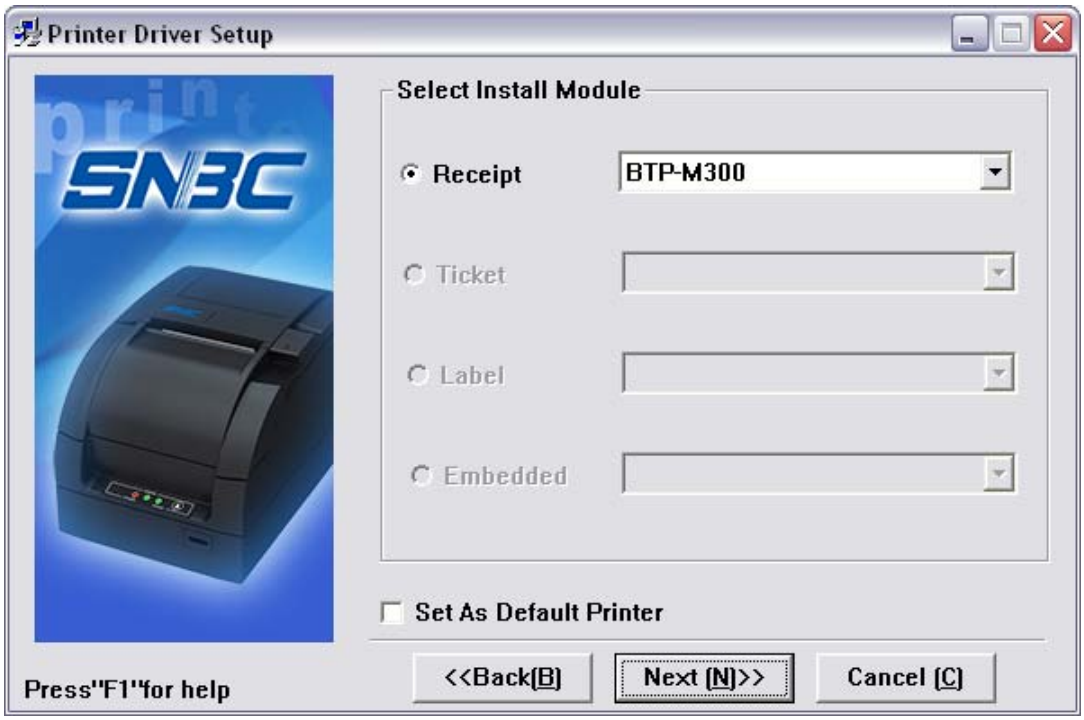
BTP-M300 printer offers the drivers under Windows 2000 / Windows XP / Windows server 2003 / Windows Vista / Windows Server 2008 / Windows 7 / Windows 8 with the installing steps as below.

4.9.1 Typical installation`

Steps for typical installation are as following:

1) Run "Setup.exe" in the driver installing package and read the relative software licensing protocol carefully. If you accept it, please click "I Accept", and then click "Next" button.

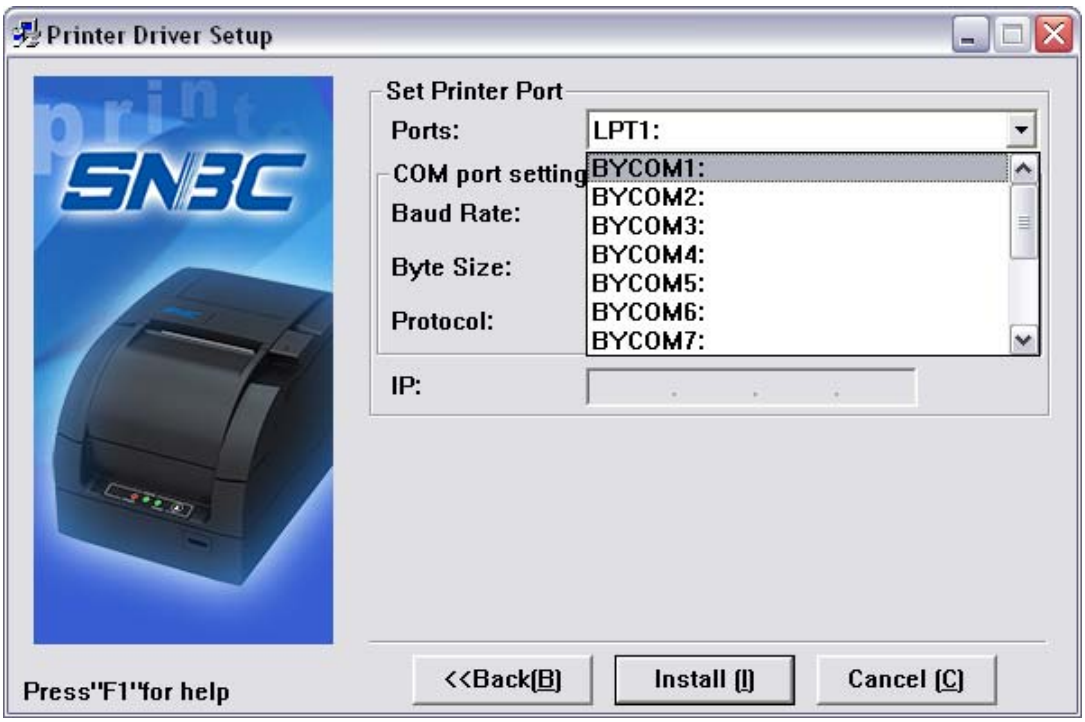
2) Select the model and the name of the printer to be installed. If you want to set it as default printer, please select "Set As Default Printer", and then click "Next" button.



3) Select the setup type "Typical", then click "Next" button.

4) Select the current system type and click "Next" button.

5) Set printer port, and click "install" to complete the installation. The default port is "LPT1", user can select and install port based on actual situation. Please select "BYCOMx" for serial driver (x equals to 1,2,3,4,5,6,7 or 8).

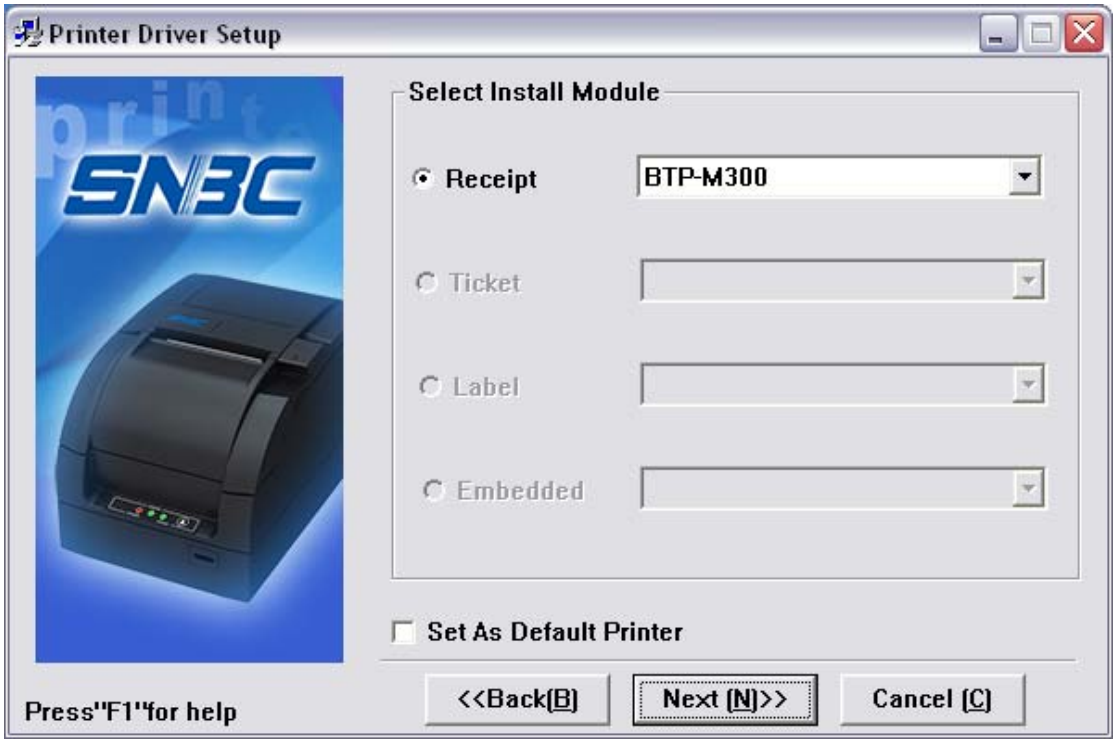


4.9.2 Advanced installation

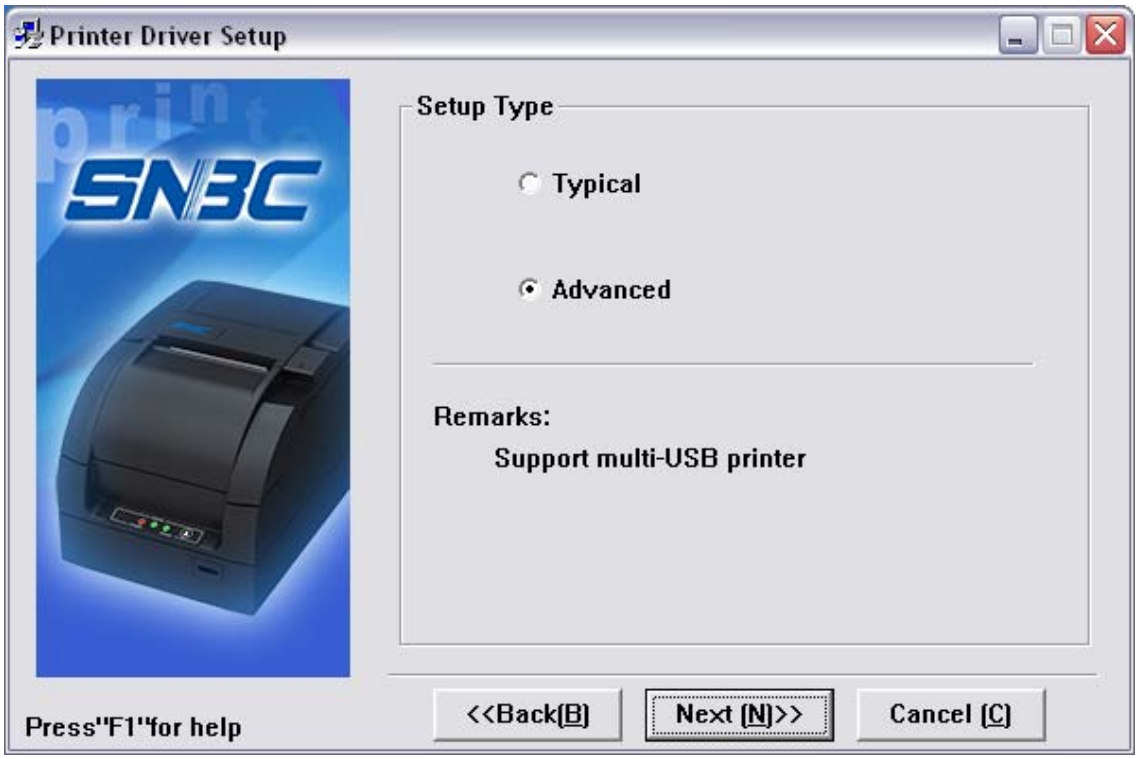
Advanced installation is mainly used for the users who have special requests to the printer driver. Different to typical installation, it supports driver for printer with several USB ports and has the function to set printer driving mode. Steps for advanced installation are as following:

1) Run "Setup.exe" in the driver installing package and read the relative software licensing protocol carefully. If you accept it, please click "I Accept", and then click "Next" button.

2) Select the model and the name of the printer to be installed. If you want to set it as default printer, please select "Set As Default Printer", and then click "Next" button.

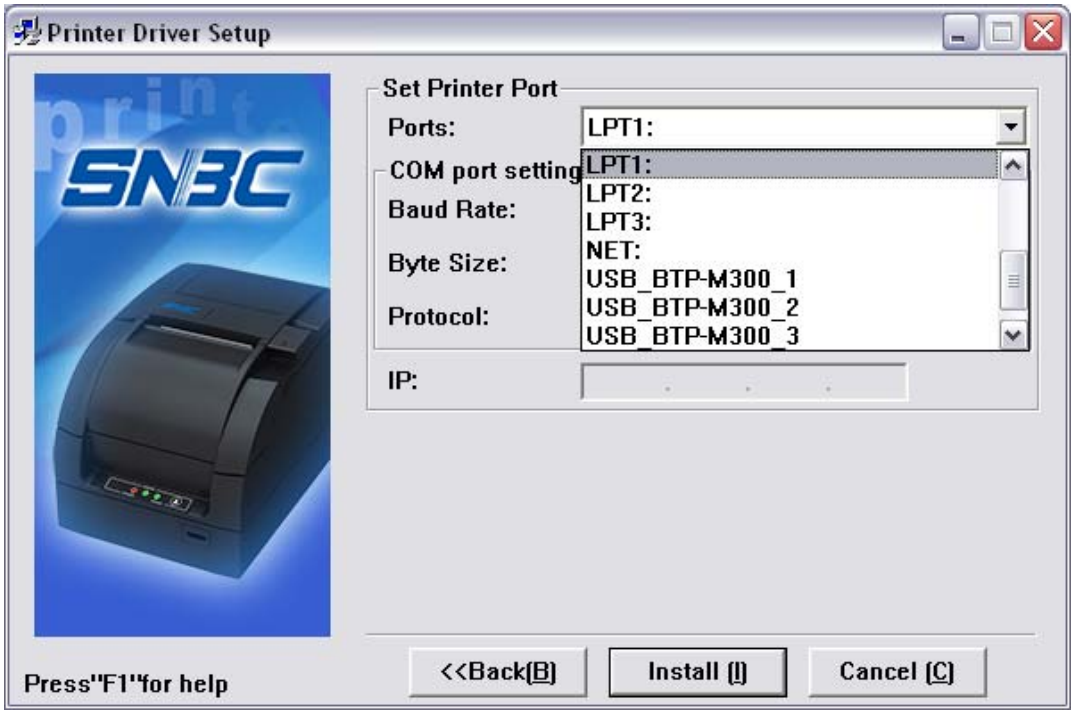


3) Select the setup type "Advanced", and then click "Next" button.



4) Select the current system type and click "Next" button.

5) Set driver mode and printer port of the printer. Default settings are: port is "LPT1" as default port and supporting Multi USB printers. Click "Finish" to end the installation.



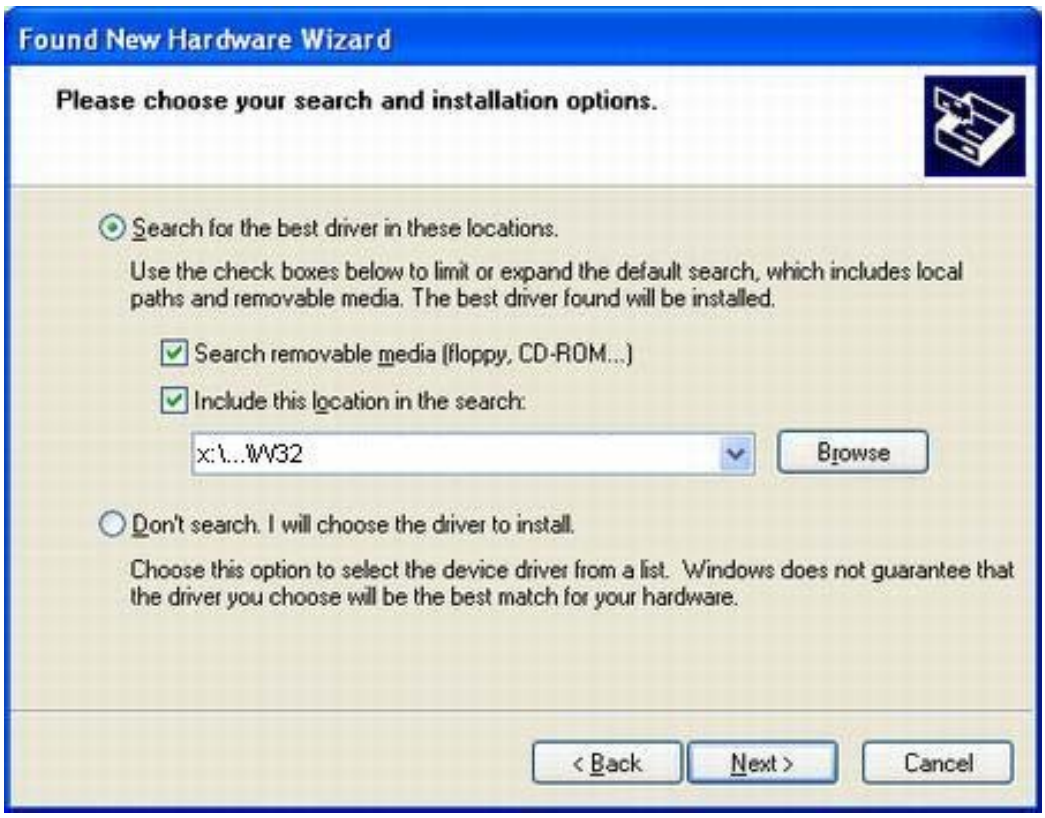
4.9.3 USB device driver installation

If printer is using a USB interface to communicate, before installing the printer driver, the user needs to install the USB device driver first. The steps for installing the USB device driver are as follows: (Take XP system as an example for detailed introduction)

- **Windows XP system**

1) Connect the printer USB interface with idle USB PC interface using USB cable. System will recognize USB device automatically and popup "Add New Hardware Wizard". Select "Install from a list or specific location", and then click "Next".

2) Select "Search for the best driver in these locations" and "Include this location in the search", and then Click "Browse..." to browse the driver document. Default directory is "Driver installing package\USBDRV. Then click "Next".

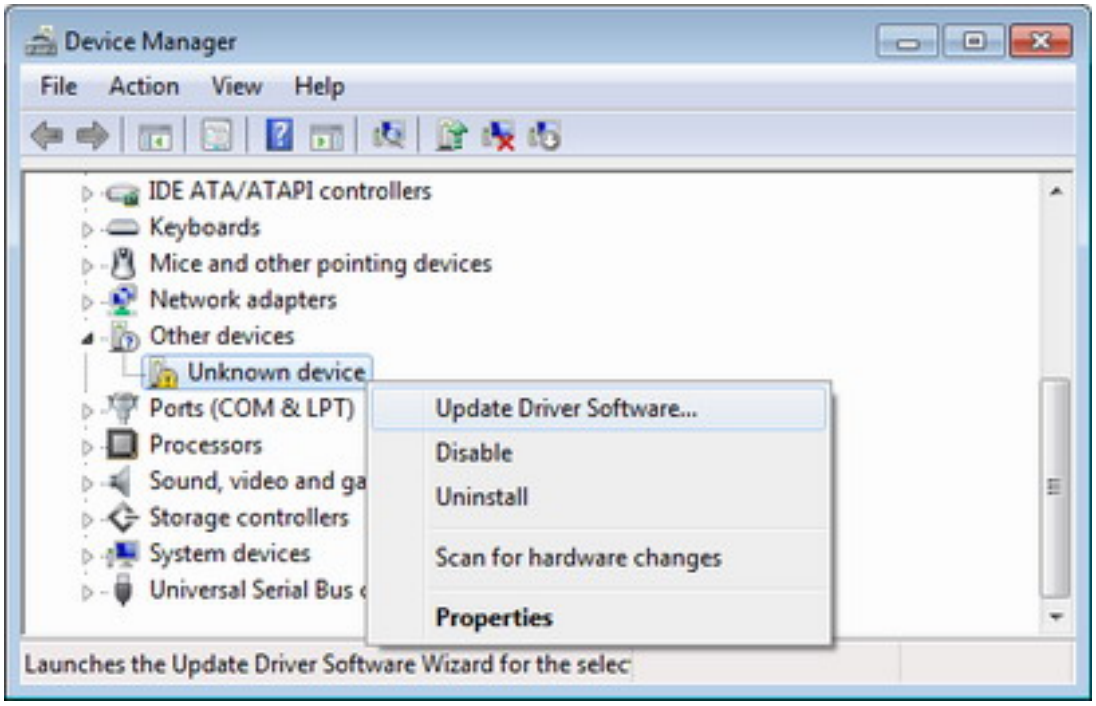


3) Click "Continue Anyway" on the digital signature interface.

4) Click on "Finish" to end the installation.

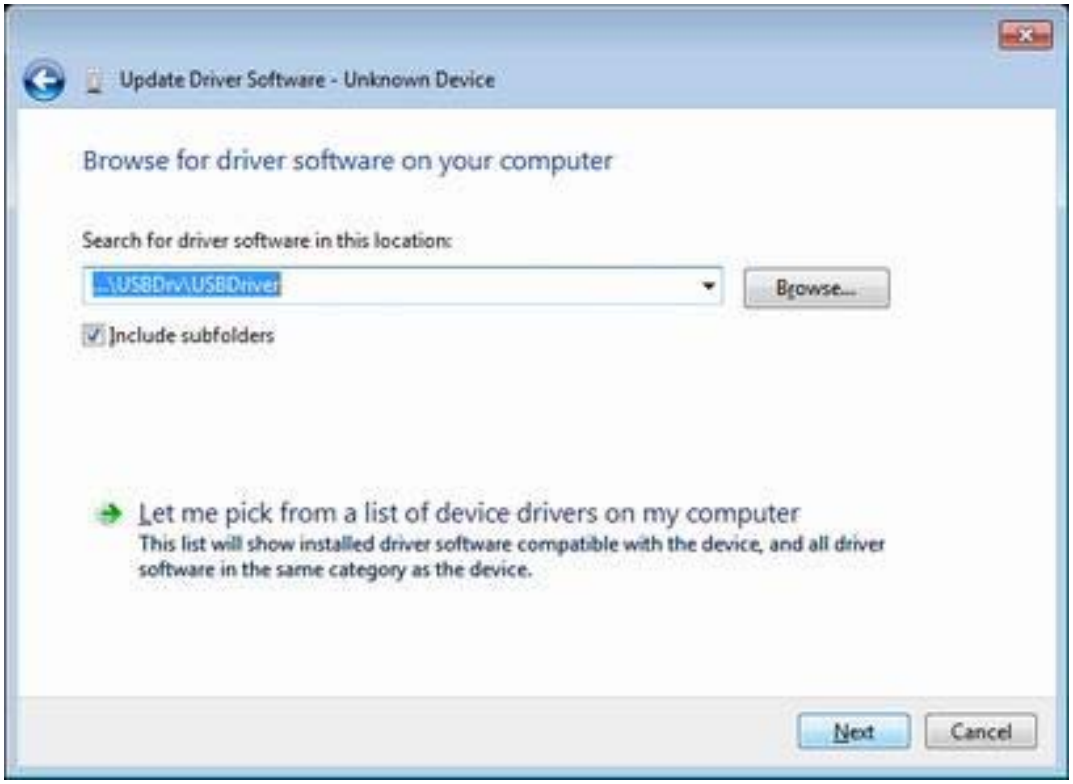
➢ **Windows Vista\Windows 7\Windows 8 system**

1) Connect USB interface of the printer with idle USB interface of the PC Using USB cable. Click "Start" - "Control Panel" - "System" - "Device Manager", select "Unknown device" in "Other devices" and right-click "unknown device", then select "Update Driver Software". Please refer to the following figure:

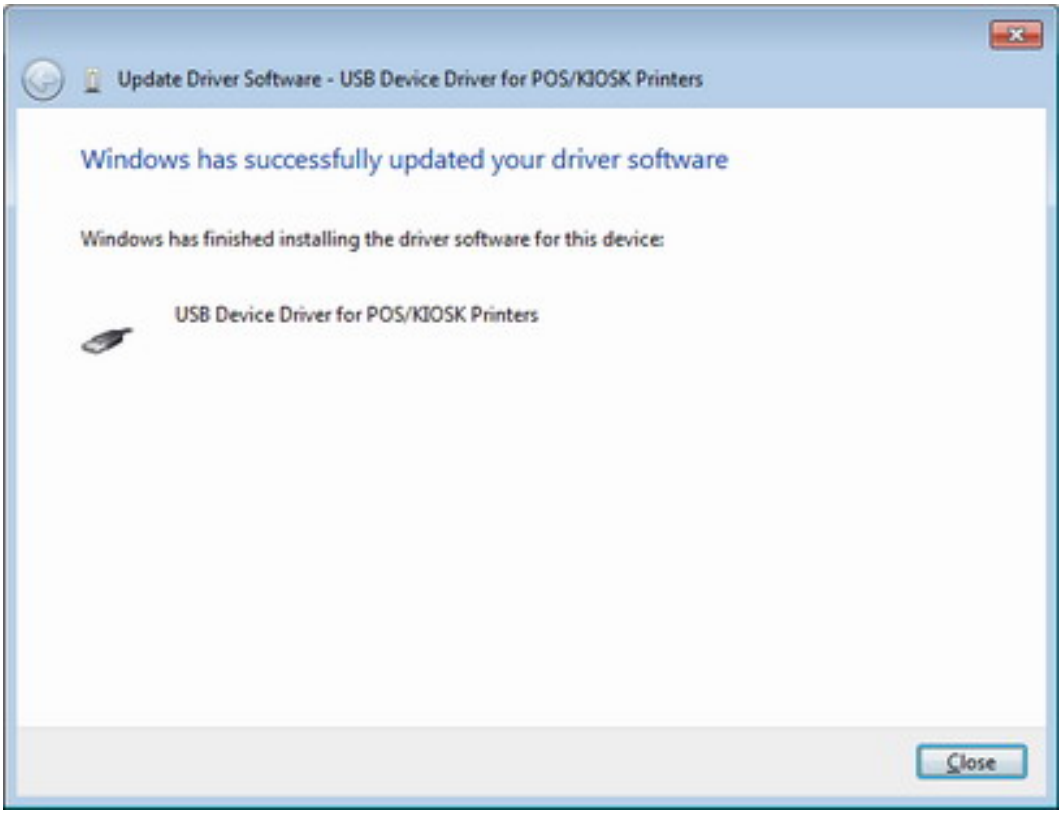


2) Click "Browse my computer for driver software" as following figure:

3) Click the "Browse" button to find the driver through browser. Default directory of the 32-bit system is: Setup_BTP-M300 V1.0\USBDrv\USBDriver; default directory of the 64-bit system is: Setup_BTP-M300 V1.0\USBDrv\USBDriver_x64. Then click "Next". Please refer to the following figure:



4) Click "Close" to complete the installation of USB driver.



➢ **Windows 2000 system**

1) Connect USB interface of the printer with idle USB interface of the PC Using USB cable. System will recognize USB device automatically and popup "Add New Hardware Wizard", and then click "Next".
2) Select "Search for the best driver for your device", and then click on "Next"
3) Select "Specify a location", and then click "Next".
4) Click "Browse" button to browse the driver program. Default directory is "Drivers installing package\USBDRV.
5) The wizard will indicate the device driver's name that have found. Then click "Next"
6) Click "Yes" on the digital signature interface.
7) Click "Finish" to end the installation.

➢ **Windows Server 2003 system**

1) Connect USB interface of the printer with idle USB interface of the PC Using USB cable. System will recognize USB device automatically and popup "Add New Hardware Wizard". Select "Install from a list or specific location", and then click "Next".
2) Select "Search for the best driver in these locations" and "Include this location in the search", then Click on "Browse..." to browse the driver program. Default directory is "Driver installing package\USBDRV. Then click "Next".
3) Click "Continue Anyway" on the digital signature interface.
4) Click "Finish" to end the installation.

Caution:

✧ For the Windows XP and Windows Server 2003 system, if other USB interfaces of host are connected with the printer USB interface for the first time, System will also popup "Add New Hardware Wizard" after recognized the USB device. If the system has already been installed with the USB device driver as the above steps, you can select "Automatic installation" and click "next", and the wizard will search driver automatically, then the digital signature interface will pop-up. Click on "Yes", and click "Finish" to finish the installation.

4.10 How to Use the Driver

After installing the driver, you can print all characters and images in WORD, EXCEL or other file in Windows programs, That is ''What You See Is What You Get''. In order to print normally, you should set the page and select parameters properly.

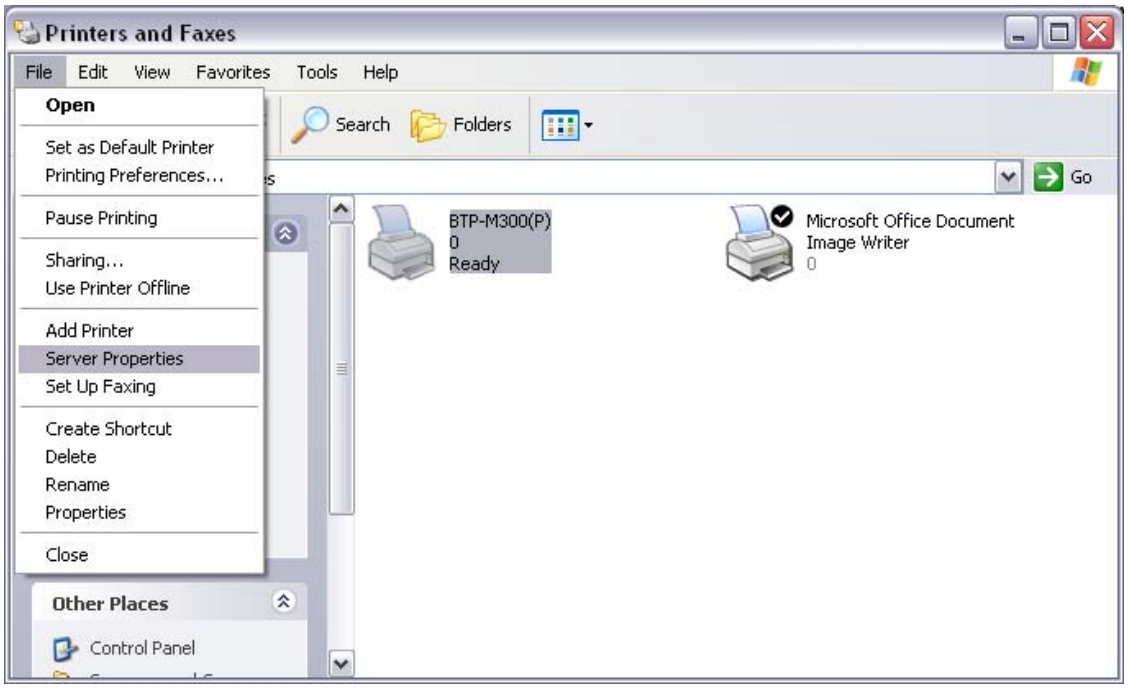
4.10.1 User-defined page

If the page size defined by the driver can not meet user's requirement, user can define the page size; under Windows 2000/ Windows XP/ Windows server 2003/Windows Vista/Windows 7/ Windows 8, user cannot define page size via page settings. The following steps introduce how to define page size (take Windows XP system as an example):

1) Ensure the system running normally.
2) Click "Start" button.
3) Click "Printers and faxes" in "Settings" item; or first click "Control panel" button, and then click "Printers and other

hardware" in "Control panel", next click "Printers and faxes" button.

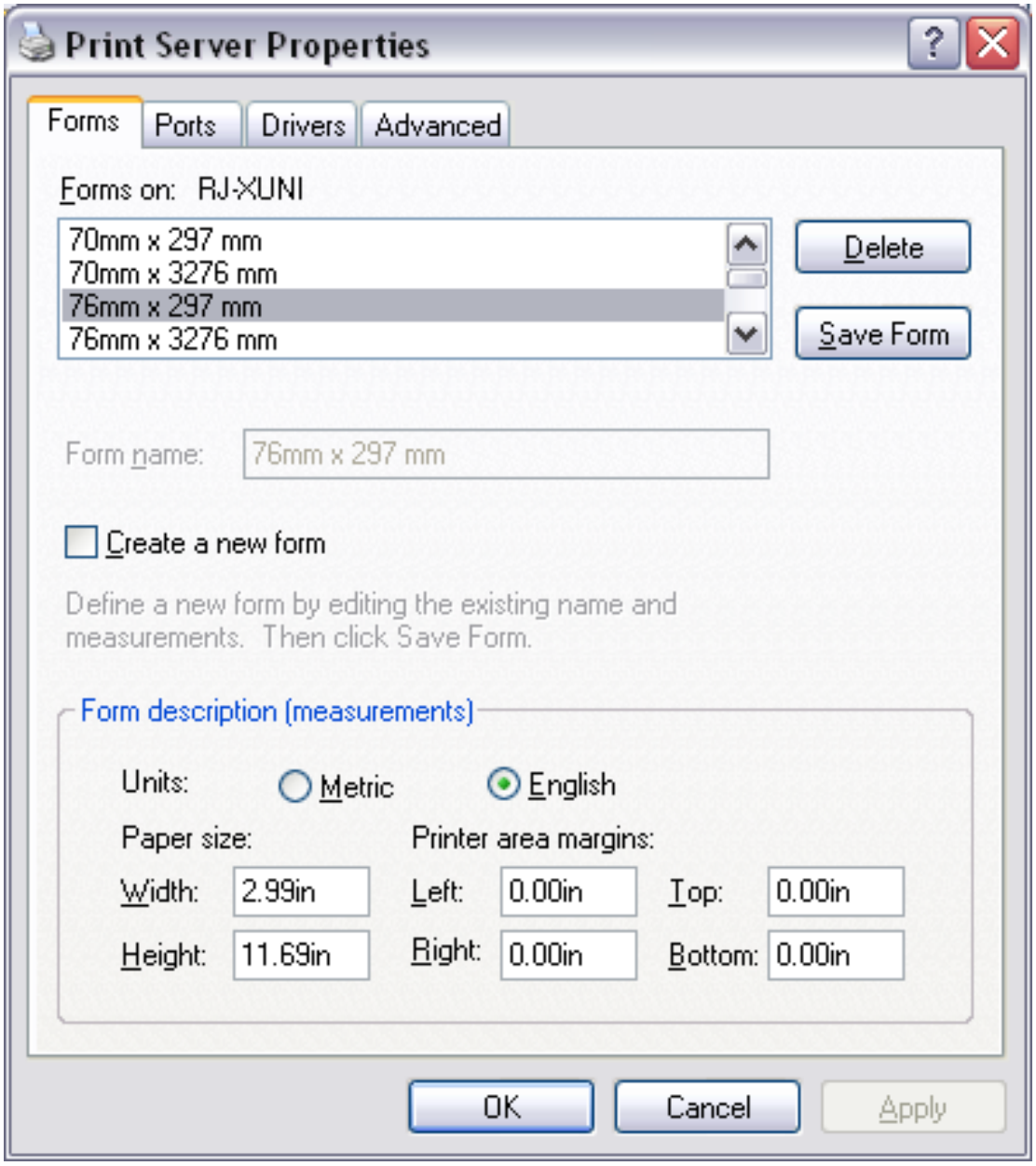
4) After selecting BTP-M300, click "File" menus, then click "Server Properties" submenus



5) In "Forms" item, select "Create a new form".

6) Define a name of user-defined paper in "Form name".

7) Take metric CM as measurement units. Define paper width, length, right/left and up/down margin of the printing area according to user's own need.



8) Click "Save Form" button to save the form.

9) Click "Apply" button to finish paper self-definition

Caution:

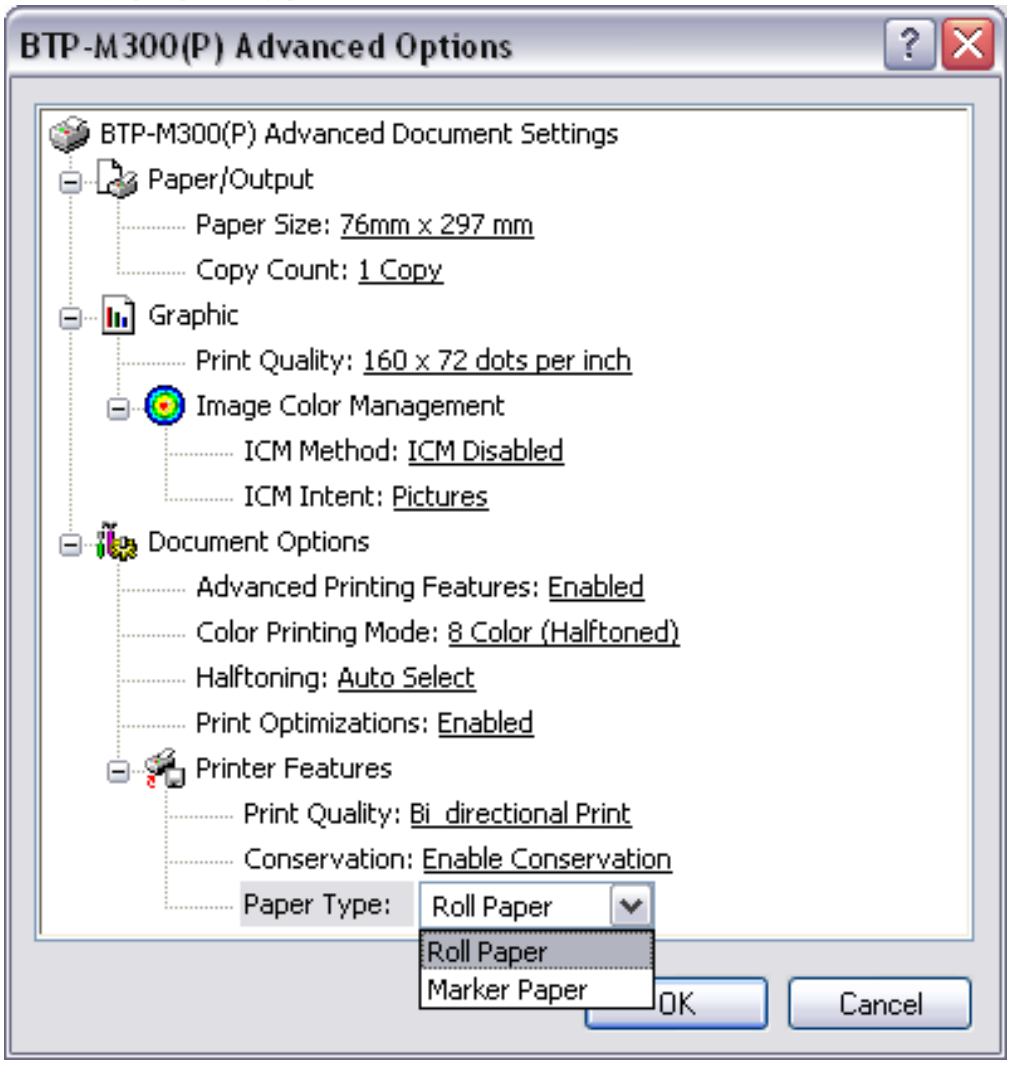
✧ Before setting user-defined page, please ensure that the printer driver has been installed properly.

✧ In application, you can select the page in varieties of official software such as WORD, EXCEL and so on.

4.10.2 Parameter explanation

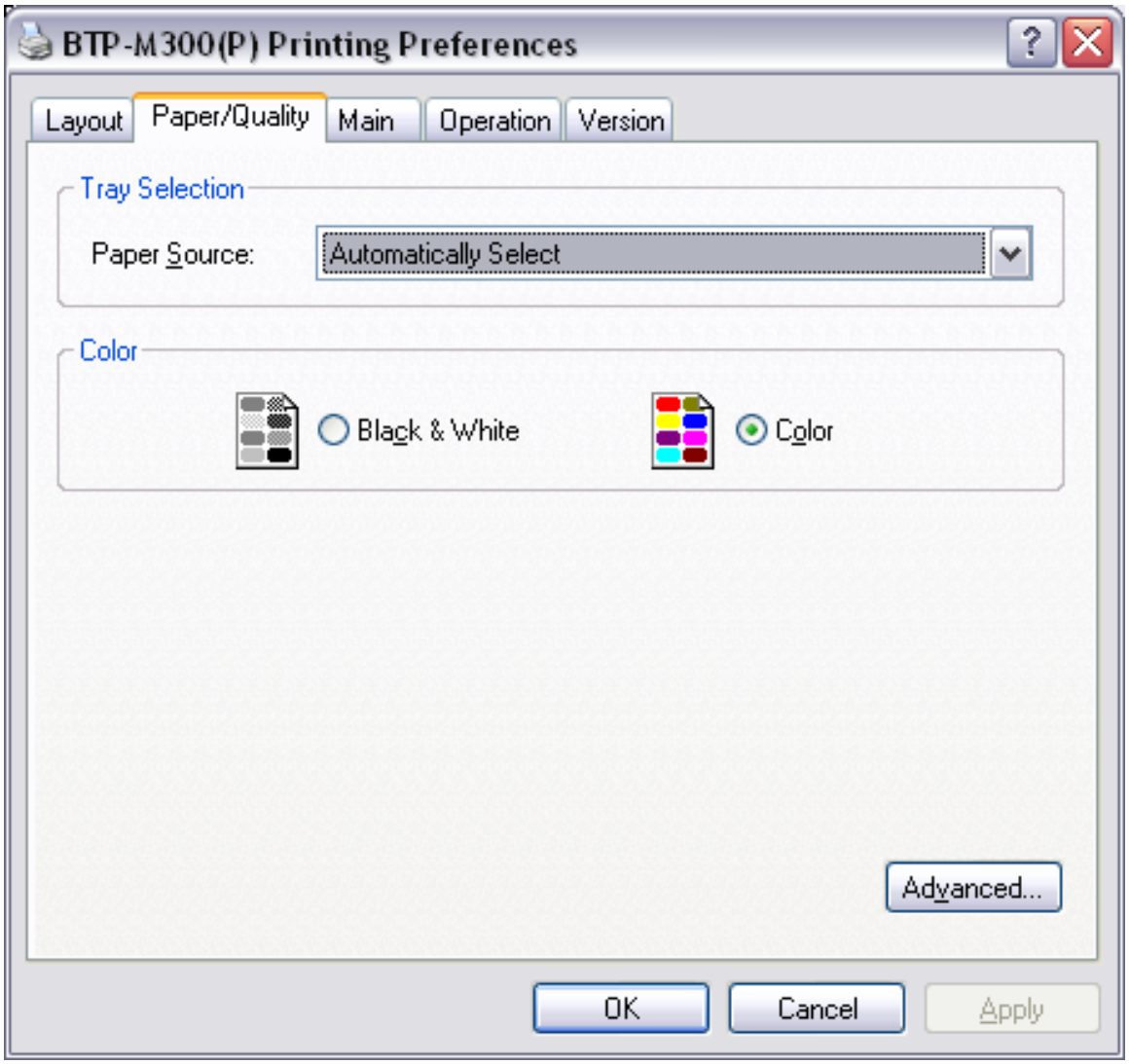
The driver offers cut mode, paper type and cash drawer functions for users to use. Users can configure the parameters according to their needs. Take Windows XP system as an example to describe how to set the driver parameters.

- **Setting paper type**



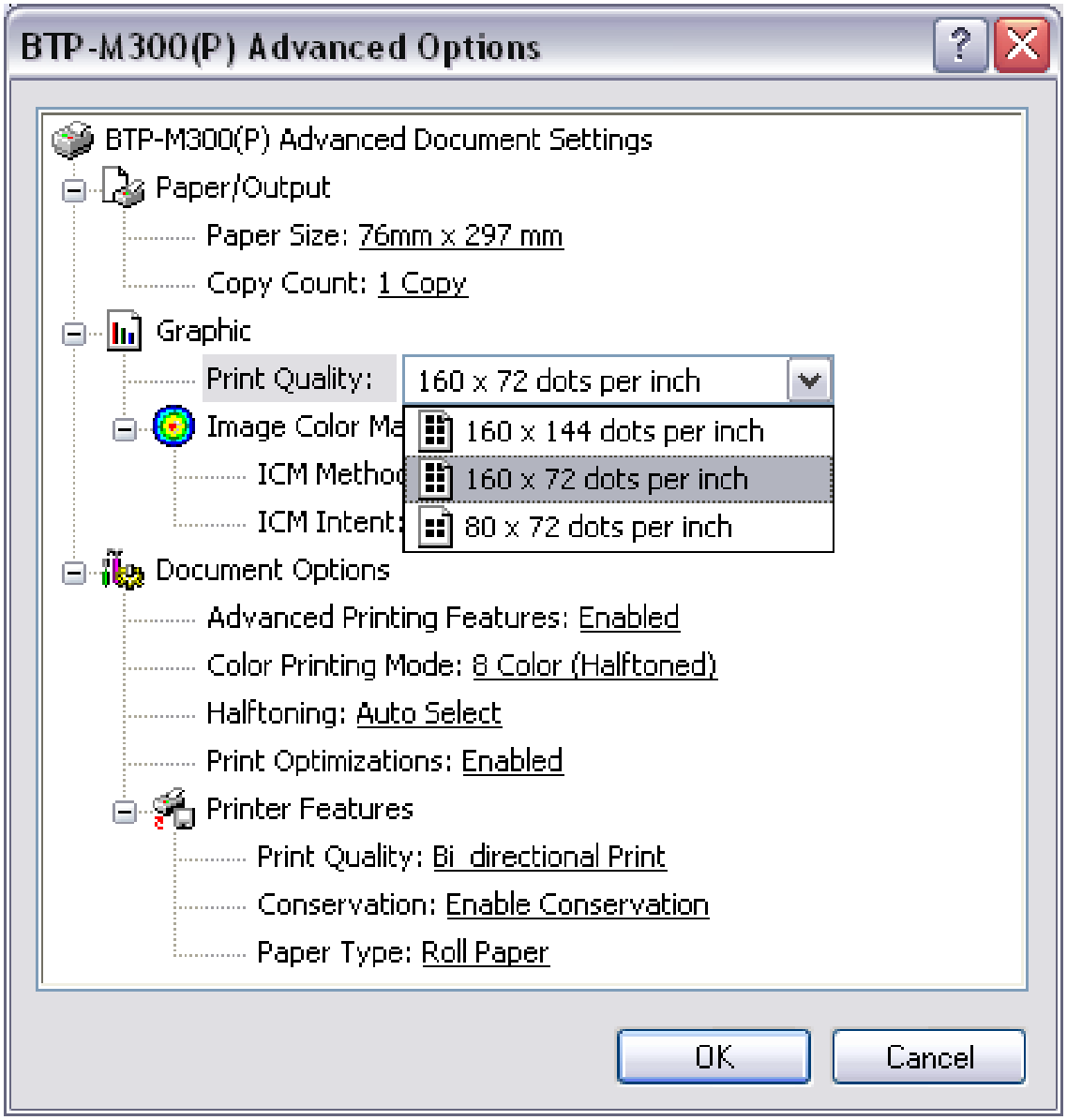
This item sets paper type: "roll paper" and "marked paper".

➢ Color choose



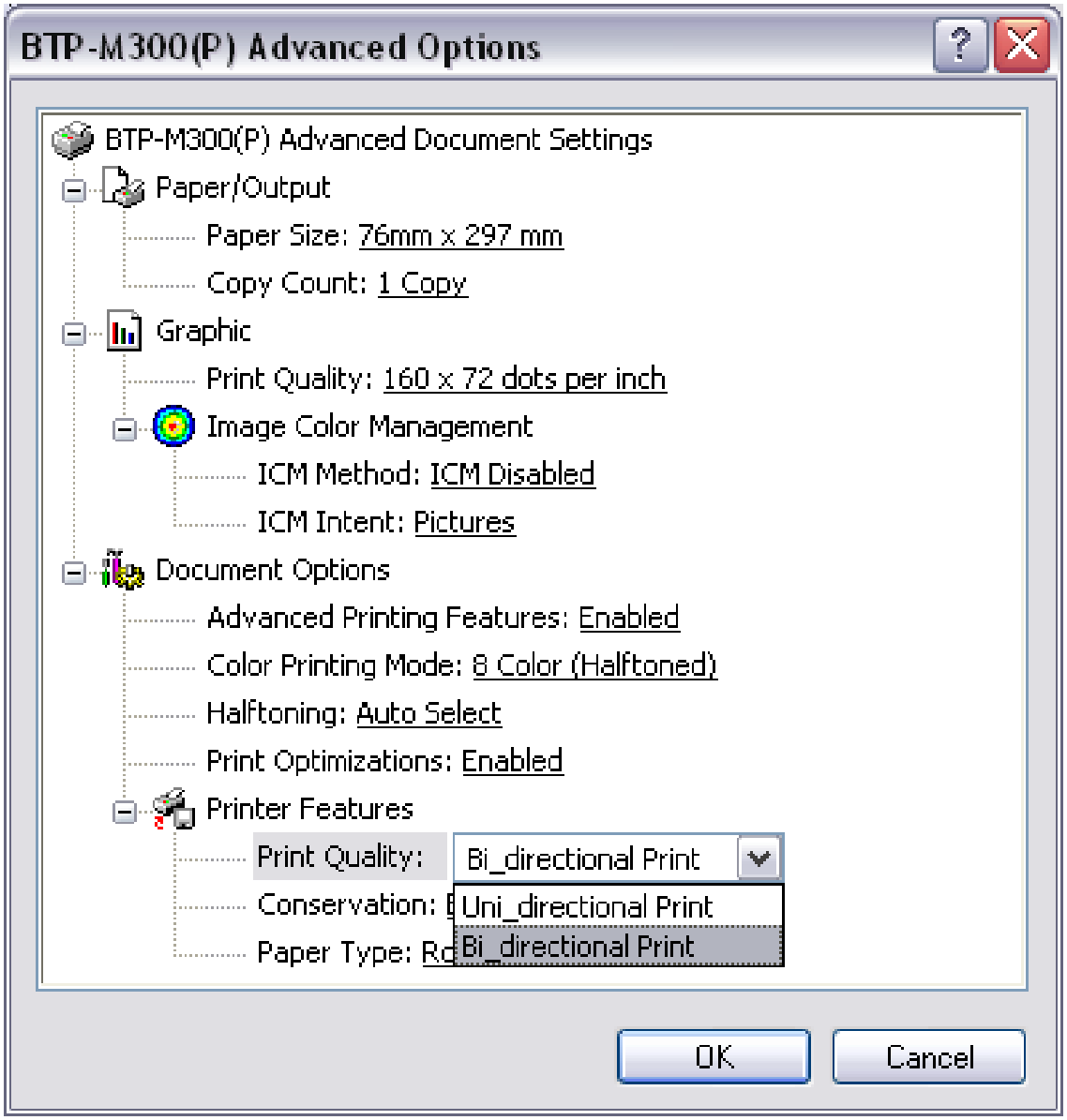
In this option, user can choose "Color" or "black & white". Two color printing is supported only when user chooses "Color".

➢ Setting resolution parameter



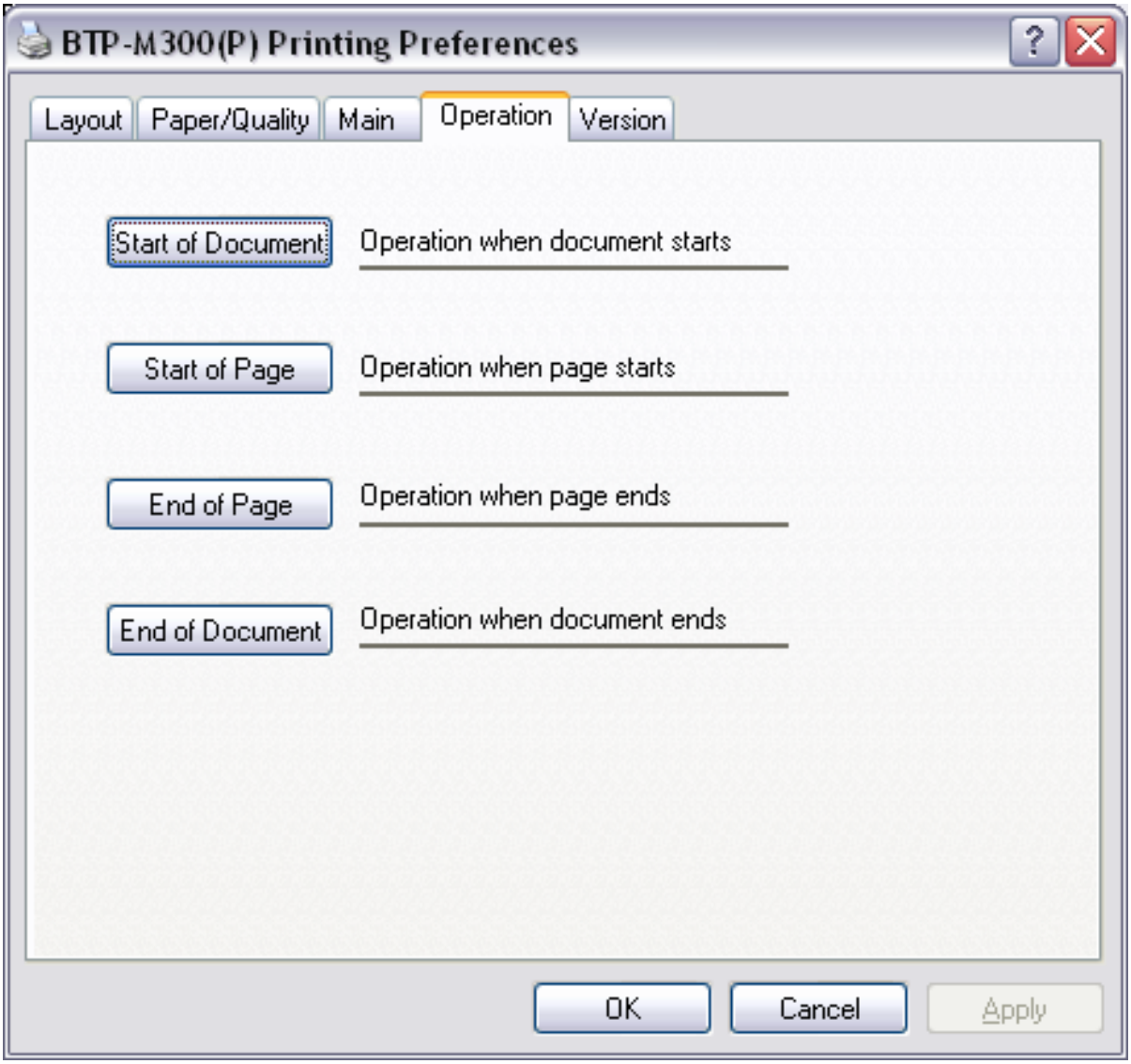
BTP-M300 driver supports three kinds of resolutions: 160 x 144 dpi, 160 x 72 dpi, 80 x 72 dpi. Users can select it according to their own need. High resolution has clear printing while lower print speed; low resolution has higher print speed while less clear printing.

➢ Single/ Bi-directional print setting



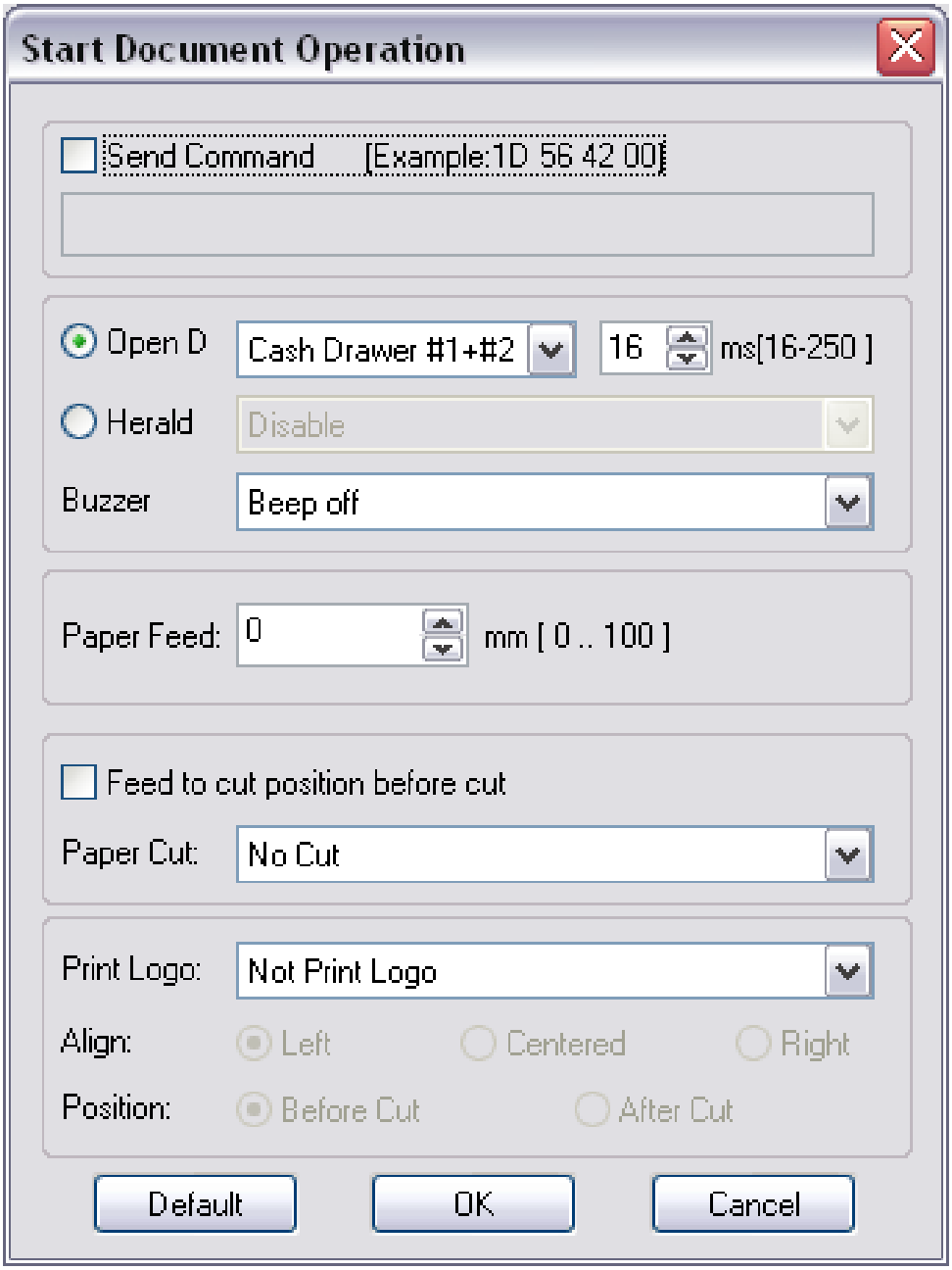
Set single/bi-directional print settings via this option.

➢ Operation option



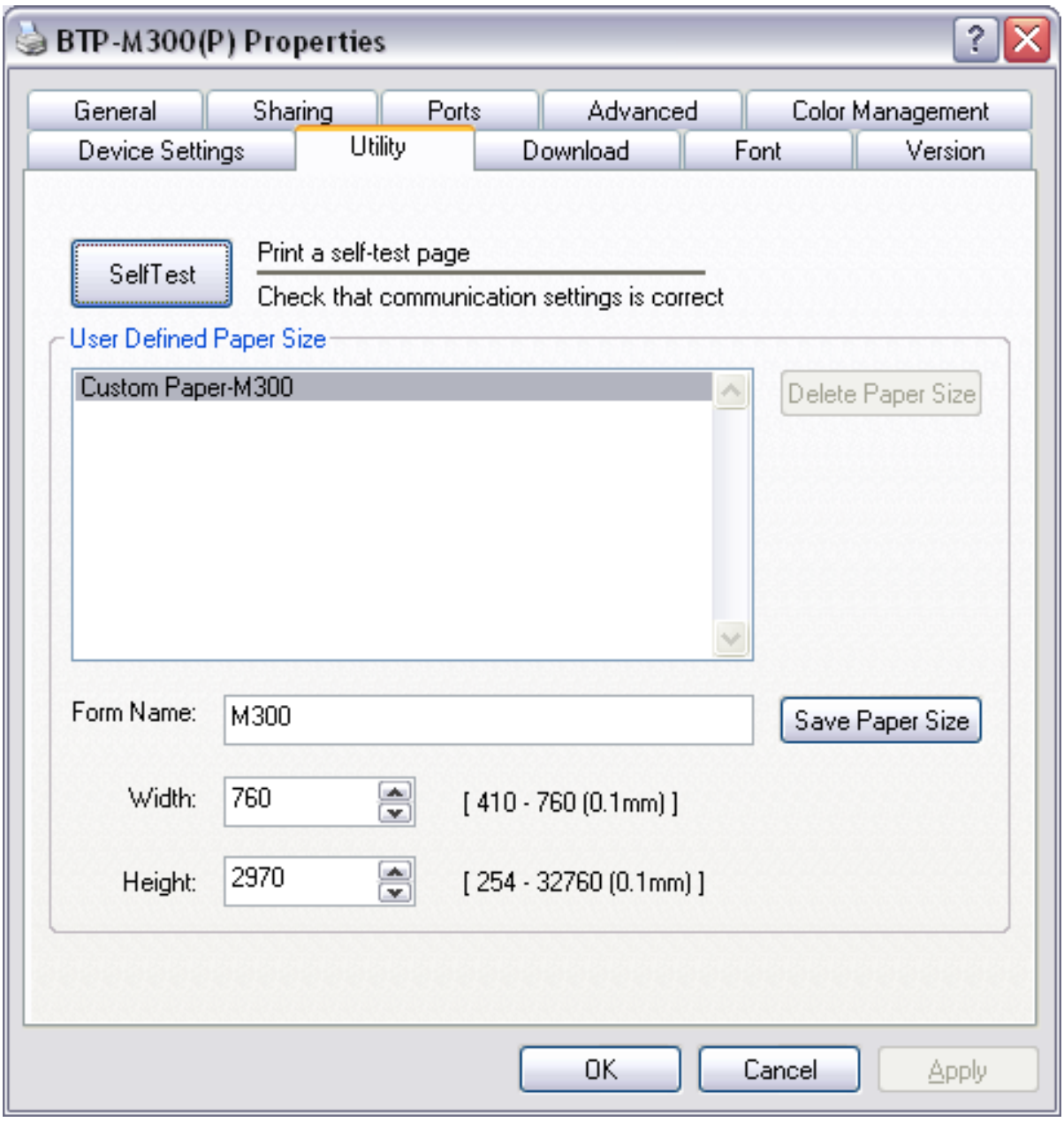
User can set different setting of page via this option: start of document, start of page, end of page, end of document.

➢ Document setting option



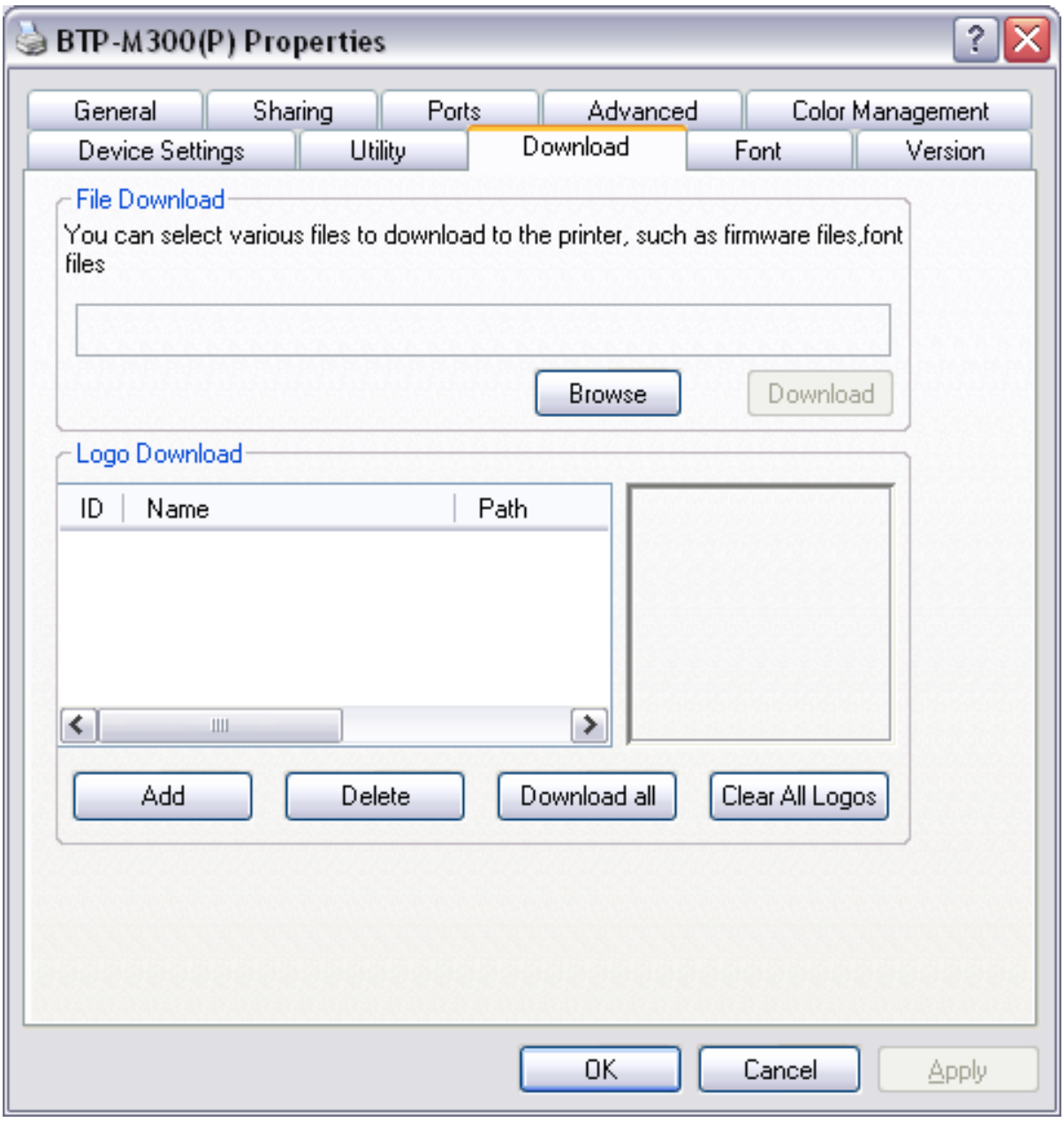
Via this option on the start of document, end of document, start of page and end of page, user can set following parameters: Cash drawer (Cash drawer1, Cash drawer2, Cash drawer1+2,print messenger Herald) and Cash drawer pulse width; Buzzer (Buzz 200ms, 600ms, 1s, 2s, 4s); paper feed; paper cut (paper cut by hand, partial cut, full cut), print Logo bitmap.

➢ Utility



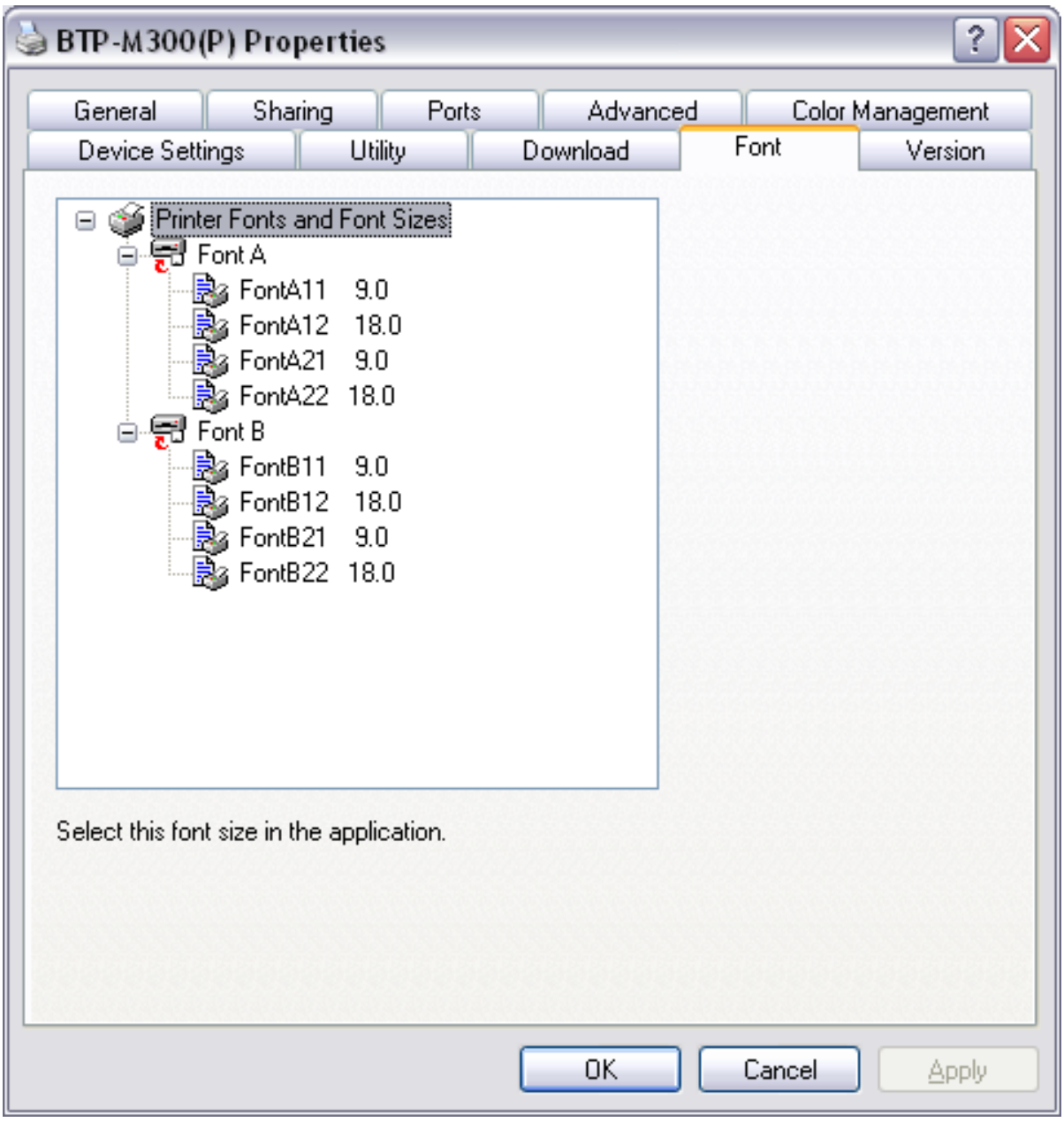
User can print self test page via this option, at the same time user can set user-defined page size.

➢ Download



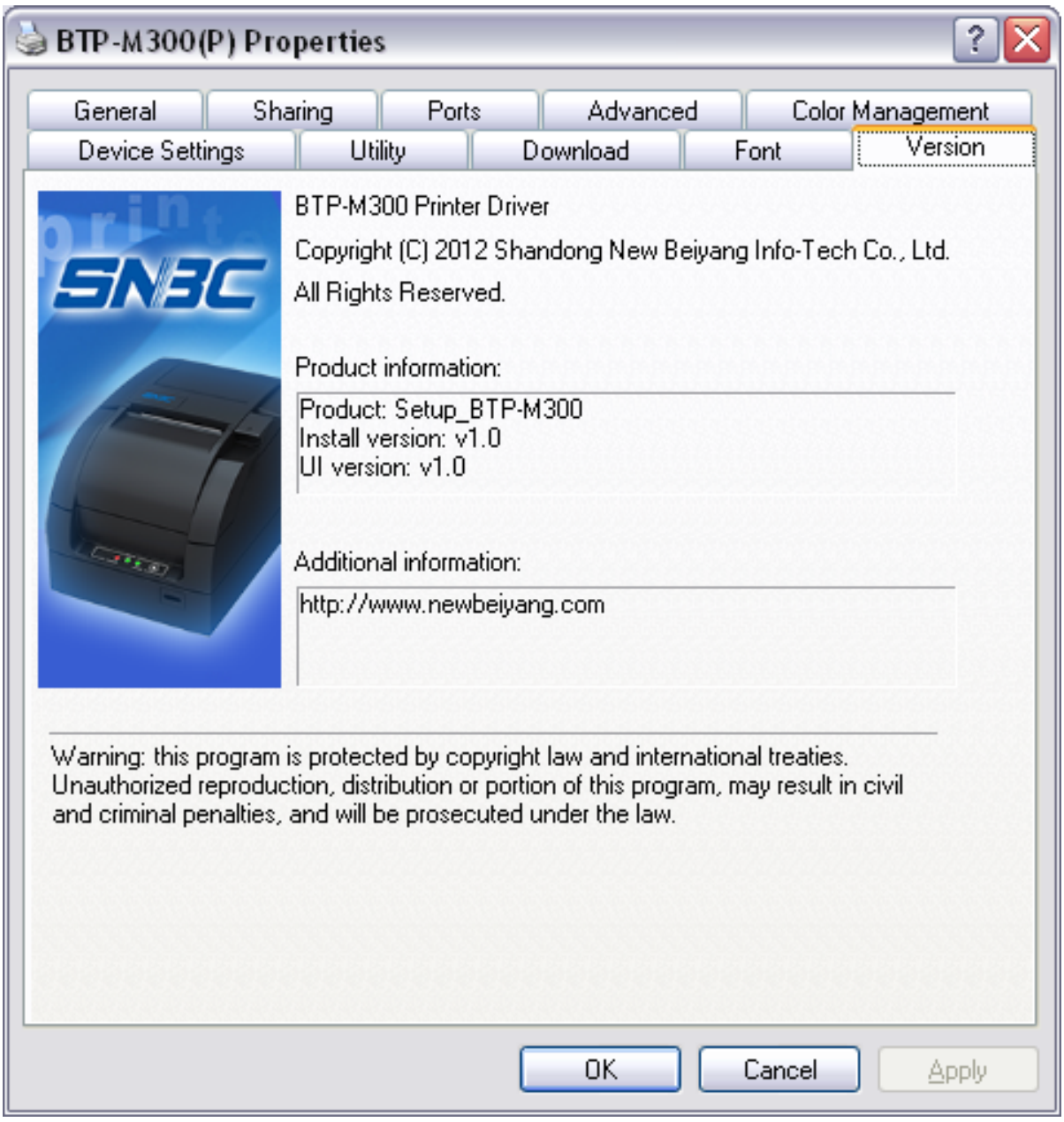
User can download firmware and Logo via this option.

➢ Font



User can select driver supported font and font size via this option.

➢ Version information



User can see the printer driver version information via this option.

5 Maintenance

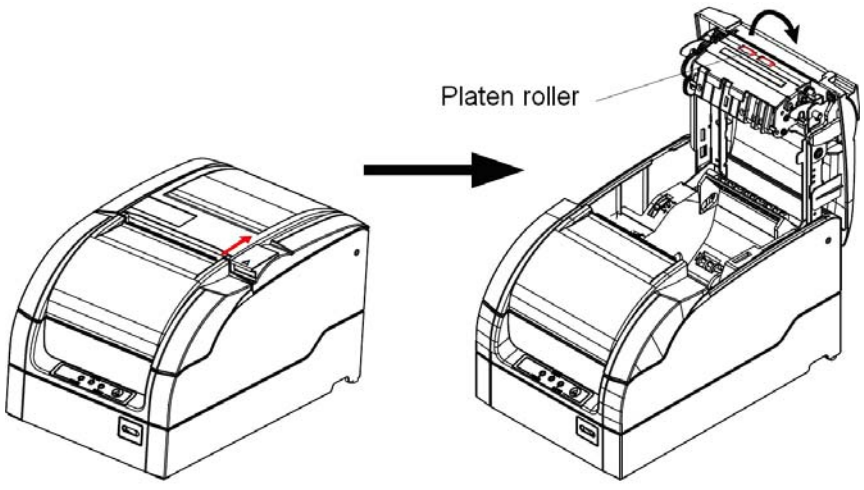
Caution:

- ✧ For daily maintenance be sure the printer is turned off.
- ✧ Do not use gasoline, acetone or other organic liquids to clean any parts of the printer.
- ✧ When cleaning the sensor, please leave the printer off until the alcohol completely dried.
- ✧ Recommended maintenance cycle shall be no longer than a month.

5.1 Platen roller cleaning

Steps for platen roller cleaning are as follows:

1) Turn off the printer power.
2) Pull the rear cover latch to open the rear cover of the printer.



3) Keep the rear cover open, clean the dust and stains on the platen roller using a soft cotton cloth with little moderate cleanser.
4) Wait until the cleanser is completely evaporated then close the rear cover and finish roller cleaning.

5.2 Mark sensor cleaning

If the printer does not identify the mark effectively, you should clean the mark sensor:

Steps for mark sensor cleaning are as follows:

1) Turn off the printer.
2) Pull the latch to open the rear cover of the printer.
3) Keep the rear cover open, clean the dust and stains off the mark sensor using a soft cotton cloth with a little alcohol.
4) Wait until the anhydrous alcohol completely evaporated then close the rear cover and finish mark sensor cleaning.

5.3 Clear paper jam

When the printer in one the following situations, you should clear the paper jam:

- Paper can not get out normally.
- Excessive noise occurs during paper feeding.

Steps for clearing paper jam are as follows:

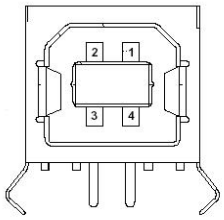
1) Turn off the printer
2) Pull the latch to open the rear cover of the printer
3) Check if there is any jammed paper in the paper path, if necessary, clear the jammed paper.
4) Close the rear cover and finish clearing paper jam.

6 Interface Signal

The BTP-M300 can be connected with other devices via USB, parallel, serial, Ethernet interfaces.

6.1 USB interface

USB interface supports USB2.0 (full speed) protocol, of which the outlet is USB B type.



Interface signal is defined as below:

Pin	Lead
1	VCC
2	DATA-
3	DADA+
4	GND

6.2 Parallel interface

The parallel interface of printer is bi-directional and supports the BUSY/ACK handshake protocol and the nibble protocol. The interface outlet is 36PIN CENTRONICS.

Pin	Signal resource	Signal definition
1	H	nStrobe
2	H	Data 0 (Least Significant Bit)
3	H	Data 1
4	H	Data 2
5	H	Data 3
6	H	Data 4
7	H	Data 5

8	H	Data 6
9	H	Data 7 (Most Significant Bit)
10	P	Ack
11	P	Busy
12	P	PError
13	P	Select
14	H	nAutoLF
15		Not defined
16		Logic Gnd
17		Chassis Gnd
18	P	Peripheral Logic High
19		Signal Ground
20		Signal Ground
21		Signal Ground
22		Signal Ground
23		Signal Ground
24		Signal Ground
25		Signal Ground
26		Signal Ground
27		Signal Ground
28		Signal Ground
29		Signal Ground
30		Signal Ground
31	H	nInit
32	P	nFault
33		Signal Ground
34		Not defined
35		Not defined
36	H	nSelectIn

Caution:

✧ H means signal source from a host, and P means signal source from printer.

6.3 Serial interface

The printer serial interface is compatible with RS-232 standard, of which the outlet is 25PIN female D type.

Pin	Signal definition
1	Frame ground
2	TXD
3	RXD
4	RTS
5~6	Not connected
7	Signal Ground
8~19	Not connected
20	DTR
21~25	Not connected

User can query interface settings status via a printing configuration sample. The default setting of serial interface is as follows:

Baud rate: 9600bps
Data bit: 8bits
Parity bit: None
Stop bit: 1 bit
Flow control: DTR/DSR

6.4 Ethernet

1) Interface features
   - Support of 10BASE-T communication
   - Compatible with Ethernet II standard frame type.
   - Indicator shows network connecting status and data transmission status
   - Supports 9100 port print

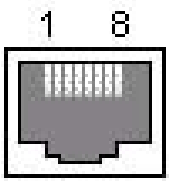
- Supports status back
- Supports parameter configuration
- Supports firmware update on-line
- Supports printer status query and interface module maintenance based on HTTP.

2) Protocols Supported:
   - IP
   - ARP
   - ICMP
   - TCP
   - UDP
   - DHCP
   - TFTP
   - HTTP
3) Electrical features
   - Output signal:

     The available differential mode voltage is ＞ 450mV,and peak voltage is ≤ 13V.

     The common mode AC peak voltage is ≤ 2.5V.
   - Input signal:

     The differential mode voltage that more than 160mV is identified as available signal.
4) Interface shall use RJ45 outlet which accord with 10BASE-T standard of IEEE802.3.



5) Interface signal definition

Pin	Signal name	Instruction
1	TX+	Data transmission+
2	TX-	Data transmission-
3	RX+	Data receiving+
4	NC	Reserve
5	NC	Reserve
6	RX-	Data receiving-
7	NC	Reserve
8	NC	Reserve

6.5 Cash drawer definition

1) Electrical features

- Driving voltage: DC 24 V
- Driving current: Max 0.8 A (within 510 ms)
- Cash drawer status inspection signal:

  "L" = 0～0.5 V

  "H" = 3～5 V

2) Cash drawer interface outlet uses RJ11 6P connector.

3) Interface signal definition

Items	Signal	Functions
1	FG	Frame Ground
2	DRAWER 1	Cash drawer 1 driving signal
3	DRSW	Cash drawer status test signal
4	VDR	Cash drawer driving power
5	DRAWER 2	Cash drawer 2 driving signal
6	GND	Circuit share ground

Caution:

- ✧ Do not connect or disconnect signal cable when printer power is on.
- ✧ Signal cable should be far away from strong current sources.
- ✧ Communication cable should adopt shield cable.

7 Troubleshooting

In case of printer fault, consult this section for solutions and advice.

If you do not find a solution in this section, please contact your local dealer for assistance.

7.1 Cutter error troubleshooting

When cutter fails to recover due to paper jam or sudden off-line status, perform the following actions:

1) Turn off power of the printer.
2) Pull the latch to open the rear cover of the printer.
3) Power on the printer, the cutter will be reset automatically.

Caution:

✧ To avoid injury, please do not touch the sliding blade of the cutter when printer is power on.

7.2 Printer doesn't Work

Problems	Possible causes	Solution
Power switch is turned on, but printer doesn't work	Printer has no power	Make sure that printer cable has been connected properly on both ends.
	Circuit is damaged	Contact your local dealer.

7.3 Error LED and Buzzer

Problems	Possible causes	Solution
Error LED flashes	Paper near end	Replace roll paper.
Buzzer beeps	Paper end	Replace roll paper.
	Rear cover up	Close rear cover.
	Cutter error	Refer to 7.1 Cutter error troubleshooting.
	Input voltage abnormal	Turn off printer power and check input voltage.
	Print head overheated	Turn off printer power and wait until the print head turn to normal temperature.
	HP error	Press & hold FEED button or power on the printer again.
Buzzer beeps for long time, and ERROR LED is always on	Printer has serious problems	Please contact your local dealer or the manufacturer.

7.4 Problems during Printing

Problems	Possible causes	Solution
HP error	Paper jam	Clear jammed paper and power on the printer again.
	Ribbon damage	Replace ribbon and power on the printer again.
Printout is light and not clear	Ribbon ink is out	Replace ribbon.
Always feed paper in printing	Confirm if paper type matches with the paper used	Replace with correct roll paper.
Printout is not clear or dirty	Print head or paper feed platen is dirty	Clean print head or paper feed platen.
Paper cannot be fed normally	Paper jam	Check paper path and remove jammed paper.
Horizontal printout is missing	Ribbon is damaged	Replace ribbon.
	Print head error	Contact your local dealer or the manufacturer.

7.5 Problems Using Driver

Problems	Possible causes	Solution
Printer can not print when using USB interface	Device driver is not installed.	Refer to 4.10.3 USB device driver installation.
Print mass code when using serial interface	Configure serial interface parameter incorrectly	Print a self-test page to confirm serial interface configuration of the current printer and configure it correctly.
Can not print two colors	Parameter of the printer is not correct	Configure two color printing, please refer to 4.11.2 Parameter explanation.
	Used one color ribbon	Change to two color ribbon.
Black mark fails to be positioned normally	Page settings are not correct	Select correct paper type in the document setting option.
Printer can not work normally under serial, parallel interface	Overtime setting is too short	Extend the overtime of serial and parallel communication referring to the help file in the package.
	Current port is occupied.	Close other programs which use the port.