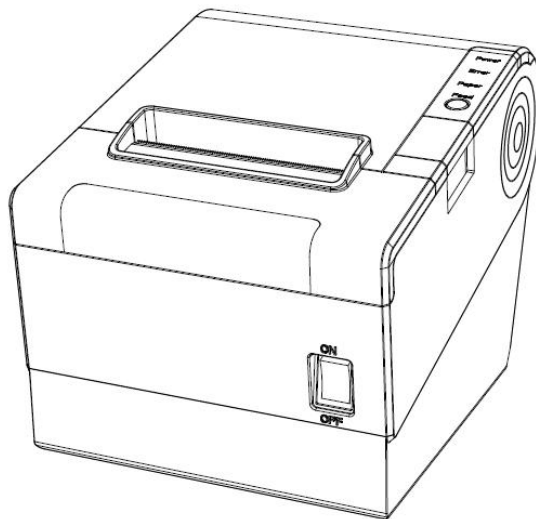


Desktop POS Printer RW973 Mk II User Manual



Content

Statement.....	1
Important Safety Instructions.....	2
1 OVERVIEW.....	4
1.1 Introductions.....	4
1.2 The Main Features.....	4
2 GETTING STARTED.....	5
2.1 Packing List.....	5
2.2 Appearance and Components.....	6
3 SPECIFICATION.....	7
3.1 Printer Specification.....	7
3.2 Printing Media Specification.....	9
3.2.1 Continuous Thermal Paper Specification.....	9
3.2.2 Notices.....	9
3.3 Printing and Cutting Position.....	10
3.3.1 Printing position.....	10
3.3.2 Cutting Position.....	10
4 INSTALLATION AND USAGE.....	11
4.1 Unpacking.....	11
4.2 Installation Site and Direction of Printer.....	11
4.3 Media Loading.....	12
4.3.1 Paper Confirmation.....	12
4.3.2 Paper Installation.....	12
4.4 LED Indication and Beeper.....	14
4.4.1 Specification of LED Indicator.....	14
4.4.2 Beeper.....	14
4.5 Power Connection.....	15
4.6 Interface Cable Connection.....	16
4.7 Cash Drawer Connection.....	17
4.8 Setting DIP switch.....	17
4.8.1 Serial interface (RS-232C).....	17
4.8.2 Interfaces of USB and Ethernet.....	18
4.8.3 Auto Cutter Enable/Disable Selection.....	20
4.9 Print Test.....	20
4.9.1 Print Self-Test.....	20
4.9.2 Printing of Windows Driver Program.....	20
4.10 Hexadecimal Dumping.....	21
5 INTERFACES.....	22
5.1 USB.....	22
5.2 Serial Interface.....	22
5.3 Ethernet Interface.....	23
5.4 Cash Drawer Interface.....	24
5.5 Power Supply Interface.....	24

6 TROUBLESHOOTING.....	25
6.1 Printer Not Working.....	25
6.2 LED Indicator and Beeper.....	25
6.3 Troubles Occur During Printing.....	25
6.4 Problems Emerge During The Paper Cutting.....	26
6.5 Removing Jammed Paper.....	26
7 PRINTER CLEANING AND MAINTENANCE.....	28
7.1 Cleaning Head.....	28
7.2 Cleaning Sensors, Roller and/or Paper Path.....	28
8. UTILITY TOOL FOR POS INSTRUCTION.....	29
8.1 Utility Tool Installation.....	30
8.2 Using Utility Tool.....	33
8.2.1 Add/Modify/Delete/Connect Printer.....	33
8.2.2 Functions.....	40
8.3 Firmware Update.....	67
9 WINDOWS DRIVER MANUAL.....	69
9.1 Manual Information.....	69
9.2 Operating System (OS) Environment.....	69
9.3 Windows Driver Preparation.....	69
9.4 Windows Driver Installation.....	70
9.5 Detailed Windows Driver Setting.....	73
9.5.1 Printing Preferences.....	73
9.5.2 Other Settings.....	103
9.6 Uninstall Windows Driver.....	106
9.7 Specification.....	107

Statement

Copyright

This manual is printed in 2020.

1.0 Version.

Warnings



This must be complied with in order to avoid any damage to the human body and to the equipment.



This is showing the important information and tips for the printer operating.



Note: Due to continuous update of product, please take in kind of real machine, such as accessories, programs etc.

Important Safety Instructions

1. Safety Warning



Warnings: The print head will become very hot during printing; avoid contact with the print head after printing has finished.



Warnings: Do not touch the printer head and connector in case static damage the printer head.

2. Instructions

Carefully read the installation and operating instructions provided with the printer before starting up your printer.

- 1) Place the printer on a flat and stable surface.
- 2) Leave enough space around printer for operation and maintenance.
- 3) Do not place the printer on or near a heat source.
- 4) Do not use the printer near water. Never spill liquid into the printer.
- 5) Do not expose the printer to high temperatures, direct sunlight or dust.
- 6) Protect the printer from shock, impact and vibration.
- 7) Be certain the power source is within the voltage rating and frequency listed for the printer.
- 8) Switch off the printer power supply when won't use it for a long time.
- 9) Do not place the power cord where it can be stepped on. If the power cord becomes damaged or frayed, replace it immediately.
- 10) To ensure the print quality and reliability, you are suggested to use the recommended paper or the same quality paper.
- 11) Please switch off the power supply when connect/disconnect all the ports or it will cause damage to the printer control circuit.
- 12) Never carry out maintenance or repair work yourself. Always contact a qualified service technician.
- 13) Keep this User Manual in a place which is easily accessible at all times.

◆ Other Precautions

The copyright for this user manual and various other manuals is property of our company. Any copying or conversion into electronic form and saving of this material without the express written permission is strictly prohibited. Use of the information contained in this manual is not subject to any patent liability. This manual has been prepared with utmost care and attention to detail but may contain certain errors and/or omissions. Our company is not legally liable for any damages resulting from the use of the information in this manual. Our company and its affiliates are not legally liable (United States excluded) for any damages, loss, costs, and/or expenses that result from the breakdown, malfunction, and/or misuse of the product due to violation or neglect of the operation and maintenance information and instructions provided by our company, as well as from the unauthorized alteration, repair, and/or modification of the product by the user and/or third party. We are not legally liable for any damages and/or issues resulting from the use of options and/or parts that are not authentic or authorized products.

◆ WEEE (Waste Electrical and Electric Equipment)



This mark shown on the product or its literature indicates that the corresponding item should not be discarded at the end of its working life with others household waste. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate marked items from other types of waste and recycle them responsibly to promote the sustained reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office for details of where and how they can conduct environmentally safe recycling of such items. Commercial users should contact their suppliers and check the terms and conditions of purchase contracts. This product should not be combined with other commercial waste for disposal.



Caution: This is a Class A product. In a domestic environment this product may cause radio interference in which the user may be required to take adequate measures.

1 OVERVIEW

1.1 Introductions

RW973 MkII is a thermal receipt printer, featured by high print quality, high print speed, high stability, etc. It can be used in commercial POS system, food industry and occasions which need real-time field print receipts.

RW973 MkII can connect with other equipment through serial, USB, cash drawer and Ethernet interfaces. And the printer drivers are available for the WINDOWS XP/WINDOWS 7/WINDOWS 8/WINDOWS 10/Linux operating system.

1.2 The Main Features

- 1) Patent design of unique vertical double auto cutter
- 2) Low noise
- 3) High print speed
- 4) Easy paper loading
- 5) Support page mode printing
- 6) Compatible with various width paper
- 7) Cash drawer interface
- 8) Communication interfaces optional

2 GETTING STARTED

2.1 Packing List

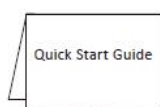
After receiving your printer, please check for possible shipping damage:

- 1) Inspect the outside of both the box and the printer for possible damage.
- 2) Check whether you have received the following accessories together with the printer, if there is any items missing, please contact your local dealer.

■Standard Accessories



Printer



Quick Start Guide



Roll Paper



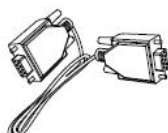
Power Adapter



Power Cord



USB Cable



Serial Cable



CD

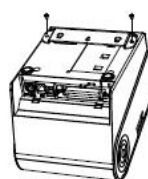
■Optional Accessories



Waterproof Cover



Cable Cover



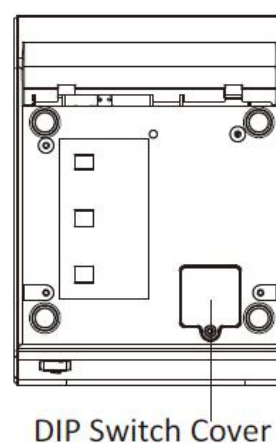
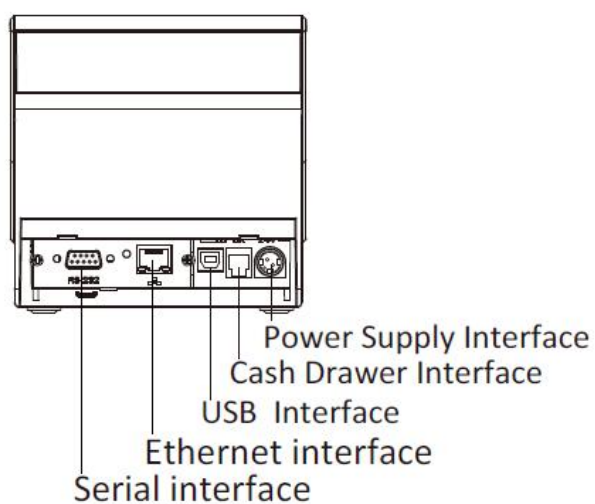
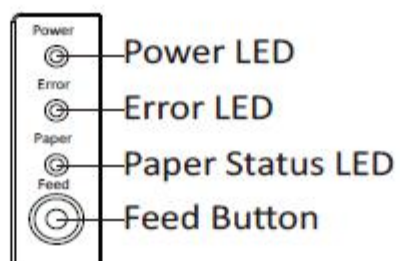
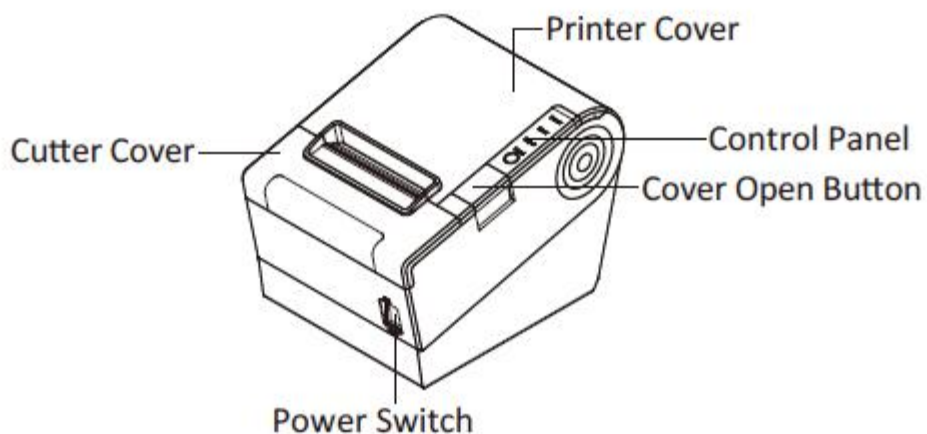
Wall Mounting



Notes:

- 1) The Power adapter and power cord vary by local and region.
- 2) The items in the package are actually dependent on the order.

2.2 Appearance and Components



3 SPECIFICATION

3.1 Printer Specification

Table3-1 General Specification

(1/2)

Item		Parameter
Printing Parameter	Printing Method	Direct thermal line printing
	Resolution	Default 203 DPI (8 dots/mm) Emulated 180 DPI (7 dots/mm)
	Printing Width	48mm/72mm
	Print Speed	Max. 300mm/s
	Interface	USB, Serial, Ethernet, Cash drawer
	Print density	Adjustable from level 1 to level 4
Page Mode		Support
Memory	RAM	2MB
	Flash	4MB
Fonts	Chinese	GBK 24×24, 16×16
	Alphanumeric	ASC II 9×17, 12×24
	User-defined	Support
	Code page	PC437(std.Europe), Katakana, PC850(Multilingual), PC860(Portuguese), PC863(Canadian), PC865(Nordic), PC857(Turkish), PC737(Greek), ISO08859-7(Greek), WPC1252, PC866(Cyrillic #2), PC852(Latin 2), PC858(Euro), KU42(Thai), TIS11(Thai), TIS18(Thai), PC720(Arabic), WPC775(Baltic Rim), PC855(Cyrillic), PC862(Hebrew), PC864(Arabic), ISO8859-2(Latin2), ISO8859-15(Latin9), WPC1250(Latin 2), WPC1251(Cyrillic), WPC1253(Greek), PC1254(Turkish), WPC1255(Hebrew), WPC1256(Arabic), WPC1257(Baltic Rim), WPC1258(Vietnamese), MIK(Cyrillic), PC755(Latin 2), Iran, Iran II, Latvian, ISO-8859-1(WestEur), ISO-8859-3(Latin 3), ISO-8859-4(Baltic), ISO-8859-5(Cyrillic), ISO-8859-6(Arabic), ISO-8859-8(Hebrew), ISO-8859-9(Turkish), PC856, PC3848(ABICOMP), MONGOLIAN, VISCII
Barcode	1D	UPC-A, UPC-E, EAN8, EAN13, CODE39, CODE93, ITF, CODEBAR, CODE128
	2D	PDF417, QR code
Graphics		Support varied density bitmap as and download bitmap printing Max size of each bitmap is 40K, the total size of bitmap is 256k.
Detection	Sensors	Standard: paper end sensor, cover open sensor, paper near end sensor Option: black mark sensor
LED Indicator	Power LED	Green
	Paper LED	Red
	Error LED	Red

Table3-1 General Specification(Continued)

(2/2)

Item		Parameter
Power Supply	Input	AC100V-240V
	Output	24V \pm 2.5A
Paper	Paper type	Specified Thermal Paper
	Paper width	58 $^{+0}_{-1}$ mm/ 80 $^{+0}_{-1}$ mm
	Paper thickness	0.050~0.090mm
	Roll paper diameter	Max. OD ϕ 83mm
	Paper load	Easy-loading structure of upward open cover
	Paper cut	Manual tear or Auto-cutter
Physical Spec.	Operating condition	0℃ ~ 40℃ , 20% ~ 85%RH
	Storage condition	-20℃ ~ 70℃ , 5% ~ 95%RH
	Dimensions	197*145*146mm
	Weight	1.8kg
Command		ESC/POS
Software	Driver	Windows XP/Vista/7/8/10/POSReady/Linux CUPS/OPOS/JavePOS
	SDK	WinCE, Win Mobile, Android, iOS
Reliability	TPH Lifetime	150km
	Cutter Lifetime	2,000,000 cuts

3.2 Printing Media Specification

3.2.1 Continuous Thermal Paper Specification

Paper Type : Specified Thermal Paper

Paper Width : 58^{+0}_{-1} mm / 80^{+0}_{-1} mm

Paper Outer Diameter : Max. 83 mm

Paper Thickness : 0.065 ~ 0.090mm

Paper Type	Manufacturer
FD210,PD150R,PD160R	OJI Paper CO.,LTD.

3.2.2 Notices

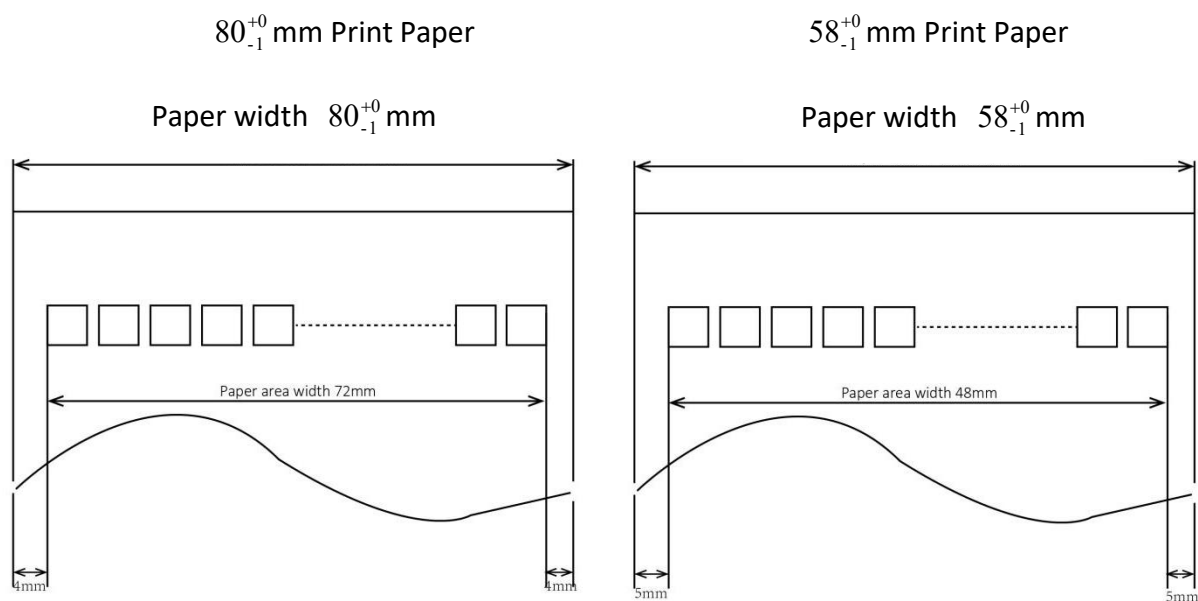


Notes:

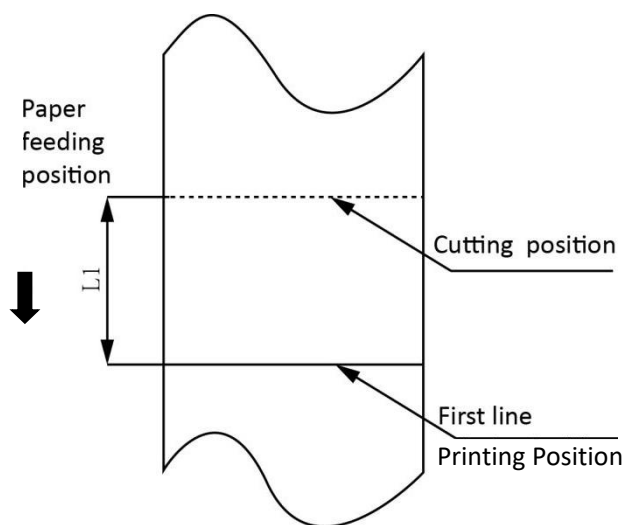
- Please use the recommended thermal paper or same quality paper, otherwise it will influence the printing quality and decrease the thermal printer head life;
- Don't stick the paper on the roll paper mandril;
- If the thermal paper is polluted by chemical or oil, the thermal paper heat sensibility decreases, which will influence the printing quality;
- Don't use finger nail or hard articles to touch the surface of thermal paper, otherwise it will cause color fading;
- When the environment temperature is higher than 70°C, the thermal paper color will fade, so pay attention to the influence of temperature, humidity and sunlight.

3.3 Printing and Cutting Position

3.3.1 Printing position



3.3.2 Cutting Position



Type	Paper Cutting Position(L1)
RW973 Mk II	15.4mm

4 INSTALLATION AND USAGE

4.1 Unpacking

When open the package, check if any items are missing or damaged according to the packing list, if so, contact the local dealer or manufacturer.

4.2 Installation Site and Direction of Printer

- 1) RW973 MkII has two ways of installation: wall mounting (optional: wall mounting kit) and horizontal installation. It's recommended to install the printer at horizontal place.
- 2) The printer should install at a flat and steady place. It's recommended to install the printer at horizontal place. When inclined installation, the tilt angle should not exceed $\pm 10^\circ$ to print feed direction. And other directions are strictly prohibited to tilt.
- 3) Keep printer far away from source of water.
- 4) Avoid placing the printer at places with vibrations and shocks.
- 5) Make sure the printer ground connection is safe.
- 6) When the printer is at operation and maintenance, it is recommended to retain enough space to ensure the printer working in reliability and ease.

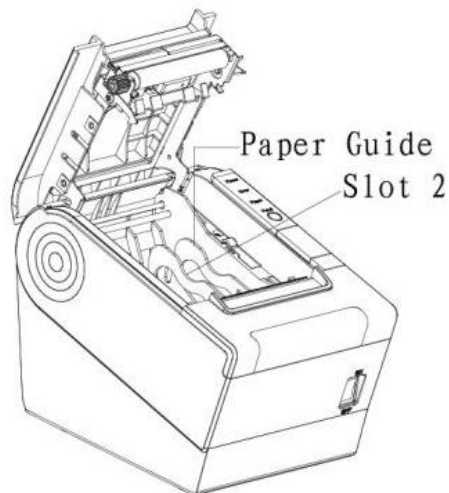
4.3 Media Loading

4.3.1 Paper Confirmation

Confirm the type of paper used by the printer before printing. The default paper type is specified thermal paper.

Choose the paper guide according to the width of the paper roll.

- 1) Put the finger into the hole in the paper guide, then lift up the paper guide.
- 2) According to the paper width, insert the paper guide in the proper position.



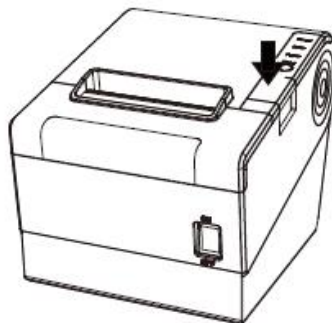
Notes:

Paper guide in slot 1 : 80^{+0}_{-1} mm

Paper guide in slot 2 : 58^{+0}_{-1} mm

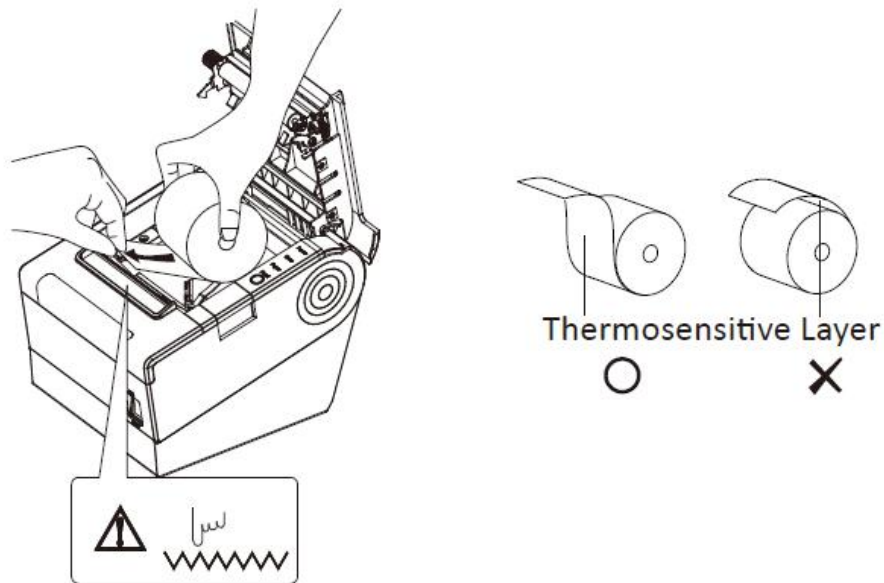
4.3.2 Paper Installation

- 1) Turn off printer. Press the cover open button to open the top cover of RW973 Mk II.



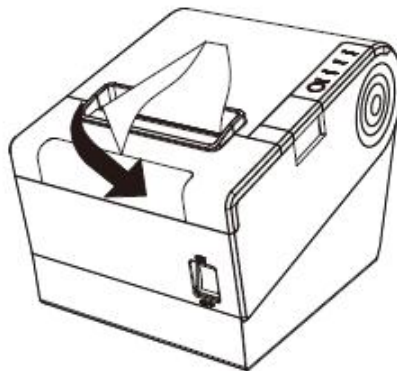
- 2) Remove the used roll paper core, if any.

- 3) In the correct direction of the paper roll, load the paper roll.



- 4) Pull out some paper, and close the printer cover.

- 5) Tear the extra paper in the direction of printer.



Notes:

- Adjust the paper guide according to the paper size.
- Make sure the paper roll inside is at tight status, or it will issue paper or other obstacle.

4.4 LED Indication and Beeper

4.4.1 Specification of LED Indicator

Name	Status	Specification
POWER LED (Green)	ON	The printer works well
	OFF	The printer is powered off.
ERROR LED (Red)	Flash	The printer is in an error state
	OFF	The printer is in a normal state
PAPER LED (Red)	ON	The printer is in a paper end state
	OFF	The printer is in a normal state

4.4.2 Beeper

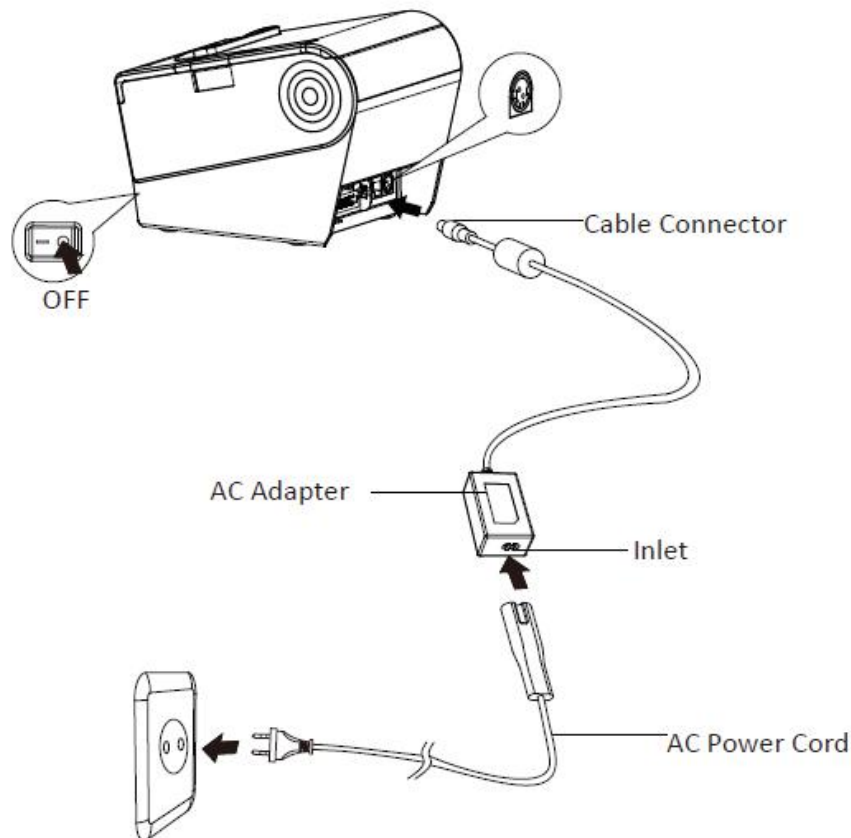
Description	POWER LED	ERROR LED	PAPER LED	Beeper
Cover Open	ON	ON	ON	“Beep ,Beep--,Beep”
Paper Sufficient	ON	OFF	OFF	Silent
Paper End	ON	ON	ON	“Beep Beep Beep”.
Paper Near End	ON	OFF	ON	Silent
Cutter Jam	ON	Flash	OFF	“Beep— , Beep—”



Notes: The printer uses a thermistor to detect the temperature of the print head. If the temperature of print head is higher than 65° C, printer will send a warning. If the temperature of print head is higher than 80° C, printer will stop working until the temperature is lower then 60° C.

4.5 Power Connection

- 1) Make sure the printer's power switch is turned off.
- 2) Connect the AC adapter to printer.
- 3) Connect the power cord to AC adapter.
- 4) Connect the other end of power cord to the outlet.



Note: The Power adapter and power cord vary by local and region.

When pulling out the adapter, please pinch the shell of power adapter and pull the switch up, when the switch is fully opened then pull out the power adapter.

Don't put forth your strength to pull the plug by squeezing any place of power adapter. Because it is more difficult to pull it out and easy to damage the cable.

**Notes:**

- 1) Please only use the power adapter recommended by supplier or equivalent products.
- 2) When disconnecting the power adapter plug, handhold plug connector housing to avoid the pulling on the cable in force.
- 3) Avoid dragging the power adapter cable, otherwise it will damage the cables, causing fire and shock.
- 4) Avoid putting power adapter around a heating device, otherwise the cable may melt, causing fire and shock.
- 5) If you do not use the printer in a long time, disconnect the power supply of printer power adapter.

4.6 Interface Cable Connection

- 1) Make sure the printer's power switch is turned off;
- 2) Connect the interface cable to the matched interface and fixed with screws (or spring) on the plug;
- 3) Connect the other end of the interface cable to the host.

4.7 Cash Drawer Connection

- 1) Make sure the printer's power switch is turned off;
- 2) Connect the cash drawer cable to the cash drawer interface at the rear of the printer.



Warning:

Cash drawer interface can only be connected to a voltage of 24V cash drawer device (It can't be connected to the phone line, etc.)

4.8 Setting DIP switch

4.8.1 Serial interface (RS-232C)

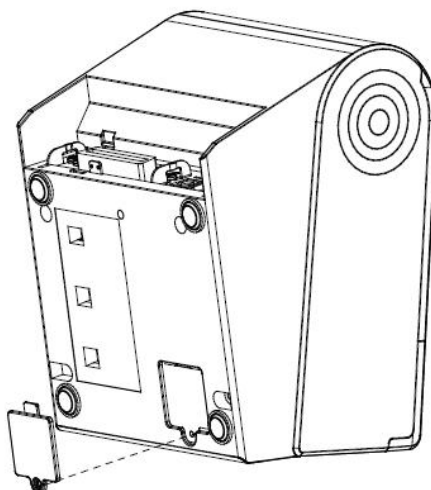
DIP Switch 1

Switches	Functions	ON	OFF	Default
1-1	Automatic line feed	Enable	Disable	OFF
1-2	Handshake	XON/XOFF	DTR/DSR	OFF
1-3	Bit length	7 bits	8 bits	OFF
1-4	Parity check	Yes	No	OFF
1-5	Parity selection	EVEN	ODD	OFF
1-6	Baud rate selection (bps)	Reference form 1		OFF
1-7				ON
1-8				OFF

DIP Switch 2

Switches	Functions	ON	OFF	Default
2-1	Multi-byte characters	English	Chinese	OFF
2-2	Bell Control	Disable	Enable	OFF
2-3	Auto cutter	Disable	Enable	OFF
2-4	Busy conditions	Receive buffer full	Printer off-line Receive buffer full	OFF
2-5	Printer density	Reference form 2		OFF
2-6				OFF
2-7				OFF
2-8	Printing dots quantity	512	576	OFF

Open the DIP Switch Cover



4.8.2 Interfaces of USB and Ethernet

DIP Switch 1

Switches	Function	ON	OFF	Default
1-1	Automatic line feed	Enable	Disable	OFF
1-2 ~ 1-8	Reserve	-	-	OFF

DIP Switch 2

Switches	Functions	ON	OFF	Default
2-1	Multi-byte characters	English	Chinese	ON
2-2	Bell control	Disable	Enable	OFF
2-3	Auto cutter	Disable	Enable	OFF
2-4	Busy conditions	Receive buffer full	Printer off-line Receive buffer full	OFF
2-5	Printer density	Reference form 2		OFF
2-6				OFF
2-7				OFF
2-8	Printing dots quantity	512	576	OFF

Form 1—Baud Rate Selection

Baud rate	1-6	1-7	1-8	Default
2400	ON	OFF	OFF	9600
4800	ON	OFF	ON	
9600	OFF	ON	OFF	
19200	OFF	OFF	OFF	
38400	OFF	ON	ON	
57600	OFF	OFF	ON	
115200	ON	ON	ON	

Form 2—Print Density Selection

2-5	2-6	2-7	Printer density	Default
ON	ON	Reserve	1 (light)	2
OFF	OFF	Reserve	2 (standard)	
ON	OFF	Reserve	3 (medium)	
OFF	ON	Reserve	4 (dark)	

4.8.3 Auto Cutter Enable/Disable Selection

DIP Switch setting 2		
Switch2-3	ON	Auto cutter disable
	OFF	Auto cutter enable
Application program	Ignore auto cutter error for continuous printing	

4.9 Print Test

4.9.1 Print Self-Test

The self-test checks the printer's current settings, status and whether the printer has any problem.

- 1) Make sure the power is connected and paper is loaded properly.
- 2) Make sure the printer is off and top cover is closed properly.
- 3) Press the paper feed button and power button simultaneously to turn the printer on. The printer is ready to receive data as soon as it completes the self-test.

4.9.2 Printing of Windows Driver Program

- 1) Install the Windows Driver program. (Please refer to the Windows Driver Manual)
- 2) Please set the "Interface" as the type you use.
- 3) Use the Windows Driver Program to print out the "Print Test Page".

4.10 Hexadecimal Dumping

This function allows experienced users to know exactly what data is coming to the printer. This can be useful in finding software problems. When you turn on the hexadecimal dump function, the printer prints all commands and data in hexadecimal format along with a guide section to help you find specific commands.

To use the hexadecimal dump function, follow these steps.

1. After making sure that the printer is off, open the cover.
2. Turn the printer on, while pressing and holding the FEED button.
3. Close the cover, and then the printer enters the hexadecimal dump mode.
4. Select the hexadecimal printing function in the mode selection menu to move to the hexadecimal printing mode.
5. Run any software program that sends data to the printer. The printer will print all the codes it receives in a two-column format. The first column contains the hexadecimal codes and the second column gives the ASCII characters that correspond to the codes.

```

1B 21 00 1B 26 02 40 40 40 40      . ! . . & . @ @ @ @
02 0D 1B 44 0A 14 1E 28 28 28      ... D . . . . ( ( (
00 01 0A 41 0D 42 0A 43 43 43      ... A . B .   C C C

```

- A period (.) is printed for each code that has no ASCII equivalent.
- During the hex dump, all commands are disabled.

6. When the printing finishes, shortly press FEED button three times to exit the hexadecimal mode.

5 INTERFACES

RW973 MkII supports cash drawer interface and many other communicating interfaces, such as serial interface, USB interface and Ethernet interface.

5.1 USB

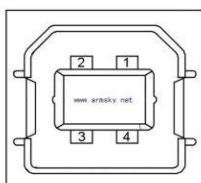


Figure 5-1

PIN	SIGNAL NAME
1	VBUS
2	D-
3	D+
4	GND

5.2 Serial Interface

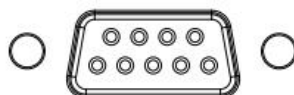
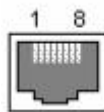


Figure 5-2

PIN	SIGNAL NAME
1	-
2	TXD
3	RXD
4	-
5	GND
6	DTR
7	CTS
8	RTS
9	-

5.3 Ethernet Interface



PIN NO.	Signal Name
1	TX+
2	TX-
3	RX+
4	-
5	-
6	RX-
7	-
8	-



Note: The printer is equipped with an Ethernet interface, and use the network connection router, switch and other network communication equipment which meet RJ45 interface standard. When connecting directly with PC, it is suggested that the cross network line in accordance with RJ45 interface standard should be adopted.

5.4 Cash Drawer Interface

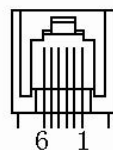


Figure 5-4

PIN NO.	Signal Name
1	FG
2	Drawer 1
3	DRSW
4	VDR
5	Drawer 2
6	GND

Electrical characteristics

- Driving voltage: DC 24 V
- Driving current: Maximum 0.8 A (In 510 ms)

Drawer check signal: “L” = 0 ~ 0.5 V “H” = 3 ~ 5 V

5.5 Power Supply Interface

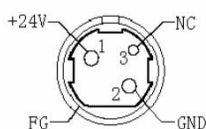


Figure 5-5

PIN No.	Signal Name
1	+24V
2	GND
3	N.C
SHELL	F.G

Printer end-Unetop DC-002 or similar products, user end-Unetop DC-002 or similar products.

6 TROUBLESHOOTING

Your printer is very reliable, but occasionally problems may occur. This chapter provides information on some common problems you may encounter and how to solve them. If you encounter problems that you can not resolve, contact with your dealer for assistance.

6.1 Printer Not Working

Problem Description	Probable Reason	Solution
LED light is off, printer is not working	Printer has no power	Connect printer to power supply
	Printer is not power on	Turn on the printer
	Circuit board is broken	Contact with the dealer

6.2 LED Indicator and Beeper

Problem Description	Probable Reason	Solution
Paper LED is always on	Paper near end	The paper roll is near end, the printer can work normally
Error LED is always on and beeper alarms	Printer cover is open	Close the printer cover
Paper LED and Error LED always on and beeper alarms	Paper end	Reload the roll paper
Error LED blinks and beeper alarms	Thermal print head is over-heated	Turn the printer off and resume when it cools
	Over-voltage	Print with specified voltage
	Low-voltage	Print with specified voltage

6.3 Troubles Occur During Printing

Problem Description	Probable Reason	Solution
Coloured stripe in the paper	Paper near end	Reload the paper roll
Blurred printing or spot	Incorrect paper loading	Check if the paper roll is loaded
	Unqualified paper roll	Use recommended thermal paper roll
	Dirty thermal head or print roller	Clean the thermal head or print roller
	Low print density	Increase the print density level
Paper is not feeding normally	Paper jam	Open the printer cover, check the paper path and remove jammed paper
Vertical print words are missing	Dirty thermal head or print roller	Clean the thermal head or print roller
	Thermal head is damaged	Contact with your dealer for assistance

6.4 Problems Emerge During The Paper Cutting

Problem Description	Probable Reason	Resolution
Cutter jam, the movable cutter cannot go back	Cutter abrasion, insufficient cutting	Replace the cutter
	Worn gear and worn wheel abrasion	Replace the worn gear and worn wheel
	Motor is burnt	Replace the motor
	Paper scraps	Clean the paper scraps on the transmission system
Insufficient cutting	Cutter edge abrasion, paper is too thick	Replace the cutter
Paper jam	Thermal printer head is over-heated	Reduce the density of printing
	Driving is too fast	Reduce the printer speed to the limit of thermal printer head
	Wrong paper feeding position	Put the paper parallel with the paper mount and insert into the space between platen roller and the thermal printer head.



Note: Regarding the density of setting, please refer to "Utility Tool for POS Instruction".

6.5 Removing Jammed Paper



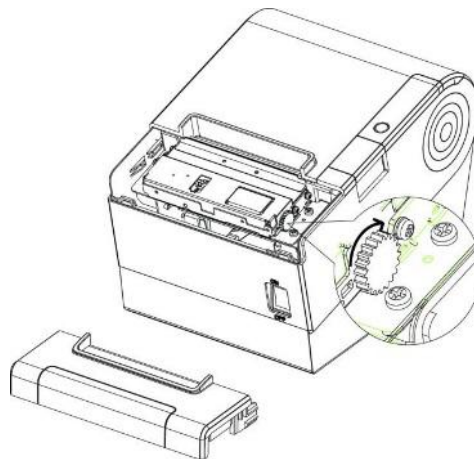
Warning: Do not touch the thermal print head because it becomes very hot after printing.

If the printer cover can be opened, operate it according to the next steps.

- 1) Turn the printer off and open the printer cover.
- 2) Remove jammed paper, reload the paper roll, and close the printer cover.

If the auto cutter jam occurs on printer and you cannot open the printer cover, please open the cutter cover as shown below.

- 1) Turn the printer off and open the front cover.
- 2) Turn the knob until the cutter returns to the normal position (tip tag).
- 3) Close the front cover.
- 4) Open the top cover and remove jammed paper.



7 PRINTER CLEANING AND MAINTENANCE

Print quality might be degraded by dust, foreign substance, adhesive substance, or other pollution materials stuck in the printer head or inside the printer.

When dirty, clean the print head as follows:

※ CAUTION

- Make sure to turn off the printer prior to cleaning.
- As the print head gets hot during printing, turn the printer off and wait approximately 2~3 minutes before starting to clean.
- When cleaning the print head, take care not to touch the heated portion of the print head.
Print Head is susceptible to damage from static electricity, etc.
- Take care not to allow the print head become scratched or damaged in any way.

7.1 Cleaning Head

- 1) Open the Printer cover and then use the cotton swab with medical alcohol to clean the head in the direction from the center of the head to the edges.
- 2) After cleaning the head, do not use the printer until the alcohol used for cleaning evaporates completely (1~2 min.) and the printer is completely dry.

7.2 Cleaning Sensors, Roller and/or Paper Path

- 1) Open the printer cover and remove the paper.
- 2) Remove any dust or foreign substance using dry cloth or cotton swab.
- 3) Soak the cloth or cotton swab in medical alcohol and use it to remove adhesive foreign substances or other pollutant.
- 4) After cleaning the parts, do not use the printer until the alcohol evaporates completely (1~2 min.) and the printer is completely dry.

※ Clean the parts whenever print quality or paper detection degraded.

8. UTILITY TOOL FOR POS INSTRUCTION

Utility Tool is applicable to the following operating system:

- Microsoft Windows 10 (32 bit/64 bit)
- Microsoft Windows 8 (32 bit/64 bit)
- Microsoft Windows 7 SPI (32 bit/64 bit)
- Microsoft Windows Vista SP2 (32 bit/64 bit)
- Microsoft Windows XP Professional SP3 (32 bit)
- Microsoft Windows Server 2012(64 bit)
- Microsoft Windows Server 2008 R2

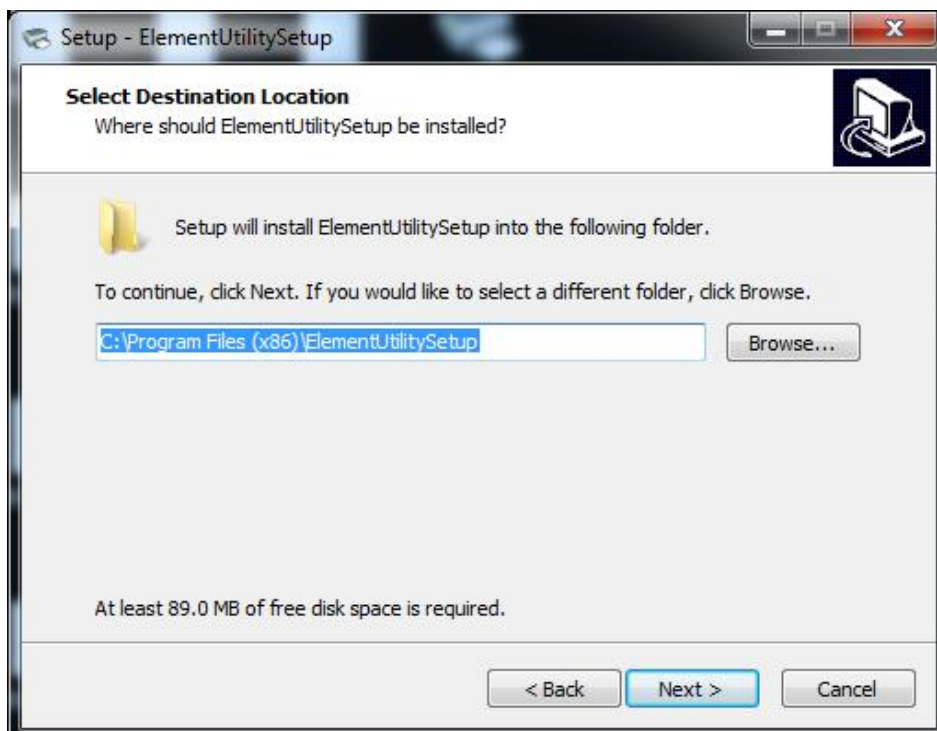
8.1 Utility Tool Installation

The following screen-shots are based on Win 7.

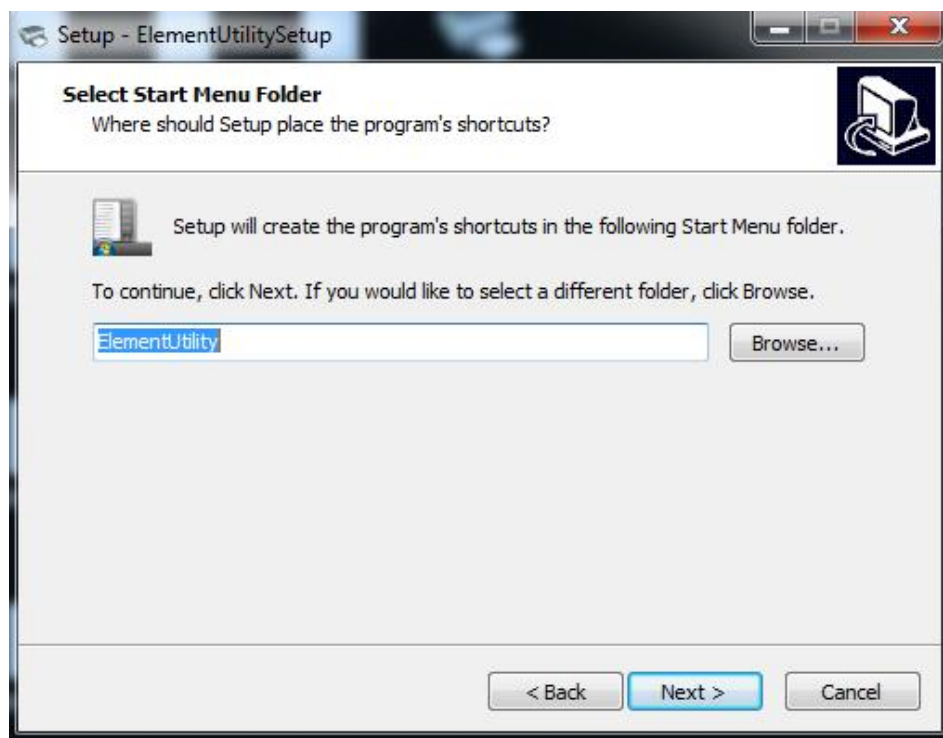
- 1) Double click the installation package and click “Next”.



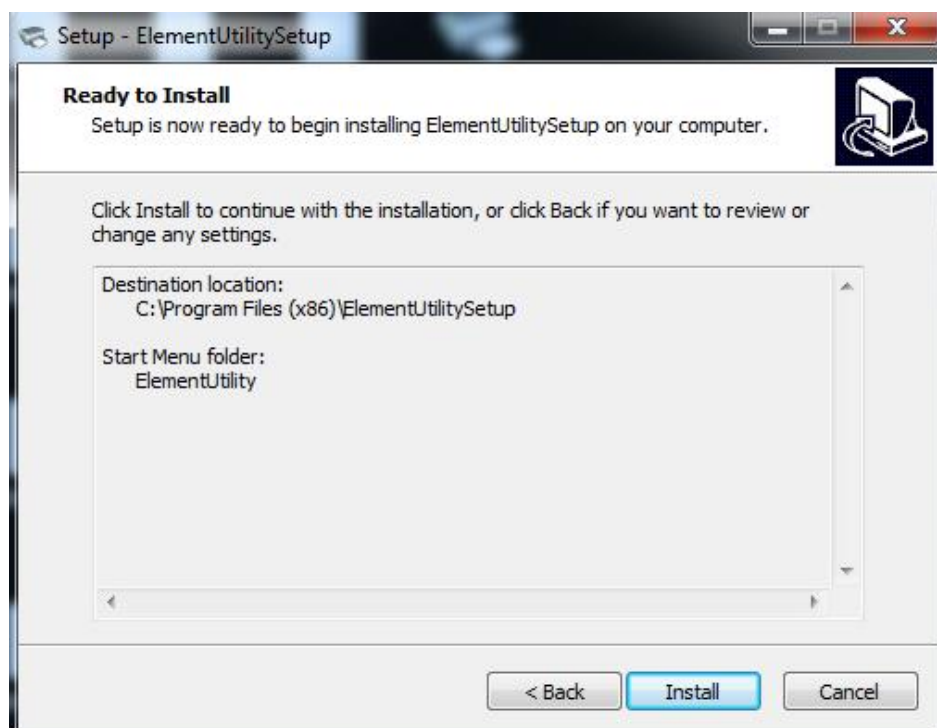
- 2) click “Browse” to select a folder that you want, and click “Next”.



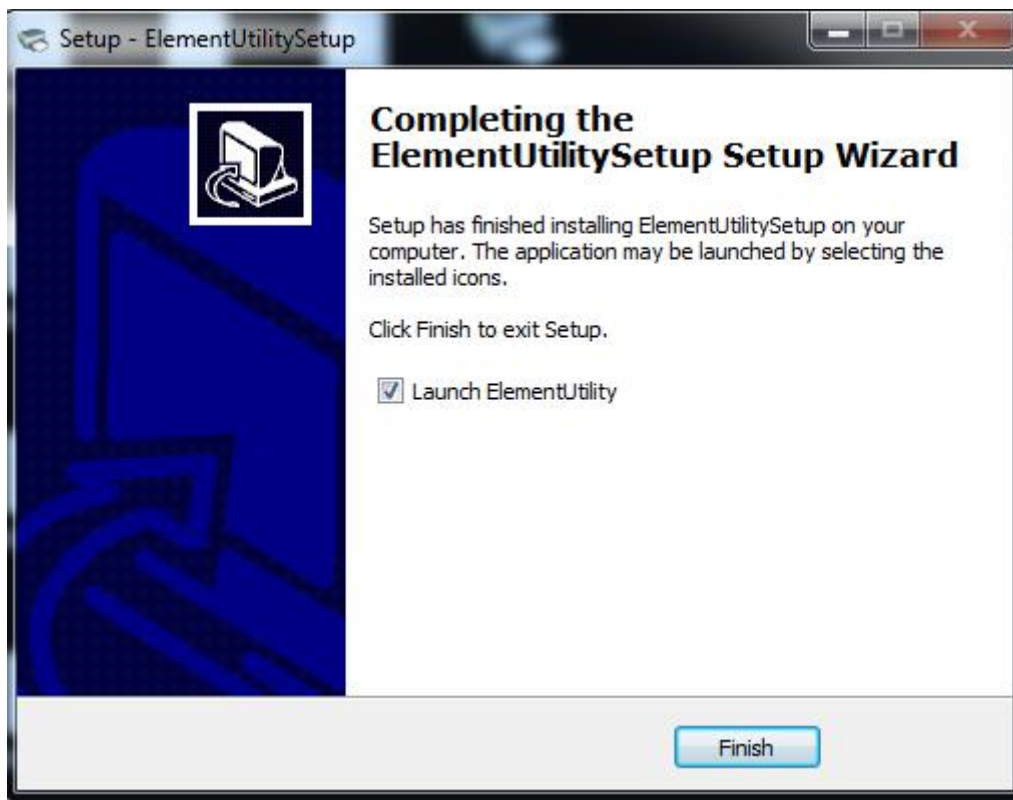
3) Click “Next”.



4) Click “Install”.



5) Click “Finish”. Utility is installed successfully.



8.2 Using Utility Tool

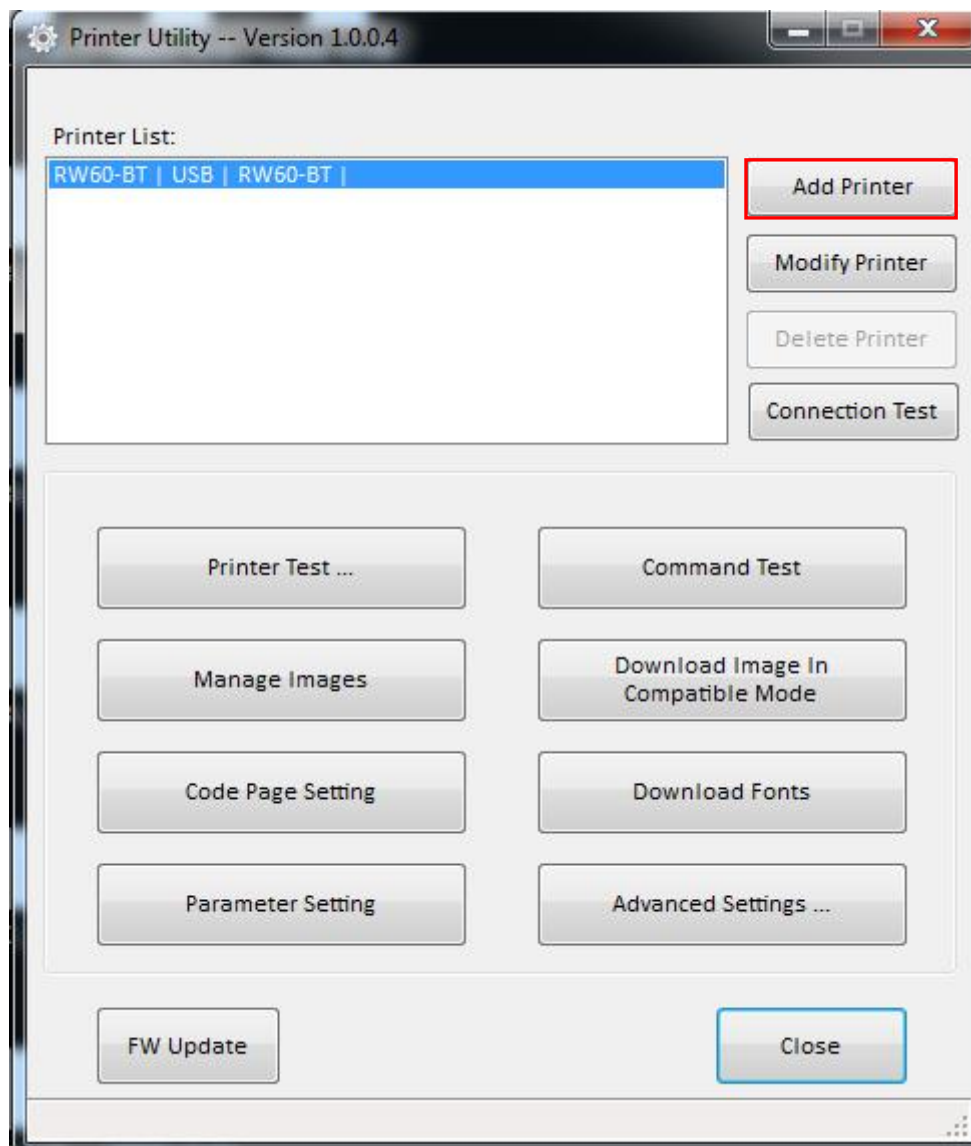


Warning: In different operating system, screen has a slight difference. Please operate it according to the tips. Take RW973 Mk II (Windows 7) for example.

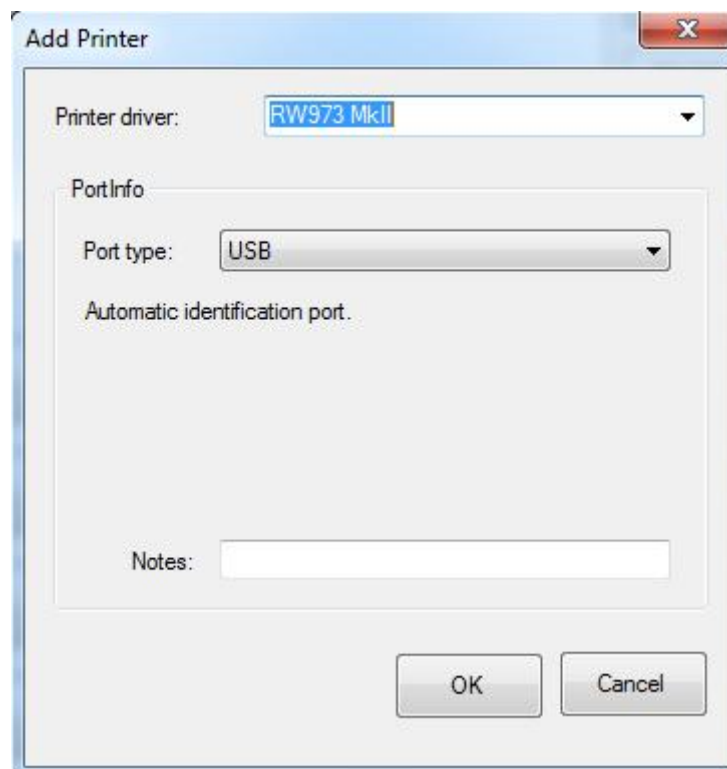
8.2.1 Add/Modify/Delete/Connect Printer

8.2.1.1 Add printer

1) Click "Add Printer".

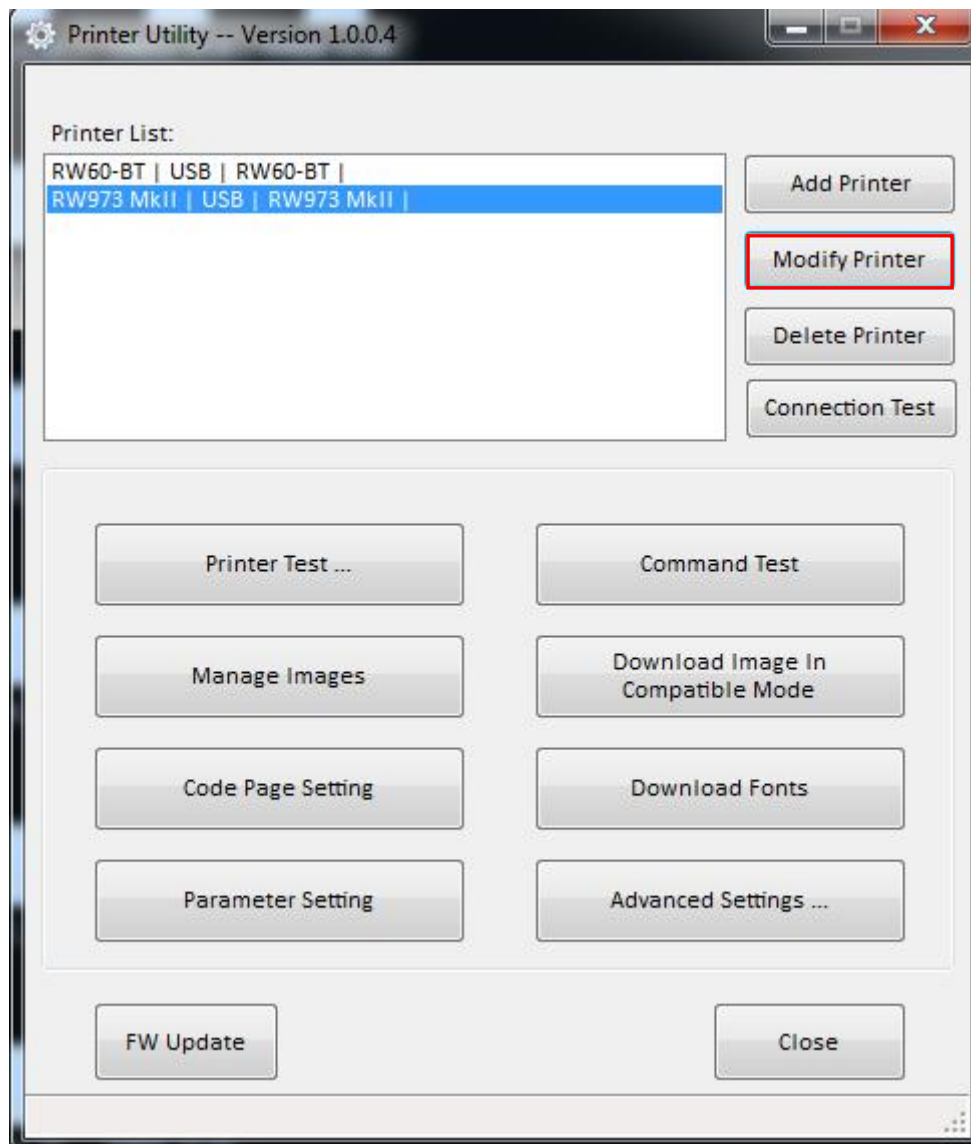


2) Choose the appropriate printer type and port. Then click “OK”. (Take RW973 Mk II for example.)

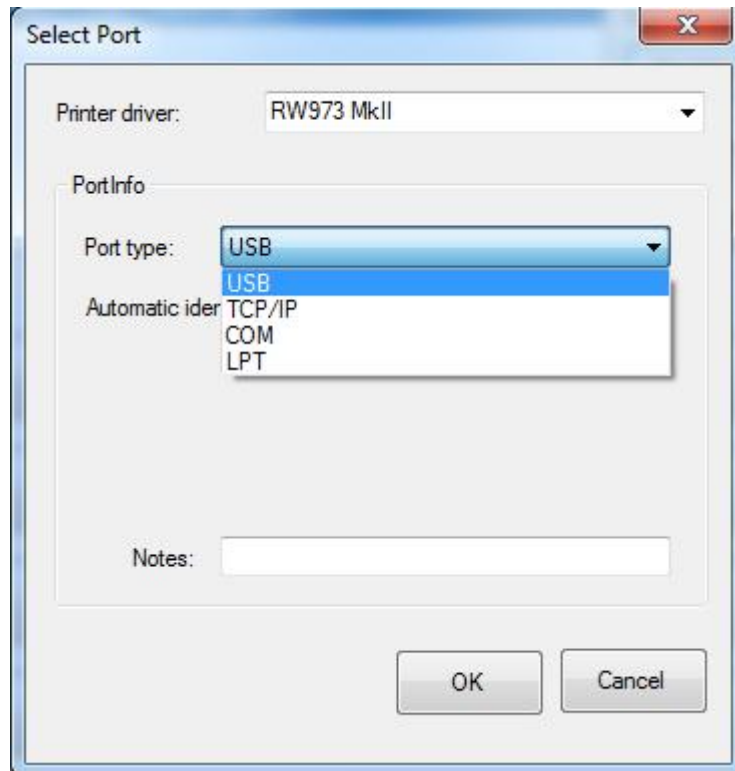


8.2.1.2 Modify printer

- 1) Choose the printer you want to modify in the list. Click “Modify Printer”.



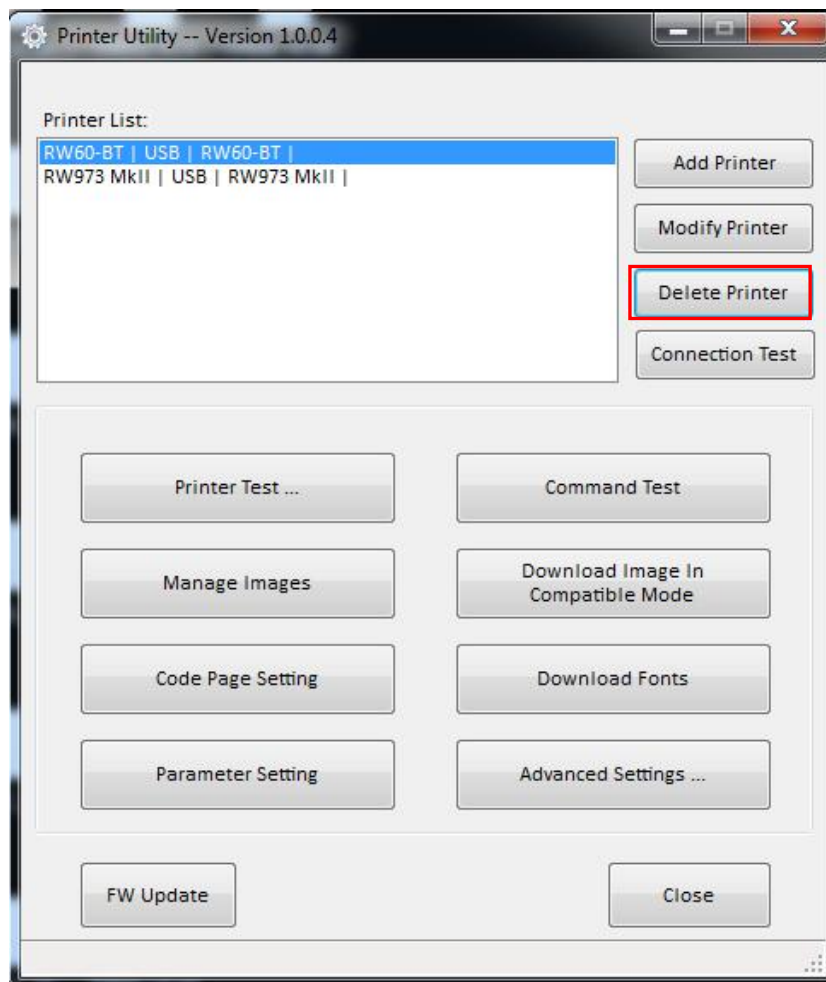
2) Choose the new printer and new port. Then click “OK”.



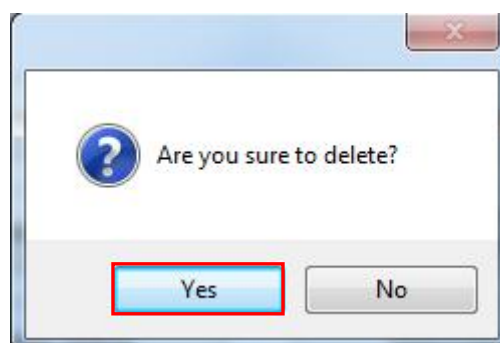
3) The new printer is added successfully.

8.2.1.3 Delete printer

1) Choose the printer you want to delete in the list and click “Delete Printer”.



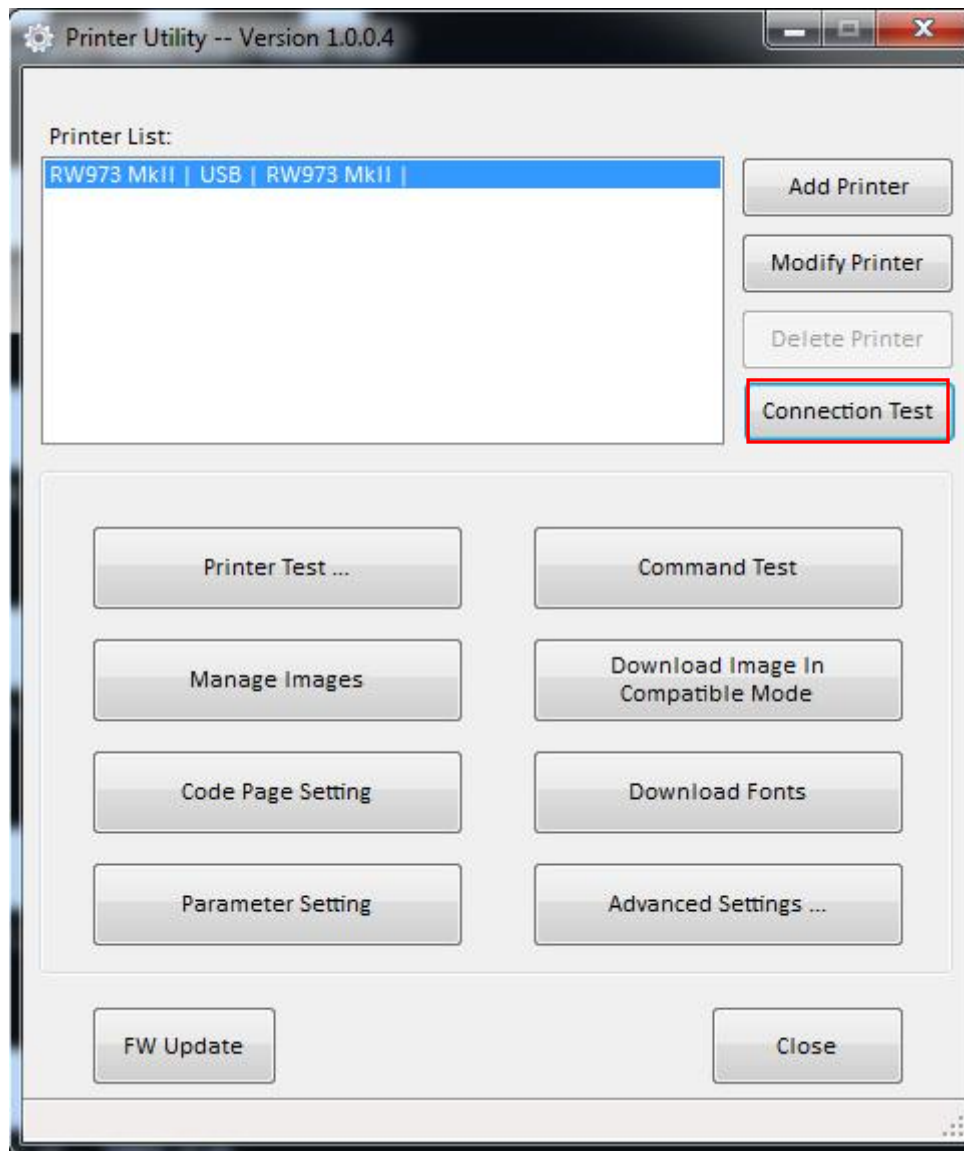
2) Click “Yes”, then the printer is deleted.



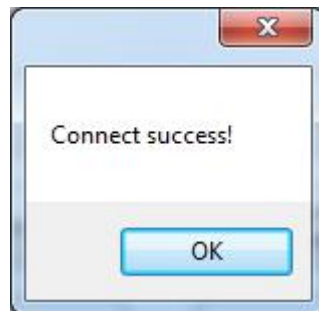
8.2.1.4 Connection Test

Make sure printer is connected to computer and it is powered on.

- 1) Choose the printer. Click “Connection Test”.



2) If the connection is successful, it will appear the following window. If the connection is unsuccessful, please connect the printer with computer.



Notes:

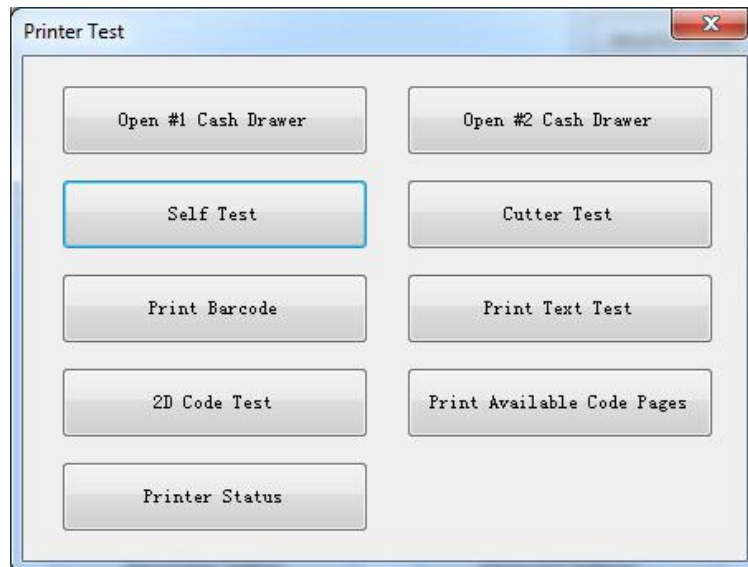
- 1) Make sure printer is connected with computer and power on.**
- 2) Make sure printer is loaded with paper.**
- 3) Before using the following function, carry out the “Connection Test” first.**

8.2.2 Functions

Printer Test contains the following items:

- Printer Test
- Command Test
- Manage Images
- Download Image in Compatible Mode
- Code Page Setting
- Download Fonts
- Parameter Setting
- Advanced Settings

8.2.2.1 Printer Test



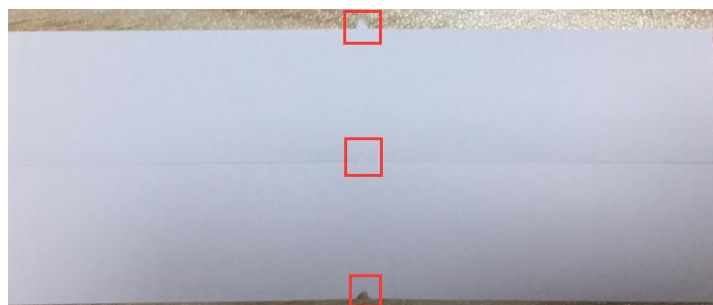
1) Self Test

Click "Self Test" to see if the printer will print properly.

2) Cutter Test

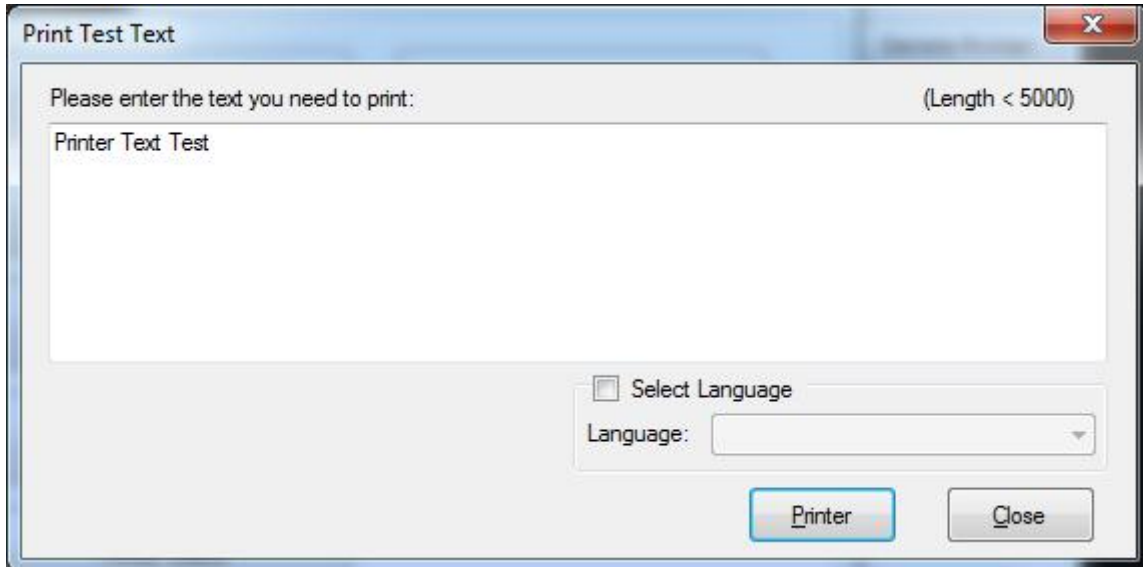
Click the cutter test and the paper will be cut automatically. Cutting method is partial cut. (Partial cut: the paper is not fully cut off. It leaves connection point between the cut off paper and the left paper.)

As shown in the figure:



3) Print Test Text

Click "Print Test Text", input the text you want to print. When you click "Print", the printer starts printing text content. Such as: Print Text Test.

**Note:**

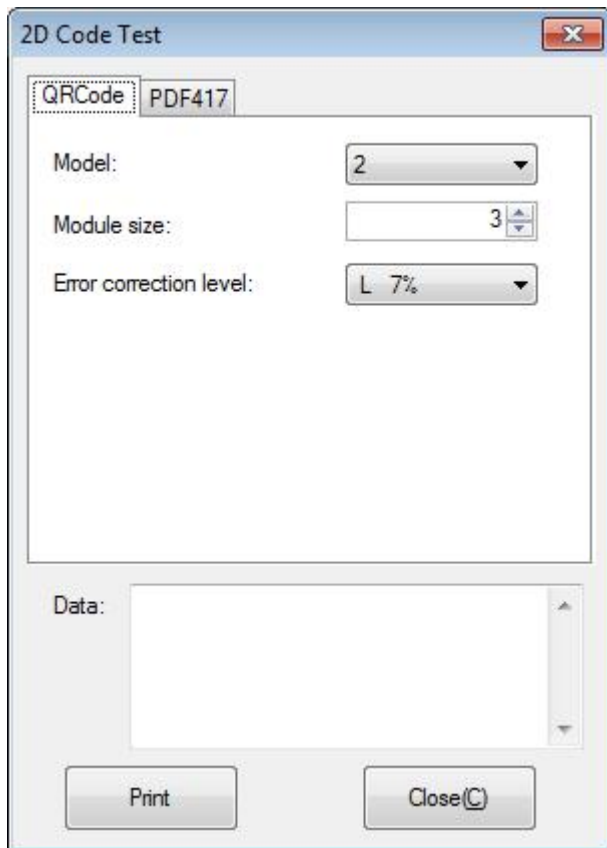
The language option in the lower right corner is checked according to the input text. (For example: The input is Simplified Chinese, the language is checked for Simplified Chinese, the printer prints the input text according to the setting options, and if you check other languages, the printer does not print the text)

4) Print Barcode

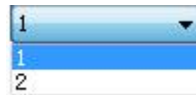
Click "Print Barcode" to obtain the barcode information.

5) 2D Code

Click the QRCode mode.



▲ Model: 1~2

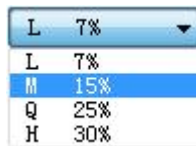


▲ Module size: 1~16

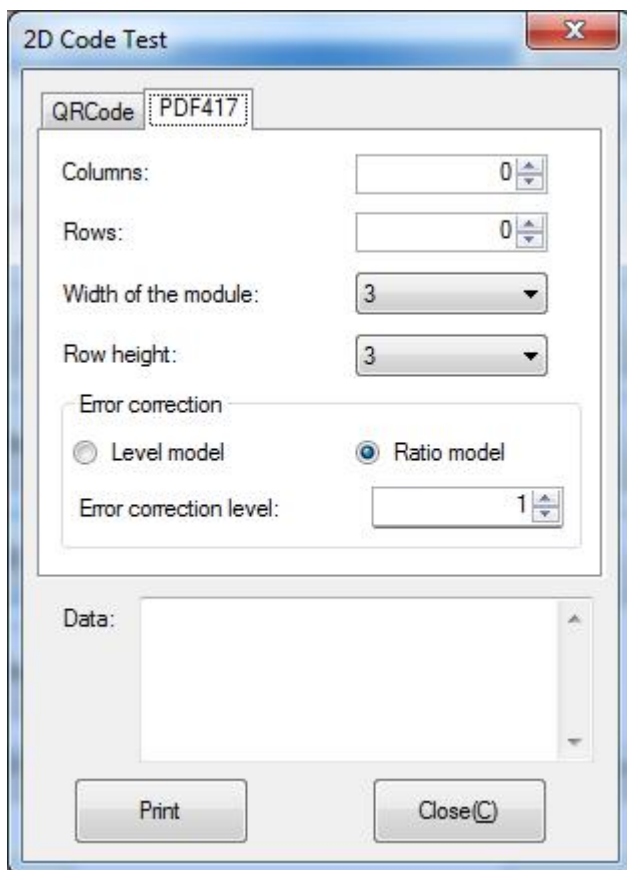
The larger the module value, the larger the printed QR code is, and the smaller the opposite.

▲ Error correction level: 7%~30%

The higher the error correction level, the more intensive the module graphics.



Click the PDF417 mode.



▲ Columns: 0~30

▲ Rows: 0~90

▲ Width of the module: 2~6

The larger the module value, the wider the width of the printed PDF417 barcode, and the smaller the opposite.



▲ Row height: 2~8

The larger the module value, the longer the printed PDF417 barcode, and the smaller the opposite.

▲ Error connection level: 0~40

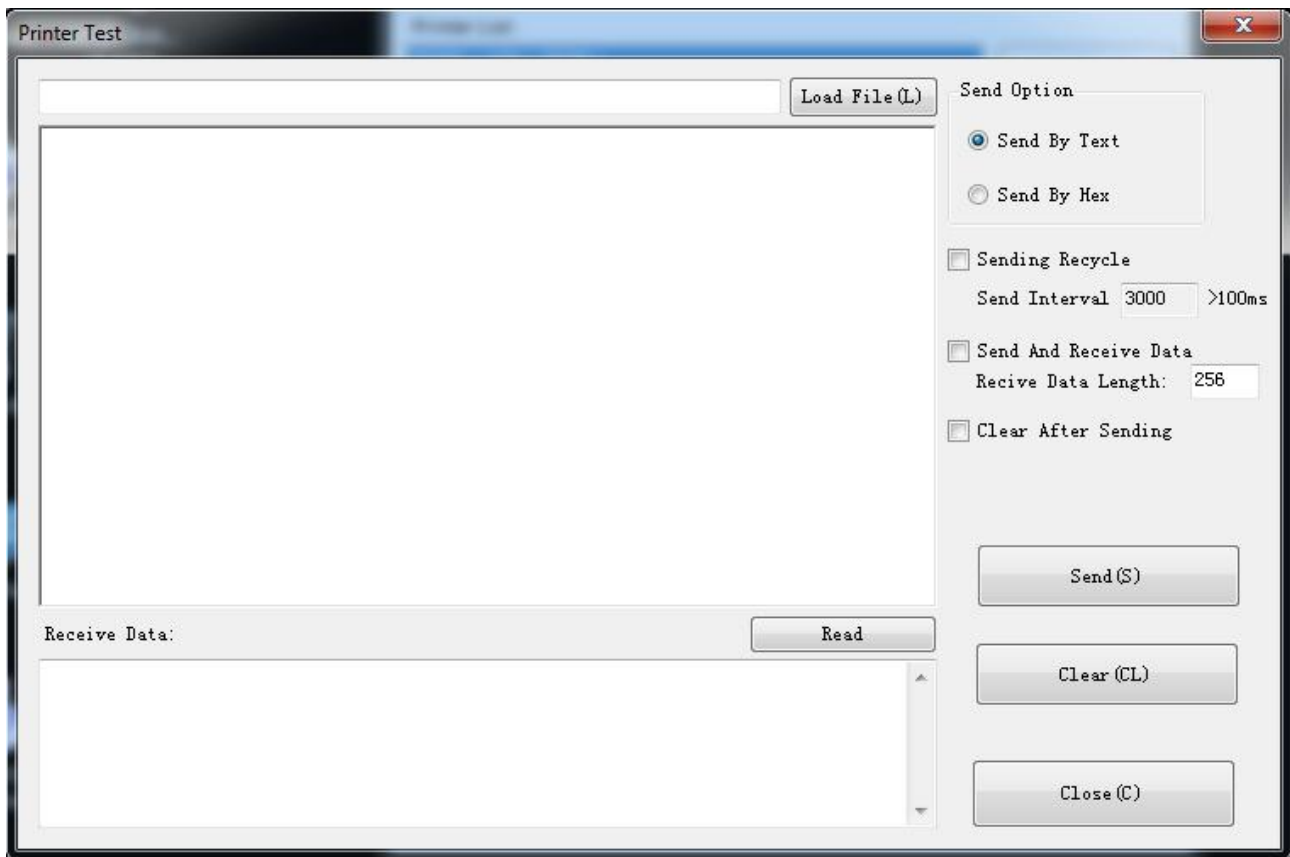
6) Print Available Code Pages

Click "Print Available Code Pages" to obtain the codepage test information.

8.2.2.2 Command Test

In the command test, you can send command to the printer. Input text or hexadecimal data. Select a file or enter a command in the input box.

- 1) Click “Send by Text”, input text content.



▲ Sending Recycle:

When the interval is set to 3000ms (you can set the interval as needed), then click “Send”, the printer starts to recycle printing. Click “Stop” to stop the recycle printing.

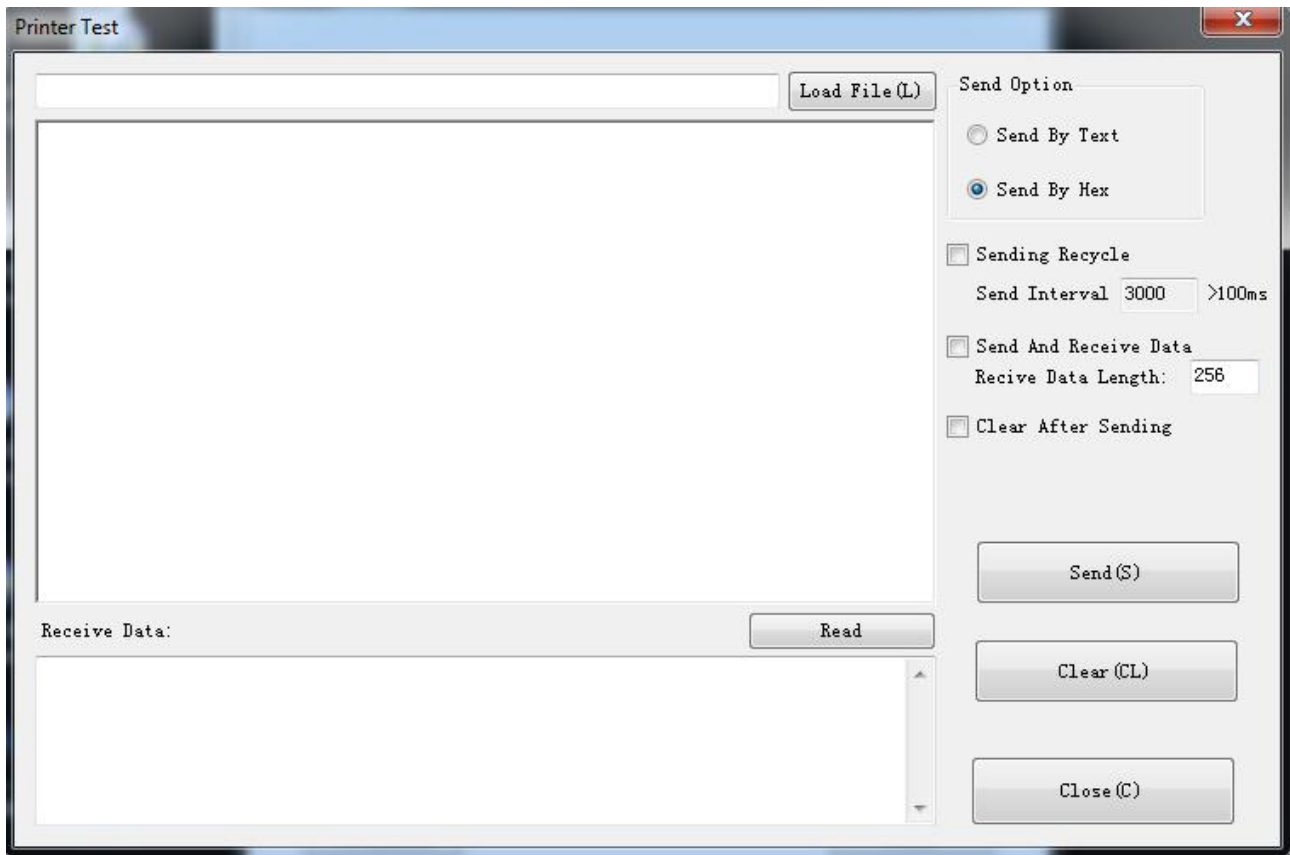
The screenshot shows a 'Send Option' dialog box with the following controls:

- Send Option**
 - ☒ Send By Text
 - ☐ Send By Hex
- ☐ Sending Recycle
 - Send Interval: 3000 >100ms
- ☐ Send And Receive Data
 - Recive Data Length: 256
- ☐ Clear After Sending

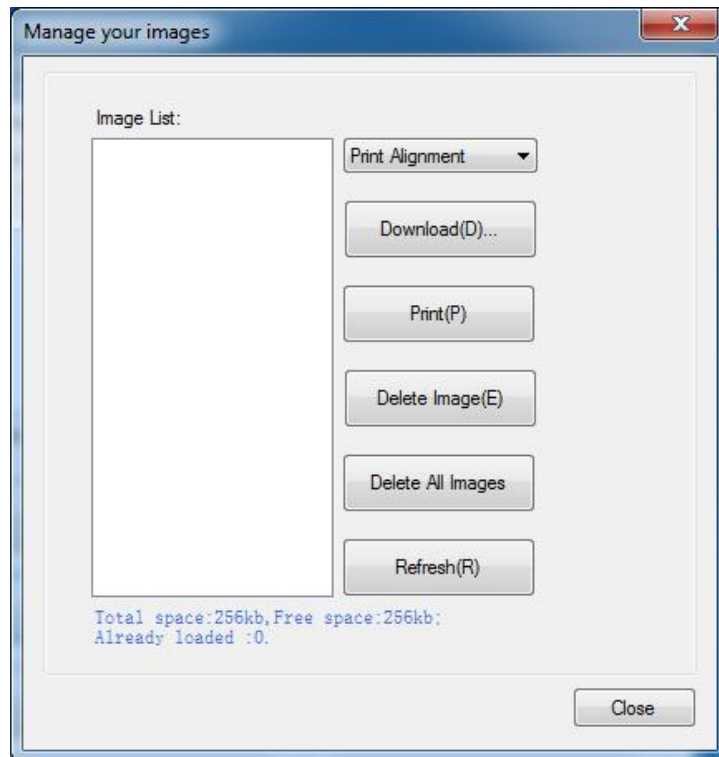
At the bottom of the dialog are three buttons:

- Send (S)
- Clear (CL)
- Close (C)

2) Click “Send by Hex”, input the content. (Convert text to HEX or send ESC command)



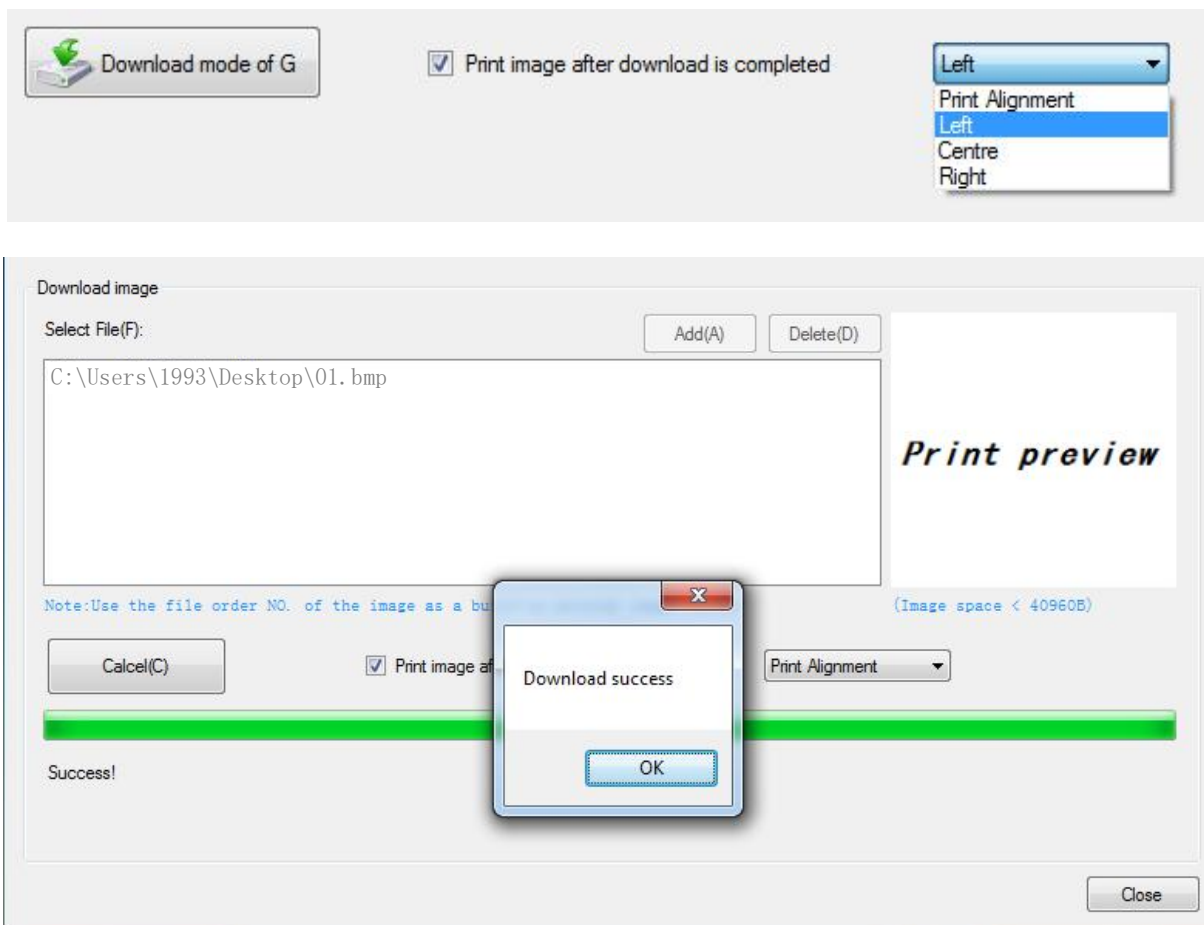
8.2.2.3 Manage Images



1) Click "Download" to add the image, if you want to print the picture, set the print location before clicking "Download mode of G" to print the picture. (It is recommended to use a picture in BMP format)



2) Select the print location, center, left, and right. (Such as, left print).

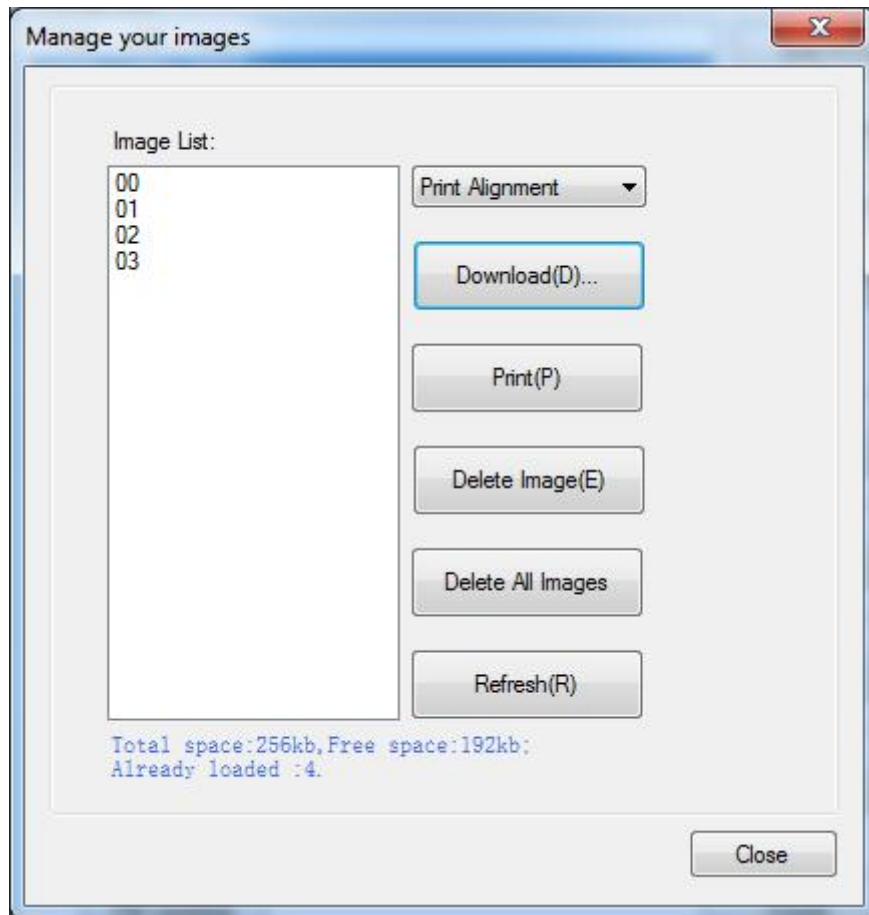


Note: Total memory 256K, each bitmap should be below 40K.

3) Delete Image.



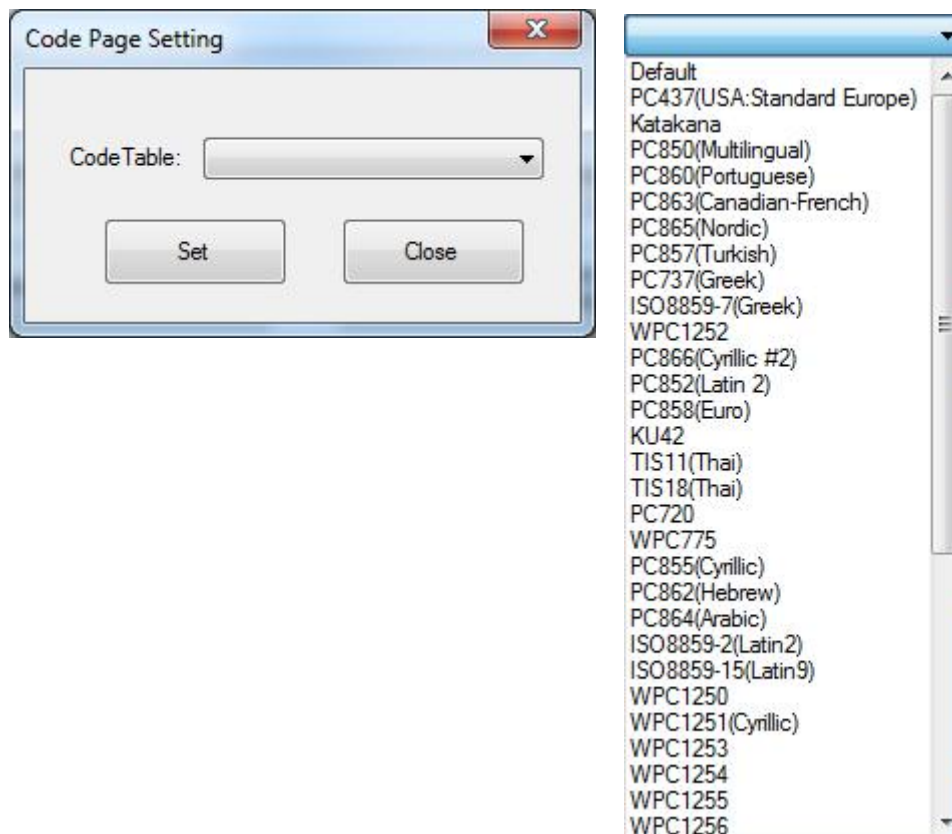
Note: Each time click "Download mode of G", an image list number will be generated.



Click the image list, select "Delete selected image" will delete the image, click "Delete all Images", without clicking the list option to delete all the images in the list.

8.2.2.4 Code Page Setting

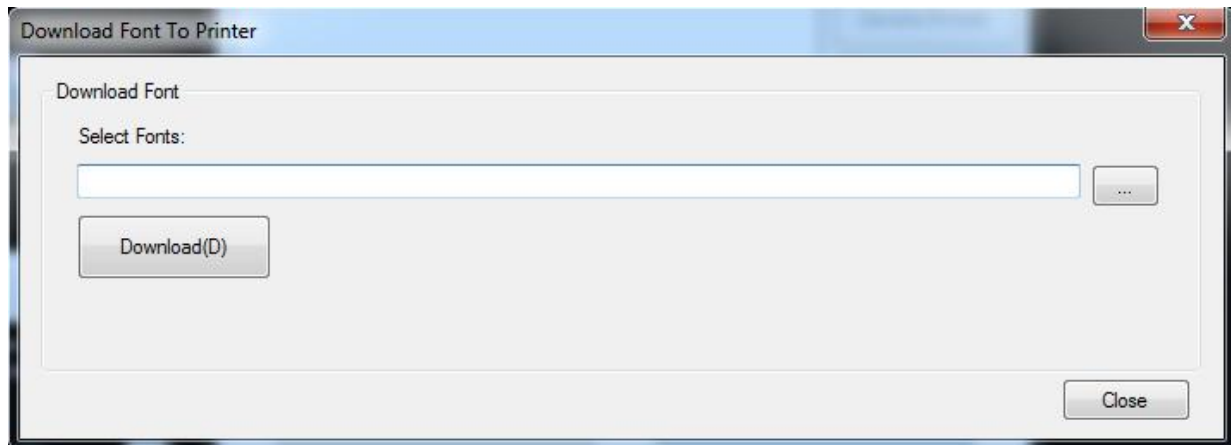
Select the code page from the list and click “Set”.



Note: This code page is only valid in multiple languages.

8.2.2.5 Download Fonts

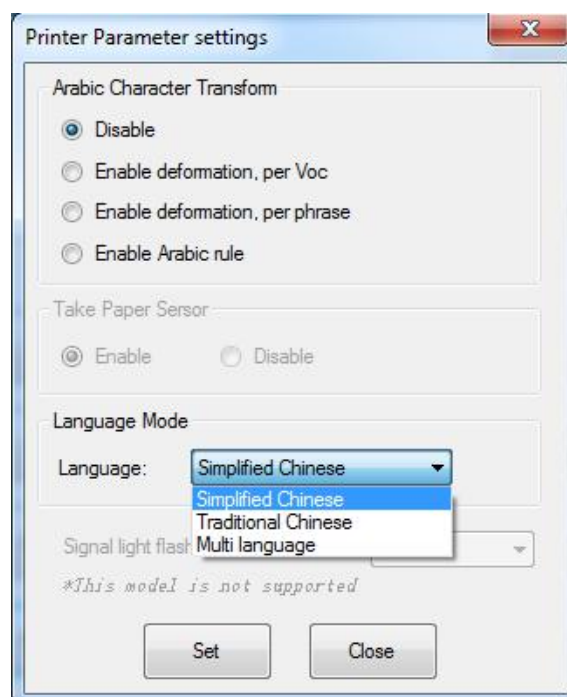
Select the font from the existing file and click "Download".



Note: After downloading the font successfully, you need to restart the printer to take effect

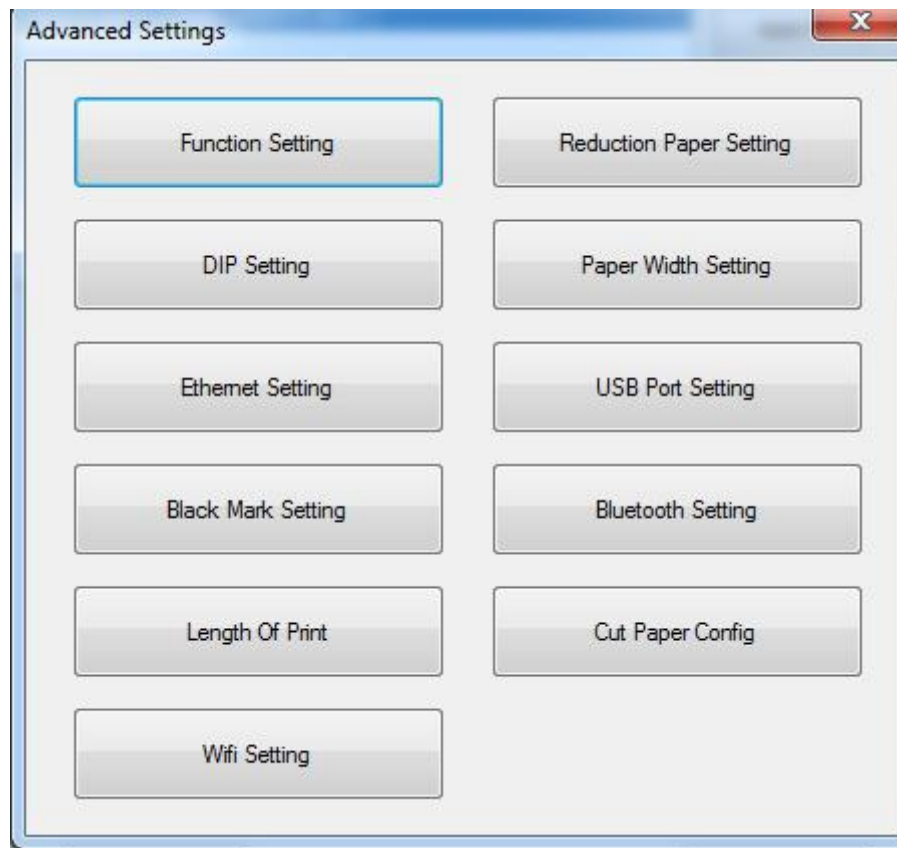
8.2.2.6 Parameter Setting

You can set Arabic Character Transform (for example: WPC1256).



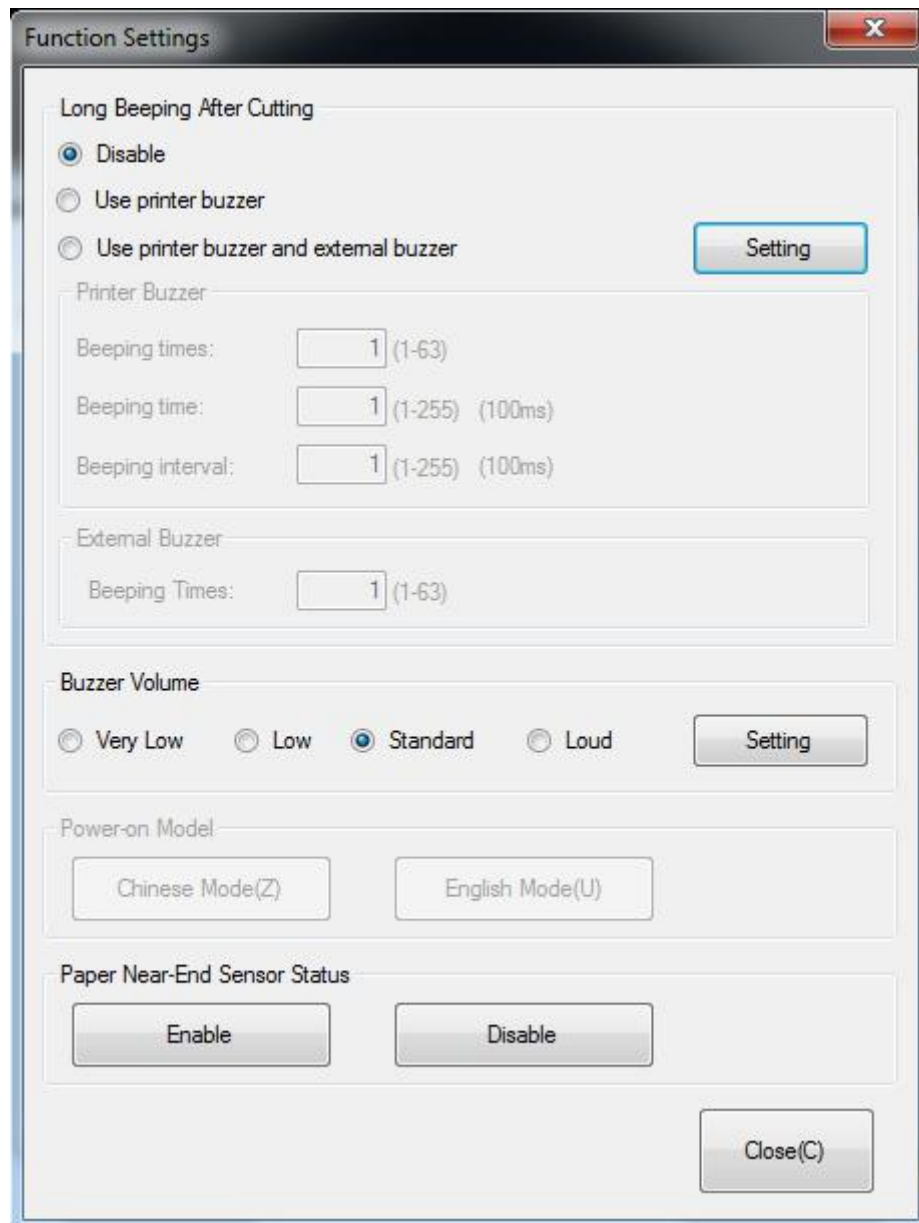
8.2.2.7 Advanced Setting

Click the button and printer will execute the appropriate action. The change will take into effect after restarting the printer.



◆ Function Setting

Choose the item and click “Setting”.



The image shows a 'Function Settings' dialog box with a title bar containing a close button (X). The dialog is organized into several sections:

- Long Beeping After Cutting:** Contains three radio buttons: 'Disable' (selected), 'Use printer buzzer', and 'Use printer buzzer and external buzzer'. A 'Setting' button is located to the right of these options.
- Printer Buzzer:** Contains three input fields:
 - 'Beeping times:' with a value of '1' and a range '(1-63)'.
 - 'Beeping time:' with a value of '1' and a range '(1-255) (100ms)'.
 - 'Beeping interval:' with a value of '1' and a range '(1-255) (100ms)'.
- External Buzzer:** Contains one input field:
 - 'Beeping Times:' with a value of '1' and a range '(1-63)'.
- Buzzer Volume:** Contains four radio buttons: 'Very Low', 'Low', 'Standard' (selected), and 'Loud'. A 'Setting' button is located to the right.
- Power-on Model:** Contains two buttons: 'Chinese Mode(Z)' and 'English Mode(U)'.
- Paper Near-End Sensor Status:** Contains two buttons: 'Enable' and 'Disable'.

A 'Close(C)' button is located at the bottom right of the dialog.

- **Long Beeping After Cutting:**

- ① **Disable:** there is no sound after cutting
- ② **Use printer buzzer** (The beeping time, times and interval time can be set for what you want, such as 2 milliseconds, 3 milliseconds or 4 milliseconds, etc.):

The following setting is set as an example:

When cutting one piece of paper each time, the printer will emit the “Beep” for one time, and the beeping time is two milliseconds and beeping interval is three milliseconds.



Printer Buzzer

Beeping times: (1-255)

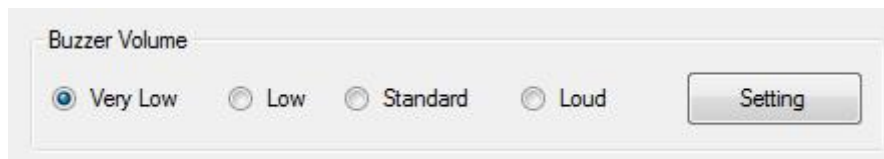
Beeping time: (1-255) (100ms)

Beeping interval: (1-255) (100ms)



Note: 100ms=0.1s, 1s=1000ms

- **Buzzer Volume:**

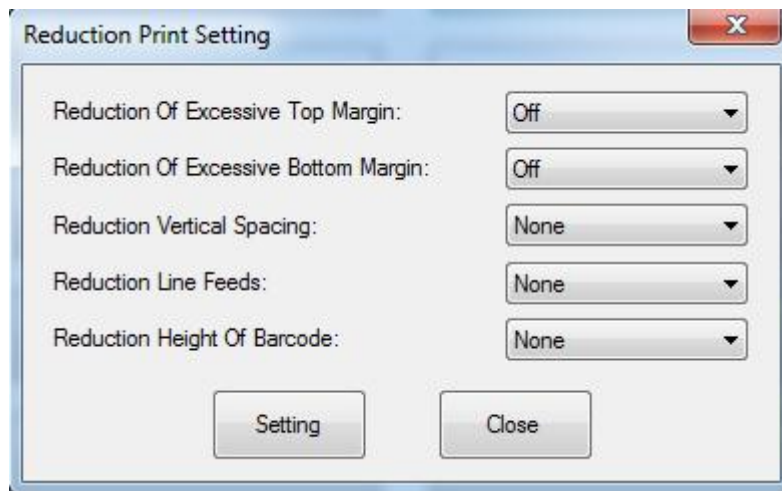


Buzzer Volume

☒ Very Low ☐ Low ☐ Standard ☐ Loud

The “Very Low” is the minimum sound, and the “Loud” the maximum sound. You can select a volume level and click "Setting" to print (Default: "Standard" level).

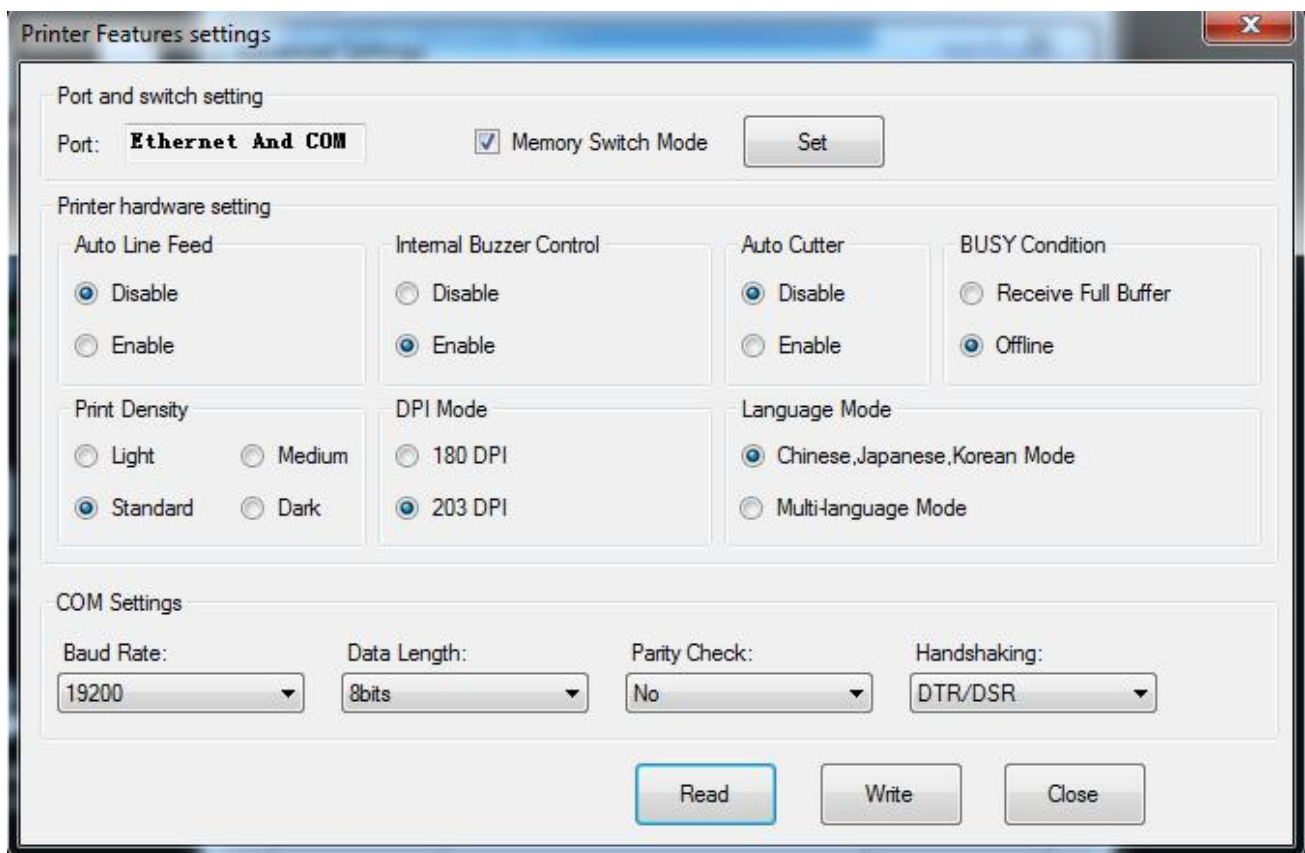
◆ Reduction Paper Setting



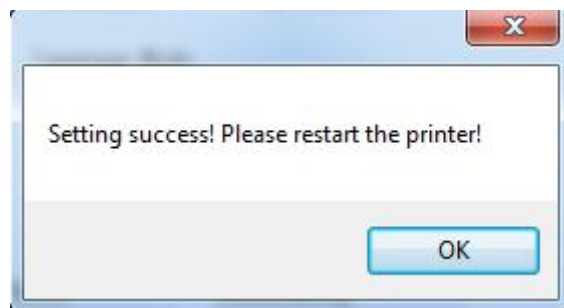
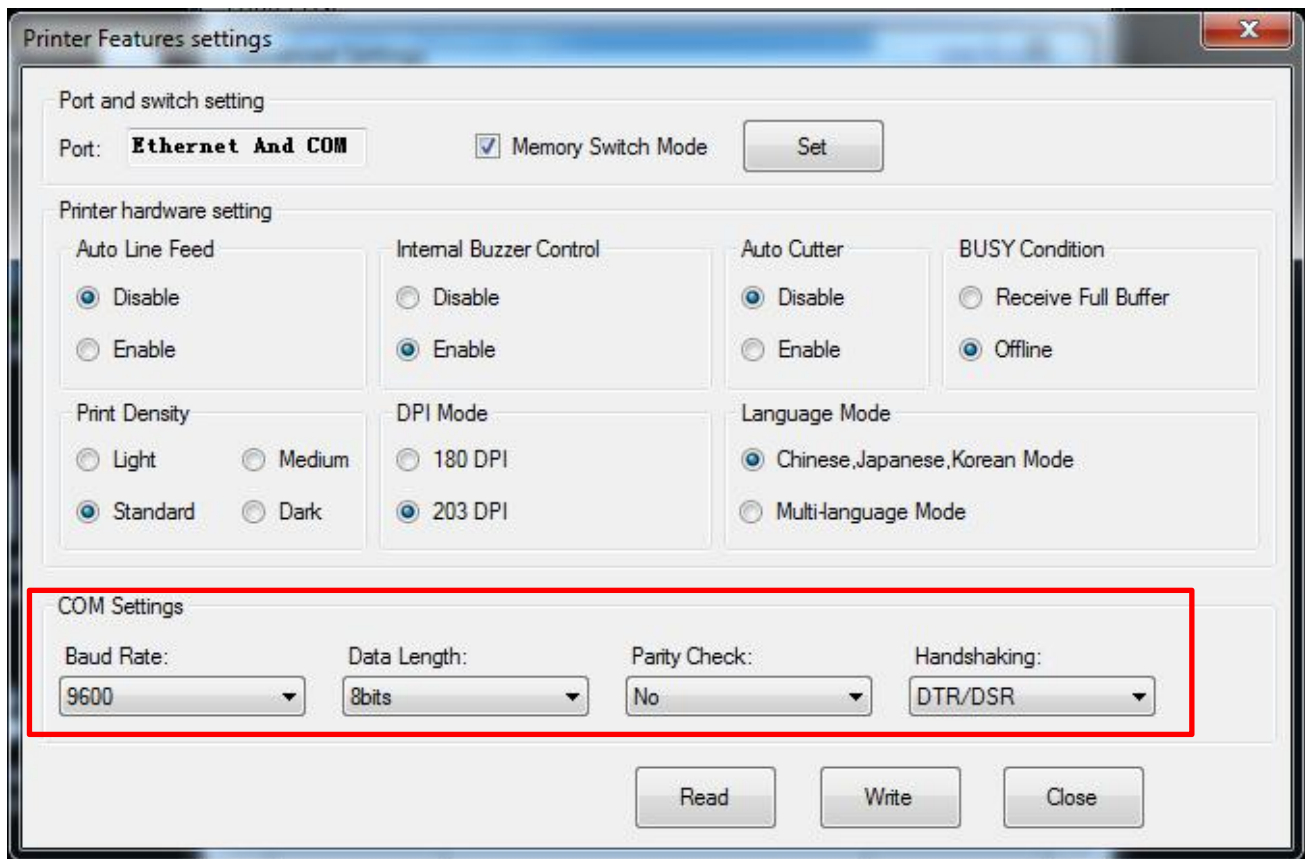
Choose the item and click "Setting".

◆ DIP Setting

Click "Read" to get the printer parameters, click "Write" to send the modified parameters to the printer.



After the serial port parameter is set, click "Write".



Note: When DIP setting is set in soft, the DIP switch in the bottom of printer is disable.

After setting the DIP successfully, you need to restart the printer to take the settings into effect..

- **Printer hardware setting**

- 1) Print Density: Light, Medium, Standard, Dark (default "standard" level)

The print density value varies according to the paper material and it can be adjusted to suit your needs.

- 2) DIP Mode: 180/203DPI (default "203 DPI")

The printer supports both of these resolutions.

- 3) Language Mode:

Chinese, Japanese, Korean mode (default)

Multi-language mode

- **COM Setting**

- 1) Baud Rate: 2400, 4800, 9600, 19200, 38400, 57600, 115200
- 2) Data Length: 7bits, 8bits
- 3) Parity Check: No, EVEN, ODD
- 4) ADDC: DTR/DSR, XON/XOFF



Note: The value of the serial port parameter can be obtained according to the value of the

Self-test page information:

E.g: Self-test page (Serial 115200, None, 8, 1, DTR/DSR)

Baud Rate: 115200

Parity Check: None

Data Length: 8bits

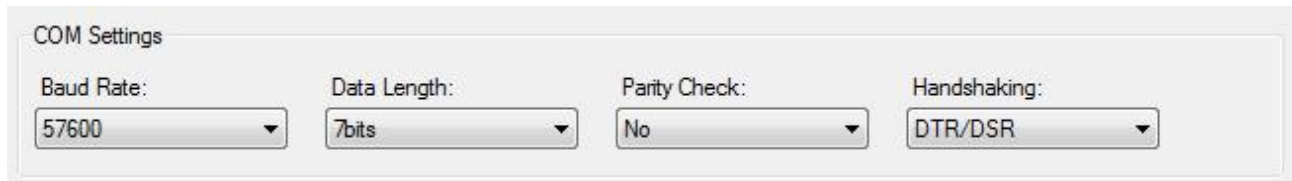
Stop Bits: 1

ADDC: DTR/DSR



Note: When the DIP setting is set in memory switch mode, the DIP switch at the bottom of the printer need to be disabled.

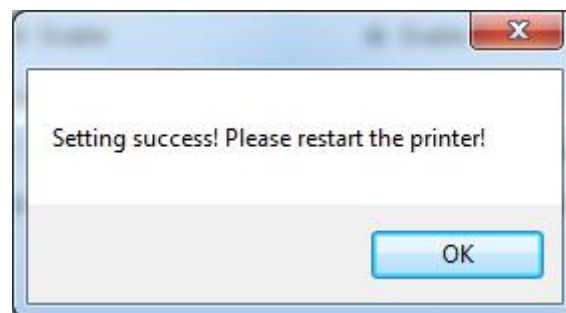
- **Modify the COM setting**



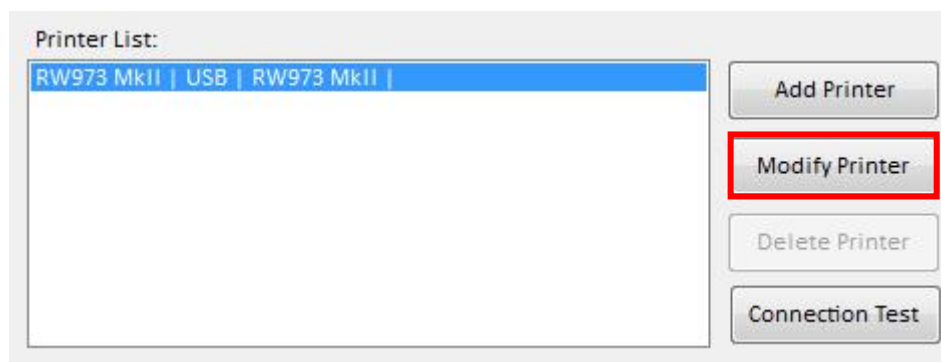
COM Settings

Baud Rate: 57600 Data Length: 7bits Parity Check: No Handshaking: DTR/DSR

1) After setting the parameters as required, click "Write" and restart the printer.



2) After restarting the printer, open the main menu screen of the tool and click "Modify Printer".



Printer List:

RW973 MkII USB RW973 MkII

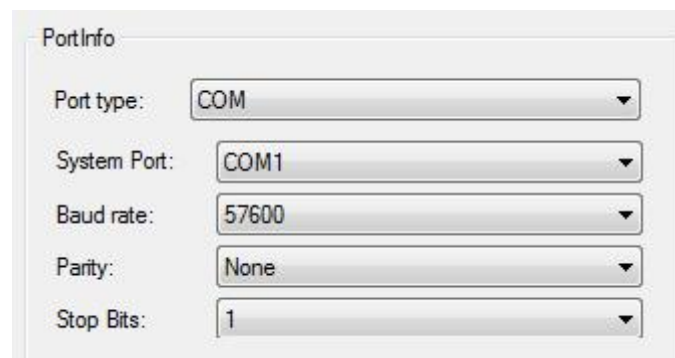
Add Printer

Modify Printer

Delete Printer

Connection Test

3) Select the port category "COM" and set the baud rate to the value "57600" as shown above, and parity "None". This port allows you to print after setup is complete.



PortInfo

Port type: COM

System Port: COM1

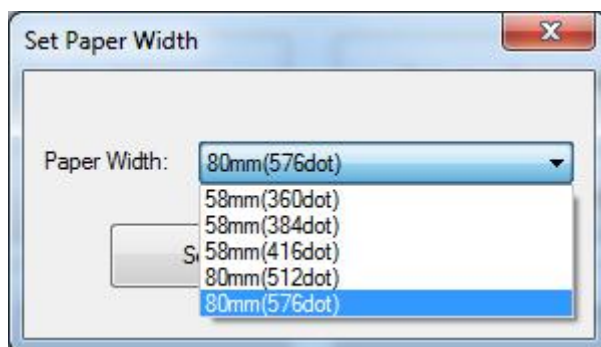
Baud rate: 57600

Parity: None

Stop Bits: 1

◆ Paper Width Setting

Choose the item and click “Setting”.



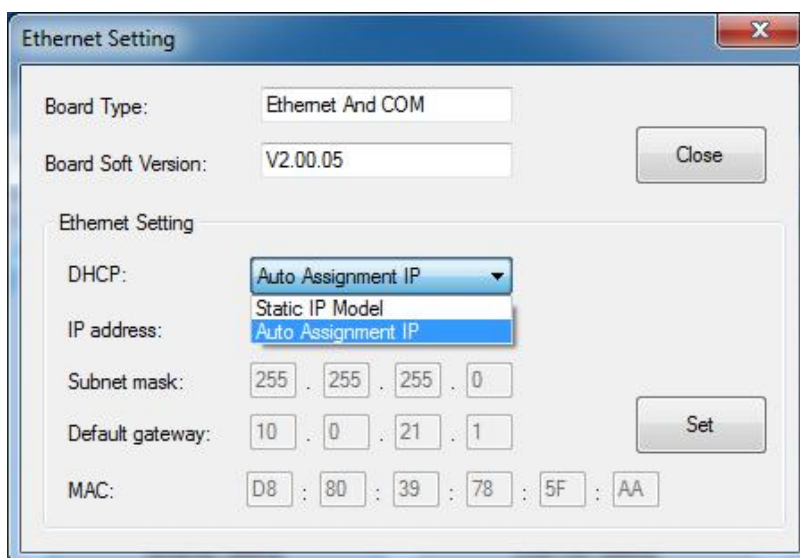
Note: Select the paper width above according to the paper print width.

◆ Ethernet Setting

This mode is divided into “Auto Assignment IP” and “Static IP Mode”, select one of the modes to connect as needed.



Note: IP addresses can be obtained from the Self-test page.



- Static IP Mode

1) Change the printer IP address so that the printer IP address (such as: 192.168.0.33) is the same segment as the host IP address (such as: 10.0.21.89).

Here is the illustration:

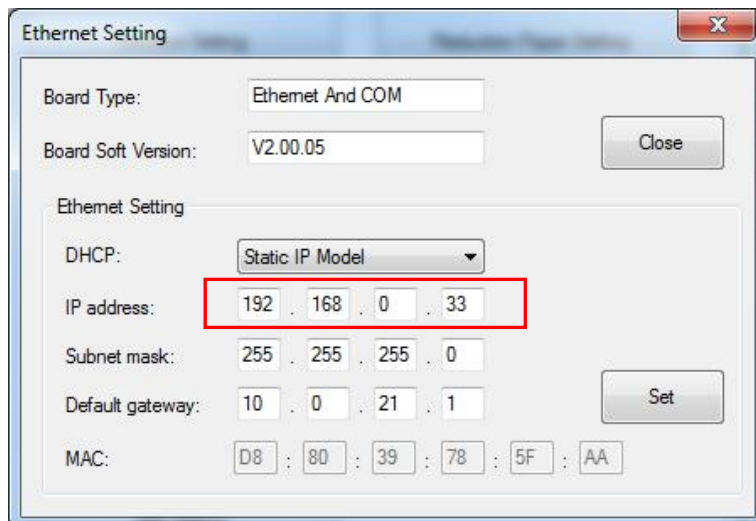


Figure ■ Printer IP Address

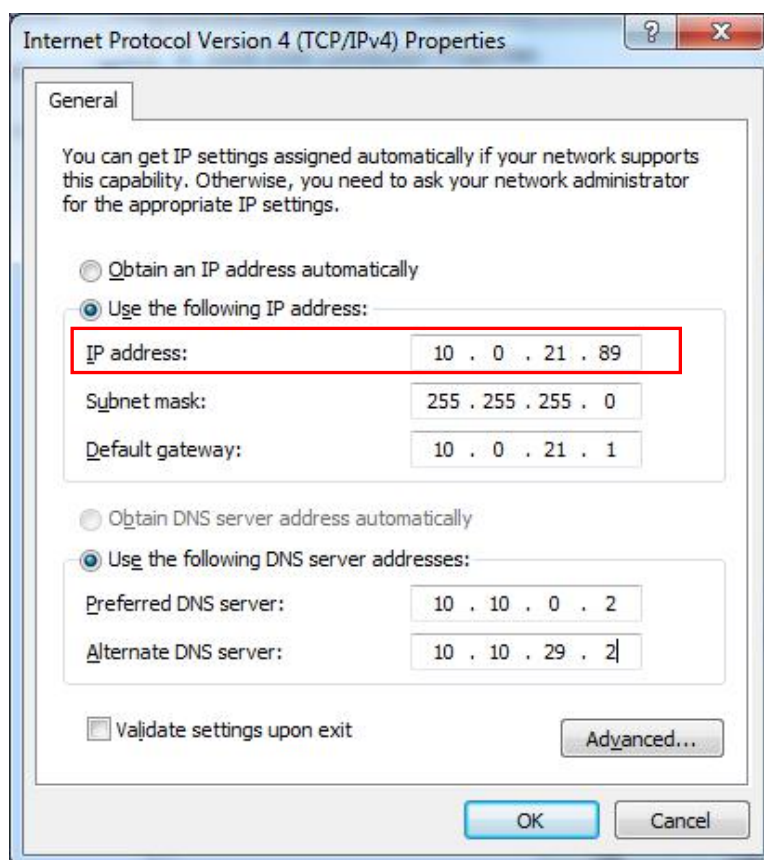


Figure ■ Host IP Address

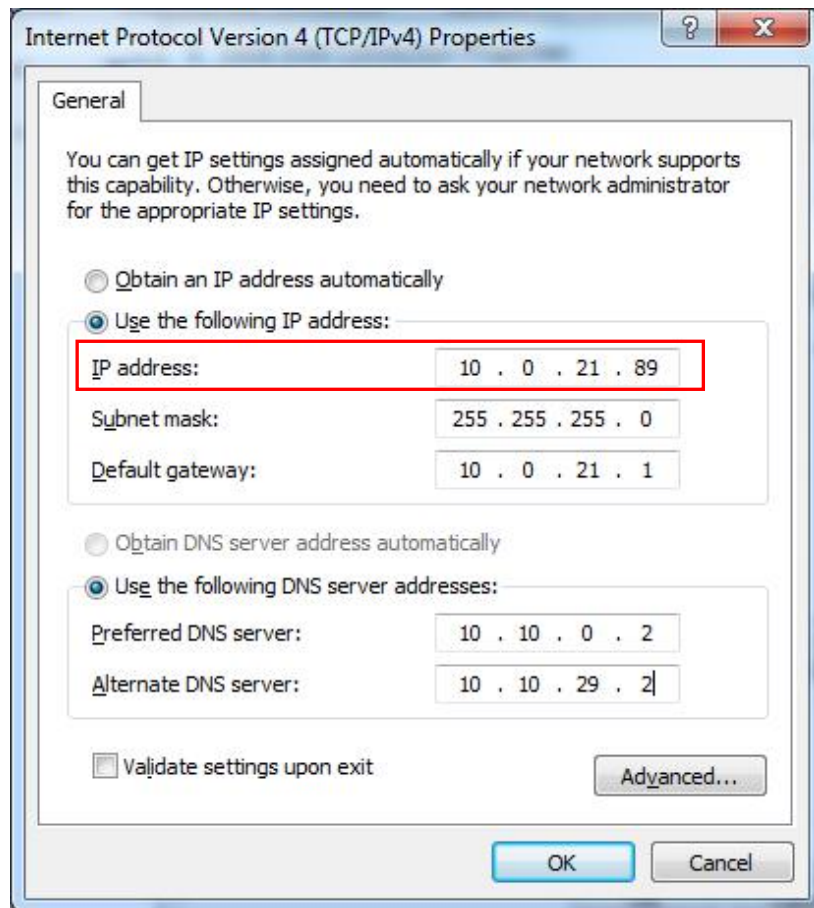


Figure ■ Host IP Address

2) Set the same network segment.

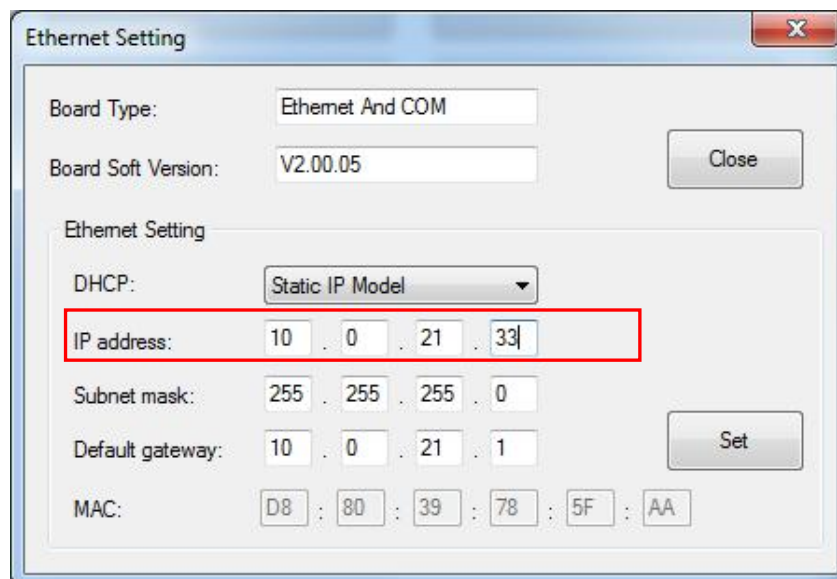
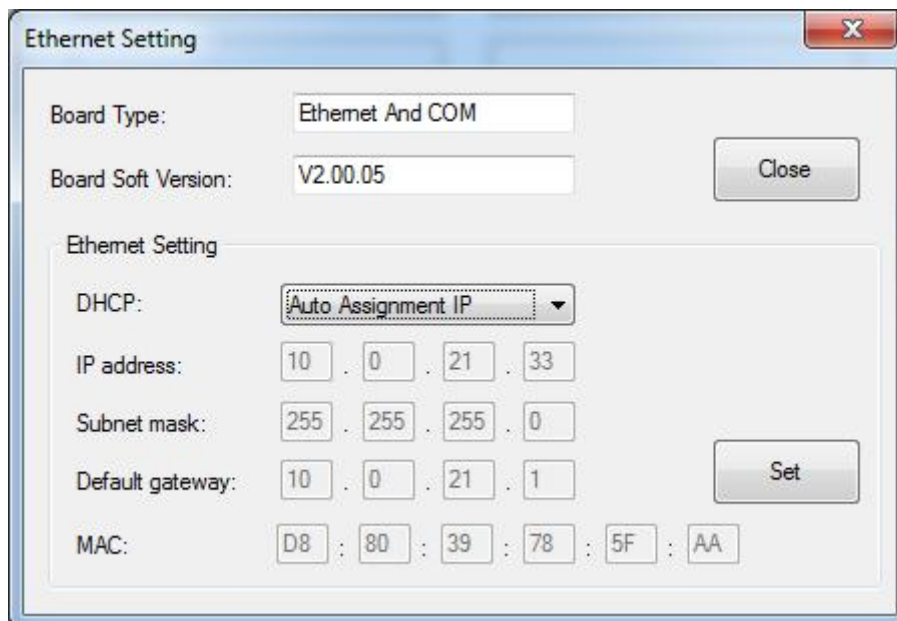


Figure ■ Printer IP Address

- Auto Assignment IP

This mode automatically assigns the IP address to the printer.

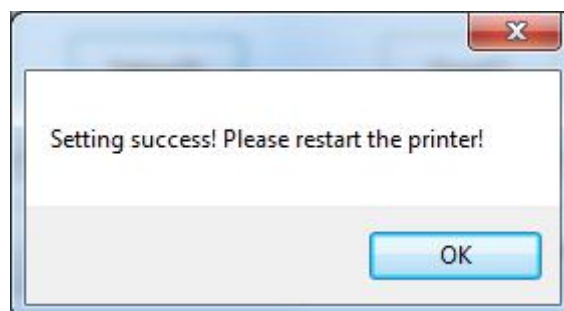


When the settings are complete, click "Write", then restart the printer.

- ◆ **USB Port Setting**

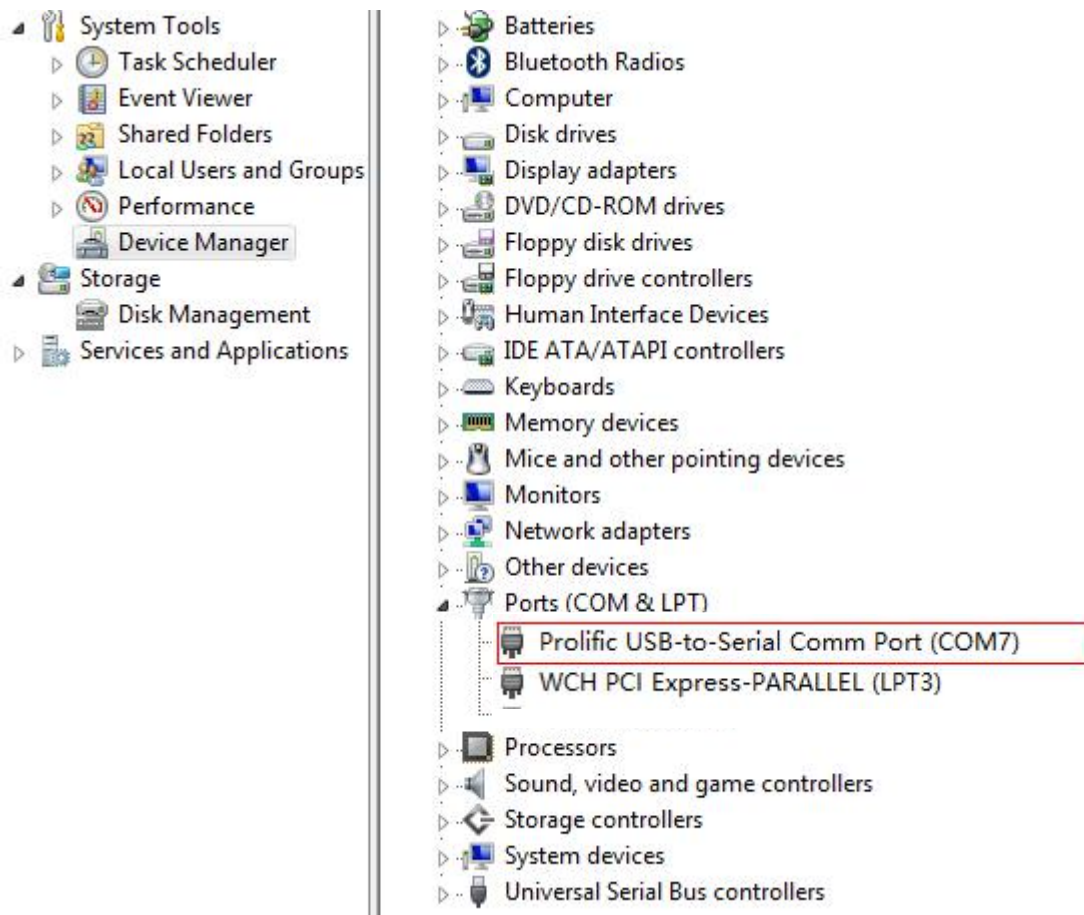
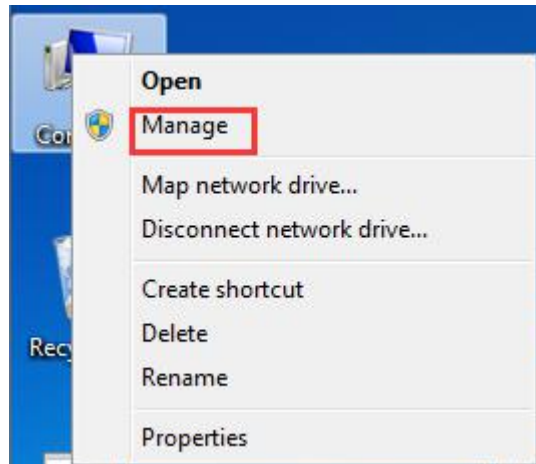


Click "Virtual serial port" setting and restart the printer.

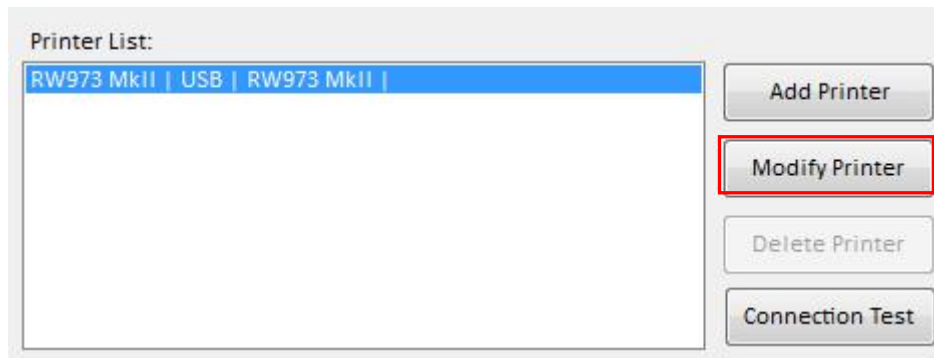


- **Check the Virtual Serial Port**

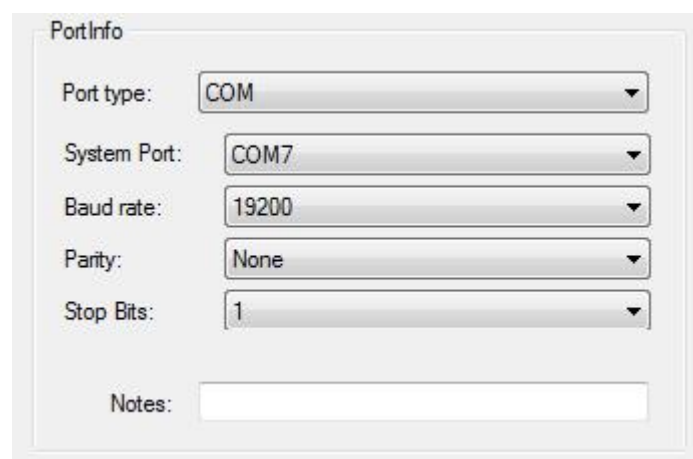
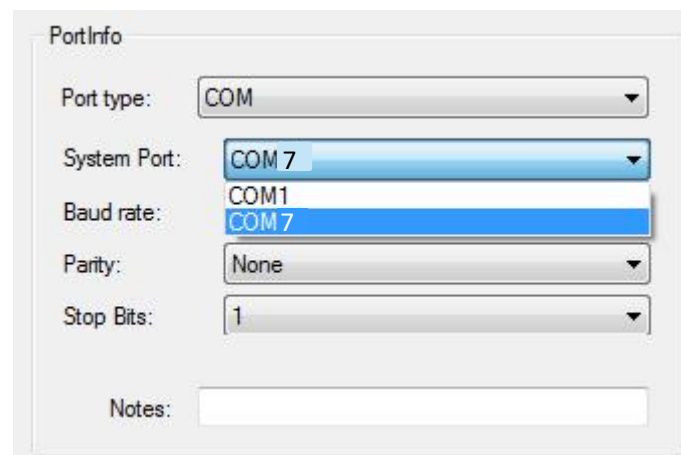
- 1) Right-click the computer and select "Manage".
- 2) Click "Device Manager" to view the virtual port. (such as: COM7).



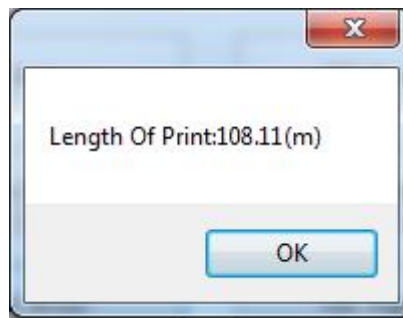
3) Return to the printer utility and click "Modify Printer".



4) Change the port to "COM7".

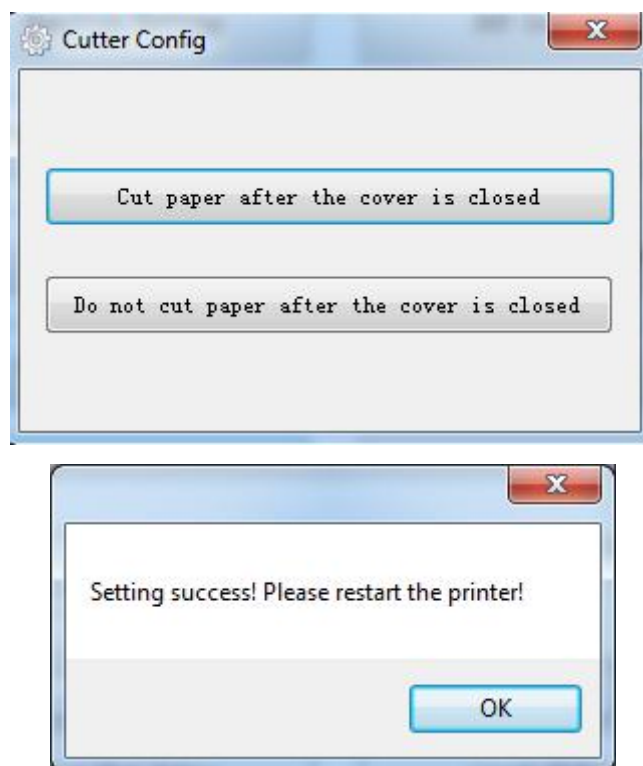


◆ **Length Of Print**



It shows the length of the paper that the print head of the printer has printed.

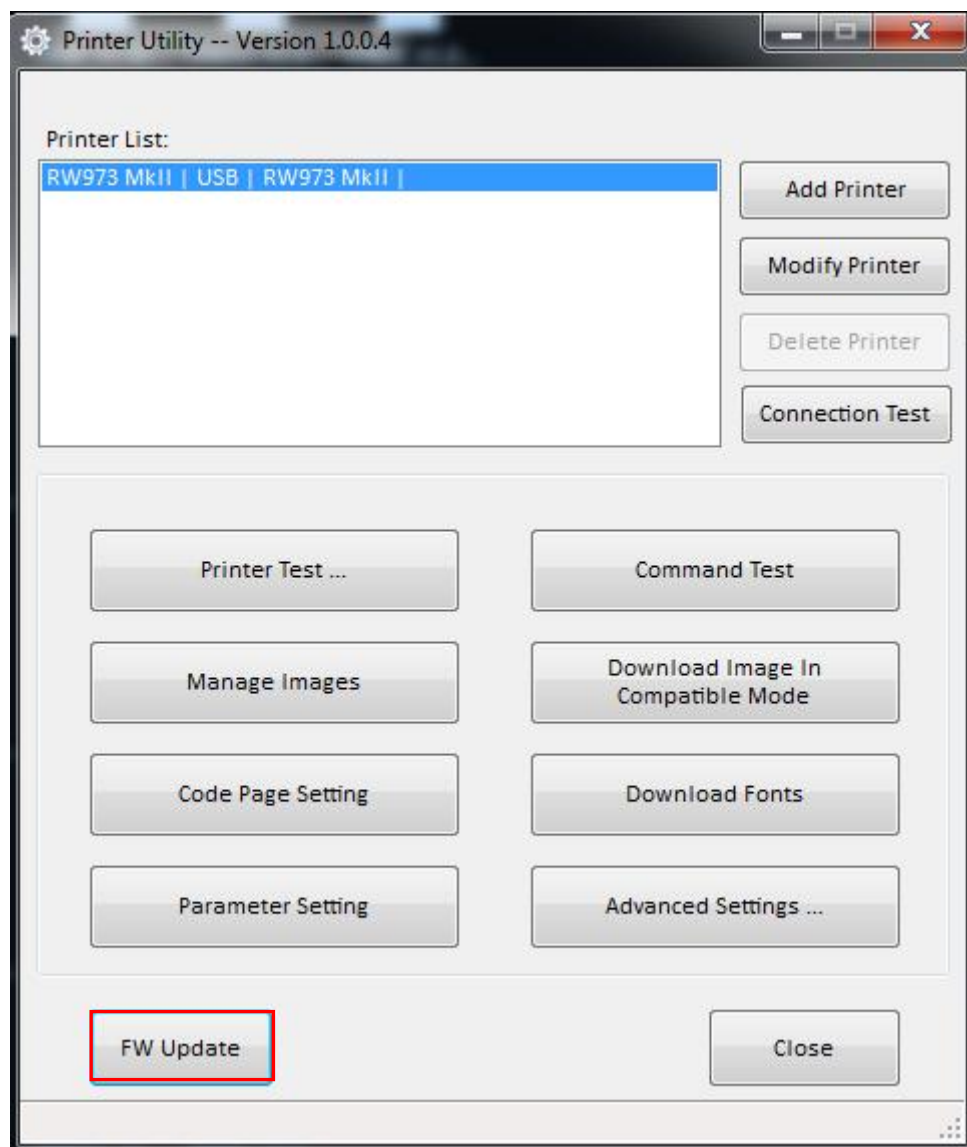
◆ **Cut Paper Config**



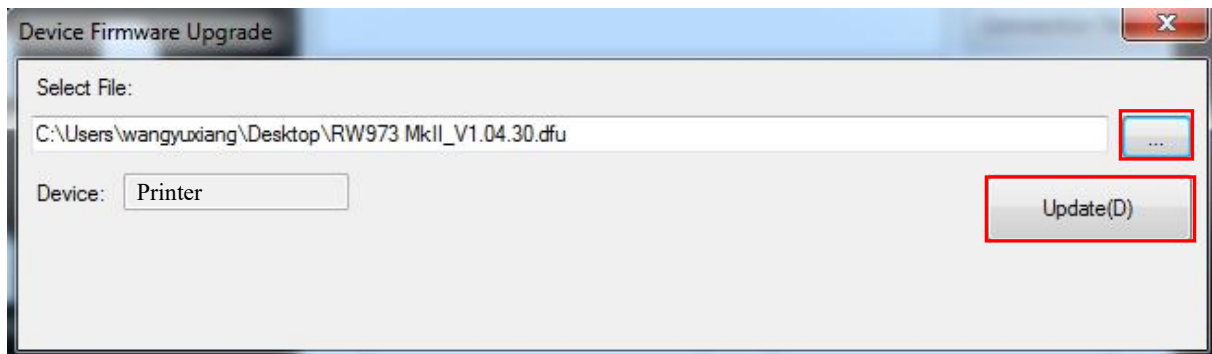
- 1) Cut paper after the cover is closed: the printer automatically cuts the paper after closing the cover.
- 2) Do not cut paper after the cover is closed: the printer does not automatically cut the paper after closing the cover.

8.3 Firmware Update

1) Click “FW Update”.



2) Add the “dfu” file. When the device appears in the list, click “Update”.



3) Click “Update”.

4) Update success.



5) Restart the printer.

9 WINDOWS DRIVER MANUAL

9.1 Manual Information

This Windows Driver Installation Manual provides information on installation, detailed specifications, and usage of the printer's Windows Driver according to PC operating system (OS).

We maintain ongoing efforts to enhance and upgrade the functions and quality of all our products.

As follows, product specifications and/or user manual content may be changed without prior notice.

9.2 Operating System (OS) Environment

The following operating systems are supported for usage.

- Microsoft Windows 10 (32 bit/64 bit)
- Microsoft Windows 8 (32 bit/64 bit)
- Microsoft Windows 7 SPI (32 bit/64 bit)
- Microsoft Windows Vista SP2 (32 bit/64 bit)
- Microsoft Windows XP Professional SP3 (32 bit)
- Microsoft Windows Server 2012(64 bit)
- Microsoft Windows Server 2008 R2

9.3 Windows Driver Preparation

The Windows Driver is included in the enclosed CD.

The installation file name is Element Printer Driver-v-X.X.X.X.exe

eg : Element Printer Driver-v-2.7.1.2.exe

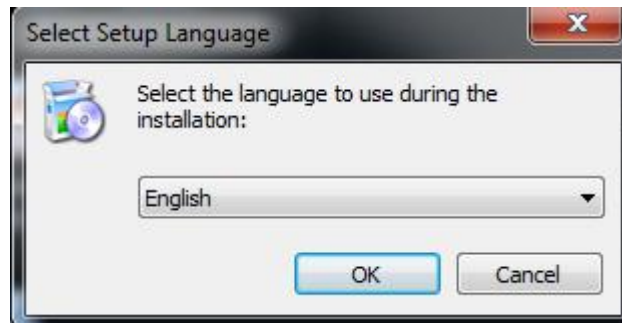
9.4 Windows Driver Installation



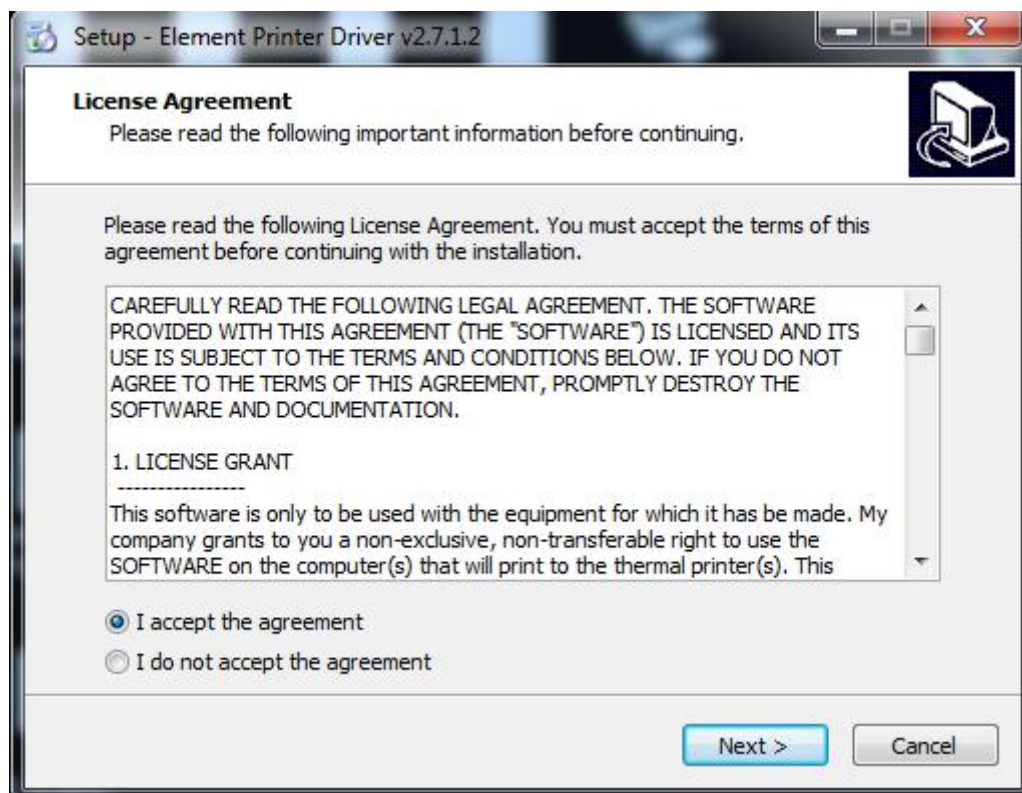
Warning:

Under different operating system, the screen has slight difference. Please operate it according to the tips. Take Element RW973 Mk II (Windows 7) as example.

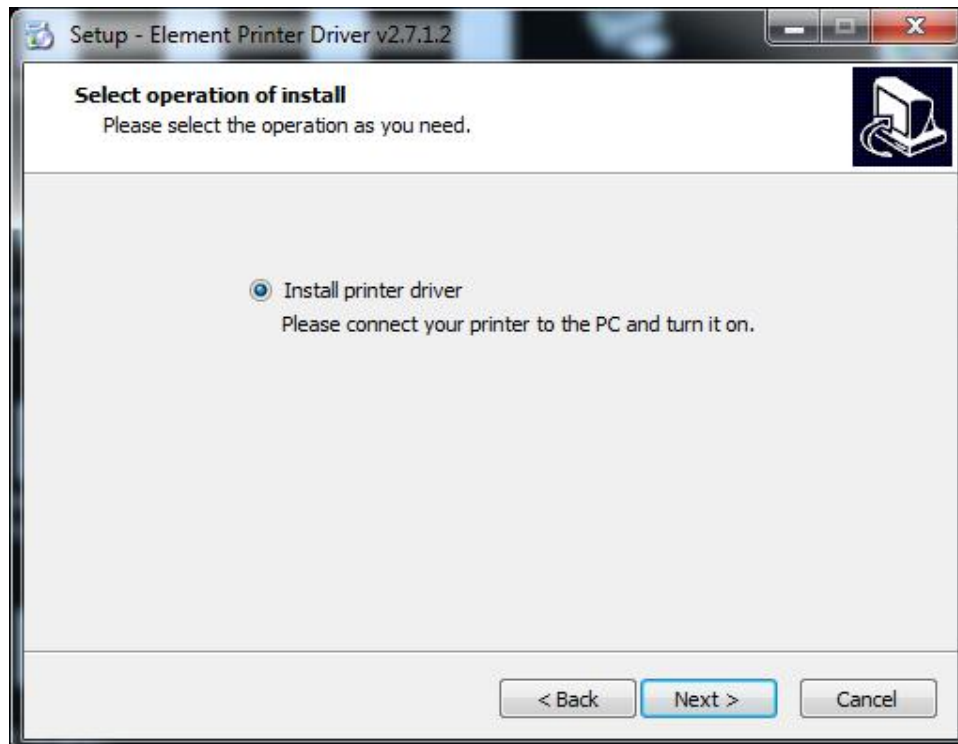
- 1) Double click Windows Driver, and choose the language.



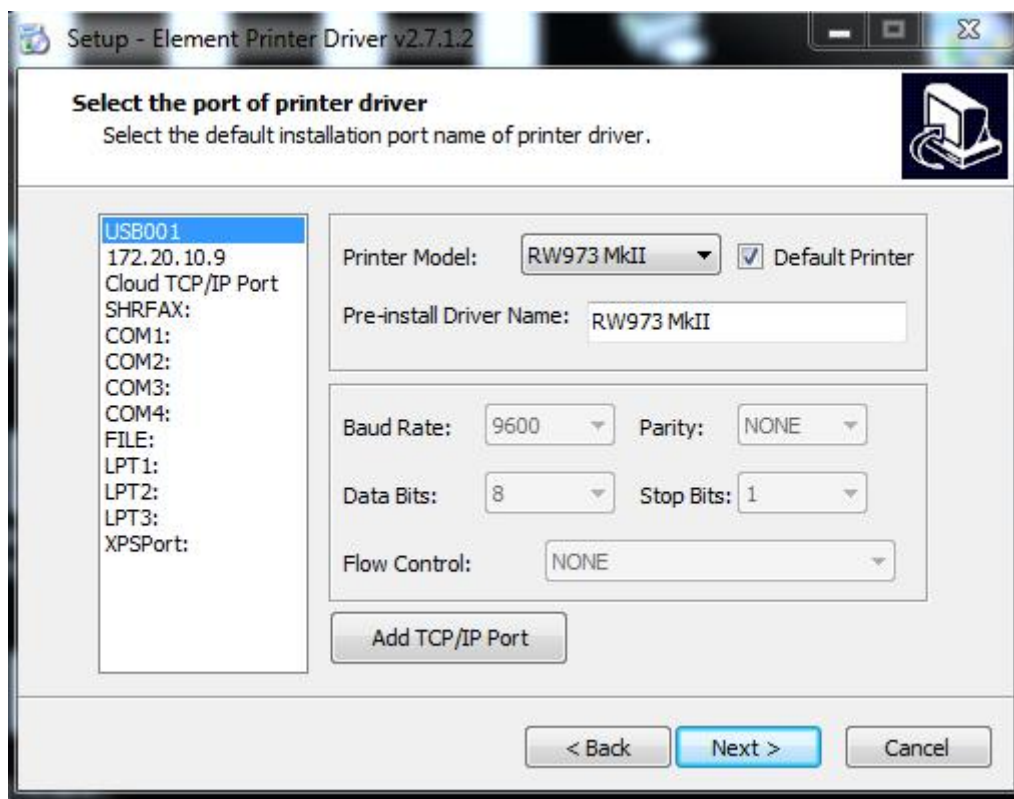
- 2) Choose "I accept the agreement" and click "Next".



3) Click “Next”



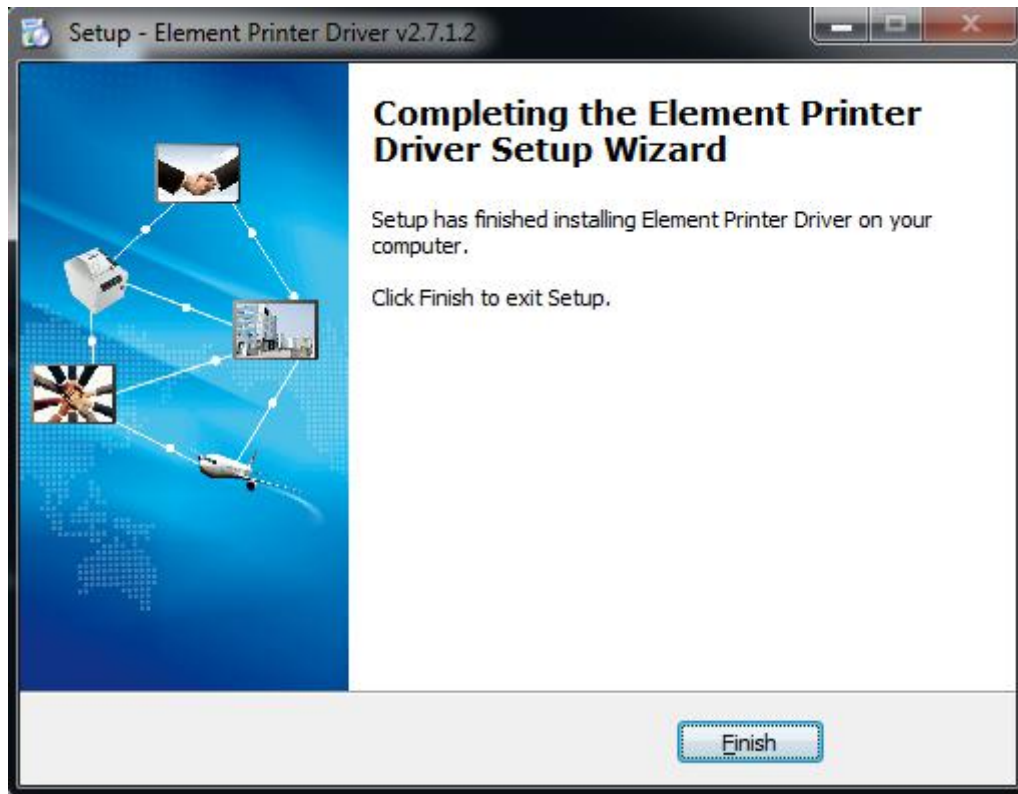
4) Choose the matched type and port (USBxxx is for USB port, COMx is for serial port, LPTx is for parallel port). Choose the type and port of driver, such as “RW973 Mk II”, “COM1” . Click “Next”.





Note: If printer is already connected with computer by USB port, it only needs to click “Install”, then it will be installed automatically. Otherwise, proceed to the next step.

5) Click “Finish”. POS printer driver is installed successfully.



6) After installation, the icon will be found in “Start” → “Devices and Printers”.

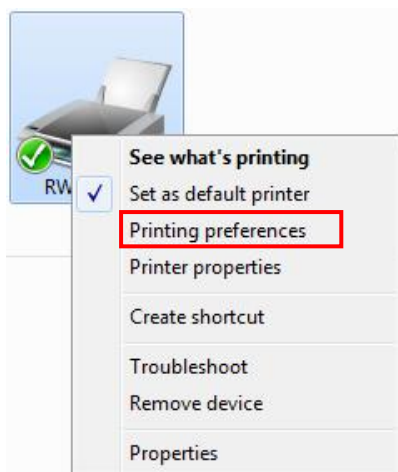


Note: If you already installed the driver (No matter what kind of port), when you connect the printer to computer, it will create a USB port automatically.

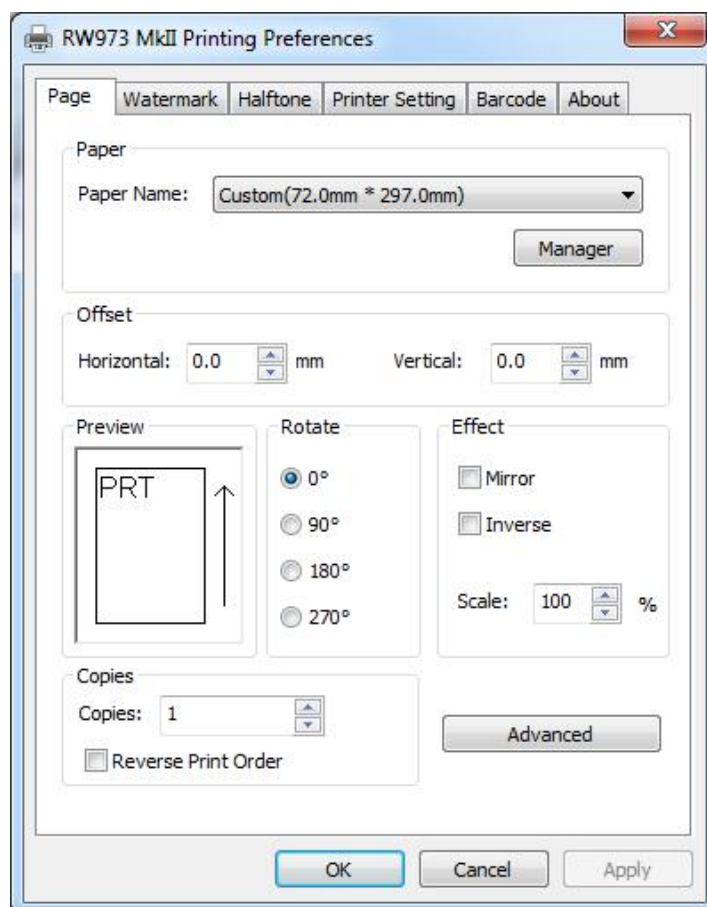
9.5 Detailed Windows Driver Setting

9.5.1 Printing Preferences

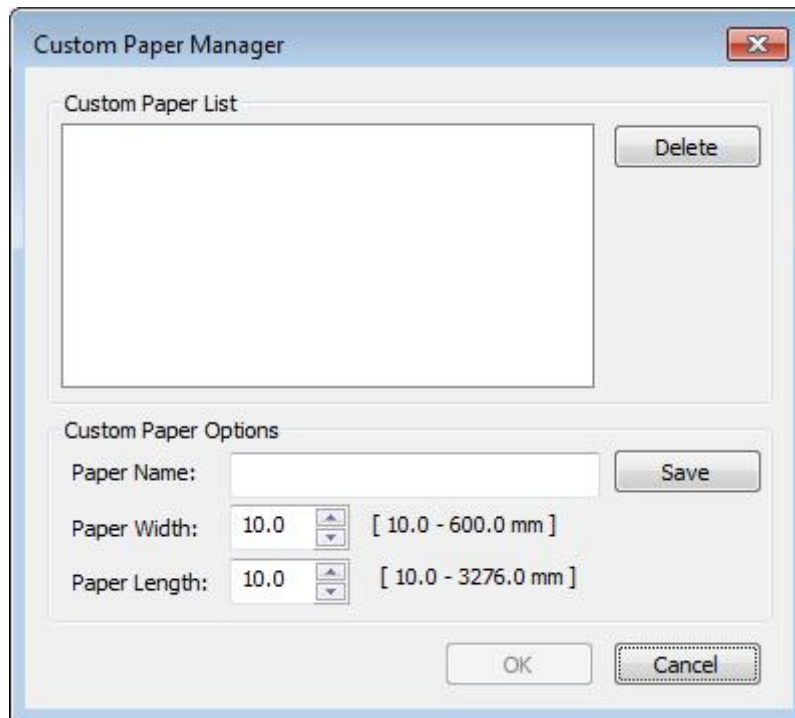
1) Click “Start” → “Devices and Printers”. Right click “Element RW973 MkII” and choose “Printing preferences”.



2) According to the different needs, choose “Paper”\“Offset”\“Rotate”\“Effect”\“Copies” in “Page”.

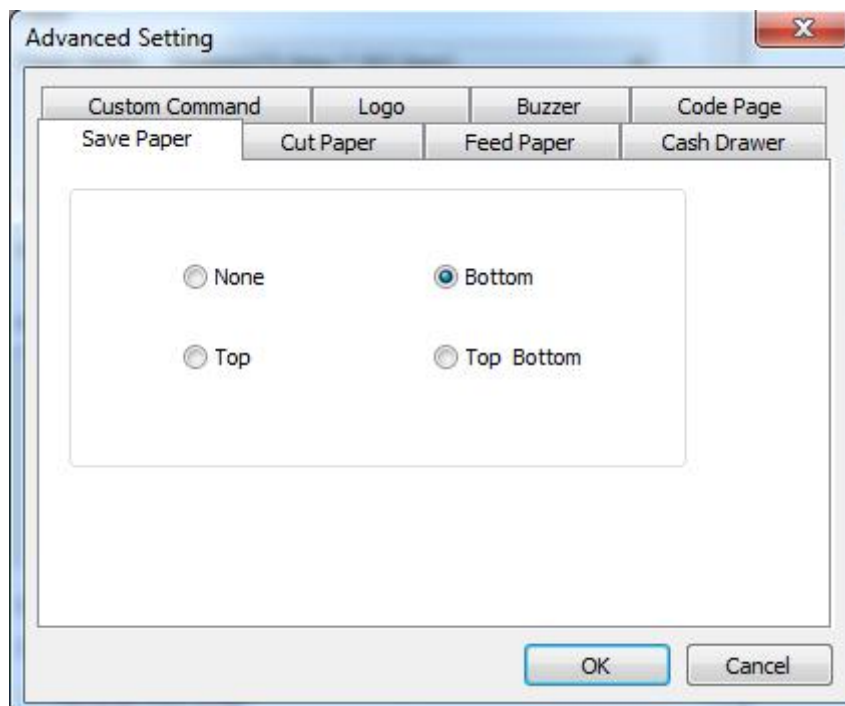


- Click on “Manager”, add or delete paper.

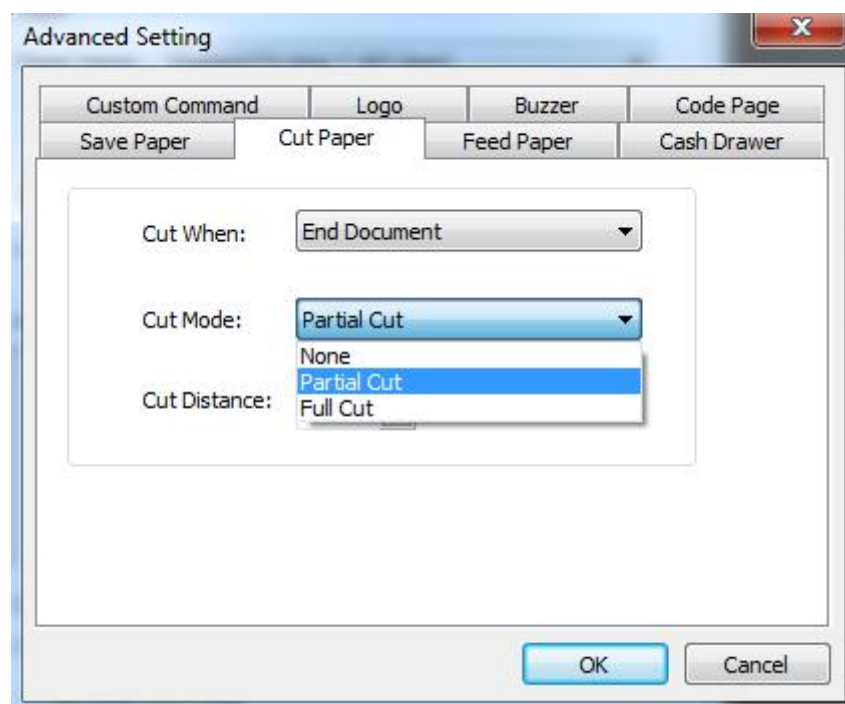
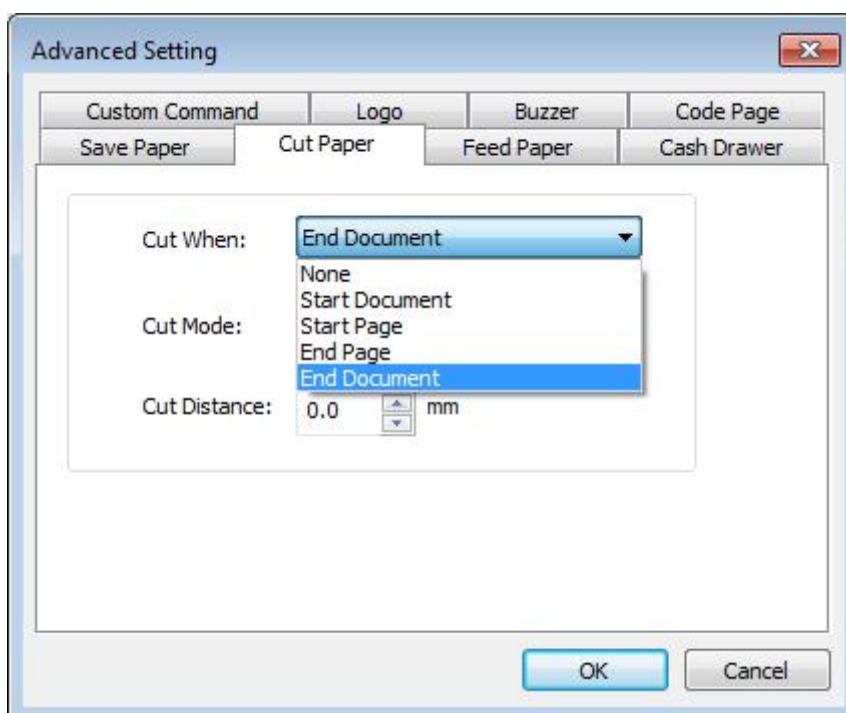


- Click on “Advanced” to set “Custom Command”, “Logo”, “Buzzer”, “Code Page”, “Save Paper”, “Cut Paper”, “Feed Paper”, “Cash Drawer”.

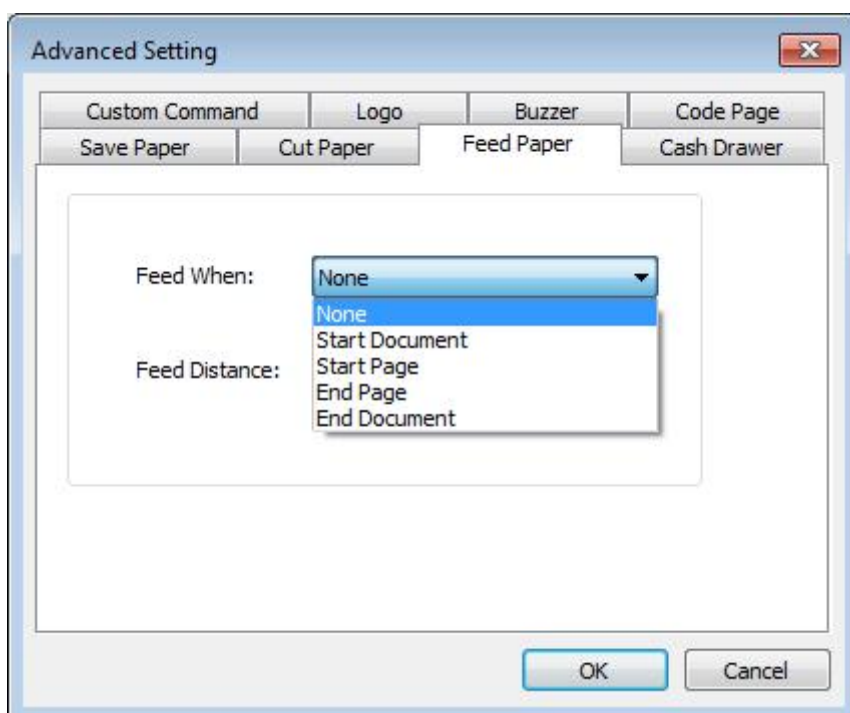
- Save paper



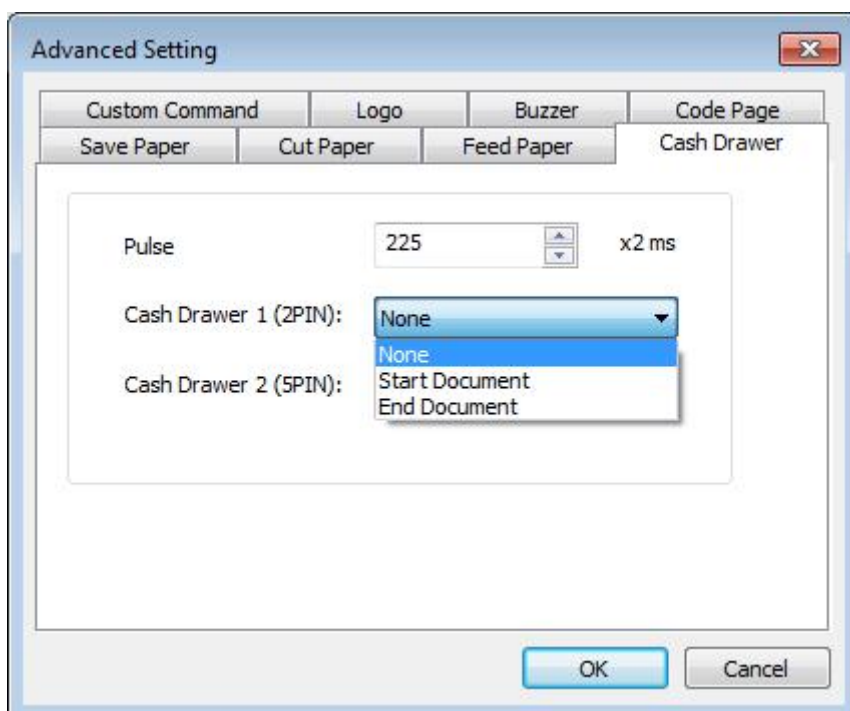
■ Cut Paper

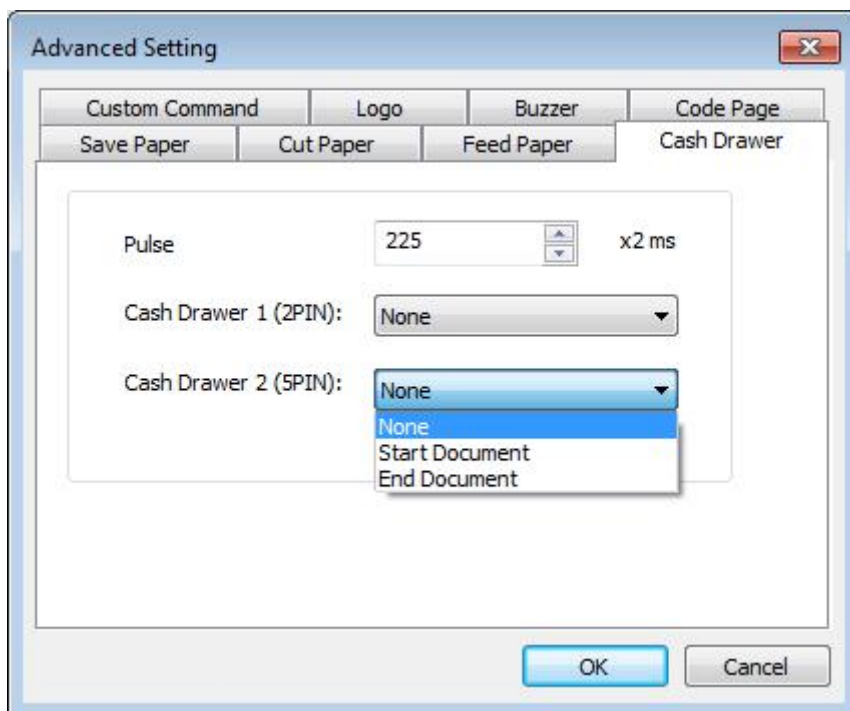


▪ Feed paper

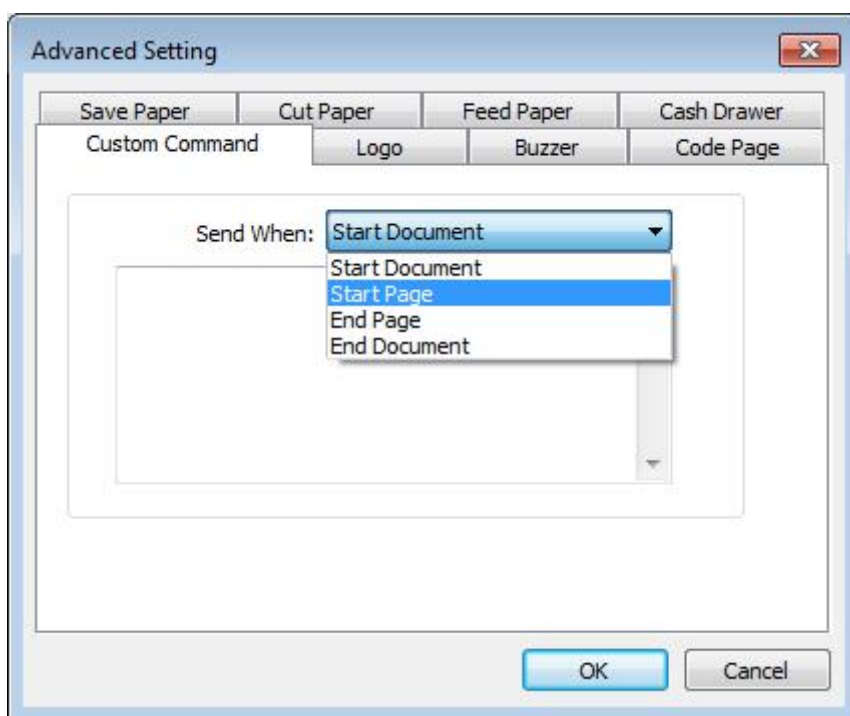


▪ Cash drawer

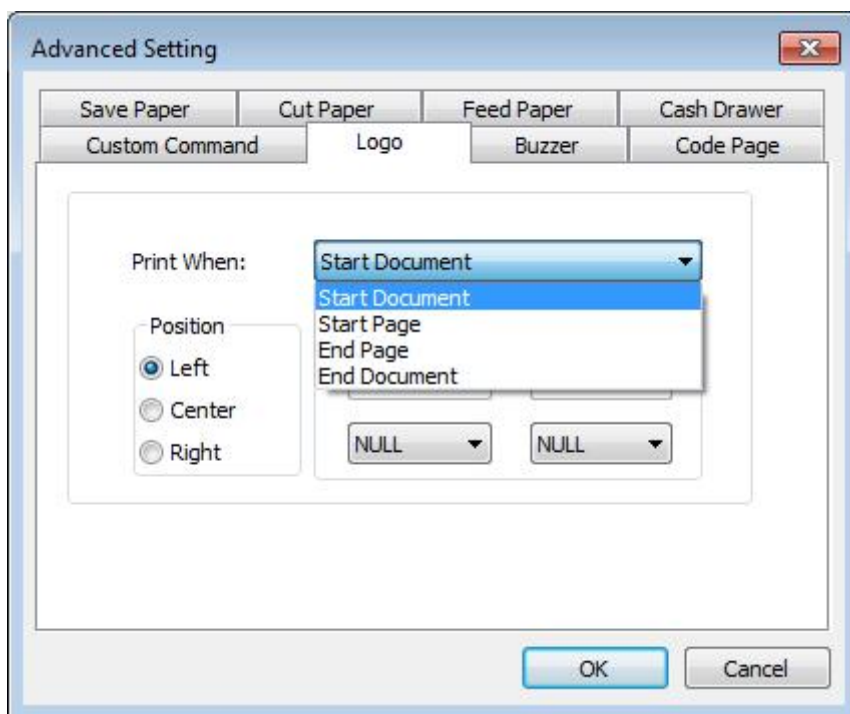




▪ Custom command

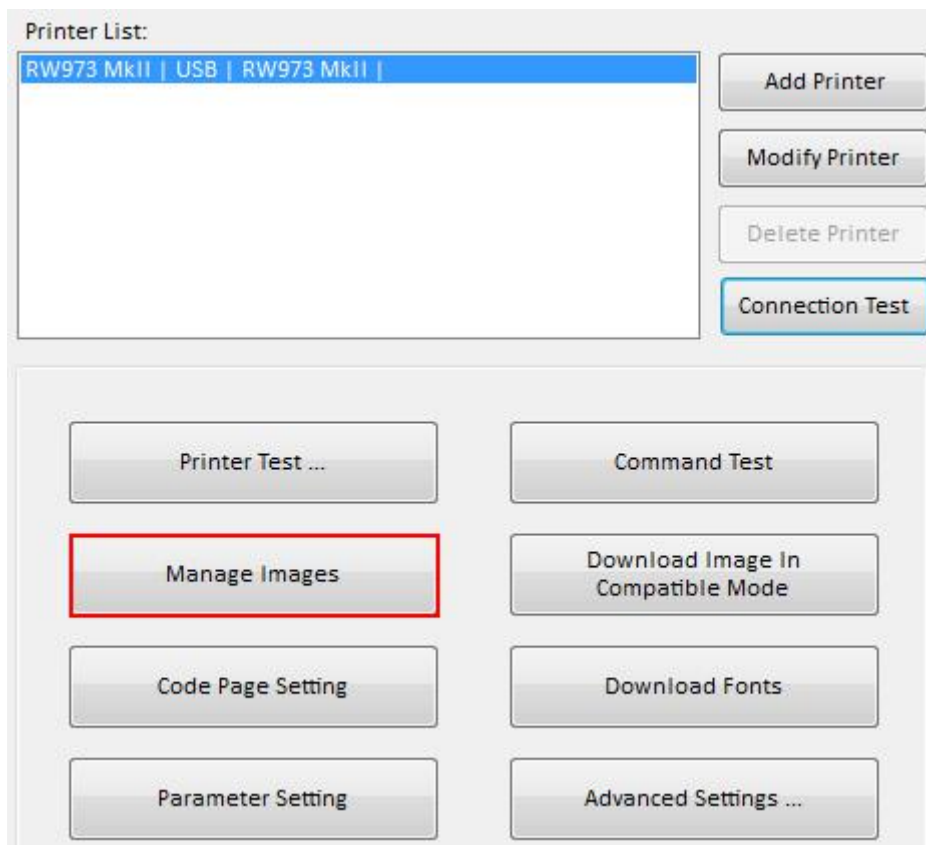


■ Logo

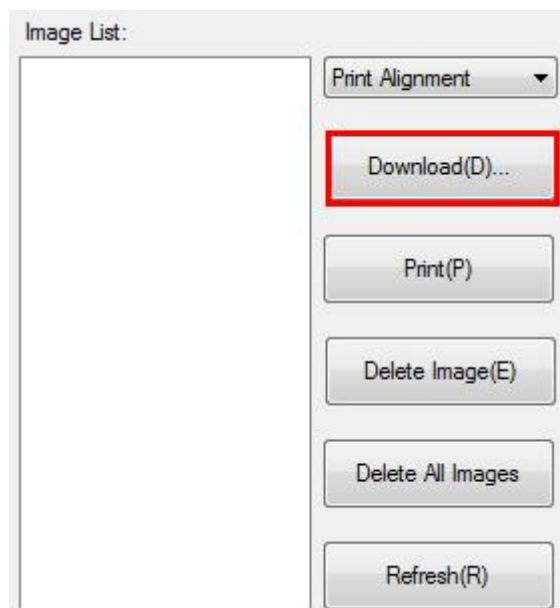


Note: this setting need to be set in utility.

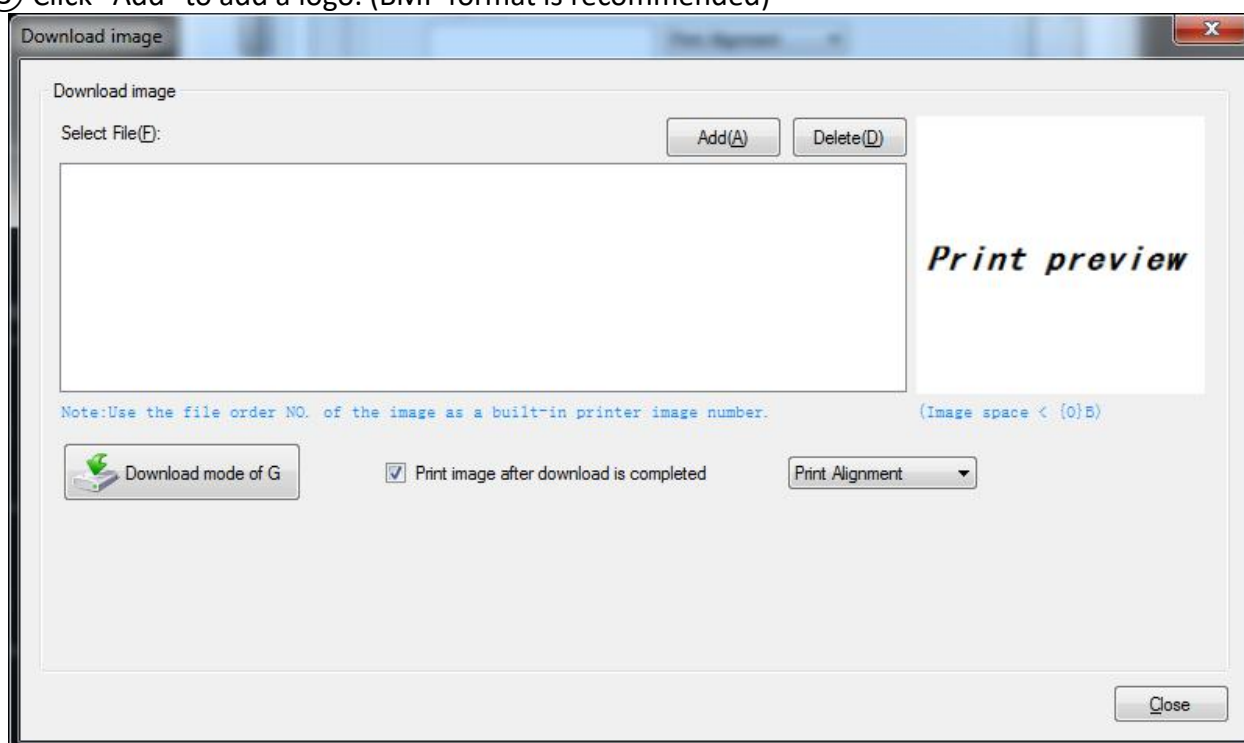
- ① Open the utility and click "Manage Images".

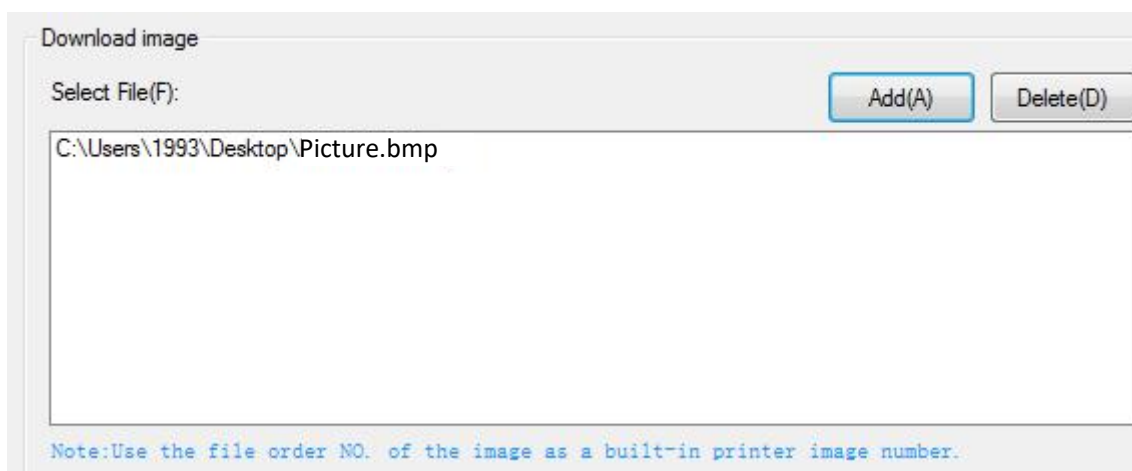


- ② Click "Download".

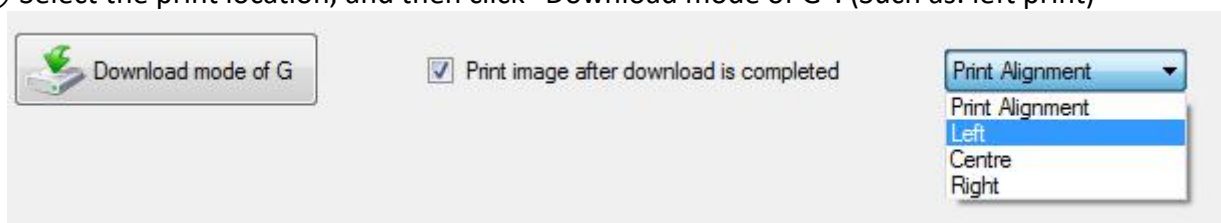


- ③ Click "Add" to add a logo. (BMP format is recommended)





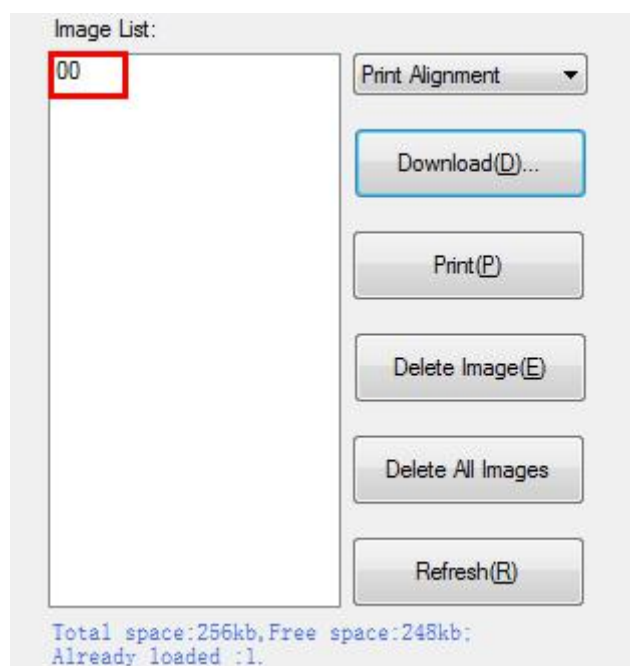
- ④ Select the print location, and then click "Download mode of G". (Such as: left print)



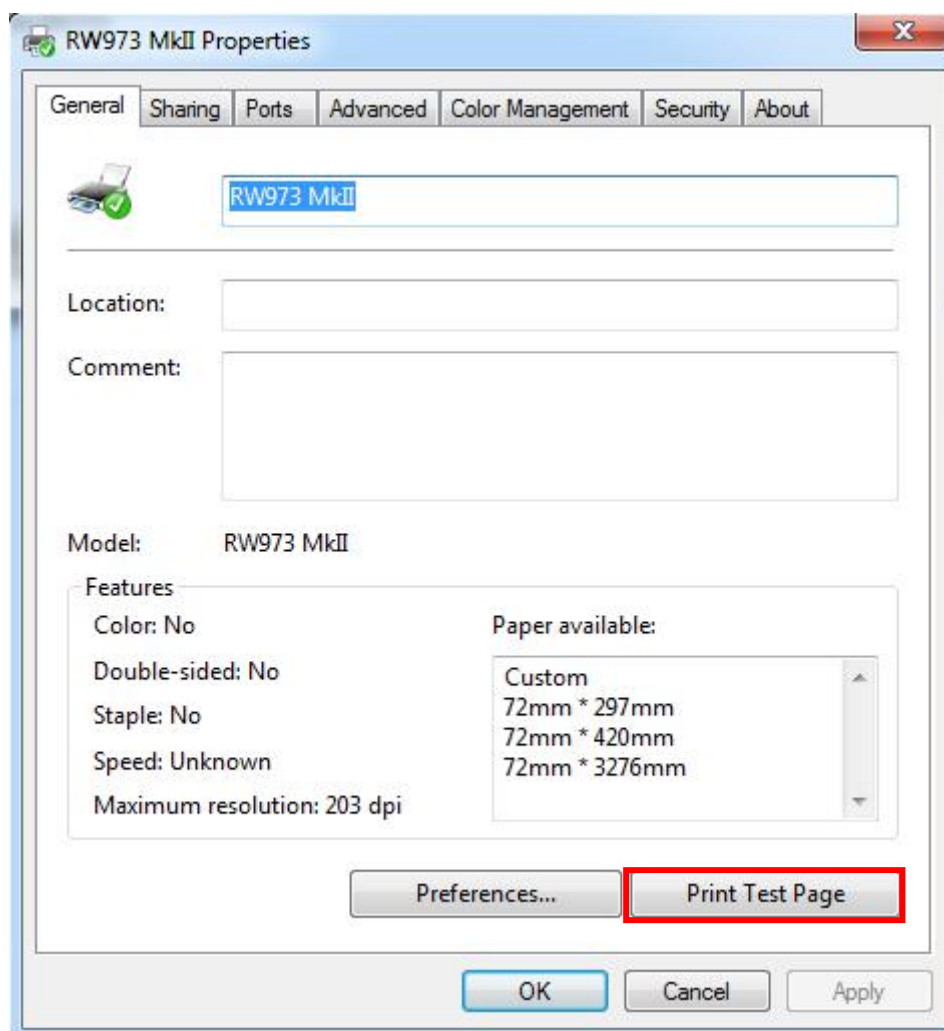
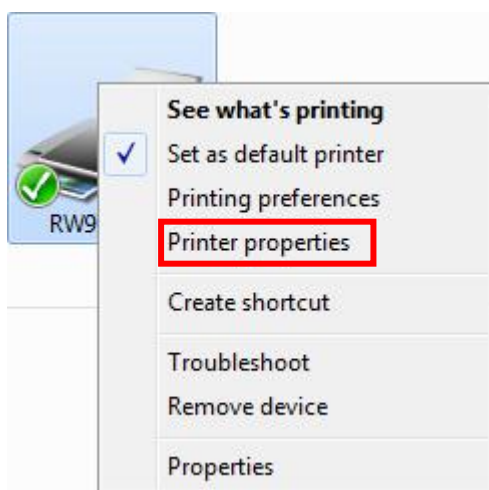
- ⑤ Return to image list to view the image number.



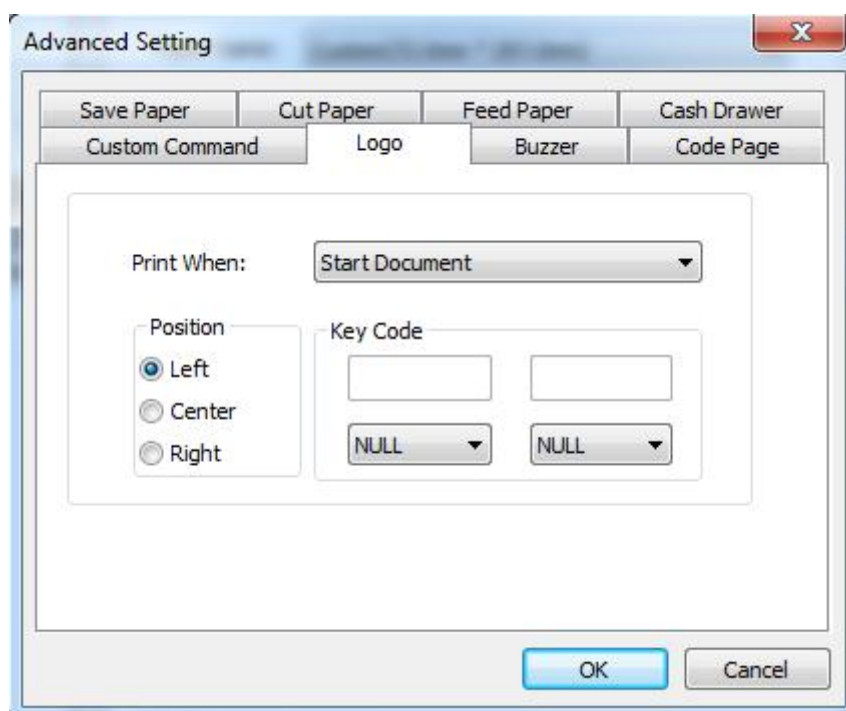
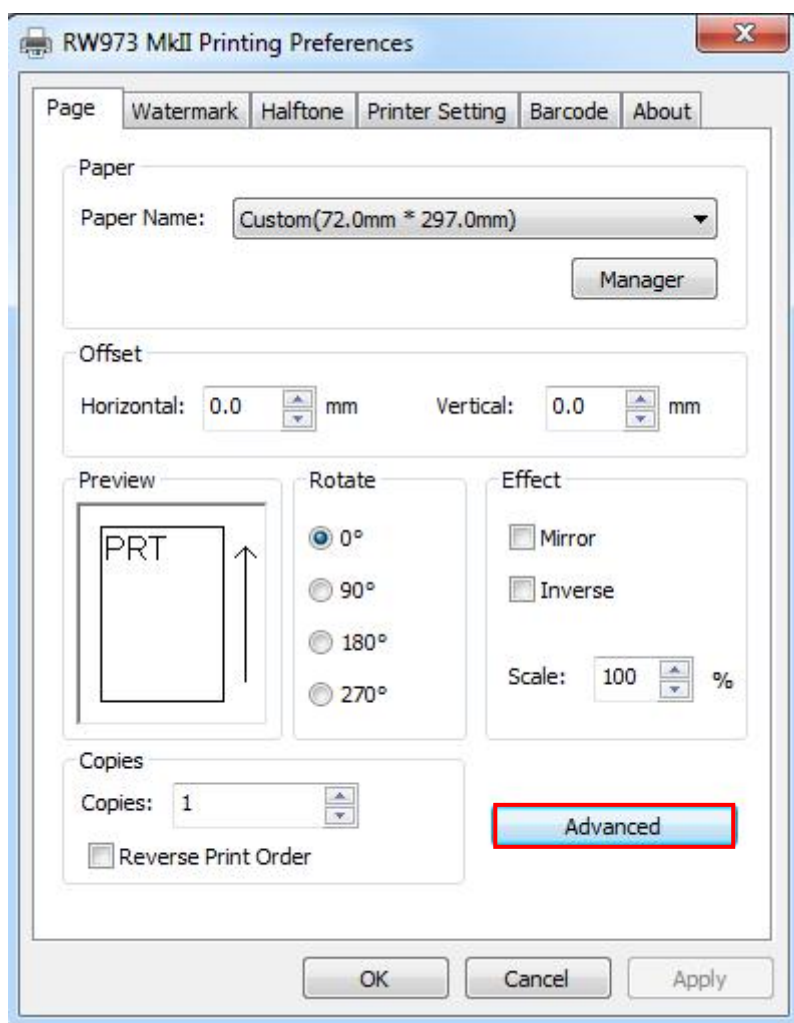
Note: each time click "Download mode of G", an image list number will be generated.



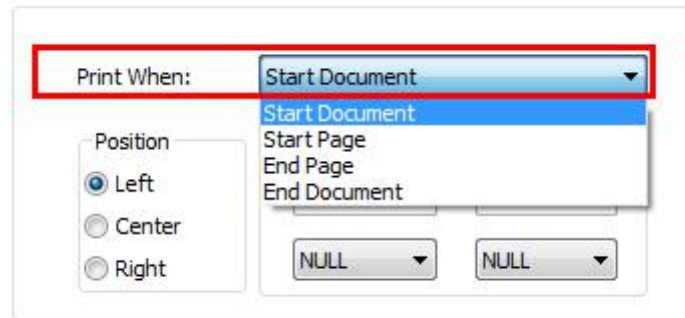
- ⑥ Select Printer properties, click “Print Test Page” to view the printing effect.



- ⑦ Click the “Advanced”, then click “Logo”.



- ⑧ Set the printing time to print and click "OK". (Such as: Start Document)



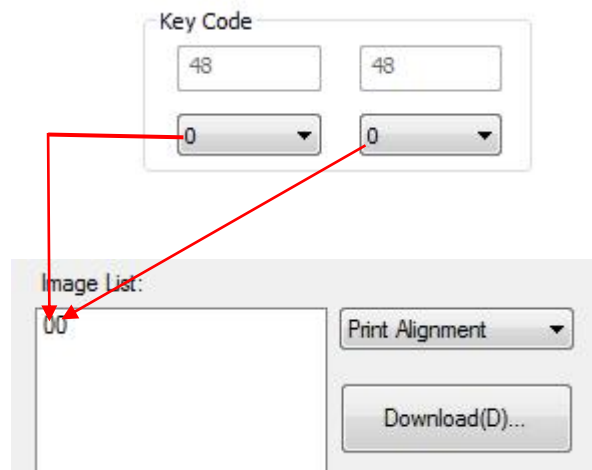
The screenshot shows a dialog box with a 'Print When:' dropdown menu. The menu is open, showing options: 'Start Document', 'Start Page', 'End Page', and 'End Document'. 'Start Document' is selected and highlighted in blue. To the left of the dropdown is a 'Position' section with three radio buttons: 'Left' (selected), 'Center', and 'Right'. Below the dropdown are two 'NULL' buttons.

- ⑨ Return to the logo setting in driver, also select "Print left".



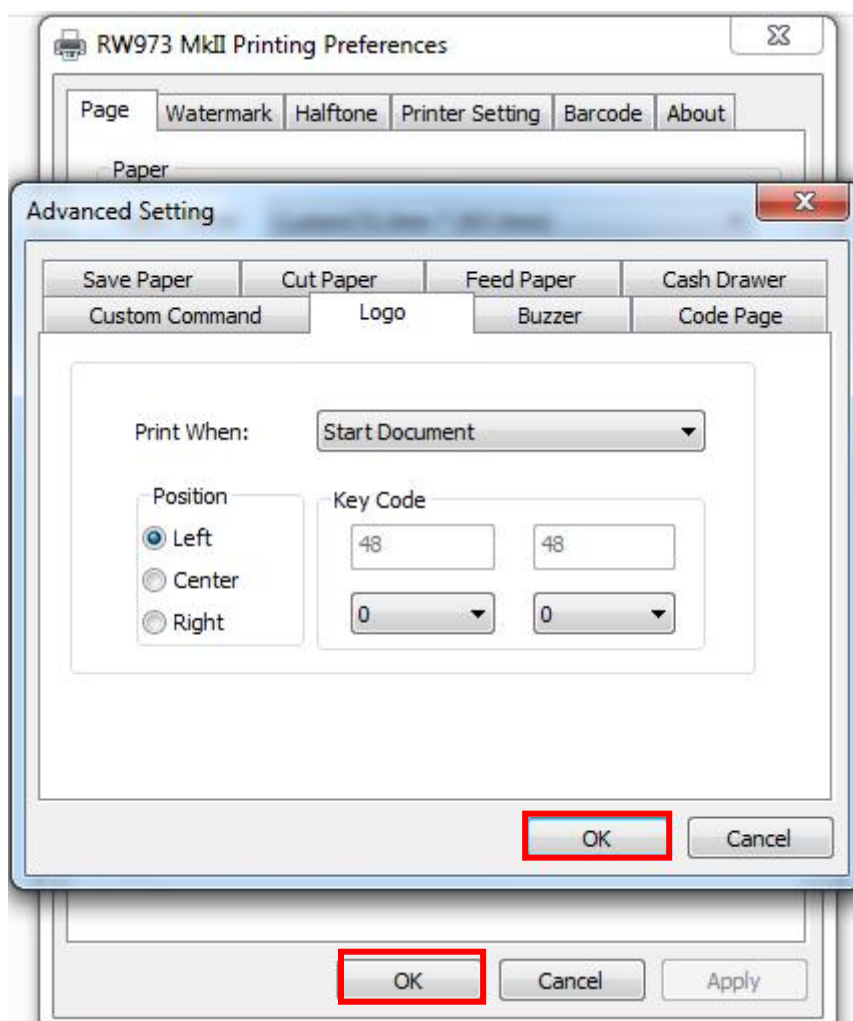
The screenshot shows the 'Print When:' dropdown set to 'Start Document'. Below it, the 'Position' section is highlighted with a red box, showing 'Left' selected. To the right, there is a 'Key Code' section with two input fields and two 'NULL' buttons.

- ⑩ Set the key Code according to the image number. (Such as: 0 0)

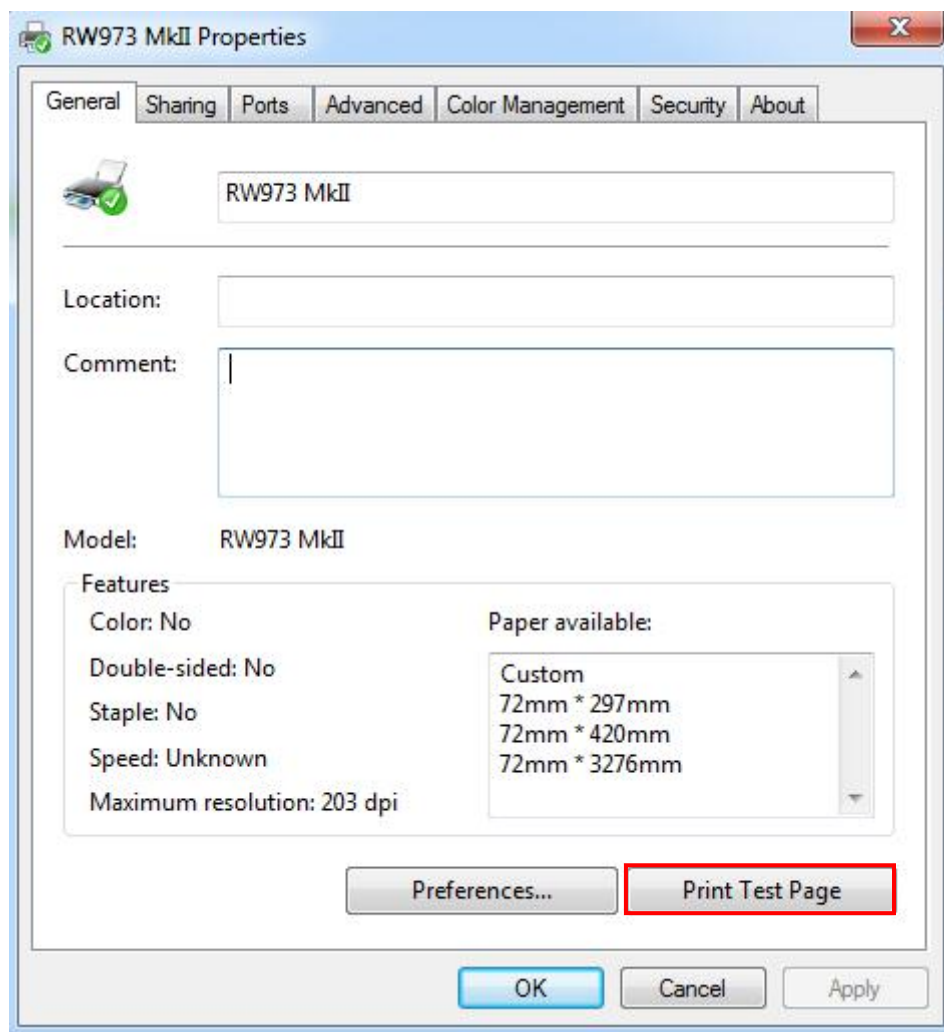


The screenshot shows the 'Key Code' section with two input fields containing '48' and two dropdown menus set to '0'. Below this is the 'Image List:' section, which contains a list with '00' and a 'Download(D)...' button. Red arrows point from the '0' dropdowns in the 'Key Code' section to the '00' entry in the 'Image List'.

⑪ Then click “OK”.



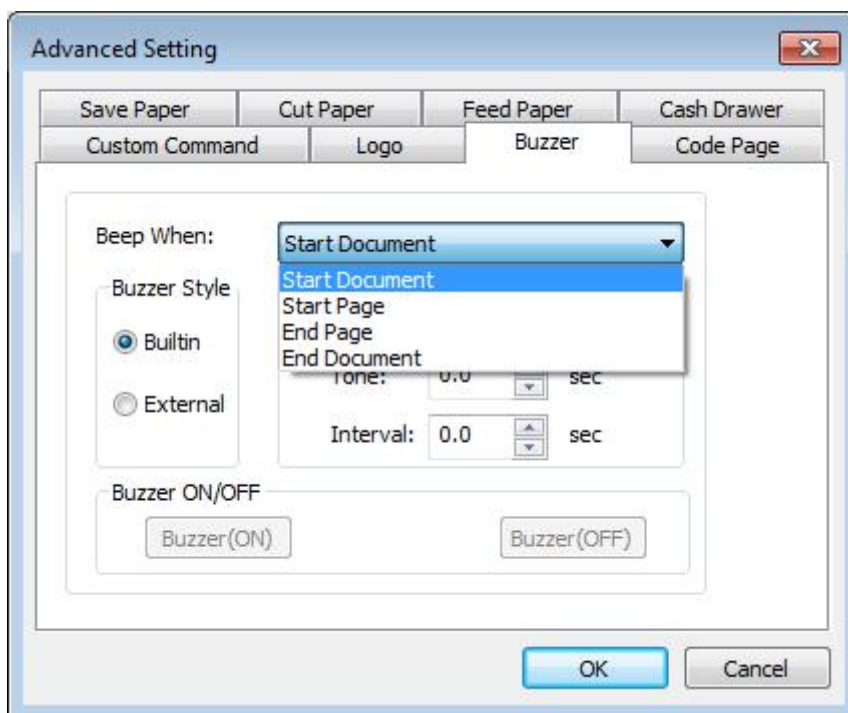
- ⑫ Click “Print Test Page” to view the printing effect.



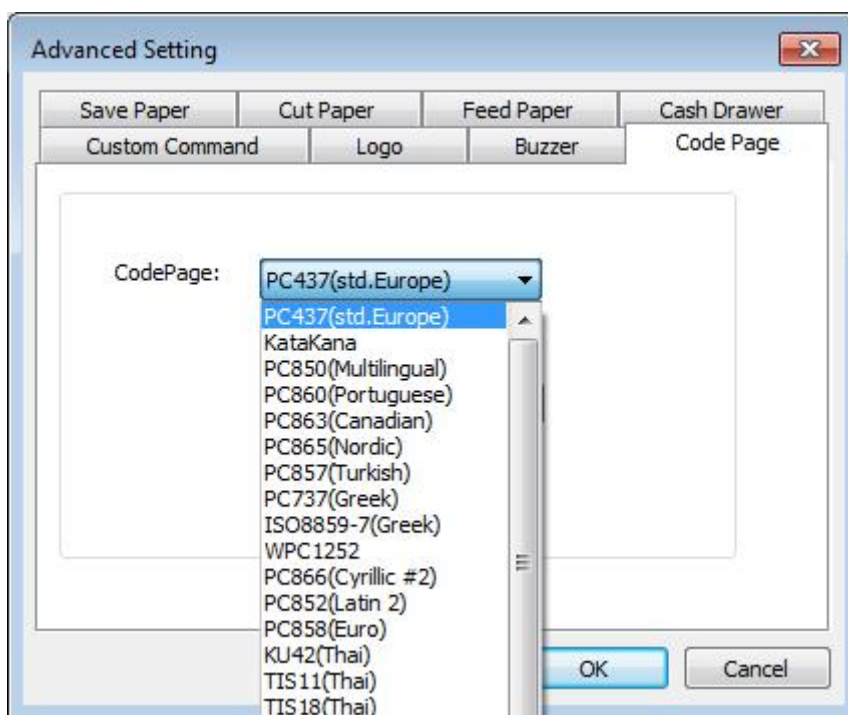
■ Buzzer



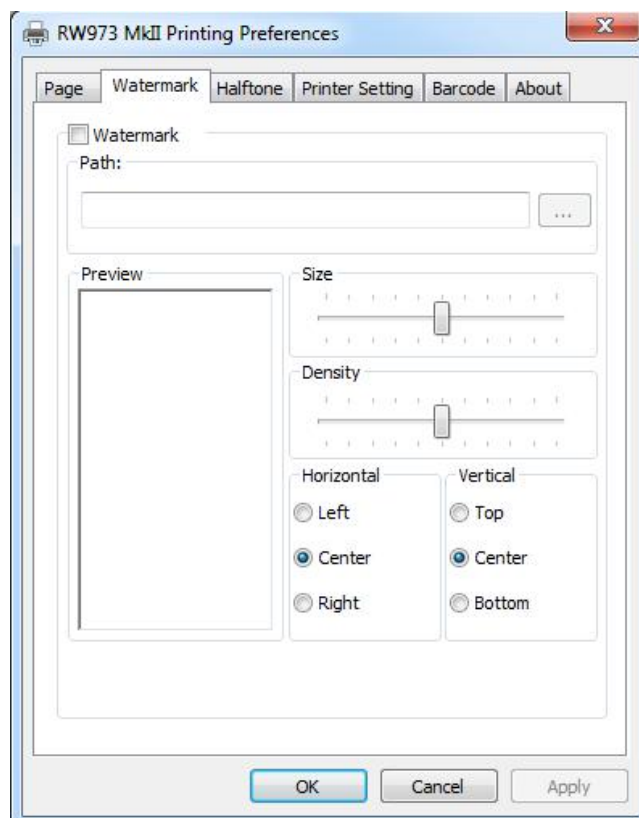
Note: this setting need to be set in utility.



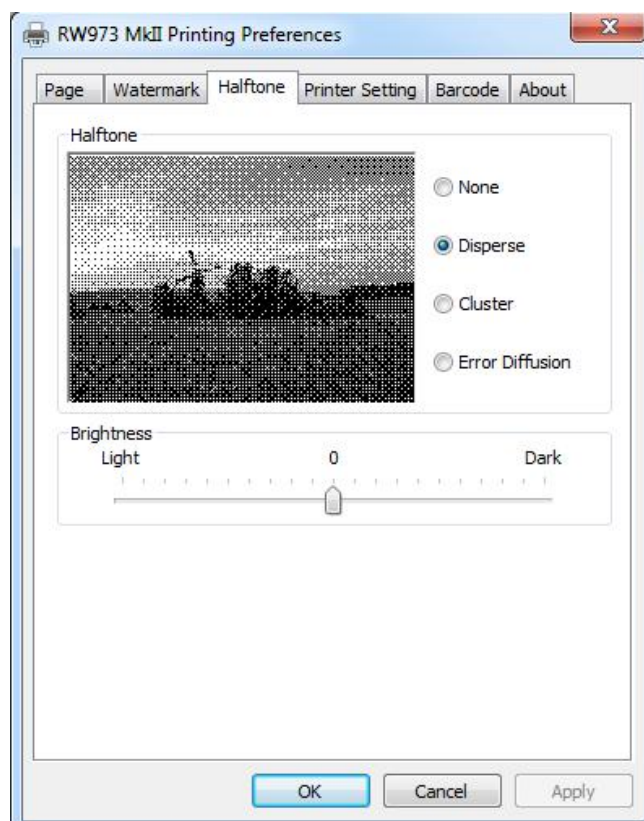
■ Code Page



3) Click “Watermark”. Set watermark to print (Only BMP file can be selected).



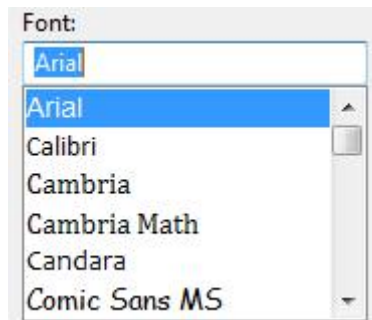
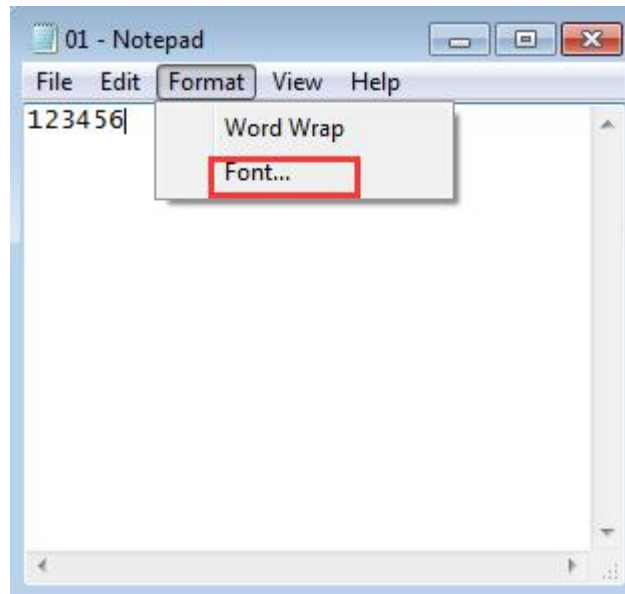
4) Click “Halftone” to set the halftone.



5) Set up the “Barcode”.

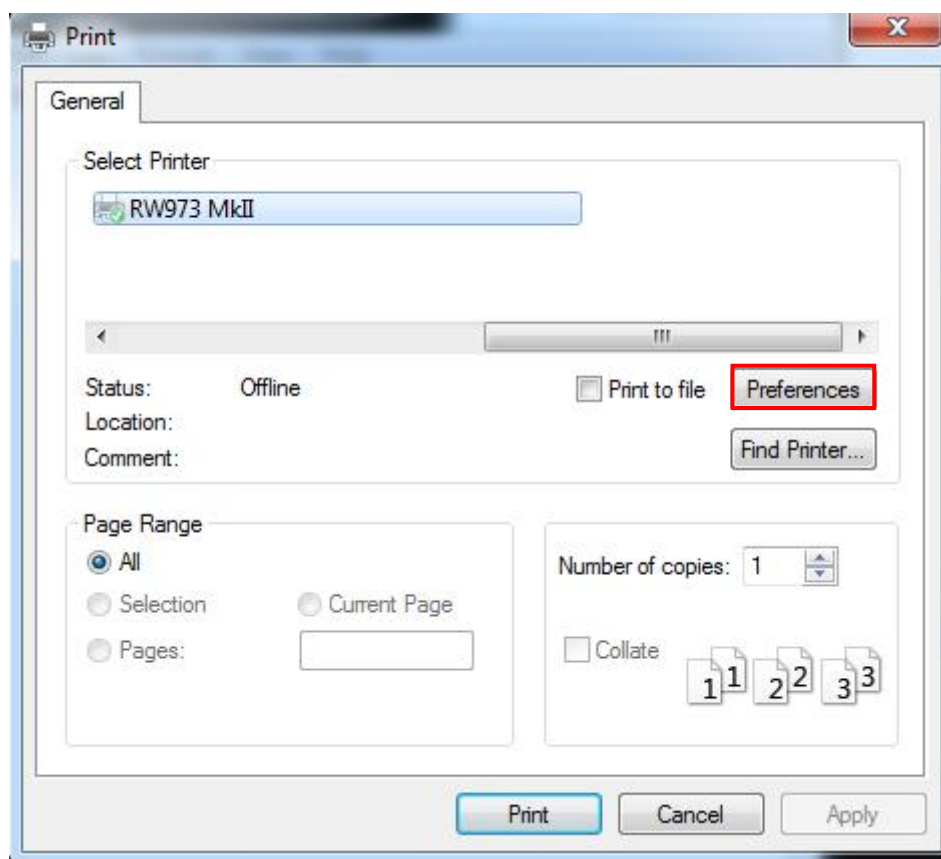
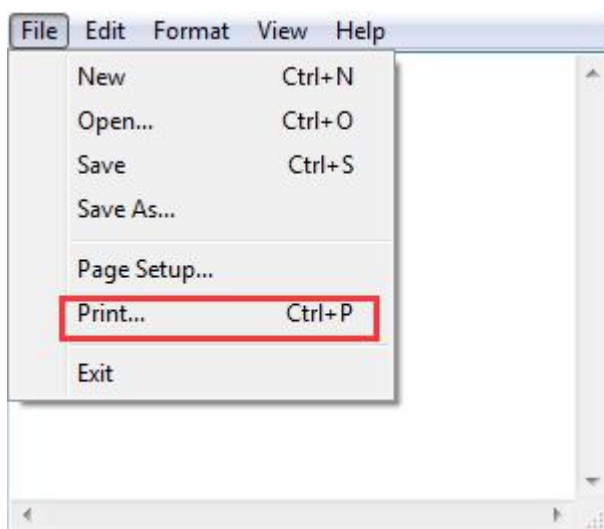
Assuming the font type of the main document is “Italics”, if you want to convert the data “123456” to the barcode printing, the steps are as follows:

- Sets the data "123456" font type to a different font from the main document. Such as: Arial.



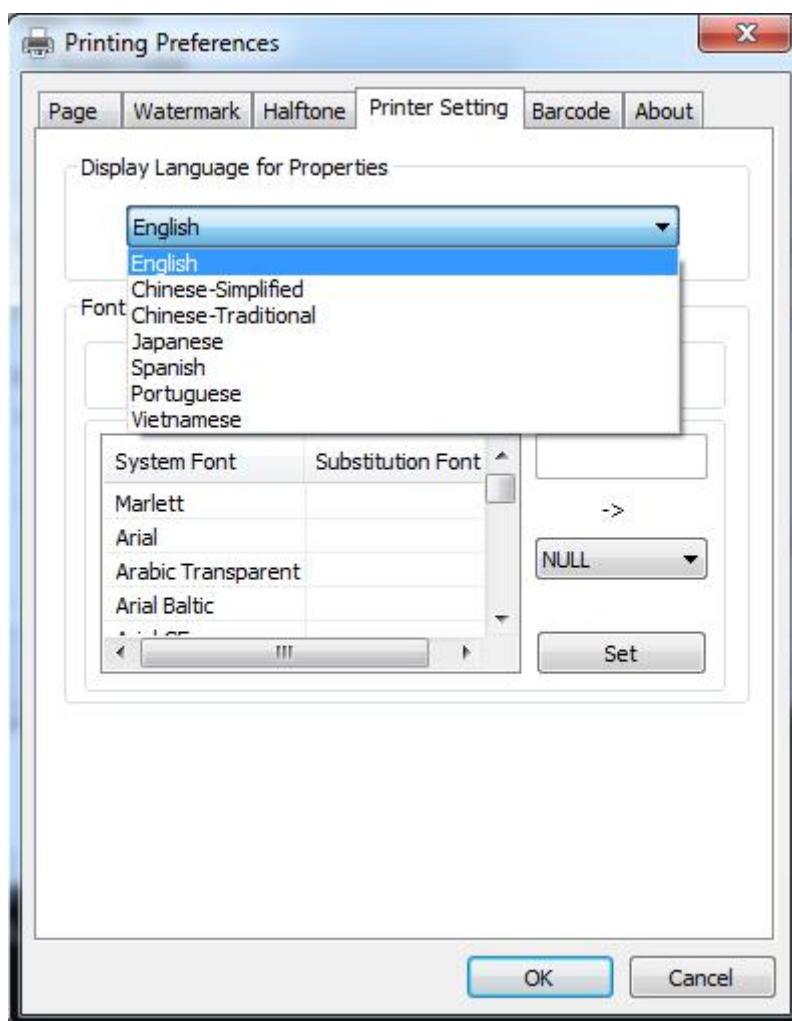
- Open the Preference.

If the document is open, you can set it in the document: file-print-preferences.



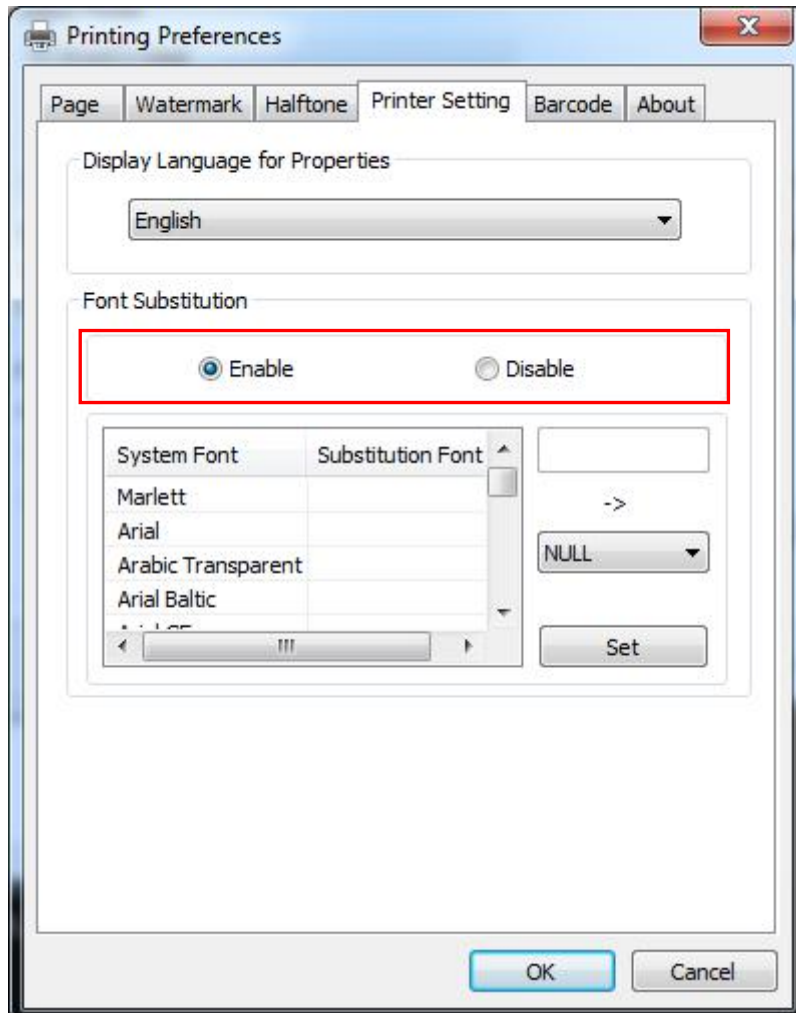
3) Click the “Printer Setting”.

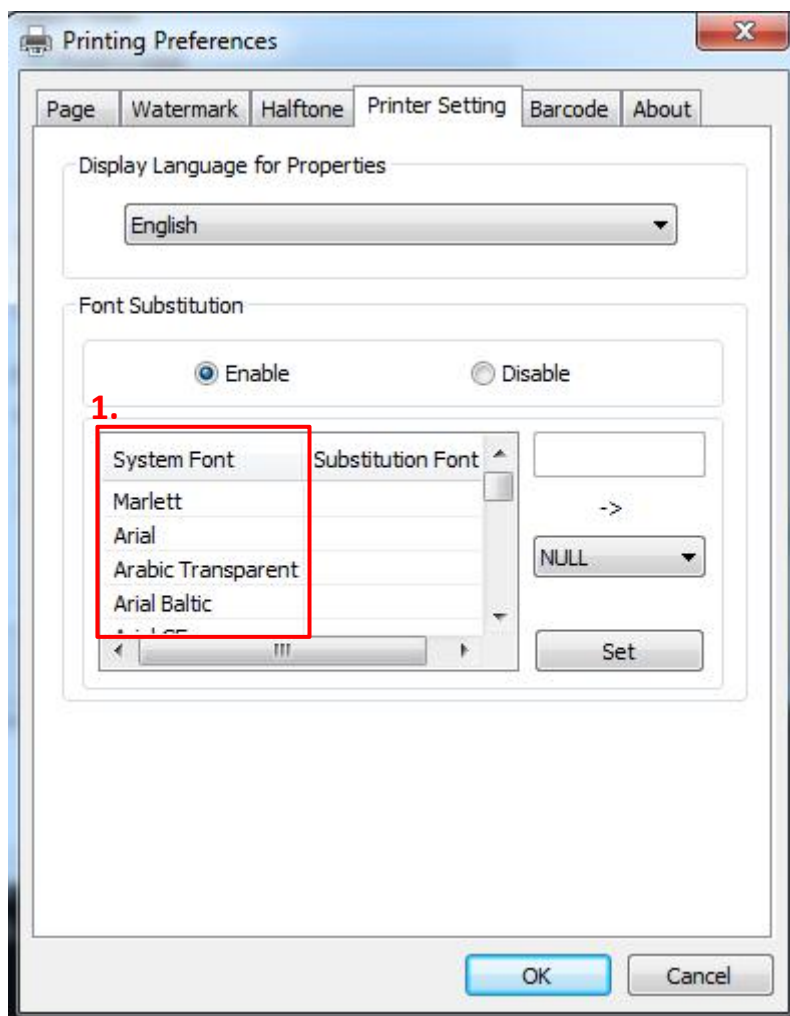
- Choose the “Display Language for Properties”

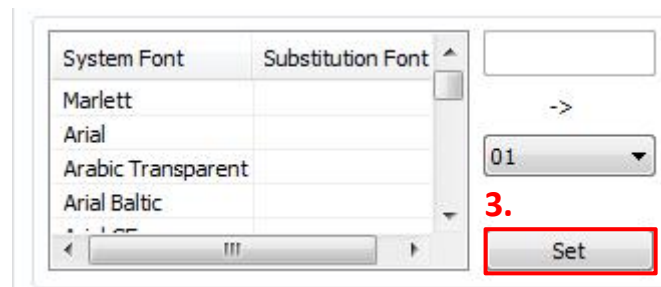
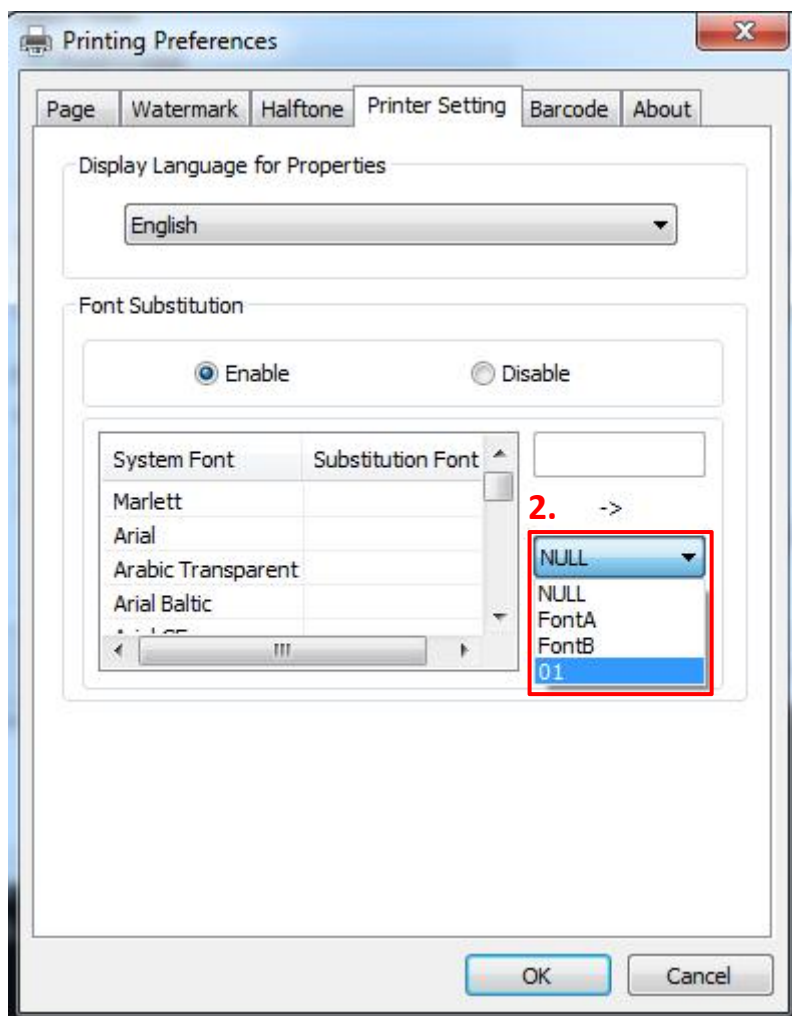


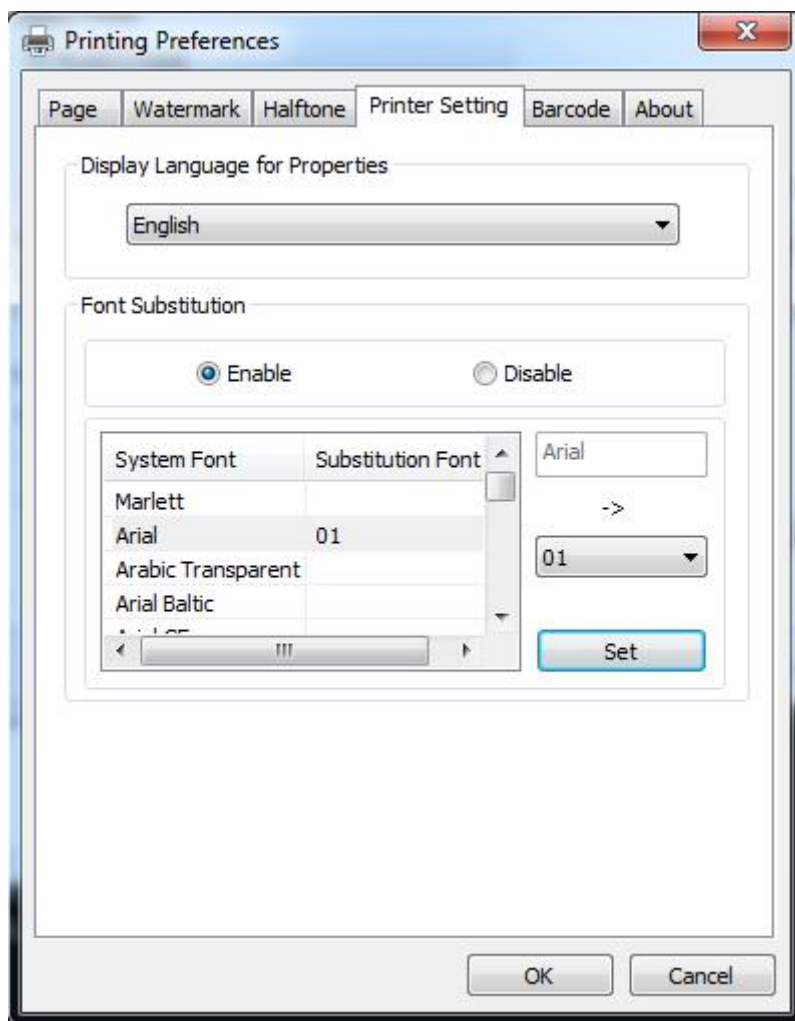
- Turn on the “Font Substitution”, select the system text need to be replaced (for example, Arial), and then select the font you want to replace (for example, 01) and click Settings, and the replacement font will display "01".

the steps are as follows:



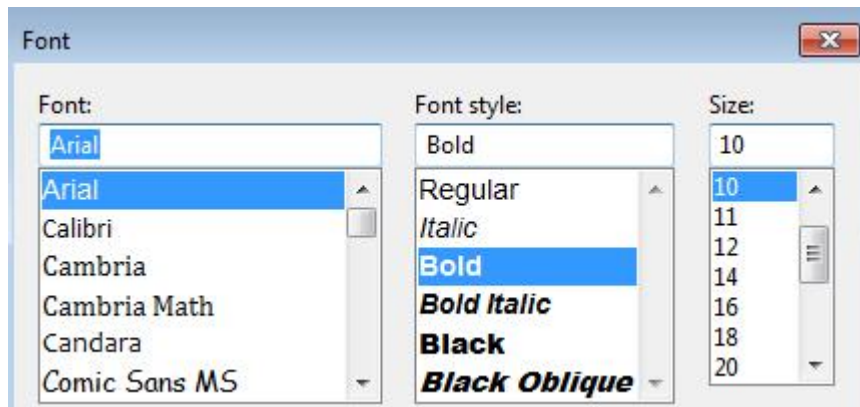




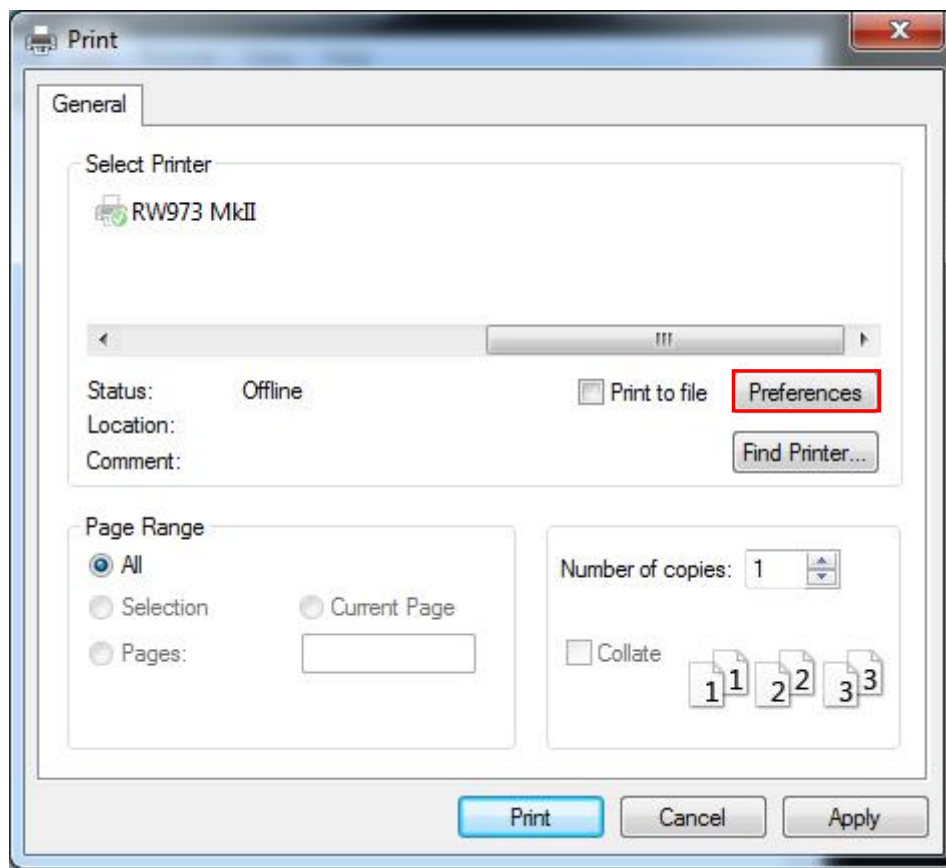


- If you do not have a barcode set, the action is as follows:

1) Suppose you change the size of the data "123456", for example:

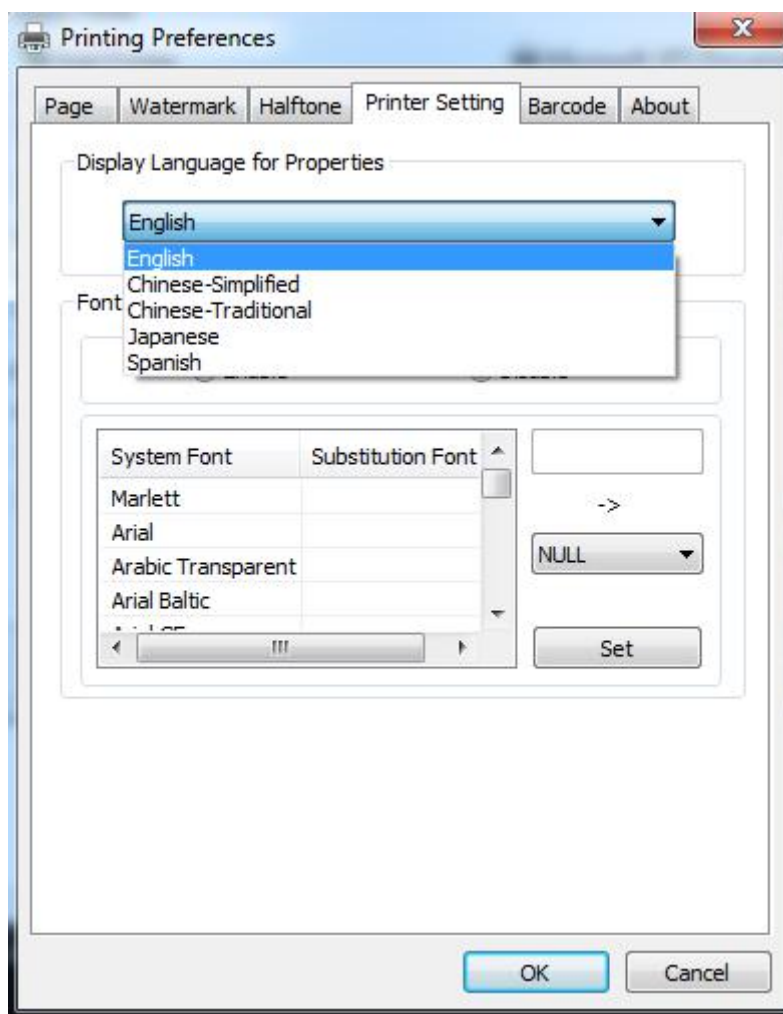


2) Set the Printing preferences.

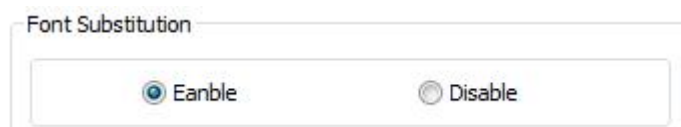


3) Click the “Printer Setting”.

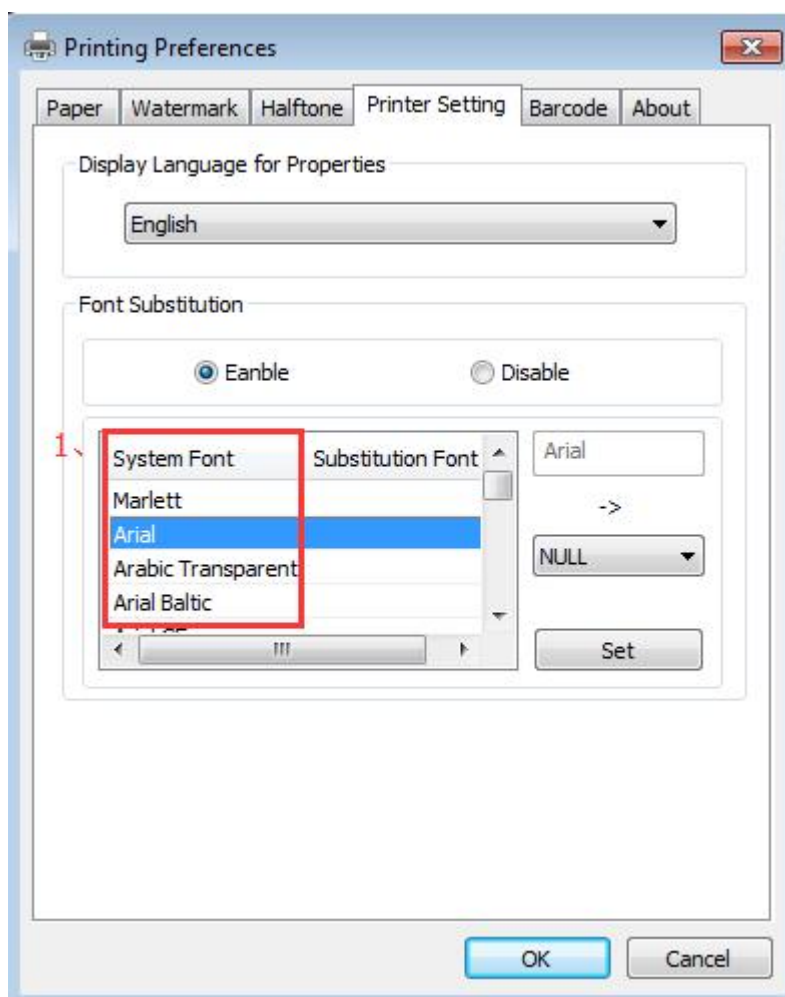
- Choose the “Display Language for Properties”.



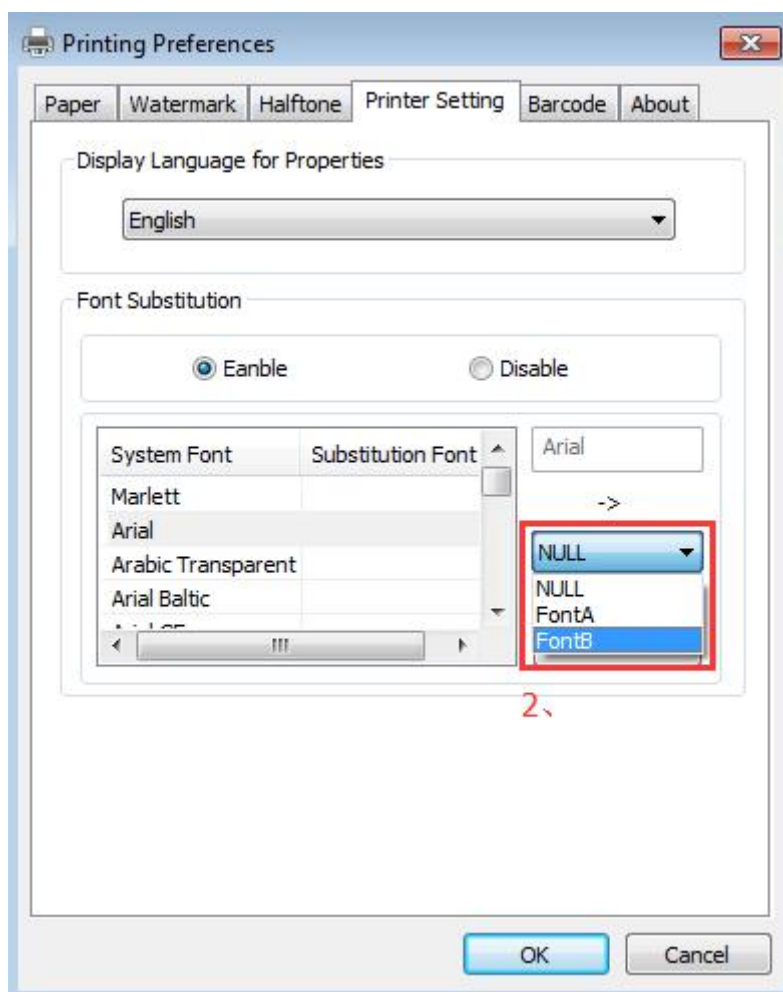
4) Turn on the “Font Substitution”.



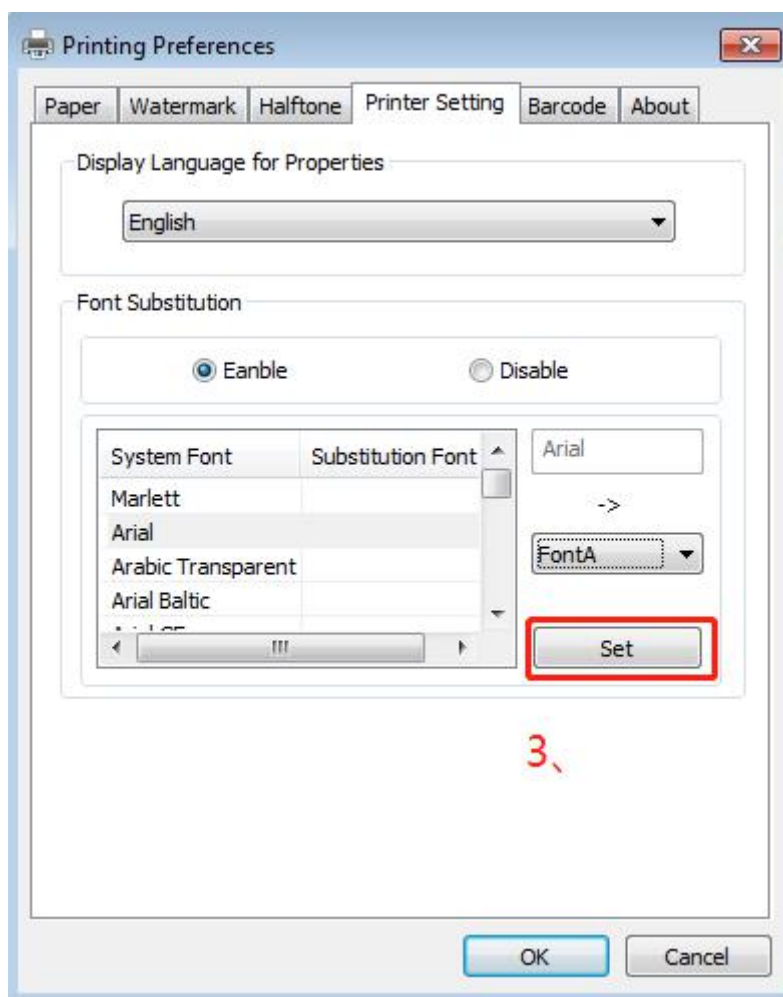
5) Select the “System Font”, for example: Arial.

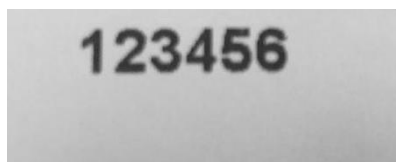
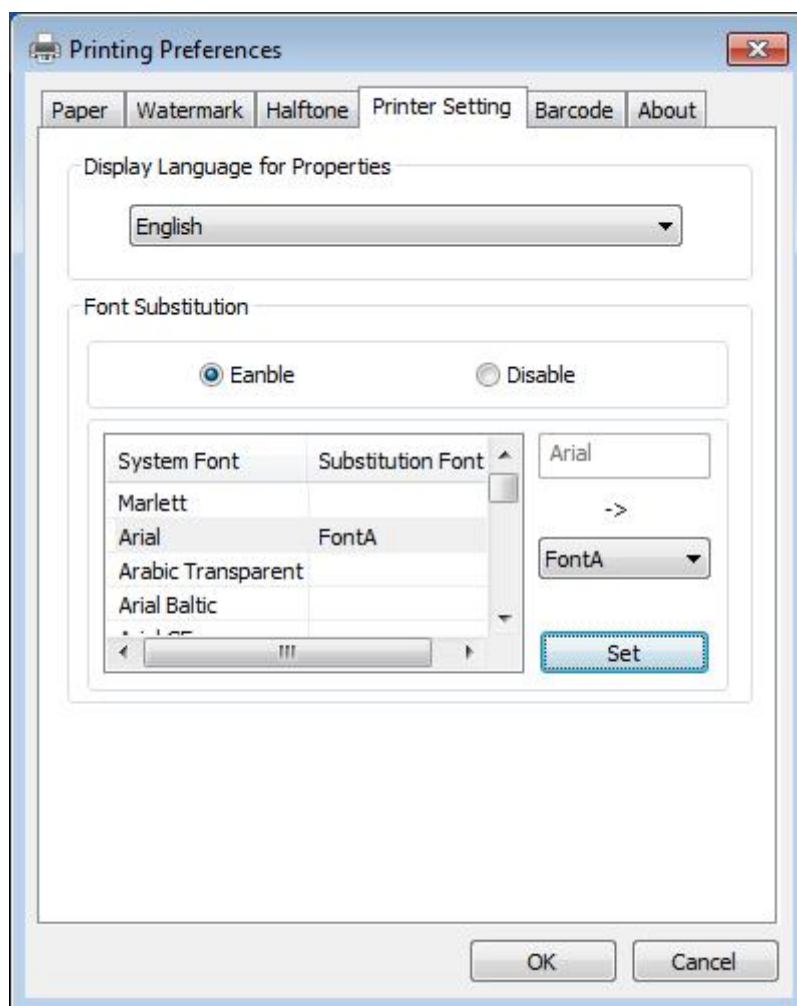


6) Select the font to that you went to replace.



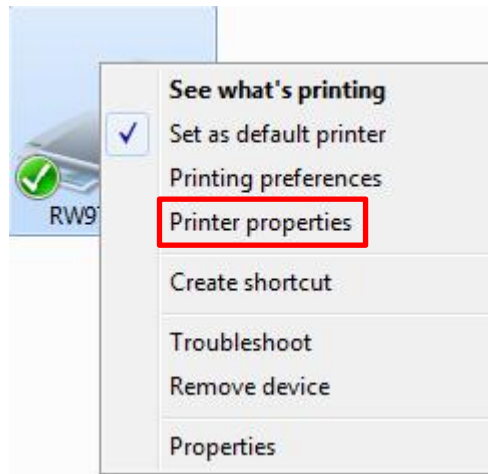
7) Click “Set”.



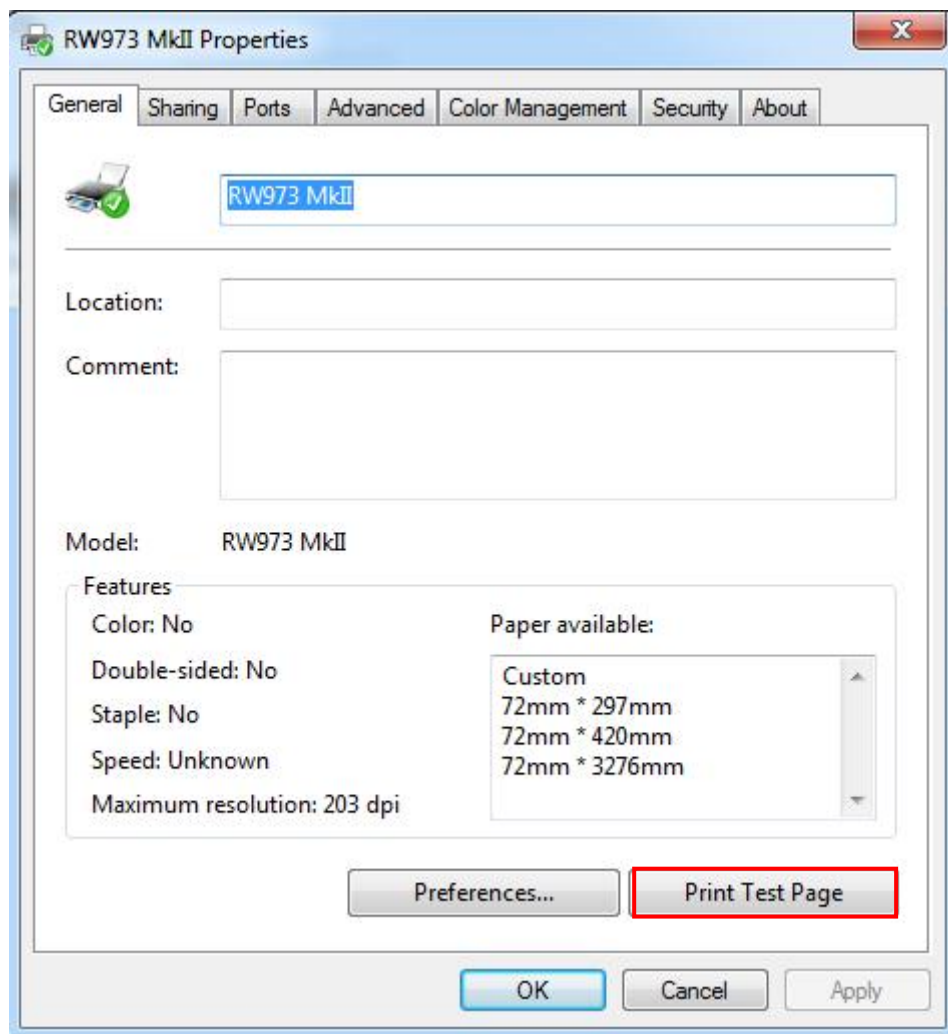


9.5.2 Other Settings

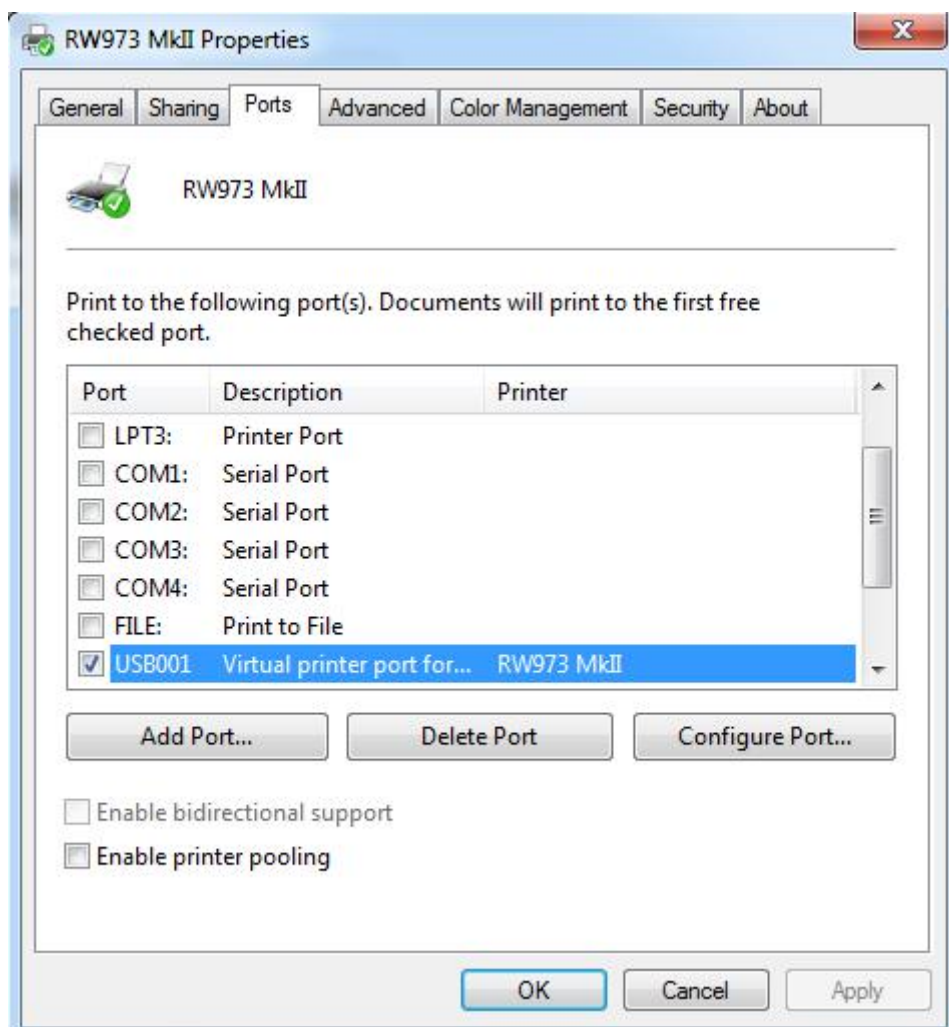
1) Click "Start" → "Devices and Printers". Right click "RW973 MkII" and choose "Printer properties".



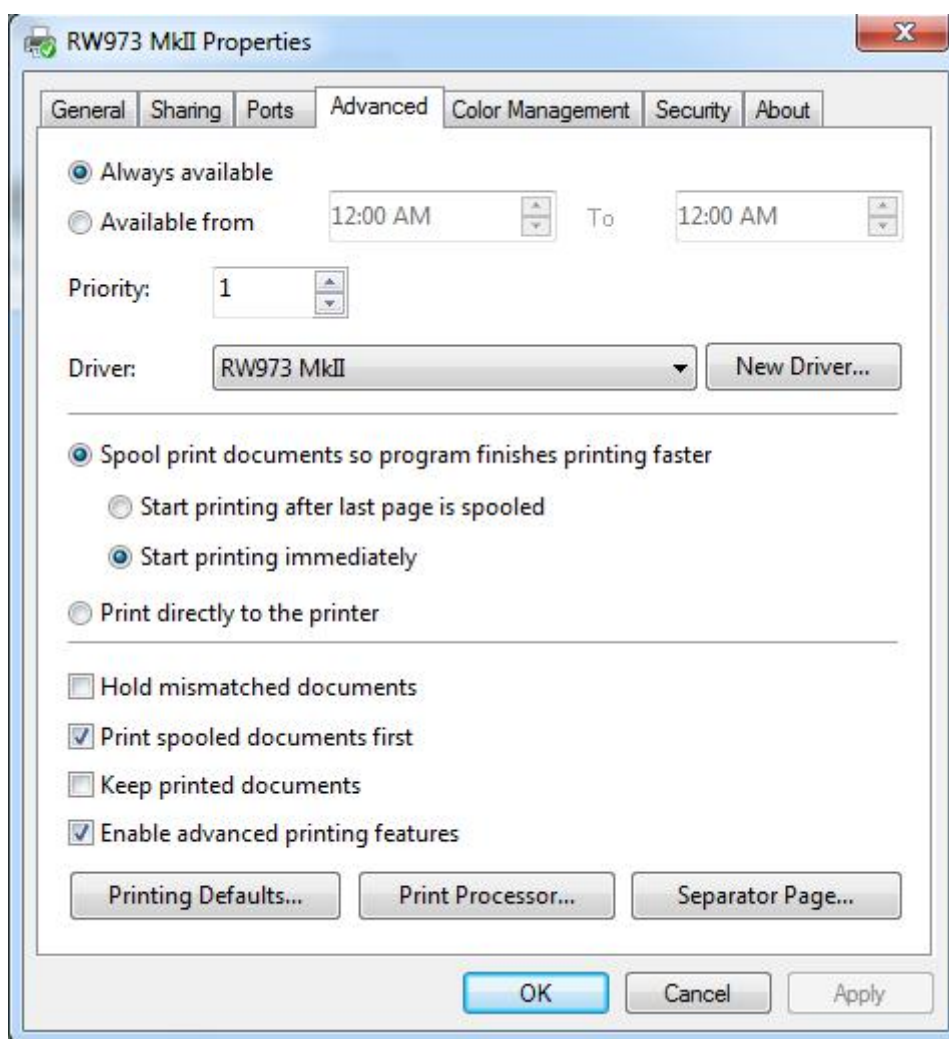
2) Choose "General", click on "Print Test Page", then it will print the current settings.



3) Click “Port” to change the other connecting port.



4) Click “Advanced” to set the available time for using.

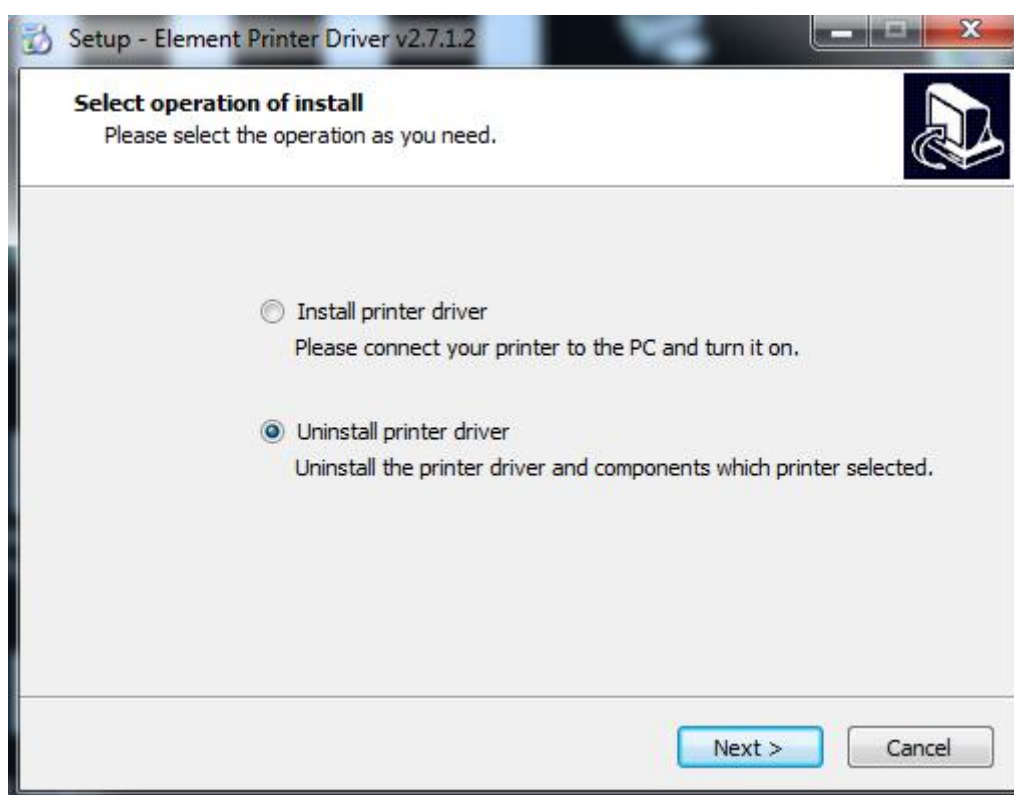


9.6 Uninstall Windows Driver

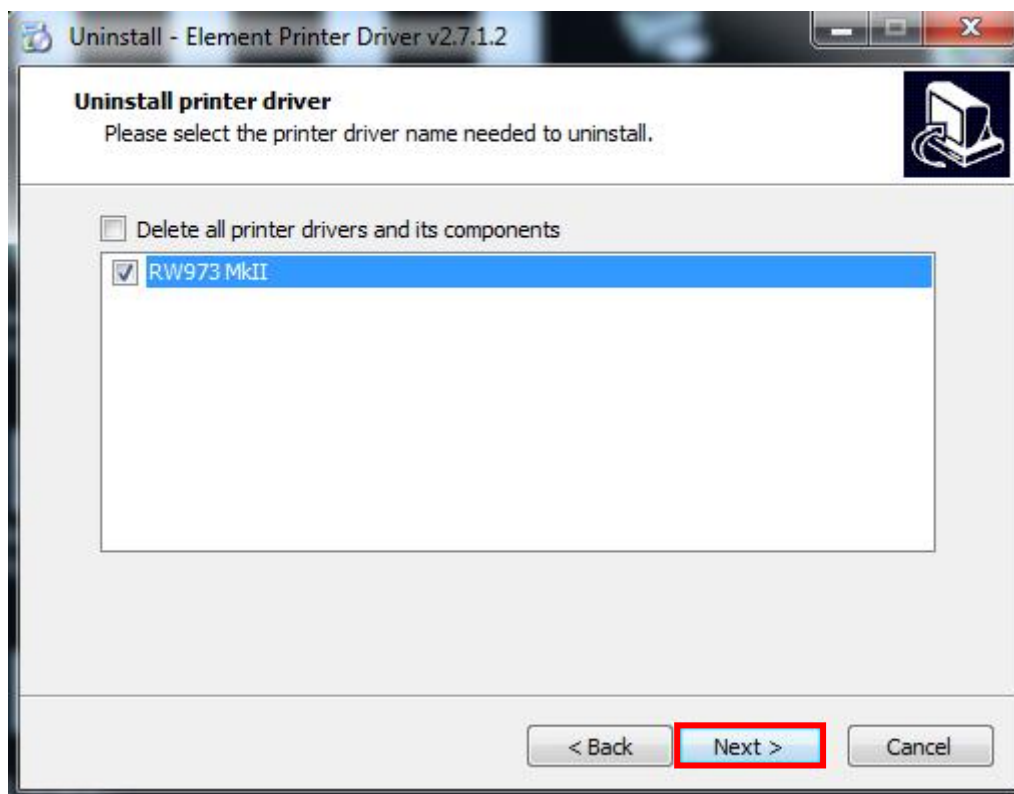
- 1) Double click Windows Driver, and then click “OK”.



- 2) Choose “Uninstall printer driver”, then click “Next”.



- 3) Choose “RW973 MkII”, then click “Next”.



- 4) Then it is complete to uninstall.

9.7 Specification

Resolution:

203×203dpi

Paper Size:

80×297mm

80×3276mm

80×420mm

80×550mm