Direct Thermal Printer

4B-2054F
DIRECT THERMAL
BARCODE PRINTER

USER'S MANUAL

Please keep user manual for reference

Contents

Copyright statement

Matters needing attention

1 printer cover is the fingers and other parts of the body away from the mouth, to avoid pressure injury.

2 motherboard contains the timer battery RTC if the replacement is not correct there will be the risk of explosion.

3 please use the battery according to the manufacturer's instructions.

1. Product profile

Thank you for purchasing the 4B-2054F thermal barcode printer company. This desktop printer will provide you with safe, reliable and efficient print quality at a reasonable price. In a wide range of label format text or graphics to print out. At the same time, the strong function and easy operation features, is the thermal barcode printer, the best choice for you.

4B-2054F thermal printer to provide print mode. The printing speed can be adjusted in the second 2, 3, 4 and 5 inches. You can use a variety of printing materials, including paper, paper labels and folding sections. In addition, the printer is commonly used in the one-dimensional and two-dimensional bar code, a TTF font and eight groups of different sizes of English font and supports 4 different angle printing direction. Through the enlarged function, the font can be made to enlarge the change. Therefore, you can significantly improve the efficiency of label printing in a short time.

2. Introduction

The printer industry is specially packaged to resist any possible damage during transit. However, in view of the printer in transport
On the way may still be unexpected damage, when receiving the printer, please check the packaging and printer
The. In case of significant damage, please contact the dealer directly to indicate the extent of the damage. If necessary, please
Keep packaging material in order to mail the printer.

2.1 Unpacking and inventory of parts

When you receive your barcode printer, please be placed in a clean, steady level desktop, carefully
Packaging material for printer. Do you have the following items:

A printer
CD piece
USB transmission line
Power supply one (built-in power no）
A power cord
Quick installation guide

Factory selection:

Built in power supply

User selection:

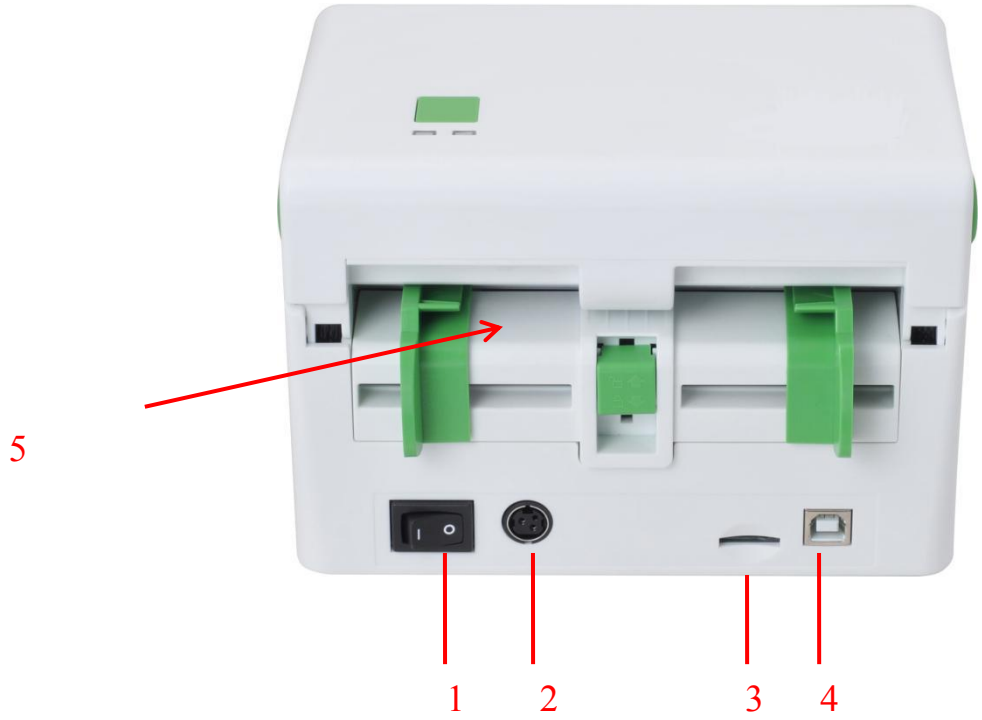
Electronic face single box

2.2 Printer component

2.2.1 Front view

1. Indicator light
2. Paper key
3. Open cover fastening
4. Paper outlet

2.2.2 Rear view



1. Power switch
2. Power supply jack
3. SD card slot
4. USB interface
5. Feeder

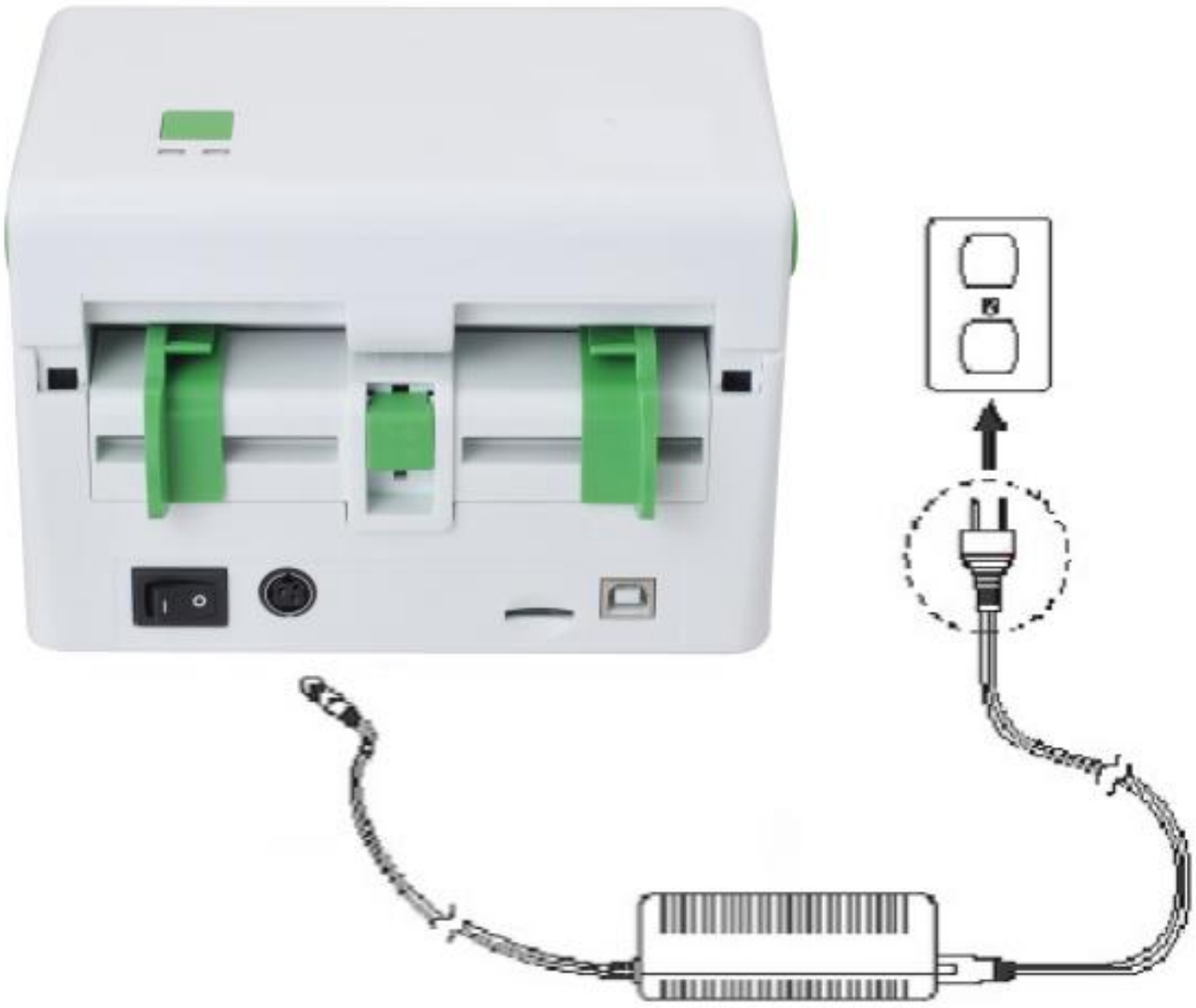
Note: the picture transmission interface printer will vary according to your purchase type, please refer to the actual transmission interface specification product catalog.

3. Install

3.1 install a printer

1. Place the printer on a smooth surface and verify that the power is turned off.
2. Insert the power cord into the power outlet of the printer and insert the other end into the AC socket.

Note: when you insert the power cord into the power outlet of the printer, make sure that the power switch is turned off



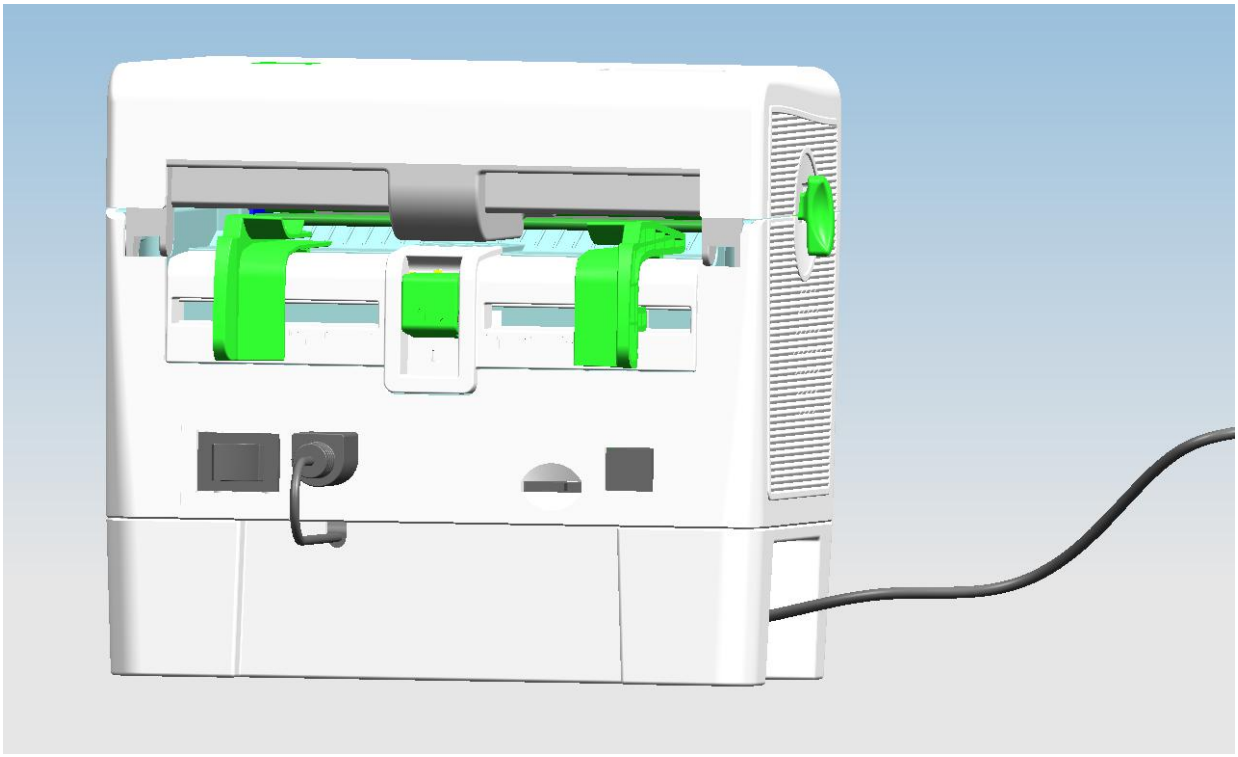
3.2 Mounting sheet

1. Push forward with both hands on the button to open the printer cover cover.
2. The paper is placed on the surface of Media box . (When printing)
3. The surface passes through the paper guiding device, and then the surface is pulled over the rubber roller.

4. Close the printer cover.

Note: to avoid printing quality, please close the printer cover.

3.3 Built in power



The power adapter is assembled by the manufacturer to the built-in power box, the user only needs to connect the power cord to open the switch to be used.

3.4 Single print function

That lack of paper in the printer voice, put into leaflets from the printer feeder, the printer will automatically continue printing paper suction. In order to achieve single print function. (in the standby mode, the paper printer is automatically fed to the print position

4. Indicator and key function

This series of aircraft equipped with 2 sets of gear drive motor can handle 300 of the printer has a button and a light indicator will display three colors, in the light of different colors or press the button with the power switch, allowing the printer to start a number of functions, such as: paper, printing machine to suspend action, sensor, calibration label print printer initialization value, self testing, see below introduction.

4.1 LED Indicator light

LED Indicator color	Explain
Blue (fixed)	Power start, printer on standby to print
Blue (flashing)	The printer is downloading data or the printer is paused
Purple	Printer is clearing data
Red (fixed)	Upper cover open
Red (flashing)	Print error, for example: the paper, cardboard or run out of memory errors... Etc.

4.2 General button function

1. Feed

When the printer is ready (LED blue fixed), click the buttons, label paper into the front end of a paper label.

2. Print job timeout

When the printer is in print, clicking on the button causes the printing to pause. The power indicator light flashes blue. Just click the button to print the job back to normal

4.3 Internal Adaper Boot

The printer has four boot functions can be used to set or test the printer hardware. At the same time, press the button in the boot with the lights, release the button you can start these functions.

Follow these steps to start the boot function：

1. Power off printer.
2. Press and hold the button to open the printer power supply.
3. Release the button as shown in the following table, as shown in the required function.

Internal Network Adaper Boot	Indicator color cycle mode:						
Indicator light / function	Blue and purple	Blue	Blue and purple	Red	Blue and purple	Blue	Blue
				(flashing 5 times)	(flashing 5 times)	(flashing 5 times)	fixed
1.Gap sensor detection				Release button			
2. The gap sensor detects, print and enter the value of self testing debugging mode					Release button		
3. Printer initialization (restore factory defaults)						Release button	
4. Skip **AUTO.BAS** program							Release button

4.3.1 Gap sensor detection

This measurement is used to determine the sensitivity of the label paper sensor after the printer is turned on (Sensitivity). When the user replacement of different specifications of the roll or the printer will initialize (Initialization) reduced the set values for the factory set value, namely the need to re label paper determination of gap sensor. To detect the gap or black marker is in accordance with the correction of the last time you set value. The default value of this printer sensor is set to the gap correction.

Follow these steps：

1. Power off the printer
2. Press the key to open the printer power supply
3. In the first light purple, red flashing, release the feed key

Indicator color cycle mode：

Blue and purple→ Blue→Blue and purple→Red(flashing 5 times)→Blue and purple(flashing 5 times) →Blue(flashing 5 times) → Blue(fixed)

Be careful**:**

Please select gap or black mark sensor by GAP command prior to calibrate the sensor.

For more information about GAP command, please refer to XPL programming manual.

4.3.2 The gap sensor detection; print debugging mode and enter the value of Self testing

This measurement is used to determine the sensitivity of the label paper sensor after the printer is turned on. When the user replacement of different specifications of the roll or the printer will initialize the set values for the restore factory settings, namely the need to re label paper determination of gap sensor. To detect the gap or black marker is in accordance with the correction of the last time you set value. The default value of this printer sensor is set to the gap correction.

Please follow the steps below to make the calibration of the label paper：

1. Please make sure that the label paper is properly installed
2. Power off the printer
3. Press the key to open the printer power supply
4. In the first light purple, blue and purple, flashing, release the feed key

Indicator color cycle mode：

Blue and purple→Blue→Blue and purple→Red(flashing 5 times)→Blue and purple(flashing 5 times)→Blue(flashing 5 times)→Blue(fixed)

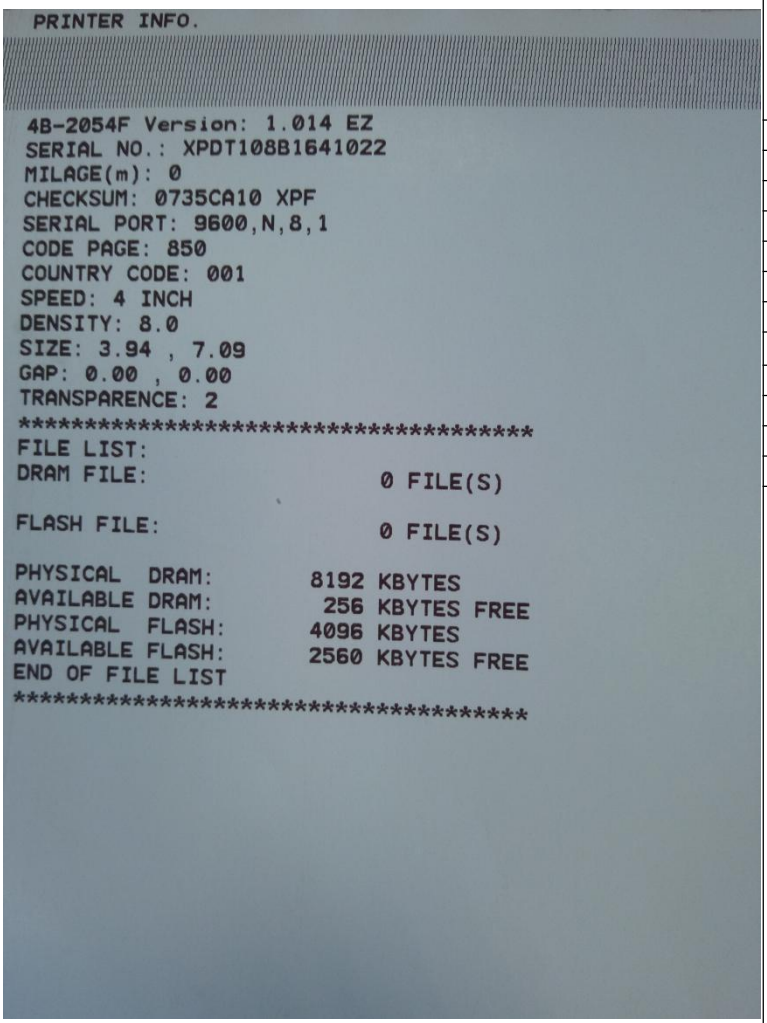
5. The sensor will do to correct the label paper, and print from the measured value, the last into the debug mode and print out the numerical
6. Please turn off the computer again, so that the printer returns to the normal print mode

Caution:

Before making the label paper sensor calibration, use the Diagnostic Tool or the GAP command to confirm the type of tag to be detected；More instruction information about GAP，Please refer to **XPL programming manual(**Instruction set manual**)**

Self Test

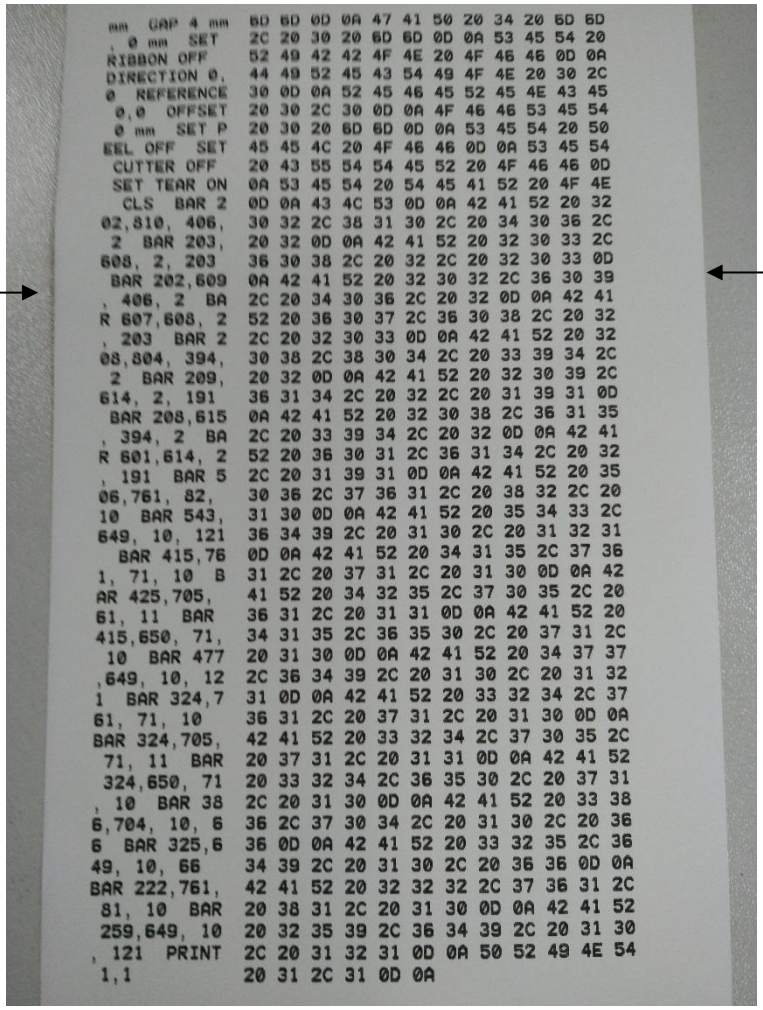
When the sensor is completed, the printer prints the test value. Before you connect your printer to your computer, you can use the self test method to verify that the printer is functioning properly. Print the value of print quality self testing can be used to check the print head and understand the internal state of this printer set.

The internal self testing mode set value of print printer	
	Print head view Aircraft type & firmware version Machine serial number The print head number range Check code Serial setting character set Country code Print speed Print density Paper size (width, height) Gap size (vertical gap, offset) Sensor strength Save file information

Dump Mode

When executing the self test after printing, the printer system will enter debug mode. In debug mode in all volume will be printed out the machine code. The ASCII string on the left is the data received by the system. While the data is from the left side of the string of sixteen hexadecimal value printed out. This function is to provide the user or engineer to debug. You only need to shut off the power to jump off the back to the normal print mode debugging mode.

ASCII string →



← The following ASCII string corresponding to sixteen hexadecimal value

Caution:

1. Data debugging mode print all need 4 "wide label paper

2. Shut off the power to jump off the debug mode, return to normal print mode or press the FEED button to return to the standby state

4.3.3 Printer initialization

The printer initialization function is to clear the memory (DRAM) download files, and print parameters to restore the factory settings.

Please do the following steps：

1. Power off
2. Press the paper key and turn on the power. The power indicator below color cycle

Indicator color cycle mode:

Blue and purple→ Blue→Blue and purple→Red(flashing 5 times)→Blue and purple(flashing 5 times)→Blue(flashing 5 times)→Blue(fixed)

3. When the power indicator is blue flashing release paper key will reset the printer, then the power indicator will flash a purple, finally the power indicator is blue ready state.

The printer configuration will be restored to the default after initialization：

parameter	Default value
speed	152mm/sec (6 ips) (203DPI) 76 mm/sec (3 ips) (300DPI)
concentration	8
Label width	4” (100 mm)
Label height	7.9” (180 mm)
Sensor type	Gap sensor
Gap setting	0.16” (4.0 mm)
Print direction	0
reference point	0,0 (upper left corner)
Offset	0
Tear-off mode	On
character	850
Country code	001
Clear Flash	No
IP address	DHCP

4.3.4 Skip AUTO.BAS program

The XPL command language allows the user to load an automatic executable file (AUTO.BAS) in the flash memory. When the printer is turned on, it will be executed automatically according to the user loaded file. When you want to boot after the AUTO.BAS boot, you can use this power to ignore the function of the automatic implementation of the file.

Please skip AUTO.BAS according to the following steps：

1. Power off。
2. Press the paper key and turn on the power. The power indicator below color cycle

   Indicator color cycle mode：
   Blue and purple→Blue→Blue and purple→Red(flashing 5 times)→Blue and purple(flashing 5 times)→Blue(flashing 5 times)→Blue(fixed)

3. Release the FEED key when the indicator light is fixed。
4. The printer will skip the AUTO.BAS program。

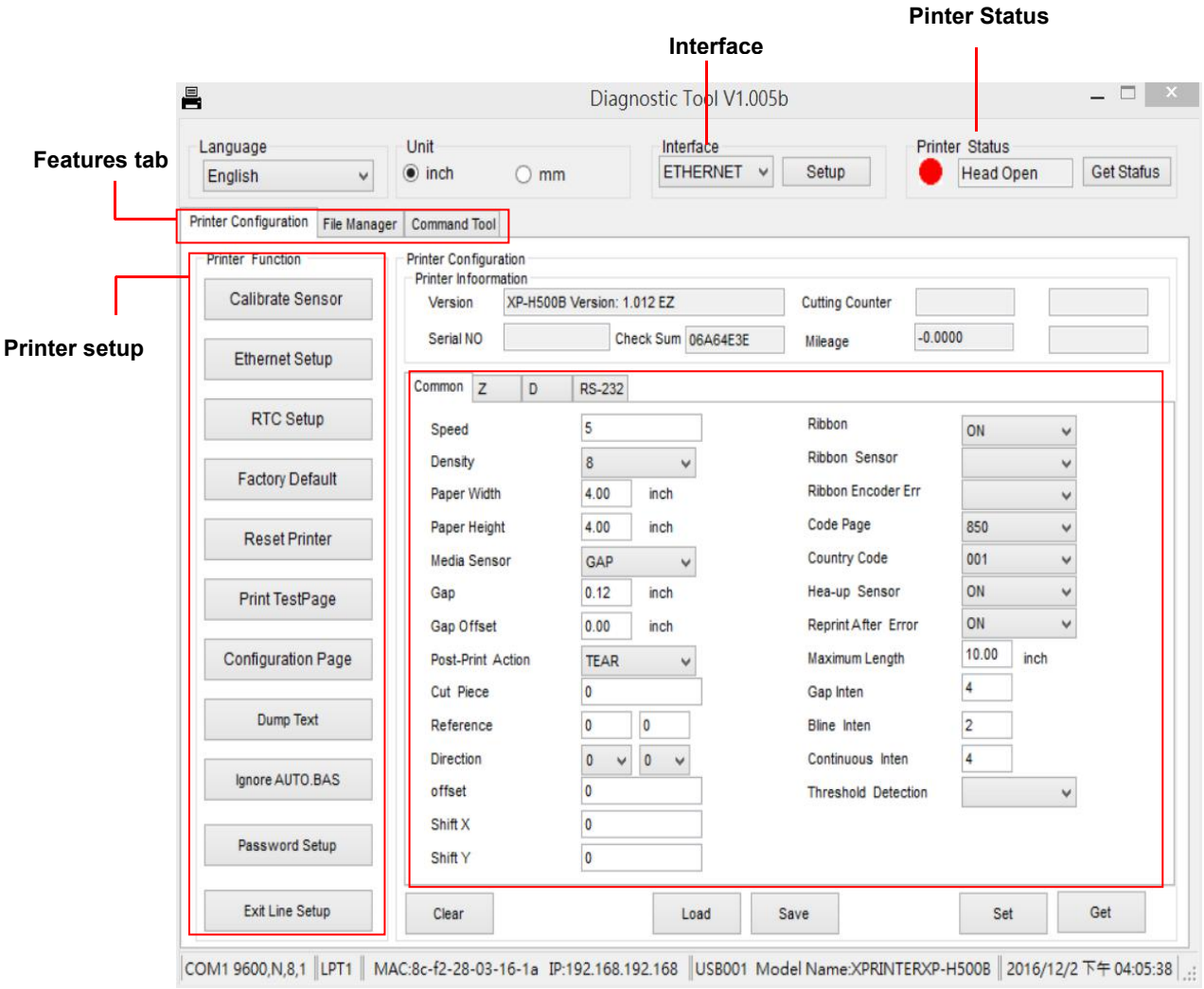
5. Printer diagnostic tool(Diagnostic Tool)

DiagnosticTool is a simple operation of the window tool program, through the program can view the current state of the printer and set value. According to the needs of customers can be graphics files, procedures, font files... Download and firmware update. Another support for dot matrix word production and download, instruction or file transfer... With this tool, customers can easily set up the printer, view the status of the printer and then eliminate the use of printer problems.

5.1 Enable Diagnostic Tool tools

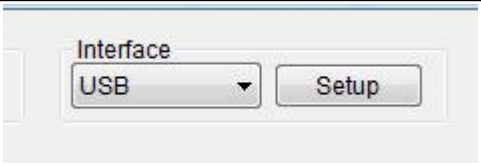
1. Move the mouse cursor to the image, double-click the left mouse button. Diagnostic Tool.exe 。

2. Open the main screen can be seen in 3 management pages (printer settings, file management, communication tools)。

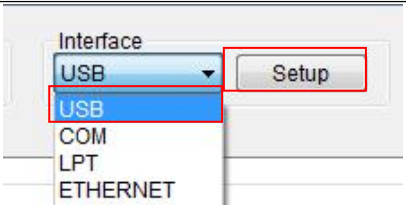


5.2 Printer settings

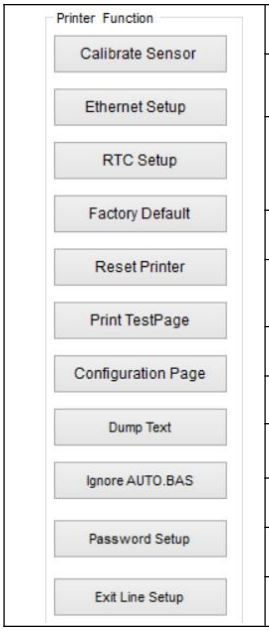
1. Select the connection interface between the computer and the printer.



The default communication interface for this printer diagnostic utility program is USB, so if you are using a USB line to connect the computer to the transmission, this part does not have to change its settings



2. Pressed the "printer" in the function setup。
3. The printer features in the printer settings management page are as follows。



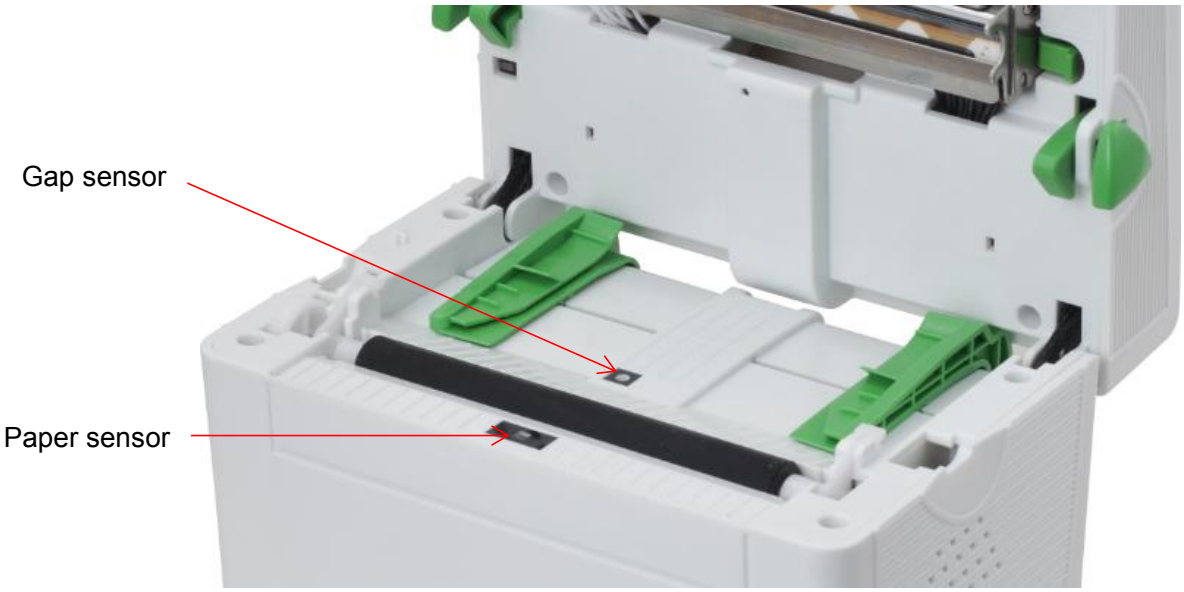
Function	Description
Calibrate Sensor	Calibrate the sensor specified in the Printer Setup group media sensor field
Ethernet Setup	Setup the IP address, subnet mask, gateway for the on board Ethernet (Please refer to next section)
RTC Time	Synchronize printer Real Time Clock with PC
Factory Default	Initialize the printer and restore the settings to factory default.
Reset Printer	Reboot printer
Print Test Page	Print a test page
Configuration Page	Print printer configuration
Dump Text	To activate the printer dump mode.
Ignore AUTO.BAS	Ignore the downloaded AUTO.BAS program
Password Setup	Set Printer password when used.

5.3 Correction of paper sensor with printer diagnostic tool

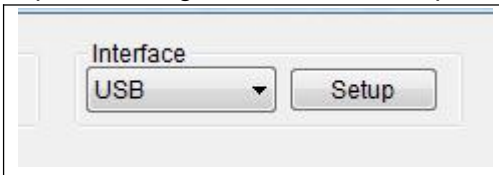
5.3.1 Auto Calibration

1. Make sure the paper is installed correctly and the print head is closed。

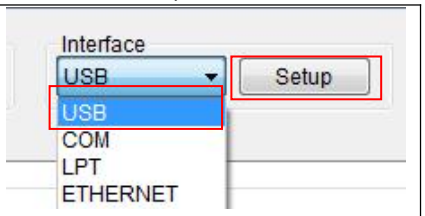
Note: this type of paper sensor is not adjustable, please confirm the gap position paper



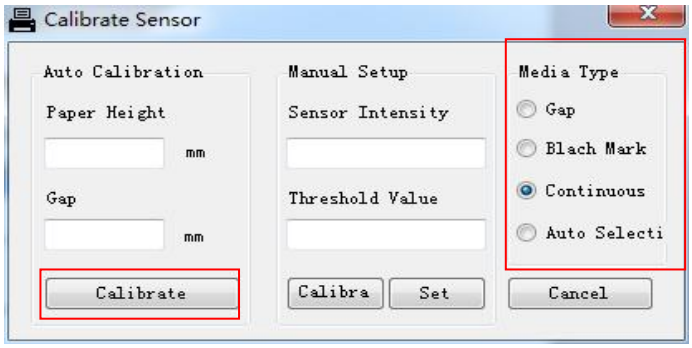
2. Printer power supply。
3. Open the Diagnostic tool and setup interface (default is USB)。



The default communication interface for this printer diagnostic utility program is USB, so if you are using a USB to connect the computer to the transmission, this part does not have to change its settings



4. Press press Calibate key。
5. Select the type of paper and press the "Calibrate" button, the printer will automatically feed movement sensor calibration。



6. Trouble shooting

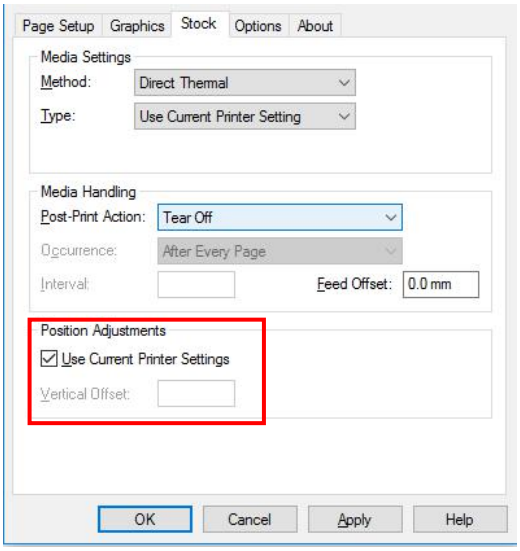
6.1 Common problem

In the table below is the content of the general operator common problems and solutions; if you have to we suggest a way to exclude the fault situation, and not the normal operation of the printer, so please contact your vendor's customer service department, in order to obtain more help.

problem	Possible factors	Resolvent
- Power indicator light is not bright	* The plug of the AC socket and the plug of the power supply are not properly connected to the socket of the printer * Power switch not open	* Check the power connector and verify that the AC socket and the plug of the power supply are connected properly to the printer *Turn on the power switch
- Printer diagnostic tool (Diagnostic Tool) shows "printer on"	* The printing head seat is not closed	* Please close the print head seat
- Printer diagnostic tool (Diagnostic Tool) shows "paper exhaustion"	* Label paper exhausted * Label incorrect installation path * Gap sensor detection is incorrect	* Install new label paper * Please refer to the label installation steps to re install * Re calibration label sensor
- Printer (Diagnostic Tool) diagnostic tools display "paper jam"	* Gap sensor detection is incorrect * Label paper size setting is not correct * May have a label paper stuck in the internal printer	* Recalibration label sensor * Set the correct label size * Internal cleaning

problem	Possible factors	Resolvent
- *memory space is full (FLASH / DRAM)	* FLASH/DRAM Memory space is full	* Remove unnecessary files from FLASH / DRAM * DRAM can store up to 256 files * Users can store a maximum capacity of 256KB in DRAM * FLASH can store up to 256 files * The user can store the maximum capacity in FLASH 2560KB

problem	Possible factors	Resolvent
- MicroSD memory card can not be used	* MicroSD memory card damage * MicroSD memory card inserted incorrectly * Use the microSD card produced by an unauthorized manufacturer	* Please use the capacity of the microSD memory card support * Please reinstall the microSD memory card * Support microSD memory card specification capacity and verified microSD card manufacturer see section 2.2.3
Poor print quality	* The print head, there is dust or adhesive packing * Improper print density setting * Print head damage * Print head pressure setting is not appropriate	* Reinstall supplies * Clean print head * Clean rubber roller * Adjust printer print density and print speed * Print self testing to determine whether the value view of the print head is damaged, such as the print head is damaged, please replace the print head * Adjust the print head pressure adjustment knob If the printed label is left too light, please adjust and improve the numerical pressure adjusting knob on the left side, if its value is "5" and the left side of the printed or too light, please value of the pressure adjusting button to "1" and then adjust the Z axis to find the best set pressure regulator If the printed label is right too light, please adjust and improve the value of the pressure adjusting knob on the right side, to improve printing quality * If the thickness of the label is more than 0.22 mm, the print quality is not good enough * Confirm that the print head holder is completely closed
- When the jump occurs when printing	* Label size is incorrect or incomplete * Replace label without recalibration sensor * The label sensor is covered with dust and the detection is incorrect	* Please make sure the label size is correct * Please re label sensor * Use air cleaner to remove dust from sensor

problem	Possible factors	Resolvent
- The small print volume when the print position is not correct	* Label sensor is not set correctly * Label size is not set correctly * In the printer driver in the style. The vertical displacement (vertical offset) is not set correctly	* Recalibration label sensor * Set label size and the size of the gap between the correct label * If you are using BarTender software, set the vertical offset (vertical offset) in the printer driver 
- The left and right sides want to print content lost	* Label size is not set correctly	* Set the correct label size
- RTC time is incorrect when the printer is restarted	The battery is dead	* Please confirm the battery on the motherboard
- Fold problem	* Print head uneven pressure * Label paper is not installed correctly * Incorrect print density * Label paper feed is not correct	See the pressure adjustment of the print head for the next chapter * Set the appropriate label printing density * Adjust the label width adjuster to fit the label width
- Black label paper appears gray line	* Print dirty head * Rubber roller dirty	* Clean print head * Clean rubber roller
- Print instability	* Printer in Hex Dump mode mode	* Turn the printer back on and off the dump mode mode

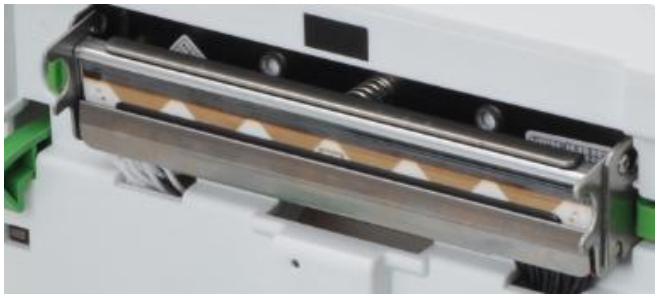
7. Printer simple maintenance

This simple printer maintenance program to ensure the quality of printing, but also to extend the life of the printer, the following are some of our recommendations for maintenance.

1 please use the following tools to clean and maintain your printer:

Cotton swab
cotton
Vacuum cleaner or air cleaner
Medical alcohol

2. Cleaning steps：

Clean part	step	Recommended cleaning frequency
Print head	1.Please turn off the printer power 2.Cool the print head for at least one minute 3.Swab with cotton swab to wipe the surface of the print head	When replacing a new label paper
		
Rubber roller	1.Please turn off the printer power 2.While rotating the rubber roller, while carefully using cotton cloth or cotton swab dipped in medicinal alcohol wipe	When replacing a new label paper
Torn paper	Use cotton cloth dipped in medicinal alcohol wipe	When there is a need
Sensor	Remove dust from the sensor using an air cleaner or a vacuum cleaner	Monthly
External machine	Wipe with wet cotton cloth	When there is a need
Internal machine	Remove dust from the machine using an air cleaner or a vacuum cleaner	When there is a need

Caution:

Do not touch the printer head directly with your hands. If you touched accidentally, please clean it with a cotton swab dipped medical alcohol.

Please use medical alcohol. Do not use industrial alcohol which will damage the printer head.

If you frequently get error messages from the printer, please often clean your printer's sensor

Equipment for safe use in tropical climate conditions

This is a Class A product. In the living environment, this product may cause radio interference. In this case, users may need to take practical measures to the interference

Update record

Date	Content	Editor
2017/03/26	Release V1.00	Austin Bill
2018/05/23	Release V1.01	HU XIANG
2019/08/07	Release V1.02	HU XIANG