

4D520/ 4D520P Series

DIRECT THERMAL BAR CODE PRINTER

**USER'S
MANUAL**



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GB 4943.1
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此为 A 级产品，在生活环境中，该产品可能会造成无线电干扰，在这种情况下，可能需要用户对干扰采取切实可行的措施。



IS 13252(Part 1)/
IEC 60950-1



KN 32 / KN 35

Important safety instructions:

1. Read all of these instructions and keep them for later use.
2. Follow all warnings and instructions on the product.
3. Disconnect the power from the AC inlet before cleaning or if fault happened.
Do not use liquid or aerosol cleaners. Using a damp cloth is suitable for cleaning.
4. The mains socket shall be installed near the equipment and easily accessible.
5. The unit must be protected against moisture.
6. Ensure the stability when installing the device, Tipping or dropping could cause damage.
7. Make sure to follow the correct power rating and power type indicated on marking label provided by manufacture.
8. Please refer to user manual for maximum operation ambient temperature.

CAUTION:

(For equipment with RTC (CR2032) battery or rechargeable battery pack)

Risk of explosion if battery is replaced by an incorrect type.

Dispose of used batteries according to the Instructions as below.

1. DO NOT throw the battery in fire.
2. DO NOT short circuit the contacts.
3. DO NOT disassemble the battery.
4. DO NOT throw the battery in municipal waste.
5. The symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.



Caution: Hot surface for printhead. Do not touch the printhead before it cooling.

CAUTION:

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

CAUTION:

This equipment is not suitable for use in locations where children are likely to be present.



Use only the power supply listed in the user instructions”;

-Power supply adaptor: Manufacturer: Foshan Shunde GUANYUDA Power Supply Co Ltd,

Models no.:

GM53-240200-D, GM53-240200-1D, GM53-240200-2D, GM53-240200-3D,
GM53-240200-4D, GM53-240200-7D, M51-240200-D, M51-240200-1D,
GM51-240200-2D, GM51-240200-3D, GM51-240200-4D, GM51-240200-7D

Contents

1. Introduction	1
1.1 Product Introduction.....	1
1.2 Product Features.....	2
1.2.1 Printer Standard Features	2
1.2.2 Printer Optional Features	3
1.3 General Specifications.....	3
1.4 Print Specifications.....	4
1.5 Media Specifications.....	4
2. Operations Overview.....	5
2.1 Unpacking and Inspection.....	5
2.2 Printer Overview.....	6
2.2.1 Front View.....	6
2.2.2 Interior View	7
2.2.3 Rear View.....	8
2.3 Operator control.....	9
2.3.1 LED Indication, LCD screen, and Keys.....	9
3. Setup	10
3.1 Setting up the Printer	10
3.2 Loading the Media.....	11
4. LED and Button Functions	13
4.1 LED Indicator.....	13
4.2 Regular Button Functions	13
4.3 Power-on Utilities.....	14
4.3.1 Gap/Black Mark Sensor Calibration	14
4.3.2 Gap/Black Mark Calibration, Self-test and Dump Mode	15
4.3.3 Printer Initialization	18
4.3.4 Set Black Mark Sensor as Media Sensor and Calibrate the Black	
Mark Sensor	19
4.3.5 Set Gap Sensor as Media Sensor and Calibrate the Gap Sensor ..	19
4.3.6 Skip AUTO.BAS.....	20
5. Diagnostic Tool	21
5.1 Start the Diagnostic Tool	21
5.2 Printer Function.....	22
5.3 Calibrating Media Sensor by Diagnostic Tool	23
5.3.1 Auto Calibration	23

5.4 Setting Bluetooth by Diagnostic Tool (Optional).....	24
6. Troubleshooting	25
6.1 Common Problems	25
7. Maintenance.....	26
Revise History	27

1. Introduction

1.1 Product Introduction

Thank you very much for purchasing zenpert bar code printer.

Enjoy zenpert's reputation for cost-efficient, high durability printers with the 4D520 series desktop barcode printer. The 4D520 series is a comfortable, light-weight printer capable of working with quick and simple receipts/labels on demand.

This printer can be worn comfortably for a full shift, without interfering with the user's tasks. Use USB 2.0 to produce clear easy-to-read receipts hour after hour.

For easy loading, the 4D520 series employs a user-friendly double-wall clamshell design with a large five-inch (outside diameter) center-biased media bay. Top-of-form sensing – by gap, black mark, or die-cut – is standard. The printer also comes with a head-open sensor.

The 4D520 series has memory with 16 MB Flash & 64 MB SDRAM that can be used for easy storage of fonts, international character sets and graphics, and it supports, "right out of the box," a fully compatible set of standard industry emulations, including Line Mode, Eltron® and Zebra® languages, making it easy to replace old installed hardware.

- Applications
 - Direct store deliveries (DSD)
 - Proof of Delivery and Pickup
 - Field Sales/Repairs
 - Parking Citations
 - Mobile Ticketing
 - Onboard Ticketing
 - Utility Billing/Meter Reading
 - Laboratory

1.2 Product Features

1.2.1 Printer Standard Features

The printer offers the following standard features.

Product standard feature
Direct thermal printing
Black mark reflective sensor
Gap transmissive sensor
Head open sensor
1 Feed/ Pause button
1 Power button
Top cover open button
1 LED indicator with 3 colors (red, amber, and green)
Audible alert Programmable buzzer
32-bit RISC high performance processor
USB 2.0 (High speed mode) interface
Ethernet 10/100 Mbps interface (For 4D520P model only)
64 MB DRAM memory
4D520 model: 16 MB Flash memory 4D520P model: 128MB FLASH memory
Fonts and bar codes can be printed in any one of the four directions (0, 90,180, 270 degree)
Internal 8 alpha-numeric bitmap fonts
Eltron® EPL, Zebra® ZPL and Datamax ® DPL emulation languages support
One Monotype Imaging® CG Triumvirate Bold Condensed scalable font
Built-in Monotype True Type Font engine
Downloadable fonts from PC to printer memory
Downloadable firmware upgrades

Text, bar code, graphics/image printing		
Supported bar codes		Supported images Format
1D bar code	2D bar code	Windows .BMP, PCX (Max. 256 colors graphics)
Code128 subsets A.B.C, Code128UCC, EAN128, Interleave 2 of 5, Code 39, Code 93, EAN-13, EAN-8, Codabar, POSTNET, UPC-A, UPC-E, EAN and UPC 2(5) digits add-on, MSI, PLESSEY, China Post, ITF14, EAN14, Code 11, TELPEN, PLANET, Code 49, Deutsche Post Identcode, Deutsche Post Leitcode, LOGMARS	CODABLOCK F mode, DataMatrix, Maxicode, PDF-417, Aztec, MicroPDF417, QR code, RSS Barcode (GS1 Databar)	

1.2.2 Printer Optional Features

The printer offers the following optional features.

Product option feature	User options	Factory options
Bluetooth V4.2		<input type="radio"/> (China only)

1.3 General Specifications

General Specifications	
Physical dimensions	181 mm (W) x 162 mm (H) x 223 mm (D)
Enclosure	Plastic
Weight (w/ battery)	1.1 kg
Electrical	External universal switching power supply <div> <div>■</div> Input: AC 100-240V, 2.0A, 50/60Hz </div> <div> <div>■</div> Output: DC 24V, 2.0A, 48W, LPS </div>

Environmental condition	Operation Temperature: 0 ~ 40°C (32 ~ 104°F) Storage Temperature: -20 ~ 60 °C (-4 ~ 140°F) Relative Humidity: - Operation: 10% to 85% non-condensing - Storage: 5% to 90% non-condensing
Environmental concern	Comply with RoHS, WEEE, and REACH

1.4 Print Specifications

Print Specifications	
Print head resolution	203 dots/inch (8 dots/mm)
Printing method	Direct thermal
Dot size (width x length)	0.125 x 0.125 mm (1 mm = 8 dots)
Print speed (inches per second)	Max. 6 ips
Max. print width	108 mm (4.25")
Max. print length	Continuous receipt paper: 25,400 mm (1000")
Printout bias	Vertical: 1 mm max.
	Horizontal: 1 mm max.

1.5 Media Specifications

Media Specifications	
Media roll capacity	Max. O.D.: 127 mm (5")
Media type	Continuous, die-cut, black mark, and fan-fold
Media wound type	Outside wound
Media width	40 mm (1.57") ~ 112 mm (4.40")
Media thickness	0.06 mm (2.36 mil) ~ 0.20 mm (7.87 mil)

Note: Please locate the black mark on the printing side when using black mark continuous label.

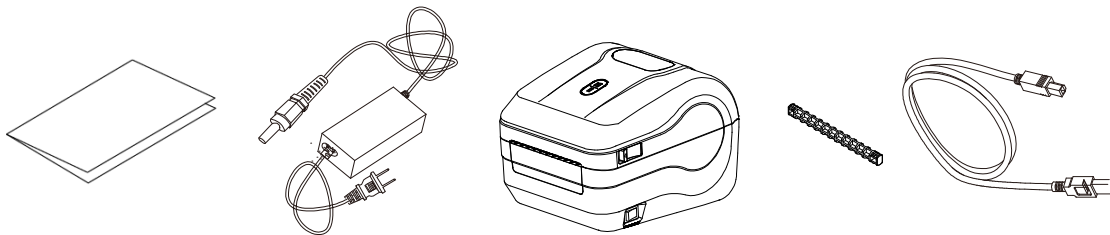
2. Operations Overview

2.1 Unpacking and Inspection

This printer has been specially packaged to withstand damage during shipping. Please carefully inspect the packaging and printer upon receiving the bar code printer. Please retain the packaging materials in case you need to reship the printer.

Unpacking the printer, the following items are included in the carton.

- One printer unit
- One user's setup guide
- One power cord
- One USB interface cable
- One 0.5" media supply spindle



If any parts are missing, please contact the Customer Service Department of your purchased reseller or distributor.

2.2 Printer Overview

2.2.1 Front View



1. Feed/Pause button/ LED indicator
2. Media view window
3. Paper exit chute
4. Media cover release button
5. Power on/off button

2.2.2 Interior View



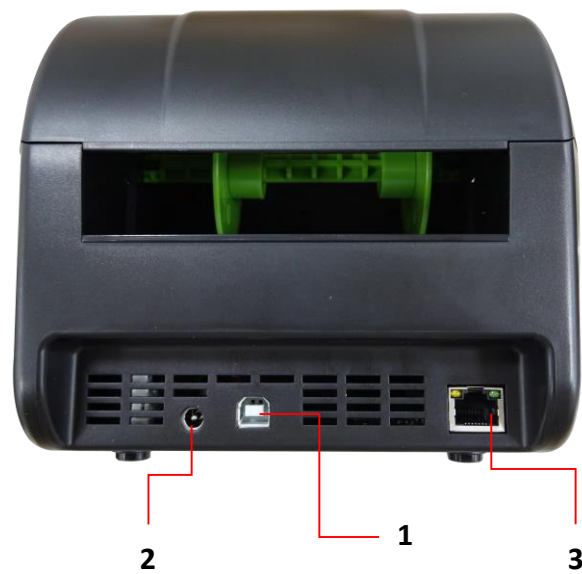
1. Tear edge
2. Print head
3. Gap sensor (transmitter)
4. Media supply spindle
5. Media guides
6. Black mark sensor/ Gap sensor (receiver)
7. Platen roller

2.2.3 Rear View

- 4D520 model



- 4D520P model





1. USB interface
2. Power jack
3. Ethernet interface

2.3 Operator control

2.3.1 LED Indication, LCD screen, and Keys



1. Feed/stop button/ LED indicator

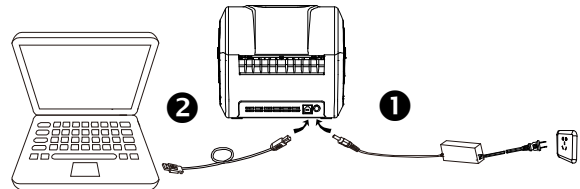
Keys	Function
	Ready status: Feed one label
	Printing status: Pause the print job

3. Setup

3.1 Setting up the Printer

Place the printer on a flat, secure surface, then follow the steps below:

1. Plug the power cord into the AC power cord socket at the rear of the printer. Then, plug the other side into a properly grounded power outlet.
2. Connect the printer to the computer with the provided USB cable.
3. Push the power switch on “-” side to open the power of printer.



Note:

- * Please switch OFF printer power switch prior to plugging in the power cord to printer power jack.
- * Please do not plug in the power cord to printer power jack when turns on the power button.

3.2 Loading the Media



Media cover release buttons

1. Open the printer top cover by pressing the media cover release buttons located on each side of the printer.



2. Insert the paper roll into the media supply spindle.
3. Place the paper roll onto the paper roll mount.



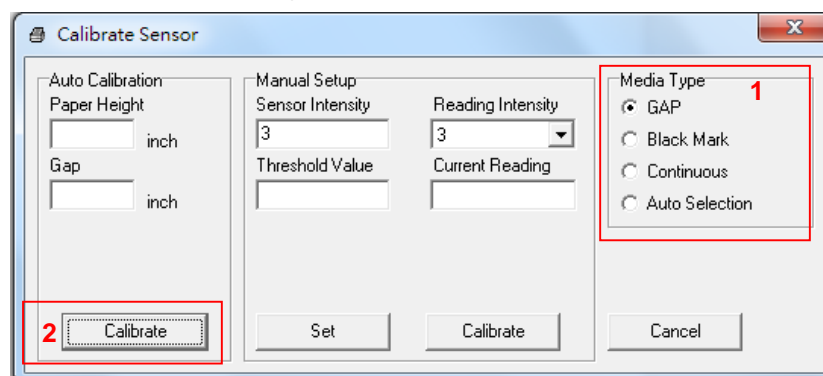
4. Feed the paper, printing side face up, through the media sensor and place the label leading edge across the platen roller. Move the media guides to fit the label width.



5. Close the print head mechanism with both hands and make sure the latches are engaged securely.

Note: The black mark and the gap sensor position are fixed. Please make sure the gap or black mark is at the location where media gap/black mark will pass through for sensing.

6. Use "Diagnostic Tool" to set the media sensor type and calibrate the selected sensor. (Start the "Diagnostic tool" → Select the "Printer Configuration" tab → Click the "Calibrate Sensor" button) Please refer to section 5.3.



Note:

*** Please calibrate the gap/ black mark sensor when changing media.**

4. LED and Button Functions

This printer has one button and one three-color LED indicator. By indicating the LED with different color and pressing the button, printer can feed labels, pause the printing job, select and calibrate the media sensor, print printer self-test report, reset printer to defaults (initialization). Please refer to the button operation below for different functions.

4.1 LED Indicator

LED Color	Description
Green/Solid	This illuminates that the power is on and the device is ready to use.
Green/Flash	This illuminates that the system is downloading data from PC to memory or the printer is paused.
Amber	This illuminates that the system is clearing data from printer.
Red/Solid	This illuminates printer head open, cutter error.
Red/Flash	This illuminates a printing error, such as head open, paper empty, paper jam, ribbon empty, or memory error etc.

4.2 Regular Button Functions

1. Feed labels

When the printer is at ready states (Green/Solid), press the button to feed one label to the beginning of next.

2. Pause the printing job

When the printer is at printing states, press the button to pause a print job. When the printer is paused, the LED will be green blinking. Press the button again to continue the printing job.

4.3 Power-on Utilities

There are six power-on utilities to set up and test printer hardware. These utilities are activated by pressing any button then turning on the printer power simultaneously and release the button at different color of LED.

Please follow the steps below for different power-on utilities.

1. Turn off the printer power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED indicates with different color for different functions.

<i>Power on utilities</i>	<i>The LED color will be changed as following pattern:</i>						
<i>LED color</i> <i>Functions</i>	Amber	Red (5 blinks)	Amber (5 blinks)	Green (5 blinks)	Green/Amber (5 blinks)	Red/Amber (5 blinks)	Solid green
1. Gap / black mark sensor calibration		<i>Release</i>					
2. Gap / black mark sensor calibration, Self-test and enter dump mode			<i>Release</i>				
3. Printer initialization				<i>Release</i>			
4. Set black mark sensor as media sensor and calibrate the black mark sensor					<i>Release</i>		
5. Set gap sensor as media sensor and calibrate the gap sensor						<i>Release</i>	
6. Skip AUTO.BAS							<i>Release</i>

4.3.1 Gap/Black Mark Sensor Calibration

Gap/black mark sensor sensitivity should be calibrated at the following conditions:

1. A brand new printer
2. Change label stock
3. Printer initialization

Please follow the steps below to calibrate the ribbon and gap/black mark sensor.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED becomes **red** and blinking. (Any red will do during the 5 blinks).

- It will calibrate the ribbon sensor and gap/black mark sensor sensitivity.
- The LED color will be changed as following order :
 Amber → **red (5 blinks)** → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks)
 → red/amber (5 blinks) → solid green

Note:

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

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

4.3.2 Gap/Black Mark Calibration, Self-test and Dump Mode

While calibrate the gap/black mark sensor, printer will measure the label length, print the internal configuration (self-test) on label and then enter the dump mode. To calibrate gap or black mark sensor, depends on the sensor setting in the last print job.

Please follow the steps below to calibrate the sensor.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED becomes **amber** and blinking. (Any amber will do during the 5 blinks)

- The LED color will be changed as following order.
 Amber → red (5 blinks) → **amber (5 blinks)** → green (5 blinks) → green/amber (5 blinks)
 → red/amber (5 blinks) → solid green

4. It calibrates the sensor and measures the label length and prints internal settings then enter the dump mode.

Note:

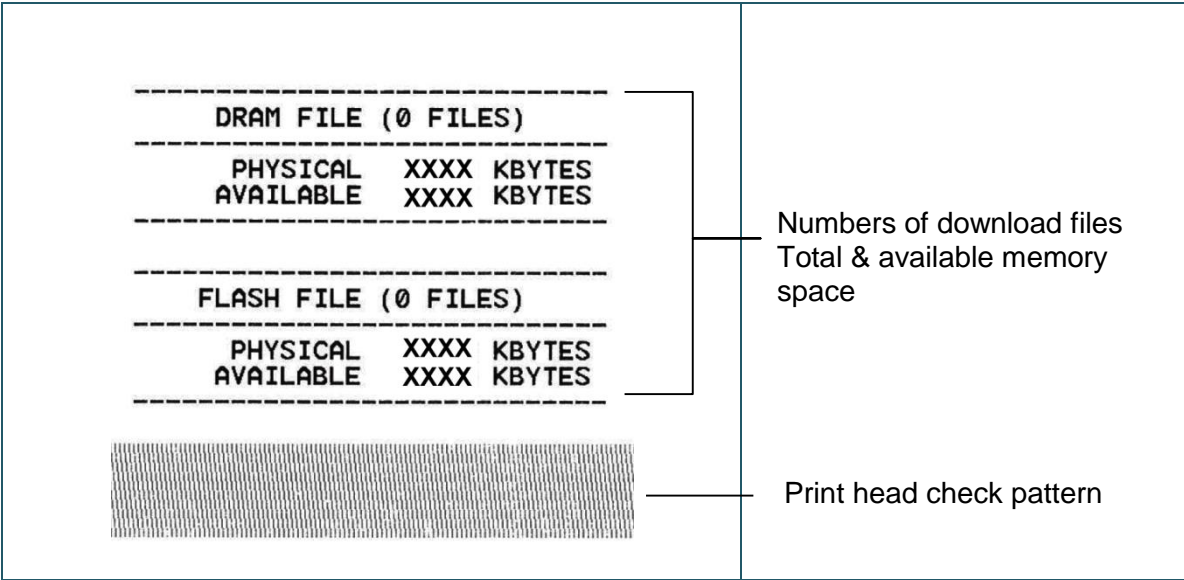
Please select gap or black mark sensor by Diagnostic Tool or by GAP or BLINE command prior to calibrate the sensor.

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

■ Self-test

Printer will print the printer configuration after gap/black mark sensor calibration. Self-test printout can be used to check if there is any dot damage on the heater element, printer configurations and available memory space.

Self-test printout	
<pre> ----- SYSTEM INFORMATION ----- MODEL: XXXXXX FIRMWARE: X.XX CHECKSUM: XXXXXXXX S/N: XXXXXXXXXXXX TCF: NO DATE: 1970/01/01 TIME: 00:04:18 NON-RESET: 110 m (TPH) RESET: 110 m (TPH) NON-RESET: 0 (CUT) RESET: 0 (CUT) ----- </pre>	<p>Model name</p> <p>F/W version</p> <p>Firmware checksum</p> <p>Printer S/N</p> <p>Configuration file</p> <p>System date</p> <p>System time</p> <p>Printed mileage (meter)</p> <p>Cutting counter</p>
<pre> ----- PRINTING SETTING ----- SPEED: 5 IPS DENSITY: 8.0 WIDTH: 4.00 INCH HEIGHT: 4.00 INCH GAP: 0.00 INCH INTENSION: 5 CODEPAGE: 850 COUNTRY: 001 ----- </pre>	<p>Print speed (inch/sec)</p> <p>Print darkness</p> <p>Label size (inch)</p> <p>Gap distance (inch)</p> <p>Gap/black mark sensor intension</p> <p>Code page</p> <p>Country code</p>
<pre> ----- Z SETTING ----- DARKNESS: 16.0 SPEED: 4 IPS WIDTH: 4.00 INCH TILDE: 7EH (~) CARET: 5EH (^) DELIMITER: 2CH (,) POWER UP: NO MOTION HEAD CLOSE: NO MOTION ----- </pre>	<p>ZPL setting information</p> <p>Print darkness</p> <p>Print speed (inch/sec)</p> <p>Label size</p> <p>Control prefix</p> <p>Format prefix</p> <p>Delimiter prefix</p> <p>Printer power up motion</p> <p>Printer head close motion</p> <p>Note: ZPL is emulating for Zebra® language.</p>
<pre> ----- BT SETTING ----- MAC ADDR: DC1D307BD233 NAME: 4D520-D233 PIN CODE: 0000 ----- </pre>	<p>Bluetooth setting</p>



■ Dump mode

Printer will enter dump mode after printing printer configuration. In the dump mode, all characters will be printed in 2 columns as following. The left side characters are received from your system and right side data are the corresponding hexadecimal value of the characters. It allows users or engineers to verify and debug the program.

ASCII Data	→	<pre> SPEED 2.0 53 50 45 45 44 20 32 2E 30 0D DENSITY 8 0A 44 45 4E 53 49 54 59 20 38 SET PEEL 0D 0A 53 45 54 20 50 45 45 4C OFF DIRE 20 4F 46 46 0D 0A 44 49 52 45 CTION 0 0 43 54 49 4F 4E 20 30 0D 0A 47 AP 3.00 mm 41 50 20 33 2E 30 30 20 6D 6D .0.00 mm 2C 30 2E 30 30 20 6D 6D 0D 0A REFERENCE 52 45 46 45 52 45 4E 43 45 20 0.0 SET C 30 2C 30 0D 0A 53 45 54 20 43 UTTER OFF 55 54 54 45 52 20 4F 46 46 0D SIZE 100. 0A 53 49 5A 45 20 31 30 30 2E 02 mm.65.0 30 32 20 6D 6D 2C 36 35 2E 30 4 mm CLS 34 20 6D 6D 0D 0A 43 4C 53 0D BARCODE 1 0A 42 41 52 43 4F 44 45 20 31 44.149."39 34 34 2C 31 34 39 2C 22 33 39 ".120.1.0. 22 2C 31 32 30 2C 31 2C 30 2C 2.6."57114 32 2C 36 2C 22 35 37 31 31 34 3BT" PRIN 33 38 54 22 0D 0A 50 52 49 4E T 1.1 SPE 54 20 31 2C 31 0D 0A 53 50 45 ED 2.0 DE 45 44 20 32 2E 30 0D 0A 44 45 NSITY 8 S 4E 53 49 54 59 20 38 0D 0A 53 ET PEEL OF 45 54 20 50 45 45 4C 20 4F 46 F DIRECTI 46 0D 0A 44 49 52 45 43 54 49 ON 0 GAP 4F 4E 20 30 0D 0A 47 41 50 20 3.00 mm.0. 33 2E 30 30 20 6D 6D 2C 30 2E 00 mm REF 30 30 20 6D 6D 0D 0A 52 45 46 ERENCE 0.0 45 52 45 4E 43 45 20 30 2C 30 SET CUTT 0D 0A 53 45 54 20 43 55 54 54 ER OFF SI 45 52 20 4F 46 46 0D 0A 53 49 ZE 100.02 5A 45 20 31 30 30 2E 30 32 20 mm.65.04 m 6D 6D 2C 36 35 2E 30 34 20 6D m CLS BA 6D 0D 0A 43 4C 53 0D 0A 42 41 RCODE 144. 52 43 4F 44 45 20 31 34 34 2C 149."39".1 31 34 39 2C 22 33 39 22 2C 31 20.1.0.2.0 32 30 2C 31 2C 30 2C 32 2C 36 ".571143BT 2C 22 35 37 31 31 34 33 38 54 . PRINT 1 22 0D 0A 50 52 49 4E 54 20 31 .1 2C 31 0D 0A </pre>	←	Hex decimal data related to left column of ASCII data
------------	---	--	---	---

Note:

1. Dump mode requires 4" wide paper width.
2. Turn off / on the power to resume printer for normal printing.

4.3.3 Printer Initialization

Printer initialization is used to clear DRAM and restore printer settings to defaults.

Printer initialization is activated by the following procedures.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED turns **green** after 5 amber blinks. (Any green will do during the 5 blinks).

- The LED color will be changed as following:

Amber → red (5 blinks) → amber (5 blinks) → **green (5 blinks)** → green/amber (5 blinks) → red/amber (5 blinks) → solid green

Printer configuration will be restored to defaults as below after initialization.

Parameter	Default setting
Speed	127 mm/sec (5 ips)
Density	8
Media Width	4" (101.5 mm)
Media Height	4" (101.5 mm)
Print Direction	0
Reference Point	0,0 (upper left corner)
Offset	0
Code Page	850
Clear Flash Memory	No

4.3.4 Set Black Mark Sensor as Media Sensor and Calibrate the Black Mark Sensor

Please follow the steps as below.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED turns **green/amber** after 5 green blinks. (Any green/amber will do during the 5 blinks).

- The LED color will be changed as following:
Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → **green/amber (5 blinks)**
→ red/amber (5 blinks) → solid green

4.3.5 Set Gap Sensor as Media Sensor and Calibrate the Gap Sensor

Please follow the steps as below.

1. Turn off the power switch.
2. Hold on the button then turn on the power switch.
3. Release the button when LED turns **red/amber** after 5 green/amber blinks. (Any red/amber will do during the 5 blinks).

- The LED color will be changed as following:
Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → **red/amber (5 blinks)** → solid green

4.3.6 Skip AUTO.BAS

TSPL-EZD programming language allows user to download an auto execution file to flash memory. Printer will run the AUTO.BAS program immediately when turning on printer power. The AUTO.BAS program can be interrupted without running the program by the power-on utility.



Please follow the procedures below to skip an AUTO.BAS program.

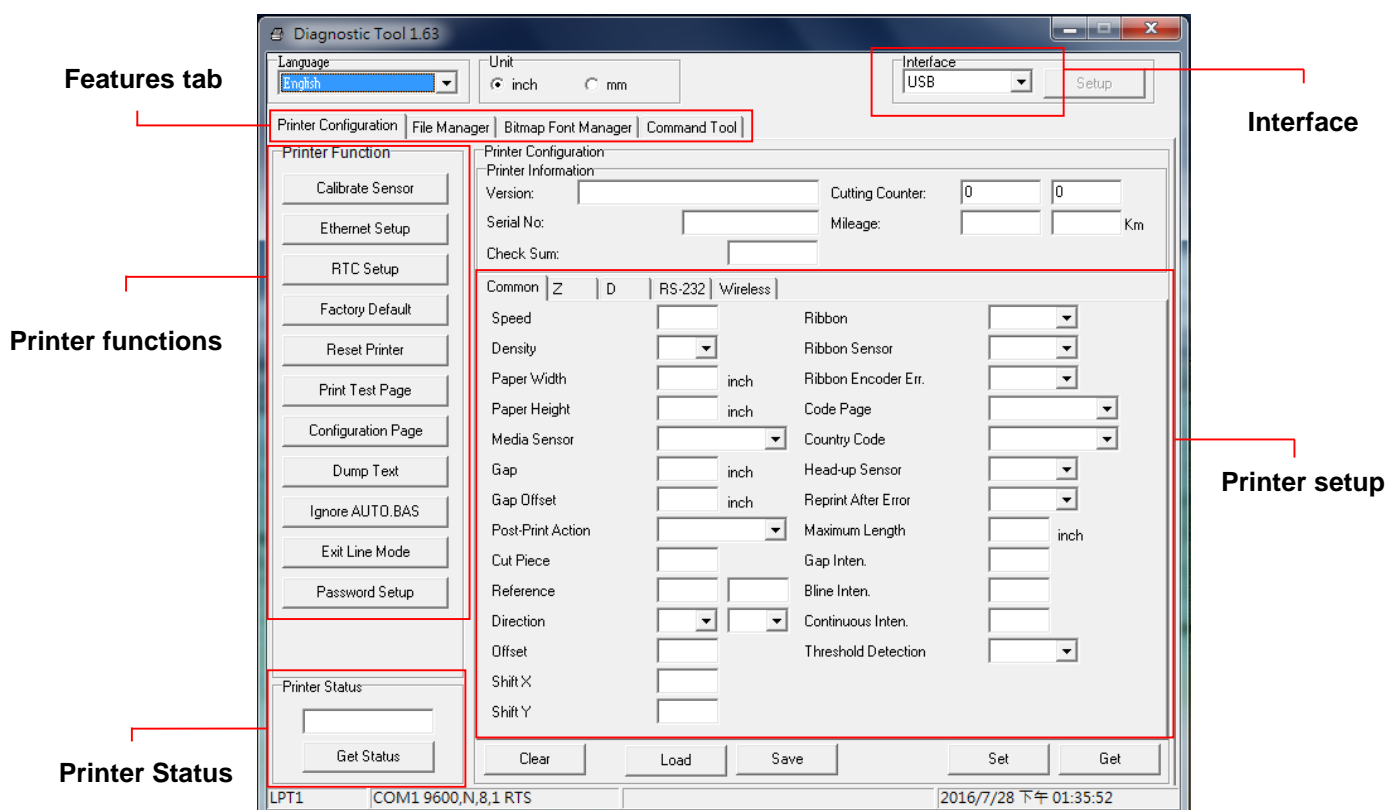
1. Turn off printer power.
2. Press FEED/ PAUSE button and then turn on power.
3. Release the button when LED becomes **solid green**.
 - The LED color will be changed as following:
Amber → red (5 blinks) → amber (5 blinks) → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → **solid green**
4. Printer will be interrupted to run the AUTO.BAS program.

5. Diagnostic Tool

Diagnostic Utility is an integrated tool incorporating features that enable you to explore a printer's settings/ status; change a printer's settings; download graphics, fonts and firmware; create a printer bitmap font; and send additional commands to a printer. With the aid of this powerful tool, you can review printer status and settings in an instant, which makes it much easier to troubleshoot problems and other issues. You can download Diagnostic Utility via the link on our website [here](#).

5.1 Start the Diagnostic Tool

1. Double click on the Diagnostic tool icon   to start the software.
2. There are four features (Printer Configuration, File Manager, Bitmap Font Manager, Command Tool) included in the Diagnostic utility.



5.2 Printer Function

1. Select the PC interface connected with bar code printer.

The default interface setting is USB interface. If USB interface is connected with printer, no other settings need to be changed in the interface field.

Interface

USB
▼

Setup

COM

LPT

ETHERNET

2. Click the “Printer Function” button to setup.
3. The detail functions in the Printer Function Group are listed as below.

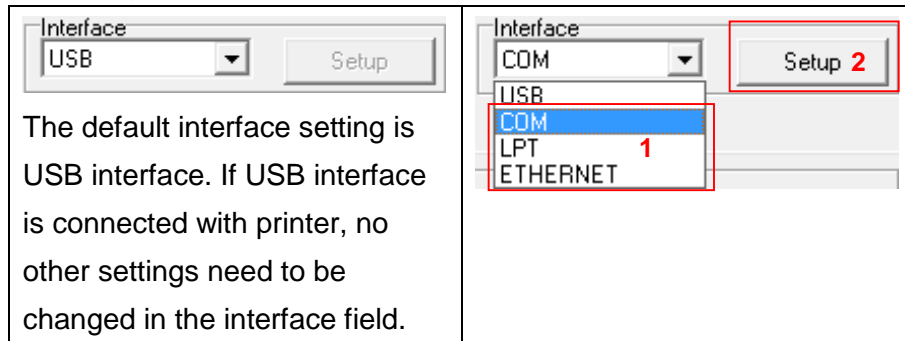
Printer Function	Function	Description
Calibrate Sensor	Calibrate Sensor	Calibrate the sensor specified in the Printer Setup group media sensor field
Ethernet Setup	Ethernet Setup	Setup the IP address, subnet mask, gateway for the on board Ethernet
RTC Setup	RTC Setup	Synchronize printer Real Time Clock with PC
Factory Default	Factory Default	Initialize the printer and restore the settings to factory default. (Please refer section 5.3)
Reset Printer	Reset Printer	Reboot printer
Print Test Page	Print Test Page	Print a test page
Configuration Page	Configuration Page	Print printer configuration (Please refer section 5.2)
Dump Text	Dump Text	To activate the printer dump mode.
Ignore AUTO.BAS	Ignore AUTO.BAS	Ignore the downloaded AUTO.BAS program
Exit Line Mode	Exit Line Mode	Exit line mode.
Password Setup	Password Setup	Set the password to protect the settings

For more information about Diagnostic Tool, please refer to the diagnostic utility quick start guide at [zenpert official website](#).

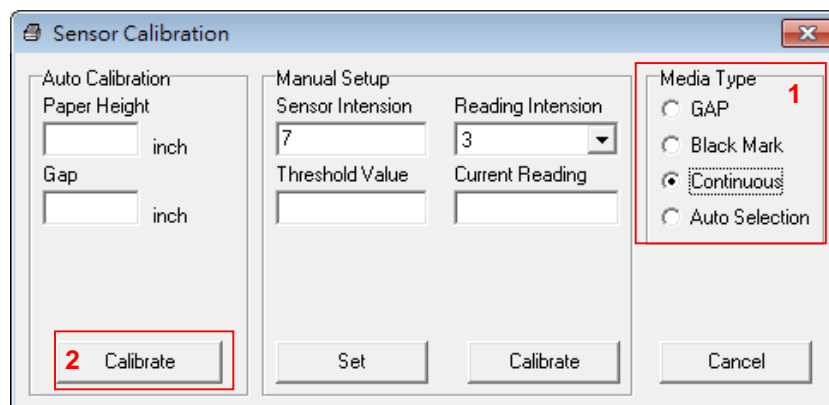
5.3 Calibrating Media Sensor by Diagnostic Tool

5.3.1 Auto Calibration

1. Make sure the media is already installed and media cover is closed. (Please refer to section 3.4)
2. Turn on the printer power switch.
3. Open Diagnostic tool and set interface. (The default setting is USB)



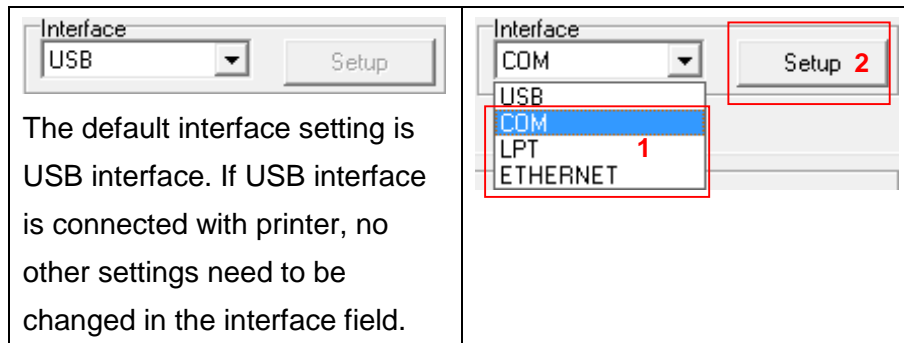
4. Click the “Calibrate Sensor” button.
5. Select the media type and click the “Calibrate” button.



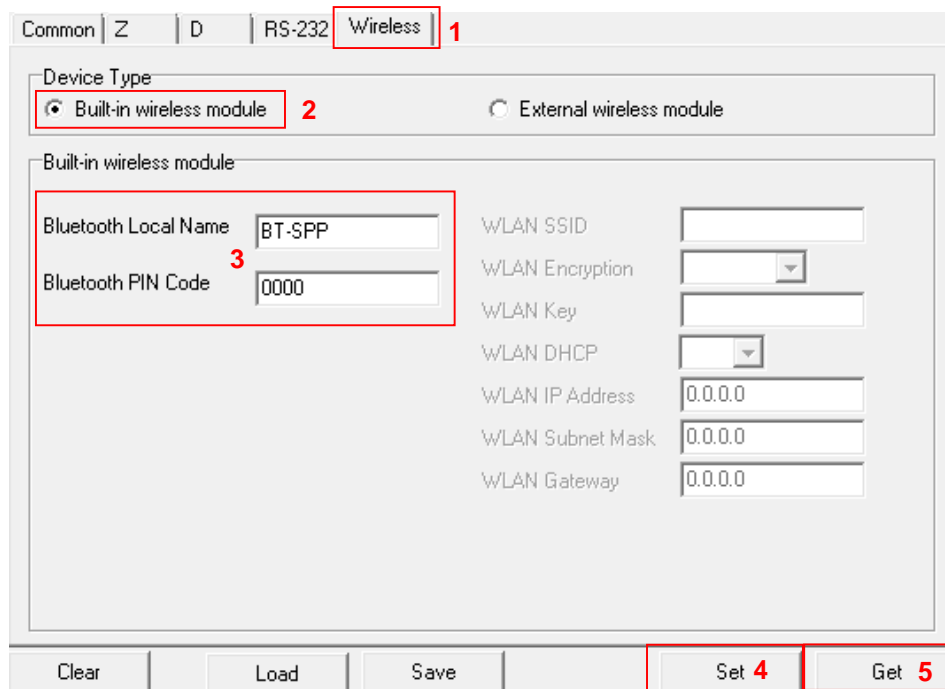
Note: The 4D520 can only support continuous, die-cut, receipt, and black mark media type.

5.4 Setting Bluetooth by Diagnostic Tool (Optional)

1. Make sure the media is already installed and media cover is closed. (Please refer to section 3.4)
2. Turn on the printer power switch.
3. Open Diagnostic tool and set interface (The default setting is USB).



4. Select “Wireless” tab and “Built-in wireless module” item.
5. Enter the new BT Local Name or BT PIN Code in the editor.
6. Press “Set” button to set the new BT name or BT PIN code of the printer.
7. Press “Get” button to get back the settings. Make sure the Bluetooth module settings are set properly.



Note:

* The printer connects with the computer via USB cable.

6. Troubleshooting

6.1 Common Problems

The following guide lists the most common problems that may be encountered when operating this bar code printer. If the printer still does not function after all suggested solutions have been invoked, please contact the Customer Service Department of your purchased reseller or distributor for assistance.

Problem	Possible Cause	Recovery Procedure
Not Printing	Check if interface cable is well connected to the interface connector.	Re-connect cable to interface.
	The port specified in the Windows driver is not correct.	Select the correct printer port in the driver.
No print on the label	Label loaded not correctly.	Follow the instructions in loading the media.
Continuous feeding labels	The printer setting may go wrong.	Please do the initialization and gap/black mark calibration.
Paper Jam	Gap/black mark sensor sensitivity is not set properly (sensor sensitivity is not enough)	Calibrate the gap/black mark sensor.
	Make sure label size is set properly.	Set label size exactly as installed paper in the labeling software or program.
	Labels may be stuck inside the printer mechanism near the sensor area.	Remove the stuck label.
Poor Print Quality	Top cover is not closed properly.	Close the top cover completely and make sure the right side and left side levers are latched properly.
	Wrong power supply is connected with printer.	Check if 24V DC output is supplied by the power supply.
	Check if supply is loaded correctly.	Reload the supply.
	Check if dust or adhesives are accumulated on the print head.	Clean the print head.
	Check if print density is set properly.	Adjust the print density and print speed.
	Check print head test pattern if head element is damaged.	Run printer self-test and check the print head test pattern if there is dot missing in the pattern.

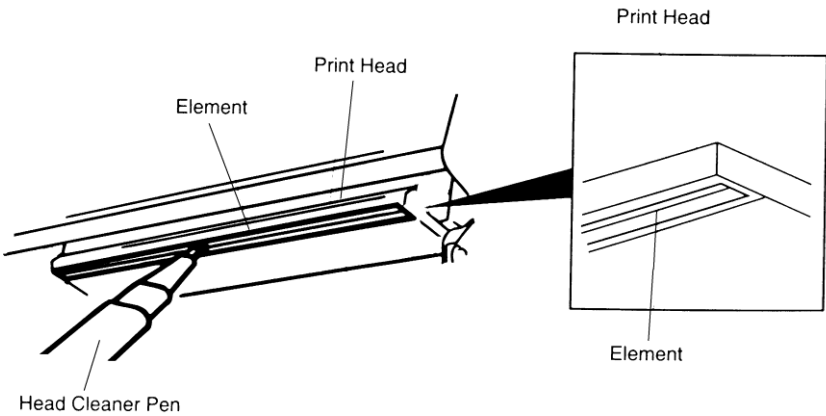
7. Maintenance

This session presents the clean tools and methods to maintain your printer.

1. Please use one of following material to clean the printer.

- Cotton swab
- Lint-free cloth
- Vacuum / Blower brush
- 100% Ethanol or Isopropyl Alcohol

2. The cleaning process is described as following,

Printer Part	Method	Interval
Print Head	1. Always turn off the printer before cleaning the print head. 2. Allow the print head to cool for a minimum of one minute. 3. Use a cotton swab and 100% Ethanol or Isopropyl Alcohol to clean the print head surface.	Clean the print head when changing a new label roll
	 <p>The diagram illustrates the print head assembly. It shows a 'Print Head' with an 'Element' inside. A 'Head Cleaner Pen' is shown cleaning the 'Print Head'. An inset shows a close-up of the 'Print Head' and 'Element'.</p>	
Platen Roller	1. Turn the power off. 2. Rotate the platen roller and wipe it thoroughly with water.	Clean the platen roller when changing a new label roll
Tear Bar/Peel Bar	Use the lint-free cloth with 100% ethanol to wipe it.	As needed
Sensor	Compressed air or vacuum	Monthly
Exterior	Wipe it with water-dampened cloth	As needed
Interior	Brush or vacuum	As needed

Note:

- Do not touch printer head by hand. If you touch it careless, please use ethanol to clean it.
- Please use 100% Ethanol or Isopropyl Alcohol. DO NOT use medical alcohol, which may damage the printer head.
- Regularly clean the print head and supply sensors once change a new ribbon to keep printer performance and extend printer life.

Revise History

Date	Content	Editor
2019/11/28	Revise Agency Compliance and Approvals	Kate
2019/12/16	Add caution on Agency Compliance and Approvals	Kate
2021/11/5	Add 4D520P model	Camille



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