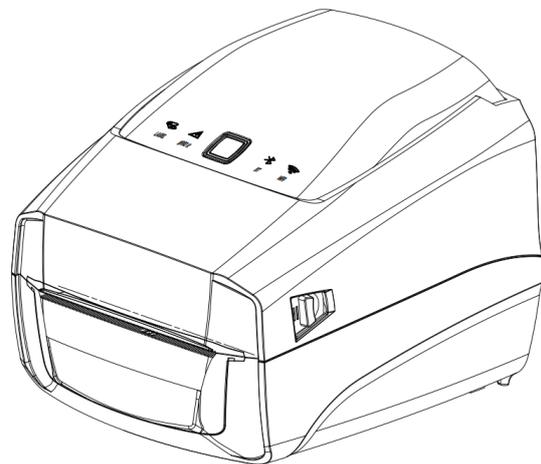




GE-2408D Series

DIRECT THERMAL LABEL PRINTER

USER'S MANUAL



Ver:1.0.1

Agency Compliance and Approvals



EN 55032, Class A

EN 55024

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

FCC part 15B, Class A



This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the manufacturer's instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you will be required to correct the interference at your own expense.

WARNING

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

Environmental protection



Do not dispose of this product in an unsorted public trash can. You should recycle this product according to local regulations.

For more information, please browse our website :

<http://www.gainscha.com.tw>

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1. Introduction

1.1 Product Introduction

Thank you very much for purchasing Gainscha bar code label printer.

The GE-2408D series printer features the large rolls of media inside its sleek design. If the 5" interior label capacity is not enough, simply add an external media roll mount and the GE series can easily handle 8" OD rolls of labels designed for expensive industrial label printers.

To meet the various printing requirements, GE-2408D series provides different memory capacity. Moreover, GE-2408D series have optional peel-off and cutter kits for users to purchase. The movable black mark sensor design can accept a wide range of label media. All of the most frequently used bar code formats are included. Fonts and bar codes can be printed in any one of the four directions.

The GE-2408D series printer is built-in the flexible firmware design, user can download various printer commands to perform the work. Please refer to the types of printer commands supported in the specifications. By integrating rich features, it is the most cost-effective and high-performance printer in its class!

To print label formats, please refer to the instructions provided with your labeling software, available on Gainscha website <http://www.gainscha.com.tw>

- Applications
 - Manufacturing & Warehousing
 - Work in Progress
 - Item Labels
 - Instruction labels
 - Agency labels
 - Healthcare
 - Patient Identification
 - Pharmacy
 - Specimen Identification
 - Parcel Post
 - Shipping/ Receiving Labels
 - Small Office/ Home Office
 - Retail Marking
 - Price tags
 - Shelf labels
 - Jewelry tags

1.2 Product Features

1.2.1 Printer Standard Features

PRINTER MODEL	GE-2408D	GE-2408D
Grade	Standard	Empower
Resolution	8dots/mm(203DPI)	8dots/mm(203DPI)
Printing Method	Direct Thermal	
Max. print speed	203.2 mm (8")/second	203.2 mm (8")/second
Max. print width	104 mm (4.1")	104 mm (4.1")
Max. print length	1000 mm (39.37")	1000 mm (39.37")
CPU	400 MHZ, 32 bits,Cotext-M7	400 MHZ, 32 bits, ARM9
Memory RAM	8 MB PSRAM	128 MB SDRAM
Memory ROM	16 MB Flash Memory	128 MB Flash Memory
Interface	<ul style="list-style-type: none"> ➤ USB 2.0 High Speed 480Mbps ➤ BT(Support 1BLE+7SPP connection) option ➤ BT+2.4G WiFi (BT 1BLE+1SPP · WiFi only 2.4G) option ➤ 5G+2.4G WiFi option 	<ul style="list-style-type: none"> ➤ USB 2.0 High Speed 480Mbps ➤ USB Host 2.0, for scanner or PC keyboard ➤ RS-232 ➤ Internal Ethernet 10/100Mbps ➤ Internal Bluetooth 4.0 (factory option) ➤ Internal WIFI (factory option)
Real Time Clock	N/A	Standard (CR2032 Battery Install)
Buzzer	N/A	Standard
Dealer options	N/A	Guillotine cutter (full cut and partial cut) Peeler
Sensors	Head open sensor, Ribbon end sensor, Reflective sensor (moveable), Transmissive sensor	
Power	External universal switching power supply	

	Input: AC 100-240V, 2.5A, 50-60Hz, Output: DC 24V, 2.5A, 60W	
User Interface	1 power switch, 1 button (Feed & Pause), 5 LEDs (Online white, Error red, Label green, Bluetooth blue, WIFI blue)	1 power switch, 1 button (Feed & Pause), 5 LEDs (Online white, Error red, Label green, Bluetooth blue, WIFI orange)
Internal fonts	<ul style="list-style-type: none"> ➤ 8 alpha-numeric bitmap fonts ➤ True type font engine (need download scalable font file) ➤ GB18030 Simplified Chinese 24x24, 16x16 ➤ BIG5 traditional Chinese 24x24, 16x16 	
1D Barcode	Code 11, Code 39, Code 93, Code 128 (subsets A, B, C), UPC-A, UPC-E, UCC-128, Codabar, EAN/JAN-8, EAN/JAN-13, Interleaved 2 of 5, ITF14, MSI Pleassy, PostCode, Telepen	
2D Barcode	QR Code, Micro QR Code, PDF417, Micro PDF417, MaxiCode, Aztec Code, Data Matrix	
Rotation	Font and barcode support 0, 90, 180, 270 degree	
Printer language	Compatible to TSPL, EPL, ZPL, ZPL II, DPL	
Media type	Continuous, die-cut, black mark, fan-fold, notched	
Media width	20~118mm (0.7"~4.6")	
Media thickness	0.06~0.19mm (2.34~7.4 mil)	
Media core diameter	25.4mm~38mm (1"~1.49")	
Label roll capacity	127 mm (5") OD	
Label length	10 ~ 1000 mm (0.39"~39.37")	
Physical dimension	243.5mm(D) x 194.5mm(W) x 184mm(H)	
Net Weight	2kg	
Enclosure	ABS plastic	
Safety regulation	FCC Class A, CE Class A, CCC, CB	
Environment condition	<p>Operation: 5~40°C, 25~85% non-condensing</p> <p>Storage: -40~ 60°C, 10~90% non-condensing</p>	

Environmental concern	Comply with RoHS, REACH, WEEE
Accessories	<ul style="list-style-type: none"> ➤ Windows labeling software CD disk ➤ Quick start guide ➤ USB cable ➤ Power cord ➤ External universal switching power supply
Limited warranty	➤
User options	External roll mount

1.2.2 Printer Optional Features

Product option feature	User options	Dealer options	Factory options
External Label holder	<input type="radio"/>		
Peeler module		<input type="radio"/>	
Regular full cut cutter (Guillotine cutter) Media thickness: 0.06~0.19 mm Media type: receipt and label liner w/o glue		<input type="radio"/>	
Regular full/partial cutter (Textile Care Cutter)		<input type="radio"/>	
RS-232 (D-Sub9 pins)		<input type="radio"/>	<input type="radio"/>
Ethernet 10/100 Mbps (RJ-45)		<input type="radio"/>	<input type="radio"/>

NOTE: Except for the linerless cutter, all regular/heavy duty/care label cutters DO NOT cut on media with glue.

2. Operations Overview

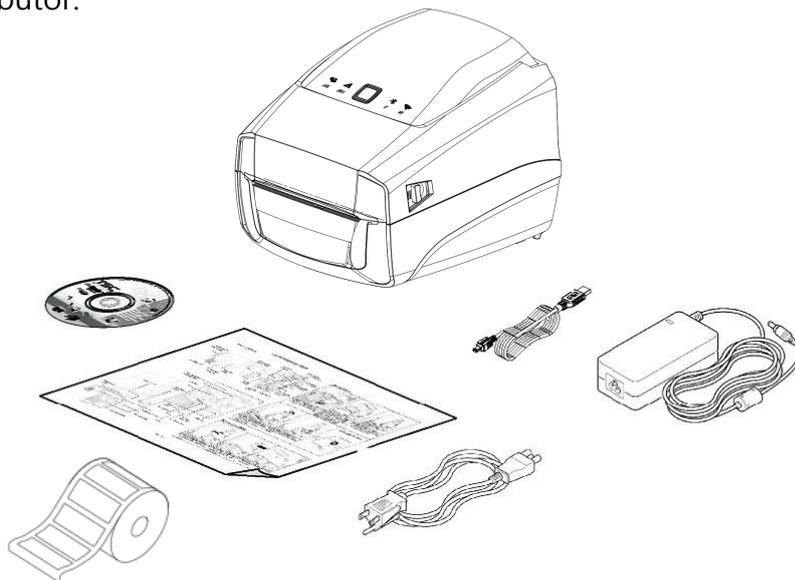
2.1 Unpacking and Inspection

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 quick installation guide
- One power cord
- One external universal switching power supply
- One USB interface cable
- One 5" sample Label
- One Windows labeling software/Windows driver CD disk

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. LABEL indicator
2. ERROR indicator
3. ONLINE indicator (FEED & PAUSE button)
4. BT indicator
5. Wi-Fi indicator

2.2.2 Interior View



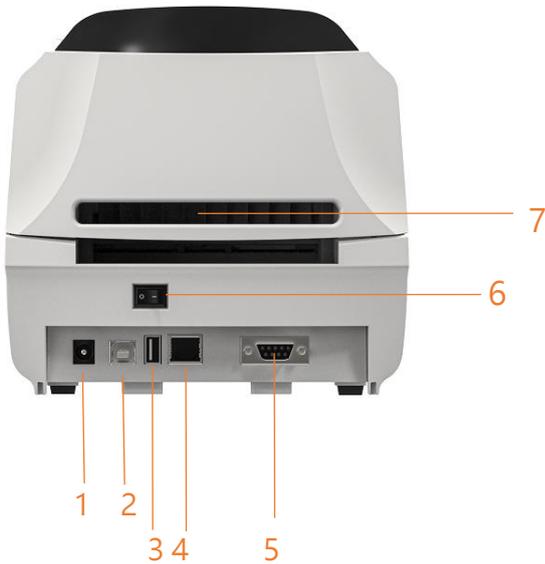
1. Printer top cover
2. Top cover open tab
3. Fixing tabs
4. Media guide
5. Black mark sensor
6. Platen roller

2.2.3 Front View



1. Paper tearing edge
2. Front bezel;
Accessory assembly (Cutter / Peeler)

2.2.4 Rear View [Remark: GE-2408D (Standard) single USB interface]



1. Power socket
2. USB interface
3. USB host (For HID keyboard or scanner)
4. RJ-45 Ethernet interface
5. RS-232 interface
6. Switch
7. External label entrance chute

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:

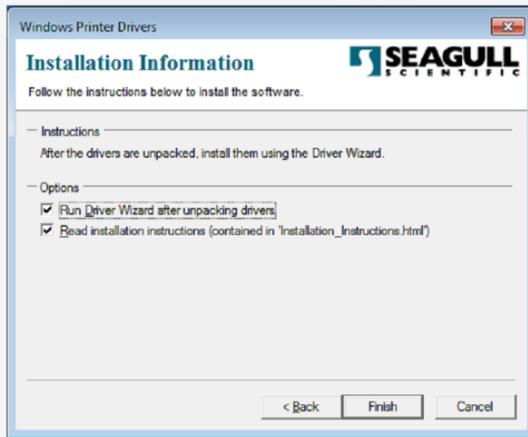
- * Please switch OFF printer power prior to plugging in the power cord to printer power jack.
- * The interface picture here is for reference only. Please refer to the product specification for the interfaces availability.

3.2 Install Printer Driver



Gprinter_2022.1_M-3.exe

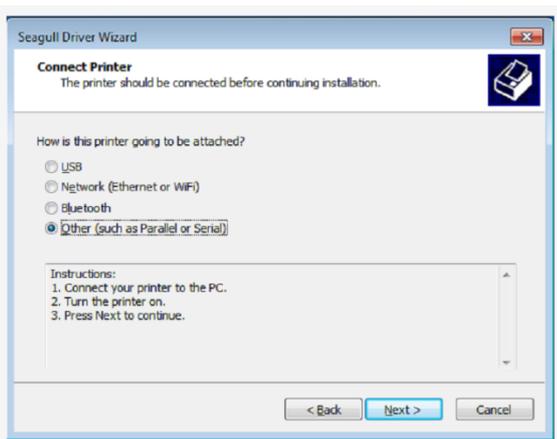
<p>1. Read the license agreement, click [I accept the terms in license agreement], and click [Next].</p>	<p>2. Select a installation directory and click [Next].</p>



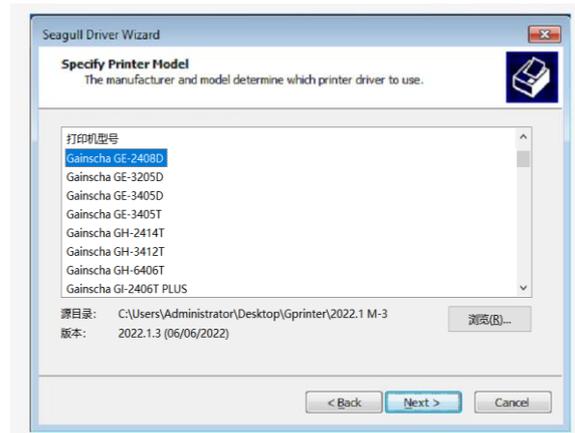
3. Click [Finish].



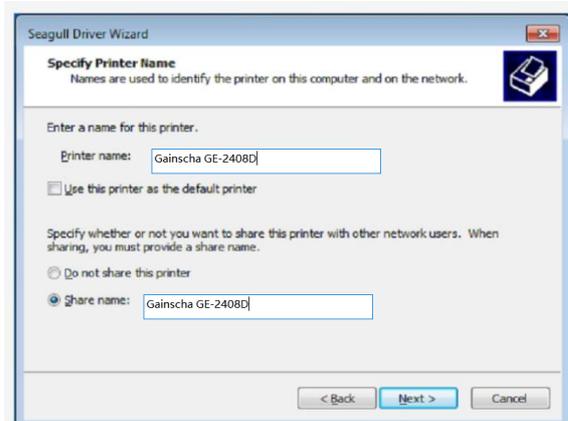
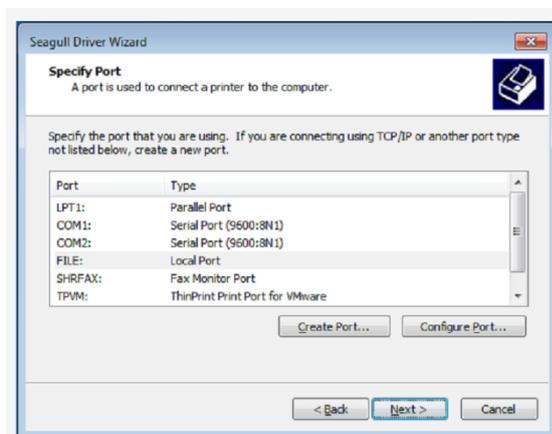
4. Go to installation process, please click [Install Printer Driver], and then click [Next].



5. Click [Other] and click [Next].

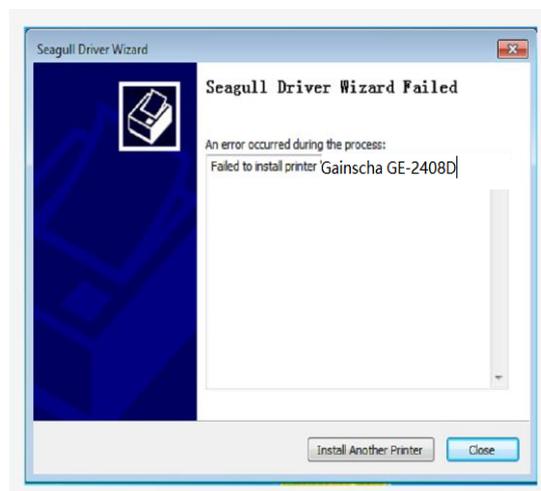
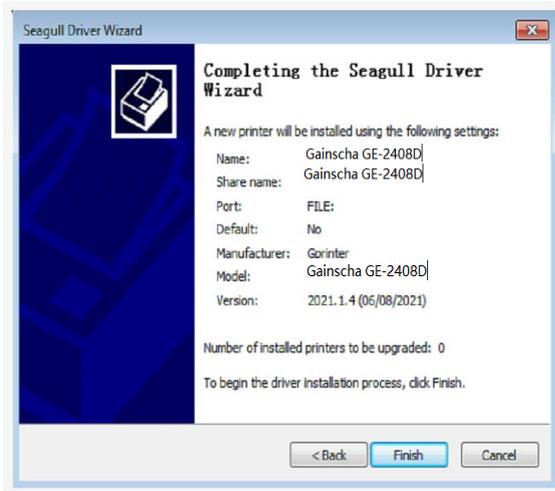


6. Select printer model name, click to install and click [Next].



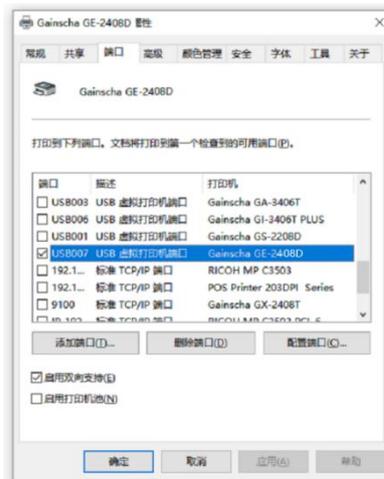
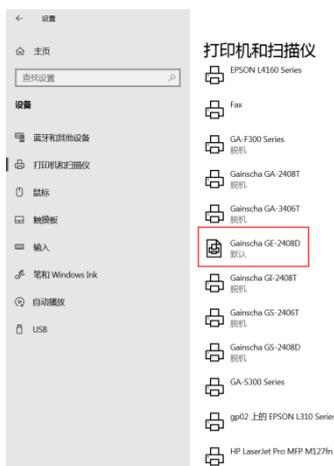
7. Please use a USB cable to connect the printer to the computer, click the corresponding USB interface, and click [Next].

8. Change the printer name as per need, and click [Next].



9. Click [Finish].

10. The installation is completed, please click [Close].



11. Users can check whether the installation is completed through the following ways:

a. If Windows 10, check from [Windows Settings] → [Devices] → [Printers and Scanners].

b. Check from [Control Panel] → [Devices and Printers].

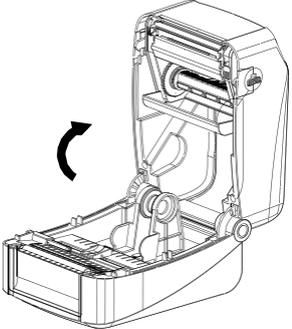
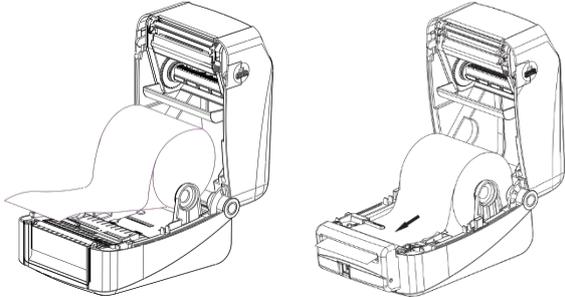
12. Users can change printer interface through the following ways:

a. In Windows 10, [Windows Settings] → [Printers and Scanners] → [Devices] → select the corresponding printer model → [Management] → [Printer Content] → [Port] to change different USB port / COM port as per need.

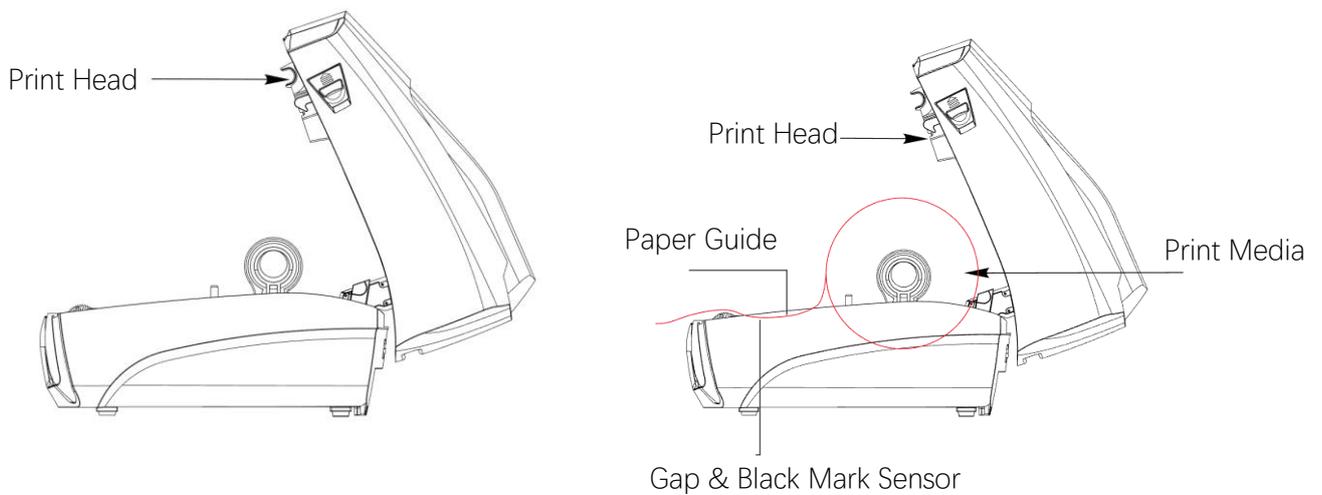
b. From [Control Panel] → [Devices and Printers] → select the corresponding printer model → right-click → [Printer Content] → [Port] to modify it.

3.3 Loading the Media

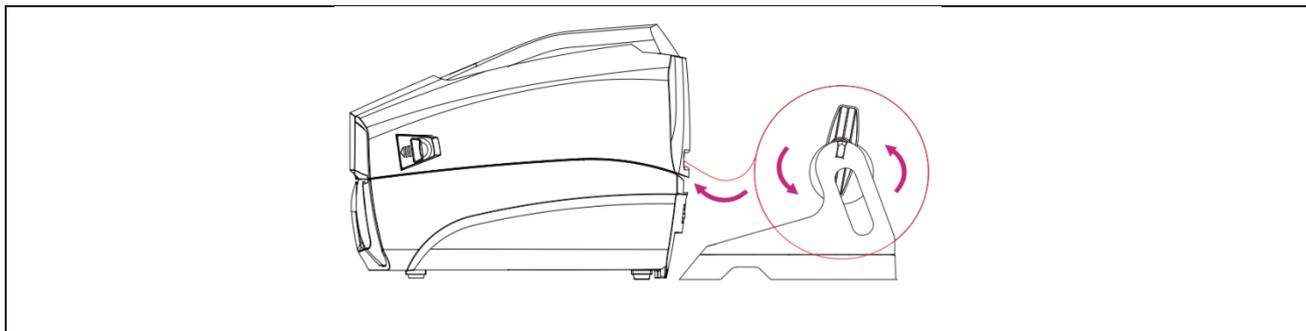
3.3.1 Loading the Roll Labels

	
<p>1. Press two buttons on printer two sides to lift and open the cover.</p>	<p>2. Load print media into the printer; adjust the paper guide to be same width of print media.</p>

3.3.2 Print media loading diagram



3.3.3 External Label Roll Mount Installation (Option)



1. Insert a label spindle into a paper roll. Then, install it on the external paper roll mount.

Note : When using the Gainscha External Label holder, the 1" core label spindle only supports a radius of 12 cm / 2" core label spindle only supports a radius of 10 cm / 3" core label spindle only supports a radius of 8.5 cm

4. LED and Button Functions

4.1 LED Indicator

Event	Description
Direct thermal mode ready	White(ONLINE) solid, and the device is ready to use.
Open cover	When the cover is open, a beep sound will be made, and White(ONLINE), Red (ERROR), and Green(LABEL) will flash.
PAUSE	Press the button on the printing. Power(white) flash, the printer pause.
FEED	Press the FEED button to print as per demand, White(ONLINE) will flash.
Out of paper	When out of paper, a beep sound will be made, Green(LABEL) and Red(ERROR) flash
Label gap/black mark error	When label gap/black can't be found, a beep sound will be made, and Red(ERROR) solid, White (ONLINE) flash
Print head overheated	When print head overheated ,a beep sound will be made, and White (ONLINE)and Red(ERROP) alternately flash
Other errors	When other errors ,a beep sound will be made, and Red(ERROP) and Green(LABEL) alternately flash
Wi-Fi Module	Orange(Wi-Fi) flash, [GE-2408D standard Blue(Wi-Fi) flash], no module isn't display.
Wi-Fi connection	When AP or STA modes connection, orange(Wi-Fi) solid. [GE-2408D standard Blue(Wi-Fi) solid]
BT Module	Blue(BT) flash (no module isn't display)
BT Output	Blue(BT) solid



Empower



Standard

4.2 Regular Button Functions

This printer has one button for feed, pause or cancel errors. There are different functions in different modes, as shown in the following table:

Button	Printer status	Function	Description
Feed button	Ready	Feed	When the printer is ready (White LED ON), press this button once, and the label will advance to the front of the next label
Feed button	Wait for push button to print	Print next	When the button Demand function is activated, the printer will stop after printing and wait for the user to press this button before printing the next label.
Pause button	Print mode	Pause	When the printer is printing continuously, pressing the PAUSE button will pause printing. The power indicator is white flashing. Just press the button again, and the print job returns to normal.
Pause button	Error occurred	Cancel error	When the error RED is on, press the PAUSE button once, the printer will cancel the error and resume printing function, and reprint the label layout when the error occurs.

4.3 Power-on Utilities

This printer has six power-on functions for setting or testing the printer's hardware. Press these buttons at the same time when the power is turned on, and release the buttons with the light signal to activate these functions.

Follow these steps to enable the boot function:

Event	Description	Status lights	Beep
Self-test	<p>A. Power off the printer.</p> <p>B. Make sure the printer is loaded with paper and the cover is closed.</p> <p>C. Press the FEED button, and turn on the printer. Hold the button until the online Blue is on. After a beep, a self-test page will be printed.</p>	White light+blue light	
Enter USB storage device function	<p>A. Power off the printer.</p> <p>B. Make sure the printer is loaded with paper and the cover is closed.</p> <p>C. Press the FEED button, and turn on the printer. Hold the button until the online orange is on. After a beep, the printer's storage device will appear on the computer.</p>	White light+orange light	
Enter dump mode	<p>A. Power off the printer</p> <p>B. Make sure the printer is loaded with paper and</p>	White light+Green	

	<p>close the printer cover</p> <p>C. Press FEED buttons then turn on the printer's power. When the online Green and the error Red are on at the same time, release FEED buttons, when you hear a beep, the printer enters the dump mode and will print out "NOW IN DUMP MODE".</p>	<p>light+Red light</p>	
<p>Skip AUTO.BAS</p>	<p>A. Power off the printer</p> <p>B. Press the FEED button, and turn on the printer.</p> <p>When the online Green is on, release FEED button, when you hear beep, the printer will skip the AUTO.BAS program</p>	<p>White light+Green light</p>	<p></p>
<p>Printer initialization</p>	<p>A. Power off the printer</p> <p>B. Press the FEED button, and turn on the printer.</p> <p>When the online red is on, release FEED button, when you hear five beeps are heard. At this time the printer will restore the printer parameters to the factory default settings.</p>	<p>White light+red light</p>	<p></p>

5. Printer Utility

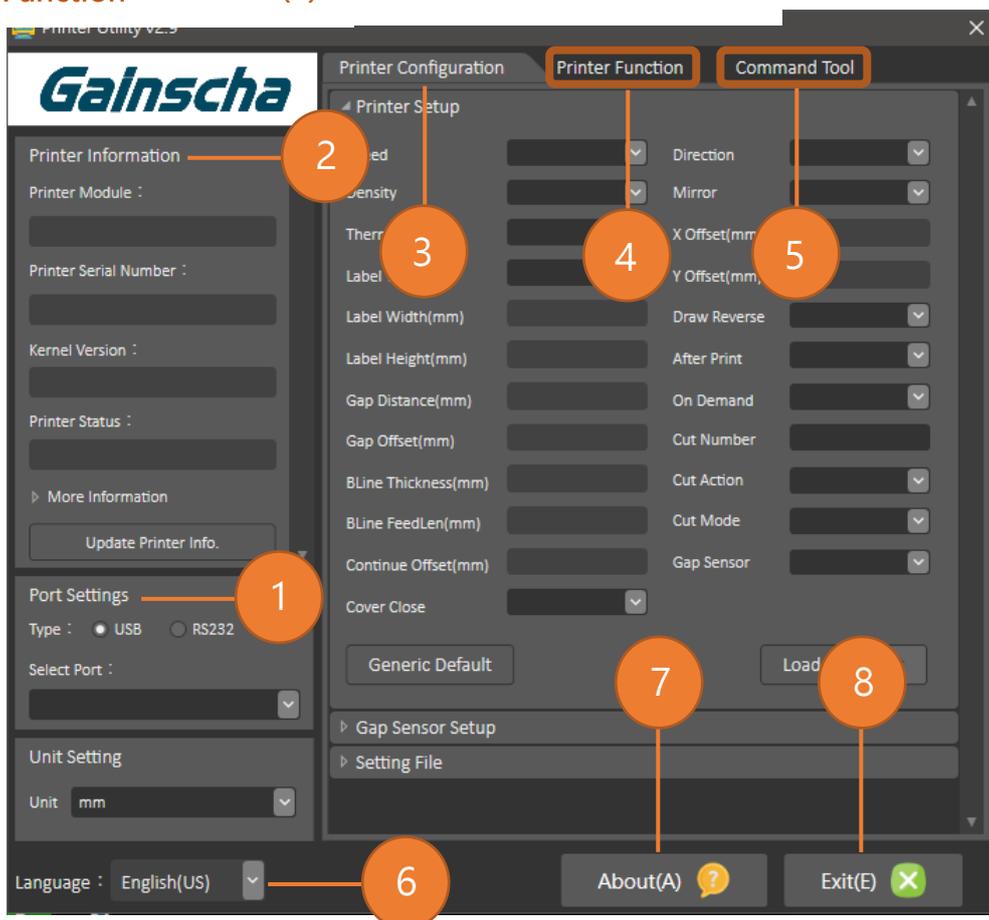
Printer Utility is an integrated tool software that helps users query printer settings and status, change printer-related settings, and send commands or files to the printer.

5.1 Start the Printer Utility

1. Please mouse over Printer Utility icon  Printer Utility.exe image Double click left mouse button.

2. After opening the main screen, you can see the following function items:

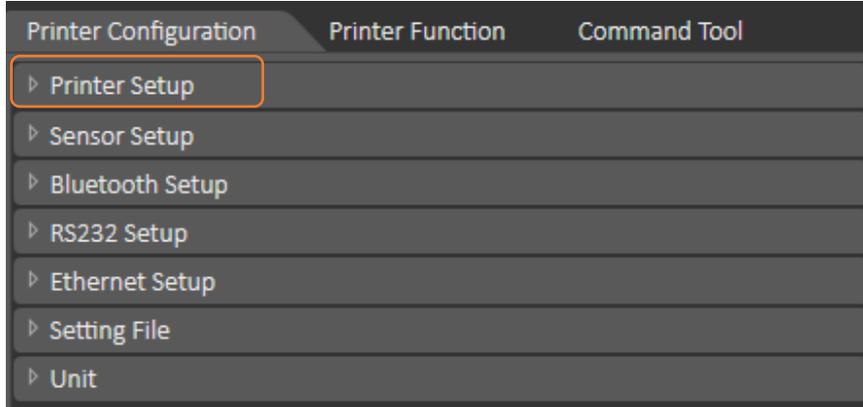
- (1) Port Settings
- (2) Printer Information
- (3) Printer Configuration
- (4) Printer Function
- (5) Command Tool
- (6) Language
- (7) About
- (8) Exit



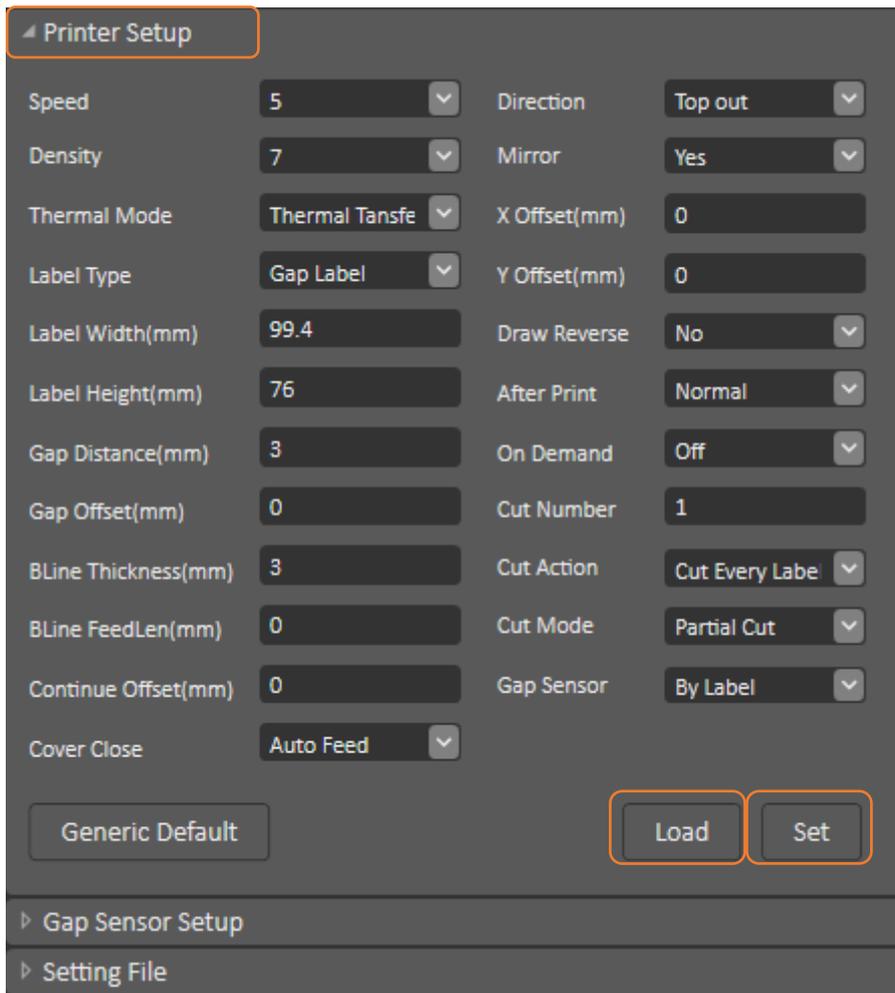
NOTE: If you need more detailed information, please refer to Gainscha official website <http://www.gainscha.com.tw/>

5.2 Printer Function

1. Click the **▶Printer Configuration** and **◀Printer Setup** Can open and close the printer general settings screen.

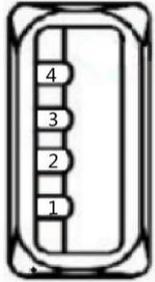


2. Click the **Load** Button to bring out all printer general setting information through the selected communication interface. Click the **Set** button to write the setting value to the printer (please execute the reading function before writing).



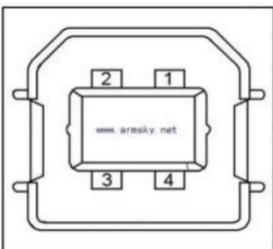
6. Communication Interfaces

1) USB (A Type)



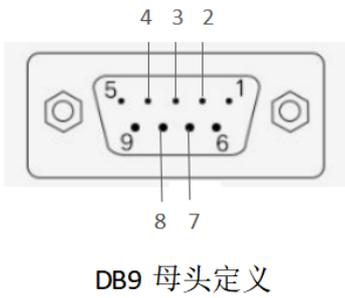
Pin No.	Pin Name
1	VBUS
2	D-
3	D+
4	GND

2) USB (B Type)



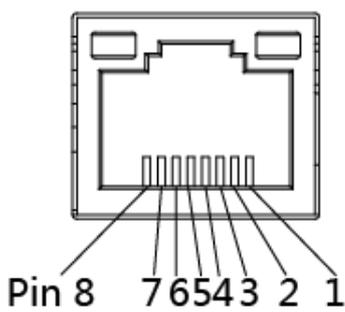
Pin No.	Pin Name
1	VBUS
2	D-
3	D+
4	GND

3) Serial Port



Pin No.	Pin Name	Description
1	-	-
2	TXD	Transmit Data
3	RXD	Receive Data
4	Connect to Pin6	Equipment to Judge
5	GND	System Ground
6	Connect to Pin4	Equipment to Judge
7	CTS	Clear to Send
8	RTS	Request to Send
9	-	Reserve (No output)

4) Ethernet Port



Pin No.	Pin Name
1	TX+
2	TX-
3	RX+
4	-
5	-
6	RX-
7	-
8	-

7. Troubleshooting

7.1 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
Power indicator does not illuminate.	<ul style="list-style-type: none"> ● The power cord is not properly connected. 	<ul style="list-style-type: none"> ● Plug the power cord in printer and outlet. ● Switch the printer on.
Out of paper	<ul style="list-style-type: none"> ● Out of paper. ● The paper installation path is incorrect. ● Gap / black mark sensor detection is incorrect. 	<ul style="list-style-type: none"> ● Install new paper. ● Follow the steps for installing the paper to reinstall. ● Recalibrate the label sensor.
Paper jam	<ul style="list-style-type: none"> ● Gap / black mark sensor detection is incorrect. ● The label size is set incorrectly. ● Label may be blocked inside the printer. 	<ul style="list-style-type: none"> ● Recalibrate the label sensor. ● Set the correct label size. ● Cleaning the inside of the printer.
Unable to print	<ul style="list-style-type: none"> ● Cable is not well connected to serial or USB interface or parallel port. 	<ul style="list-style-type: none"> ● Re-connect cable to interface. ● Change a new cable. ● Media are not compatible. ● Clean the print head. ● The print density setting is incorrect. ● Print head's harness connector is not well connected with print head. Turn off the printer and plug the connector again.
Poor print quality	<ul style="list-style-type: none"> ● Media is loaded incorrectly. ● Dust or adhesive accumulation on the print head. ● Print density is not set properly. ● Print head element is damaged. ● Media are incompatible. 	<ul style="list-style-type: none"> ● Reload the supply. ● Clean the print head. ● Clean the platen roller. ● Adjust the print density and print speed. ● Run printer self-test and check the

		<p>print head test pattern if there is dot missing in the pattern.</p> <ul style="list-style-type: none"> ● Change proper label media. ● The print head mechanism does not latch the print head properly.
Skip labels when printing	<ul style="list-style-type: none"> ● Label size is not specified properly. ● Sensor sensitivity is not set properly. ● The media sensor is covered with dust. 	<ul style="list-style-type: none"> ● Check if label size is setup correctly. ● Calibrate the sensor by Auto Gap or Manual Gap options. ● Clear the GAP/Black mark sensor by blower.
The printing position of small label is incorrect	<ul style="list-style-type: none"> ● Media sensor sensitivity is not set properly. ● Label size is incorrect. ● The vertical offset setting in the driver is incorrect. 	<ul style="list-style-type: none"> ● Calibrate the sensor sensitivity again. ● Set the correct label size and gap size. ● If using the software BarTender, please set the vertical offset in the driver.
Missing printing on the left or right side of label	<ul style="list-style-type: none"> ● Wrong label size setup. 	<ul style="list-style-type: none"> ● Set the correct label size.
Wrinkle problem	<ul style="list-style-type: none"> ● Media installation is incorrect. ● Print density is incorrect. ● Media feeding is incorrect. 	<ul style="list-style-type: none"> ● Please set the suitable density to have good print quality. ● Make sure the label guide touch the edge of the media guide.
Gray line on the blank label	<ul style="list-style-type: none"> ● The print head is dirty. ● The platen roller is dirty. 	<ul style="list-style-type: none"> ● Clean the print head. ● Clean the platen roller
Irregular printing	<ul style="list-style-type: none"> ● The printer is in Hex Dump mode. 	<ul style="list-style-type: none"> ● Turn off and on the printer to skip the dump mode.

8. 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

2. The cleaning process is described as following,

Printer Part	Method
Print Head	<p>1. Always turn off the printer before cleaning the print head.</p> <p>2. Allow the print head to cool for a minimum of one minute.</p> <p>3. Use a cotton swab and 100% ethanol to clean the print head surface.</p> <div data-bbox="448 1160 1305 1585" style="text-align: center;"> <p>The diagram illustrates the cleaning process for a print head. It shows a hand holding a 'Head Cleaner Pen' and applying it to the 'Print Head' surface. The 'Print Head' is shown in a perspective view, with a 'Head Cleaner Pen' being used to clean the 'Element' area. A magnified view of the 'Print Head' is shown to the right, highlighting the 'Element' area.</p> </div>
Platen Roller	<p>1. Turn the power off.</p> <p>2. Rotate the platen roller and wipe it thoroughly with 100% ethanol and a cotton swab, or lint-free cloth.</p>
Tear Bar/Peel Bar	Use the lint-free cloth with 100% ethanol to wipe it.

Sensor	Compressed air or vacuum
Exterior	Wipe it with water-dampened cloth
Interior	Brush or vacuum

NOTE:

- Do not touch printer head by hand. If you touch it careless, please use ethanol to clean it.
- Please use 100% Ethenol.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.
- The maximum printing ratio per dot line is 15% for this printer. To print the full web black line, the maximum black line height is limited to 40 dots, which is 5mm for 203 DPI resolution printer and 3.3mm for 300 DPI resolution printer.

9. Revise History

Date	Version	Content
2022/7/15	Ver.1.0.0	
2023/9/5	Ver.1.0.1	<ol style="list-style-type: none">1. Modify: Delete 300dpi model and Features2. Modify: GE-2408D(Standard / Empower)3. Modify: 4.1chapter LED (PAUSE /Out of paper/ Wi-Fi Module/ BT Module) description modify4. Modify: 4.3 chapter ribbon inspection delete5. Modify: 2.2.1 chapter comm. rename Wi-Fi6. Modify: 1.2.1 chapter User Interface rename Wi-Fi indicator