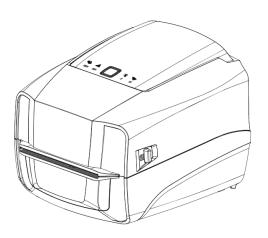


GE-2406T / GE-3405T Series

THERMAL TRANSFER / DIRECT THERMAL

LABEL PRINTER

USER'S MANUAL



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

Contents

1. Introduction	4
1.1 Product Introduction	4
1.2 Product Features	6
1.2.1 Printer Standard Features	6
1.2.2 Printer Optional Features	8
2. Operations Overview	9
2.1 Unpacking and Inspection	9
2.2 Printer Overview	10
2.2.1 Front View	10
2.2.2 Interior View	10
2.2.3 Front View	11
2.2.4 Rear View	11
3. Setup	12
3.1 Setting up the Printer	12

3.2 Install Printer Driver	12
3.3 Loading the Ribbon	15
3.4 Loading the Media	16
3.4.1 Loading the Roll Labels	16
3.4.2 Ribbon and print media loading diagram	16
3.4.3 External Label Roll Mount Installation (Option)	16
4. LED and Button Functions	18
4.1 LED Indicator	18
4.2 Regular Button Functions	19
4.3 Power-on Utilities	20
5. Printer Utility	22
5.1 Start the Printer Utility	22
5.2 Printer Function	23
6. Communication Interfaces	24
1) USB (A Type)	24
2) USB (B Type)	24

3) Serial Port	25
4) Ethernet Port	25
7. Troubleshooting	26
7.1 Common Problems	26
8. Maintenance	28
9. Revise History	30

1. Introduction

1.1 Product Introduction

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

The GE-2406T/GE-3405T series printer features the single motor that is capable of handling a large capacity of 110 meters ribbon and 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-2406T and GE-3405T series provides different memory capacity. Moreover, GE-2406T/ GE-3405T 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-2406T/ GE-3405T 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
 - o Manufacturing & Warehousing
 - Work in Progress
 - Item Labels
 - Instruction labels
 - Agency labels
 - o Healthcare
 - Patient Identification
 - Pharmacy
 - Specimen Identification

- o Parcel Post
 - Shipping/ Receiving Labels
- o Small Office/ Home Office
- o Retail Marking
 - Price tags
 - Shelf labels
 - Jewelry tags

1.2 Product Features

1.2.1 Printer Standard Features

PRINTER MODEL	GE-2406T	GE-3405T	GE-2406T	GE-3405T		
Grade	Standard	Standard	Empower	Empower		
Resolution	8dots/mm(203DPI)	12dots/mm(300DPI)	8dots/mm(203DPI)	12dots/mm(300DPI)		
Printing Method		Thermal Transfer	&Direct Thermal			
Max. print speed	152 mm (6")/second	127 mm (5")/second	152 mm (6")/second	127 mm (5")/second		
Max. print width	104 mm (4.1")	108.4 mm (4.27")	104 mm (4.1")	108.4 mm (4.27")		
Max. print length	15,000mm (600")	6800mm (270")	15,000mm (600")	6800mm (270")		
СРИ		400 MHZ, 3	2 bits, ARM9			
Memory RAM	64 MB SDRAM		128 MB SDRAM	128 MB SDRAM		
Memory ROM	16 MB Flash Memory		128 MB Flash Memory			
Interface	➤ USB 2.0 High Spe	ed 480Mbps	> USB 2.0 High Speed 480Mbps			
	> USB Host 2.0, for scanner or PC keyboard		 USB Host 2.0, for keyboard RS-232 Internal Ethernet Internal Bluetoot Internal WIFI (face) 	10/100Mbps h 4.0 (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, Ribbon green, Bluetooth blue, WIFI & Communication orange)			
Internal fonts	> 8 alpha-numeric	bitmap fonts		
	> True type font en	gine (need download sc	alable font file)	
	➤ GB18030 Simplifi	ed Chinese 24x24, 16x16	5	
	> BIG5 traditional C	Chinese 24x24, 16x16		
1D Barcode		,	A, B, C), UPC-A, UPC-E, L F14, MSI Pleassy, PostCo	
2D Barcode	QR Code, Micro QR Co	de, PDF417, Micro PDF4	17, MaxiCode, Aztec Cod	de, Data Matrix
Rotation		Font and barcode suppo	ort 0, 90, 180, 270 degree	ė
Printer language		Compatible to TSPL, EP	L, ZPL, ZPL II, DPL, EPL 2	
Ribbon	110 M long, max. OD 40mm, 0.5" core (ink coated outside)			
Ribbon width	40mm~110mm (1.57"~4.3")			
Media type	Continuous, die-cut, black mark, fan-fold, notched (outside wound)			
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	5~2,794 mm	5~1,016 mm	5~25,400 mm	5~11,430 mm
	(0.2"~110")	(0.2"~40")	(0.2"~1000")	(0.2"~450")
Physical dimension	225mm(D) x 194.5mm(W) x 184mm(H)			
Net Weight	1.5kg			
Enclosure	ABS plastic			
Safety regulation	FCC Class A, CE Class A, CCC, CB			

Environment	Operation: 5~40°C, 25~85% non-condensing
condition	Storage: -40~ 60°C, 10~90% non-condensing
Environmental	Comply with RoHS, REACH, WEEE
concern	
Accessories	➤ 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	Dealer	Factory
	options	options	options
External Label holder	0		
Peeler module		0	
Regular full cut cutter (Guillotine cutter)			
Media thickness: 0.06~0.19 mm			
Media type: receipt and label liner w/o glue			
Regular full/partial cutter (TextileCare Cutter)		0	
RS-232 (D-Sub9 pins)		0	0
Ethernet 10/100 Mbps (RJ-45)		0	0

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

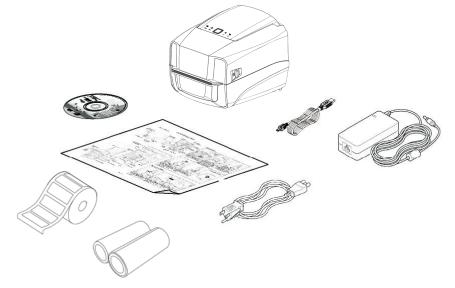
This printer has been specially packaged to withstand damage during shipping. Please carefully inspect the packaging and printer upon receiving the bar code printer. Please retain the packaging materials in case you need to reship the printer.

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 sample ribbon
- One 0.5" 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. RIBBON indicator
- 2. ERROR indicator
- 3. ONLINE indicator (FEED &PAUSE button)
- 4. BT indicator
- 5. Comm. indicator

2.2.2 Interior View



- 1. Printer top cover
- 2. Top cover open tab
- 3. The place for new ribbon
- 4. Fixing tabs
- 5. Media guide
- 6. Black mark sensor
- 7. Platen roller

2.2.3 Front View



- 1. Paper tearing edge
- 2. Front bezel;

Accessory assembly (Cutter / Peeler)

2.2.4 Rear View



- 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:

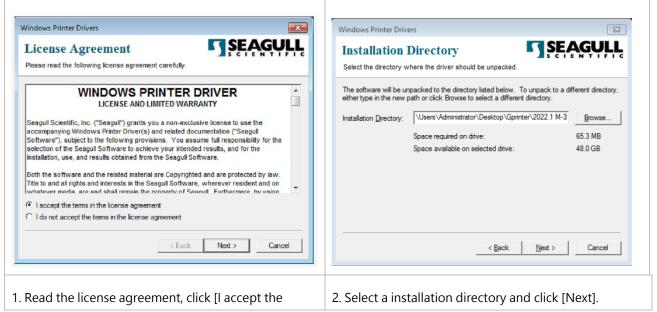
- 1. Plug the power cord into the AC power cord socket at the rear of the printer. Then, plug the other side into a properly grounded power outlet.
- 2. Connect the printer to the computer with the provided USB cable.
- 3. Push the power switch on "-" side to open the power of printer.

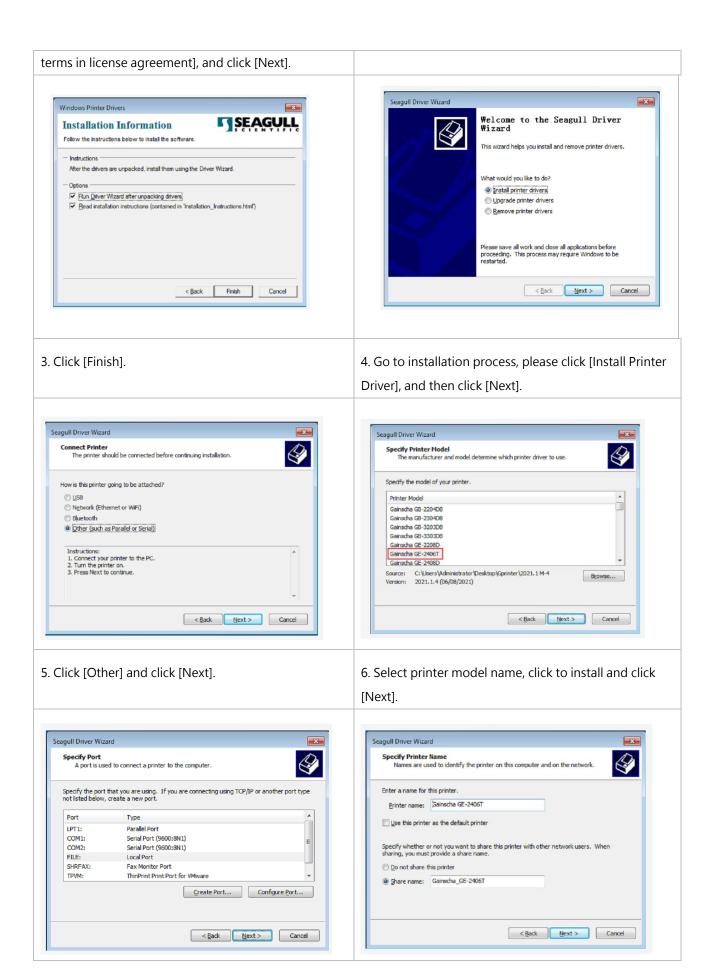
NOTE:

- * 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







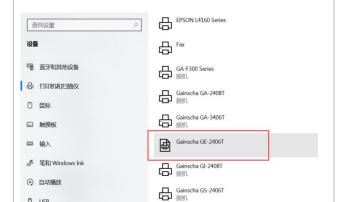
- 7. Please use a USB cable to connect the printer to the computer, click the corresponding USB interface, and click [Next].
- 8. Change the printer name as per need, and click [Next].





9. Click [Finish].

□ USB

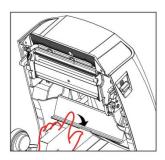


10. The installation is completed, please click [Close].

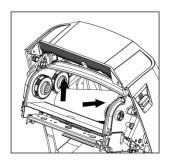


- 11. Users can check whether the installation is completed through the following ways:
- a. If Windows 10, check from [Windows Settings] → $[Devices] \rightarrow [Printers and Scanners].$
- b. Check from [Control Panel] \rightarrow [Devices and Printers].
- 12. Users can change printer interface through 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] \rightarrow [Devices and Printers] \rightarrow select the corresponding printer model → right-click → [Printer Content] → [Port] to modify it.

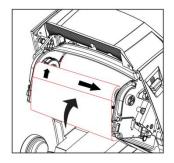
3.3 Loading the Ribbon



1. Pull down paper blocker, take ribbon over paper blocker



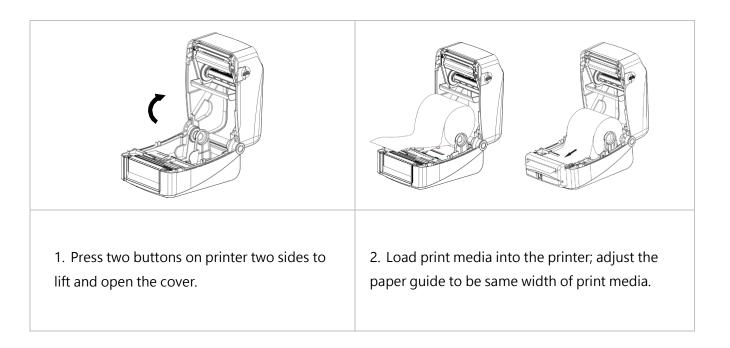
2. Load ribbon right side first and then left side, fix it well.



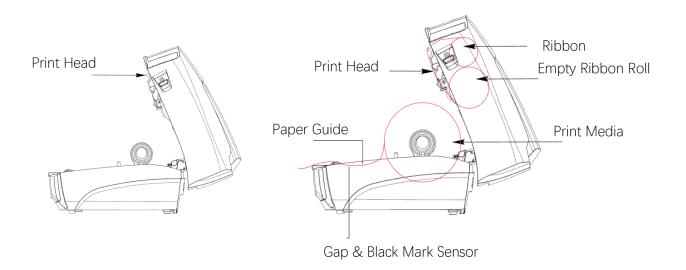
3.Load the empty roll right side then right. Pull out ribbon to cover the print head, and stick into the empty roll. Be careful with the front and back side of ribbon

3.4 Loading the Media

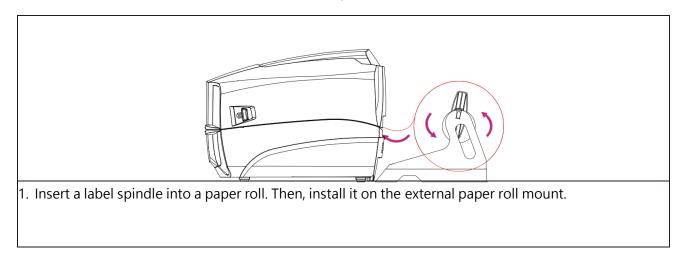
3.4.1 Loading the Roll Labels



3.4.2 Ribbon and print media loading diagram



3.4.3 External Label Roll Mount Installation (Option)

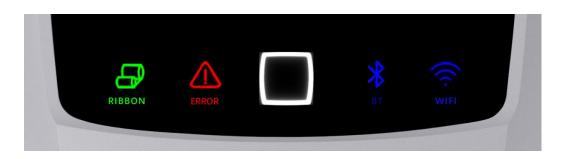


Note: When using the Gainscha External Label holder, the 1" core label spindle only supports a radius of 12 cm / 2" core label spindle only supports a radius of 10 cm / 3" core label spindle only supports a radius of 8.5 cm

4. LED and Button Functions

4.1 LED Indicator

Event	Description
Thermal transfer mode	White(ONLINE) and Green(RIBBON) solid, and the device is ready to use.
ready	
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(RIBBON) will flash.
PAUSE	Press the PAUSE button. When the White (ONLINE) flash, the printer will
	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, and Red(ERROR) flash
Out of ribbon	When out of ribbon, a beep sound will be made, and Red(ERROR) solid ·
	Green(RIBBON) 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
Cutter error	When cutter can't be found, a beep sound will be made, White(ONLINE)
	and Red(Error) Both flash, alternately flash with Green(RIBBON)
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(RIBBON) alternately flash
Wi-Fi Module	Blue (Wi-Fi) permanent
Wi-Fi connection	When AP or STA modes connection, Blue(Wi-Fi) flash
BT Module	Blue(BT) permanent
BT Output	Blue(BT)flash



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	Ready	Feed	When the printer is ready (White LED ON), press
button			this button once, and the label will advance to
			the front of the next label
Feed	Wait for push	Print next	When the button Demand function is activated,
button	button to print		the printer will stop after printing and wait for the
			user to press this button before printing the next
			label.
Pause	Print mode	Pause	When the printer is printing continuously,
button			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	Error occurred	Cancel	When the error RED is on, press the PAUSE
button		error	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	Веер
Self-test	A. Power off the printer.	White	◄ »
	B. Make sure the printer is loaded with paper and the	light+blue	
	cover is closed.	light	
	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.		
Enter USB	A. Power off the printer.	White	◄ »)
storage	B. Make sure the printer is loaded with paper and the	light+orange	
device	cover is closed.	light	
function	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.		
Enter dump	A. Power off the printer	White	◄ »
mode	B. Make sure the printer is loaded with paper and	light+Green	

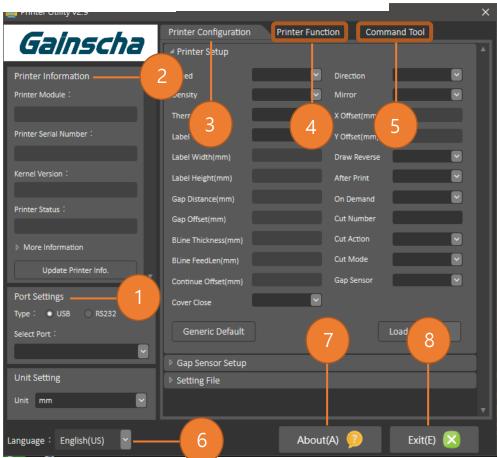
close the printer cover	light+Red	
C. Press FEED buttons then turn on the printer's	light	
power. When the online Green and the error Red are		
on at the same time, release FEED buttons, when you		
hear a beep, the printer enters the dump mode and		
will print out "NOW IN DUMP MODE".		
A. Power off the printer	White	4 »)
B. Press the FEED button, and turn on the printer.	light+Green	
When the online Green is on, release FEED button,	light	
when you hear beep, the printer will skip the		
AUTO.BAS program		
A. Power off the printer	White	4))
B. Press the FEED button, and turn on the printer.	light+red	
When the online red is on, release FEED button,	light	
when you hear five beeps are heard. At this time the		
printer will restore the printer parameters to the		
factory default settings.		
The machine will automatically detect the status of		
the ribbon after turning on and in each thermal		
transfer printing mode.		
	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". A. Power off the printer B. Press the FEED button, and turn on the printer. When the online Green is on, release FEED button, when you hear beep, the printer will skip the AUTO.BAS program A. Power off the printer B. Press the FEED button, and turn on the printer. 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. The machine will automatically detect the status of the ribbon after turning on and in each thermal	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". A. Power off the printer B. Press the FEED button, and turn on the printer. When the online Green is on, release FEED button, when you hear beep, the printer will skip the AUTO.BAS program A. Power off the printer B. Press the FEED button, and turn on the printer. White B. Press the FEED button, and turn on the printer. 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. The machine will automatically detect the status of

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

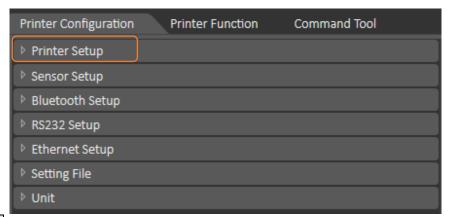
- 1. Please mouse over Printer Utility icon 🚔 Printer Utility.exe image Double click left mouse button.
- 2. After opening the main screen, you can see the following function items:
- (1) Port Settings (5) Command Tool
- (2) Printer Information (6) Language
- (3) Printer Configuration (7) About
- (4) Printer Function (8) Exit



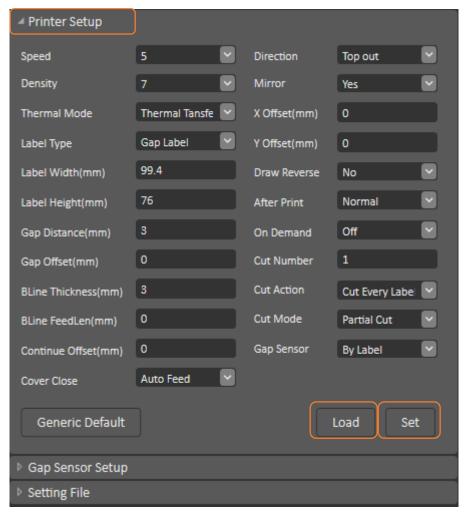
NOTE: If you need more detailed information, please refer to Gainscha official website http://www.gainscha.com.tw/

5.2 Printer Function

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

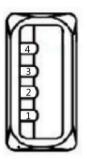


2. Click the Load Button to bring out all printer general setting information through the selected communication interface. Click the Set button to write the setting value to the printer (please execute the reading function before writing).



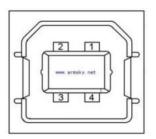
6. Communication Interfaces

1) USB (A Type)



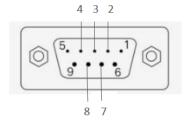
Pin No.	Pin Name
1	VBUS
2	D-
3	D+
4	GND

2) USB (B Type)



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

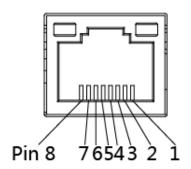
3) Serial Port



DB9 母头定义

Pin No.	Pin No. Pin Name Description	
1	-	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	The power cord is not properly	Plug the power cord in printer and	
does not	connected.	outlet.	
illuminate.		Switch the printer on.	
Out of ribbon	Out of ribbon.	Install new ribbon.	
	The ribbon installation path is	Follow the steps for installing the	
	incorrect.	ribbon to reinstall.	
Out of paper	Out of paper.	Install new paper.	
	The paper installation path is	Follow the steps for installing the	
	incorrect.	paper to reinstall.	
	Gap / black mark sensor detection	Recalibrate the label sensor.	
	is incorrect.		
Paper jam	Gap / black mark sensor detection	Recalibrate the label sensor.	
	is incorrect.	Set the correct label size.	
	• The label size is set incorrectly.	Cleaning the inside of the printer.	
	 Label may be blocked inside the 		
	printer.		
Unable to print	Cable is not well connected to	Re-connect cable to interface.	
	serial or USB interface or parallel	Change a new cable.	
	port.	Ribbon and media are not	
		compatible.	
		Verify the ribbon-inked side.	
		Reload the ribbon again.	
		Clean the print head.	
		The print density setting is incorrect	
		Print head's harness connector is	
		not well connected with printhead.	
		Turn off the printer and plug the	
		connector again.	

Poor print quality	 Ribbon and media is loaded incorrectly. Dust or adhesive accumulation on the print head. Print density is not set properly. Printhead element is damaged. Ribbon and media are incompatible. 	 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 print head test pattern if there is dot missing in the pattern. Change proper ribbon or proper label media. The print head mechanism does not latch the print head properly.
Skip labels when printing	 Label size is not specified properly. Sensor sensitivity is not set properly. The media sensor is covered with dust. 	 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	 Media sensor sensitivity is not set properly. Label size is incorrect. The vertical offset setting in the driver is incorrect. 	 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	Wrong label size setup.	Set the correct label size.
Wrinkle problem	 Ribbon installation is incorrect. Media installation is incorrect. Print density is incorrect. Media feeding is incorrect. 	 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 Irregular printing	 The print head is dirty. The platen roller is dirty. The printer is in Hex Dump mode. 	 Clean the print head. Clean the platen roller 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,

Z. The cleaning p	2. The cleaning process is described as following,	
Printer Part	Method	
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 to clean the print head surface.	
	Print Head	
	Print Head Element Head Cleaner Pen	
Platen Roller	1. Turn the power off.	
	2. Rotate the platen roller and wipe it thoroughly with 100% ethanol and a	
	cotton swab, or lint-free cloth.	
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
2022/9/6	Ver.1.1.2	Modify Printer size
		Modify WIFI indicator(Orange change Blue)
2024/9/11	Ver.1.1.2	Modify language add EPL 2
2024/10/21	Ver.1.1.2	Modify Max. print length 200dpi max. print length: 15,000mm (600")
		300dpi max. print length: 6800mm (270")