Alpha-4L Series

Bar Code Printer

Direct Thermal Portable type

USER'S MANUAL

WiFi Bluetooth Version (For FCC)

Alpha-4L-W, PR40-W, GR40-W, 4400-W, TSC-40-W, CN-40W, BP-40W

Alpha-4L-D-W, PR40-D-W, GR40-D-W, 4400-D-W, TSC-40-D-W, CN-40LW, BP-40LW, Alpha-4L-W-R,

PR40-W-R, GR40-W-R, 4400-W-R, TSC-40-W-R

Alpha-4L-D-W-R, PR40-D-W-R, GR40-D-W-R, 4400-D-W-R, TSC-40-D-W-R

WiFi Bluetooth Version (For IC)

Alpha-4L-D-W-R, PR40-D-W-R, GR40-D-W-R, 4400-D-W-R, TSC-40-D-W-R

Bluetooth Version (For FCC)

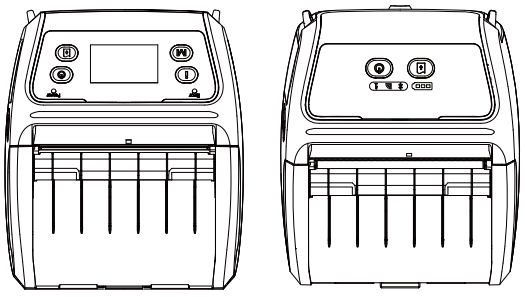
Alpha-4L, PR40, GR40, 4400, TSC-40, CN-40, BP-40, Alpha-4L-D,PR40-D, GR40-D, 4400-D, TSC-40-D,

CN-40L, BP-40L,Alpha-4L-R, PR40-R, GR40-R, 4400-R, TSC-40-R, CN-40B, BP-40B, Alpha-4L-D-R,

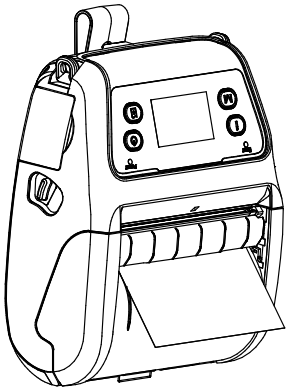
PR40-D-R, GR40-D-R, 4400-D-R, TSC-40-D-R, CN-40LB, BP-40LB

Bluetooth Version (For IC)

Alpha-4L-D-R, PR40-D-R, GR40-D-R, 4400-D-R, TSC-40-D-R



Copyright Information



Agency Compliance and Approvals

Wichtige Sicherheits-Hinweise

1. Bitte lesen Sie diese Hinweis sorgfältig durch.
2. Heben Sie diese Anleitung fŤr den späteren Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromentz zu trennen. Verwenden Sie keine Flüssig-oder Aerosolreiniger. Am besten eignet sich ein angefeuchtetes Tuch zur Reinigung.
4. Die Netzanschluß-Steckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.
5. Das Gerät ist vor Feuchtigkeit zu schŤtzen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Beschädigungen hervorrufen.
7. Beachten Sie beim Anschluß ans Stromnetz die Anschlußwerte.
8. Dieses Gerät kann bis zu einer Außentemperatur von maximal 40℃ betrieben werden.

Battery safety warning:

DO NOT throw the battery in fire.

DO NOT short circuit the contacts.

DO NOT disassemble the battery.

DO NOT throw the battery in municipal waste.

The symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

CAUTION

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

Dispose of used batteries according to the instructions.

"ORSICHT"
Explosionsgetahr bei unsachgemen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem nlichen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

Class B:

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-Reorient or relocate the receiving antenna.

-Increase the separation between the equipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/ TV technician for help.

CAUTION:

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

RF exposure warning (WiFi)

This equipment must be installed and operated in accordance with provided instructions and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be providing with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

SAR Value: 0.663 W/kg

RF exposure warning (For Bluetooth)

The equipment complies with FCC RF exposure limits set forth for an uncontrolled environment.

The equipment must not be co-located or operating in conjunction with any other antenna or transmitter.

Canada, Industry Canada (IC) Notices
This Class B digital apparatus complies with Canadian ICES-003 and RSS-210. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Radio Frequency (RF) Exposure Information
The radiated output power of the Wireless Device is below the Industry Canada (IC) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has been evaluated for and shown compliant with the IC Specific Absorption Rate ("SAR") limits when installed in specific host products operated in portable exposure conditions. **(For WiFi)**

This device has also been evaluated and shown compliant with the IC RF Exposure limits under portable exposure conditions. (antennas are less than 20 cm of a person's body). **(For Bluetooth)**

Canada, avis d'Industry Canada (IC)
Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210.
Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Informations concernant l'exposition aux fréquences radio (RF)
La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio d'Industry Canada (IC). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce périphérique a été évalué et démontré conforme aux limites SAR (Specific Absorption Rate ï Taux d'absorption spécifique) d'IC lorsqu'il est installé dans des produits hôtes particuliers qui fonctionnent dans des conditions d'exposition à des appareils portables. **(For WiFi)**

Ce périphérique a également été évalué et démontré conforme aux limites d'exposition aux RF d'IC dans des conditions d'exposition à des appareils portables. (les antennes sont moins de 20 cm du corps d'une personne). **(For Bluetooth)**

Contents

1. Introduction

1.1 Product Introduction

Thank you very much for purchasing TSC bar code printer.

Enjoy TSCôs reputation for cost-efficient, high durability printers with the Alpha-4L economical receipt printer. The Alpha-4L is a comfortable, light-weight printer capable of working with any mobile receipt printing application where you need quick, simple receipts on demand. Our Alpha-4L is designed for a rough life, inside the IP54-rated environmental case to resist dust and water and with its rubber over-mold design prepared to take up to a five foot fall and keep printing. These small and light printers can be worn comfortably for a full shift, without interfering with the userôs tasks. Use USB, Bluetooth, optional 802.11 b/g/n Wireless or serial to connect to a mobile computer or even a smart phone and produce clear easy-to-read receipts hour after hour.

This document provides an easy reference for operating the Alpha-4L.

The online version of the Programmer's manual, or more information can be downloaded from service and support web site as an Adobe® Acrobat® Reader file.

To print label formats, please refer to the instructions provided with your labeling software; if you need to write the custom programs, please refer to the TSPL/TSPL2 programming manual that can be found on the accessories CD-ROM or on TSC website at http://www.tscprinters.com.

- Applications
  - Direct store deliveries (DSD)
  - Field repair/installation
  - Mobile point of sale
  - Parking citations
  - Mobile ticketing
  - Onboard transportation ticketing
  - Utility billing/meter reading

1.2 Product Features

1.2.1 Printer Standard Features

The printer offers the following standard features.

Product standard feature
Direct thermal printing
Reflective sensor ï Black mark sensor (position selectable ï right/left/center position-factory adjustment , default ï center position , black mark in back side)
Transmissive sensor ï Gap sensor
Head open sensor
Peeler sensor
2 operation buttons (On/off and feed)
3 LEDs for printer status, 3 LEDs for battery status
USB 2.0 (full speed) interface
Class 2 Bluetooth 2.1 module
32 MB SDRAM memory
16 MB FLASH memory
Micro SD card reader for memory expansion up to 4G (max.)
DC 7.4V/5760 mAh Li-ion rechargeable battery
Real time clock
Powerful 32 bit 200 MHz RISC processor
Eltron® EPL and Zebra® ZPL emulation languages support
Internal 8 alpha-numeric bitmap fonts
Internal Monotype Imaging® true type font engine with one CG Triumvirate Bold Condensed scalable font
Fonts and bar codes can be printed in any one of the four directions (0, 90,180, 270 degree)
Downloadable fonts from PC to printer memory
Downloadable firmware upgrades

Bar code, graphics/image printing

Supported bar code		**Supported image**
1D bar code	2D bar code	BITMAP, BMP, PCX (Max. 256 colors graphics)
Code 39, Code 93, Code128UCC, Code128 subsets A,B,C, Codabar, Interleaved 2 of 5, EAN-8, EAN-13, EAN-128, UPC-A, UPC-E, EAN and UPC 2(5) digits add-on, MSI, PLESSEY, POSTNET, China POST, GS1 DataBar	PDF-417, Maxicode, DataMatrix, QR code, Aztec	

1.2.2 Printer Optional Features

The printer offers the following optional features.

Product option feature	User option	Dealer option	Factory option
2ò LCD (Liquid crystal display), 128 x 64 pixels resolution w/white LED backlight (with 4 buttons)			○
WiFi 802.11 b/g/n			○
Zebra® CPCL emulation language support			○
Black mark sensor position (position selectable ï right/left/center position-factory adjustment , default ï center position , black mark in back side)			○
Linerless platen		○	
USB cable	○		
USB to RS-232 converter cable	○		
IP54-rated environmental case with shoulder strap	○		
12-24VDC automobile cigarette lighter plug	○		
Shoulder strap	○		
Fork truck mount	○		
Cart mount	○		
Quad charging cradle	○		
4 battery charger station	○		

1.3 General Specifications

General Specifications	
Physical dimensions	6.35ò(W) x 7.65ò(H) x 3.06ò(D) 161.4 mm (W) x 194.4 mm (H) x 77.6 mm (D)
Weight	0.945 kg
Environmental condition	Operation: -10 ~ 50ëC (14 ~ 122ëF) Storage: -40 ~ 60 ëC (-40 ~ 140ëF) Relative humidity: 10 ~ 90% non-condensing
Limited warranty	Print head: 1 million inches or 12 months which comes first Platen: 2 million inches or 12 months which comes first
Charging capability	Internal charging capability (battery-in) Quad charging cradle Auto-switching AC adapter 12-24VDC automobile cigarette lighter plug External charging capability (battery-out) 4 battery charger station (for 5760mAh batteries)

1.4 Print Specifications

Print Specifications	
Print head resolution (dots per inch/mm)	203 dots/inch (8 dots/mm)
Printing method	Direct thermal
Dot size	0.125 x 0.125 mm
(width x length)	(1 mm = 8 dots)
Print speed	2, 3, 4 ips selectable; Max. 4 ips
(inches per second)	2,3 ips for peeler mode
Max. print width	4.09ò(104 mm)
Max. print length	90ò(2286 mm)

1.5 Media Specifications

Media Specifications	
Media roll capacity	Max. 2.65ò(67.3 mm) OD
Media core diameter	0.5ò(10.2 mm) to 1ñ(25.4 mm)
Media type	Die cut, black mark, receipt, fan-fold, linerless, continous
Media width	2.0ò(50.8 mm) to 4.4ò(112 mm)
Media thickness	2 mil (0.0508 mm) to 6.5 mil (0.1651)
Media length	0.5ò(12.7 mm) to 90ò(2286 mm)
	1ò(25.4 mm) to 6ò(152.4 mm) for peeler mode
External fanfold media	Stack height: 70 mm (2.75 in) Page length: 152 mm (6 in) to 305 mm (12 in)
Black mark	Min. 8 mm (W) x 2 mm (H)
Gap height	Min. 2 mm

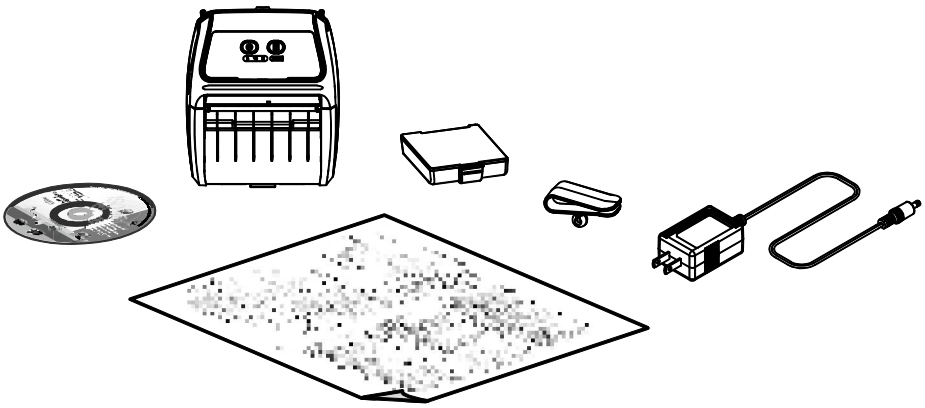
2. Operations Overview

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.

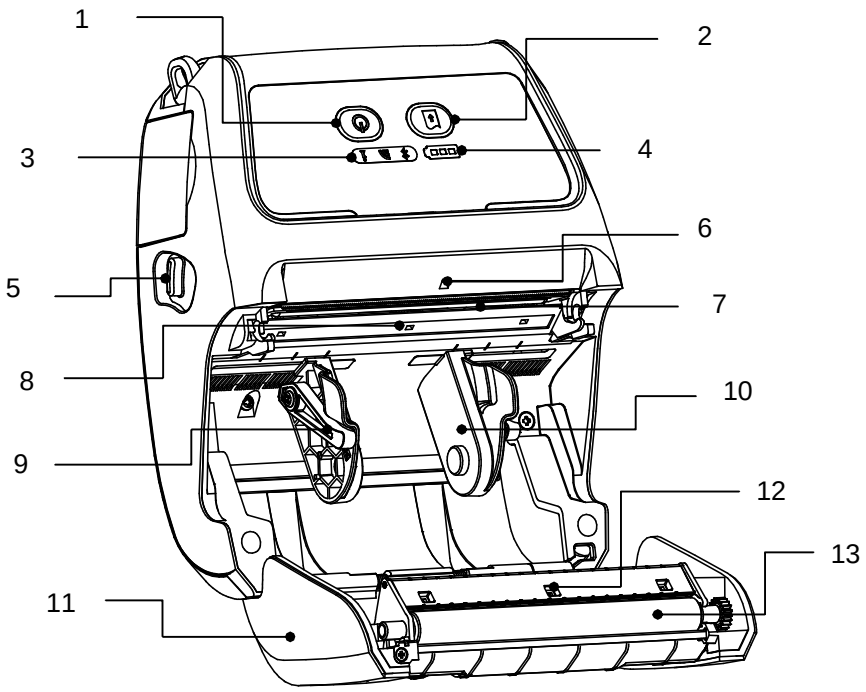
- One printer unit
- One DC 7.4V/5760 mAh Li-ion rechargeable battery
- One Windows labeling software/Windows driver CD disk
- One quick installation guide
- One auto-switching AC adaptor
- One belt clip



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



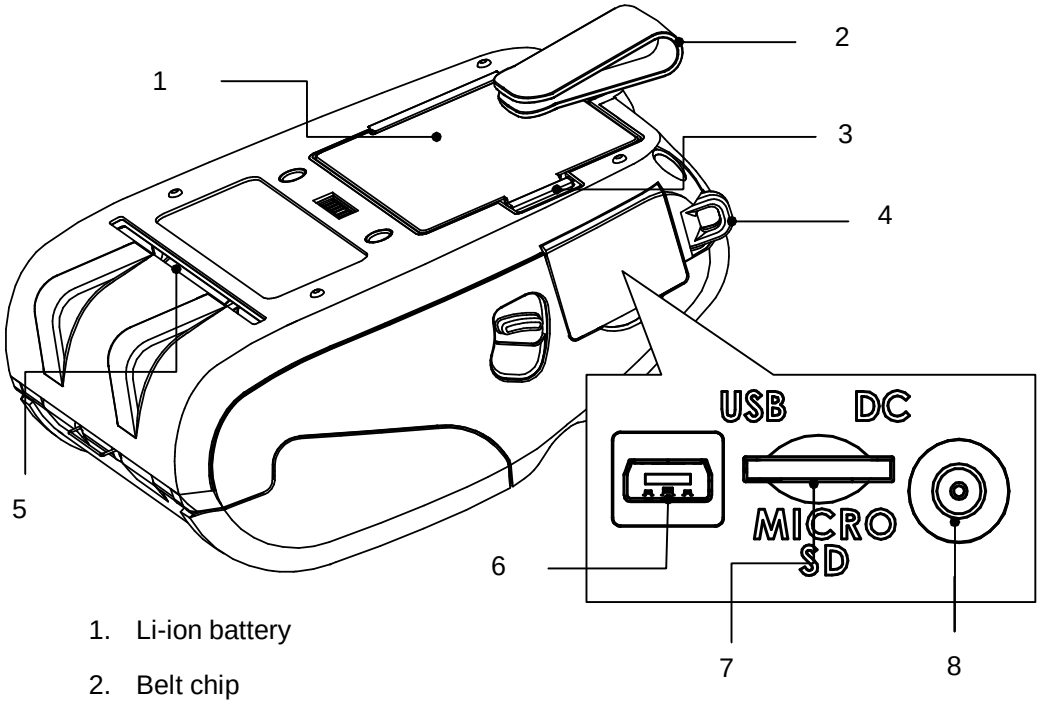
1. Power on/off button
2. Feed button
3. Printer status LED indicator
4. Battery status LED indicator
5. Media cover release button
6. Peel-off sensor
7. Print head
8. Transmissive sensor ï Gap sensor
9. Media holder lock switch
10. Media holder
11. Media cover
12. Reflective sensor ï Black mark sensor
13. Platen roller

Note:

*** The media sensor position is selectable by factory adjustment. Please refer to this figure for default settings. (Default – center position, black mark in back side)**

*** For LCD control panel (option), please refer to subsection 2.3.2 for more details.**

2.2.2 Rear View



1. Li-ion battery
2. Belt chip
3. Battery open clasp
4. Hanger for shoulder strap
5. External label entrance chute
6. USB interface
7. MicroSD card socket
8. Power jack

Note:

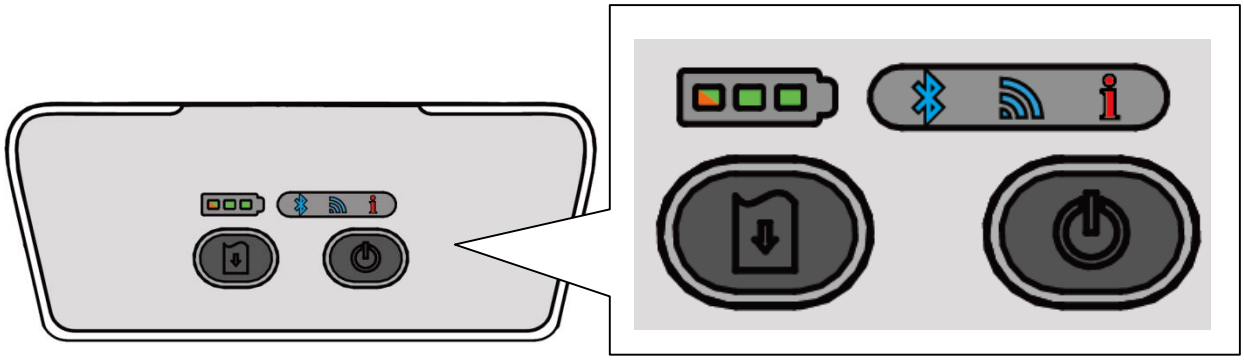
*** The interface picture is for reference only. Please refer to the product specification for the interface availability.**

*** Recommended MicroSD card specification.**

SD card spec	SD card capacity	Approved SD card manufacturer
V1.0, V1.1	MicroSD 128 MB	Transcend, Panasonic
V1.0, V1.1	MicroSD 256 MB	Transcend, Panasonic
V1.0, V1.1	MicroSD 512 MB	Transcend, Panasonic
V1.0, V1.1	MicroSD 1 GB	Transcend, Panasonic
V2.0 SDHC CLASS 6	MicroSD 4 GB	Transcend
- The DOS FAT file system is supported for the SD card. - Folders/files stored in the SD card should be in the 8.3 filename format		

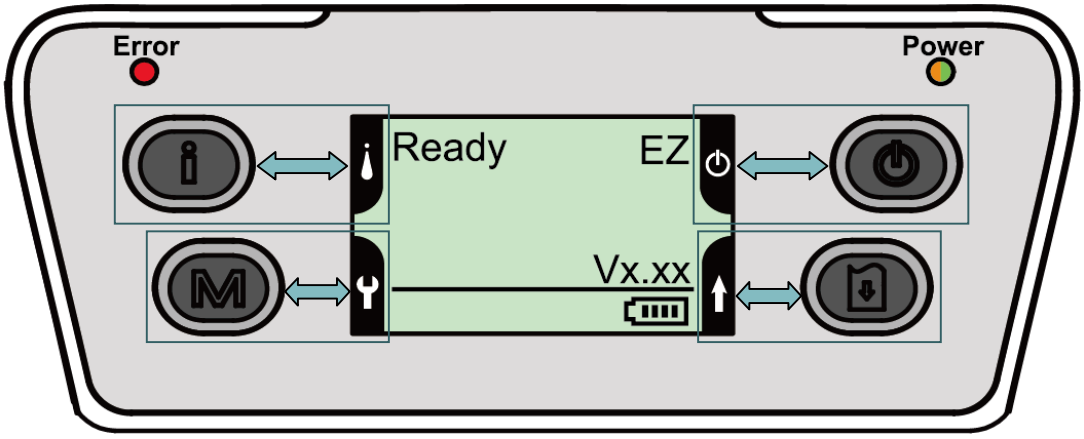
2.3 Operator control

2.3.1 LED Indication and Keys



Keys	Function		
	– Press and hold for 2-3 seconds to turn on the printer – Press and hold for 2-3 seconds to turn off the printer		
	– Ready status: Feed one label – Printing status: Pause the print job		
LEDs	**Status**		**Indication**
		Green (solid)	Full charged
			2/3 charged level
		Green (solid)	1/3 charged level
		Green (blinking)	Low battery
		Amber (solid)	Battery is charging
	Blue (solid)		Bluetooth device is ready
	Blue (blinking)		Bluetooth device is communicating
	Blue (solid)		WiFi device is ready
	Blue (blinking)		WiFi device is communicating
	Note: WiFi device is optional.		
	Off		Printer is ready
	Green (blinking)		– Printer is paused – Printer is downloading data
	Red (solid)		– Media cover is open – Out of memory
	Red (blinking)		– No paper – Paper jam
	Amber (solid)		– Clean data – Printer is busy

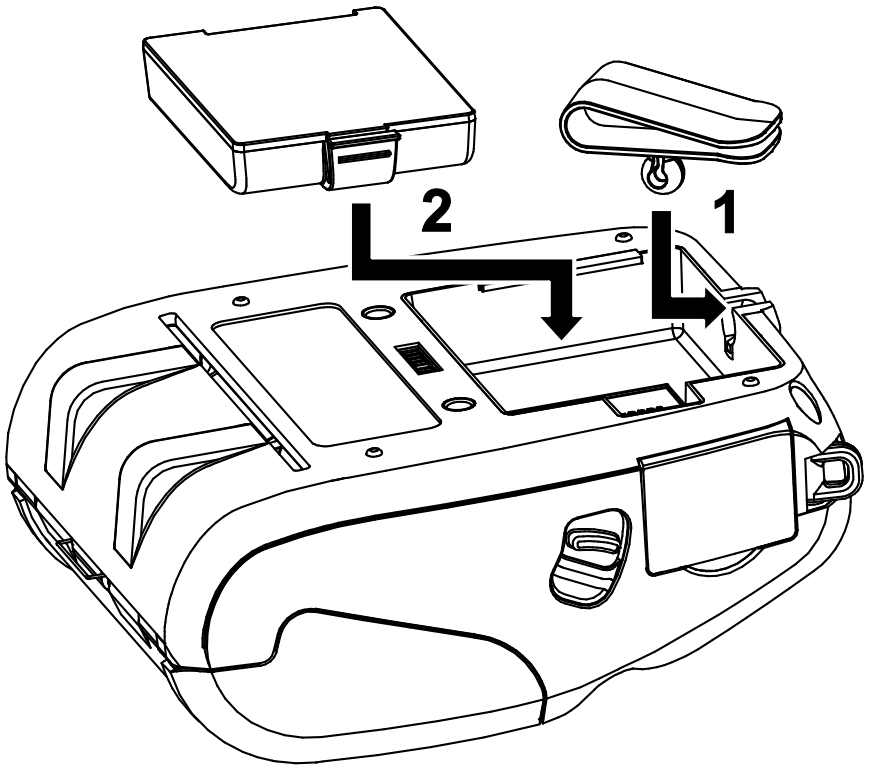
2.3.2 LED Indication and Keys for LCD (Option)



Keys	Function	
	– Display the printer information – Button for LCD setting menu	
M	– Enter the printer setting menu – Button for LCD setting menu	
	– Press and hold for 2-3 seconds to turn on the printer – Press and hold for 2-3 seconds to turn off the printer – Button for LCD setting menu	
	– Ready status: Feed one label – Printing status: Pause the print job – Button for LCD setting menu	
LEDs	**Status**	**Indication**
Error	Off	Printer is ready
	Red (solid)	– Media cover is open – Out of memory – Clean data – Printer is busy
	Red (blinking)	– No paper – Paper jam
Power	Off	Printer power is turned off
	Green (solid)	– Printer power is turned on – Battery is full charged
	Green (blinking)	Low battery
	Amber (solid)	Battery is charging

3. Setup

3.1 Install Belt Clip and Battery



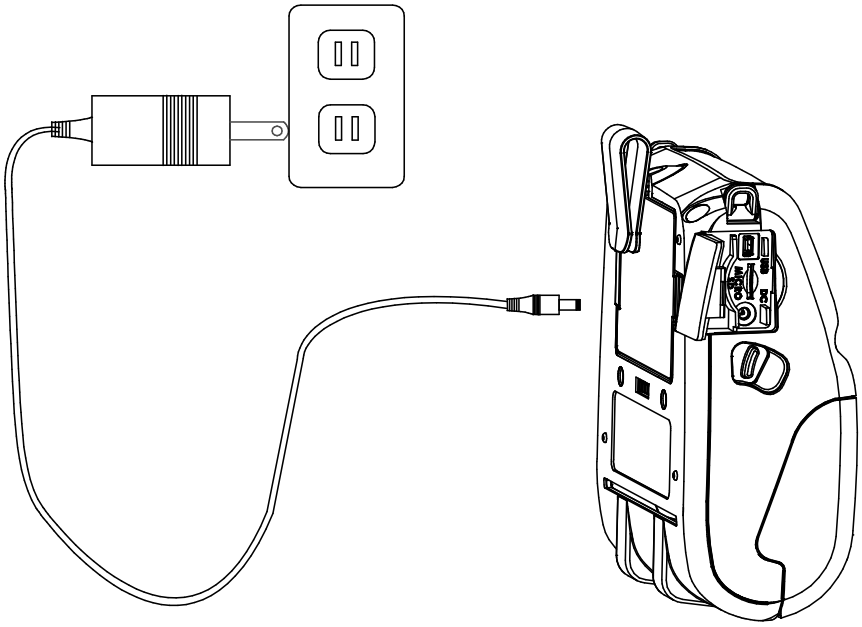
Battery safety warning:

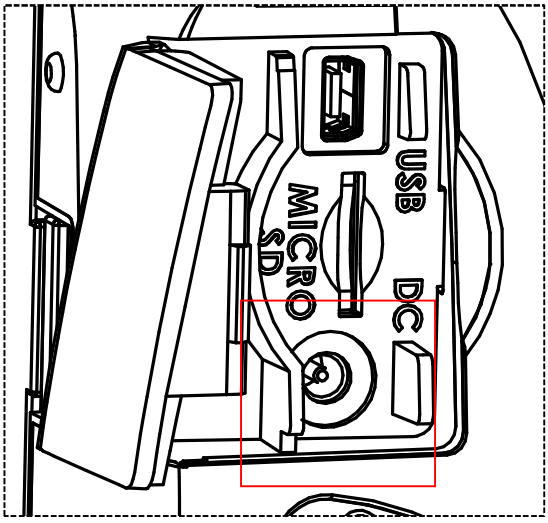
DO NOT throw the battery in fire. DO NOT short circuit the contacts.

DO NOT disassemble the battery. DO NOT throw the battery in municipal waste.

The symbol of the crossed out wheeled bin indicates that the battery should not be placed in municipal waste.

3.2 Charge the Battery

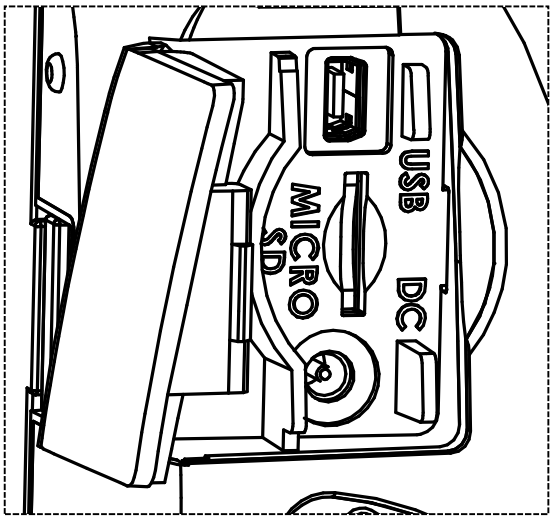




3.3 Communicate

3.3.1 Connecting with the Communication Cable

* USB to USB Cable (Optional)



Open the interface cover and connect the printer to the computer with USB cable.

USB interface

USB connector (Printer)

USB connector (PC)

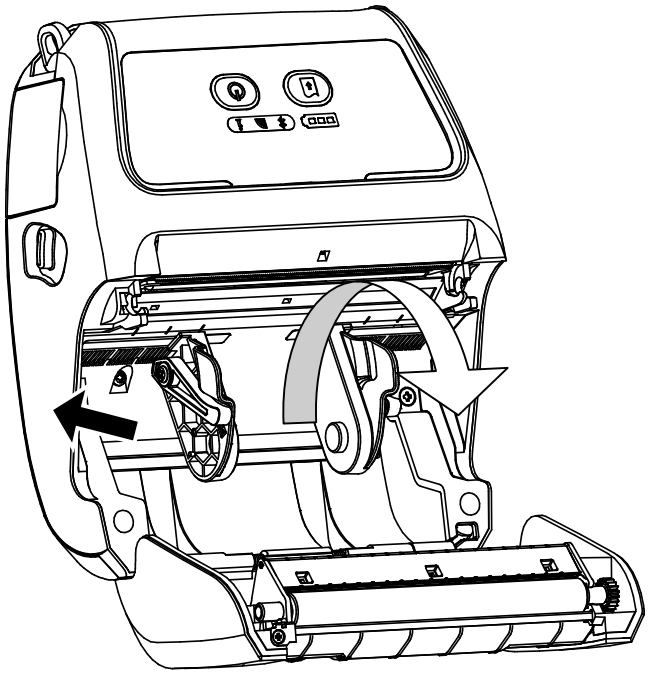
3.3.2 Connecting with Bluetooth (Optional)

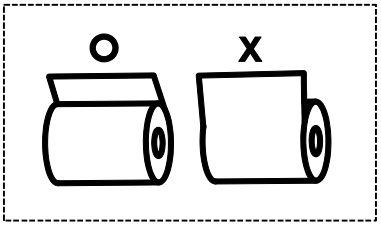
Default	
Name	BT-SPP
PIN	0000

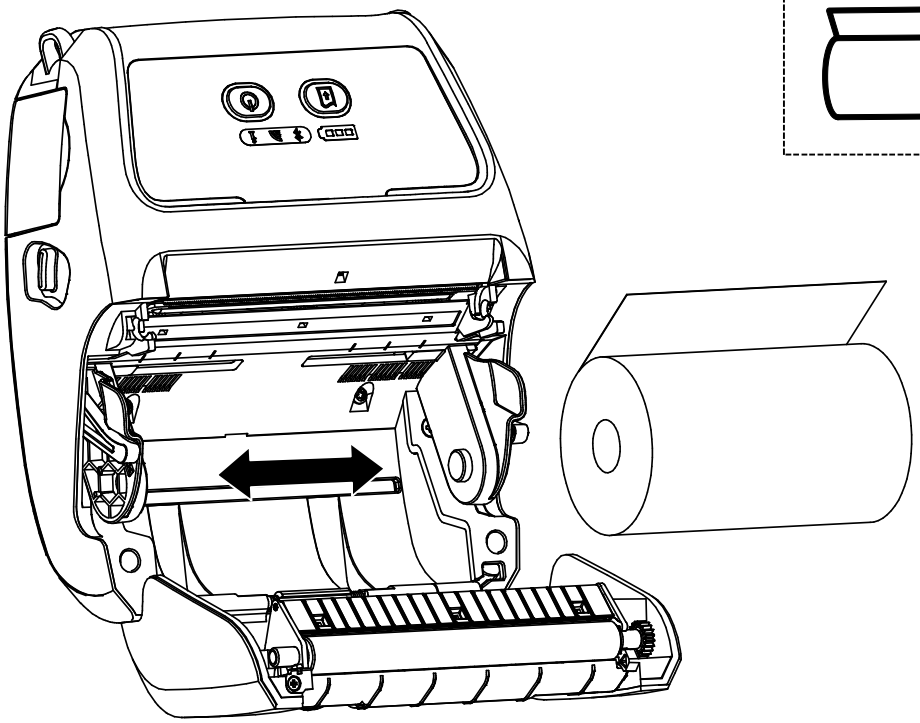
Turn on the printer and make sure the Bluetooth of device is open.

Note:
Please refer to section 6.5 to change the name of default and PIN.

3.4 Loading the Media







4. Power-on Utilities

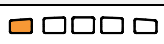
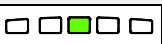
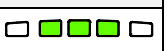
There are three power-on utilities to set up and test printer hardware. These utilities are activated by pressing FEED button() then turning on the printer power simultaneously and release the button at different positions of LED indicator.

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

1. Turn off the printer power switch.

2. Hold on the FEED button() then turn on the power switch.

3. Release the button() when LED indicates with different positions for different functions.

Power on utilities	**The positions of LED light will be changed as following pattern:**				
LED / ***Functions***	 (Solid)	 (5 blinks)	 (5 blinks)	 (5 blinks)	 (Solid green)
1. Media sensor calibration		*Release*			
2. Self-test and enter dump mode			*Release*		
3. Printer initialization				*Release*	

4.1 Media Sensor Calibration

Please follow the steps below to calibrate the media sensor.

1. Turn off the power switch.

2. Hold on the FEED button() then turn on the power switch.

3. Release the FEED button() when the indicator becomes  and blinking.
   (Any green will do during the 5 blinks)

- It will calibrate the black mark sensor sensitivity.
- The LEDs will be changed as following order:
  (amber) → **(5 blinks)** → (5 blinks) → (5 blinks) → (solid green)

4.2 Self-test and Dump Mode

Please follow the steps below.

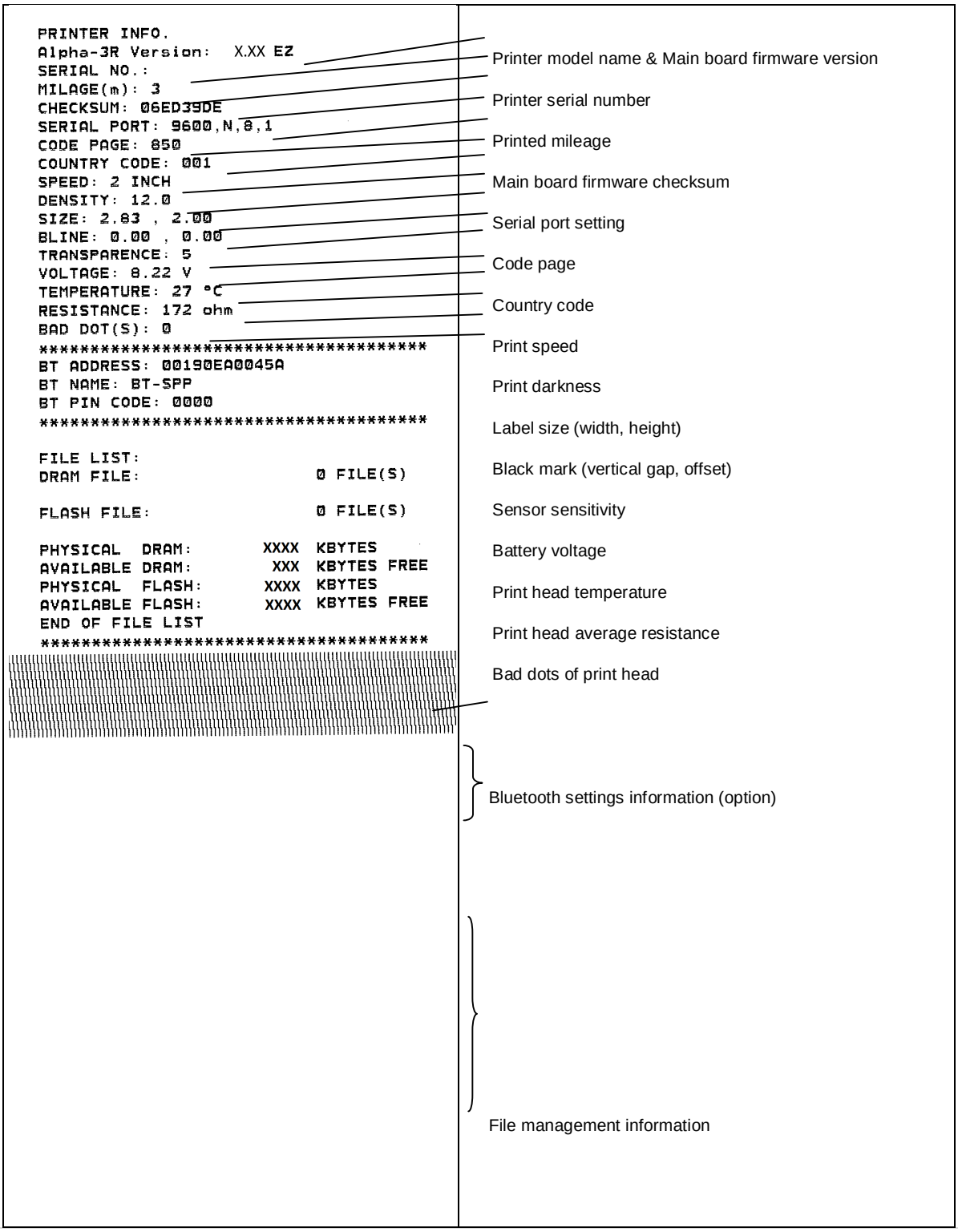
1. Turn off the power switch.
2. Hold on the FEED button() then turn on the power switch.
3. Release the FEED button() when the indicator becomes and blinking. (Any green will do during the 5 blinks)

- The LEDs will be changed as following order:
  (amber) → (5 blinks) → **(5 blinks)** → (5 blinks) → (solid green)

4. It calibrates the sensor and measures the media length and prints internal settings then enter the dump mode.
5. Turn off / on the power to resume printer for normal printing.

■ Self-test

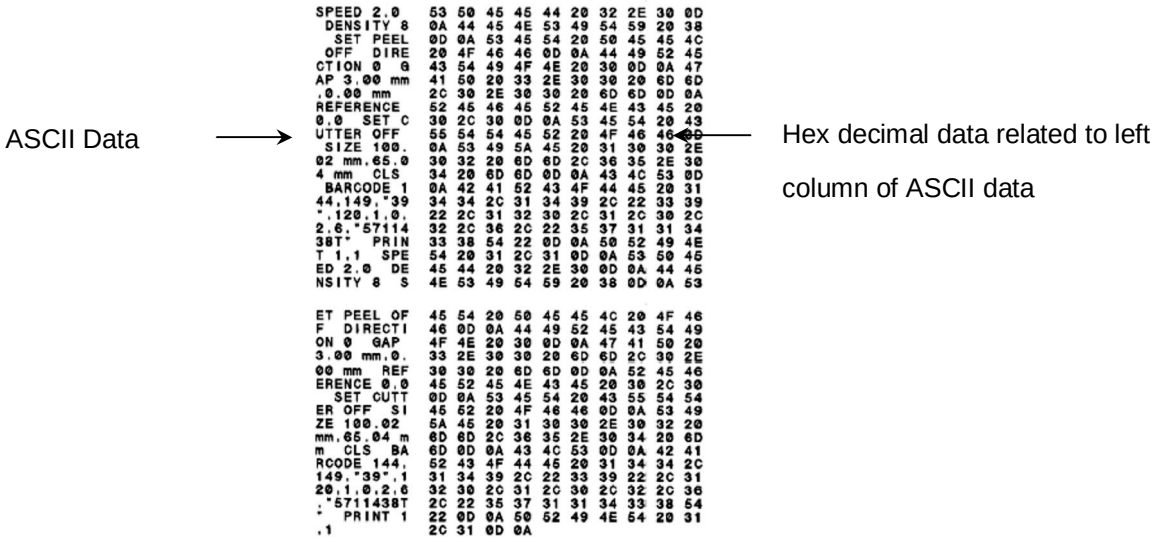
Printer will print the printer configuration after media sensor calibration. Self-test printout can be used to check if there is any dot damage on the heater element, printer configurations and available memory space.



	Print head test pattern

■ 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.



Note:

1. Dump mode requires 3” wide paper width.

2. Turn off / on the power to resume printer for normal printing.

4.3 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 FEED button() then turn on the power switch.
3. Release the FEED button() when the indicator becomes and blinking.
   (Any green will do during the 5 blinks).

- The LEDs will be changed as following:
  (amber) → (5 blinks) → (5 blinks) → **(5 blinks)** → (solid green)

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

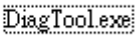
Parameter	Default setting
Speed	50.8 mm/sec (2 ips)
Density	8
Media Width	2.83ò(72 mm)
Media Height	4ò(101.5 mm)
Sensor Type	Black mark sensor (As paper end sensor)
Black Mark Setting	As paper end sensor
Print Direction	0
Reference Point	0,0 (upper left corner)

Offset	0
Serial Port Settings	9600 bps, none parity, 8 data bits, 1 stop bit
Code Page	850
Country Code	001
Clear Flash Memory	No
IP Address	DHCP

5. Diagnostic Tool

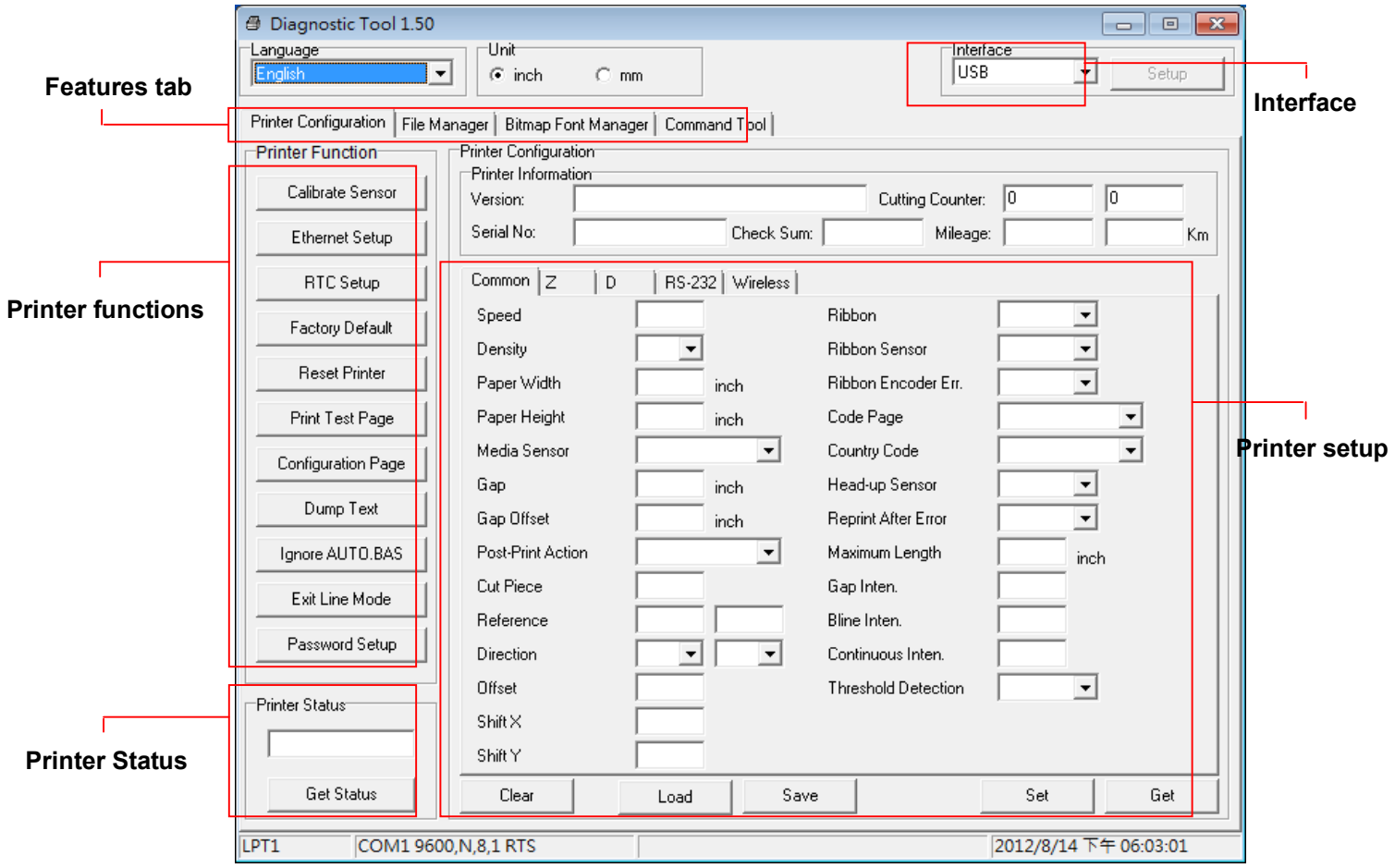
TSC's Diagnostic Utility is an integrated tool incorporating features that enable you to explore a printer's settings/status; change a printer's settings; download graphics, fonts and firmware; create a printer bitmap font; and send additional commands to a printer. With the aid of this powerful tool,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

5.1 Start the Diagnostic Tool

1. Double click on the Diagnostic tool icon  

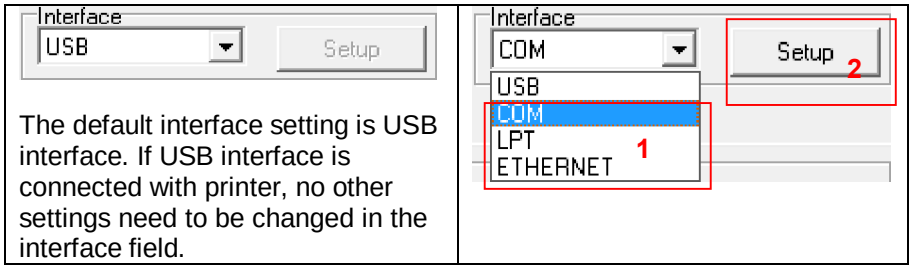
to start the software.

2. There are four features (Printer Configuration, File Manager, Bitmap Font Manager, Command Tool) included in the Diagnostic utility.


Features tab
Printer functions
Printer Status
Interface
Printer setup
Diagnostic Tool 1.50
Language
English
Unit
inch
mm
Interface
USB
Setup
Printer Configuration
File Manager
Bitmap Font Manager
Command Tool
Printer Function
Calibrate Sensor
Ethernet Setup
RTC Setup
Factory Default
Reset Printer
Print Test Page
Configuration Page
Dump Text
Ignore AUTO.BAS
Exit Line Mode
Password Setup
Printer Status
Get Status
Printer Configuration
Printer Information
Version:
Cutting Counter:
Serial No:
Check Sum:
Mileage:
Km
Common
Z
D
RS-232
Wireless
Speed
Density
Paper Width
Paper Height
Media Sensor
Gap
Gap Offset
Post-Print Action
Cut Piece
Reference
Direction
Offset
Shift X
Shift Y
Ribbon
Ribbon Sensor
Ribbon Encoder Err.
Code Page
Country Code
Head-up Sensor
Reprint After Error
Maximum Length
Gap Inten.
Bline Inten.
Continuous Inten.
Threshold Detection
Clear
Load
Save
Set
Get
LPT1
COM1 9600,N,8,1 RTS
2012/8/14 下午 06:03:01

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.

2. Click the ñPrinter Functionòbutton to setup.
3. The detail functions in the Printer Function Group are listed as below.

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
RTC Setup	Synchronize printer Real Time Clock with PC
Factory Default	Initialize the printer and restore the settings to factory default. (Please refer section 5.3)
Reset Printer	Reboot printer
Print Test Page	Print a test page
Configuration Page	Print printer configuration (Please refer section 5.2)
Dump Text	To activate the printer dump mode.
Ignore AUTO.BAS	Ignore the downloaded AUTO.BAS program
Exit Line Mode	Exit line mode.
Password Setup	Set the password to protect the settings

For more information about Diagnostic Tool, please refer to the diagnostic utility quick start guide in the CD disk \ Utilities directory.

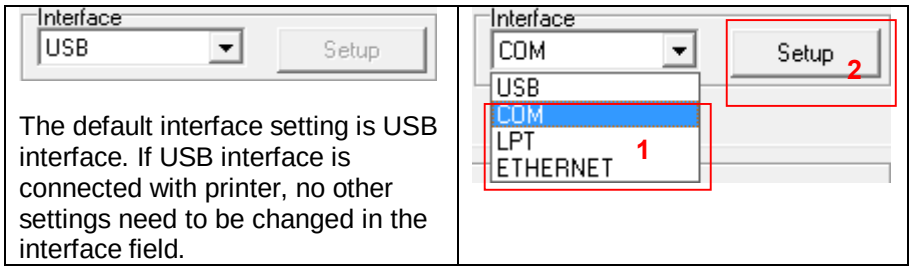
5.3 Calibrating Media Sensor by Diagnostic Tool

5.3.1 Auto Calibration

1. Make sure the media is installed ready and media cover is closed. (Please refer to section 3.4)

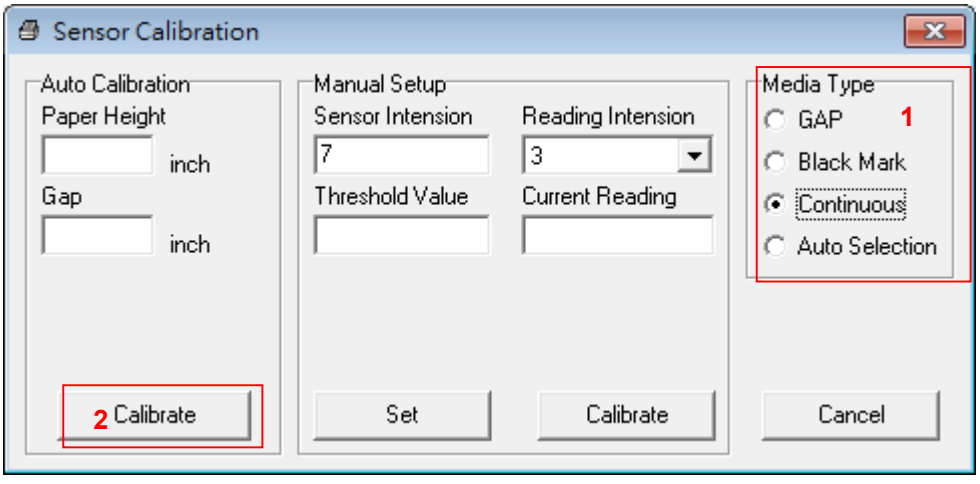
2. Turn on the printer power switch.

3. Open Diagnostic tool and set interface. (The default setting is USB)



4. Click the ñCalibrate Sensorò button.

5. Select the media type and click the ñCalibrateò button.

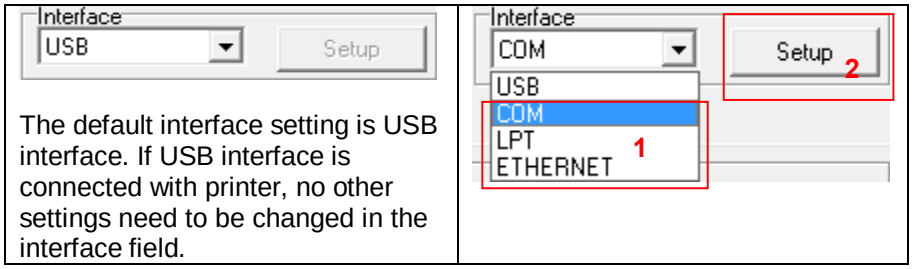


Note:

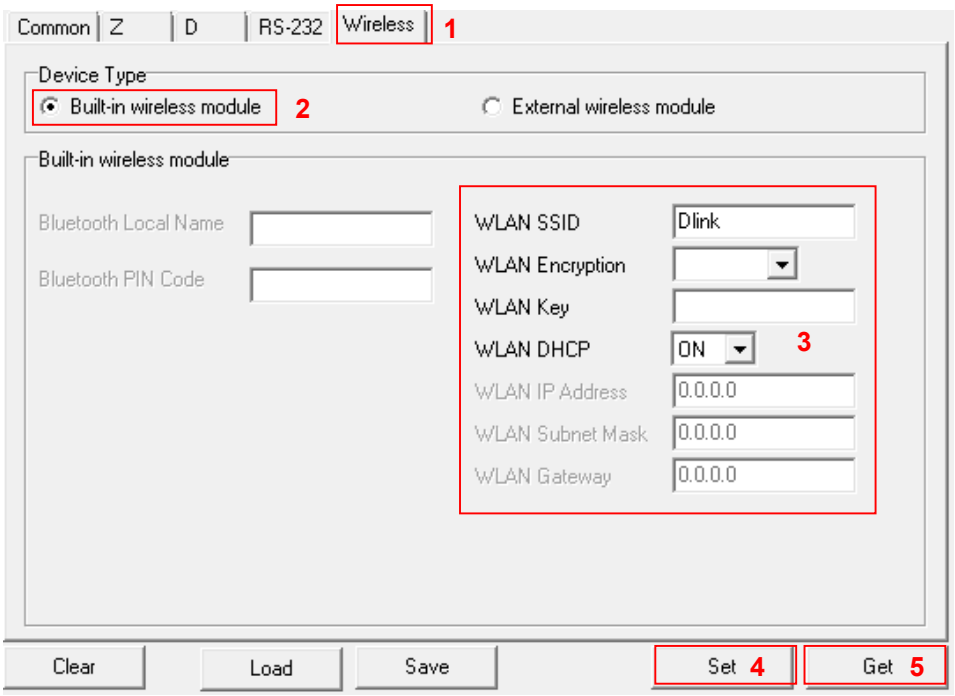
The Alpha-4L can only support back mark and continuous of media type.

5.4 Setting Wi-Fi by Diagnostic Tool (Optional)

1. Make sure the media is installed ready 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 ñWirelessòtab and ñBuilt-in wireless moduleòitem.
5. Enter and select the new WLAN settings in the editor.
6. Press ñSetòbutton to set the new settings to the printer.
7. Press ñGetòbutton to make sure WLAN is set properly.

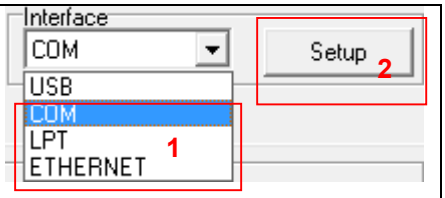


Note:
*** The printer connects with the computer via USB cable or RS-232 cable, which are option.**
*** Diagnostic tool higher than V1.50 and the firmware higher than V1.22 can support this function.**

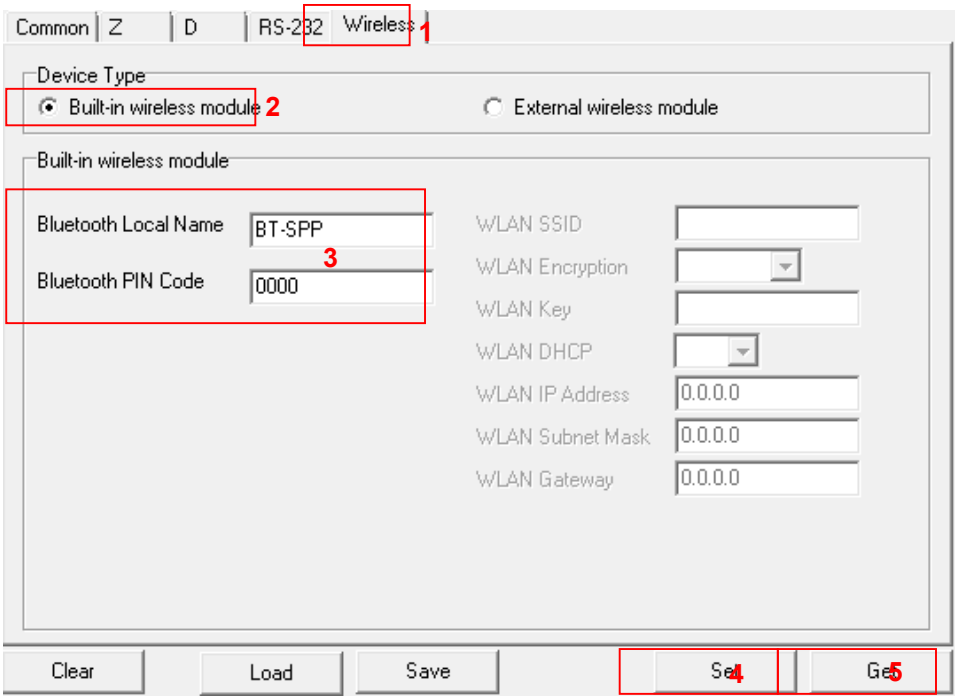
5.5 Setting Bluetooth by Diagnostic Tool (Optional)

1. Make sure the media is installed ready 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)

<table>
<tr>
<td> 

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.</td>
<td> 
</td>
</tr>
</table>

4. Select ñWirelessò tab and ñBuilt-in wireless moduleò item.
5. Enter the new BT Local Name or BT PIN Code in the editor.
6. Press ñSetò button to set the new BT name or BT PIN code of the printer.
7. Press ñGetò 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 or RS-232 cable, which are option.**
*** Diagnostic tool higher than V1.50 and the firmware higher than V1.22 can support this function.**

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
Power indicator does not illuminate	* The battery is not properly installed. * The battery is dead.	* Reinstall the battery. * Switch the printer on. * Charge the battery.
- The printer status from DiagTool shows ñ**Head Open**à	* The printer carriage is open.	* Please close the print carriage.
- The printer status from DiagTool shows ñ**Out of Paper**à.	* Running out of media roll. * The media is installed incorrectly. * Black mark sensor is not calibrated.	* Supply a new media roll. * Please refer to the steps on section 3.4 to reinstall the media roll. * Calibrate the black mark sensor.
- The printer status from DiagTool shows ñ**Paper Jam**à	* Black mark sensor is not set properly. * Make sure media size is set properly. * Media may be stuck inside the printer mechanism.	* Calibrate the black mark sensor. * Set media size correctly.
Memory full **(FLASH / DRAM)**	* The space of FLASH/DRAM is full.	* Delete unused files in the FLASH/DRAM. * The max. numbers of DRAM is 256 files. * The max. user addressable memory space of DRAM is 256KB. * The max. numbers of file of FLASH is 256 files. * The max. user addressable memory space of FLASH is 2560KB.

Poor Print Quality	* Media is loaded incorrectly * Dust or adhesive accumulation on the print head. * Print density is not set properly. * Printhead element is damaged.	* 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 media roll.
Missing printing on the left or right side of label	* Wrong label size setup.	* Set the correct label size.
Gray line on the blank label	* The print head is dirty. * The platen roller is dirty.	* Clean the print head. * Clean the platen roller.
Irregular printing	* The printer is in Hex Dump mode. * The RS-232 setting is incorrect.	* Turn off and on the printer to skip the dump mode. * Re-set the Rs-232 setting.

7. Maintenance

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

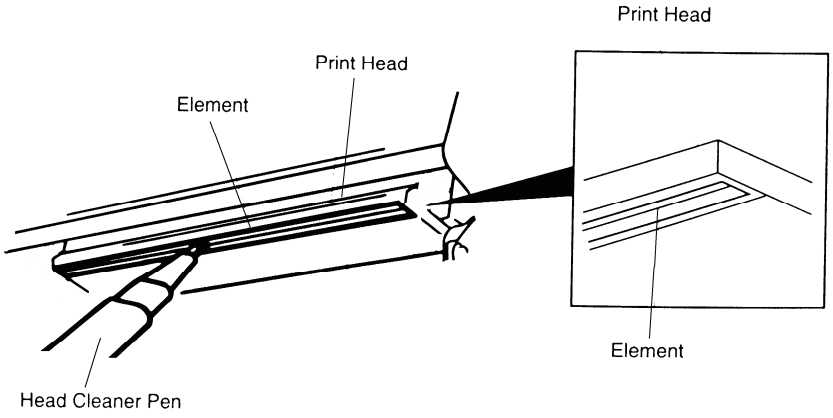
1. Please use one of following material to clean the printer.

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

2. The cleaning process is described as following,

<table>
<tr><th>Printer Part</th><th>Method</th><th>Interval</th></tr>
<tr><td rowspan="2">Print Head</td><td>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.</td><td>Clean the print head when changing a new label roll</td></tr>
<tr><td colspan="2"> 
</td></tr>
<tr><td>Platen Roller</td><td>1. Turn the power off.

2. Rotate the platen roller and wipe it thoroughly with water.</td><td>Clean the platen roller when changing a new label roll</td></tr>
<tr><td>Tear Bar/Peel Bar</td><td>Use the lint-free cloth with 100% ethanol to wipe it.</td><td>As needed</td></tr>
<tr><td>Sensor</td><td>Compressed air or vacuum</td><td>Monthly</td></tr>
<tr><td>Exterior</td><td>Wipe it with water-dampened cloth</td><td>As needed</td></tr>
<tr><td>Interior</td><td>Brush or vacuum</td><td>As needed</td></tr>
</table>

Note:

- Do not touch printer head by hand. If you touch it careless, please use ethanol to clean it.
- Please use 100% Ethenol 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

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