Fastmark M3 Series

Portable Direct Thermal Bar Code Printer

User's Guide

Document # 120320

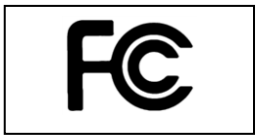
Copyright Declaration

Trademark Credits:

- CG is a registered trademark of Agfa Corporation.
- CG Triumvirate Bold Condensed font is under license from the Monotype Corporation.
- Windows is a registered trademark of Microsoft Corporation.
- All other trademarks are property of their respective owners.

Regulatory Agency Approvals:

CE CLASS B
EN 55022:2006 +A1:2007
EN 55024:1998+A1:2001+A2:2003
EN 61000-4 SERIES REQULATIONS



FCC CFR Title 47 Part 15 Subpart B:2011 Class B
ICES-003 Issue 4:2004 Class B

AS/NZS CISPR22---ITE
AS/NZS 4268-----RF (WIFI & BT)
Following standards for SAR (WIFI)
Radio communications (Electromagnetic Radiation-Human Exposure) Standard 2003 Amendment 2011 IEC 62209-2

http://www.amtdatasouth.com/support-1/downloads/

Regulatory Statements:

Wichtige Sicherheits-Hinweise

1. Bitte lesen Sie diese Hinweis sorgfältig durch.
2. Heben Sie diese Anleitung fűr 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 schűtzen.
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 warden.

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.

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.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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: 0.023 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 – 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)**

Table of Contents

Operational safety

CAUTION

- Refer to the product label (back of the printer) and verify your power source exactly meets those requirements.
- Mechanical and electrical repairs should be conduct by qualified service personnel.
- Do not use this product near heat or water while utilizing AC power outlet.
- Unplug this product from the power outlet before cleaning.

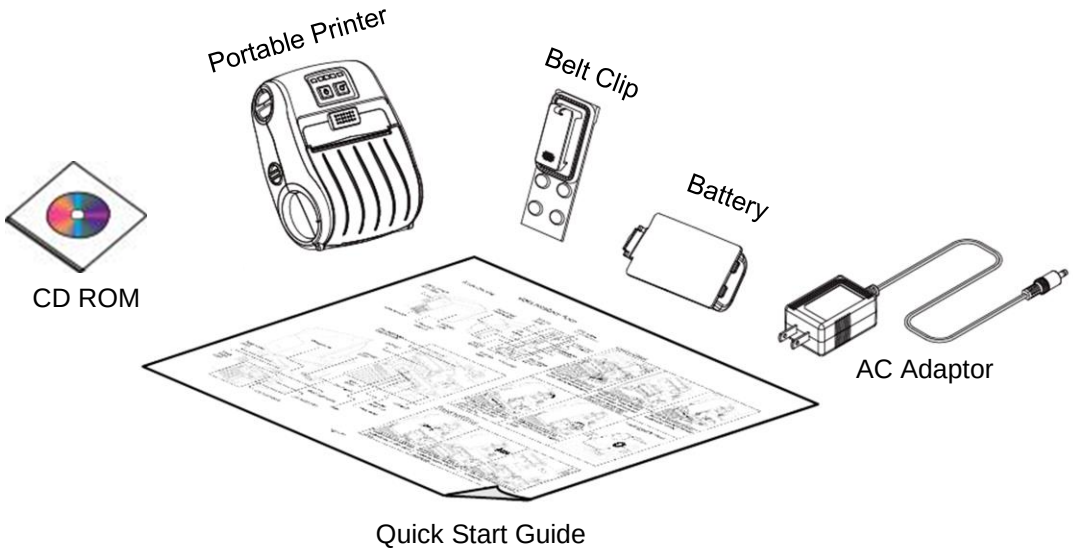
Cautions in setting up

CAUTION

- Unpack the printer. Make sure that the printer body and all accessories are included in the package and no parts are damaged.
- Battery charge takes 2~3 hours before the first time usage. While charging the status LED color is solid amber, fully charged green.
- Battery Safety:
  DO NOT short circuit the contacts.
  DO NOT disassemble the battery.
  DO NOT throw the battery in municipal waste.
- Before connecting or disconnecting the USB/Serial cable, be sure to turn off the printer.
- Do not use the printer in any location subject to sudden changes in temperature, humidity or heat generating equipment.
- Do not connect the printer AC adaptor to a non-standard power source. Refer to safety label on adapter.
- Refer to print adjustments in this manual before attempting alignments.
- If the case or cover becomes dirty, clean it with a soft cloth moistened with a small quantity of neutral detergent diluted with water. Never use a hard cloth or volatile solvent such as alcohol, thinner, or benzene.
- Do not turn off the printer during printing, as this may lead to a malfunction.

Packaging

Unpacking the printer



Removing protective material

1. This printer has been specially packaged to withstand damage during shipping. Please carefully inspect the packaging and printer upon receipt. Open the carton and remove the printer from bubble wrap.
2. If any parts are missing, please contact the Customer Service Department of your purchased reseller or distributor.
3. It is recommended to keep packaging materials for future use if needed.

Introduction

Product

Thank you for purchasing your AMT Datasouth bar code printer.

The Fastmark M3 is a, light-weight portable printer efficient for printing quick and trouble-free labels or receipts on demand. The Fastmark M3 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 user's 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 labels or receipts hour after hour.

Applications:

- Point of sale
- Healthcare patient safety
- Work in process
- Distribution
- Shipping/ receiving
- Retail
- Compliance labeling
- Order fulfillment
- Logistics receipts
- Ticketing

Key features

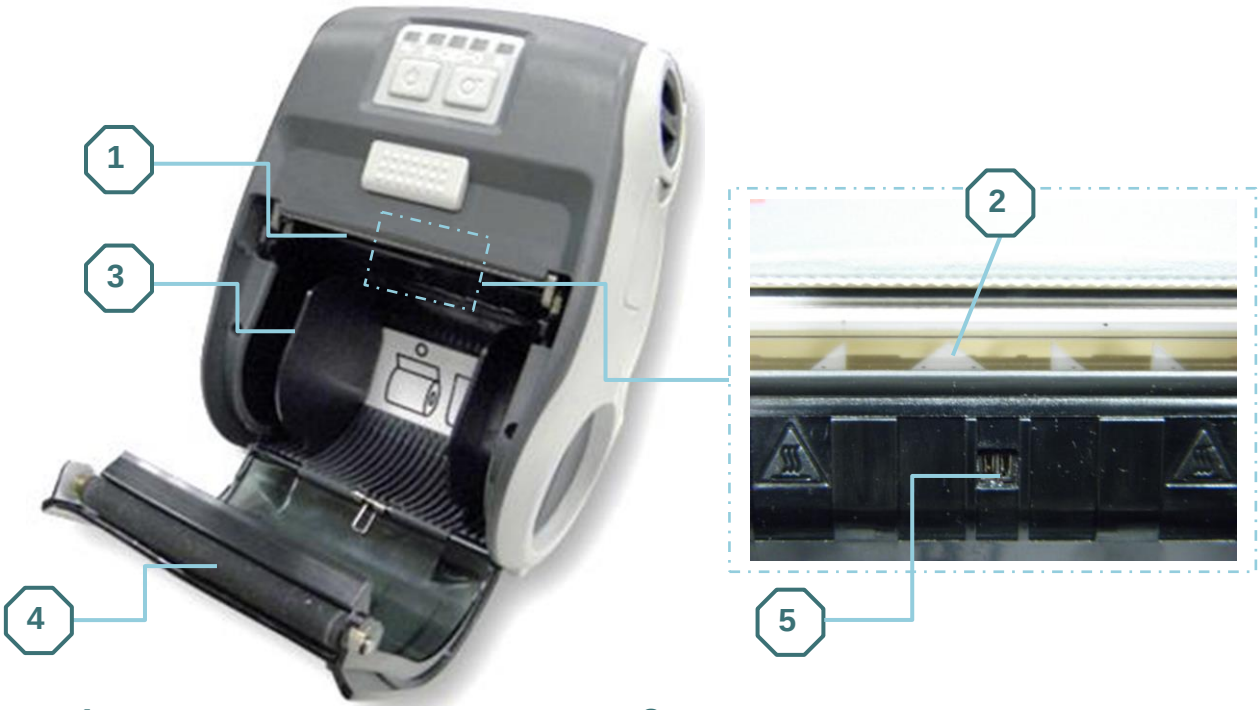
- IP54 rated protective case to resist dust and water
- Plastic design with rubber over-mold construction that withstands 5-foot drop
- Ready for EPL, ZPL, CPCL or PAL environments, WinCE Quick-Link tool & SDK and iOS SDK
- Wired & Wireless communications (USB 2.0, RS-232, Bluetooth, and 802.11 b/g/n)
- High-speed processor and extensive memory for fast print speeds of up to 4-inches per second
- 2-year limited warranty

Printer Overview

Front view

1. LED indicator
2. Feed button
3. Power ON/OFF button
4. Media cover release button
5. Media holder adjustment Knob
6. Media cover

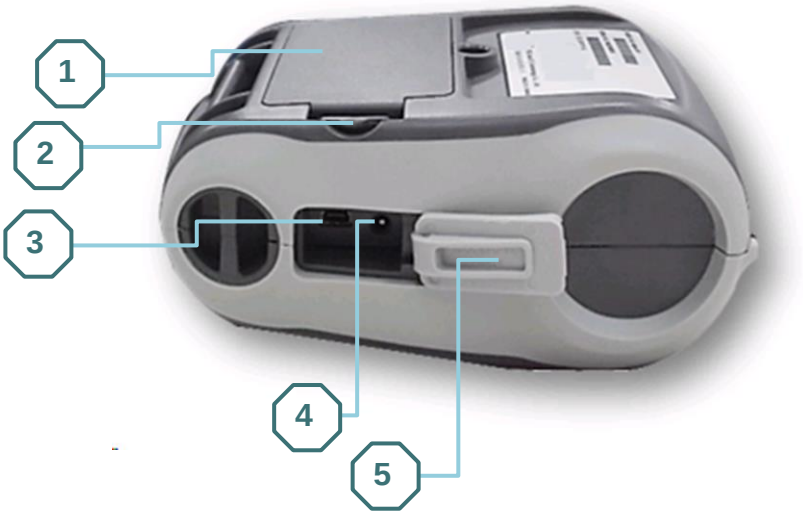
Open view



1. Tear edge
2. Print head
3. Media holder
4. Platen
5. Media sensor

***The media sensor position (#5) is selectable by factory adjustment (L/C/R). Default is the center position.**

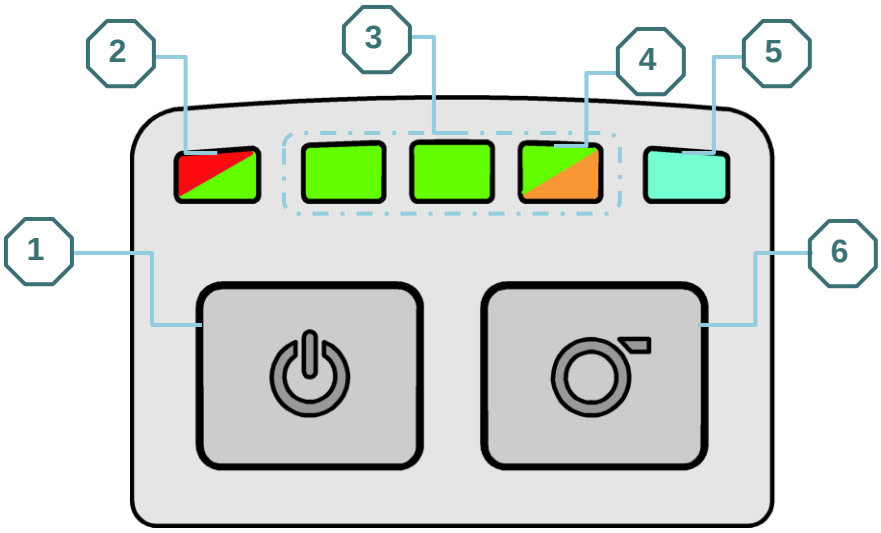
Bottom view



1. Li-ion battery
2. Battery open clasp
3. USB interface
4. Power jack
5. Interface cover

Operator Controls

LED indication and keys



1. Power ON/OFF Button
2. Printer status LED
3. Battery charge level LED's
4. Battery status LED
5. Wireless status LED
6. Feed Button

LED	Status	Indication
Printer status LED indicator	Off	Printer is ready
	Green (blinking)	Printer is paused
	Red (solid)	Media cover is open
	Red (blinking)	Printer error
Battery status LED indicator	Green (blinking)	Recharge the battery
	Amber (solid)	Battery is charging
Battery charge level LED indicator	Green (solid)	Full charged
		2/3 charged level
		1/3 charged level
WiFi/Bluetooth status LED indicator	Blue (solid)	Device is ready
	Blue (blinking)	Device is communicating

Keys	Function
	1. Press and hold for 2-3 seconds to turn on the printer. 2. Press and hold for 2-3 seconds to turn off the printer.
	1. Ready status: Feed one label 2. Printing status: Pause the print job

Setup

Installing the battery

1. Insert the left side to install the battery at the rear of the printer.

2. Push the right side of the battery.

3. Pull the battery clasp to lock the 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.

Battery charging

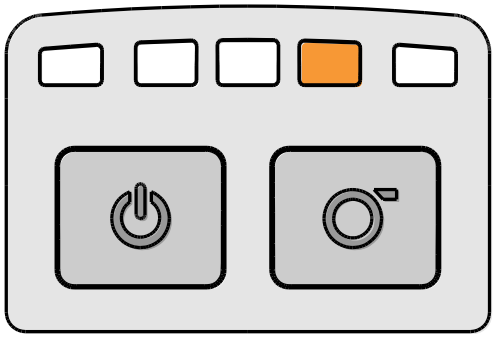
It takes 2~3 hours to fully charge the battery before the first time usage. The lifetime of the battery is 300 times for charge/discharge cycles.

1. Open the interface cover and plug the power cord to the power jack.

Safety Warning:

Turn OFF printer power before pluging in power adater. DO NOT remove battery from printer while charging

2. Plug the power adaptor into an appropriate power outlet.



3. When the battery is charging, the status LED indicator is solid amber.

Note:

When charging is complete (approximately 4~8 hours) the amber LED will turn off.

Charging station (optional)

1. Plug power adaptor jack into the charger station.

2. Install the battery in the charger station.

3. Plug the power adaptor into an appropriate power outlet.

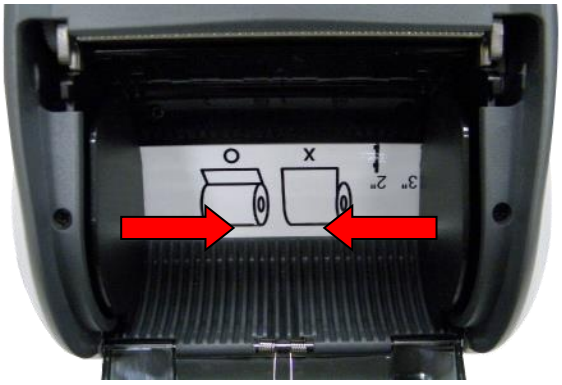
LED Color	Description
Green / Solid	Battery is completely charged
Red / Solid	Battery is charging
Red / Blinking	Battery charging error
Off	No battery
	Battery is completely charged over 4 ~ 8 hrs.

Vehicle charger (optional)

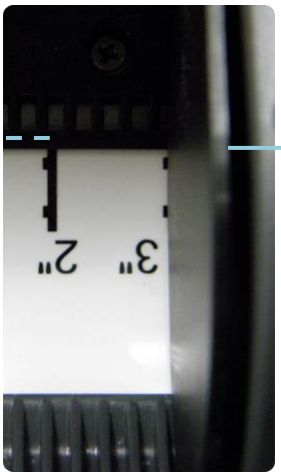
	**1.** Open the interface cover and plug the power cord to the power jack.
	**2.** Plug the vehicle power adaptor into the car cigarette lighter socket.

Loading media

1. Open the printer media cover by pressing the media cover release button.



2. Use a coin to rotate the media holder adjustment knob, media roll should have a loose fit to allow rotation.



Media holder

Note:

The media holder should overlap bold line dimension as shown above.

	**3.** Place the media roll inside the printer as shown, and pull paper past the tear edge.
	**4.** Press down on each side of media cover to close, make sure the cover snaps closed on both right and left side.

Installing belt clip

	**1.** Loop the belt clip through the slot below the battery.
	**2.** Fasten the belt clip with 2 buttons.
	**3.** The printer can be hung on a belt.

Installing IP54-rated environmental case (optional)

1. Open the case top cover.

2. Insert the printer into the case.

3. Close top case and outside covers.

Open outside cover while printing.

Connecting the printer interface

The printer must establish communication with a host terminal which sends the data to be printed. There are three ways to connect for Fastmark M3 series printer.

- By a USB cable between the printer and its host terminal
- By a Bluetooth short-range radio
- By a Wireless LAN per 802.1 b/g (Optional)

Cable communications

1. Open the interface cover and connect the printer to the computer (host terminal) with USB cable. (USB to USB or USB to RS-232)

Bluetooth communication

1. Turn on the printer.
2. Open the Bluetooth device for host terminal to scan for printer's Bluetooth device.
3. Connect the Bluetooth devices via DiagTool utility. The Bluetooth LED will turn ON if devices have been paired and connected.

Printer Bluetooth default	
Address	You can find the printer address by printing the configuration (self-test) page.
Name	BT-SPP (Use DiagTool to change NAME)
PIN	0000 (Use DiagTool to change PIN)

Wireless communications with WiFi (optional)

Refer to DiagTool instructions for setup.

Power-ON Utilities

There are three power-ON utilities to set up and test printer hardware. These utilities are activated by pressing the FEED button then turning on the printer power simultaneously and release the button at different LED light indications.

Power-ON Utility options

Follow the steps below for different power-on utilities.

1. Turn OFF the printer power button.
2. Press down the FEED button then turn ON the power button .
3. Release the power button when the LED color turns to amber, continue pressing the FEED button .
4. Release the FEED button when the green LED indicates the desired function:

Power on utilities	**The following LED light pattern will determine the function:**				
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*	

Media sensor calibration

Follow the steps below to calibrate the media sensor.

1. Turn off the printer power.
2. Hold on the FEED button then turn on the power button
3. Release the power button when the LED color turns amber, continue pressing the FEED button.
4. Release the FEED button when the LED indicates and blinking. The LED will sequence right to left, 5 blinks each.
5. The printer will calibrate the sensor sensitivity.

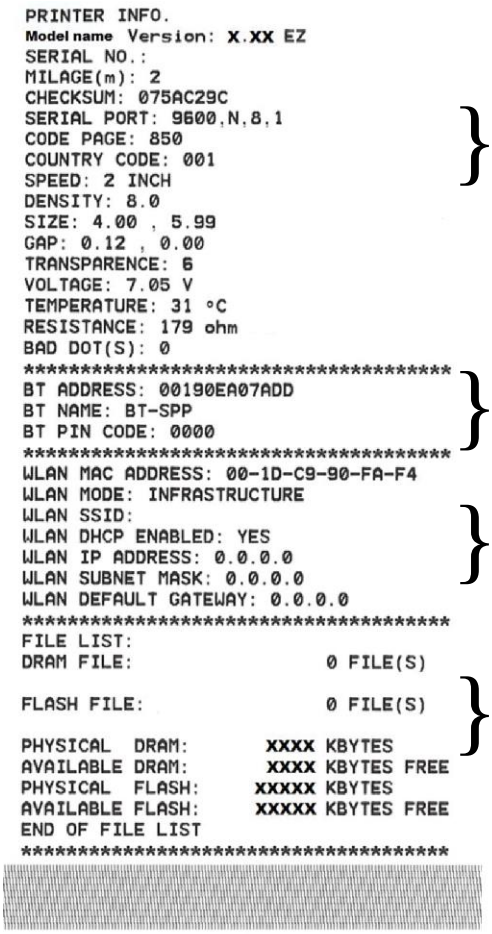
Self-test and Dump Mode

Follow the steps below to print Self-test and enter Dump Mode.

1. Turn off the printer power.
2. Hold on the FEED button then turn on the power button
3. Release the power button when the LED color turns amber, continue pressing the FEED button.
4. Release the FEED button when the LED indicates and blinking. The LED will sequence right to left, 5 blinks each.
5. The printer will calibrate the sensor, measure the media length/height, print internal settings and the enter Dump Mode.
6. Power OFF and back On to exit Dump Mode and resume normal printing.

Self-test printout

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



Printer model name & Main board firmware version
Printer serial number
Printed mileage
Main board firmware checksum
Serial port setting
Code page
Country code
Print speed
Print darkness
Label size (width, height)
Gap/Black mark (vertical gap, offset)
Sensor sensitivity
Battery voltage
Print head temperature
Print head average resistance Bad dots of print head
Bad print head dots

Bluetooth settings information

WiFi settings information (when applicable)

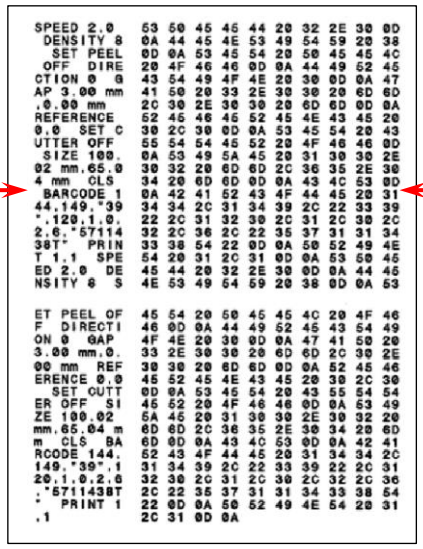
File management information

Print head test pattern

Dump Mode printout

The printer will enter dump mode after printing the configuration page. 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 exceptions.

ASCII Data → | Hexadecimal Data ←



```
 SPEED 2.0    53 50 45 45 44 20 32 2E 30 0D
  DENSITY 8   0A 44 45 4E 53 49 54 59 20 38
    SET PEEL  0D 0A 53 45 54 20 50 45 45 4C
  OFF  DIRE   20 4F 46 46 0D 0A 44 49 52 45
 CTION 0  G   43 54 49 4F 4E 20 30 0D 0A 47
 AP 3.00 mm   41 50 20 33 2E 30 30 20 6D 6D
 ,0.00 mm     2C 30 2E 30 30 20 6D 6D 0D 0A
 REFERENCE    52 45 46 45 52 45 4E 43 45 20
 0.0  SET C   30 2C 30 0D 0A 53 45 54 20 43
 UTTER OFF    55 54 54 45 52 20 4F 46 46 0D
  SIZE 100.   0A 53 49 5A 45 20 31 30 30 2E
 02 mm,65.0   30 32 20 6D 6D 2C 36 35 2E 30
 4 mm  CLS    34 20 6D 6D 0D 0A 43 4C 53 0D
  BARCODE 1   0A 42 41 52 43 4F 44 45 20 31
 44,149,"39   34 34 2C 31 34 39 2C 22 33 39
 ",120,1,0,   22 2C 31 32 30 2C 31 2C 30 2C
 2,6,"57114   32 2C 36 2C 22 35 37 31 31 34
 38T"  PRIN   33 38 54 22 0D 0A 50 52 49 4E
 T 1.1  SPE   54 20 31 2C 31 0D 0A 53 50 45
 ED 2.0  DE   45 44 20 32 2E 30 0D 0A 44 45
 NSITY 8  S   4E 53 49 54 59 20 38 0D 0A 53

 ET PEEL OF   45 54 20 50 45 45 4C 20 4F 46
 F  DIRECTI   46 0D 0A 44 49 52 45 43 54 49
 ON 0  GAP    4F 4E 20 30 0D 0A 47 41 50 20
 3.00 mm,0.   33 2E 30 30 20 6D 6D 2C 30 2E
 00 mm  REF   30 30 20 6D 6D 0D 0A 52 45 46
 ERENCE 0.0   45 52 45 4E 43 45 20 30 2C 30
   SET CUTT   0D 0A 53 45 54 20 43 55 54 54
 ER OFF  SI   45 52 20 4F 46 46 0D 0A 53 49
 ZE 100.02    5A 45 20 31 30 30 2E 30 32 20
 mm,65.04 m   6D 6D 2C 36 35 2E 30 34 20 6D
 m  CLS  BA   6D 0D 0A 43 4C 53 0D 0A 42 41
 RCODE 144,   52 43 4F 44 45 20 31 34 34 2C
 149,"39",1   31 34 39 2C 22 33 39 22 2C 31
 20,1,0,2,0   32 30 2C 31 2C 30 2C 32 2C 36
 ,"571143BT   2C 22 35 37 31 31 34 33 38 54
 "  PRINT 1   22 0D 0A 50 52 49 4E 54 20 31
 ,1           2C 31 0D 0A
```

- ❖ **Dump mode requires 3” wide paper width setting.**
- ❖ **Turn OFF / ON the power to resume printer for normal printing. (Ready mode)**

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 printer power.
2. Hold on the FEED button then turn on the power button
3. Release the power button when the LED color turns amber, continue pressing the FEED button.
4. Release the FEED button when the LED indicates and blinking. The LED will sequence right to left, 5 blinks each.
5. Printer configuration will be restored. Refer to next page for default list.

Printer defaults

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	2.83” (72 mm)
Media Height	4” (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
Post-Print Action	Tear mode
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

Media Calibration:

Perform media calibration when completing the Initialization. Turn ON the printer and open/close the media cover.

PAL™ Print and Program Overview

Printers featuring PAL™ Print and Program ability can be used in several ways in any given environment. This section describes 3 common ways this advanced capability is used. For help and assistance determining the best way to use this ability in your situation, please consult your sales representative.

Traditional printing

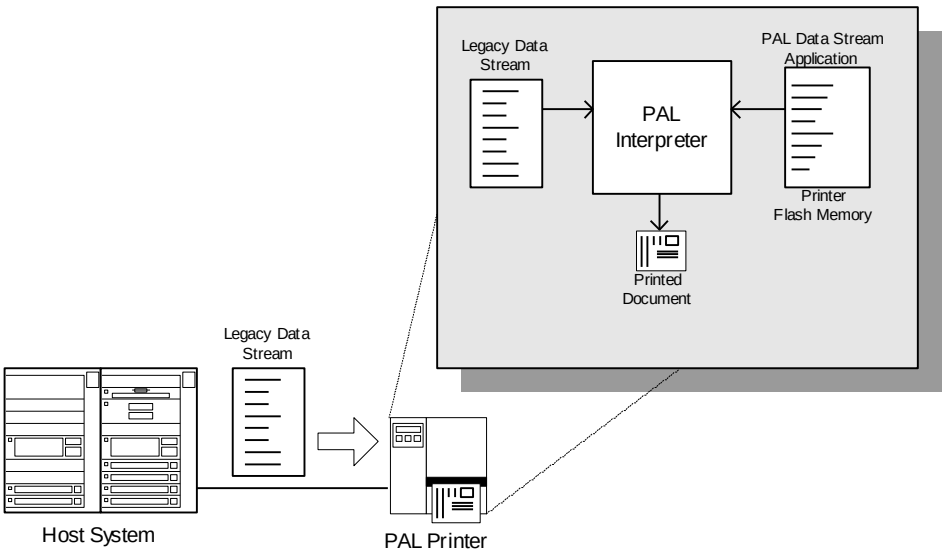
This environment represents the most common use of printers. Generally a single print job (PAL™ print sequences) generates a single label. In this role the PAL™ Print and Program interpreter accepts the print job, performs the required operator processing and prints the; label, tag, or ticket. Using a Windows driver in conjunction with a Windows application program is a typical way to print in this environment. Alternatively, PAL™ print sequences may also be generated by any host application written to take advantage of this powerful language. When a PAL™ capable printer is used this way, no special “PAL™ program” must be loaded on the printer. Print sequences generated by a Windows driver or host program are simply sent to the printer resulting in print output just like traditional printers.

Legacy data stream interpretation

PAL™ Print and Program capable printers uniquely address applications where upgrading to modern cost effective technology is desired. Often cost-prohibitive software reprogramming to change a data stream prevents an organization from moving to new printing technologies

Using a PAL™ Print and Program capable printer solves this problem. In this case a PAL™ program is written which interprets a data stream normally sent to the legacy device being replaced. This program is stored on the printer and is automatically executed each time the printer is powered ON. This program is able to produce a new label format based on this legacy data. Even though the host computer is sending the exact same legacy data to the printer, the label format can be completely different. For example the new format may include bar codes, scaled and/or rotated fonts, lines, logo's etc. Even though the legacy device being replaced does not support these print abilities, the new label format can.

For example, text only outputs such as produced by a dot-matrix printer or card embosser may now be presented in a more functional format. Information in the data stream can be reformatted into any size font in any rotation, or even printed as bar code. This example demonstrates how PAL™ Print and Program capable printer can replace a legacy print device with no host software changes required.



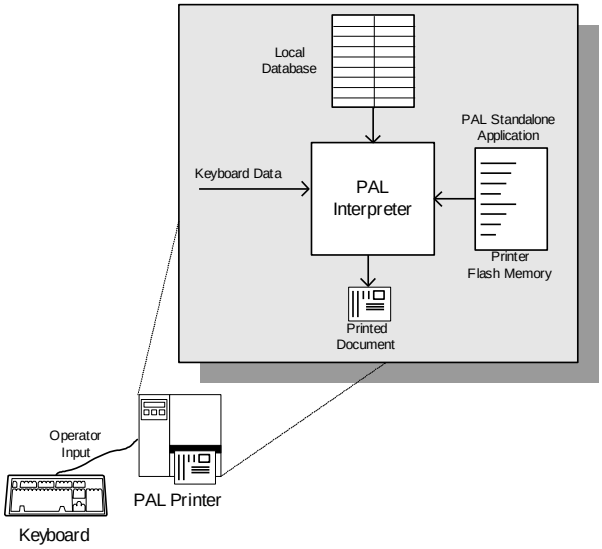
Standalone/downtime applications

PAL™ Print and Program capable printers may be programmed to operate independent of a PC/host connection. This standalone ability may be used in cases where no PC/host connection is needed or as a fail-safe backup when the PC/host or network is unavailable. The Standalone Application program is stored in the printer memory and can accept input from a PS/2 keyboard, bar code scanner, or other serial devices such as an electronic scale. These programs may use the printer's LCD to prompt for user input and may also include databases. Unlike other bar code printers that allow basic static forms to be loaded in the printer, PALTM Print and Program capable printers provide advanced abilities.

Examples of these advanced capabilities are:

- Ability to operate on line from host or off line in stand-alone mode
- Ability to range check user input
- Ability to combine data from multiple fields into a single bar code
- Ability to access database stored in printer
- Ability to perform math calculations (addition, subtraction, multiplication, division, etc.)
- Ability to perform logical calculations (equal to, less than, greater than, etc.)

Shown below is an example where a stand-alone PAL™ application and database is stored in the printer. Operator input combined with internal database information is used to create a label. For example, this application could request a part number and physical dimensions of a particular part by prompting for this information on the printer LCD. After the operator inputs the requested information on the PS/2 keyboard, the printer could calculate the volume, and then based on the part number lookup the part description in a database to produce a label.

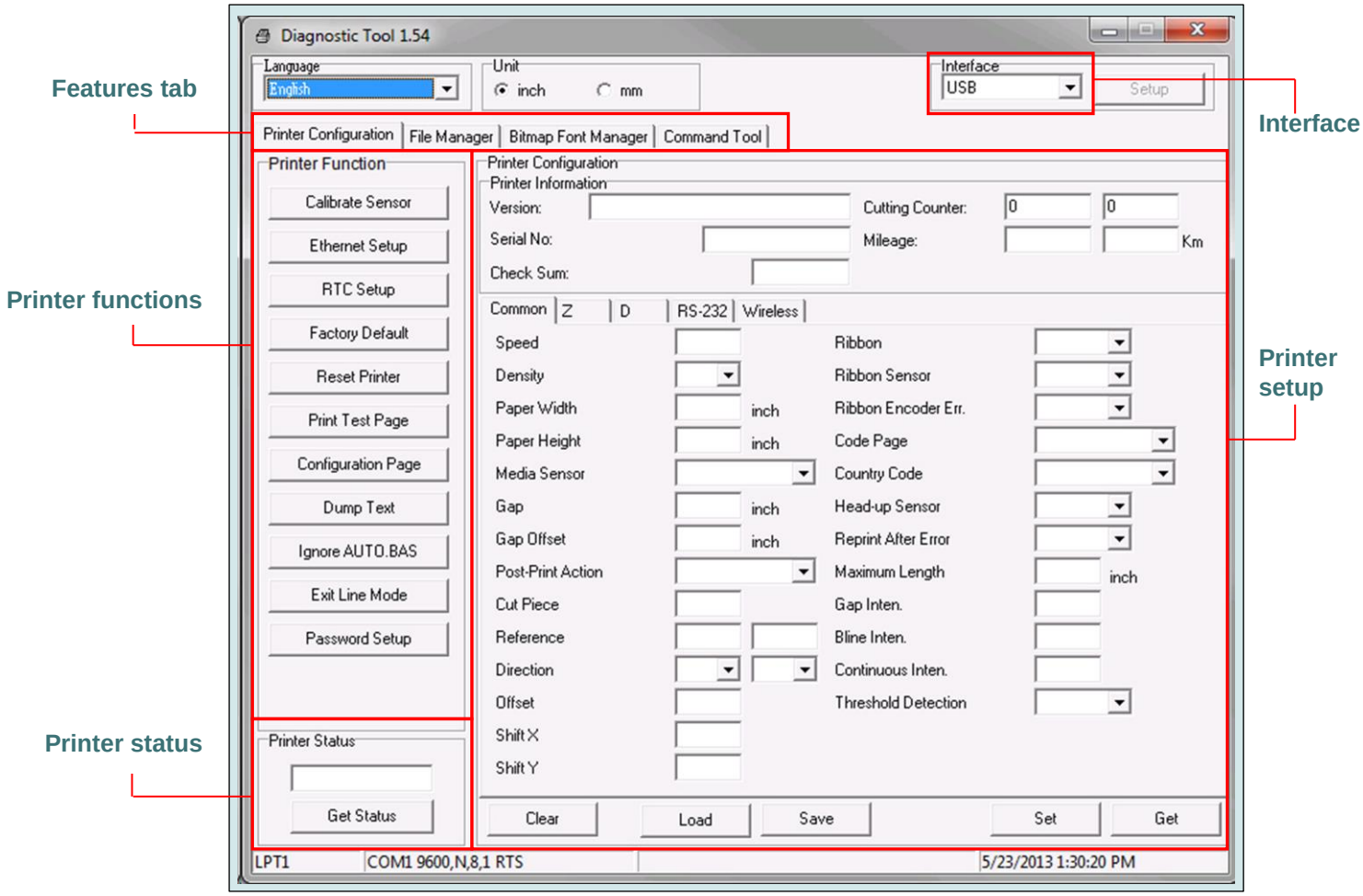


Diagnostic Tool

The Diagnostic Utility is a toolbox that allows users to explore the printer's settings and status; change printer settings; download graphics, fonts, and firmware; create printer bitmap fonts; and to send additional commands to the printer. Using this convenient tool, you can explore the printer status and settings and troubleshoot the printer.

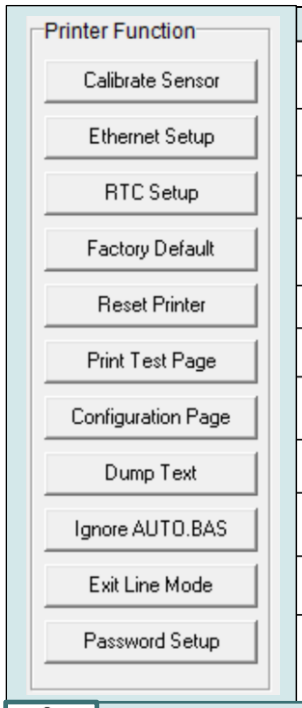
Starting diagnostic tool

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



Printer functions (Calibrate sensor, media setup, RTC setup…)

1. Connect the printer and PC via USB cable.
2. Turn ON printer and start DiagTool utility.
3. Click the “Function” button for settings.
4. The detail functions in the Printer Function Group are listed as below.

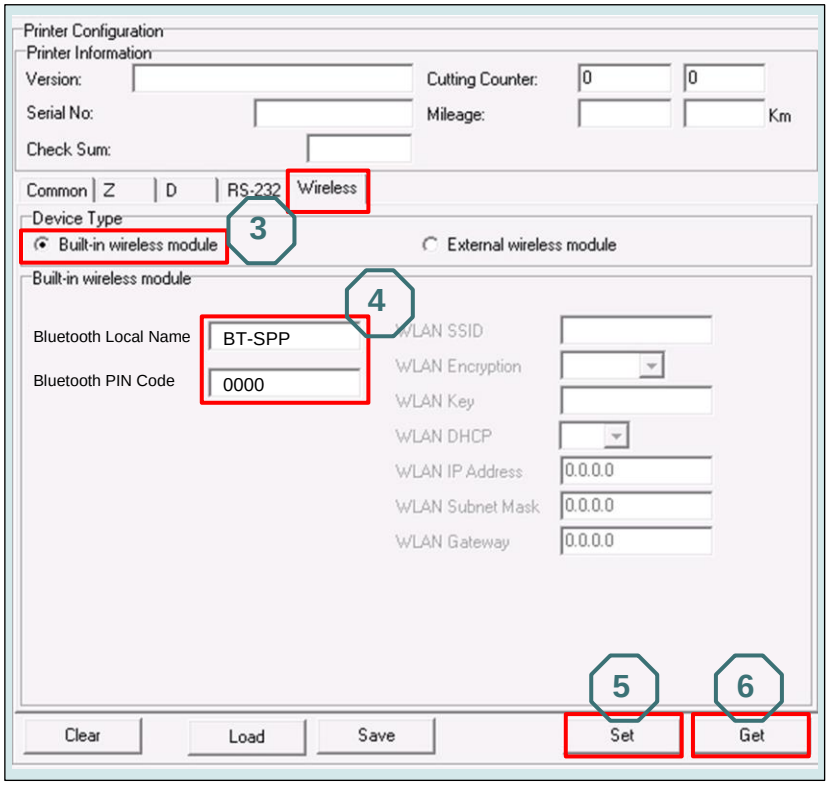


Function	Description
Calibrate Sensor	Calibrate the sensor specified in the Printer Setup group media sensor field
Ethernet Setup	Setup the IP address, subnet mask, gateway for the on board Ethernet
RTC Setup	Synchronize printer Real Time Clock with PC
Factory Default	Initialize the printer and restore the settings to factory default.
Reset Printer	Reboot printer
Print Test Page	Print a test page
Configuration Page	Print printer configuration
Dump Text	To activate the printer dump mode.
Ignore AUTO.BAS	Ignore the downloaded AUTO.BAS program
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 on the CD disk \ Diagnostic Utilities directory.

Setting Bluetooth configuration

1. Connect the printer and PC via USB cable.
2. Turn ON printer and start DiagTool utility.
3. Select “Wireless” tab and click on “Built-in wireless module” item.
4. Enter the new BT Local Name or BT PIN Code in the editor.
5. Press “Set” button to set the new BT name or BT PIN code of the printer.
6. Press “Get” button to get back the settings. Make sure the Bluetooth module settings are set properly.

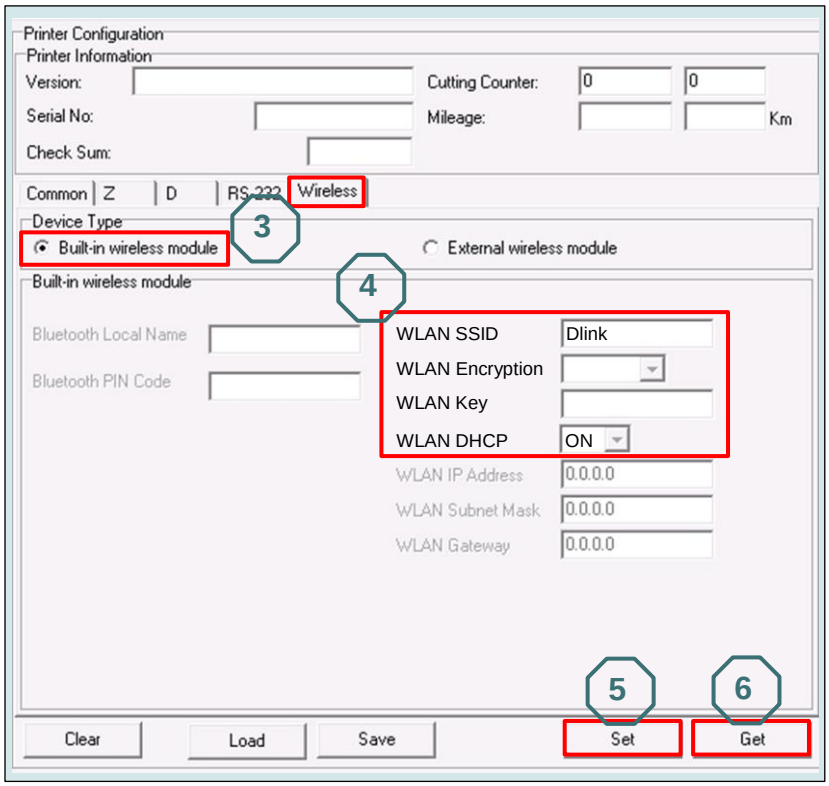


DiagTool Utility via Bluetooth :

After initial setup, DiagTool calibration and user settings can be made using the Bluetooth interface connection.

Setting WiFi configuration (optional)

1. Connect the printer and PC via USB cable.
2. Turn ON printer and start DiagTool utility.
3. Select “Wireless” tab and click on “Built-in wireless module” item.
4. Enter the new WLAN settings in the editor.
5. Press “Set” button to set the new settings to the printer.
6. Press “Get” button to get back the settings. Make sure the Bluetooth module settings are set properly.
7. The Wi-Fi LED will turn ON blue (the Wi-Fi, icon will be shown for LCD panel) if device has been connected.
8. Print out the self-test page to confirm correct settings.
9. Remove the USB cable and print WiFi data for test.

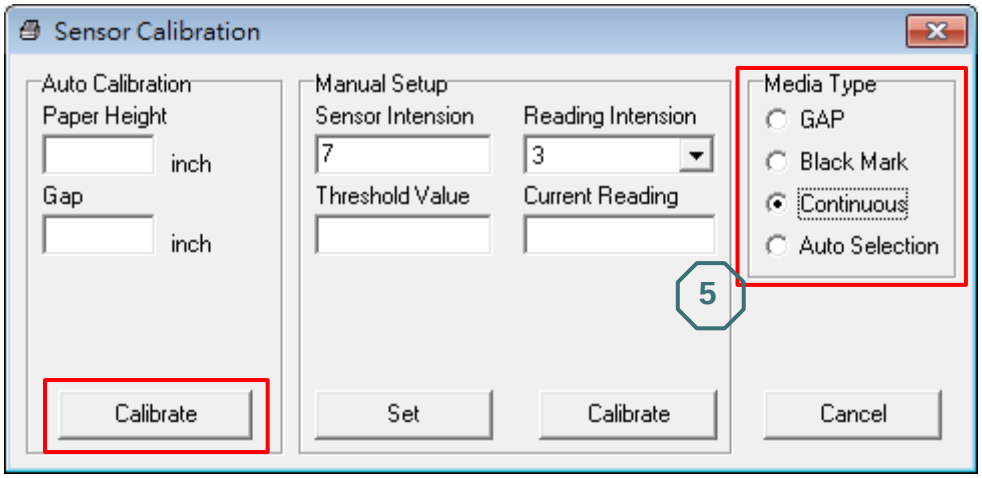


DiagTool Utility via WiFi :

After initial setup, DiagTool calibration and user settings can be made using the WiFi interface connection.

Calibrating media sensor

1. Install desired media and verify the cover is closed.
2. Turn ON the printer power.
3. Open diagnostic utility (DiagTool) and set interface to USB.
4. Select “Calibrate Sensor“ button.
5. Select the media type and click on “Calibrate” button.



Troubleshooting

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. * Battery out of power. * The battery is dead.	* Reinstall the battery. * Turn the printer on. * Charge the battery. * Replace a new battery.
Not Printing	* Check if interface cable is well connected to the interface connector. * Check if wireless or Bluetooth device is well connected to host and printer. * The port specified in the Windows driver is not correct.	* Re-connect cable to interface. * Please reset the wireless device setting. * Select the correct printer port in the driver.
No print on the label	* Label loaded not correctly. * Use wrong type paper	* Follow the instructions in loading the media. * Use thermal type paper.
The printer status from DiagTool or red LED indicates ERROR.	* The printer carriage is open.	* Please close the print carriage.
The printer status from DiagTool or red LED indicates ERROR.	* Running out of media roll. * The media is installed incorrectly. * Media sensor is not calibrated.	* Supply a new media roll. * Follow the instructions in loading the media to reinstall the media roll. * Calibrate the media sensor.
The printer status from DiagTool or red LED indicates ERROR.	* Media sensor is not set properly. * Make sure media size is set properly. * Label may be stuck inside the printer mechanism.	* Calibrate the media sensor. * Set media size correctly. * Remove the stuck label inside the printer mechanism.
Memory full (FLASH / DRAM) **Can't downloading the file to memory (FLASH / DRAM/CARD)**	* The space of memory is full.	* Delete unused files in the memory. * 256 is the maximum number of allowable DRAM files. * The maximum user addressable memory space of DRAM is 2048KB. * 256 is the maximum number of allowable FLASH files. * The max. user addressable memory space of FLASH is14336KB.

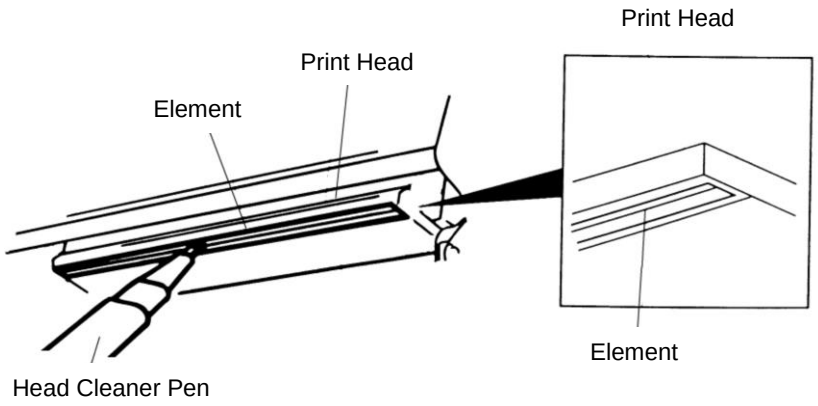
Problem	Possible Cause	Recovery Procedure
Poor Print Quality	* Media is loaded incorrectly * Dust or adhesive accumulation on the print head. * Print density is not set properly. * Print speed is not set properly. * Print head element is damaged.	* Reload the supply. * Clean the print head. * Clean the 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.	* Turn off and on the printer to skip the dump mode.

Maintenance

This session presents cleaning tools and methods to maintain your printer.

Required Materials:

- Head Cleaning Pen or Cotton swab
- Lint-free cloth
- Compressed air or vacuum
- 100% Ethanol or Isopropyl Alcohol

<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>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>Compressed air or vacuum</td><td>As needed</td></tr>
</table>

Product Characteristics

Printer specifications

Product standard feature
Physical dimensions 4.5″(W)X5.8″(H)X2.7″(D)
Direct thermal printing
Print resolution 203 dots/inch
Print speed 4ips max
Print width 2.83″ (72mm)
Black mark reflective sensor
Gap sensor
Head open sensor
3 operation buttons (ON/OFF, cover open and feed)
3 LEDs for printer status, 3 LEDs for battery status
USB 2.0 (full speed) interface
Bluetooth
8 MB SDRAM memory
4 MB FLASH memory
DC 7.4V/5800 mAh Li-ion rechargeable battery
Real time clock (power by main battery)
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 symbologies

1D bar code	2D bar code	Supported Image
Code128 subsets A.B.C, Code128UCC, EAN128, Interleave 2 of 5, Code 39, Code 93, EAN-13, EAN-8, Codabar, POSTNET, UPC-A, UPC-E, EAN and UPC 2(5) digits, MSI, PLESSEY, China Post, GS1 DataBar	PDF-417, Maxicode, DataMatrix, QR code, Aztec	BITMAP BMP PCX (Max. 256 colors graphics)

Media

Media Specifications	
Media roll capacity	Max. 2.25″ (57mm) OD
Media type	Continuous, die-cut, black mark and receipt,
Media wound type	Outside wound
Media width receipt	2″ ~ 3.15″ (50.8mm ~ 80.0mm)
Media width label	2″ ~ 3.07″ (50.8mm ~ 77.9mm)
Media thickness	.002″ ~ .004″ (0.055mm ~ 0.101mm)
Label length	0.5” ~ 90” (12.7mm ~ 2286mm)
Black mark	Min. .3″ (8mm) wide, .08″ (2mm) high
Gap height	Min. .08″ (2mm)

Optional features

Product option feature	User option	Factory option
WiFi 802.11 b/g/n		○
Bluetooth 2.0		○
CPCL emulation		○
Black mark sensor position (Left/Center/Right)		○
Mini USB cable	○	
Mini USB to RS-232 (serial) converter cable	○	
IP54-rated environmental case with shoulder strap	○	
Vehicle power adaptor	○	
DC 7.4V/2500 mAh Li-ion rechargeable battery	○	
Charger station 1 cell	○	

AMTDatasouth

Corporate Headquarters

803 Camarillo Springs Road, Suite-D
Camarillo, CA 93012
TEL: 800.215.9192
FAX: 805.484.5282
Web site: www.AMTDatasouth.com

Manufacturing/Service

5033 Sirona Drive, Suite-800
Charlotte, NC 28273
TEL: 800.476.2120
FAX: 704.525.6104