LabelMax SP2

Label Printer for extremely durable signs and labels.

User Manual

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INDUSTRY LABELS

1 General

1.1 Copyright Declaration

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1.2 Compliances

CE Class B:
EN55022: 1998+A1: 2000+A2: 2003
EN55024: 1998+A1: 2001+A2: 2003 IEC 61000-4 Series
EN61000-3-2: 2006 & EN61000-3-3: 1995+A1: 2001
FCC Part 15, Class B
UL, CUL
C-Tick:
CFR 47, Part 15/CISPR 22 3rd Edition: 1997, Class B
ANSI C63.4: 2003
Canadian ICES-003
TÜV-GS: EN60950: 2000

1.3 Introduction

Thank you for purchasing the LabelMax SP2 Thermal Transfer Label Printer. Although the printer takes only a small amount of space, it delivers reliable, superior performance.

This printer provides both thermal transfer and direct thermal printing at user selectable speed of 2.0 or 3.0 ips. It accepts roll feed and die-cut labels for thermal transfer printing. You will enjoy high throughput for printing labels by using this printer.

2 Getting Started

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 LabelMax SP2. Please retain the packaging materials in case you need to reship the printer.

2.2 Equipment Checklist

- LabelMax SP2
- SignMax DVD + Dongle
- USB port cable
- External universal switching power supply
- Power Cord
- Label Spindle
- Ribbon Spindle x2
- Ribbon Rewind Spindle paper core

If any parts are missing, please contact us.

2.3 Printer Parts

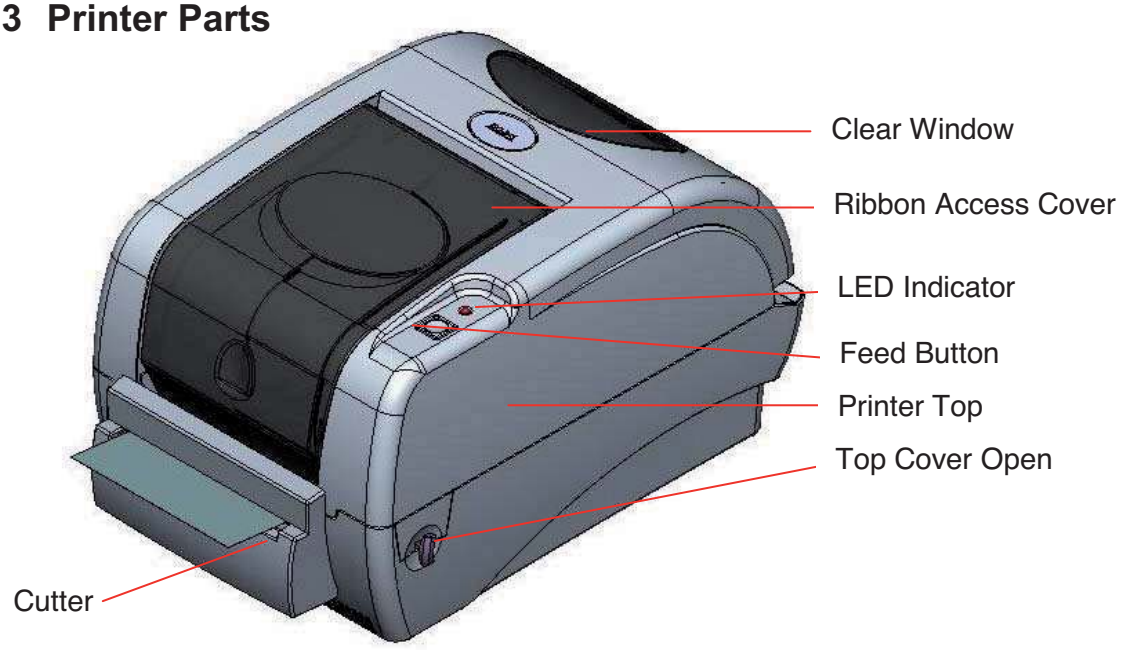
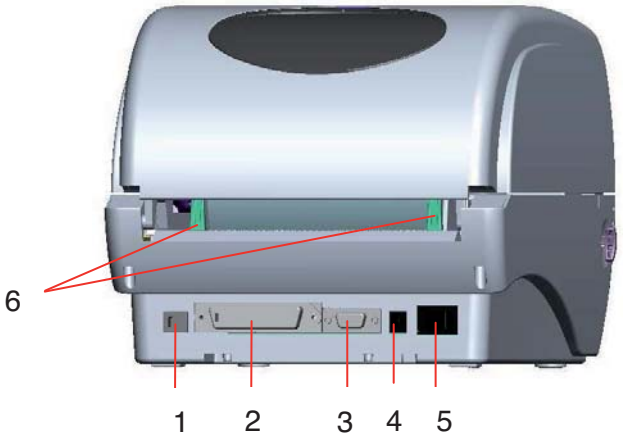


Fig. 1 Top front view



1 USB Interface
2 Centronics Interface
3 RS-232C DB-9 Interface
4 Power Jack
5 Power Switch
6 Rear Paper Guide

Fig. 2 Rear view

3 Setup

3.1 Setting up the Printer

- Place the printer on a flat, secure surface.
- Make sure the power switch is off.
- Connect the printer to the computer with the USB cable.
- Plug the power cord into the power supply connector at the rear of the printer, and then plug the power cord into a properly grounded receptacle.

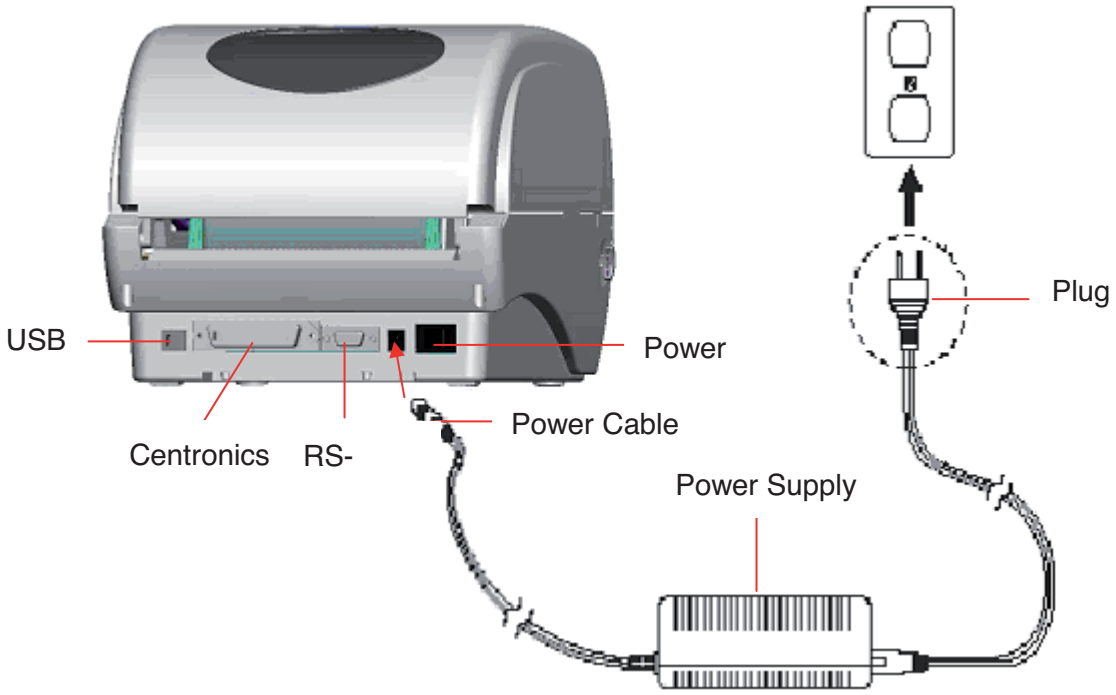


Fig. 3 Attach power supply to printer

3.2 Instructions to Top Cover Operation

Please take care when opening or closing the printer's top cover by carefully following these instructions.

To Open:

- When facing the front of the printer pull the cover release levers on both sides of printer towards you.
- Lift up the top gradually.
- There are two stop positions for the top cover. Position 1 and 2 are indicated on the label below.
- Note: To hold the cover open at position 1, you must lift the cover higher than the stopping point at position 1 and gently lower the cover to stop position 1. **DO NOT free fall the top cover!**

Fully open the top cover and gently lower it to stop position 2.

Fig. 1 Top cover support is fixed at position 2

To close the cover, lift up the top cover to the ultimate angle then close the top cover gently and it will be kept at a stop position between 1 and 2 for a while. Use both hands to gently push down the top cover to close it and make sure the cover is latched on both sides.

Note: DO NOT place your hands between top cover and lower cover while close the top cover!

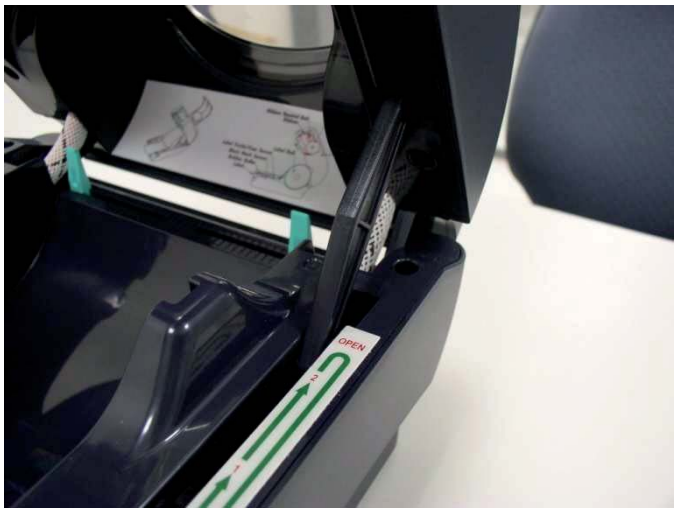


Fig. 2 Top cover is fully open and ready to close

Fig. 3 Use both hands to close the top cover

Do not force the cover! If you are not sure if top cover is fixed at stop position, please do not push top cover to close it or the top cover will be damaged.

Please open the top cover to the ultimate angle to close the top cover again. Use both hands to push top cover to close it.

3.3 Loading the Ribbon

The printer will detect if the ribbon is installed after switching power on and it will set printing mode to thermal transfer or direct thermal printing mode automatically. If printer does not detect the ribbon, the ribbon-take-up-motor will be turned off.

Make sure the printer top cover is engaged properly at both sides prior to powering up the printer.

Please follow the steps below to install the ribbon into printer:

- Push down the Ribbon Access Cover to unlatch and open the cover.
- Place a paper core onto the Ribbon-Rewind-Spindle.
- Mount the Ribbon-Rewind-Spindle paper core on the front hubs.
- Install a ribbon on the ribbon supply spindle.
- Mount the ribbon supply spindle on the rear hubs.
- Thread the ribbon leading tape downward pass the print head.
- Attach the ribbon leader to the ribbon rewind paper core.
- Rotate the ribbon rewind paper core until the ribbon leader is thoroughly, firmly encompassed by the black section of the ribbon.
- Close the ribbon access window.

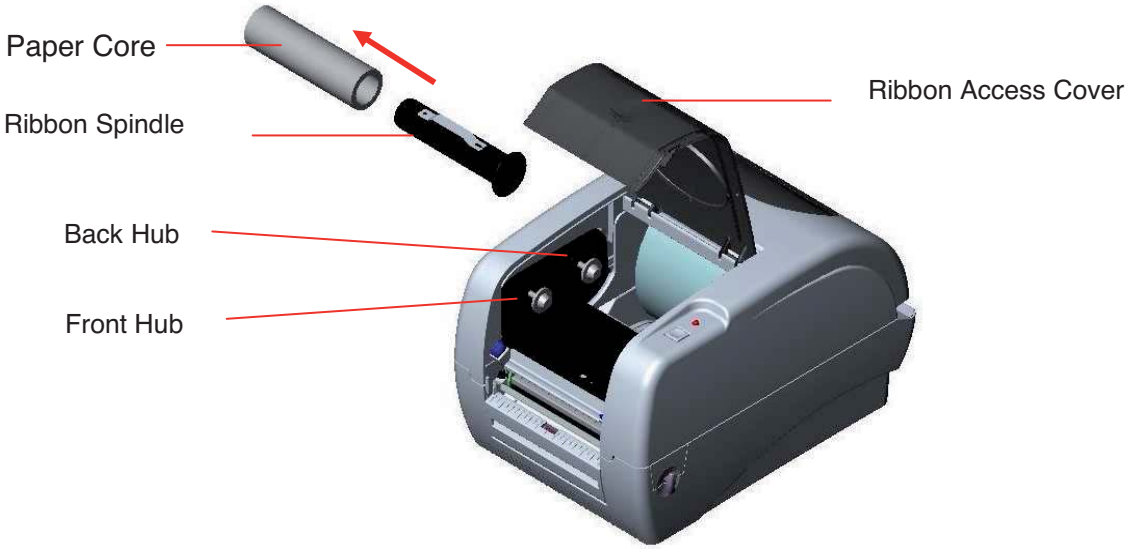


Fig. 4 Ribbon installation (I)

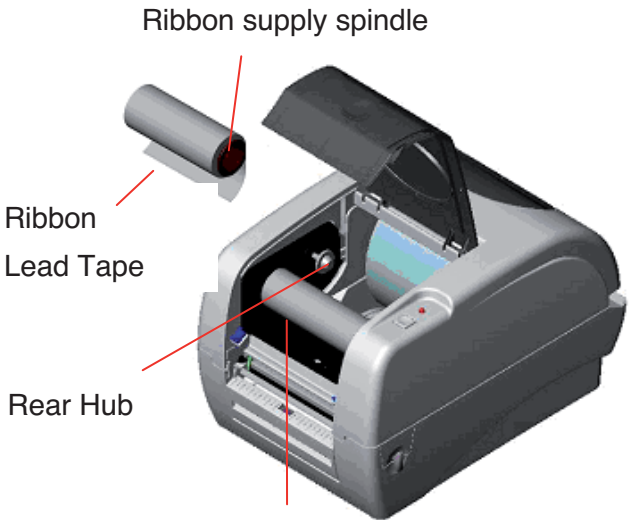


Fig. 5 Ribbon installation (II)

3.4 Loading Label Stock

Insert a label spindle into a paper roll.

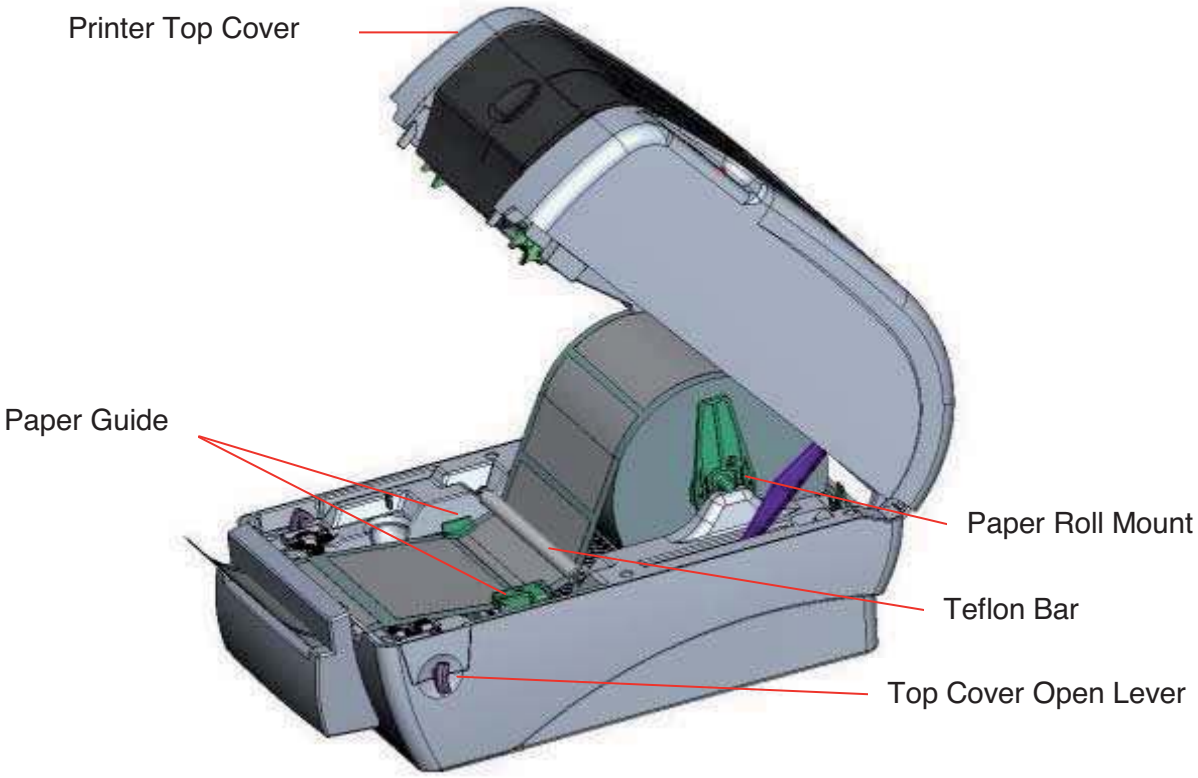
Open the printer's top cover by releasing the green top cover open levers located on each side of the printer and lifting the top cover. A top cover support at the rear of the printer will hold the printer top cover open.

Fig. 7 Pull the lever to open the cover

- Place a roll of paper onto the center of the paper roll mount.
- Feed the paper, printing side face up, through the Teflon bar and the paper guide and pass over the platen.
- Adjust the green center-biased paper guides to slightly touch the edges of the label backing.
- To close the printer top cover, lift the cover to the ultimate open angle then use both hands to close the cover gently. Close the printer top cover slowly and make sure the cover latches securely.

Note:

Make sure hands are not placed between printer top cover and lower cover when close the top cover. Do not free fall the top cover. Failure to securely close and lock the cover will result in poor print quality.



4 Power-On Utilities

There are six power-on utilities to set up and test printer hardware. These utilities are activated by pressing FEED button and by switching on the printer power simultaneously. The utilities are listed as below:

- Ribbon sensor calibration and Gap or black mark sensor calibration
- Gap/black mark sensor calibration；Self-test and dump mode
- Printer initialization
- Set black mark sensor as media sensor and calibrate the black mark sensor
- Set gap sensor as media sensor and calibrate the gap sensor

4.1 Ribbon and Gap/Black Mark Sensor Calibration

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

- A brand new printer
- Change label stock.
- Printer initialization.

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

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

It will calibrate the ribbon sensor and gap/black mark sensor sensitivity.
The LED color will be changed as following order：

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

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

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

Please follow the steps below to calibrate the sensor.

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

The LED color will be changed as following order.

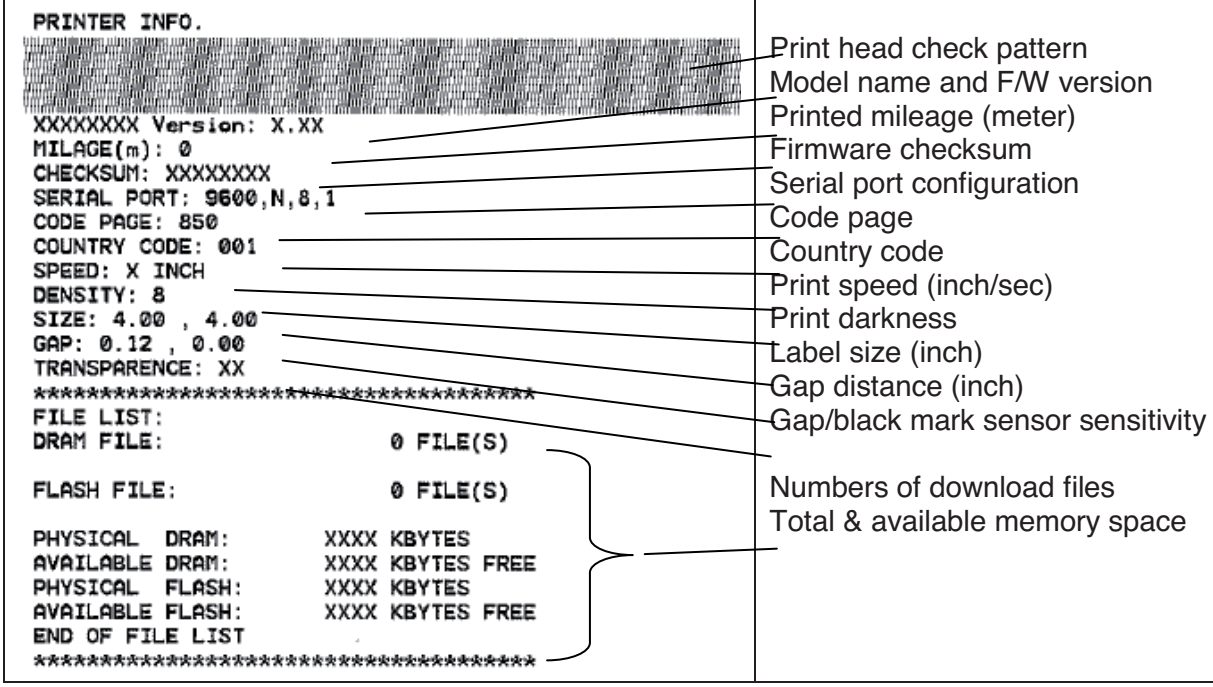
Amber → red (5 blinks) → **amber (5 blinks)** → green (5 blinks) → green/amber (5 blinks) → red/amber (5 blinks) → solid green

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

4.3 Self-test

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

Self-test printout



4.4 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.

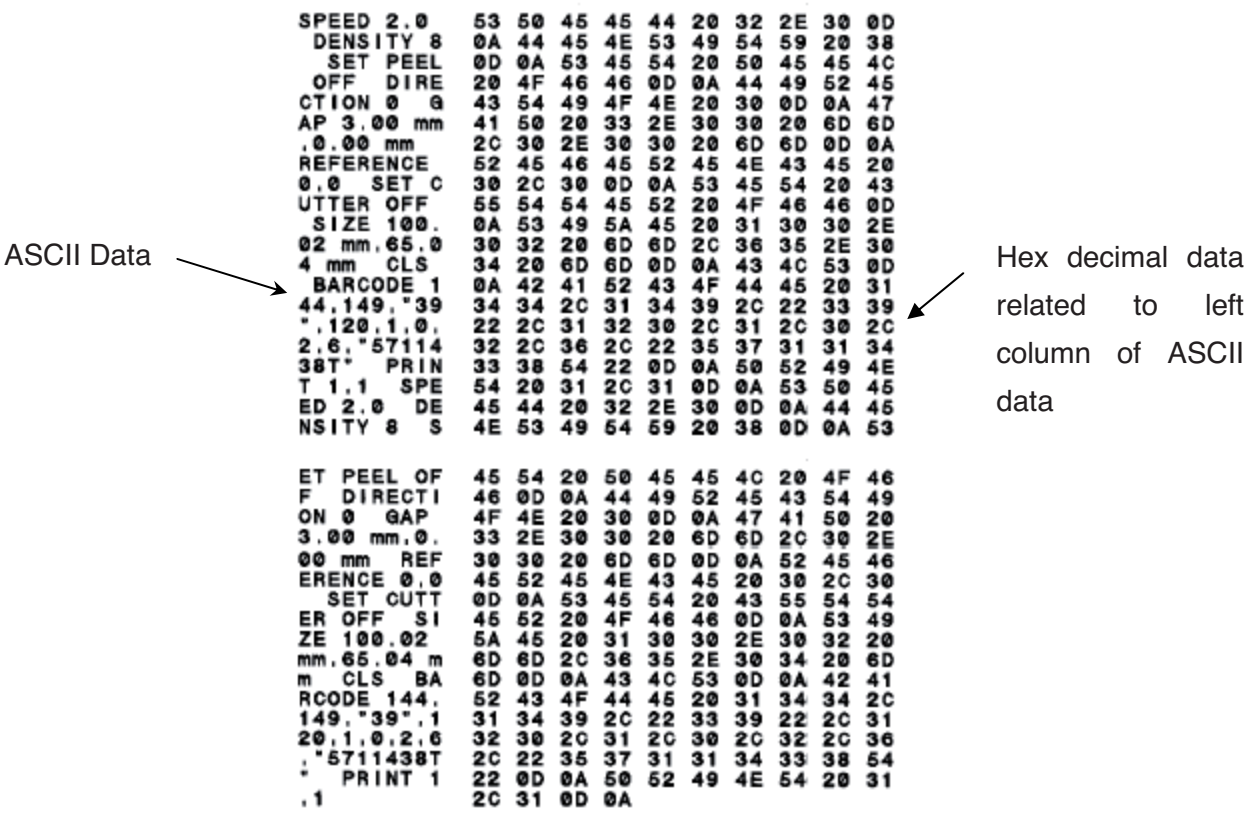


Fig. 30 Dump mode printout

Note:

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

4.5 Printer Initialization

Printer initialization is used to clear DRAM and restore printer settings to defaults. The only one exception is ribbon sensitivity, which will note be restored to default.

Printer initialization is activated by the following procedures.

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

The LED color will be changed as following:

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

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

Parameter	Default setting
Speed	203DPI :127 mm/sec (5 ips) 300DPI: 76 mm/sec (3 ips)
Density	8
Label Width	4” (101.6 mm)
Label Height	4” (101.6 mm)
Sensor Type	Gap sensor
Gap Setting	0.12” (3.0 mm)
Print Direction	0
Reference Point	0,0 (upper left corner)
Offset	0
Tear Mode	On
Peel off Mode	Off
Cutter Mode	Off
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

Note：

Always do gap/black mark sensor calibration after printer initialization.

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

Please follow the steps as below.

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

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

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

Please follow the steps as below.

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

The LED color will be changed as following:

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

5 Maintenance

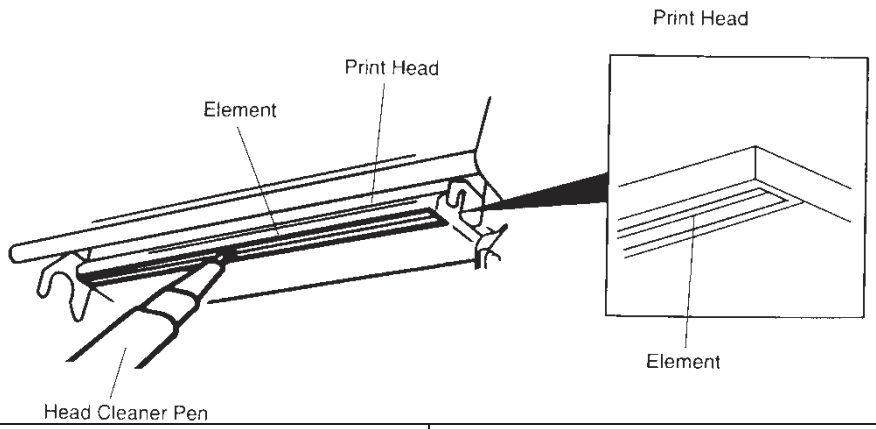
5.1 Cleaning

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

Please use one of following material to clean the printer.

- Cotton swab (Head cleaner pen)
- Lint-free cloth
- Vacuum / Blower brush
- 100% ethanol

The cleaning process is described as follows

<table>
<tr><th>Printer Part</th><th>Method</th><th>Interval</th></tr>
<tr><td rowspan="2">Print Head</td><td>1. Always switch off the printer before cleaning the print head.
2. Allow the print head to cool down for a minimum of one minute.
3. Use a cotton swab (Head cleaner pen) and 100% ethanol 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. Switch the power off.
2. Rotate the platen roller and wipe it thoroughly with 100% ethanol and a cotton swab, or lint-free cloth.</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 required</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 required</td></tr>
<tr><td>Interior</td><td>Brush or vacuum</td><td>As required</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% Ethanol. 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

6 Troubleshooting

The following guide lists the most common problems that may be encountered when operating this label 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.

6.1 LED Status

This chapter lists the common problems that according to the LED status and other problems you may encounter when operating the printer. Also it provides solutions.

LED Status / Color	Printer Status	Possible Cause	Recovery Procedure
OFF	No response	No power	* Switch on the power switch. * Check if the green LED is lit on power supply. If it is not lit on, power supply is broken. * Check both power connections from the power cord to the power supply and from the power supply to the printer power jack if they are connected securely.
Solid Green	ON	The printer is ready to use	* No action necessary.
Green with blinking	Pause	The printer is paused	* Press the FEED button to resume for printing.
Red with blinking	Error	The out of label or ribbon or the printer setting is not correct	1. Out of label or ribbon * Load a roll of label and follow the instructions in loading the media then press the FEED button to resume for printing. * Load a roll of ribbon and follow the instructions in loading the ribbon then press the FEED button to resume for printing. 2. Printer setting is not correct * Initialize the printer by instructions in “Power on Utility” or “Diagnostic Tool”.

Note:

Printer status can be easily shown on the Diagnostic Tool. For more information about the Diagnostic Tool, please refer to the instruction in the software CD disk.

6.2 Print Quality

Problem	Possible Cause	Recovery Procedure
Not Printing	Check if interface cable is well connected to the interface connector.	Re-connect cable to interface.
	The serial port cable pin configuration is not pin to pin connected.	Please replace the cable with pin to pin connected.
	The serial port setting is not consistent between host and printer.	Please reset the serial port setting.
	The port specified in the Windows driver is not correct.	Select the correct printer port in the driver.
	The Ethernet IP, subnet mask, gateway is not configured properly.	Configure the IP, subnet mask and gateway.
No print on the label	Label or ribbon loaded not correctly.	Follow the instructions in loading the media or loading the ribbon.
	Ribbon run out.	Loading the ribbon.
Continuous feeding labels	The printer setting may go wrong.	Please do the initialization and gap/black mark calibration.
Paper Jam	Gap/black mark sensor sensitivity is not set properly (sensor sensitivity is not enough)	Calibrate the gap/black mark sensor.
	Make sure label size is set properly.	Set label size exactly as installed paper in the labeling software or program.
	Labels may be stuck inside the printer mechanism near the sensor area.	Remove the stuck label.
Poor Print Quality	Top cover is not closed properly.	Close the top cover completely and make sure the right side and left side levers are latched properly
	Check if supply is loaded correctly.	Reload the supply.
	Ribbon and media are incompatible.	Change the ribbon or label combination.
	Check if dust or adhesives are accumulated on the print head.	Clean the print head.
	Check if print density is set properly.	Adjust the print density and print speed.
	Check print head test pattern if head element is damaged.	Run printer self-test and check the print head test pattern if there is dot missing in the pattern.

6.3 LED Status Codes

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