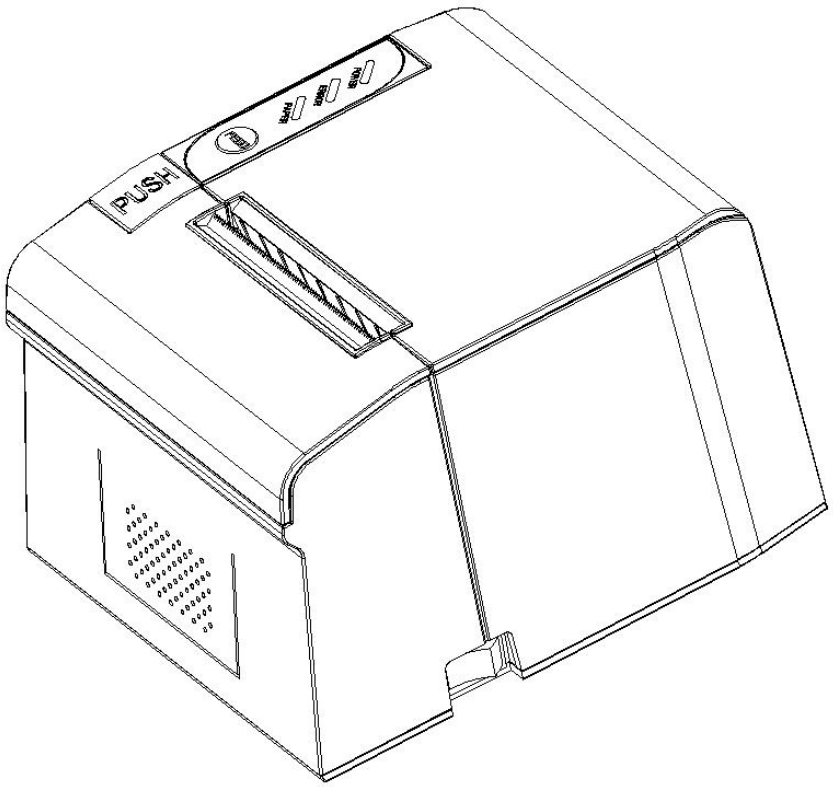
SPRT®

POS Thermal Receipt Printer

(SP-POS893)



User's Manual

（Ver 1.02）

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www.sprt-printer.com

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Introduction

SP-POS893 printer is a new type line thermal printer, it features in fast speed print, low print noise, high reliability, perfect print quality and ribbon needless, avoiding the vexation of regular maintenance.

SP-POS893 printer: small in outline dimension, simple operation, and extensive application, especially suitable for commercial cash register, PC-POS, bank POS and all kinds of receipts print.

Warning

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

Chapter 1 Feature and Performance

1.1 Print Performance

- Print method: direct thermal
- Print paper width: 79.5±0.5mm
- Print density: 8 dots/mm, 576 dots/line
- Print speed: Max 220mm/s (20% density)
- Reliability

(1)Print Head Life:150km

Using condition:

* Print 12 × 24 ASCII characters, print 50 lines each time, intermittent print repeatedly
* Use specified thermal paper

(2)Cutter Life: 1500,000 cuts

- Valid print width: 72mm

1.2 Print Paper

- Thermal paper roll model: TF50KS－E (Japan paper co.ltd)
  AF50KS-E (JUJO THERMAL)
- Thermal paper roll: Paper Type－－Thermal Paper 79.5 xΦ80mm（max）
  Inner Diameter－－－13mm (min.)
  Thickness　－－－ 0.06mm～0.08mm

1.3 Print Font

- ANK Character Set
  12×24 dots,1.5（W）×3.00（H）mm
- GB GB2312-80(Chinese):
  24×24 dots,3.00（W）×3.00（H）mm.

1.4 Interface

- Ethernet Interface:
  Standard Ethernet interface.
- USB Interface:
  Standard USB interface
- Cash Drawer Control
  DC24V, 1A, 6-pin RJ-11 socket.

1.5 Print Control Commands

- Character print commands: support double-width, double height print of ANK characters, user-defined characters and Chinese characters, the character line spacing is adjustable.
- Graphics print commands: support the print of bit-map graphics and download

bit-map graphics with different density

● GS bar code print commands:

support UPC-A, UPC-E, EAN-13, EAN-8, CODE39, ITF25, CODEBAR, CODE93, CODE128, PDF417, QR code, DATA Matrix code print.

1.6 Power Supply

● DC24V±10％, 1.5A, A-1009-3P power socket

1.7 Operation Environment

● Operation temperature: 5～50℃; Relative humidity: 10～80％

● Storage temperature: -20～60℃; Relative humidity: 10～90℃

1.8 Outline Dimension

● 179(L)mm×152(W) mm×118 (H)mm

1.9 Model classification

Model	Interface	Print speed (Max)
SP-POS893Udn	USB	200mm/s
SP-POS893UEdn	USB, 100M Ethernet	

Chapter 2 Operation Specification

2.1 Printer Appearance

Printer part name diagram:

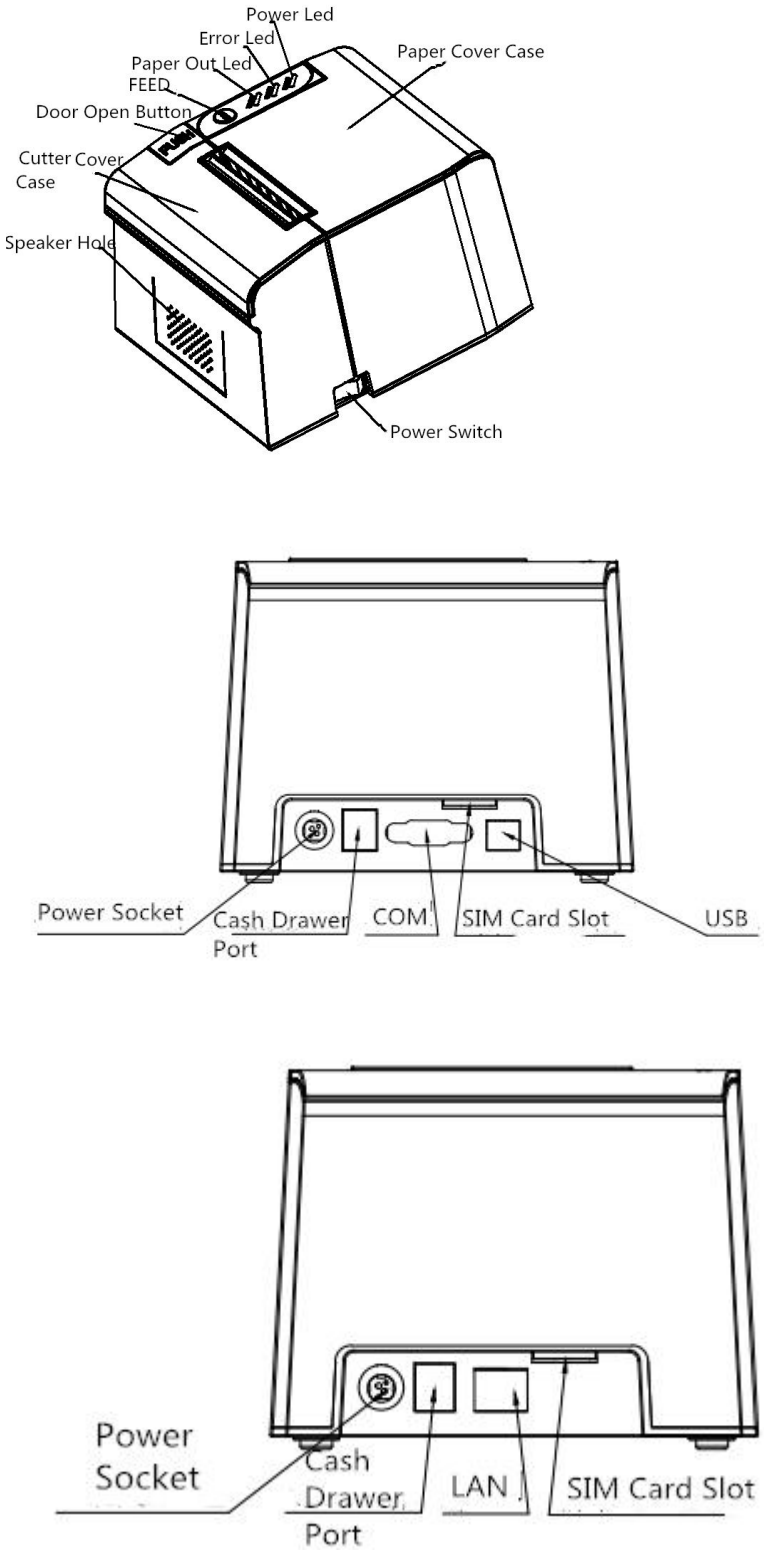


Figure 2-1 Printer Part Name Diagram

2.2 Paper Installation

2.2.1 Paper Loading

Steps of Loading Thermal Paper are as below:

Hold down the upper cover button on the left side, open the movable upper cover, draw a certain length of the paper roll, put the paper end on the print head, close the upper cover and press it downwards lightly.

! Caution!

1. Pay attention to the direction of loading paper, make the printing surface face to the print head.
2. Please don't feed or draw the paper forwards or backwards with hands.
3. Keep clean of the print head, avoid to influence the printing quality.

2.2.2 Solution to Paper Jam

If cutter jam, turn off the power, and turn on again, the cutter will be back to original position. If paper jam, open the paper strage cover, and take out the paper. If the cutter can not be back to the original position, open the cover of it, and turn the white plastic gear by the direction suggestive on the cutter by hand to make the cutter be back to the original position.

If cutter jam, but hope no loss of data in printer, don't turn off the power. Get the cutter back to the original position by the above mentioned method by hand. Then open the paper cover and take out the paper, close the paper cover. The printer will recover automatically from Cutting Error.

2.3 Interface

2.3.1 Ethernet Interface

The model with Ethernet interface use RJ45 Network socket. The appearance is as Fig.2-1 shows:

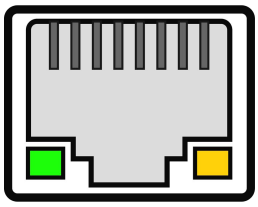


Fig 2-1 Ethernet Interface

2.3.2 USB Interface

The standard accessories of SP-POS893 printer includes a Mini USB cable with D Type connector which connects printer and main device. The USB type belongs to the slave device type(DEVICE). Pins description of Mini-USB as Fig.2-2 below:

Fig.2-2 USB interface

Pin	Function	Notes
1	V Bus	Power +5V
2	Data-	Data-
3	Data+	Data+
4	GND	Ground

2.3.3 Cash Drawer Interface

The cash drawer interface of SP-POS893 adopts RJ-11 6-pin socket, as Fig.2-3 shows:

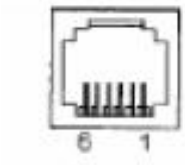


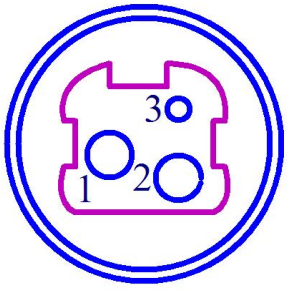
Fig.2-3 Cash Drawer Interface

The pin assignment is as below:

Pin No.	Signal	Direction
1	Chassis Ground	——
2	Cash drawer driver signal 1	Out
3	Cash drawer on/off status signal	In
4	+24VDC	——
5	Cash drawer driver signal 2	Out
6	Signal ground	——

2.3.4 Power Connection

SP-POS893 uses the external power supply adopter as 24V±10％,1.5A, power socket is A-1009-3P model, as Fig. 2-4 shows:



The pin assignment is as below:

Pin No.	Signal
1	+24VDC
2	Ground
3	NC

Fig.2-4 Definition of power socket and pin

2.4 Buzzer, Buttons and Indicators

There is one button and one inner buzzers and three indicators on SP-POS893 printer.

【FEED】is paper feeding button, the function of its enabling or disabling the button on/off can be set by print command, when the button is enabled, press 【FEED】 button, then the paper presenting driver starts up and paper fed into the printer; release【FEED】 button, paper feeding stops.

The buzzer indicates the error status type, which can be set to enabling error alarm or disabling by parameter setting. Error status type is the same as error indicator.

The green POWER indicator light is the power indicator, and the POWER indicator light is on to indicate that the printer has been turned on.

The red PAPER indicator is the paper status indicator, and when the indicator is on, the printer is out of paper.

The red ERROR indicator light is an error status indicator, and the indicator light is always on to indicate an error status, such as opening the cover. For details, refer to "Error Indication Table"

ERROR is a red/blue dual-color indicator light, used to remind error status/incoming order detection. When the printer is working normally, the red ERROR indicator light is off. The indicator light flashes as an abnormal alarm state. When the indicator light stays on, it means not printing The paper compartment cover was opened during the process. The blue indicator light flashes to indicate an order reminder.

The order reminder indicator flashes, and the buzzer sounds 3 times: reminding the order.

The error indicator flashes and the buzzer sounds: it means that the printer has an error.

According to different flashing methods, indicate the type of printer error:

1. Unrecoverable errors. The number of flashes of the indicator light and the number of buzzers indicate the type of error, and it will stay on for a period of time.

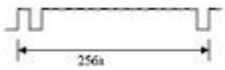
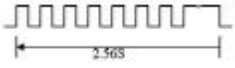
2. The error can be recovered. The number of flashes of the indicator light and the number of buzzers indicate the type of error, and then it will stay off for a while.

3. Automatic recovery of errors, the indicator light flashes continuously, and the buzzer sounds continuously.

4. When there is no paper, the paper short light will be on and the buzzer will beep for a long time. When the printer paper compartment cover is opened, it will no longer detect whether the printer is out of paper, but only detect whether there is paper.

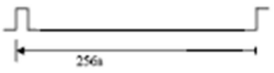
The error indication is as follows

①Non-recoverable error, the indicator flickers several times, then persistent lighting. The times of flickering means the error type,

ERROR Type	ERROR Description	ERROR Indicator Flickering Type
Non-recoverable error	LED Flickers once:Internal memory reading and writing error	
	LED Flickers twice:over-voltage	
	LED Flickers three times:under-voltage	
	LED Flickers four times: CPU execution error (wrong address)	
	LED Flickers five times: UIB error	
	LED Flickers six times: FLASH writing error	
	LED Flickers seven times: parameter writing error	
	LED Flickers eight times: Temperature testing circuit error	

②Recoverable error, indicator flickers constantly, then persistent off for one period.

ERROR Type	**ERROR Description**	**ERROR Indicator Flickering Type**

Recoverable error	LED Flickers once:Cutter position error	

③Auto-recoverable error, indicator flickers constantly, including printing head over-heat error and upper case cover opening error during printing.

ERROR Type	ERROR Description	ERROR Indicator Flickering Type
Auto-recoverable error	LED Flickers constantly: printing head over-heat; upper case cover opening error during printing	

2.5 Power on status

Paper cover close when power off. Press the power button, the error indicator and paper out indicator flash twice alternately and out, then printer will be on the normal working mode.

2.6 Self-test

The self-test will check the condition of printer, if the printer prints out the self-test receipt correctly, it means the printer works normally, except interface with host. Otherwise it needs to repair.

The self-test will print out the name of manufacturer, printer type, software version, interface type and printer defaulted parameter, 96 characters in ASCII and defaulted Code page content(the language is English) or the name of Chinese characters library(if the language is Chinese) and Bar code type.

Way of self-test: hold down【FEED】button and turn on the power, self-test begins automatically at this moment.Different model of the printer have a little different parameters on self-test. SP-POS893UEdn model printer self-test as Fig.2-5 shows

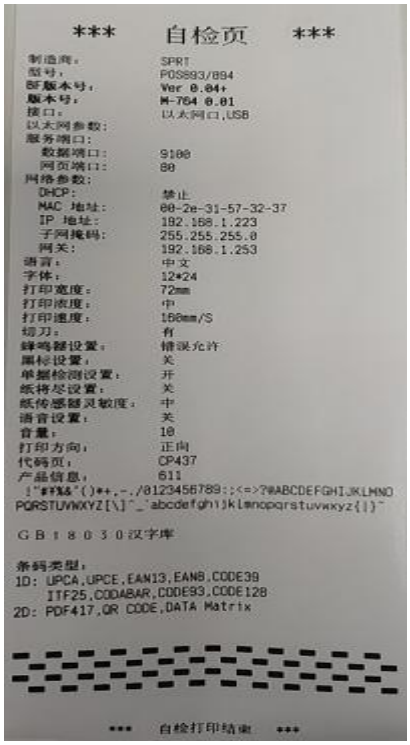


Fig.2-5

2.7 Hexadecimal Printing

Turn on the printer according to the step below, it will enter the mode of Hexadecimal Printing

1.Open the cover;

2.Hold down【FEED】button,and connect with power; wait for the alarm and close the paper cover.

3.The printer will print out 3 lines as below:

Hexadecimal Dump

To terminate hexadecimal dump,

Press FEED button three times.

This means the printer has entered hexadecimal printing mode, and under this mode, all of the input will be printed out as hexadecimal number, feed one line with single-click of “FEED” button, after 3 times, it will print out “*** Completed ***”, and exit hexadecimal printing mode.

2.8 Parameter Setting

There are two ways to set printer parameters:

1. Use the setting tool on the PC side for setting.

2. Set by the button, the specific operation method is as follows.

In the shutdown state, first open the [paper compartment cover], press and hold the [FEED] key, then turn on the power switch, and release the [FEED] key after the status indicator and the out of paper indicator flash alternately. Press the [FEED] key twice, and then close the [paper compartment cover]. The printer enters the parameter setting mode, and prints out the first settable parameter and its current set value. Please refer to Appendix A for detailed setting methods.

Exit the parameter setting method: first open the [paper compartment cover], then press and hold the [FEED] key, then close the [paper compartment cover] and release the [FEED] key to save the set parameter value and exit the parameter setting mode. Enter normal working mode.

If the printer is turned off directly, the set parameter values will not be saved.

Note: SP-POS893Udn does not support button setting.

2.9 Enter the program upgrade mode

In the shutdown state, first open the [paper compartment cover], press and hold the [FEED] key, then turn on the power switch, and release the [FEED] key after the status indicator and the out of paper indicator flash alternately. Then press the [FEED] key five times (USB interface support, the network port is directly upgraded in web mode), and then close the [paper compartment cover]. The printer enters the program upgrade mode. At this time, the status indicator flashes at a rate of about 1 second.

Quick access method: In the shutdown state, first open the [paper compartment cover], press and hold the [FEED] key, turn on the power switch, and then quickly release the [FEED] key. The printer enters the program upgrade mode. At this time, the status indicator flashes at a rate of about 1 second.

Note:

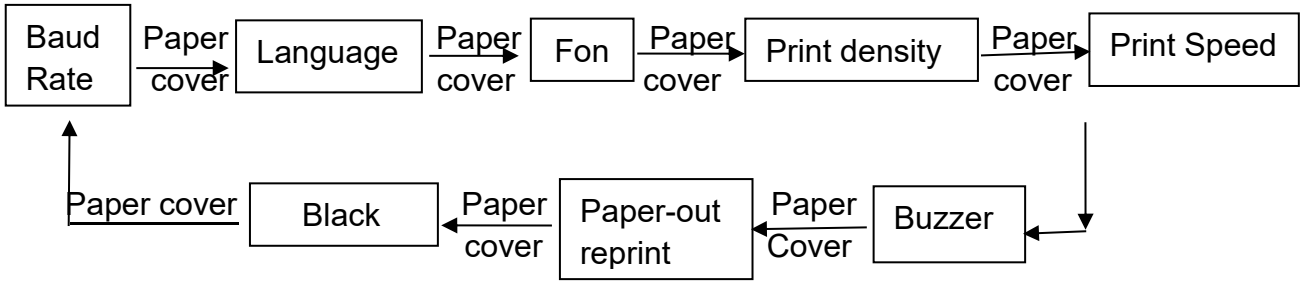
1. When entering the upgrade mode, the out of paper indicator light is on to indicate that the interface cannot be upgraded.

Appendix A

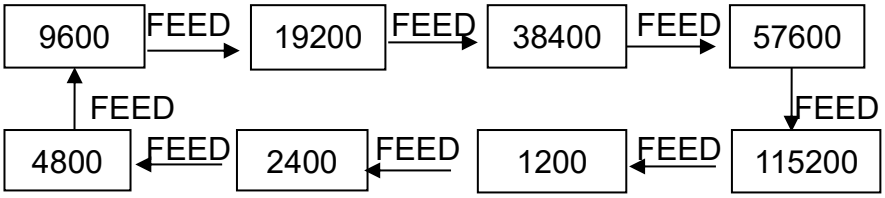
This appendix is the method to set the printer parameter according to button operation.

Setting introduction: Press【Paper cover】button to choose setting,when press it once , the set become the next one and it will print the present set value; use【FEED】button to set the set value, when press it once , the set become the next one and it will print the present set value.

General Setting:

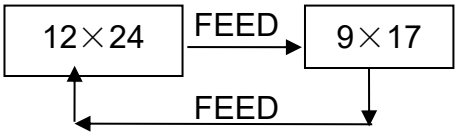


Baud rate:

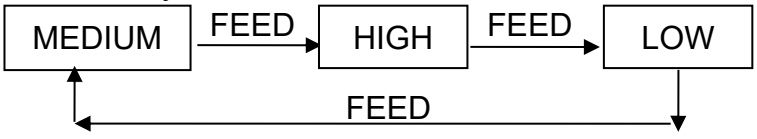


Language:

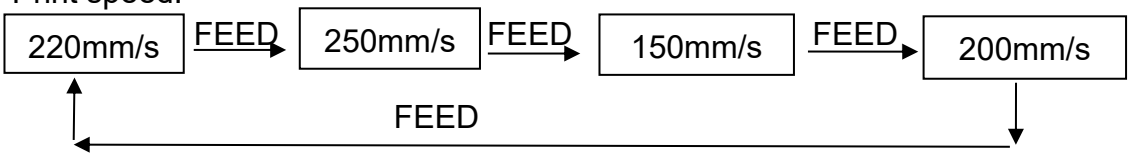
Font:



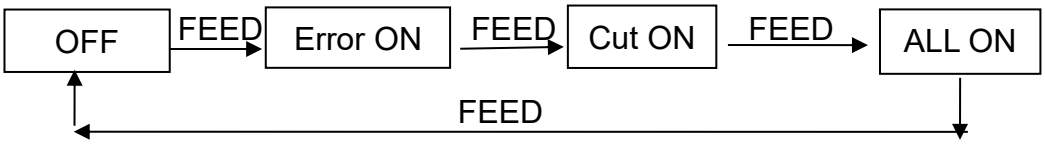
Print density:



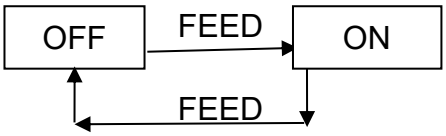
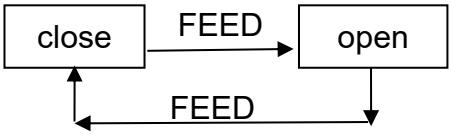
Print speed:



Buzzer:



Paper-out reprint:



Black mark mode: