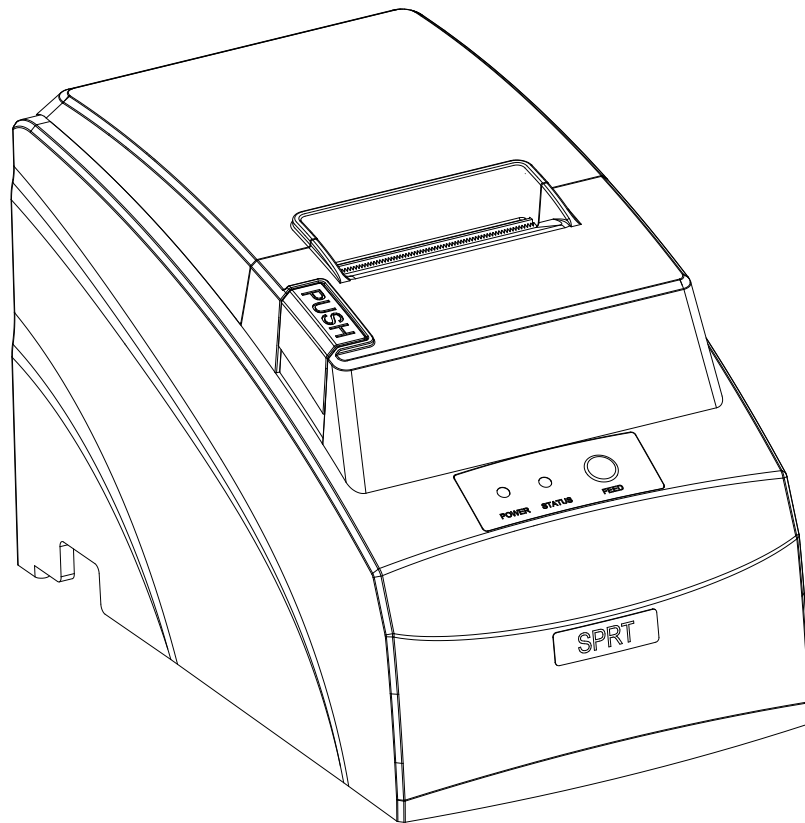# SPRT

SP－POS58VI
Thermal Printer

User's Manual
（**VER1.02**）

Beijing Spirit Technology Development Co, Ltd.

www.sprt-printer.com

Content

Introduction

SP- POS58VI 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-POS58VI 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

Chapter 1 Characteristic and Specification

1.1 Printing specification

- Printing method: direct thermal
- Printing paper width: 57.5±0.5mm
- Printing density: 8 dots/mm, 384 dots/line
- Printing speed: max 70mm/s (valid content of each line isn't over 25%)
- Reliability:
  Printing head life: 60km
  Using condition:
  ＊ Print 12 × 24 ASCII characters, print 50 lines each time, intermittent print repeatedly
  ＊ Each dot-line printing at the same time should not exceed 25%, each character-line and one dot vertically printing repeatedly should not exceed 11 times
  ＊ Use specified thermal paper
- Valid printing width: 48mm

1.2 Printing Paper

- Paper Type: Thermal Paper 57.5±0.5mmx Φ80 mm（MAX）
- Paper Thickness －－－－－ 0.06-0.08mm

1.3 Printing Font

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

1.4 Interface

- RS232 interface:
  DB25 socket (female), supports XON/XOFF and RTS/CTS protocol
  Baud rate: 1200-115200bps adjustable.
  Data structure: one start bit + 7 or 8 data bits + one stop bit
- Parallel interface:
  DB25 socket (male), 8-bit parallel interface, supports BUSY/ACK handshaking protocol, TTL.
- USB interface:
  Standard B type USB interface.
- Cash drawer control
  DC12V,1A,6-pin RJ-11 socket.

1.5 Printing Control Command

● Character print command: supports double width and double height printing of ANK characters, user-defined characters and Chinese characters, the character line spacing is adjustable.

● Graphics print command: supports the printing of bit map graphics with different density

● GS bar code print command: supports 1D Barcode: UPC-A、UPC-E、EAN-13、EAN-8、CODE39、ITF25、CODABAR、 CODE93、CODE128; 2D Barcode: PDF417, QRCODE, DataMatrix

1.6 Power Supply

● DC12V±10％,2A(one core)

1.7 Operation Environment

● Operation environment temperature: 0～50℃
  Relative humidity: 10～80％
● Storage temperature: -20～60℃
  Relative humidity: 10～90%

1.8 Outline Dimension&Weight

●Dimension: 205(L) X 118 (W) X129 (H) mm

●Weight: 770g (not including paper roll)

Chapter 2 Installation and Operation

2.1 Printer Appearance

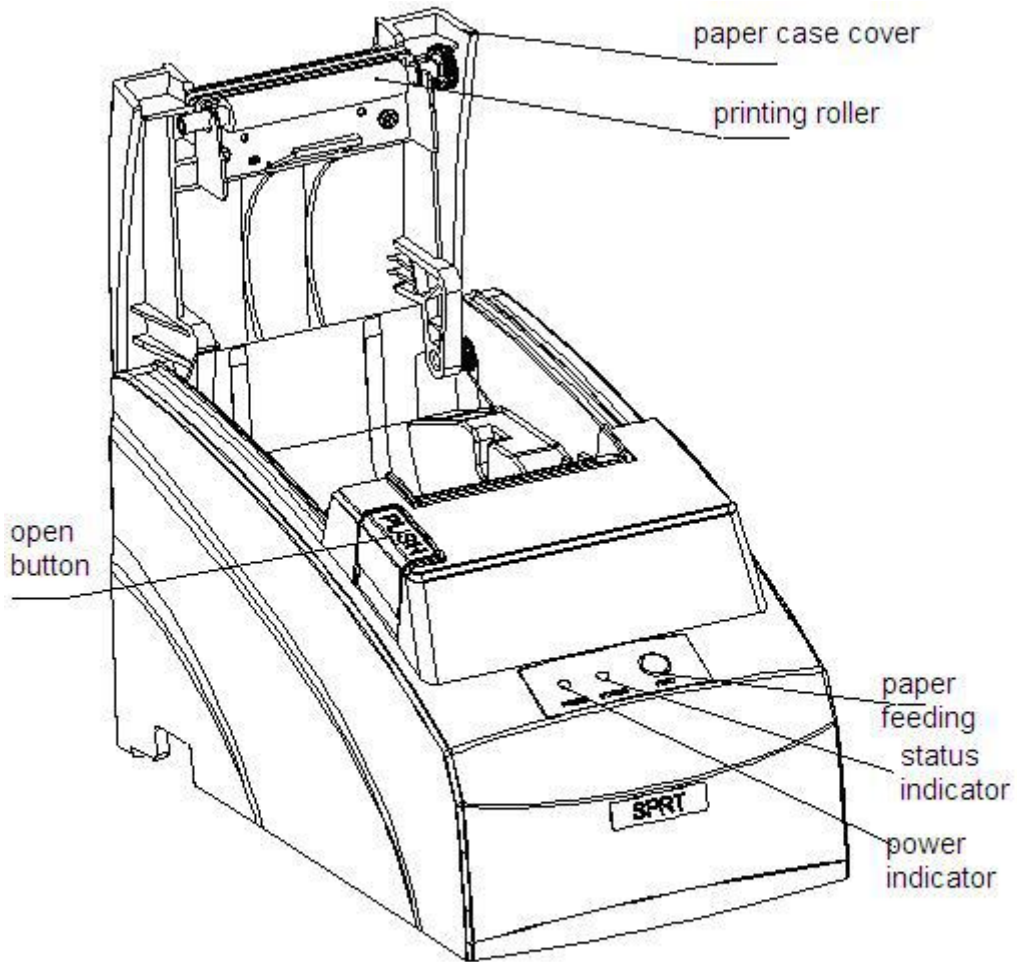paper case cover

printing roller

open button

paper feeding

status indicator

power indicator

Fig2-1 Printer outer appearance

cash drawer interface
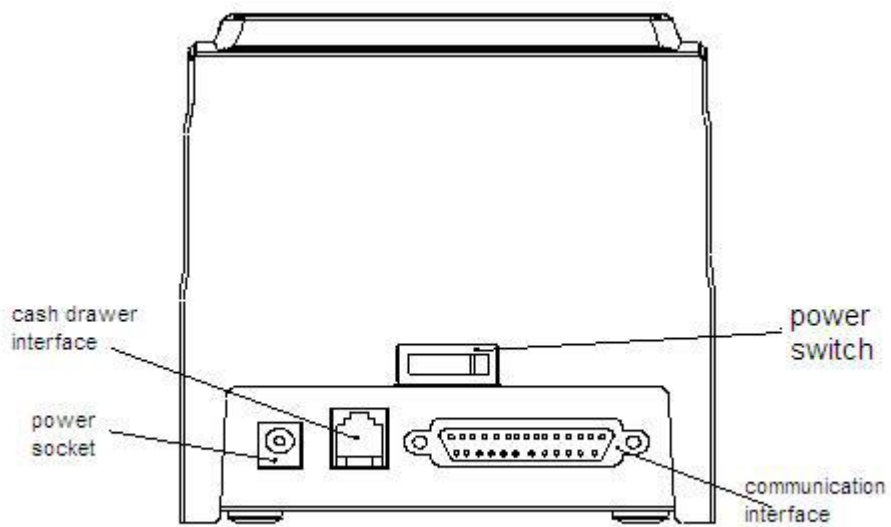
power switch

power socket

communication interface

Fig2-1 Printer outer appearance (back)

2.2 Paper Installation

SP-POS58VI adopts 58mm width thermal paper.

The steps of thermal paper installation are as the following:

1. When there is no paper in the print head, pls don't press【FEED】button to avoid affecting the life of printing head. Opening open button to open the case cover and change paper.
2. After paper case cover is closed, pls do not draw the paper forwards or backwards with hands.

2.3 Interface Connection

2.3.1 RS232 Interface Connection

The RS232 interface of SP-POS5VI printer is compatible with RS232C standard, supports RTS/CTS and XON/XOFF handshaking protocol, it uses DB25 socket (female), the pin order of the RS232 port is as below:
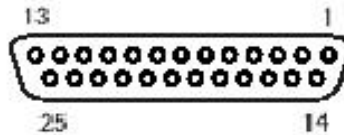

Fig. Pin Order of the Serial Port

The pin assignment of RS232 interface is shown as below:

Pin No.	Signal	Source	Description
2	RXD	Host	Printer receives data from host
3	TXD	Printer	Printer transmits control code X-ON/X-OFF and data to host
5	CTS	Printer	Signal "MARK" indicates that the printer is "BUSY" and unable to receive data; "SPACE" indicates that the printer is "READY" for receiving data.
6	DSR	printer	When this signal is "SPACE", it means the printer "online".
7	GND	—	Signal Ground
8	DCD	printer	The same as signal "CTS"

Fig. Pin Assignment of Serial Interface

Note: ①"Source" denotes the source that signal comes from;

② Logical signal level is EIA.

The baud rate and data structure in RS232 interface mode are set to 9600bps, 8 data

bits, no parity bit and 1 stop bit.
The serial interface of SP-POS58VI can be connected with standard RS-232C interface. When connected to IBM PC or compatible machine, connection can accord to the below.
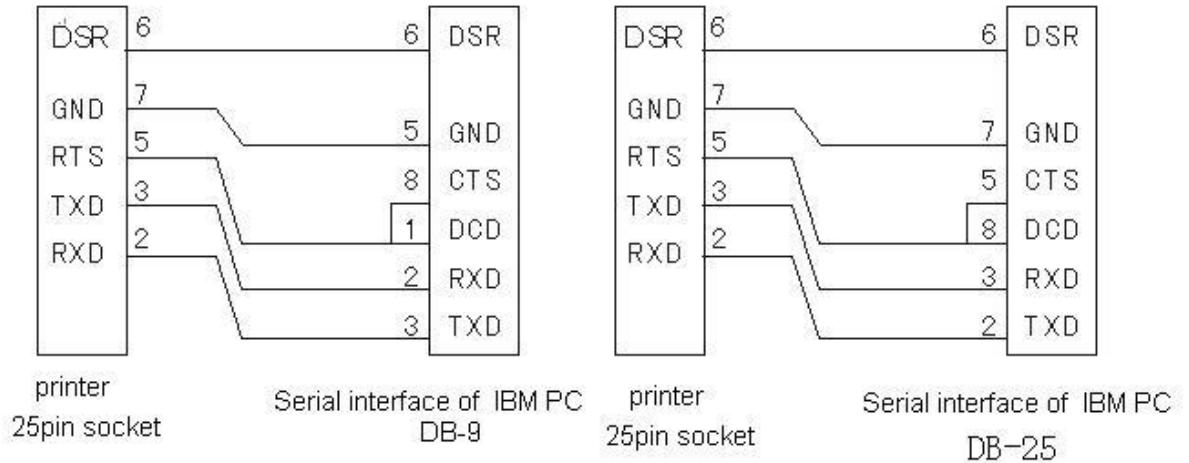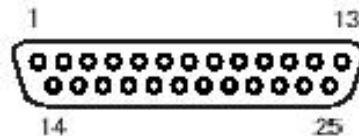

Fig. Connection between SP-POS58VIS and IBM PC Serial Interface

2.3.2 Parallel Interface Connection

The Parallel interface of SP-POS58VI printer is compatible with CENTRONICS, supports BUSY and /ACK handshaking protocol, it uses DB25 socket (male), the pin order of parallel port is as below shows:

Pin Order of Parallel Port

The pin assignment of parallel interface is shown as below:

Pin No.	Signal	Direction	Description
1	/STB	In	Strobe pulse to latch data, reading occurs at raising edge.
2 3 4 5 6 7 8 9	DATA1 DATA2 DATA3 DATA4 DATA5 DATA6 DATA7 DATA8	In In In In In In In In	These signals represent the 1st bit to 8th bit of the parallel interface data, each signal is at HIGHT level when data is logic 1, and LOW when data is logic 0.

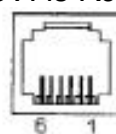| 10 | /ACK | Out | Answer pulse, LOW level signal indicates that data have already been received and the printer gets ready to receive the next data. |
11	BUSY	Out	HIGH level signal indicates that the printer is BUSY and can not receive data.
12	PE	Out	HIGH level signal indicates that paper is end.
13	SEL	Out	Pulling up to HIGH level signal by a resistor indicates the printer is online.
15	/ERR	Out	Pulling up to HIGH level signal by a resistor indicates there is no error.
14,16,1719	NC	---	No connection
18, 20-25	GND	---	Grounding logical 0 level

Fig. Pin Assignment of Parallel Interface

Note: （1）"In" denotes inputting to the printer,"Out" denotes outputting from the printer.
（2）Signal level is TTL standard.

2.3.3 USB Interface

Standard B type USB interface

2.3.4 Cash Drawer Interface

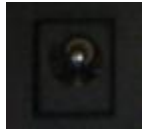The cash drawer interface of SP-POS58VI is RJ-11, 6pin socket, as below,

The pin assignment of the cash drawer interface is as follows:

Pin No.	Signal	Direction
1	Chassis Ground	---
2	Cash drawer driver signal	Out
3	Cash drawer on/off status signal	In
4	+12V DC	Out
5	N.C	---
6	Cash drawer on/off status signal ground	---

2.3.5 Power Connection

SP-POS58VI uses external power supply as 12VDC±10％, 2A, one core model, as below:

2.4 Buttons and Indicators

2.4.1 Power switch

Control on/off status of power. ▭ is off status. Press "-" is on status.

2.4.2 Feed Button

【FEED】is paper feed button. Print command can enable or disable 【FEED】 status to be on or off. Under enable status, hold down【FEED】, start paper feeding, release the button paper feeding stops.

2.4.3 Opening Upper Cover Button

Hold down opening upper cover button to open the case cover.

2.4.4 Power indicator light

If the power is on, the power indicator light will be on.

2.4.5 Status Indicator light and Buzzer

During normal working, red STATUS light is off. If the working status is abnormal, the red indicator light will flicker to alarm error. Setting Buzzer can also alarm the abnormal working status.

Light status	Buzzer status	Printer Working status
Off	Off	Normal

Flicker 1 time and stay 1s off	Alarm 1 time and stay 1s off	Paper out and waiting for loading paper
Flicker 2 times and stay 1s off	Alarm 2 times and stay 1s off	Print head is overheated and just waiting for back to normal temperature.
Flicker 3 times and stay 1s off	Alarm 3 times and stay 1s off	Thermal print head damaged, needs to repair.

2.5 Self-test

The self-test can check the condition of printer. In the self-test, software version, interface type, characters, etc will be printed. If the printer prints out the self-test receipt correctly, it means the printer works normally except the interface with host. Otherwise it needs to repair.

Method of self-test: Holding down 【FEED】 button and turn on the power, the red indicator light will flicker at 1 time/s, within 3 times then release the button, self-test begins automatically.

2.6 Hexadecimal Dump

Holding down 【FEED】button and turn on the power, the red indicator light will flicker at 1 time/s, after 3 times then release the button, the red light will go on flicker 3 times, then the printer will print out 3 lines information as bellow:

        Hexadecimal Dump
        To terminate hexadecimal dump,
        Press FEED button three times.

Under this mode, all the input will print out as Hexadecimal data. Put the 【FEED】button will feed one line each time. 3 times together will print out as bellow:

        *** Completed ***

Then quit the Hexadecimal Dump print mode.

2.7 Upgrade Mode

Holding down 【FEED】button and turn on the power, the red indicator light will flicker at 1 time/s, after 3 times then release the button. The printer enters into Mode Choosing Status. Then press LF button 5 times and the time distance between two times must be within 3s. The indicator will flicker at 1s on and 1s off status. At this time, the printer enters into Upgrade Mode.

Chapter 3 Printing Driver Installation

Printing driver for SP-POS58IV can be downloaded from the company of our website (www.sprt-printer.com). After downloading, the name of driver software is SP-DRV211. During installing driver software, choose printer model "58 thermal series". About other operation, pls refer to the detailed installation manual.