SPRT®
All-in-one POS Terminal printer
（SP-Y33）

（Ver 1.02）

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Content

Introduction

Y33 is suitable for supermarket, catering, photo printing in scenic spot, medical care and data collection industries. 7-inch vertical LCD screen, Android system supports mobile, China Unicom, telecommunications 4G communication network. With 100M wired network port, serial port, Wifi/BT4.0, support USB standard interface, with 200W camera module to support scanning 1D code, 2D code. Support black mark 6 position adjustable (positive and negative 3 position), paper width 80mm, effective width 72mm, paper roll 80mm;

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: 80mm
● Print density:8 dots/mm, 576 dots/line
● Print speed:150mm／s（max）
● Reliability:(1) Print head life: 100km
       Using condition:
       * Print 12 × 24 ASCII characters, print 50 lines each time, intermittent print repeatedly
       * Use specified thermal paper
      (2) Cutter life: 100 million cuts   Using condition: less than 30 cuts/minute
● Valid print width:72mm

1.2 Print Paper

● Thermal paper roll: Width ---------- 79.5 mm±0.5mm
              Outer Diameter ---------- Φ83mm（max）
              Inner Diameter ---------- Φ12.5mm（min）
              Thickness ---------- 0.06mm～0.08mm(Plain paper)

1.3 Print Font

● ANK Character Set

12×24 点,1.5（width）×3.00（height）mm
- Chinese character
  24×24,3.00（width）×3.00（height）mm

1.4 Interface

- USB-TypeB interface:
    One standard USB interface
- Serial port interface
1 serial port, using PS/2 interface
- Ethernet interface:
    Isolated standard Ethernet interface
- USB-TypeA interface:
    There are two standard USB host interfaces
- Bluetooth interface:
Bluetooth 4.0
- WIFI interface:
IEEE802.11b/g/n
- 4Gnetwork
mobile / Unicom / Telecom
- Camera interface:
200W Camera module interface, can identify 1D, 2D barcode as follows:
1D product:UPC-A、UPC-E、EAN-8、EAN-13。
1D industrial:Code 39、Code 93、Code 128、Codabar、ITF、RSS-14、RSS-Expanded
2D:QR Code
It can quickly respond to one-dimensional code and two-dimensional code scanning within 0.5-1 seconds, and the scanning distance is within 15cm.
- Cash box control
Power supply DC24V1A, interface type is 6 line RJ-11 socket
- Speaker
Built-in 1 speaker larger than 2W cavity
- Display screen
MIPI interface,Resolution:600*1024
- Touch screen
5-point capacitive touch screen,P+G
- Operating system
Android 7
- Processor
MT8735/MSM8909
- RAM
DDR3,1GB

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 barcode 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％, 2.5A, DC005-2.5 power socket

1.7 Operation Environment

● Operation temperature: 0～50℃; Relative humidity: 10～80％(No condensation)
● Storage temperature: -20～60℃; Relative humidity: 10～90 %(No condensation)
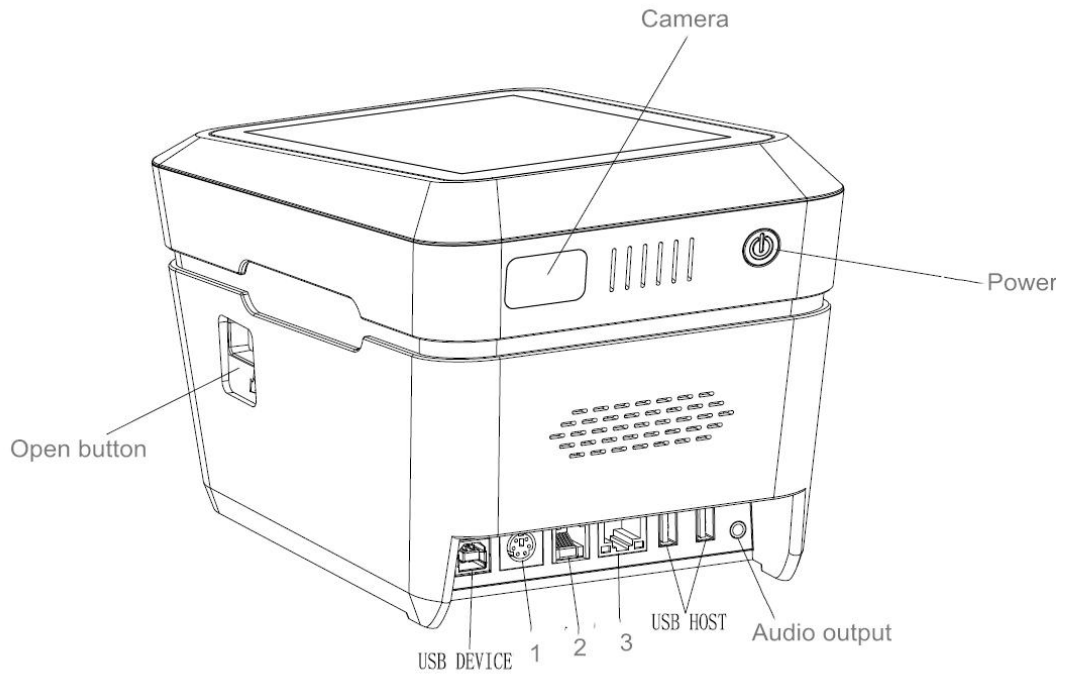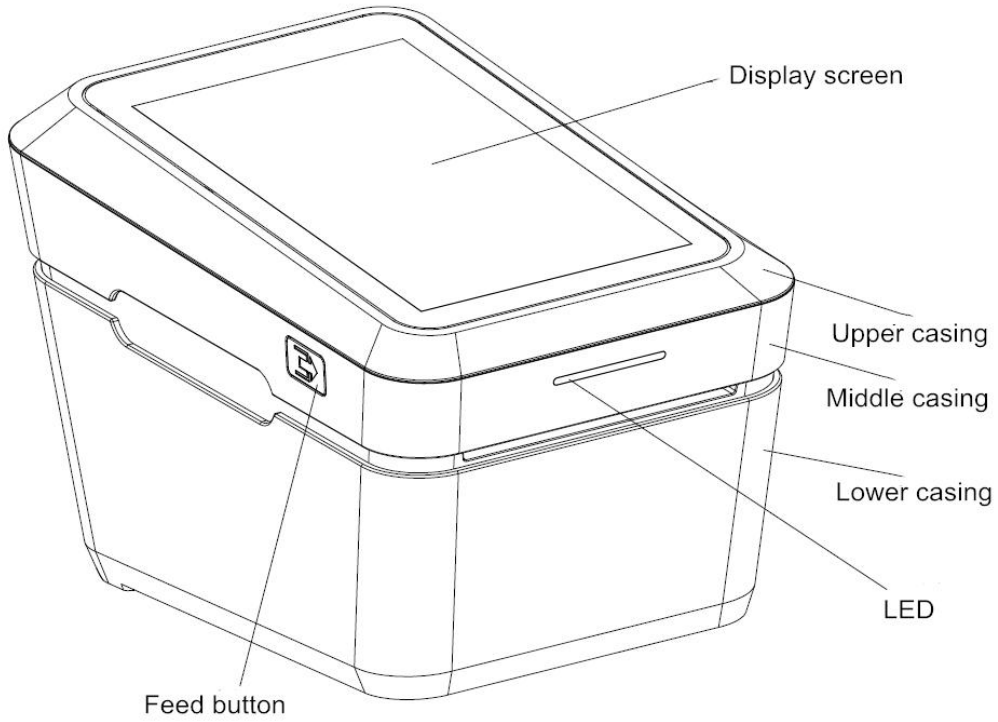
1.8 Outline Dimension

● 220(L)mm×141(W) mm×142 (H)mm

1.9 Model classification

Model	Interface
SP-Y33	USB-TypeA、Serial、USB-TypeB、Ethernet、Cash drawer interface、Audio output

Chapter 2 Operation Specification

2.1 Printer Appearance

1. Serial   2. Cash drawer interface   3. Ethernet

2.2 Paper Installation

2.2.1 Paper Loading

Y33 adopts 80mm width thermal paper roll.
Steps of Loading Thermal Paper are as below:
Press the open button on the right side, open the movable upper cover and put in the paper roll. 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.
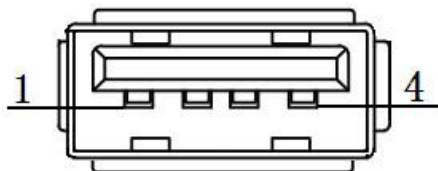> 3. Keep clean of the print head, avoid to influence the printing quality.

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.

2.3 Interface

2.3.1 USB-TypeA interface

There are two USB-TypeA interfaces in Y33 android printer, pins description as below Fig.2-2:

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

2-2USB-TypeA interface

2.3.2 Ethernet Interface

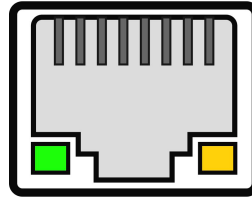The model with Ethernet interface use RJ45 Network socket. The appearance is as Fig.2-3 shows:

Fig.2-3 Ethernet interface

2.3.3 USB Interface

The standard accessories of Y33 android printer includes one standard USB cable which connects printer and the main device. The USB type belongs to the slave device type(DEVICE). Pins description of Mini-USB as Fig.2-4 below:

Fig.2-4   USB-TypeB interface

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

2.3.4 Bluetooth interface

Hand-held device, laptop and other information terminal devices with Bluetooth can drive the POS terminal to print by the Bluetooth interface. The Bluetooth 4.0 of Y33 POS terminal is compatible with Bluetooth 2.0 standard. Power class is CLASS 1.5 or CLASS 2, effective communication distance is 10 meters. The initial Bluetooth name of POS terminal is rk3288 which can be corrected according to user's needs.

Y33 POS terminal needs to be paired with the Bluetooth device which send commands to Y33 before working. Pairing can be initiated by either party. Usual pairing course is as below:
1. Power on Y33 POS terminal and the Bluetooth device;
2. Y33 POS terminal or Bluetooth device searches for the outer Bluetooth device, and select corresponding Bluetooth name.
3. Y33 POS terminal or Bluetooth device confirm and approve pairing

2.3.5 WIFI interface

The connecting way of WIFI interface is the same as phones. Searching WIFI and enter the corresponding authentication password.

2.3.6 SIM card

4G is optional for smart POS terminal. After insult SIM card, Y33 will complete network registration and connect to 4G network automatically when starting up the device. Please keep the SIM card can be normally used and charged sufficient fee, otherwise it may show fail to connect the Internet.

2.3.7 Cash Drawer Interface

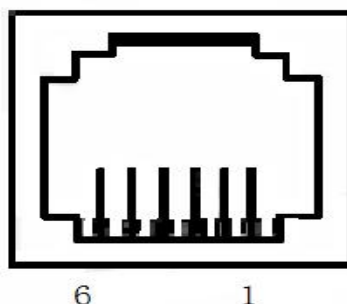The cash drawer interface of POS Terminal Y33 adopts RJ-11 6-pin socket, as Fig.2-5 shows:
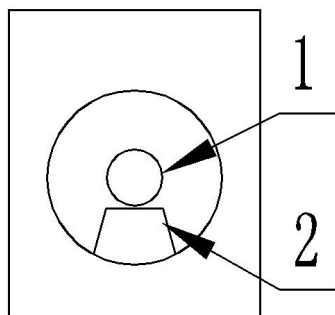

Fig.2-5 Cash Drawer Interface

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	――

2.3.8 Power Connection

The rated supply voltage is 24V ± 10% DC, rated current is 2.5A, use DC005-2.5 power socket, the polarity is positive inside and negative outside. Use the standard power adapter supplied with the printer to supply power. The shape and pin definition are shown in the following figure in Figure 2-6:

The pin assignment is as below:

Pin No.	Signal
1	+24VDC
2	Ground

Fig.2-6 Definition of power socket and pin

2.4 Buttons,buzzer and Indicators

There is one button and one buzzer and three indicators on POS890 printer.

The Y33 all-in-one POS Terminal has a paper feed, a power on/standby button, a built-in buzzer, and a red, yellow and green three-color status indicator.

【FEED】 button, you can use the print command to enable or disable the key switch function. When the button control is enabled, press the paper feed button to feed the paper, release the paper feed button, and stop feeding.

The buzzer is used to indicate the type of error status, which can be set or disabled to enable or disable the error alarm. The error status type is the same as the ERROR indicator.

Red/yellow/green three-color ERROR/ALARM/RUNNING indicator is the error status/alert indicator/normal operation. When the printer is working normally, the green light is on; the red indicator light flash is abnormal alarm status, and the red indicator light is on with a long time means the paper compartment cover opens during printing. The yellow light indicates is on with a long time that means is out of

paper or the paper is near end .

The error indicator flashes and the buzzer sounds: the printer has an error.
Different types of flashing means different type of error :
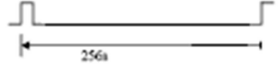
1. The error cannot be recovered. the number of flashing lights and the number of buzzer sounds indicate the type of error, and then it lights on for a long time .
2, the error can be recovered, the number of flashing lights and the number of buzzer sounds indicate the type of error, and then it goes out for a long time.
3. Automatic recovery error, the indicator light flashes continuously, and the buzzer sounds continuously.
4, out of paper, out of paper lights on and the buzzer sounds long. When the printer's paper hold cover is opened, it will no longer detect if the printer is out of paper and only detect if there is paper.

The details are as below:

①.Non-recoverable error, the indicator flash 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 Flash once:Internal memory reading and writing error	256a
	LED Flash twice:over-voltage	256a
	LED Flash three times:under-voltage	256a
	LED Flash four times: CPU execution error (wrong address)	256a
	LED Flash five times: UIB error	256a
	LED Flash six times: FLASH writing error	2.56S
	LED Flash seven times: parameter writing error	2.56S
	LED Flash eight times: Temperature testing circuit error	256a

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

ERROR Type	ERROR Description	ERROR Indicator Flickering Type
Recoverable error	LED Flash once:Cutter position error	256s

③. Auto-recoverable error, indicator flash 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 Flash constantly: printing head over-heat; upper case cover opening error during printing	160ms

2.5 Power on status

Power off, the [paper cover] is closed, then long press the power button. After the system is started, release the power button. The red, yellow and blue indicators of the status indicator flash alternately, then the green light is on for a long time, the printer enters 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, 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 long press the power button, after the system starts normally, the printer will print out the self-test .as Fig.2-7 shows

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***    自检页    ***

制造商:            SPRT
型号:              Y33
BF版本号:          Ver 1.00-1.04
版本号:            N-046 0.01
接口:              RS232,USB
串口参数:
   波特率:         115200
   数据位:         8 bit
   校验位:         None
   握手协议:       RTS/CTS
语言:              中文
字体:              12*24
打印速度:          180mm/S(Max)
打印浓度:          中
蜂鸣器设置:        错误、切刀允许
纸传感器灵敏度:    中
打印方向:          正向
指令集:            ESC/POS
代码页:            CP437
纸尽使能:          关
纸尽灵敏度:        中
标记检测:          关
标记类型:          黑标
上电定位标记使能:  开
按键功能:          走纸
开盖报警使能:      开
打印后动作:        切纸
切刀信息:
切刀:              有
切刀偏移量:        11 mm
产品信息:          12-B08-7
 !"#¥%&'()*+,-./0123456789:;<=>?@ABCDEFGHIJKLMNO
PQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~

GB18030汉字库
条码类型:
1D: UPCA,UPCE,EAN13,EAN8,CODE39
    ITF25,CODABAR,CODE93,CODE128
2D: PDF417,QR CODE,DATA Matrix
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***   自检打印结束   ***

2-7self-test

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 for more than 1s, and then press the paper feed button for 3 times successively;

3.Close the cover, 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 Program upgrade mode

1, Windows system download:

In the boot mode, make the upgrade tool Update Firmware.exe, select the corresponding upgrade port -> open port -> select upgrade firmware -> click start the upgrade. The printer starts to upgrade. During the upgrade process, the green indicator light flashes. After finished the upgrade, the printer automatically prints out the self-test page.