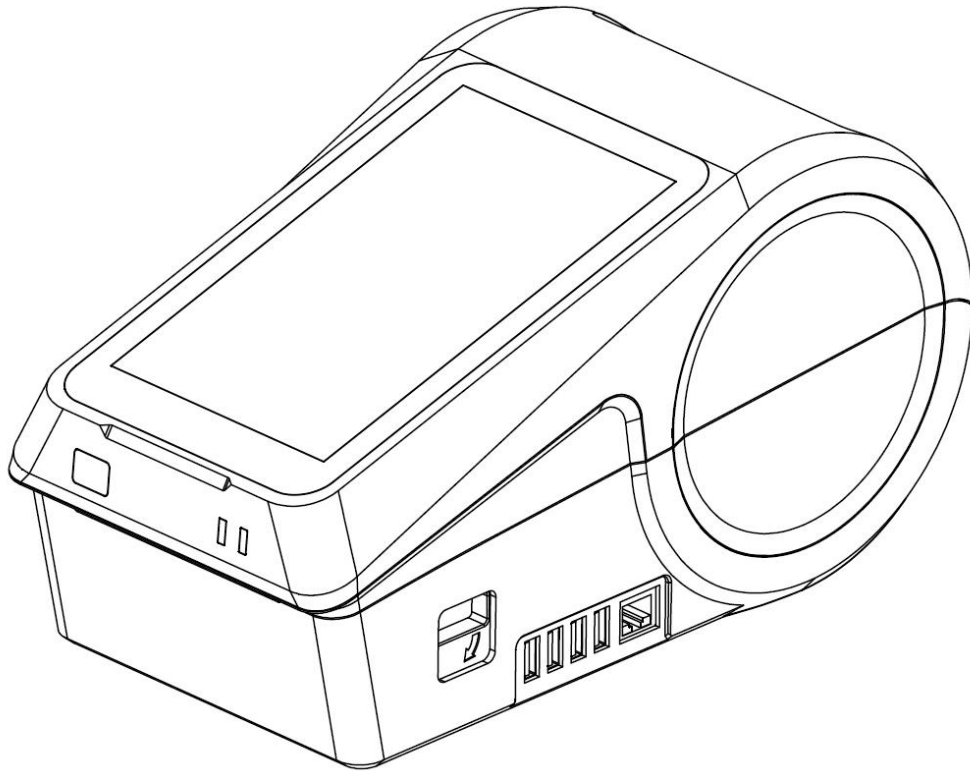


SPRT®

Android POS Terminal User's Manual

(SP-Y32)



(Ver 1.02)

Beijing Spirit Technology Development Co.,Ltd

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Brief introduction

Y32 smart machine is a type of printer suitable for lottery industry. The main screen is 7-inch LCD screen vertical screen, the auxiliary screen is HDMI 4K HD display interface. The Android system supports mobile, China Unicom, telecommunications three 4G communications network. Y32 has 100M wired network port, Wi-Fi/BT4.0, and USB standard interface. The 500W camera module support scanning one-dimensional code, two-dimensional code. Y32 also support paper near function and accurate measurement, black mark 6 position adjustable (positive and negative 3 positions), paper width compatible 80mm and 82.5mm, and the effective width is 72mm, paper roll diameter is 120mm.

Statement

This is a Class A product. In a living environment, this product may cause radio interference. In this kind of circumstances, the user may need to take practical measures against the interference.

Chapter 1 Features and performance

1.1 Printing Performance

Printing method: direct thermal printing

- Paper width: 80mm/82.5mm
- Print density: 8 points/mm, 576 points/line
- Print speed: 150mm/s (maximum)
- Reliability:

(1) Print head life: 100km

Conditions of Use:

* Print 12×24 Spanish characters, print 50 lines each time, repeat printing intermittently.

* Use specified thermal paper

(2) Cutter life: 1,000,000 times. Conditions of Use: Less than 30 times per minute

- Effective print width: 72mm

1.2 Paper Roll

Thermal Paper Roll: Paper Width ----- 82.5±0.5mm (Maximum)

Outer diameter ----- Φ120mm (maximum) Φ

Inner diameter ----- Φ13mm (minimum)

Thickness ----- 0.06mm~0.08mm

1.3 print characters

- Western character set:
12 × 24 dots, 1.5 (width) × 3.00 (high) mm
- Chinese characters:
24 x 24 dots, 3.00 (width) x 3.00 (height) mm

1.4 Interface Mode

- USB-TypeB interface:
The standard USB print interface
- HDMI-TypeA interface:
One HDMI 2.0 supports 4K 60Hz display and supports HDCP 1.4/2.2.
- Ethernet interface:
Isolate the standard Ethernet interface.
- USB-TypeA interface:
There are 4 standard USB host interfaces.
- Bluetooth interface:
Realtek Realtek RTL8723BS series Bluetooth Bluetooth module SDIO interface. Bluetooth4.0 (supports iBeacon+eddystone protocol)
- WIFI interface:
Realtek Realtek RTL8723BS series Bluetooth Bluetooth module SDIO interface.
IEEE802.11b/g/n.
- 4G network
One of the 4G Internet access modules which supported the PCIE interface such as CE20C, U9300W, and USB DOGNLE CLM920, can be connected to the Internet. Can switch between WiFi, Ethernet, GPRS and 4G smoothly; select data link according to the priorities of Ethernet, WiFi, 4G and GPRS.

- Camera interface:

The 500W camera module interface recognizes one-dimensional and two-dimensional barcodes as follows:

1. One-dimensional code 1D product: UPC-A, UPC-E, EAN-8, EAN-13.
2. One-dimensional code 1D industrial: Code 39, Code 93, Code 128, Codabar, ITF, RSS-14, RSS-Expanded.
3. Two-dimensional code 2D: QR Code, Chinese QR Code, Micro QR Code, Big Data QR, Data Matrix, Aztec (beta), PDF417 (beta).
4. Can quickly respond to one-dimensional code and two-dimensional code scanning in 0.5-1 seconds, scan distance is within 15cm.

- Cash box control:

Power supply DC24V1A, interface type 6-wire RJ-11 socket.

- Speaker

Built-in cavity speaker larger than 2W (output volume at four points around the printer around the front and back and left and right, the maximum volume is not less than 90 dB)

- Display screen:

MIPI interface, resolution 720*1280 (vertical screen)

- Touch screen:

5-point capacitance type touch screen, G+G specification fully-fitted process.

- Operating System

Android 5.1 or above and support OTA upgrade.

- Processor

RK3288 quad-core Cortex-A17, clocked at up to 1.8GHz, Mali-T764 GPU, supports AFBC (Frame Buffer Compression), OpenGL ES 1.1/2.0/3.1, OpenCL, DirectX9.3, embedded high-performance 2D acceleration hardware.

- Memory

DDR3, 2GB

- Storage

8GB eMMC

- TF card interface

Supports up to 32GB

- Internal clock

Supports automatically determining the date and time of the network. The RTC time can be maintained for at least 1 month without loss after power off.

1.5 Print Control Commands

- character print command:
Supports double-width and double-height printing of ANK characters, custom characters, and Chinese characters, and can adjust the line spacing of characters.
- Dot print command:
Supports different density dot plots and download graphics printing.
- GS barcode printing command:
Support UPC-A, UPC-E, EAN-13, EAN-8, CODE39, ITF25, CODABAR, CODE93, CODE128, PDF417, QR Code, DATA Matrix barcode printing.

1.6 Power Requirements

Power adapter DC24V $\pm 10\%$, 2.5A, DC005-2.5 power outlet

1.7 Working Environment

- Operating temperature:
0°C~50°C Operating Relative Humidity: 10%~80%
- Storage temperature:
-20°C~60°C Storage Relative Humidity: 10%~90%

1.8 Dimensions

275 (L) mm×140 (W) mm×150 (H) mm

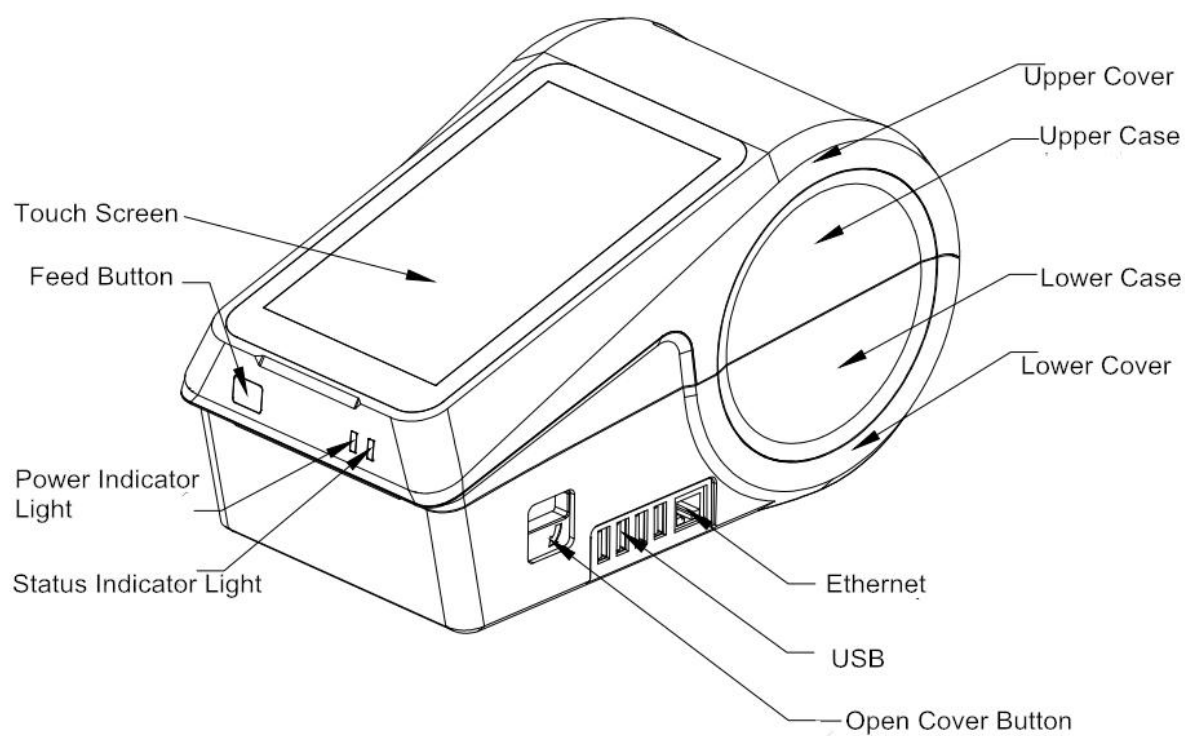
1.9 Model Name

Model	Interface
SP-Y32	USB-TypeA、HDMI、USB-TypeB、Ethernet、Cash Drawer

Chapter 2 Operating Instructions

2.1 Printer appearance

The names of printer parts are shown in Figure 2-1



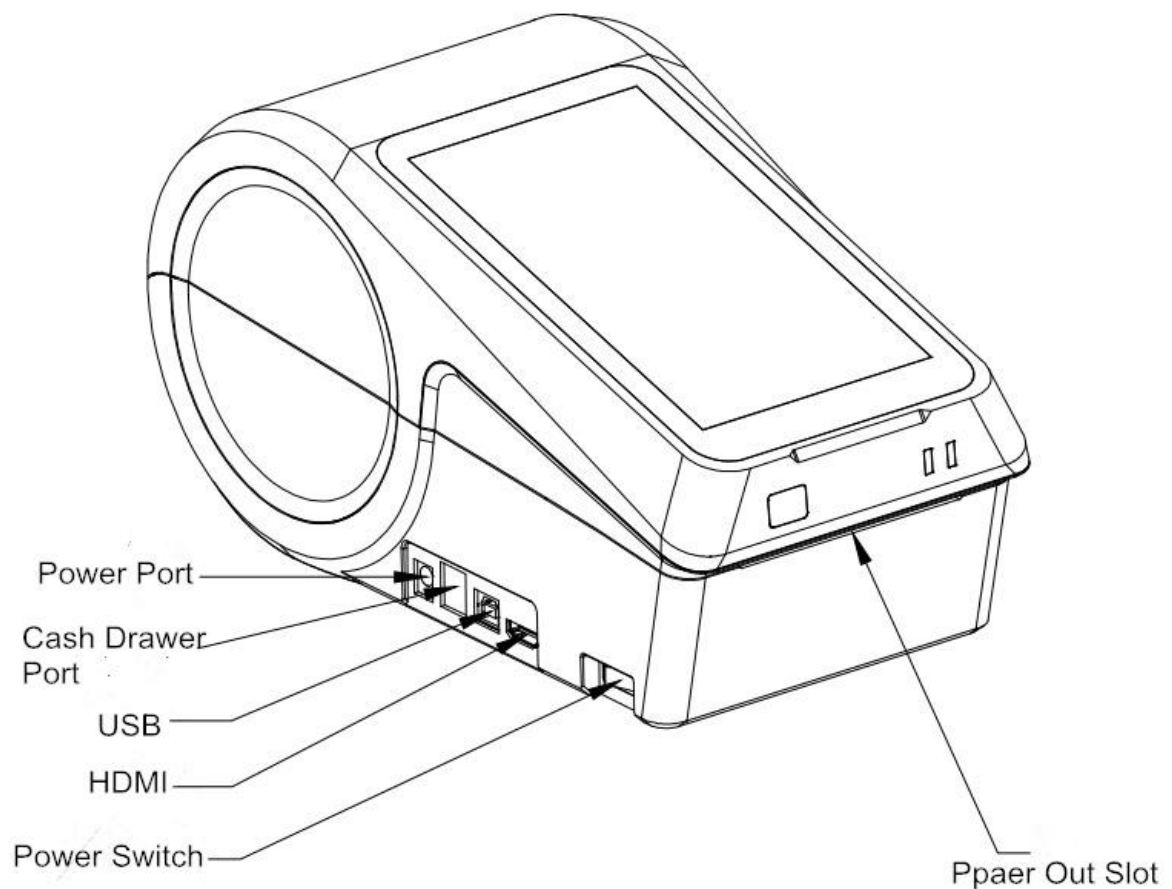


Figure 2-1 Name drawing of each part of the printer

2.2 Install the paper roll

2.2.1 Install paper roll

The SP-Y32 uses 80mm/82.5mm wide thermal paper roll.

Thermal paper installation steps are as follows:

Press the right cover open button to open the paper cover, put the thermal paper roll into the paper warehouse, pull a section from the paper roll, then put the paper end on the head, cover the paper cover, Gently press down.

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 Cutter jamming

If the cutter is stuck, turn off the power switch, re-power, the cutter can return to its original position.

2.3 Interface connection

2.3.1 USB-TypeA

The Y32 supports four USB-TypeA master interfaces. Each pin is defined as shown in Figure 2-2.

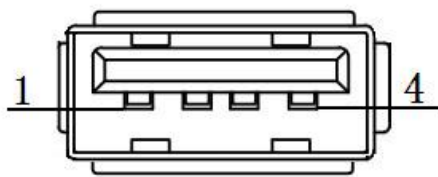


Figure 2-2 USB-TypeA

PIN Assignment	Function	Mark
1	V Bus	Power Positive5 V
2	Data -	Data Negative
3	Data +	Data Positive
4	GND	Power Ground

2.3.2 Ethernet Interface

The network port configuration uses an RJ45 network socket. The appearance is shown in Figure 2-3:

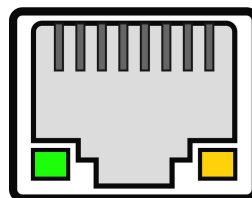


Figure 2-3 Ethernet

2.3.3 USB Interface

The standard configuration of the Y32 smart one is equipped with a standard USB printer cable D-type data cable for connecting the printer and the host device. The printer's USB is a

slave device type (DEVICE); the outline and pin definitions are shown in Figure 2-4:

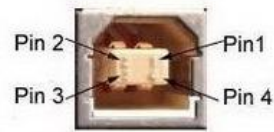


Figure 2-4 USB-TypeB

PIN Assignment	Function	Mark
1	V Bus	Power Positive 5V
2	Data -	Data Negative
3	Data +	Data Positive
4	GND	Power Ground

2.3.4 Bluetooth

A handheld device, laptop, or other information terminal with a Bluetooth interface can communicate with the all-in-one through a Bluetooth interface. Y32 smart machine Bluetooth 4.0 is compatible with the Bluetooth 2.0 Bluetooth specification, the power level is CLASS 1.5 or CLASS 2, and the effective distance is 10m. The initial device name of the all-in-one is rk3288. You can modify the device name as needed.

The Y32 smart all-in-one needs to be paired with the Bluetooth device of the control all-in-one before it works. Pairing can be initiated by either party. The usual pairing process is as follows:

1. The Bluetooth device of the all-in-one and control integrated machine is turned on.
2. The bluetooth device of the all-in-one or control one machine searches for an external Bluetooth device and selects the corresponding Bluetooth device.
3. Confirm and receive pairing on the Bluetooth device or the all-in-one of the control device.

2.3.5 WIFI

The common WIFI interface and WIFI connection network mode are the same as ordinary mobile phone connection WIFI. After finding a suitable WIFI hotspot AP, the corresponding authentication password can be entered to complete the WIFI login.

2.3.6 4G USB DONGLE

Y32 can be equipped with CLM920 4G USB DONGLE. After starting up, it will automatically complete network registration and connect to 4G network. Users do not need related operations.

Note: The 4G SIM card used by the 4G USB DONGLE guarantees that you can use the local area to access the Internet normally and have sufficient charges. Otherwise, there will be disconnection failures.

2.3.7 Cash Drawer Port

The cash box interface of the Y32 is an RJ-11-6 cable socket, as shown in Figure 2-5.

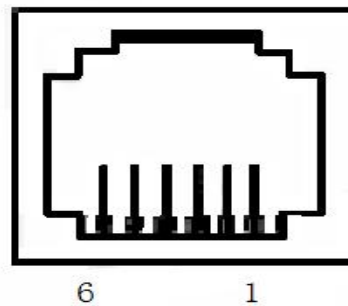


Figure 2-5 Cash Drawer Port

PIN Assignment:

PIN Assignment	Signal	Flow Direction
1	Architecture Ground	-----
2	Cash Drawer Driver Signal 1	Output
3	Cash Drawer ON/OFF Status Signal	Input
4	+24VDC	-----
5	Cash Drawer Driver Signal 2	Output
6	Signal Ground	-----

2.3.8 Power connection

The rated supply voltage is 24V±10% DC, the rated current is 2.5A, and the DC005-2.5 power socket is used. The polarity is positive and negative. Use the standard power adapter supplied with the printer to power it. The outline and pin definitions are shown in Figure 2-6 below:

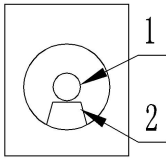


Figure 2-6 Power Port

PIN Assignment:

PIN Assignment	Signal
1	+24V
2	Ground

2.4 Indicators, Buzzers, and Key Operation

The Y32 has a button, a built-in buzzer, a red, yellow, and green three-color status indicator and a power indicator (green).

[FEED] is the paper feed key. You can use the print command to enable or disable the key switch function. When the key control is enabled, press the [FEED] key to feed the paper, and release the [FEED] key to stop the paper feed.

The buzzer is used to indicate the type of error status. It can be set by parameter setting to enable or disable the error alarm. The error status type is the same as the ERROR indicator.

The green POWER indicator is the power indicator. The POWER indicator is on to indicate that the printer is on.

The red/yellow/green color ERROR/ALARM/RUNNING indicator is the error status/reminder indicator/normal operation. When the printer works normally, the green indicator lights up. The red indicator lamp flashes as the abnormal alarm status. When the red indicator lamp lights up, it indicates that the indicator is off. The paper deck cover opens during printing. The yellow indicator light indicates that there is no paper or the paper is near.

The error light flashes and the buzzer sounds: The printer has an error.

Different types of flashing indicate the printer's error type:

1. Unrecoverable error. The number of indicator flashes and the number of buzzer rings indicate the type of error. It then lights up for a period of time.

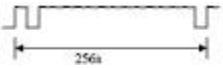







2. The error can be recovered. The number of indicator flashes and the number of buzzer rings indicate the type of error, and then it will be off for a long time.

3, automatic recovery error, continuous flashing light, buzzer continuous ring.

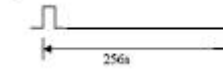
4, lack of paper, lack of paper lights long, buzzer sounded long. When the printer paper compartment cover is opened, it is no longer detected whether the printer is out of paper, only the presence of paper is detected.

The error indication is as follows:


Unrecoverable error: The error indicator flashes several times and then lights up for a period of time, then loops. The number of flashes indicates the type of error.

Error	Description	ERROR light Blinks Way
Unrecoverable Error	LED blinks once: Memory read and write errors	
	LED blinks twice: Overvoltage	
	LED blinks three times: Undervoltage	
	LED blinks four times: CPU execution error (error address)	
	LED blinks five times: UIB error	
	LED blinks six times: FLASH writes error	
	LED blinks seven times: Parameters write error	
	LED blinks eight times: temperature detection circuit error	

① recoverable error, the indicator light flashes continuously, then long off for a period of time.

Error	Description	ERROR light Blinks Way
Recoverable Error	LED blinks once: Cutter position error	

② Errors that can be automatically recovered, the indicator light blinks continuously. Including print head temperature error and cover open error during printing.

Error	Description	ERROR Light Blinks Way
Automatically recoverable errors	LED blinks continuously: The print head is overheated and the cover is open during printing.	

2.5 Normally powered on

In the off state, the paper cover is closed, then the power switch is turned on, the power indicator light is on, the status indicator red and yellow bi-color indicator light flashes twice, then the green light is on, and the printer enters the normal operation mode.

2.6 Self-testing

The self-test can detect whether the printer is working properly. If the self-test spline can be printed correctly, it means that the printer is normal except for the interface with the host, otherwise it needs to be repaired.

The self-tests are printed out in order: manufacturer name, printer model, software version, interface type, default value of printer parameters, 96 characters in ASCII code, default code page content (language setting in English) or Kanji library name (If the language is set in Chinese), the barcode type.

Self-test method is to hold down the [FEED] key and turn on the power switch, then the printer will print a self-test spline immediately. The spline form is shown in Figure 2-7:

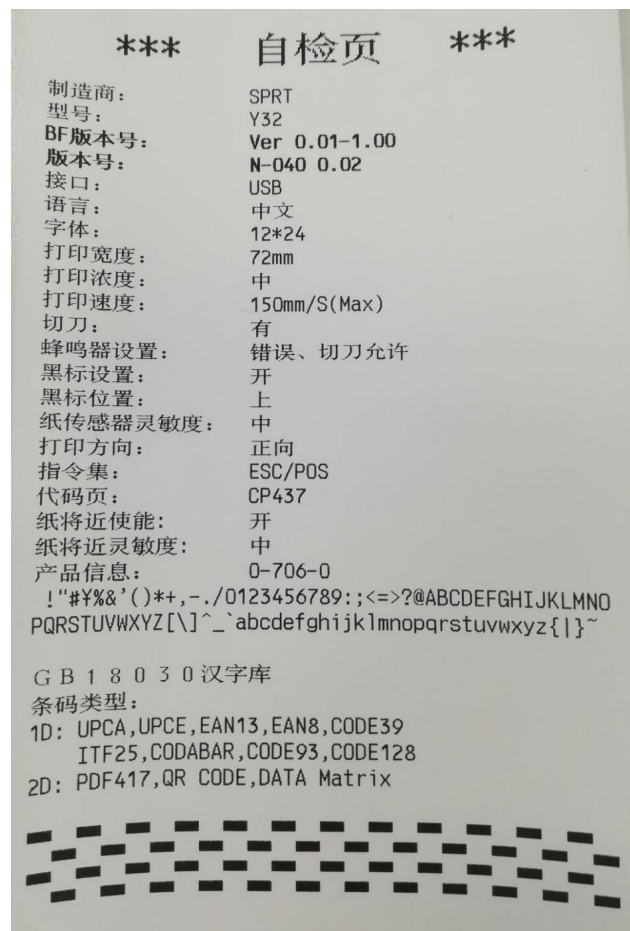


Figure 2-7 Sample for self testing

2.7 Hexadecimal printing

Follow the steps below to turn on the printer to put it into hexadecimal printing mode.

1. Open the paper cover;

2. Hold down the [FEED] key and turn on the power switch.

3, close the paper cover, then print out the following 3 lines:

Hexadecimal Dump

To terminate hexadecimal dump,

Press FEED button three times.

Indicates that the printer enters hexadecimal mode. In this mode, all input will be printed as a hexadecimal number. Each press of the [FEED] key moves one line, accumulates three times, and prints out "*** Completed * **", exit the hex print mode.

2.8 Printer Parameter Settings

This function is to set some simple parameters of the printer.

Enter the parameter setting method:

In the off state, first open the [paper bin cover], hold down the [FEED] key, then turn on the power switch, and then release the [FEED] key after the status light and paper out light flash alternately. Then press the [FEED] key twice and close the [paper bin cover]. The printer enters parameter setting mode. And print out the first set of parameters and their current settings. For detailed setting method, please refer to Appendix A.

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

If the printer power is turned off directly, the set parameter values are not saved.

2.9 Entering Program Upgrade Mode

In the off state, first open the [paper bin cover], hold down the [FEED] key, and then turn on the power switch. After the status light and paper out light flash alternately, release the [FEED] key. Then press the [FEED] key five times, then close the [paper bin cover]. The printer enters program upgrade mode. The status indicator flashes at approximately 1 second.

Quick access method: In the off state, first open the [paper bin cover], hold down the [FEED] key, turn on the power switch, and then quickly release the [FEED] key. The printer enters program upgrade mode. The status indicator flashes at approximately 1 second.

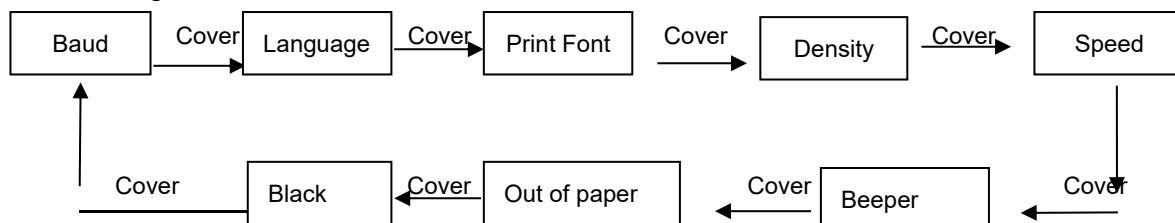
Note: When the upgrade mode is entered, the out-of-paper indicator light indicates that the interface cannot perform program upgrades. Currently, only the USB-TypeB interface supports online program upgrades.

Appendix A: Parameter Settings

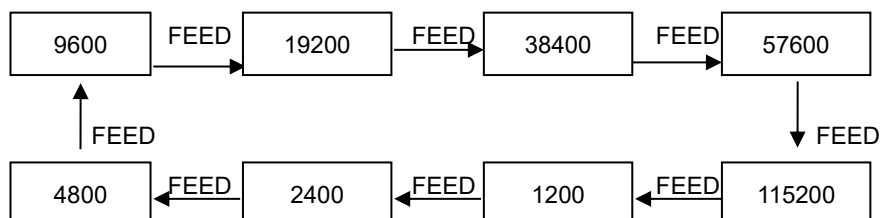
This appendix is a method to set the printer's default parameters by pressing a key.

Setting Description: Use the [Paper Store Cover] key to select the setting item. Each time you press the [Paper Store Cover] key, the setting item changes to the next item, and the current setting value of the item is printed out. Use the [FEED] key to select the setting value of the setting item. Each time you press the [FEED] key, the setting value changes to the lower value

Settings:



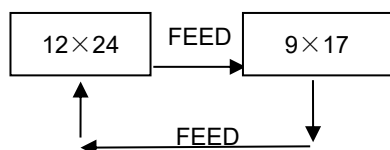
Baud rate:



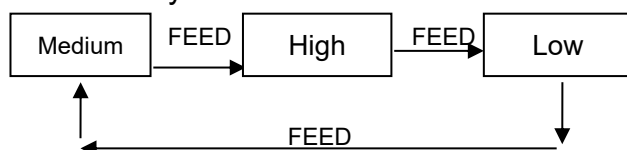
Language:



Print Font:

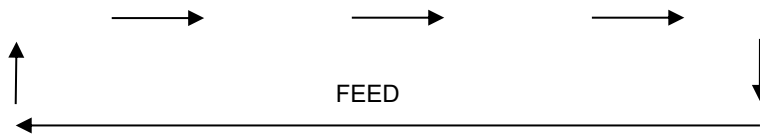


Print density:

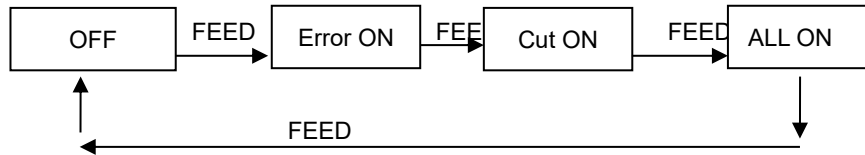


Printing Speed:

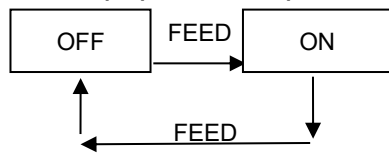




Beeper:



Out of paper and reprint:



Black mark:

