



# PK109

## Mobile POS

### *Thermal printer*



MEGADATA INDUSTRIAL, Inc.  
No. 16, Ln. 11, Nanhe 1st St., South Dist.,  
Taichung City 402, Taiwan (R.O.C.)  
TEL: +886-4-2265-3311 FAX: +886-4-2261-3770  
[www.posjet.com.tw](http://www.posjet.com.tw) [megadata@ms21.hinet.net](mailto:megadata@ms21.hinet.net)

## Content

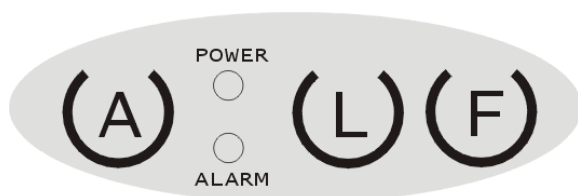
---

1. <b>Specification</b>	<b>P.3</b>
2. <b>The functions of control panel (Optional)</b>	<b>P.4</b>
3. <b>DIP Switch Setting</b>	<b>P.5</b>
4. <b>Communication</b>	<b>P.6</b>
5. <b>Interface</b>	<b>P.7</b>
6. <b>Command sets</b>	<b>P.9</b>
7. <b>Command code description and example</b>	<b>P.11</b>

# 1. Specification

<b>Printing</b>	
Method	Direct thermal
Effective area	48 mm
Resolution	8 dots / mm
Speed	<b>80 mm / second (Max.)</b>
<b>Cutter</b>	
Type of paper cutting	<b>Full Cut and Partial Cut (by command)</b>
Life	<b>700,000 cuts or more</b>
<b>Fonts</b>	
Character Set	ASCII International, (Traditional or Simplify Chinese or JIS Code[5313] or Shift JIS Code [5313])
Characters ASCII	Two type of font : 24 dot characters( 24*12 dots [H * W dot]) and 16 dot characters(16*8 dots and 16*12 dots) <b>2D Barcode</b> ,can be selected by commands.
Character Chinese	24(16*16), 16(24*24)(Chinese) (H x W dot)
Graphic	Bit addressable graphic command set
Bar codes	Code 39, EAN and UPC QR Code
Downloadable	Fonts, graphics, logos and additional bar codes
<b>Interface RS-232(Standard)</b>	
<b>Option</b>	
USB (option)	Full Speed 2.0
Wi-Fi Interface	802.11b
Bluetooth	Class II 10~15M(outdoor)
<b>Paper</b>	<b>“Easy paper loading design”</b>
Width	57.5 mm (2")
Thickness	2.2 to 3.5 mils
Roll Diameter	<b>50 mm (Max.)</b> Core: 12 mm
Length	<b>30 meter (Max.)</b>
<b>Power supply (build in) Option DC 9V/4A Power (Desk Use)</b>	
Li – Polymer rechargeable battery <b>7.4V/2200mA</b>	
<b>Dimensions</b>	
Size	105 * 189 * 66.5 mm (W * L * H)
Weight	600g with Battery/Paper (Paper roll 50mm)
<b>Environmental</b>	
Operating Temp	-10 to 50°C
Storage Temp	-20 to 60°C
Humidity	20~85% RH (non-condensing)

## 2. The functions of control Jump(connector)



### 2.1 The function of button:

#### Line Feed Key: Line Feed –

Press once	One line feed
Hold it	Feeding continuously and stop when release

#### Line Feed Key: Self test

Press once	One line feed
Push and power on	Self-test page will printing out. When printing the end push again it will print specification.

#### On/Off Key: Power on/off

Power off status hold it and power on	Self-test page will printing out
Press it more than 2 seconds	Power off

6 minutes automatic shutdown.

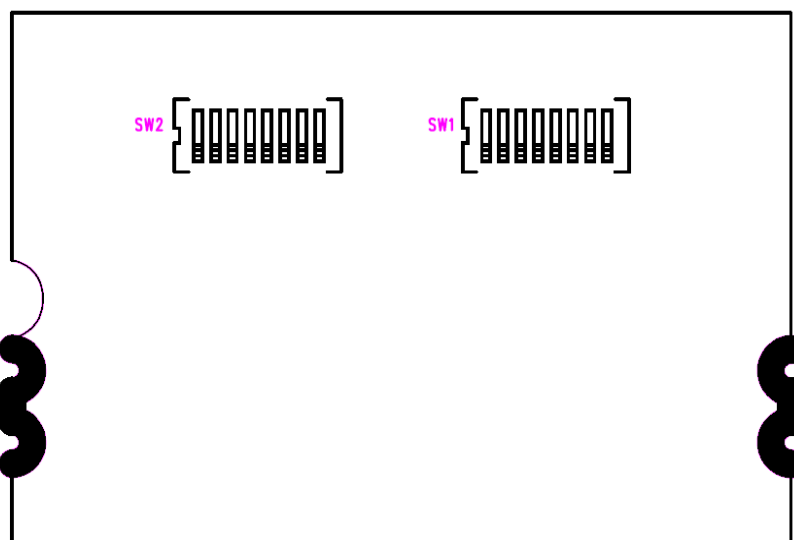
### 2.2 The function of LED and Buzzer:

#### Green LED: Power and status indicator

#### Red LED: Alarm and status indicator

Status	Green LED
Stand-by	On
No paper	Blinking

### 3. DIP Switch Setting



#### 3.1. RS232(Default)

DIP Switch 設定

SW1		SW2	
DIP1	OFF	DIP1	ON
DIP2	ON	DIP2	OFF
DIP3	OFF	DIP3	ON
DIP4	ON	DIP4	OFF
DIP5	ON	DIP5	ON
DIP6	OFF	DIP6	OFF
DIP7	ON	DIP7	OFF
DIP8	OFF	DIP8	OFF

SW2 DIP-7 Temperature Setting : ON-High temperature , OFF-Normal temperature

#### 3.2 USB

DIP Switch 設定

SW1		SW2	
DIP1	OFF	DIP1	OFF
DIP2	OFF	DIP2	ON
DIP3	ON	DIP3	OFF
DIP4	OFF	DIP4	ON
DIP5	OFF	DIP5	ON
DIP6	ON	DIP6	ON
DIP7	OFF	DIP7	OFF
DIP8	ON	DIP8	OFF

## **4. Communication**

### **Bluetooth connection**

- a. Need to match the Bluetooth connection between PK109 and your facility before using at the first time.**
- b. The PIN CODE is four number “0000 “ (PK109 Bluetooth module)**
- c. Printing controls same as RS-232.**

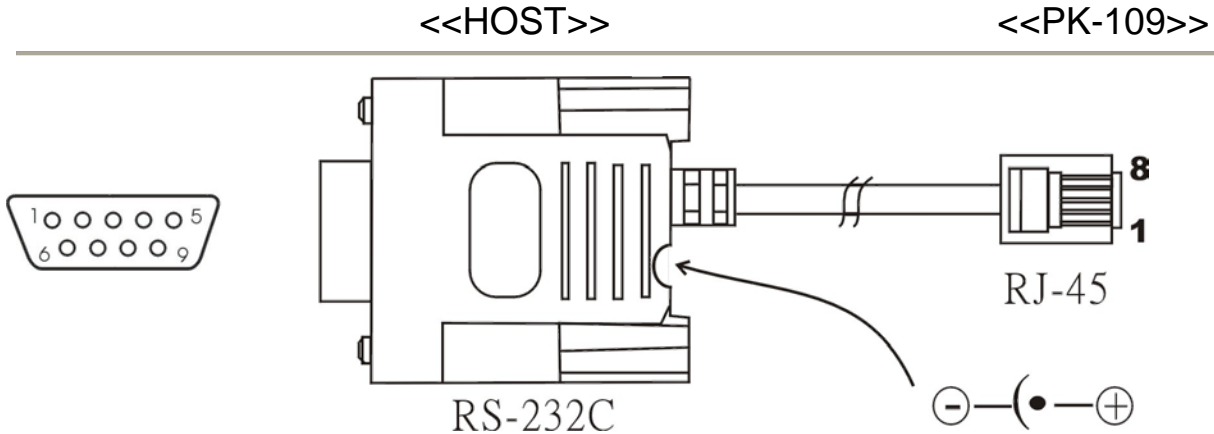
**\*The printer has one communication interface RS-232. The RS-232 has hardware handshaking. Programmer can easily setup connection. Set primary device communication as 9600,n, 8,1 then transfer to printer. When printer received 0ah or 0dh it will start printing.**

**Programmer hint (for RS-232 communication)**

- a. In special condition you can send printer inquiry command to confirm printer status. As usually; we do not check it.**
- b. In RS-232 communication must send 0ah, 0dh to enable start printing.**
- c. ESC (1Bh), 0Ah, 0Dh etc. unprintable characters treat as 1 data byte.**

## 5. Interface

### 5.1 RS232C connection (D-sub 9pins to RJ45)



Pin assignment			
1	WAKE UP	IN	Printer wake up
2	TXD	OUT	Transmitted Data
3	RXD	IN	Receive Data
4	DTR	OUT	Data Terminal Ready
5	GROUND	GND	Ground
6	DSR	IN	Data Set Ready
7	-	-	
8	-	-	
9	DC-OUT	OUT	5V / 45mA

### RJ-45<<PK-109>> DC-PLUG 5.5mmx2.5mm Center in plus(+)

Pin assignment				
1	DC-IN	IN		N/A
2	DC-OUT	OUT	5V / 500mA	
3	TXD	OUT	Transmitted Data	
4	DTR	OUT	Data Terminal Ready	
5	RXD	IN	Receive Data	
6	DSR	IN	Data Set Ready	
7	WAKE UP	IN	Printer wake up	
8	GROUND	GND	Ground	

### Default setting: 115200, n, 8, 1

Transmission format

baud rate : 115200bps

data bit : 8

stop bit : 1

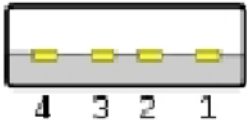
parity check : none

handshaking : DTR / DSR or XON / XOFF

## 5.2 USB connection (USB-A TYPE 4pin to RJ45)

<<HOST>>

<<PK-109>>



USB A TYPE

RJ-45

### Pin Name Cable Color Description

1. Vcc	Red	+5v
2. D-	White	Data-
3. D+	Green	Data+
4. Gnd	Black	Ground

### USB A TYPE 4Pins:<<HOST>>

Pin assignment			
1	VCC	OUT	5V
2	D-	OUT	Data-
3	D+	OUT	Data+
4	GROUND	OUT	Ground

### RJ-45<<PK-109>> DC-PLUG 5.5mmx2.5mm Center in plus(+)

Pin assignment			
1	--	--	N/A
2	--	--	
3	VCC	IN	5V
4	--	--	
5	D+	IN	Data+
6	D-	IN	Data-
7	--	--	
8	GROUND	GND	Ground



## 6. Command sets

Command	Control code	Description
LF	0Ah	Line Feed
FF	0Ch	Form Feed (search black mark)
CR	0Dh	Carriage return.
ESC+SP+n	1Bh+20h+n, 0<n<255	Sets the character spacing
ESC+'-' +n	1Bh+2Dh+n, 0<n<1	Enable/Disable under line mode
ESC+'_' +n	1Bh+5Fh+n, 0<n<1	Enable/Disable upper line mode.
ESC+'*' +m+n1+n2+data	1Bh+2Ah+m+n1+n2+data	Print the bit image mode
ESC+'('+'B'+n+n1+barcode data	1Bh+28h+42h+n+n1 1 < n < 5	Barcode printing mode. (See Table 4)
ESC+'@'	1Bh+40h	Initialize printer
ESC+'1'+n	1Bh+31h+n, 0<n<255	Set line spacing rate of minimum pitch
ESC+'3'+n	1Bh+33h+n, 0<n<255	Set line spacing (Use in graphic mode)
ESC+'h'+n	1Bh+68h+n, 0<n<6	Select/Cancel n times height
ESC+'R'+n	1Bh+52h+n 0 < n < 6 (Chinese version) 0 < n < 10(Standard version)	Select an international character (see Table 2)
ESC+'w'+n	1Bh+77h+n, 0<n<6	Select/Cancel n times width
ESC+'z'+n	1Bh+7Ah+n, 0<n<6	Select/Cancel n times height and n times width
ESC+'b'+n	1Bh+62h+n, 0 < n < 7	Communication speed setting. (See Table 3)
ESC+'d'+n	1Bh+64h+n, 1 < n < 255	After printing feed n lines
GS+'B'+n	1Dh+42h+n, 0<n<1	Turn white/black reverse printing mode on/off
GS+V+n	1Dh+56h+n	Cut paper
GS+'h'+n	1Dh+68h+n, 0<n<=255 n=16 (default)	Select the height of the barcode (use in GS h)
GS+'w'+n	1Dh+77h+n, 0<n<=255 n=0 (default)	Select the width of the barcode (use in GS w)
GS+'p'+n	1Dh+70h+n, 0=<n<=2 n=2 (default)	Selecting of Printing Position of Bar Code (use in GS p)
GS+'H'+n	1Dh+48h+n, 0=<n<=2 n=2 (default)	Selecting of Printing Position of HRI Code (use in GS H)

FS+'q'+n+n1+dn	1Ch+71h+n+n1+dn	Input QR Code Data (position 1)
FS+'p'	1Ch+70h	Print out QR Code
FS+'&'	1Ch+26h	Select Chinese character mode
FS+'.'	1Ch+2Eh	Cancel Chinese character mode
DLE+EOT+n	10h+04h+n, 2=<n<=3 n=2 (default)	Real-time status transmission.
DLE+ENQ+n	10h+05h+n, 1=<n<=2 n=1 (default)	Real-time request to printer.

**Table 3: Communication speed setting (RS-232 only)**

N	Communication speed
0	9600 bps
1	19200 bps
2	38400 bps
3	57600 bps
4	115200 bps ( <b>Default</b> )

**Table 4: Barcode prints mode**

n	Bar code prints mode	Bar code data length (Barcode data)
1	EAN-8 n1=0	Len=8
2	EAN-13 n1=0	Len=13
3	UPC-A n1=0	Len=12
4	UPC-E 1< n1 <9	Len=6
5	CODE 39 n1=0	1 < Len < 15(first is length define)

## 7. Command code description and example

### LF [Print and Line Feed]

Command code

ASCII	LF
Hexadecimal	0A
Decimal	10

Function            After printing out skips a line

#### Example

1. PRINT #1,"AAAAAAAAA";CHR\$(&HA);
2. PRINT #1,"BBBBBBBBB";CHR\$(&HA);

#### Result

1. AAAAAAAAAA
  2. BBBBBBBBBB
- 

### FF [Form Feed]

Command code

ASCII	FF
Hexadecimal	0C
Decimal	12

Function            Automatically searches for black mark, but FF command must enable black mark detection.

#### Example

1. PRINT #1,"AAAAAAAAA";CHR\$(&HC);

#### Result

1. AAAAAAAAAA
- 

### CR [Carriage return]

Command code

ASCII	CR
Hexadecimal	0D
Decimal	13

Function            Place the print head at start position

#### Example

2. PRINT #1,"AAAAAAAAA";CHR\$(&HD);
3. PRINT #1,"BBBBBBBBB";CHR\$(&HD);

#### Result

2. AAAAAAAAAA
3. BBBBBBBBBB

---

### ESC SP n [Set the character space]

Command code

ASCII	ESC	SP	n
Hexadecimal	1B	20	n
Decimal	27	32	n

Defined region 0 <= n <= 255

Function Sets the character spacing for the right side of the character to [ $n \cdot 0.125$  mm]

#### Example

1. PRINT #1,CHR\$(&H1B);CHR\$(&H20);CHR\$(&H0);CHR\$(&HA);
2. PRINT #1,"ABCDEFGH IJK";CHR\$(&HA);
3. PRINT #1,CHR\$(&H1B);CHR\$(&H20);CHR\$(&H5);CHR\$(&HA);
4. PRINT #1,"ABCDEFGH IJK";CHR\$(&HA);

#### Result

ABCDEF GHIJK  
A B C D E F G H I J K

---

### ESC - n [Select/cancel under line mode]

Command code

ASCII	ESC	-	n
Hexadecimal	1B	2D	n
Decimal	27	45	n

Defined region n=0(disable);n=1(enable)

Function Print under line

#### Example

5. PRINT #1,CHR\$(&H1B);CHR\$(&H2D);"0";"AA";
6. PRINT #1,CHR\$(&H1B);CHR\$(&H2D);"1";"BB";
7. PRINT #1,CHR\$(&H1B);CHR\$(&H2D);"0";"CC";
8. PRINT #1,CHR\$(&H1B);CHR\$(&H2D);"1";"DD";CHR\$(&HA);
9. PRINT #1,CHR\$(&H1B);CHR\$(&H2D);"0";"EE";
10. PRINT #1,CHR\$(&H1B);CHR\$(&H2D);"1";"FF";
11. PRINT #1,CHR\$(&H1B);CHR\$(&H2D);"0";"GG";
12. PRINT #1,CHR\$(&H1B);CHR\$(&H2D);"1";"HH";CHR\$(&HA);

#### Result

AABBCCDD  
EEFFGGHH

---

### ESC \_ n [Select/cancel upper line mode]

Command code

ASCII	ESC	-	n
Hexadecimal	1B	5F	n
Decimal	27	95	n

Defined region n=0(disable);n=1(enable)

Function Print upper line

**Example**

```
13. PRINT #1,CHR$(&H1B);CHR$(&H5F);"0";"AA";
14. PRINT #1,CHR$(&H1B);CHR$(&H5F);"1";"BB";
15. PRINT #1,CHR$(&H1B);CHR$(&H5F);"0";"CC";
16. PRINT #1,CHR$(&H1B);CHR$(&H5F);"1";"DD";CHR$(&HA);
17. PRINT #1,CHR$(&H1B);CHR$(&H5F);"0";"EE";
18. PRINT #1,CHR$(&H1B);CHR$(&H5F);"1";"FF";
19. PRINT #1,CHR$(&H1B);CHR$(&H5F);"0";"GG";
20. PRINT #1,CHR$(&H1B);CHR$(&H5F);"1";"HH";CHR$(&HA);
```

**Result**

AABBCCDD  
EEFFGGHH

**ESC \* m n1 n2 d1...dk [Print raw graph lines]**

Command code

ASCII	ESC	*	m	n1	n2	d1.....dk
Hexadecimal	1B	2A	m	n1	n2	d1.....dk
Decimal	27	42	m	n1	n2	d1.....dk

Defined region m=0h,01h,20h,21h  
 0 <= n1 <= 255 ; 0 <= n2 <= 1  
 m=0h,1h ; k=n1+(255xn2)  
 m=20h,21h; k=(n1+(255xn2))x3

m(hex)	mode	Vertical Direction		Horizontal Direction	
		Dots	Dot density	Dot density	Max. dots
0	8-dot single density	8	67 DPI	101 DPI	192
1	8-dot single density	8	67 DPI	203 DPI	384
20	24-dot single density	24	203 DPI	101 DPI	192
21	24-dot single density	24	203 DPI	203 DPI	384

Function Print bit image mode

**ESC ( B n n1 barcode data [Print barcode mode]**

Command code

ASCII	ESC	(	B	n	n1	barcode data
Hexadecimal	1B	28	42	n	n1	barcode data
Decimal	27	40	66	n	n1	barcode data

Defined region 1 <= n <= 5 , n1 value see table 4

**Example**

```
1. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(1);CHR$(0);"20123451";CHR$(&HA);
2. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(2);CHR$(0);"5";"012345678900";CHR$(&HA);
3. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(3);CHR$(0);"061297027804";CHR$(&HA);
4. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(4);CHR$(0);"1";"078349";CHR$(&HA);
5. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(5);CHR$(0);CHR$(8);"TEST8052";CHR$(&HA);
```

- ```

$(&HA);
6. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(1);CHR$(1);"2012345";CHR$(&HA);
7. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(2);CHR$(1);"5";"01234567890";CHR$(&HA);
8. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(3);CHR$(1);"06129702780";CHR$(&HA);
9. PRINT#1,CHR$(&H1B);CHR$(&H28);CHR$(&H42);CHR$(5);CHR$(1);CHR$(8);"TEST8052";CHR$(&HA);

```

#### Result

1. Set the barcode is EAN-8 data 20123451
2. Set the barcode is ENA-13 data 012345678900
3. Set the barcode is UPC-A data 0612978400
4. Set the barcode is UPC-E data 078349
5. Set the barcode is CODE 39 data TEST8052
6. Set the barcode is EAN-8 data 2012345 + check digit '1'
7. Set the barcode is ENA-13 data 01234567890 + check digit '0'
8. Set the barcode is UPC-A data 0612902780 + check digit '4'
9. Set the barcode is CODE 39 data TEST8052 + check digit '+' + check digit 'T'

### ESC @ [Initialize printer]

Command code

|             |     |    |
|-------------|-----|----|
| ASCII       | ESC | @  |
| Hexadecimal | 1B  | 40 |
| Decimal     | 27  | 64 |

#### Example

```
PRINT #1,CHR$(&H1B);"@";CHR$(&HA);
```

#### Result

Reset printer parameter to default value

### ESC 1 n [Set line spacing (use in graphic mode)]

Command code

|             |     |    |   |
|-------------|-----|----|---|
| ASCII       | ESC | 1  | n |
| Hexadecimal | 1B  | 31 | n |
| Decimal     | 27  | 49 | n |

Defined region     0 <= n <= 255

#### Example

1. PRINT #1,CHR\$(&H1B);"1";CHR\$(3);
2. PRINT #1,"AAAAA";CHR\$(&HA);
3. PRINT #1,"BBBBB";CHR\$(&HA);

#### Result

```
AAAAA
      (3 dot line space)
BBBBB
```

### ESC 3 n [Set line spacing rate of minimum pitch]

Command code

|             |     |    |   |
|-------------|-----|----|---|
| ASCII       | ESC | 1  | n |
| Hexadecimal | 1B  | 31 | n |
| Decimal     | 27  | 49 | n |

Defined region  $0 \leq n \leq 255$

#### Example

```
1. PRINT #1,CHR$(&H1B);"3";CHR$(16);
```

#### Result

Use in graphic mode

---

### ESC h n [Select n times height]

Command code

|             |     |     |   |
|-------------|-----|-----|---|
| ASCII       | ESC | h   | n |
| Hexadecimal | 1B  | 68  | n |
| Decimal     | 27  | 104 | n |

Defined region  $0 \leq n \leq 6$

#### Example

```
1. PRINT #1,CHR$(&H1B);"h";CHR$(0);  
2. PRINT #1,"AAAAA";CHR$(&HA);  
3. PRINT #1,CHR$(&H1B);"h";CHR$(1);  
4. PRINT #1,"AAAAA";CHR$(&HA);  
5. PRINT #1,CHR$(&H1B);"h";CHR$(2);  
6. PRINT #1,"AAAAA";CHR$(&HA);
```

#### Result

```
AAAAA  
AAAAA  
AAAAA
```

---

### ESC w n [Select n times width]

Command code

|             |     |     |   |
|-------------|-----|-----|---|
| ASCII       | ESC | w   | n |
| Hexadecimal | 1B  | 77  | n |
| Decimal     | 27  | 119 | n |

Defined region  $0 \leq n \leq 6$

#### Example

```
1. PRINT #1,CHR$(&H1B);"w";CHR$(0);  
2. PRINT #1,"AAAAA";CHR$(&HA);  
3. PRINT #1,CHR$(&H1B);"w";CHR$(1);  
4. PRINT #1,"AAAAA";CHR$(&HA);  
5. PRINT #1,CHR$(&H1B);"w";CHR$(2);  
6. PRINT #1,"AAAAA";CHR$(&HA);
```

#### Result

```
AAAAA  
AAAAA  
AAAAA
```

---

### ESC z n [Select n times height and n times width]

Command code

|             |     |     |   |
|-------------|-----|-----|---|
| ASCII       | ESC | z   | n |
| Hexadecimal | 1B  | 7A  | n |
| Decimal     | 27  | 122 | n |

Defined region  $0 \leq n \leq 6$

#### Example

1. PRINT #1,CHR\$(&H1B);"z";CHR\$(0);
2. PRINT #1,"AAAAA";CHR\$(&HA);
3. PRINT #1,CHR\$(&H1B);"z";CHR\$(1);
4. PRINT #1,"AAAAA";CHR\$(&HA);
5. PRINT #1,CHR\$(&H1B);"z";CHR\$(2);
6. PRINT #1,"AAAAA";CHR\$(&HA);

#### Result

```
AAAAA
AAAAA
AAAAA
```

---

### ESC b n [Communication speed setting]

Command code

|             |     |    |   |
|-------------|-----|----|---|
| ASCII       | ESC | b  | n |
| Hexadecimal | 1B  | 62 | n |
| Decimal     | 27  | 98 | n |

Defined region  $0 \leq n \leq 4$

#### Example

1. PRINT #1,CHR\$(&H1B);"b";CHR\$(0);
2. PRINT #1,"AAAAA";CHR\$(&HA);
3. PRINT #1,CHR\$(&H1B);"b";CHR\$(1);
4. PRINT #1,"AAAAA";CHR\$(&HA);
5. PRINT #1,CHR\$(&H1B);"b";CHR\$(2);
6. PRINT #1,"AAAAA";CHR\$(&HA);

#### Result

```
(baud rate 9600bps)
AAAAA
(baud rate 19200bps)
AAAAA
(baud rate 38400bps)
AAAAA
```

---

### ESC c 3 n [Enable/disable paper sensor]

Command code

|             |     |    |    |   |
|-------------|-----|----|----|---|
| ASCII       | ESC | c  | 3  | n |
| Hexadecimal | 1B  | 63 | 33 | n |
| Decimal     | 27  | 99 | 51 | n |



Defined region n=0(disable); n=1(enable)

**Example**

1. PRINT #1,CHR\$(&H1B);"c";"3";CHR\$(0);
2. PRINT #1,"AAAAA";CHR\$(&HA);
3. PRINT #1,CHR\$(&H1B);"c";"3";CHR\$(1);
4. PRINT #1,"BBBBB";CHR\$(&HA);

**Result**

(Paper out sensor off)  
AAAAA  
(Paper out sensor on)  
BBBBB

**ESC d n [after printing feed n lines]**

Command code

|             |     |     |   |
|-------------|-----|-----|---|
| ASCII       | ESC | d   | n |
| Hexadecimal | 1B  | 64  | n |
| Decimal     | 27  | 100 | n |

Defined region 1 <= n <= 255

**Example**

1. PRINT #1,"AAAAA";CHR\$(&HA);
2. PRINT #1,CHR\$(&H1B);"d";CHR\$(15);
3. PRINT #1,"BBBBB";CHR\$(&HA);

**Result**

AAAAA  
(Feed 15 dot line)  
BBBBB

**GS B n [Turn white/black reverse printing mode on/off ]**

Command code

|             |    |    |   |
|-------------|----|----|---|
| ASCII       | GS | B  | n |
| Hexadecimal | 1D | 42 | n |
| Decimal     | 29 | 66 | n |

Defined region n=0(turn off); n=1(turn on)

**Example**

1. PRINT #1,CHR\$(&H1D);"B";CHR\$(0);
2. PRINT #1,"AAAAA";CHR\$(&HA);
3. PRINT #1,CHR\$(&H1B);"B";CHR\$(1);
4. PRINT #1,"AAAAA";CHR\$(&HA);

**Result**

AAAAA  
AAAAA

**GS V 0 [Cutter paper]**

Command code

|             |    |    |    |
|-------------|----|----|----|
| ASCII       | GS | V  | n  |
| Hexadecimal | 1D | 56 | 00 |
| Decimal     | 29 | 86 | 00 |

Defined region     n=0(Partial Cut); n=1(Full Cut)

**Example**

1. PRINT #1,"AAAAA";CHR\$(&HA);
2. PRINT #1,CHR\$(&H1D);"V";CHR\$(0);CHR\$(&HA);
3. PRINT #1,"BBBBB";CHR\$(&HA);

**Result**

AAAAA  
(Cutter paper)  
BBBBB

---

**GS h n [Select barcode height]**

Command code

|             |    |     |   |
|-------------|----|-----|---|
| ASCII       | GS | h   | n |
| Hexadecimal | 1D | 68  | n |
| Decimal     | 29 | 104 | n |

1 <= n <= 255

**Example**

1. PRINT #1,CHR\$(&H1D);CHR\$(&H68);CHR\$(20);CHR\$(&HA);
- 

**GS w n [Select barcode width]**

Command code

|             |    |     |   |
|-------------|----|-----|---|
| ASCII       | GS | w   | n |
| Hexadecimal | 1D | 77  | n |
| Decimal     | 29 | 119 | n |

0 <= n <= 255

**Example**

1. PRINT #1,CHR\$(&H1D);CHR\$(&H77);CHR\$(1);CHR\$(&HA);
- 

**GS H n [Selecting of Printing Position of HRI Code]**

Command code

|             |    |    |   |
|-------------|----|----|---|
| ASCII       | GS | H  | n |
| Hexadecimal | 1D | 48 | n |
| Decimal     | 29 | 72 | n |

0 <= n <= 2

| n(hex) | Printing Position |
|--------|-------------------|
| 0      | No print          |
| 1      | Above the barcode |
| 2      | below the barcode |

**Example**

1. PRINT #1,CHR\$(&H1D);CHR\$(&H48);CHR\$(1);CHR\$(&HA);

---

**FS & [Select Chinese character mode]**

Command code

|             |    |    |
|-------------|----|----|
| ASCII       | FS | &  |
| Hexadecimal | 1C | 26 |
| Decimal     | 28 | 38 |

**Example**

1. PRINT #1,CHR\$(&H1C);"&";CHR\$(&HA);
2. PRINT #1,"公司";CHR\$(&HA);

**Result**公司

---

**FS . [Cancel Chinese character mode]**

Command code

|             |    |    |
|-------------|----|----|
| ASCII       | FS | .  |
| Hexadecimal | 1C | 2E |
| Decimal     | 28 | 46 |

**Example**

1. PRINT #1,CHR\$(&H1C);".";CHR\$(&HA);
2. PRINT #1,"公司";CHR\$(&HA);

**Result**公司¥q

---

**FS q [Input 2D barcode Data]**

Command code

|             |    |     |   |    |          |
|-------------|----|-----|---|----|----------|
| ASCII       | FS | q.  | n | n1 | d1... dn |
| Hexadecimal | 1C | 71  | n | n1 | d1... dn |
| Decimal     | 28 | 113 | n | n1 | d1... dn |

*n 00(Area1) or 01(Area2)**n1 mask 0~7*

---

**FS Z [Print 2D barcode]**

Command code

|             |    |     |
|-------------|----|-----|
| ASCII       | FS | p.  |
| Hexadecimal | 1C | 70  |
| Decimal     | 28 | 112 |

## 2D-BARCODE :

---

### DLE EOT n [Real-time status transmission]

Command code

|             |     |     |   |
|-------------|-----|-----|---|
| ASCII       | DLE | EOT | n |
| Hexadecimal | 10  | 04  | n |
| Decimal     | 16  | 04  | n |

Defined region  $2 \leq n \leq 3$

**n = 2: Transmit online status**

**n = 3: Transmit error status**

#### Transmit online status :

The main purpose of this command is to check the printer which is in progress or stop state in normal states the return value of bit 3, the bit shows 1 when the printer is in progress, 0 means (Stand by) stop State.

| Bit | off/on | Hex | Decimal | Function                  |
|-----|--------|-----|---------|---------------------------|
| 0   | off    | 00  | 0       | Not used. Fixed to Off    |
| 1   | off    | 00  | 0       | Cutter is ready           |
|     | on     | 01  | 1       | Cutter is not in position |
| 2   | off    | 00  | 0       | Roller is ready           |
|     | on     | 04  | 4       | Roller is open            |
| 3   | off    | 00  | 0       | Printing is being stopped |
|     | on     | 08  | 8       | Data printing             |
| 4   | off    | 00  | 0       | Battery is Normal         |
|     | on     | 10  | 16      | Battery is Low            |
| 5   | off    | 00  | 0       | Paper is ready            |
|     | on     | 20  | 32      | No paper-end stop         |
| 6   | off    | 00  | 0       | Buffer ready              |
|     | on     | 40  | 64      | Buffer full               |
| 7   | off    | 00  | 0       | Not used. Fixed to Off    |

**Transmit error status:**

The main purpose of this command is to check if the control board in error, check the return value of bit 7, the bit shows 1 when control board detects an abnormal condition, 0 means the control board normal.

| Bit | off/on | Hex | Decimal | Function               |
|-----|--------|-----|---------|------------------------|
| 0   | off    | 00  | 0       | Not used. Fixed to Off |
| 1   | off    | 00  | 0       | Not used. Fixed to Off |
| 2   | off    | 00  | 0       | No error               |
|     | on     | 04  | 4       | Battery Low            |
| 3   | off    | 00  | 0       | No error               |
|     | on     | 08  | 8       | Paper out              |
| 4   | off    | 00  | 0       | No error               |
|     | on     | 10  | 16      | Roller error           |
| 5   | off    | 00  | 0       | No error               |
|     | on     | 20  | 32      | Cutter error           |
| 6   | off    | 00  | 0       | No error               |
|     | on     | 40  | 64      | Head error             |
| 7   | off    | 00  | 0       | No error               |
|     | on     | 80  | 128     | Error occurred         |

**DLE ENQ n [Real-time request to printer]**

Command code

|             |     |     |   |
|-------------|-----|-----|---|
| ASCII       | DLE | ENQ | n |
| Hexadecimal | 10  | 05  | n |
| Decimal     | 16  | 05  | n |

Defined region      1 <= n <= 2

n is 1 or 2, you can choose one result is the same. Check XON(11H)/XOFF(13H):

The main purpose of this command is to check if the print buffer is full in normal state, it returned 13H if the buffer is full, or returned 11H when the states are normal.

