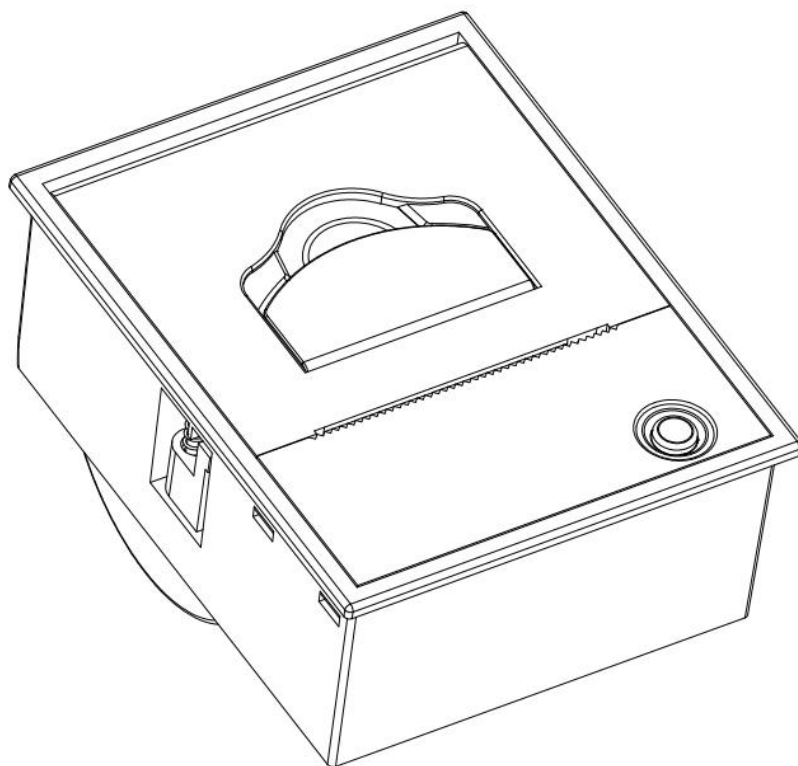


HOP-EM58A Embedded Printer User Manual



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1. Product introduction

HOP-EM58A is an embedded thermal receipt printer with small size, beautiful appearance, light weight, full functions, high speed, high definition, simple operation and convenient connection. It can be widely used to medical equipment, fire alarm control, industrial control and various other instruments to realize ticket bill printing.

The HOP-EM58A supports Windows, Linux, Android and IOS systems. It can directly print a variety of font, Chinese characters and graphics

Features

- Classic embedded design, buckle cover design
- Imported thermal print head with high reliability and long life
- Support multiple bitmaps (including NV Logo bitmap) storage and print
- Support multiple bar codes such as CODE128
- Support GB18030 large character library, both common words and uncommon words can be printed
- Support multiple international languages, support customized graphic printing
- Support ESC standard instruction set and factory-defined instruction set
- Support USB/serial interface, details see specification parameters
- Support Windows, Linux, Android and IOS systems
- Provide support for free on application development, support customization needs

Application field

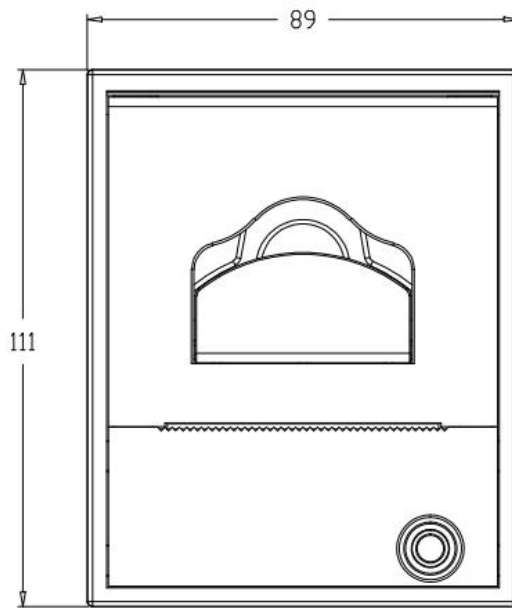
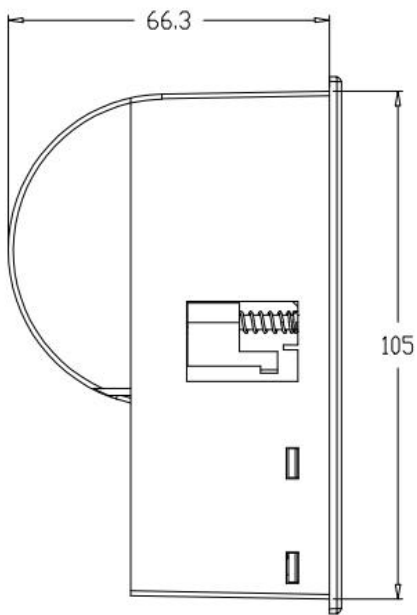
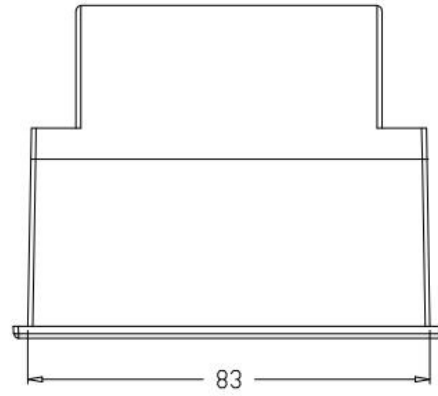
- Supermarkets, takeaways, restaurants (Reception and kitchen) bill printing
- Query, transaction and other service system ticket printing
- Sports, postal, aviation and other industries printing
- Data test printing in scientific research, medical, environmental protection and other industries

Specifications

Printing method	Line direct thermal
Print width	48mm (paper width 57.5±0.5mm)
Print speed	90mm/s(MAX)
Print density	384 points / line (203 DPI)
Print life	>50k
Built-in characters	International Language : 192 international characters, 69 international code pages Simplified Chinese: GB18030 GB font, support common words and uncommon words Traditional Chinese: Big5 (optional) Support for custom-defined characters and Chinese characters
Default line spacing	3.75mm=30/203 inches, line spacing support is set in 1/230 inch increments

Print command	ESC/POS command (see programming manual for details)
Bar code system	UPC-A,UPC-E,CODE39,CODE93,CODABAR,CODE128,ITF,EAN8(JAN8),EAN13(JAN13)
Print bitmap	Supports different density bitmap printing and NV Logo bitmap storage printing
Detection function	Photoelectric induction detect paper, thermal heat sensor protect print head
Operation instructions	Feed button , power indicator and error indicator
Print interface	USB2.0 (USB printing support) RS232/TTL serial port (choose one)
Cash drawer	12V-1A
Receive Cache	4KBytes
Paper Requirements	Type: Thermal Roll Paper Width: 57.5±0.5mm Outer diameter: ≦60MM
Dimensions	111MM*89MM*69MM (length * width * height)
Assembly size	105.5MM*83.5MM*66.5M (length * width * height)
Environmental requirements	Working environment: temperature 0 ~ 45 ° C, humidity 20% RH ~ 85% RH (no condensation) Storage environment: temperature -20 ~ 60 ° C, humidity 5% RH ~ 95% RH (no condensation)
Power supply specification	Input voltage: 9.6-12V (voltage range depends on hardware version) Input power: 24W, peak power 60W
Reliability performance	MCBF > 5 million lines

Assembly Dimension



2. Pin Definition



2.1 Power Interface Definition

Pin number	Signal name
1	VIN(+12V) OR(5-9V)
2	GND

2.2 Cash box Interface definition

1) Pin definition

Pin number	Signal name
1	VDR (contact to drawer port RJ-11 6P6C pin4)
2	DRAWER(contact to drawer port RJ-11 6P6Cpin2/5)



Cashbox interface

2) The box type 6P6C connector socket with RJ-11 interface

3) **Interface signal definition**

Pin number	Signal	Function
1	FG	Case
2	DRAWER 1	Driving signal for cashbox 1
3	DRSW	Cashbox condition monitoring signal
4	VDR	Cashbox driving power
5	DRAWER 2	Driving signal for cashbox 2
6	GND	Circuit common

2.3 USB Interface Pin Definition

Pin number	Signal name	Illustration
1	VUSB	+5V
2	D-	Negative data line
3	D+	Data line
4	GND	GND

2.4 Serial(TTL OR RS232) Interface Definition

Pin number	Signal name	Function
1	RTS (Printer Output)	Output
2	RX(Rx, Printer Input)	Input
3	TX(Tx, Printer Output)	Output
4	GND	GND

4 Instruction list

LF	Printing and paper feed	Printing and paper feed instructions
CR	Enter	
ESC J	Printing and paper feed n dot	
ESC d	Printing and paper feed n line	
ESC 3	Set line spacing n dot	Print settings

ESC 2	Set line spacing to default	
ESC \$	Set print position	
GS L nL nH	Set left blank	
ESC !	Set character printing	
ESC M n	Select font	
GS ! n	Set character size	
GS B n	Set, remove white print	
ESC - n	Set, remove underline	
ESC V n	Set, release 90 degree rotary printing	
ESC a	Print alignment	
FS &	Set Chinese mod	
FS .	Cancel Chinese mode	
ESC R n	International character set	
ESC t n	Select character code page	
ESC *	Vertical data filling	
GS v 0	Picture level model data printing	Graphic print instruction
FS q	Definition NV bitmap	
FS p n m	Print NV bitmap	
HT	Horizontal tabulation	Tab command
ESC D	Set tab position	
GS H	Set one dimensional bar code readable character (HRI) Printing position	One dimensional bar code print instruction
GS h	Set bar height	
GS w	Set bar width	
GS k	Print one-dimensional bar code	
DLE EOT n	Real-time transfer state	Status command
DLE ENQ n	Real time printer request	
ESC @	Initialization printer	Other instructions
DC2 T	Print page self testing	
ESC p m t1 t2	Produce cashbox pulse	

5 Detailed instructions

① Printing and paper feed instruction

Printing and paper feed

Instruction name	Printing and paper feed
Instruction code	ASCII : LF Decimal system : 10

	Hexadecimal: 0A
Function description	Print the contents of the cache, After that according to the current line spacing setting feed one line paper, and adjust the print position to the next line start position.
Parameter range	not have
Default value	not have
Support model	All models
Matters needing attention	not have
Use example	not have

Enter

Instruction name	Enter
Instruction code	ASCII : CR Decimal system : 13 Hexadecimal : 0D
Function description	When the print buffer is not empty, the same with LF, otherwise no effect.
Parameter range	not have
Default value	not have
Support model	All models
Matters needing attention	not have
Use example	not have

Printing and paper feed n dot

Instruction name	Printing and paper feed n dot
Instruction code	ASCII : ESC J n Decimal system : 27 74 n Hexadecimal : 1B 4A n
Function description	Print the contents of the cache and paper feed n dot
Parameter range	$0 \leq n \leq 255$
Default value	not have

Support model	All models
Matters needing attention	When the print buffer is empty, only paper feed n dot. After the execution of this directive, adjust the print position to the next line start position.
Use example	1b 40 30 31 32 1b 4a 10


Printing and paper feed n line

Instruction name	Printing and paper feed n line
Instruction code	ASCII : ESC d n Decimal system : 27 100 n Hexadecimal : 1B 64 n
Function description	Print the contents of the cache and paper feed n line
Parameter range	$0 \leq n \leq 255$
Default value	not have
Support model	All models
Matters needing attention	This command sets the print start position as the starting point of the line.
Use example	1b 40 30 31 32 1b 64 01

②Print settings instructions.

Set line spacing n dot.

Instruction name	Printing and paper feed n dot
Instruction code	ASCII : ESC 3 n Decimal system : 27 51 n Hexadecimal: 1B 33 n
Function description	Set line spacing n dot.
Parameter range	$0 \leq n \leq 255$
Default value	n = 33
Support mode	All models
Matters needing attention	The line spacing is shown as follows:

	 <p>If the set line spacing is less than the maximum character height in a row, the row spacing is equal to the maximum character height. If ESC 2, ESC @, printer reset, printer power off, line spacing restored to default.</p>
Use example	<pre>1b 40 1b 33 30 30 31 32 0d 0a 30 31 32 0d 0a 1b 32 30 31 32 0d 0a 30 31 32 0d 0a</pre>

Set line spacing to default

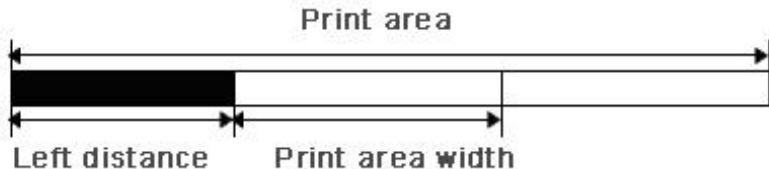
Instruction name	Set line spacing to default
Instruction code	ASCII : ESC 2 Decimal system : 27 50 Hexadecimal : 1B 32
Function description	Set the line spacing to the default 33 dot
Parameter range	not have
Default value	not have
Support model	All models
Matters needing attention	For a detailed look at the ESC 3 line distance instruction. If the set line spacing is less than the maximum character height in a row, the row spacing is equal to the maximum character height. You can use ESC 3 custom line spacing.
Use example	not have

Set print position

Instruction name	Set print position
Instruction code	ASCII : ESC \$ nL nH Decimal system : 27 36 nL nH Hexadecimal : 1B 24 nL nH
Function description	Adjust the print position to the starting position of the print (nL + nH * 256)
Parameter range	$0 \leq nL \leq 255, 0 \leq nH \leq 255$
Default value	not have

Support mode	All models
Matters needing attention	This instruction is only on the line, after the print position is reset to the print start position. Move beyond print range to next line print.
Use example	1b 40 1b 24 08 00 30 31 32 0d 0a 30 31 32 0d 0a

Set left blank

Instruction name	Set print position
Instruction code	ASCII : GS L nL nH Decimal system : 29 76 nL nH Hexadecimal : 1D 4C nL nH
Function description	Set left blank (nL + nH × 256) dot
Parameter range	$0 \leq nL \leq 255$, $0 \leq nH \leq 255$
Default value	not have
Support mode	All models
Matters needing attention	<p>This command is valid only at the start of a row. The following illustration:</p>  <p>If the setting is out of print range, use the maximum value of the printable unit.</p>
Use example	1b 40 1d 4c 08 00 30 31 32 0d 0a 30 31 32 0d 0a

Set horizontal and vertical movement units

Instruction name	Set horizontal and vertical movement units
Instruction code	ASCII : GS P x y Decimal system : 29 80 x y Hexadecimal: 1D 50 x y
Function	<ul style="list-style-type: none"> The lateral movement units are set to 25.4/ x mm (1/ x inch)

description	longitudinal moving units to be set to 25.4/ y mm (1/ y) •When x and y are 0, X and y are set to default values.
Parameter range	$0 \leq x \leq 255, 0 \leq y \leq 255$
Default value	x = 200, y = 380, At this point a moving unit is a print point. The transverse distance is about 1/8mm, and the vertical distance is about 1/15mm.
Support mode	80XXX
Matters needing attention	<ul style="list-style-type: none"> • Mobile unit standard mode can be set, page mode can not be set. • Perpendicular to the feed direction transverse to longitudinal feed direction. • In standard mode, the following commands are either X or Y, even if the character is rotated (inverted or rotated 90 degrees) <ul style="list-style-type: none"> ①Command with X: ESC SP, ESC \$, ESC \, FS S, GS L, GS W ②Command with Y: ESC 3, ESC J, GS V • Under the age mode, use X or Y according to the regional direction and print start position. <ul style="list-style-type: none"> ①When the print start position is set to the upper left corner of the ESC T command (from the left to the right) or the lower right corner (from right to left): <ul style="list-style-type: none"> Command with X: ESC SP, ESC \$, ESC W, ESC \, FS S Command with Y: ESC 3, ESC J, ESC W, GS \$, GS \, GS V ②When the print start position is set up in the upper right corner of the ESC T command (from the top to bottom) or in the lower left corner (print direction from bottom to top): <ul style="list-style-type: none"> Command with X: ESC 3, ESC J, ESC W, GS \$, GS \ Command with Y: ESC SP, ESC \$, ESC W, ESC \, FS S, GS V • This command does not affect other settings that were previously set. • The smallest unit of movement is the result of the combined action of the command and other commands. • One inch equals 25.4mm.
Use example	<pre>1d 50 c8 c8 1B 4C 1B 57 30 00 00 00 78 00 30 00 1B 33 18 1B 57 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 30 31 32 0C</pre>

Select font

Instruction name	Select font
------------------	-------------

Instruction code	ASCII : ESC M n Decimal system : 27 77 n Hexadecimal: 1b 4d n												
Function description	<p style="text-align: center;">Select character font</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>n</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>0, 48</td> <td>Select font A (12×24) 。</td> </tr> <tr> <td>1, 49</td> <td>Select font B (9×24) 。</td> </tr> <tr> <td>2, 50</td> <td>Select font C (9×17)</td> </tr> <tr> <td>3, 51</td> <td>Select font D (8×16)</td> </tr> <tr> <td>4, 52</td> <td>Select font E (16×18)</td> </tr> </tbody> </table>	n	Function	0, 48	Select font A (12×24) 。	1, 49	Select font B (9×24) 。	2, 50	Select font C (9×17)	3, 51	Select font D (8×16)	4, 52	Select font E (16×18)
n	Function												
0, 48	Select font A (12×24) 。												
1, 49	Select font B (9×24) 。												
2, 50	Select font C (9×17)												
3, 51	Select font D (8×16)												
4, 52	Select font E (16×18)												
Parameter range	n = 0, 1, 2, 3, 4, 48, 49, 50, 51, 52												
Default value	n = 0												
Support mode	Part model												
Matters needing attention	• ESC ! You can also select the font type, but the settings you have received from the last command are valid.												
Use example	1b 40 30 31 32 0d 0a 1b 4d 00 30 31 32 0d 0a 1b 4d 01 30 31 32 0d 0a 1b 4d 02 30 31 32 0d 0a 1b 4d 03 30 31 32 0d 0a 1b 4d 04 30 31 32 0d 0a												

Set character printing

Instruction name	Set character printing															
Instruction code	ASCII : ESC ! n Decimal system : 27 33 n Hexadecimal : 1B 21 n															
Function description	Set character printing (Font, reverse type, invert, bold, double-height, double width, and underline) , Bit of parameter n Defined as follows: <table style="margin-left: 40px;"> <tr> <td>Bit</td> <td>Function</td> <td>Val</td> </tr> <tr> <td>0</td> <td>1</td> <td></td> </tr> <tr> <td>0</td> <td>Word Model</td> <td>Normal Small character</td> </tr> <tr> <td>1</td> <td>Undefinition</td> <td></td> </tr> <tr> <td>2</td> <td>Undefinition</td> <td></td> </tr> </table>	Bit	Function	Val	0	1		0	Word Model	Normal Small character	1	Undefinition		2	Undefinition	
Bit	Function	Val														
0	1															
0	Word Model	Normal Small character														
1	Undefinition															
2	Undefinition															

	3 Wide Volume Cancel Set 4 Double Height Cancel Set 5 Double Wide Cancel Set 6 Undefined 7 Underline Cancel Set
Parameter range	not have
Default value	n = 0
Support mode	All models
Matters needing attention	This instruction is valid for both Chinese and foreign fonts When ESC @, printer reset, power down, this instruction is set to fail.
Use example	1B 40 1B 21 01 30 31 32 0D 0A 1B 40 1B 21 02 30 31 32 0D 0A 1B 40 1B 21 04 30 31 32 0D 0A 1B 40 1B 21 08 30 31 32 0D 0A 1B 40 1B 21 10 30 31 32 0D 0A 1B 40 1B 21 20 30 31 32 0D 0A 1B 40 1B 21 40 30 31 32 0D 0A 1B 40 1B 21 80 30 31 32 0D 0A

Set character size

Instruction name	Set character size					
Instruction code	ASCII : GS ! n Decimal system : 29 33 n Hexadecimal : 1d 21 n					
Function description	Set character size is 1-8 times wide, 1-8 times higher. Defined as follows: Set the character height 4 to 7 bits with a height of between 0 and 3 bits.					
	Table 1 Character width setting			Table 2 Character height setting		
	Hexadeci- mal	Decim- al system	Width	Hexadeci- mal	Decimal system	Height
	00	0	1 (Normal	00	0	1 (Normal

))
	10	16	2 (Double width)		01	1 2 (Double height)
	20	32	3		02	2 3
	30	48	4		03	3 4
	40	64	5		04	4 5
	50	80	6		05	5 6
	60	96	7		06	6 7
	70	112	8		07	7 8
Parameter range	not have					
Default value	n = 0					
Support mode	All models					
Matters needing attention	<p>This directive is valid for both Chinese and foreign fonts except HRI characters.</p> <p>When ESC @, printer reset, power down, this instruction is set to fail.</p>					
Use example	<pre>1b 40 1d 21 11 30 31 32 0d 0a 30 31 32 0d 0a</pre>					

Set, remove white print

Instruction name	Set, remove white print
Instruction code	ASCII : GS B n Decimal system : 29 66 n Hexadecimal : 1d 42 n
Function description	Set or release the white print mode. When the least significant bit N 0, inverse mode is closed. When the least significant bit n 1, open the inverse mode.
Parameter range	not have
Default value	n = 0
Support mode	All models
Matters needing attention	<p>Only the lowest bit of n is valid</p> <p>This command is valid for both built-in and user-defined characters.</p> <p>When the inverse mode is open, it is blank on the ESC set SP is also effective.</p> <p>This command does not affect bitmap、user defined bitmap、bar code、HRI character、and the Space skipped by HT, ESC \$。</p>

	<p>This command does not affect line spacing.</p> <p>Inverse mode prior to underline mode. When setting the visual mode, even if the open mode is also prohibited the underscore (but not cancel).</p> <p>When ESC @, printer reset, power down, this instruction is set to fail.</p>
Use example	<pre>1b 40 1d 42 01 30 31 32 0d 0a 30 31 32 0d 0a</pre>

Set, remove underline

Instruction name	Set, remove underline								
Instruction code	ASCII : ESC - n Decimal system : 27 45 n Hexadecimal: 1B 2D n								
Function description	Based on the following n values, set / remove the underline mode: <table border="1" data-bbox="461 949 1307 1128"> <thead> <tr> <th>n</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>0, 48</td> <td>Remove the underline mode</td> </tr> <tr> <td>1, 49</td> <td>Set the underline mode (1 Point rough)</td> </tr> <tr> <td>2, 50</td> <td>Set the underline mode(2 Point rough)</td> </tr> </tbody> </table>	n	Function	0, 48	Remove the underline mode	1, 49	Set the underline mode (1 Point rough)	2, 50	Set the underline mode(2 Point rough)
n	Function								
0, 48	Remove the underline mode								
1, 49	Set the underline mode (1 Point rough)								
2, 50	Set the underline mode(2 Point rough)								
Parameter range	$0 \leq n \leq 2, 48 \leq n \leq 50$								
Default value	n = 0								
Support mode	All models								
Matters needing attention	<p>The printer can underline all characters (including the right side of the character), except for the blank set by the HT.</p> <p>The printer can give clockwise 90 degrees of the characters and the reverse character print underlined.</p> <p>When the n value is set to 0 or 48, the underline mode is removed, the following data is not printed, And the roughness of the underline that is set before lifting the underline mode does not change.</p> <p>The default underline is 1.</p> <p>Changing the character size does not affect the coarseness of the current underline.</p> <p>Use ESC, you can also set or remove the underline mode, but note that the last command is valid.</p>								
Use example	<pre>1b 40 1b 2d 01 30 31 32 0d 0a 1b 40 1b 2d 02 30 31 32 0d 0a</pre>								

	1b 40 1b 2d 00 30 31 32 0d 0a
--	----------------------------------

Set, release 90 degree rotary printing

Instruction name	Set, release 90 degree rotary printing
Instruction code	ASCII : ESC V n Decimal system : 27 86 n Hexadecimal: 1B 56 n
Function description	Set, release 90 degree rotary printing. When n is equal to 0 or 48, lift the 90 degree rotary printing. When the n is equal to 1 or 49, set the 90 degree rotary printing.
Parameter range	$0 \leq n \leq 1$, $48 \leq n \leq 49$
Default value	n = 0
Support mode	All models
Matters needing attention	When the underline mode is set, the printer does not underline the character rotated 90 degrees clockwise In the clockwise 90 degree rotation mode, double height and width is commanded that the direction enlarged character should be opposite to the command from the double height and width under the general mode. When ESC @, printer reset, power down, this instruction is set to fail.
Use example	1b 40 1b 56 01 30 31 32 0d 0a 30 31 32 0d 0a

Set print alignment mode

Instruction name	Set print alignment mode (Left, Center, Right)
Instruction code	ASCII : ESC a n Decimal system : 27 97 n Hexadecimal: 1B 61 n
Function description	Alignment of all data in a row, n value is as follows: n model 0, 48 Left, 1, 49 Center 2, 50 Right
Parameter range	$0 \leq n \leq 2$ OR $48 \leq n \leq 50$
Default value	n = 0
Support mode	All models
Matters	When ESC @, printer reset, power down, this instruction is set to

needing attention	fail.
Use example	1B 40 1B 61 02 30 31 32 0D 0A 1B 40 1B 61 01 30 31 32 0D 0A 1B 40 1B 61 00 30 31 32 0D 0A

Set Chinese mode

Instruction name	Set Chinese mode
Instruction code	ASCII : FS & Decimal system : 28 38 Hexadecimal: 1C 26
Function description	Select Chinese mode
Parameter range	not have
Default value	not have
Support mode	All models
Matters needing attention	When selecting a Chinese character pattern, the printer processes all Chinese characters, two bytes at a time. In the order of the first byte and second byte handle the Chinese character code.
Use example	1b 40 1C 26 B0 AE C9 CF D7 D4 BC BA 0d 0a 1C 2E B0 AE C9 CF D7 D4 BC BA 0d 0a

Cancel Chinese mod

Instruction name	Cancel Chinese mode
Instruction code	ASCII : FS . Decimal system : 28 46 Hexadecimal : 1C 2E
Function description	Cancel Chinese mode
Parameter range	not have
Default value	not have
Support mode	All models
Matters needing attention	When you do not select the Chinese character pattern, all character code as a ASCII code, each character to deal with
Use example	not have

International character set

Instruction name	International character set																																		
Instruction code	ASCII : ESC R n Decimal system : 27 82 n Hexadecimal : 1B 52 n																																		
Function description	Set the international character set according to the value of N in the following table. <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>n</th> <th>Character set</th> </tr> </thead> <tbody> <tr><td>0</td><td>U.S.A</td></tr> <tr><td>1</td><td>France</td></tr> <tr><td>2</td><td>Germany</td></tr> <tr><td>3</td><td>Britain</td></tr> <tr><td>4</td><td>Denmark I</td></tr> <tr><td>5</td><td>Sweden</td></tr> <tr><td>6</td><td>Italy</td></tr> <tr><td>7</td><td>Spain I</td></tr> <tr><td>8</td><td>Japan</td></tr> <tr><td>9</td><td>Norway</td></tr> <tr><td>10</td><td>Denmark II</td></tr> <tr><td>11</td><td>Spain II</td></tr> <tr><td>12</td><td>Latin America</td></tr> <tr><td>13</td><td>Korea</td></tr> <tr><td>14</td><td>Slovenia</td></tr> <tr><td>15</td><td>China</td></tr> </tbody> </table>	n	Character set	0	U.S.A	1	France	2	Germany	3	Britain	4	Denmark I	5	Sweden	6	Italy	7	Spain I	8	Japan	9	Norway	10	Denmark II	11	Spain II	12	Latin America	13	Korea	14	Slovenia	15	China
n	Character set																																		
0	U.S.A																																		
1	France																																		
2	Germany																																		
3	Britain																																		
4	Denmark I																																		
5	Sweden																																		
6	Italy																																		
7	Spain I																																		
8	Japan																																		
9	Norway																																		
10	Denmark II																																		
11	Spain II																																		
12	Latin America																																		
13	Korea																																		
14	Slovenia																																		
15	China																																		
Parameter range	$0 \leq n \leq 15$																																		
Default value	0																																		
Support mode	All models																																		
Matters needing attention	Not have																																		
Use example	1B 40 1B 52 00 20 21 22 23 24 25 26 27 28 29 2A 2B 2C 2D 2E 2F 30 31 32 33 34 35 36 37 38 39 3A 3B 3C 3D 3E 3F 40 41 42 43 44 45 46 47 48 49 4A 4B 4C 4D 4E 4F 50 51 52 53 54 55 56 57 58 59 60 6A 6B 6C 6D 6E 6F 70 71 72 73 74 75 76 78 79 7A 7B 7C 7D 7E 0D 0A																																		

Select character code page

Instruction	Select character code page
-------------	----------------------------

name	
Instruction code	ASCII : ESC t n Decimal system : 27 116 n Hexadecimal: 1B 74 n
Function description	Select n from character code page N code page 0 CP437 [U.S.A, European standard] 1 KataKana [Katakana] 2 CP850 [Multi language] 3 CP860 [Portugal] 4 CP863 [Canadian French] 5 CP865 [Northern Europe] 6 WCP1251 [Slavic] 7 CP866 Slavic2 8 MIK[Bulgarian / Slavic] 9 CP755 [Eastern Europe, Latvia 2] 10 [Iran, Persia] 11 Retain 12 Retain 13 Retain 14 Retain 15 CP862 [Hebrew] 16 WCP1252 [Latin1] 17 WCP1253 [Greece] 18 CP852 [Latin 2] 19 CP858 [Multilingual Latin 1+ European symbols] 20 Iran II [Persian] 21 Latvia 22 CP864[Arabic] 23 ISO-8859-1 [Western Europe] 24 CP737 [Greece] 25 WCP1257 [The Baltic Sea] 26 Thai

	27 CP720[Arabic] 28 CP855 29 CP857[Turkish] 30 WCP1250[central] 31 CP775 32 WCP1254[Turkish] 33 WCP1255[Hebrew] 34 WCP1256[Arabic] 35 WCP1258 [Vietnamese] 36 ISO-8859-2[Latin 2] 37 ISO-8859-3[Latin 3] 38 ISO-8859-4[Baltic language] 39 ISO-8859-5[Slavic] 40 ISO-8859-6[Arabic] 41 ISO-8859-7[Greek] 42 ISO-8859-8[Hebrew] 43 ISO-8859-9[Turkish] 44 ISO-8859-15[Latin9] 45 [Thai2] 46 CP856 47 Cp874 255 GBK2312
Parameter range	$0 \leq n \leq 255$
Default value	0
Support mode	All models
Matters needing attention	not have
Use example	1B 40 1C 2E 1B 74 00 80 81 82 83 84 85 86 87 88 89 8A 8B 8C 8D 8E 8F 90 91 92 93 94 95 96 97 98 9A 9B 9C 9D 9E 9F A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 AA AB AC AD AE AF B0 B1 B2 B3 B4 B5 B6 B7 B8 B9 BA BB BC BD BE BF C0 C1 C2 C3 C4 C5 C6 C7 C8 C9 CA CB CC CD CE CF D0 D1 D2 D3 D4 D5 D6 D7 D8 D9 DA DB DC DD DE DF E0 E1 E2 E3 E4 E5 E6 E7 E8 E9 EA EB EC ED EE EF F0 F1 F2 F3 F4 F5 F6 F7 F8 F9 FA FB FC FD FE FF 0D 0A

③Graphic print instruction

Graphical vertical mode selection data fill

Instruction name	Graphical vertical mode selection data fill																				
Instruction code	ASCII : ESC * m Hl Hh [d]k Decimal system : 27 42 m Hl Hh [d]k Hexadecimal : 1B 2A m Hl Hh [d]k																				
Function description	Print longitudinal image data, the parameters are as follows: M as a bitmap format: <table style="margin-left: 40px;"> <thead> <tr> <th>m</th> <th>Pattern</th> <th>Horizontal proportion</th> <th>Vertical proportion</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>8dot single density</td> <td>×2</td> <td>×3</td> </tr> <tr> <td>1</td> <td>8dot double density</td> <td>×1</td> <td>×3</td> </tr> <tr> <td>32</td> <td>24dot single density</td> <td>×2</td> <td>×1</td> </tr> <tr> <td>33</td> <td>24dot double density</td> <td>×1</td> <td>×1</td> </tr> </tbody> </table> <p>Hl, Hh for horizontal points (Hl+256×Hh) [d]k is the point data K is used to indicate the number of bytes in the data point, not to transmit.</p>	m	Pattern	Horizontal proportion	Vertical proportion	0	8dot single density	×2	×3	1	8dot double density	×1	×3	32	24dot single density	×2	×1	33	24dot double density	×1	×1
m	Pattern	Horizontal proportion	Vertical proportion																		
0	8dot single density	×2	×3																		
1	8dot double density	×1	×3																		
32	24dot single density	×2	×1																		
33	24dot double density	×1	×1																		
Parameter range	XX58: $m = 0、1、32、33$ $1 \leq Hl + Hh \times 256 \leq 384$ $0 \leq d \leq 255$ $k = Hl + Hh \times 256$ (当 $m = 0、1$) $k = (Hl + Hh \times 256) \times 3$ (当 $m = 32、33$) XX80: $m = 0、1、32、33$ $1 \leq Hl + Hh \times 256 \leq 576$ $0 \leq d \leq 255$ $k = Hl + Hh \times 256$ ($m = 0、1$) $k = (Hl + Hh \times 256) \times 3$ ($m = 32、33$)																				
Default value	not have																				
Support mode	All models																				
Matters needing attention	[d]k corresponding to 1 points that the point of print, the corresponding bit is 0, then the point is not printed. The part of the image that is horizontally out of print will be ignored. The relationship between the point data and the printing effect is as follows:																				

	<p>This instruction is only filled with the print buffer. The image is printed only after the print command is received.</p> <p>If you need to print the image height is large, you can first split into a number of height of 8 (M = 0,1) or (M = 32,33) points of the images were printed.</p> <p>After filling the graphic data, you can continue to fill other information so that the graphics are printed with other information. After filling the point map, the general use of ESC J (n = 24) instructions for printing, You can also use the LF command to print, but the LF command will lead to feed operation (by spacing feed), multi line image discontinuity, You can set the line spacing is 0, not too much paper.</p> <p>(Needle printer will be offset, if there is a break in the middle, please continue to send data)</p>
Use example	<pre>1B 40 1b 2a 00 0c 00 ff ff ff ff ff ff ff ff ff ff ff ff 1B 33 00 0A</pre>

Picture level model data printing

Instruction name	Picture level model data printing																				
Instruction code	ASCII : GS v 0 Decimal system : 29 118 48 m xL xH yL yH [d]k Hexadecimal : 1D 76 30 m xL xH yL yH [d]k																				
Function description	Print the image data, and the parameters are as follows: M bitmap mode: <table border="0" style="width: 100%;"> <tr> <td style="width: 15%;"></td> <td style="width: 35%;">m model</td> <td style="width: 25%;">Horizontal proportion</td> <td style="width: 25%;">Vertical proportion</td> </tr> <tr> <td></td> <td>0,48 normal</td> <td>× 1</td> <td>× 1</td> </tr> <tr> <td></td> <td>1,49 double width</td> <td>× 2</td> <td>× 1</td> </tr> <tr> <td></td> <td>2,50 double height</td> <td>× 1</td> <td>× 2</td> </tr> <tr> <td></td> <td>3,51 double width and height</td> <td>× 2</td> <td>× 2</td> </tr> </table> XL, xH is the number of bytes in the horizontal direction (xL + xH × 256)		m model	Horizontal proportion	Vertical proportion		0,48 normal	× 1	× 1		1,49 double width	× 2	× 1		2,50 double height	× 1	× 2		3,51 double width and height	× 2	× 2
	m model	Horizontal proportion	Vertical proportion																		
	0,48 normal	× 1	× 1																		
	1,49 double width	× 2	× 1																		
	2,50 double height	× 1	× 2																		
	3,51 double width and height	× 2	× 2																		

Define NV bitmap

Instruction name	Define NV bitmap
Instruction code	ASCII : FS q n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n Decimal system : 28 113 n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n Hexadecimal : 1C 71 n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n
Function description	Defines a NV bitmap with a specific n value. N specifies the number of NV bitmaps defined XL, xH for the definition of the NV bitmap to specify the number of points in the horizontal direction $(xL+xH*256) *8$. YL, yH for the definition of the NV bitmap to specify the number of points in the vertical direction $(yL+yH*256) *8$.
Parameter range	$1 \leq n \leq 255$ $0 \leq xL \leq 255$ $0 \leq xH \leq 3$ $(1 \leq (xL+xH*256) \leq 1023)$ $0 \leq yL \leq 255$ $0 \leq yH \leq 1$ $(1 \leq (yL+yH*256) \leq 288)$ $0 \leq d \leq 255$ $k = (xL+xH*256)*(yL+yH*256)*8$ Total defined data area = 64K bytes
Default value	not have
Support mode	All models
Matters needing attention	<p>Frequent execution of write commands may damage NV storage. Therefore, it is recommended that one day be performed on the NV storage for no more than 10 write operation.</p> <p>After an image is placed in the NV storage, the printer performs a hardware reset operation. Therefore, the user - defined character, the next - pass bitmap should be defined after completion of the command. Printer clear receive and print buffer, and reset to the effective mode when connect to the power supply. (Hardware reset interface not supported)</p> <p>This command cancels all NV bitmaps that have been defined with this command.</p> <p>Mechanical operation cannot be performed during the processing of this command until the hardware reset is completed. (Including when the cover is open initialize the print head position paper feed button etc.)</p> <p>During this command processing, the printer is busy and stops receiving data when writing data to the user's NV memory.</p>

Therefore, it is forbidden to transfer data during execution of this command, including real-time commands.

A NV bitmap is a bitmap defined in a non-volatile memory. Using FS Q definition FS P printing.

In standard mode, the command is valid only when a row is started.

The order of the 7 bytes of the <FS~yH> is normally processed after the command is valid.

When the amount of data exceeds the xL, x, yL, yH defined by the range of the left capacity, The printer will handle the range defined by xL, xH, yL, and yH beyond the defined scope.

In the first set of bitmaps, When xL, xH, yL, and yH are out of bounds for any parameter, the command is disabled.

In a group of bitmaps that are not the first group, When the printer encounters xL, xH, yL, yH beyond the defined range, The command is stopped and then start to write the NV image. Now, The NV bitmap that has not been defined is not available (undefined), But any previously defined NV bitmap is still valid.

D represents the definition of data, In data (d), a 1 bit specifies a point to be printed and a 0 bit specifies a point that is not printed.

This command defines n as the number of NV bitmaps. The number starts from the bitmap 01H order.

So the first data set [xL xH yL yH d1...dk] is the NV bitmap of 01H , the last data set [xL xH yL yH d1...dk] is the NV bitmap of n . The total number is consistent with the number of FS P commands set in the NV bitmap.

The definition of a NV bitmap data is composed of [xL xH yH D1... Dk] yL. So, when only one NV bitmap is n=1, the printer only processes the data set [xL xH yH D1 yL dk] at a time.

The printer uses NV memory ([data: (xL+xH *256) * (yL+yH*256) * *8]+[header:4]) bytes.

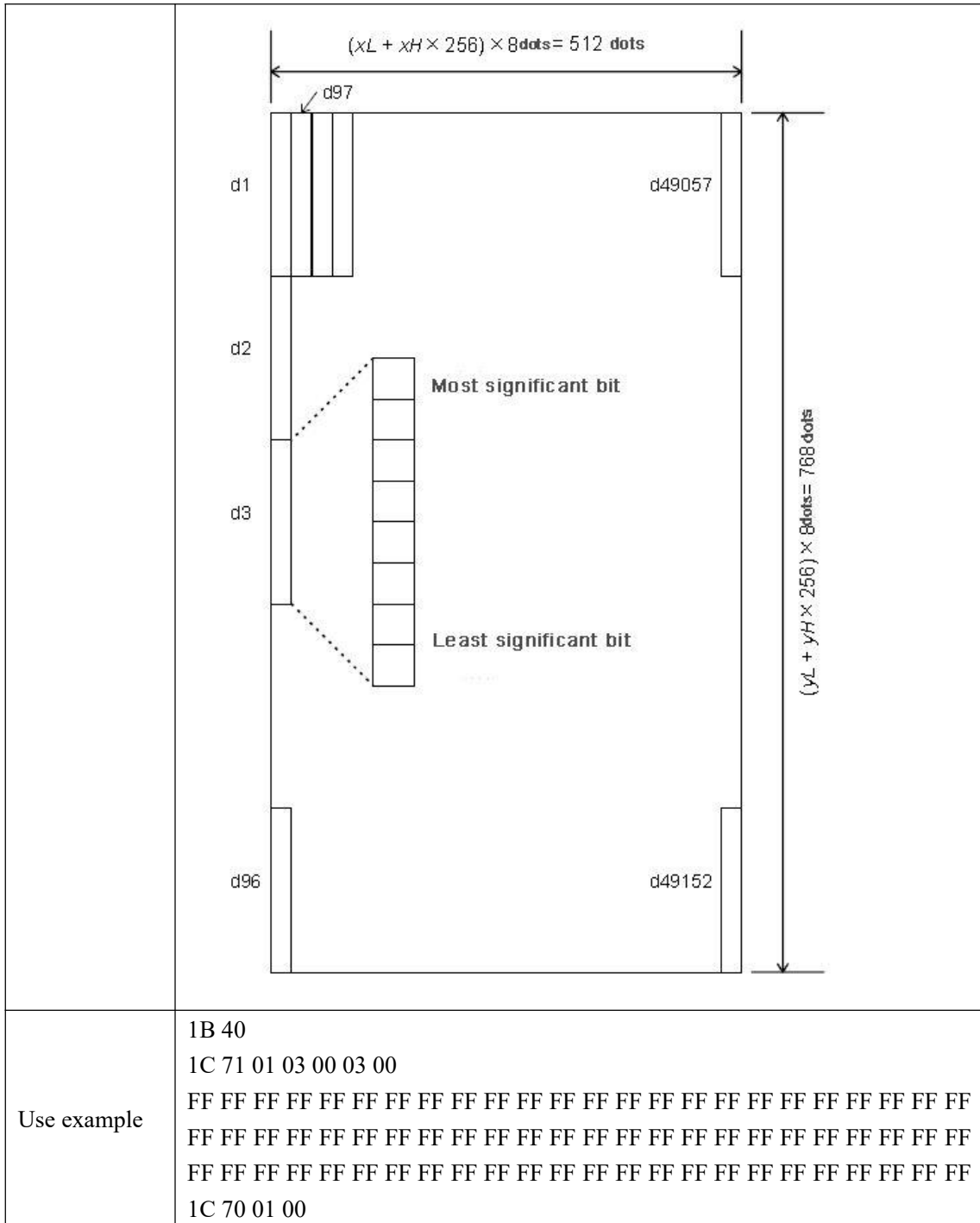
The definition of this printer is 192K bytes (max). The command can define several bitmaps, but can not define the total data capacity [bitmap data + head] more than 192K bytes of the bitmap.

Even if the ASB is set, the printer does not transmit the ASB state or the execution state detection during processing the command.

Once a NV bitmap is defined, it cannot be executed by the ESC @ command, reset, and power down.

This command executes only the definition of the NV bitmap, and the printing of the NV bitmap that does not execute is performed by the FS P command.

Graphic: xL = 64, xH = 0, yL = 96, yH = 0



Print NV bitmap

Instruction name	Print NV bitmap		
Instruction code	ASCII : FS p n m Decimal system : 28 112 n m Hexadecimal : 1C 70 n m		
Function description	Print the NV bitmap n with the pattern specified by m. <table border="1" style="margin-left: 20px;"> <tr> <td>m</td> <td>Model</td> </tr> </table>	m	Model
m	Model		

	<table border="1"> <tr> <td>0, 48</td> <td>Normal</td> </tr> <tr> <td>1, 49</td> <td>Double width</td> </tr> <tr> <td>2, 50</td> <td>Double height</td> </tr> <tr> <td>3, 51</td> <td>Double width and height</td> </tr> </table>	0, 48	Normal	1, 49	Double width	2, 50	Double height	3, 51	Double width and height
0, 48	Normal								
1, 49	Double width								
2, 50	Double height								
3, 51	Double width and height								
Parameter range	$0 \leq m \leq 3$ $48 \leq m \leq 51$ $1 \leq n \leq 255$								
Default value	not have								
Support mode	All models								
Matters needing attention	<p>n is the number of NV bitmaps (defined with the FS Q command) m specifies bitmap mode.</p> <p>A NV bitmap is a bitmap defined in a non-volatile storage. Using FS Q to define FS P printing.</p> <p>This command is invalid when the specified NV bitmap does not exist.</p> <p>In standard mode, the command is valid only if there is no data in the print buffer.</p> <p>This command is not affected by print mode (FontBold printing, overlapping, Underline, Character dimension, Inverse print or Character 90), except rotation etc reversed print mode. If more than one line is printed, the data is not printed. At ordinary and double width mode, the command input n (n NV bitmap height), in double height and four times the size of mode (the command input 2n, N, ESC and NV bitmap height) 2 or ESC 3 set line spacing.</p> <p>After printing the bitmap, the command sets the print position at the beginning of a line, and the subsequent data is processed by ordinary data.</p>								
Use example									

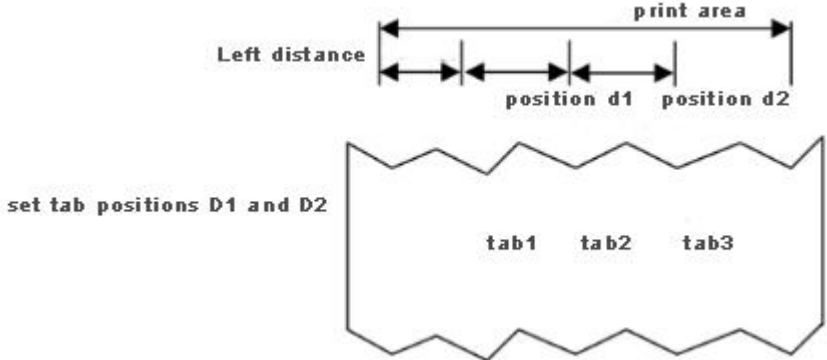
④ Tab command

Horizontal tabulation

Instruction name	Horizontal tabulation
Instruction code	ASCII : HT Decimal system : 9 Hexadecimal: 09
Function description	Move the printing position to the next tab position
Parameter range	not have

Default value	not have
Support mode	All models
Matters needing attention	Tab position set by ESC D This command will be treated as a LF instruction if the tab position is not set (the default level is not a tab stop) If the tab position exceeds the print area, the coordinates will be moved to the start of the next line newline)
Use example	Not have

Setting level tab position

Instruction name	Setting level tab position
	ASCII : ESC D [d]k NUL Decimal system : 27 68 [d]k 0 Hexadecimal : 1B 44 [d]k 00
Function description	Set the horizontal tab position, the parameters are as follows: d1 ... dk: Setting level tab position, Take 8 points for unit. NULL is the end symbol
Parameter range	XX58: $1 \leq d \leq 46$ ($d1 < d2 < \dots < dk$, $1 \leq k \leq 16$) XX80: $1 \leq d \leq 70$ ($d1 < d2 < \dots < dk$, $1 \leq k \leq 16$)
Default value	[d]k = 0 (Default no level tab position)
Support mode	All models
Matters needing attention	<p>Tab position is as follows:</p>  <p>Maximum support 16 tab position setting. Use this command to cancel the previous tab location settings. K is for the use of signs, without transmission. When the transmission [d]k encounters NULL, it is regarded as the end. If DK is less than or equal to DK-1, it is regarded as the end, and the remaining data is treated as ordinary data. Tab position can be switched by HT. When the left margin changes, the tab position changes.</p>

	When ESC @, printer reset, power down, this instruction is set to fail.
Use example	not have



⑤Dimension bar code printing command

Select the print position HRI characters

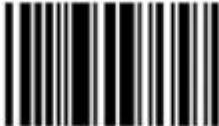

Name	Select the print position HRI characters
Format	ASCII : GS H n Decimal code : 29 72 n Sixteen hexadecimal code : 1D 48 n
Description	Print bar code print position HRI characters n Select the print position as shown below: n print position 0, 48 not print 1, 49 in the bar code 2, 50 in the code below 3, 51 in the upper part and the lower part of the bar code
Range	$0 \leq n \leq 3$ OR $48 \leq n \leq 51$
Default	n = 0
Model	ALL
Be careful	When ESC @, printer reset, power down, the set of the command is failure
Using sample	none
Instruction name	Set barcode readable character (HRI) print position
Instruction code	ASCII : GS H n Decimal system : 29 72 n Hexadecimal : 1D 48 n
Description	Print bar code print position HRI characters n Select the print position as shown below: n print position 0, 48 not print 1, 49 in the bar code 2, 50 in the code below 3, 51 in the upper part and the lower part of the bar code
Range	$0 \leq n \leq 3$ OR $48 \leq n \leq 51$
Default	n = 0
Model	ALL
Be careful	When ESC @, printer reset, power down, the set of the command is failure
Using sample	none

Set the height of bar code

Name	Set the height of bar code
Format	ASCII : GS h n Decimal code : 29 104 n

	Sixteen hexadecimal code : 1D 68 n
Description	Set the height of bar code. n set the vertical point  Height 50  Height 100
Range	$1 \leq n \leq 255$
Default	n = 64
Model	ALL
Be careful	When ESC @, printer reset, power down, the set of the command is failure
Using sample	none

Set the bar width

Name	Set the bar width
Format	ASCII : GS w n Decimal code : 29 119 n Sixteen hexadecimal code : 1D 77 n
Description	Set the bar code level size. n set the bar width  Width 3  Width 4
Range	$1 \leq n \leq 6$
Default	n = 2
Model	ALL
Be careful	When ESC @, printer reset, power down, the set of the command is failure
Using sample	none

Barcode printing

Name	Barcode printing
Format	(A) ASCII : GS k m [d]k NUL Decimal code : 29 107 m [d]k NUL Sixteen hexadecimal code : 1D 6B m [d]k NUL (B) ASCII : GS k m n [d]k Decimal code : 29 107 m n [d]k Sixteen hexadecimal code : 1D 6B m n [d]k
Description	Print barcode, the parameters are shown below: m is encoder mode

n is length of coded data, only (B) use, the difference between (A) and (B) is the ending method that the data segment of (A) end of NULL code, but the (B) end of the length of the command data

[d]k is code data

k is length of the bar code data, used to indicate not transmission.

The relationship between parameters as system:

(command A)

m	Bar code system	Bar code data (SP = space)			
		Data length	k	Character set	data (d)
0	UPC-A	fixed	k = 11, 12	0~9	$48 \leq d \leq 57$
1	UPC-E	fixed	$6 \leq k \leq 8$, k = 11, 12	0~9	$48 \leq d \leq 57$ [当 k = 7,8,11,12, d1 = 48]
2	JAN13 (EAN13)	fixed	k = 12, 13	0~9	$48 \leq d \leq 57$
3	JAN8 (EAN8)	fixed	k = 7, 8	0~9	$48 \leq d \leq 57$
4	CODE39	changeable	$1 \leq k \leq 255$	0~9, A~Z SP, \$, %, +, -, ., /	$48 \leq d \leq 57$, $65 \leq d \leq 90$, d = 32, 36, 37, 42, 43, 45, 46, 47
5	ITF (Interleaved 2 of 5)	changeable	$2 \leq k \leq 255$ (even number)	0~9	$48 \leq d \leq 57$
6	CODABAR (NW-7)	changeable	$1 \leq k$	0~9, A~D, a~d \$, +, -, ., /, :	$48 \leq d \leq 57$, $65 \leq d \leq 68$, $97 \leq d \leq 100$, d = 36, 43, 45, 46, 47, 58 ($65 \leq d1 \leq 68$, $65 \leq dk \leq 68$, $97 \leq d1 \leq 100$, $97 \leq dk \leq 100$)

(command B)

m	Bar code system	Bar code data (SP=space)			
		Data length	n	Character set	data (d)
65	UPC-A	fixed	n = 11, 12	0~9	$48 \leq d \leq 57$
66	UPC-E	fixed	$6 \leq n \leq 8$, n = 11, 12	0~9	$48 \leq d \leq 57$ [当 n =

					7,8,11,12, d1 = 48]
67	JAN13 (EAN13)	fixed	n = 12, 13	0~9	48≤d≤57
68	JAN8 (EAN8)	fixed	n = 7, 8	0~9	48≤d≤57
69	CODE39	change able	1≤n≤255	0~9, A~Z SP, \$, %, +, -, ., /	48≤d≤57, 65≤d≤90, d = 32, 36, 37, 42, 43, 45, 46, 47
70	ITF (Interlea ved 2 of 5)	change able	1≤n≤255 (even number)	0~9	48≤d≤57
71	CODAB AR (NW-7)	change able	1≤n≤255	0~9, A~D, a~d \$, +, -, ., /, :	48≤d≤57, 65≤d≤68, 97≤d≤100, d = 36, 43, 45, 46, 47, 58 (65≤d1≤68, 65≤dk≤68, 97≤d1≤100, 97≤dk≤100)
72	CODE93	change able	1≤n≤255	00H~7FH	0≤d≤127
73	CODE12 8	change able	2≤n≤255	00H~7FH	0≤d≤127
74	UCC/EA N128	change able	2≤n≤255	00H~7FH C1H~C4H(FNC)	0≤d≤127 d = 193, 194,195,196
Range	(A) 0 ≤ m ≤ 6 (B) 65 ≤ m ≤ 74				
Default	none				
Model	ALL				
Be careful	<p>If bar code width exceeds the specified range, the printer can't execute bar code printing.</p> <p>The command to print bar code requirements for feed, regardless of ESC 2 or ESC 3 set line spacing.</p> <p>This command is not affected by ESC! Character style.</p> <p>Print bar codes, the command will print position is set at the start of a line.</p> <p>When m:0-6(A)& 65-71(B) choose the same bar code system, the printing effect is the same.</p> <p>m= 0-6(A), the code by the end of NULL code.</p>				

m= 65-74(A), the code use n to express data length

k Used for illustration, no transmission required

k use to indicate not transmission

When printing UPCA(m=0 or 65, need noted:

Regardless of the input data length is 11 or 12, check bit will automatically insert or error correction.

The starting character, middle separator character, terminator inserted automatically.

When printing UPCE(m=1 or 66), need noted:

When data length is 6, system character(NSC)0 insert automatically

When data length is 7,8,11,12, the first system character (NSC)d1 must be 0

Regardless of input data length is 6,7,8,11 or 12, check bit will insert or error correction automatically.

Regardless of input data length is 6,7,8,11or 12, barcode readable characters(HRI) only show 6 bits of data, not include system (NSC) and check code;

The transformation relationship of transmission data and printing data is as follows:

The data transferred										The data printed					
d2	d3	d4	d5	d6	d7	d8	d9	d10	d11	d1	d2	d3	d4	d5	d6
0~9	0~9	0	0	0	-	-	0~9	0~9	0~9	d2	d3	d9	d10	d11	0
0~9	0~9	1	0	0	-	-	0~9	0~9	0~9	d2	d3	d9	d10	d11	1
0~9	0~9	2	0	0	-	-	0~9	0~9	0~9	d2	d3	d9	d10	d11	2
0~9	0~9	3~9	0	0	-	-	-	0~9	0~9	d2	d3	d4	d10	d11	3
0~9	0~9	0~9	1~9	0	-	-	-	-	0~9	d2	d3	d4	d5	d11	4
0~9	0~9	0~9	0~9	1~9	-	-	-	-	5~9	d2	d3	d4	d5	d6	d11

When d6 is 1-9, it should ensure d7,d8,d9,d10 is 0, d11 is 5-9.

The Start character and terminator insert automatically.

When print EAN13 (m = 2 or 67) , need noted:

Regardless of input data length is 12 or 13, check bits insert or error correction automatically.

The starting character, middle separator character, terminator inserted automatically.

When print EAN8 (m = 3 or 68) , need noted:

Regardless of input data length is 7 or 8, check bits insert or error correction automatically.

The starting character, middle separator character, terminator inserted automatically.

When print CODE39 (m = 4 or 69) 时, need noted:

When d1 or dn is not starting character/ terminator “*”, coder insert “*” automatically.

When data meet “*”, coder see it as the terminator, the other data as a common data to process;

Check code do not calculate and add automatically

When print ITF25 (m = 5 or 70) , need noted:

The Start character and terminator insert automatically.

Check code do not calculate and add automatically.

When print CODABAR (NW-7) (m = 6 or 71) , need noted:

The Start character and terminator do not insert automatically, need user add manually, the range is “A” ~ “D” or “a” ~ “d”

Check code do not calculate and add automatically.

Print CODE93 (m = 72) , need noted:

The Start character and terminator insert automatically.

Two check code calculate and add automatically.

When setting code readable character (HRI) to print, not setting any HRI code to show begin/end.

When setting code readable character (HRI) to print, control code is replaced by space.

When using the CODE128 (M = 73):

On the CODE128 bar code and code table information, see Appendix D.

In the printer when you use CODE128, please consider the following factors on data transfer:

- ① The bar code data string head have to choose coded character set (CODE A, CODE B, or CODE C), is used to select the first use of the code set.
- ② The character "{" and a combination of characters to define the special characters. Through the continuous transmission of two "ASCII" "{"definition of character".

ASCII code, Sixteen hexadecimal code, Decimal code

Special character s	Data transmission		
	ASCII code		ASCII code
SHIFT	{S	7B,53	123, 83
CODEA	{A	7B,41	123, 65
CODEB	{B	7B,42	123, 66
CODEC	{C	7B,43	123, 67
FNC1	{1	7B,31	123, 49
FNC2	{2	7B,32	123, 50
FNC3	{3	7B,33	123, 51
FNC4	{4	7B,34	123, 52
{"	{{	7B,7B	123, 123

[Example] Print "instance data No. 123456."

In this case, the printer first by using the CODE B print "No.", and then use the CODE C to print the following numbers.

GS k 73 10 123 66 78 111 46 123 67 12 34 56



No.123456

CODE 128:

1b 40 1d 48 02 1d 68 64 1d 77 03

1d 6b 49 0A 7B 42 4E 6F 2E 7B 43 0C 22 38

- If the bar code data string head not code set select the character, the printer stop command processing, and the subsequent data processing as general data.
- If "{ and subsequent characters are not applicable to any special characters, the printer stop command processing, and the subsequent data processing as general data.
- If the printer received cannot be used for special code set of characters, the printer stop command processing, and the subsequent data processing as general data.
- Select the HRI character corresponding character printer does not print and shift character or code set.
- The functional character of the HRI character is blank.
- The control characters (<00>H? <1F>H and <7F>H) of the HRI character is blank.

<Other > To confirm the reservation about spacing in the bar code. (according to different spacing bar code types are also different.)

使用示例

1b 40 1d 48 02 1d 68 64 1d 77 03

30 0D 0A

1d 6b 00 30 31 32 33 34 35 36 37 38 39 31 00

31 0D 0A

1d 6b 01 30 31 32 33 34 35 36 37 38 39 31 00

32 0D 0A

1d 6b 02 30 31 32 33 34 35 36 37 38 39 31 32 00

33 0D 0A

1d 6b 03 30 31 32 33 34 35 36 37 00

34 0D 0A

1D 6B 04 30 31 32 41 42 20 24 25 2B 2D 2E 2F 00

35 0D 0A

1d 6b 05 30 31 32 33 34 35 36 37 38 39 31 32 00

36 0D 0A

1d 6b 06 2D 31 32 42 24 2B 2D 2E 00

1d 6b 06 43 31 32 33 34 35 36 34 38 39 00

36 35 0D 0A

1d 6b 41 0c 31 32 33 34 35 36 37 38 39 30 31 32

	36 36 0D 0A 1d 6b 42 0c 30 32 33 34 35 36 30 30 30 30 38 39 36 37 0D 0A 1d 6b 43 0c 30 32 33 34 35 36 30 30 30 30 38 39 36 38 0D 0A 1d 6b 44 08 30 32 33 34 35 36 30 30 36 39 20 20 4e 4f 20 24 25 2b 2d 2e 2f 31 32 33 34 35 36 30 30 0D 0A 1d 6b 45 11 4e 4f 20 24 25 2b 2d 2e 2f 31 32 33 34 35 36 30 30 37 30 20 20 20 30 32 33 34 35 36 30 30 C5 BC CA FD 0D 0A 1d 6b 46 09 30 31 32 33 34 35 36 30 30 37 31 0d 0a 1d 6b 47 05 32 33 34 35 36 37 32 0d 0a 1d 6b 48 0b 32 33 34 35 36 41 42 2e 2f 2b 2c 37 33 0d0a 1d 6b 49 0A 7B 42 4E 6F 2E 7B 43 0C 22 38 Code 128 : 1b 40 1d 48 02 1d 68 64 1d 77 03 37 33 0d0a 1d 6b 49 0A 7B 42 4E 6F 2E 7B 43 0C 22 38
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⑥ State command

Real-time transmission condition

Name	Real-time transmission condition
Format	ASCII : DLE EOT n Decimal code : 16 4 n Sixteen hexadecimal code : 10 04 n
Description	According to following parameters, real-time to transmit printer condition, parameters n is used to assign printer condition need transmit.: n = 1: transmit printer condition n = 2: transmit off-line condition n = 3: transmit error condition n = 4: transmit paper sensor condition
Range	$1 \leq n \leq 4$
Default	none
Model	ALL

Be careful

- when printer receive this command return to relative condition immediately
- this command do not insert to command sequence with two or more bytes as far as possible.
- Even if printer is set to ban by ESC=(select peripherals),this command is still valid.
- printer transmit advanced condition, each condition use 1 bytes data to express.
- printer transmission status is not confirmed whether the host receive.
- printer should execute immediately receiving this command.
- This command only effect for serials printer. Printer should execute immediately receiving this command at any condition.

n=1: printer condition

Bit	0/1	Sixteen hexadecimal code	Decimal code	function
0	0	00	0	Fixed is 0
1	1	02	2	Fixed is 1
2	0	00	0	Open One or two cashbox (the machine without cashbox is fixed 0
	1	04	4	Close two cashbox
3	0	00	0	On-line
	1	08	8	Out -line
4	1	10	16	Fixed is 1
5, 6		--	--	undefined
7	0	00	00	Paper had cut
	1	80	96	Paper not cut

n=2: transmit out-line status

bit	0/1	Sixteen hexadecimal code	Decimal code	function
0	0	00	0	Fixed is 0
1	1	02	2	Fixed is 1
2	0	00	0	Close on-housing
	1	04	4	Open on-housing
3	0	00	0	No press feeding key
	1	08	8	Press feeding key
4	1	10	16	Fixed is 1
5	0	00	0	Printer with paper
	1	20	32	Printer without paper
6	0	00	00	No error
	1	40	64	Have Error

	7	0	00	0	Fixed
	n=3: transmit error status				
	bit	0/1	Sixteen hexadecimal code	Decimal code	function
	0	0	00	0	Fixed is 0
	1	1	02	2	Fixed is 1
	2		--	--	Undefined
	3	0	00	0	Cutter without error
		1	08	8	Cutter with error
	4	1	10	16	Fixed is 1
	5	0	00	0	No unrecoverable error
		1	20	32	Have unrecoverable error
	6	0	00	00	printer head temp and voltage is normal
		1	40	64	printer head temp or voltage exceed range
	7	0	00	0	Fixed is 0
	n=4: transmit paper sensor status				
	bit	0/1	Sixteen hexadecimal code	Decimal code	function
	0	0	00	0	Fixed is 0
	1	1	02	2	Fixed is 1
	2, 3	0	00	0	Have paper
		1	0C	12	Paper nearly
	4	1	10	16	Fixed is 1
	5, 6	0	00	0	Have paper
		1	60	96	No paper
	7	0	00	0	Fixed is 0
Using sample	10 04 01 10 04 02 10 04 03 10 04 04				

Real-time printer command

Name	Real-time printer command
Format	ASCII : DLE ENQ n Decimal code : 16 5 n

	Sixteen hexadecimal code : 10 05 n
Description	The printer response to the host request. Assign n as following request:
	n request
	1 Recover from error and start printing from error line
	2 Recover from error after clean receiving and printing buffer.
Range	n = 1, 2
Default	none
Model	ALL
Be careful	<p>Only when auto-cutter and opening housing have error, this command is valid.</p> <p>The printer will handle data when receiving this command.</p> <p>Even if printer at out-line, printing buffer is full or serial interface mode have error, this command also execute.</p> <p>Under parallel interface mode, this command will not execute.</p> <p>whenever you receive <10>H<05>H<n> ($1 \leq n \leq 2$) data sequence, will be sent condition.</p> <p>For example: ESC * m nL nH dk , d1 = <10>H, d2 = <05>H, d3 = <01>H</p> <p>In a command data with two or more bytes, this command is not used.</p> <p>For example: If want to send ESC 3n to printer, but before n send, DTR(response to host is DSR) will become MARK. Before n send, take place FLE ENQ 2 interrupt. DLE ENQ 2 code <10>H will be as ESC3 code <10>H to execute.</p> <p>DLE ENQ 2 allow printer recover from error condition after clean receiving buffer and printing buffer data. The printer store valid state setting when error occur. (like ESC !, ESC3, etc) can use this command and ESC@ initialize printer fully. In addition, this command only valid for recoverable error except printer head temp error.</p>
Using sample	10 05 01

⑦ Other command

Initialize printer

Name	Initialize printer
Format	ASCII : ESC @
	Decimal code : 27 64
	Sixteen hexadecimal code : 1B 40
Description	The content of initialize printer: Remove the print data in the buffer, the effective mode reset the printer model to open the printer power supply.
Range	none

Default	none
Model	ALL
Be careful	none
Using sample	none

Self testing page print

Name	Self testing page print
Format	ASCII : DC2 T Decimal code : 18 94 Sixteen hexadecimal code : 12 54
Description	Self testing page print
Range	none
Default	none
Model	ALL
Be careful	none
Using sample	1B 40 12 54

Cashbox impulse (Only For Drawer)

Name	Cashbox impluse						
Format	ASCII : ESC p m t1 t2 Decimal code : 27 112 m t1 t2 Sixteen hexadecimal code : 1B 70 m t1 t2						
Description	Output impulse (impulse is designated by t1 and t2) to m specified pin						
Range	m=0,1,48,49 $0 \leq t1 \leq 255$ $0 \leq t2 \leq 255$						
Default	none						
Model	ALL						
Be careful	<p>1、 cashbox pin designated by m</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>m</th> <th>function</th> </tr> </thead> <tbody> <tr> <td>0,48</td> <td>Cashbox open/close (link pin2)</td> </tr> <tr> <td>1,49</td> <td>Cashbox open/close (link pin5)</td> </tr> </tbody> </table> <p>2、 When cashbox open is $[t1 \times 2ms]$ and is $[t2 \times 2ms]$ on close time。 3. if $t2 < t1$, it is $[t1 \times 2ms]$ on close time。</p>	m	function	0,48	Cashbox open/close (link pin2)	1,49	Cashbox open/close (link pin5)
m	function						
0,48	Cashbox open/close (link pin2)						
1,49	Cashbox open/close (link pin5)						
Using sample	1B 40 1B 70 00 60 60 1B 70 01 60 60						