General command set

The "general command set" applies to all the small ticket and label products of the song wing technology, the portable printer, the embedded printer, and the embedded printer.

Statement

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Revision record

Set the date	Revised version	instruction	audit

General command

Command quick	NO	The command	instruction
Print command	01	LF	Print and wrap
	02	CR	Print and enter
	03	HT	Jump to the next TAB location
	04	ESC D n	Set the horizontal location
	05	ESC J n	Print-ahead paper
	06	ESC d n	Print the buffer data and walk the n line
	07	ESC = n	Peripheral equipment
Format setting command	08	ESC 2	Set the default row spacing at 32
	09	ESC 3 n	Set the row spacing to n points
	10	ESC a n	Align alignment, left align, right align, center alignment
	11	ESC SO n	Set the double width mode
	12	ESC DC4 n	Cancel the double width mode
	13	GS L nL nH	Set the left blank count
	14	ESC $ nL nH	Set the absolute print position
	15	ESC B n	Set the left spacing
Character setting command	16	ESC ! n	Select print mode
	17	GS ! n	Set character size
	18	GS B n	Set/remove anti-white print mode
	19	ESC V n	Set/cancel 90 ° rotation mode
	20	ESC v n	Send printer status to the host
	21	ESC G n	Cancel/set overlapping mode
	22	ESC E n	Set/cancel font bold

	23	ESC SP n	Set the right character spacing
	24	ESC { n	Set/cancel characters upside down
	25	ESC - n	Set the underlined height
	26	ESC % n	Select/cancel user custom character set
	27	FS &	Select Chinese mode
	28	FS .	Cancel Chinese mode
	29	FS ! n	Set up the combination of Chinese characters print mode
	30	ESC &	Define user-defined characters
	31	ESC ? n	Unuser-defined characters
	32	ESC R n	Select the international character set
	33	ESC t n	Select the character code table
Graphic setting command	34	ESC *	The figure is filled with the module
	35	GS *	Define a map mode
	36	GS / m	Print a bitmap
	37	GS v	The image level is printed with the modulus
	38	FS p n m	Print NV bitmap
	39	FS q n	Define NV bitmap
Initialization command	40	ESC @	Printer initialization
The status command	41	GS r n	Transfer state
	42	GS a n	Allow/disable status automatically upload
Bar code setting command	43	GS H n	Select the print location of the HRI character
	44	GS h n	Set barcode height

	45	GS w n	Set the width of the bar code
	46	GS k	Print the barcode
	47	GS x n	Set the bar code to print the left spacing
Qr code command	48	GS (k pL pH cn fn n1 n2 (fn=65)	Specify the mode of QR code by n1
	49	GS (k pL pH cn fn n (fn=67)	Set the type of QR code graphic module
	50	GS (k pL pH cn fn n (fn=69)	Set the error correction level error of QR code
	51	GS (k pL pH cn fn m d1…dk (fn=80)	The data stored for receiving QR codes is in a 2d barcode area
	52	GS (k pL pH cn fn m (fn=82)	The data information types that transmit QR code graphics are in 2d barcode area
Auxiliary function command	53	ESC 7 n1 n2 n3	Set printing concentration
	54	ESC 9 n	Select the Chinese code format
	55	DC2 T	Print self test page
	56	ESC c 5 n	Cancel/activate panel button (button only)
The new command	57	DLE EOT n	Real-time transmission mode

Control command

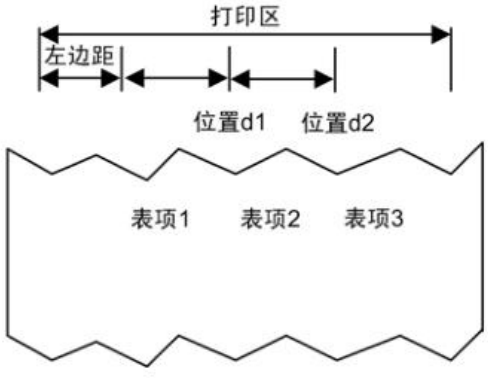
01	LF	
Instruction names	Print and wrap	
Instruction code	ASCII CODE	LF
	Decimal code	10
	Hexadecimal code	0A
Functional description	Print the contents of the print cache, then set the page line according to the current row spacing and adjust the starting position of the printing position to the next line.	
parameters	nothing	
The default value	nothing	
considerations	This command sets the print location to the start of the row.	
And according to	ESC 2 , ESC 3	
Use the sample	0A	

02	CR	
Instruction names	Print and enter	
Instruction code	ASCII CODE	CR
	Decimal code	13
	Hexadecimal code	0D
Functional description	• when automatic feed is allowed, this command is the same as the LF command. • this command will be ignored when it is not allowed to enter the paper automatically. • the printing position is adjusted to the starting position of this line, not line feed.	

parameters	nothing
The default value	nothing
considerations	• for serial interface mode, the paper function is ignored in this command. • sets the starting point of the print starting position. • after the return instruction is executed, the new print data will override the original data in the print cache in a bit-bit "or" way
And according to	LF
Use the sample	nothing

03	HT	
Instruction names	Jump to the next TAB location	
Instruction code	ASCII CODE	HT
	Decimal code	9
	Hexadecimal code	09
Functional description	Move the print position to the next level.	
parameters	nothing	
The default value	nothing	
considerations	• if there is no location of the next horizontal location, the command is ignored, and the instruction to set the level of the set point is required for use. • if the location of the next horizontal location is outside the print area, the print position is moved to "print area width + 1".	

	• set the location of the horizontal location via the ESC D command. When the print position is located at the "width + 1" of the print area, the printer executes the print buffer to print the current line, and the next line starts processing horizontal positioning.
And according to	ESC D
Use the sample	nothing

04	ESC D n1 . . . nk NUL				
Instruction names	Set the horizontal location				
Instruction code	ASCII CODE	ESC	D	n1...nk	NUL
	Decimal code	27	68	n1...nk	0
	Hexadecimal code	1B	44	n1...nk	00
Functional description	Set the horizontal tabulation position, the parameters are as follows: D1... Dk: horizontal tabulation location, at 8 o 'clock, NULL is the terminator				
parameters	XX58: 1 ≤ d ≤ 46 (d1 <d2 < …… dk , 1 ≤ k ≤ 16) XX80: 1 ≤ d ≤ 70 (d1 < d2 < …… dk , 1 ≤ k ≤ 16)				
The default value	[d]k = 0 (Default no horizontal TAB position)				
considerations	The table location is indicated as follows: 设置制表位置d1和d2 				

	Support for the setting of 16 tabs This command will cancel the Settings of the previous TAB location K is used for motioning, not for transmission The transmission [d] k is treated as an end when NULL is encountered If dk is less than or equal to dk-1, the remaining data is treated as normal data Table location can be switched by HT When the left margin changes, the table position changes simultaneously When ESC @, printer reset, power off, the setting of this directive fails
And according to	nothing
Use the sample	1B 44 04 06 08 0A 00 09 30 09 31 09 32 09 33 0D 0A

05	ESC J n	
Instruction names	Print-ahead paper	
Instruction code	ASCII CODE	ESC J n
	Decimal code	27 74 n
	Hexadecimal code	1B 4A n
Functional description	Print out the data in the print buffer [n ×0.125 MM]。	
parameters	0 ≤n ≤255	
The default value	nothing	
considerations	• After printing, this command sets the printer's starting location to the starting point. • the amount of incoming paper set by this command does not affect the values set by the ESC 2 or ESC 3 commands.	

	• in standard mode, the printer USES the vertical motion unit (y). • when the print cache is empty, only enter the paper n point. • after the execution of this instruction, the printing position moves to the starting position of the next line.
And according to	nothing
Use the sample	1b 40 30 31 32 33 34 35 36 37 38 39 1b 4a 30

06	ESC d n	
Instruction names	Print the buffer data and walk the n line	
Instruction code	ASCII CODE	ESC d n
	Decimal code	27 100 n
	Hexadecimal code	1B 64 n
Functional description	Print out the data in the printout buffer.	
parameters	0 ≤n ≤255	
The default value	The default location is font A (12×24)Eight character intervals (column 9 17 25 ...)。	
considerations	• the command sets the starting position of the print to the starting point. • the command does not affect the line spacing set by the ESC 2 or ESC 3 commands. • maximum feed volume is 1016 mm {40inches}。 If the specified number of incoming paper is specified (n*Line spacing)More than 1016 mm {40inches}, The printer is only 1016 mm {40inches}。	
And according to	ESC 2 , ESC 3	
Use the	1b 40 30 31 32 33 34 35 36 37 38 39 1b 64 02	

sample	

07	ESC = n	
Instruction names	Peripheral equipment	
Instruction code	ASCII CODE	ESC = n
	Decimal code	27 61 n
	Hexadecimal code	1b 3d n
Functional description	Set offline, online mode:	

place	Closed/open	Hexadecimal code	Decimal code	ASB state
0	Closed	00	0	The printer is in offline mode and does not accept printing data. The indicator light is always on when offline.
	open	01	1	The printer is in line mode, accepts printing data and prints.
1-7	_	_	_	Nonsense.

parameters	nothing
The default value	nothing
considerations	nothing
And according to	nothing
Use the sample	nothing

08	ESC 2

Instruction names	Set the default row spacing at 32	
Instruction code	ASCII CODE	ESC 2
	Decimal code	27 50
	Hexadecimal code	1B 32
Functional description	Select row spacing 3.75 MM (30×0.125 MM)。	
parameters	nothing	
The default value	nothing	
considerations	Line spacing can be set independently in standard mode. The line spacing indicates the ESC 3 instruction If the row 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 row spacing	
And according to	ESC 3	
Use the sample	nothing	

09	ESC 3 n	
Instruction names	Set the row spacing to n points	
Instruction code	ASCII CODE	ESC 3 n
	Decimal code	27 51 n
	Hexadecimal code	1B 33 n
Functional	Set the row spacing [n ×0.125 MM]。	

description	
parameters	0 ≤n ≤255
The default value	n = 30
considerations	• line spacing can be set independently in standard mode and page mode. • use vertical movement (y) in standard mode. • the line spacing is shown as follows:  If the row 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 failure, line spacing is restored as default
And according to	ESC 2
Use the sample	1B 33 30 Set line spacing 30*0.125mm=3.75mm 1b 40 1b 33 30 30 31 32 0d 0a 30 31 32 0d 0a 30 31 32 0d 0a 30 31 32 0d 0a 1b 32 30 31 32 0d 0a 30 31 32 0d 0a 30 31 32 0d 0a 30 31 32 0d 0a 0d 0a 0d 0a

10	ESC a n			
Instruction names	Align alignment, left align, right align, center alignment			
Instruction code	ASCII CODE	ESC	a	n
	Decimal code	27	97	n
	Hexadecimal	1B	61	n

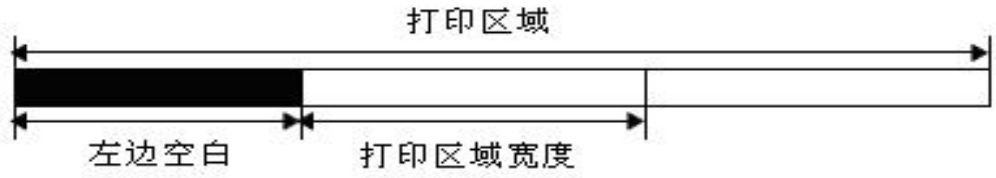
<table>
<tr><td></td><td>code</td><td></td></tr>
<tr><td>Functional description</td><td colspan="2">Align the row data to the specified position
The following n is used to choose the alignment:
<table><tr><th>n</th><th>alignment</th></tr><tr><td>0, 48</td><td>The left</td></tr><tr><td>1, 49</td><td>In the middle</td></tr><tr><td>2, 50</td><td>Align right</td></tr></table></td></tr>
<tr><td>parameters</td><td colspan="2">0 ≤n ≤2, 48 ≤n ≤50</td></tr>
<tr><td>The default value</td><td colspan="2">n = 0</td></tr>
<tr><td>considerations</td><td colspan="2">• This command is valid only when a row is processed in the standard mode.
• the command aligns in the print area.
• the command is based on HT, ESC $, or ESC \ to align blank Spaces.
• when ESC @, printer reset, power failure, this directive setting is invalid</td></tr>
<tr><td>And according to</td><td colspan="2">nothing</td></tr>
<tr><td>Use the sample</td><td colspan="2"><table><tr><th>The left</th><th>In the middle</th><th>Align right</th></tr><tr><td>ABC
ABCD
ABCDE</td><td>ABC
ABCD
ABCDE</td><td>ABC
ABCD
ABCDE</td></tr></table>1b 40
30 31 32 0d 0a
1b 61 01 30 31 32 0d 0a
1b 61 02 30 31 32 0d 0a
1b 61 00 30 31 32 0d 0a
1b 40
B0 AE C9 CF D7 D4 BC BA 0D 0A
1b 61 01 B0 AE C9 CF D7 D4 BC BA 0D 0A
1b 61 02 B0 AE C9 CF D7 D4 BC BA 0D 0A
1b 61 00 B0 AE C9 CF D7 D4 BC BA 0D 0A
0d 0a 0d 0a</td></tr>
</table>

11	ESC SO n
Instruction names	Set the double width mode

Instruction code	ASCII CODE	ESC SO n
	Decimal code	27 14 n
	Hexadecimal code	1B 0E n
Functional description	Select the double width mode, if you want to cancel the double width mode, use LF or DC4 command.	
parameters	nothing	
The default value	nothing	
considerations	nothing	
And according to	nothing	
Use the sample	1B 0E When you're done, the characters that are sent back will be twice as wide and the characters won't	

12	ESC DC4 n	
Instruction names	Cancel the double width mode	
Instruction code	ASCII CODE	ESC DC4 n
	Decimal code	27 20 n
	Hexadecimal code	1B 14 n
Functional description	Cancel the double width mode	
parameters	nothing	
The default value	nothing	
considerati	nothing	

ons	
And according to	nothing
Use the sample	The double width of 5.1.11 is cancelled after the sending of 1B 14, and the characters sent back to normal

13	GS L nL nH				
Instruction names	Set the left blank count				
Instruction code	ASCII CODE	GS	L	nL	nH
	Decimal code	29	76	nL	nH
	Hexadecimal code	1D	4C	nL	nH
Functional description	Use nL and nH to set the left margin. ·The left blank is set to [(nL + nH×256)×0.125 MM]。  				
parameters	0 ≤nL ≤255 0 ≤nH ≤255				
The default value	nL = 0, nH = 0				
considerations	• in standard mode, the command is valid only when the row is started. • if the Settings are beyond the printable range, use the maximum value of the printable unit.				
And	nothing				

according to	
Use the sample	nothing

14	ESC $ nL nH	
Instruction names	Set the absolute print position	
Instruction code	ASCII CODE	ESC $ nL nH
	Decimal code	27 36 nL nH
	Hexadecimal code	1B 24 nL nH
Functional description	Set the distance between the start of a line and the position of the character to be printed. • the distance from the beginning of a line to the printing position [(nL + nH × 256) × 0.125 MM]。	
parameters	0 ≤nL ≤255 0 ≤nH ≤255	
The default value	nothing	
considerations	• this command is only valid for this line, and the printing position after line transfer is the starting position of printing • move beyond print to the next line of print	
And according to	ESC \ , GS $, GS \	
Use the sample	1b 40 1b 24 0c 00 30 31 32 0d 0a 1b 24 18 00 30 31 32 0d 0a 1b 24 24 00 30 31 32 0d 0a 1b 24 30 00 30 31 32 0d 0a 1b 24 24 00 30 31 32 0d 0a 1b 24 18 00 30 31 32 0d 0a 30 31 32 0d 0a 0d 0a 0d 0a	1b 40 1b 24 08 00 30 31 32 0d 0a 30 31 32 0d 0a

15	ESC B n
Instruction names	Set the left spacing

Instruction code	ASCII CODE	ESC B n
	Decimal code	27 66 n
	Hexadecimal code	1B 42 n
Functional description	nothing	
parameters	0 ≤ n ≤ 47	
The default value	n = 0	
considerations	nothing	
And according to	nothing	
Use the sample	If you want to set each line to print the starting position of the 3 characters from the original position behind can send 1 b 42 03 , 03 distance 3 characters, which sent back to normal print characters will be 3 characters from the original position position began to print.	

16	ESC ! n	
Instruction names	Select print mode	
Instruction code	ASCII CODE	ESC ! n
	Decimal code	27 33 n
	Hexadecimal code	1B 21 n
Functional description	Select the print mode by specifying the value of the parameter n. The definition of parameter n is as follows:	

Place	close /Open	Hexadecimal code	Decimal code	function
0	close	00	0	Character font A (12×24)。

			Open	01	1	Character font B (9×17)。
		1	close	00	0	Remove the anti-white mode.
			Open	02	2	Set anti-white mode.
		2	close	00	0	Undo the upside down mode.
			Open	04	4	Set upside-down mode.
		3	close	00	0	Remove bold mode.
			Open	08	8	Set the bold mode.
		4	close	00	0	Undo the high mode
			Open	10	16	Set the double height mode
		5	close	00	0	Remove the double width mode
			Open	20	32	Set the double width mode
		6	close	00	0	Removes the delete line mode。
			Open	40	64	Set the delete line mode.
		7	-	-	-	undefined。
parameters	0 ≤n ≤255					
The default value	n = 0					
considerations	This command foreign font is valid When ESC @, printer reset, power off, the setting of this directive fails					
And according to	nothing					
Use the sample	1B 40 30 31 32 0D 0A 0D 0A 1B 21 01 30 31 32 0D 0A 1B 21 02 30 31 32 0D 0A 1B 21 04 30 31 32 0D 0A 1B 21 08 30 31 32 0D 0A 0D 0A 1B 21 10 30 31 32 0D 0A 1B 21 20 30 31 32 0D 0A 1B 21 40 30 31 32 0D 0A 1B 21 80 30 31 32 0D 0A 0d 0a					

	1B 40 B0 AE C9 CF D7 D4 BC BA 0D 0A 0D 0A 1B 21 01 B0 AE C9 CF D7 D4 BC BA 0D 0A 1B 21 02 B0 AE C9 CF D7 D4 BC BA 0D 0A 1B 21 04 B0 AE C9 CF D7 D4 BC BA 0D 0A 1B 21 08 B0 AE C9 CF D7 D4 BC BA 0D 0A 0D 0A 1B 21 10 B0 AE C9 CF D7 D4 BC BA 0D 0A 1B 21 20 B0 AE C9 CF D7 D4 BC BA 0D 0A 1B 21 40 B0 AE C9 CF D7 D4 BC BA 0D 0A 1B 21 80 B0 AE C9 CF D7 D4 BC BA 0D 0A 0d 0a 0d 0a

17	GS ! n		
Instruction names	Set character size		
Instruction code	ASCII CODE	GS	! n
	Decimal code	29	33 n
	Hexadecimal code	1D	21 n

Functional description

The width of the set characters between 0 and 2 characters height is 4 to 7. The width is shown below:

Place	Close/ Open	Hexadecimal code	Hexadecimal code	function
0	Character height Settings. Are shown in table 2.			
1				
2				
3				
4	Character width setting. See table 1.			
5				
6				
7				

Table 1		
Character width setting		
Hexadecimal code	Decimal code	Width
00	0	1(ordinary)
10	16	2(double

Table 2		
Character height setting		
Hexadecimal code	Decimal code	Width
00	0	1(ordinary)
01	1	2(double

			width)				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

parameters	0 ≤n ≤255 (1 ≤Multiple vertical ≤8, 1 ≤Multiple levels ≤8)
The default value	n = 0
considerations	• the command is valid for all characters except HRI characters (English characters and Chinese characters). • if n is outside the definition, this command is ignored. • in standard mode, the vertical direction refers to the direction of the paper. But when character clockwise direction after 90 , the relationship between the vertical direction and horizontal direction. • when characters are enlarged in a row at different sizes, all characters in a row are aligned along the baseline. • use the ESC! The command can also open or close the double width and height mode. The last received command is set to be valid.
And according to	ESC !
Use the sample	N by bit, 0 ~ 3 Settings height, 4 ~ 7 Settings width, If the character width and height are set to 4 times, the instructions sent are 1D 21 33, as shown in table 1 and table 2, N = 0x33 1b 40 30 31 32 0d 0a 0D 0A 1d 21 00 30 31 32 0d 0a 1d 21 11 30 31 32 0d 0a 1d 21 22 30 31 32 0d 0a 1d 21 33 30 31 32 0d 0a 0D 0A 1d 21 44 30 31 32 0d 0a 1d 21 55 30 31 32 0d 0a 1d 21 66 30 31 32 0d 0a 1d 21 77 30 31 32 0d 0a 1B 40 B0 AE C9 CF D7 D4 BC BA 0D 0A

	0D 0A 1d 21 00 B0 AE C9 CF D7 D4 BC BA 0D 0A 1d 21 11 B0 AE C9 CF D7 D4 BC BA 0D 0A 1d 21 22 B0 AE C9 CF D7 D4 BC BA 0D 0A 1d 21 33 B0 AE C9 CF D7 D4 BC BA 0D 0A 0D 0A 1d 21 44 B0 AE C9 CF D7 D4 BC BA 0D 0A 1d 21 55 B0 AE C9 CF D7 D4 BC BA 0D 0A 1d 21 66 B0 AE C9 CF D7 D4 BC BA 0D 0A 1d 21 77 B0 AE C9 CF D7 D4 BC BA 0D 0A 0d 0a 0d 0a

18	GS B n	
Instruction names	Set/remove anti-white print mode	
Instruction code	ASCII CODE	GS B n
	Decimal code	29 66 n
	Hexadecimal code	1D 42 n
Functional description	Set or remove anti-white print mode. • when the minimum effective level of n is 0, the anti-white mode is closed. • the anti-white mode opens when the minimum effective bit of n is 1.	
parameters	0 ≤n ≤255	
The default value	n = 0	
considerations	• the lowest point of n is valid. • this command works for both built-in characters and user-defined characters. • when the anti-white mode is opened, it also works for the white space set by the ESC SP. • this command does not affect bitmaps, user-defined bitmaps, barcodes, HRI characters, and Spaces skipped by HT, ESC $. • this command does not affect line spacing. • anti-white mode takes precedence over the underline mode. When the anti-white mode is set, even the underscore mode is disabled (but not cancelled). • when ESC @, printer reset, power failure, this directive setting is invalid.	
And according to	nothing	
Use the	1D 42 01 Represents the open character and the Chinese characters anti-white, 1D 42 00 It means to cancel the anti-white。	

sample	1b 40 30 31 32 0d 0a 1d 42 01 30 31 32 0d 0a 1d 42 00 30 31 32 0d 0a 1b 40 B0 AE C9 CF D7 D4 BC BA 0D 0A 1d 42 01 B0 AE C9 CF D7 D4 BC BA 0D 0A 1d 42 00 B0 AE C9 CF D7 D4 BC BA 0D 0A 0d 0a 0d 0a

<table>
<tr><td>19</td><td colspan="2">ESC V n</td></tr>
<tr><td>Instruction names</td><td colspan="2">Set/cancel 90 ° rotation mode</td></tr>
<tr><td rowspan="3">Instruction code</td><td>ASCII CODE</td><td>ESC V n</td></tr>
<tr><td>Decimal code</td><td>27 86 n</td></tr>
<tr><td>Hexadecimal code</td><td>1B 56 n</td></tr>
<tr><td>Functional description</td><td colspan="2">Set/remove clockwise 90° rotation
N is used as follows:
<table>
<tr><th>n</th><th>function</th></tr>
<tr><td>0,48</td><td>Remove clockwise 90° rotation mode.</td></tr>
<tr><td>1,49</td><td>Set the clockwise 90° rotation mode.</td></tr>
</table></td></tr>
<tr><td>parameters</td><td colspan="2">0 ≤n ≤1, 48 ≤n ≤49</td></tr>
<tr><td>The default value</td><td colspan="2">n = 0</td></tr>
<tr><td>considerations</td><td colspan="2">• this command affects printing in standard mode and is always valid.
, when set up the underline mode, to 90 clockwise rotation character, printers do not underline.
In clockwise 90° rotation mode, the high times and times as wide as command the direction of the characters and general mode times high command wide zoom in the opposite direction of the characters.
• when ESC @, printer reset, power failure, this directive setting is invalid.</td></tr>
<tr><td>And according to</td><td colspan="2">ESC ! , ESC -</td></tr>
<tr><td>Use the</td><td colspan="2">1B 56 01 The instructions indicate that the characters in the back and the Chinese characters are rotated 90° 。</td></tr>
</table>

sample	1B 56 00 The instruction is returned to normal print 1b 40 30 31 32 0d 0a 1b 56 01 30 31 32 0d 0a 1b 56 00 30 31 32 0d 0a 1b 40 B0 AE C9 CF D7 D4 BC BA 0D 0A 1b 56 01 B0 AE C9 CF D7 D4 BC BA 0D 0A 1b 56 00 B0 AE C9 CF D7 D4 BC BA 0D 0A 0d 0a 0d 0a

20	ESC v n	
Instruction names	Send printer status to the host	
Instruction code	ASCII CODE	ESC v n
	Decimal code	27 118 n
	Hexadecimal code	1B 76 n

Functional description

The return value is 1 byte, each of which represents a different state:

Place	Close/Open	Hexadecimal code	Decimal code	function
0	Close	00	0	The core is not connected.
	Open	01	1	The core has been connected.
1	-	-	-	Nonsense.
2	Close	00	0	A paper.
	Open	04	4	Short of paper
3	Close	00	0	Normal voltage.
	Open	08	8	The voltage is higher than 9.5 V.
4	-	-	-	Nonsense.
5	-	-	-	Nonsense.
6	Close	00	0	The temperature is normal.
	Open	40	64	The temperature is over 60 degrees.
7	-	-	-	Nonsense.

For example, returning 0x04 represents the printer's lack of paper

parameters	0 ≤ n ≤ 1, 48 ≤ n ≤ 49
The default	nothing

value	
considerations	nothing
And according to	nothing
Use the sample	nothing

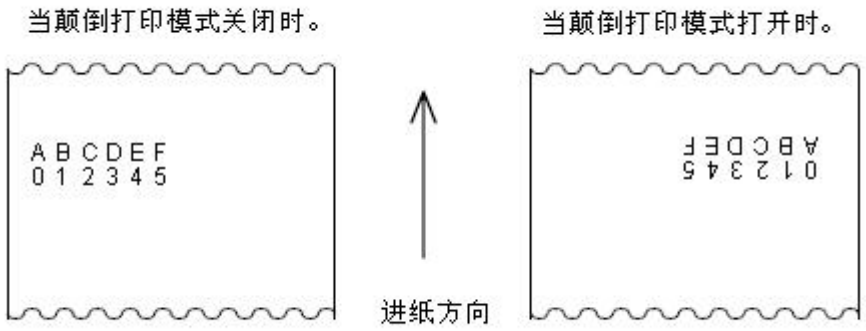
21	ESC G n	
Instruction names	Cancel/set overlapping mode	
Instruction code	ASCII CODE	ESC G n
	Decimal code	27 71 n
	Hexadecimal code	1B 47 n
Functional description	Set or remove overlapping print mode. • the overlapped print mode is removed when the minimum effective level of n is 0. • the overlapping print mode is set when the minimum effective bit of n is 1.	
parameters	0 ≤n ≤255	
The default value	n = 0	
considerations	• only the lowest valid bits of n are allowed. • the printer output is the same in the overlapping mode and in the bold mode. • when ESC @, printer reset, power failure, this directive setting is invalid	
And according to	ESC E	
Use the sample	1B 47 01 Character printing overlap effect, Chinese characters do not work 。 1B 47 00 Uncharacter printing overlap effect 1b 40 1b 47 00 30 31 32 0d 0a 1b 40 1b 47 01 30 31 32 0d 0a 1b 40 1b 47 01 B0 AE C9 CF D7 D4 BC BA 0D 0A	

22	ESC E n	
Instruction names	Set/cancel font bold	
Instruction code	ASCII CODE	ESC E n
	Decimal code	27 69 n
	Hexadecimal code	1B 45 n
Functional description	Set or remove bold print mode. When the minimum effective level of n is 0, the bold print mode is removed. When the minimum effective digit of n is 1, the bold print mode is set.	
parameters	0 ≤n ≤255	
The default value	n = 0	
considerations	• only the lowest valid bits of n are allowed • the command and ESC! Set and remove bold print mode in the same way. When this command and ESC! Be careful when using it at the same time. • when ESC @, printer reset, power failure, this directive setting is invalid.	
And according to	ESC !	
Use the sample	1B 45 01 Indicates character bold 。 1B 45 00 Indicates the cancellation of character bold。 1b 40 1b 45 01 30 31 32 0d 0a 1b 40 1b 45 00 30 31 32 0d 0a 1b 40 1b 45 01 B0 AE C9 CF D7 D4 BC BA 0D 0A 1b 40 1b 45 00 B0 AE C9 CF D7 D4 BC BA 0D 0A	

23	ESC SP n	
Instruction names	Set the right character spacing	
Instruction code	ASCII CODE	ESC SP n
	Decimal code	27 32 n
	Hexadecimal	1B 20 n

	code	
Functional description	Set the spacing between the right side of the character [n×0.125 MM]。	
parameters	0 ≤n ≤255	
The default value	n = 0	
considerations	• for the double width mode, the right character spacing is twice as long as the normal one. When the character is amplified, the right character spacing is n times the normal mode. • this command does not affect the setting of Chinese characters. • the command sets the standard schema for independent set values in each mode.	
And according to	nothing	
Use the sample	nothing	

24	ESC { n	
Instruction names	Set/cancel characters upside down	
Instruction code	ASCII CODE	ESC { n
	Decimal code	27 123 n
	Hexadecimal code	1B 7B n
Functional description	Set or remove the inverted print mode. • turn off the inverted print mode when the minimum effective level of n is 0. • open reverse print mode when n's lowest effective bit is 1.	
parameters	0 ≤n ≤255	
The default value	n = 0	
considerations	• the lowest point of n is valid. • the command is valid only when a row in the standard schema starts. • in reverse print mode, line printer to print first rotate 180 ° and then print. • when ESC @, printer reset, power failure, this directive setting is invalid	
And	无	

according to	
Use the sample	 1B 7B 01 Means to use the print reversal function 。 1B 7B 00 Indicates to turn off printing reverse function 。 1b 40 1b 7b 00 30 31 32 0d 0a 1b 40 1b 7b 01 30 31 32 0d 0a 1b 40 1b 7b 01 B0 AE C9 CF D7 D4 BC BA 0D 0A

25	ESC - n		
Instruction names	Set the underlined height		
Instruction code	ASCII CODE	ESC	- n
	Decimal code	27	45 n
	Hexadecimal code	1B	2D n
Functional description	Set/remove underline mode based on the following n values Set/remove underline mode based on the following n values:		

n	function
0, 48	Remove the underlining mode
1, 49	Set underline mode (1 point thick)
2, 50	Set underline mode (2 points thick)

parameters	0 ≤ n ≤ 2, 48 ≤ n ≤ 50
The default value	n = 0
considerati	• the printer can print out the underscore for all characters (including the spacing on the right of the character), except for the white space set by the HT.

ons	, the printer can't give clockwise rotate 90 ° characters and the white print underscore characters. • when the underlining mode is removed by setting the value of n to 0 or 48, the subsequent data is not underlined, and the roughness of the underscore is not changed before the underlining mode is removed. The default underscore is 1 point. • changing the character size does not affect the roughness of the current underscore. Use the ESC! You can also set or undo the underscore mode. Note, however, that the last command received is valid.
And according to	ESC !
Use the sample	1B 2D 31 The character adds a bit of bold underline, the Chinese character does not work 。 1B 2D 32 The character adds two thick underline, the Chinese character does not work 。 1B 2D 30 Cancel underline 1b 40 30 31 32 0d 0a 1b 2d 01 30 31 32 0d 0a 1b 2d 00 30 31 32 0d 0a 1b 40 B0 AE C9 CF D7 D4 BC BA 0D 0A 1b 2d 01 B0 AE C9 CF D7 D4 BC BA 0D 0A 1b 2d 00 B0 AE C9 CF D7 D4 BC BA 0D 0A 0d 0a 0d 0a

26	ESC % n		
Instruction names	Select/cancel user custom character set		
Instruction code	ASCII CODE	ESC	% n
	Decimal code	27	37 n
	Hexadecimal code	1B	25 n
Functional description	Select or cancel the user custom character set. •When the minimum valid bit of n is 0, the user custom character set is undefined. •select user-defined character sets when the minimum effective bit of n is 1.		
parameters	0 ≤n ≤255		
The default value	n = 0		
considerations	• automatically select an internal character set when the user custom character set is undefined. • n is only the least effective bit useful.		

And according to	ESC & , ESC ?
Use the sample	nothing

27	FS &	
Instruction names	Select Chinese mode	
Instruction code	ASCII CODE	FS &
	Decimal code	28 38
	Hexadecimal code	1C 26
Functional description	Select Chinese character mode	
parameters	nothing	
The default value	nothing	
considerations	Chinese type: • when selecting Chinese character mode, the printer handles all Chinese characters, two bytes at a time. • the Chinese code is processed in the order of the first byte and the second byte. • when power is turned on, the printer does not select the Chinese mode.	
And according to	FS .	
Use the sample	In some parts of the machine, the default mode is not the Chinese character mode, but before typing the Chinese characters, you should send 1C 2600 to set the machine as the Chinese character mode to print the Chinese characters 1b 40 1C 26 B0 AE C9 CF D7 D4 BC BA 0d 0a	

28	FS .	
Instruction names	Cancel Chinese mode	
Instruction	ASCII CODE	FS .
	Decimal code	28 46

code	Hexadecimal code	1C 2E
Functional description	Cancel Chinese character pattern	
parameters	nothing	
The default value	nothing	
considerations	Chinese style: • all character codes are used as ASCII code, each time a character is processed. • when power is turned on, the printer does not select the Chinese mode.	
And according to	FS &	
Use the sample	1C 2E B0 AE C9 CF D7 D4 BC BA 0d 0a	

29	FS ! n	
Instruction names	Set up the combination of Chinese characters print mode	
Instruction code	ASCII CODE	FS ! n
	Decimal code	28 33 n
	Hexadecimal code	1C 21 n

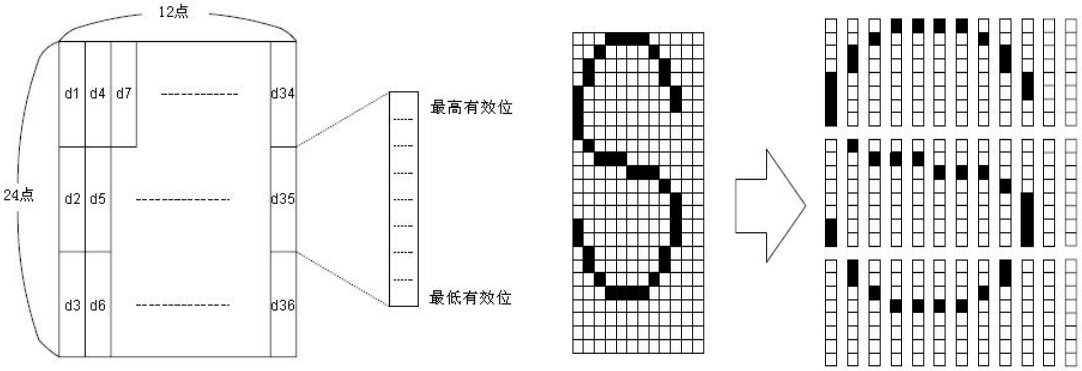
Functional description

Set the Chinese character printing mode, the setting of n is as follows :

Place	Close/Open	Hexadecimal code	Decimal code	ASB state
0	—	—	—	undefined
1	—	—	—	undefined
2	关	00	0	Double width mode is forbidden.
	开	04	4	Allowable double width mode.
3	关	00	0	Do not double high mode.
	开	08	8	Allow double mode.
4	—	—	—	undefined
5	—	—	—	undefined
6	—	—	—	undefined
7	关	00	0	Underlining mode is prohibited.

			开	80	128	Allow underline mode.
parameters	0 ≤n ≤255					
The default value	n = 0					
considerations	• all character codes are used as ASCII code, each time a character is processed. • in case of double width mode and double height mode (including right and left character spacing), four times the size of the character will be printed. , printer can give all underlined characters (including the right and left between characters), but can't give HT ordered set Spaces, as well as the clockwise rotate 90 ° underlined characters. • all characters in the line will be aligned along the baseline when some characters in the line are twice as high or higher. • use GS! Command to write Chinese characters, and the final command is valid.					
And according to	GS !					
Use the sample	1C 21 80 The Chinese characters add a good value, double width and height not support . 1B 40 1C 26 1C 21 8C B0 AE C9 CF D7 D4 BC BA 30 31 32 0D 0A					

30	ESC & y c1 c2 [x1 d1 . . . d (yx1)] . . . [xk d1 . . . d(y x k)]	
Instruction names	Define user-defined characters	
Instruction code	ASCII CODE	ESC & y c1 c2 [x1 d1...d(y × x1)]...[xk d1...d(y × xk)]
	Decimal code	27 38 y c1 c2 [x1 d1...d(y × x1)]...[xk d1...d(y × xk)]
	Hexadecimal code	1B 26 y c1 c2 [x1 d1...d(y × x1)]...[xk d1...d(y × xk)]
Functional description	Define user-defined characters. • y specifies the number of bytes in the vertical direction. • c1 specifies the start character encoding, and c2 specifies the end character encoding. • x specifies the horizontal direction points.	
parameters	x y The scope corresponds to the internal font If you chose 6*12 font The y = 2, 0 ⩽ x ⩽ 6 If you select a 12 * 24 font The y= 3, 0 ⩽ x ⩽ 12 32 ⩽ c1 ⩽ c2 ⩽ 126 0 ⩽ d1 ... d(y*xk) ⩽255	
The default	Internal character set	

value	
considerations	• 可定义字符编码的范围：从<20>H 到 <7E>H的ASCII 码(95 字符)。 • 可定义多个字符的连续字符编码。当仅需要一个字符时，令c1 = c2。 •d 是字符的点数据。点模式是水平方向从左边起始。右边剩余点为空白。 • 定义用户自定义字符的数据是(y×x) 字节。 • 设定打印点的相应位为1或不打印点的相应位为0。 • 该命令可对每一种字型定义不同的用户自定义字符模式。用**ESC !**设定字型。 • 用户自定义字符和下传位图不可同时定义。当该命令执行时，下传位图被清除。 • 在下列情况下用户自定义字符被清除： 1) 执行ESC @。 2) 执行GS *。 3) 执行ESC ?。 4) 打印机复位或关闭电源。 • 当设定字型 A (12×24) 时：  d1= <0F>H d4 = <30>H d7 = <40>H . . . . d2 = <03>H d5 = <80>H d8 = <40>H . . . . d3 = <00>H d6 =<00>H d9 = <20>H . . . .
And according to	ESC % , ESC ?
Use the sample	 以定义 字符为例，使用字模软件如 PCtoLCD2002，其设置为阴码、逐列式、顺向、12*24。然后生成字模数据： {0x1E,0x00,0x00,0x19,0xF0,0x00,0x06,0x30,0x00,0x06,0x77,0xF0,0x06,0xF7,0xF0,0x1F}, {0x94,0x10,0x1F,0x14,0x10,0x06,0xF4,0x10,0x06,0xF7,0xF0,0x00,0x30,0x00,0x00,0x10}, {0x00,0x00,0x00,0x00},/*"E:\达普技术支持\word 注释举例版\自定义字符举例图片.BMP",0*/ 第二步：根据指令组合其数据 1B 26 03 32 32 0C 1E 00 00 19 F0 00 06 30 00 06 77 F0 06 F7 F0 1F 94 10 1F 14 10 06 F4 10 06 F7 F0 00 30 00 00 10 00 00 00 00 发送到打印机 第三步：发送选择自定义字符指令：1B 25 01 第四步：在第二步我们把自定义字符定义为 0x32 ，测试时发送 32 0d 0a 即可看到打印出自定义字符

	①y = 2 1B 40 1b 26 02 20 20 06 FF FF FF FF FF FF FF FF FF FF FF FF 1b 25 01 20 20 0D 0A 1b 3f 20 30 20 30 20 0d 0a ②y = 3 1B 40 1b 26 03 20 20 06 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 1b 25 01 20 20 0D 0A 1b 3f 20 30 20 30 20 0d 0a

31	ESC ? n		
Instruction names	Unuser-defined characters		
Instruction code	ASCII CODE	ESC	? n
	Decimal code	27	63 n
	Hexadecimal code	1B	3F n
Functional description	Cancel user-defined characters that are specified by n		
parameters	32 ≤n ≤126		
The default value	n = 0		
considerations	• this command terminates the style defined for character encoding, which is specified by n. After the user's custom character is removed, print in the corresponding mode of the internal character. • in ESC! In the selected font, the command deletes the style defined for the specified encoding. • if a user-defined character is not defined, the printer ignores the command.		
And according to	ESC & , ESC %		
Use the sample	nothing		

<table>
<tr><td>32</td><td colspan="2">ESC R n</td></tr>
<tr><td>Instruction names</td><td colspan="2">Select the international character set</td></tr>
<tr><td rowspan="3">Instruction code</td><td>ASCII CODE</td><td>ESC R n</td></tr>
<tr><td>Decimal code</td><td>27 82 n</td></tr>
<tr><td>Hexadecimal code</td><td>1B 52 n</td></tr>
<tr><td>Functional description</td><td colspan="2">Set the international character set according to the value of the following table:
<table>
<tr><th>n</th><th>Character set</th></tr>
<tr><td>0</td><td>America</td></tr>
<tr><td>1</td><td>France</td></tr>
<tr><td>2</td><td>Germany</td></tr>
<tr><td>3</td><td>England</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>
</table></td></tr>
<tr><td>parameters</td><td colspan="2">0 ≤ n ≤ 13</td></tr>
<tr><td>The default value</td><td colspan="2">n = 0</td></tr>
<tr><td>considerations</td><td colspan="2">nothing</td></tr>
<tr><td>And according to</td><td colspan="2">nothing</td></tr>
<tr><td>Use the sample</td><td colspan="2">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</td></tr>
</table>

33	ESC t n

<table>
<tr><td>Instruction names</td><td colspan="2">Select the character code table</td></tr>
<tr><td rowspan="3">Instruction code</td><td>ASCII CODE</td><td>ESC t n</td></tr>
<tr><td>Decimal code</td><td>27 116 n</td></tr>
<tr><td>Hexadecimal code</td><td>1B 74 n</td></tr>
<tr><td>Functional description</td><td colspan="2">Select the page from the character code table n:
<table>
<tr><th>N</th><th>The code page</th><th>N</th><th>The code page</th></tr>
<tr><td>0</td><td>CP437 [美国，欧洲标准]</td><td>24</td><td>CP737 [希腊]</td></tr>
<tr><td>1</td><td>KataKana [片假名]</td><td>25</td><td>WCP1257 [波罗的海]</td></tr>
<tr><td>2</td><td>CP850 [多语言]</td><td>26</td><td>泰文</td></tr>
<tr><td>3</td><td>CP860 [葡萄牙]</td><td>27</td><td>CP720[阿拉伯语]</td></tr>
<tr><td>4</td><td>CP863 [加拿大-法语]</td><td>28</td><td>CP855</td></tr>
<tr><td>5</td><td>CP865 [北欧]</td><td>29</td><td>CP857[土耳其语]</td></tr>
<tr><td>6</td><td>WCP1251 [斯拉夫语]</td><td>30</td><td>WCP1250[中欧]</td></tr>
<tr><td>7</td><td>CP866 斯拉夫2</td><td>31</td><td>CP775</td></tr>
<tr><td>8</td><td>MIK[斯拉夫/保加利亚]</td><td>32</td><td>WCP1254[土耳其语]</td></tr>
<tr><td>9</td><td>CP755 [东欧，拉脱维亚 2]</td><td>33</td><td>WCP1255[希伯来语]</td></tr>
<tr><td>10</td><td>[伊朗，波斯]</td><td>34</td><td>WCP1256[阿拉伯语]</td></tr>
<tr><td>11</td><td>保留</td><td>35</td><td>WCP1258[越南语]</td></tr>
<tr><td>12</td><td>保留</td><td>36</td><td>ISO-8859-2[拉丁语2]</td></tr>
<tr><td>13</td><td>保留</td><td>37</td><td>ISO-8859-3[拉丁语3]</td></tr>
<tr><td>14</td><td>保留</td><td>38</td><td>ISO-8859-4[波罗的语]</td></tr>
<tr><td>15</td><td>CP862 [希伯来]</td><td>39</td><td>ISO-8859-5[斯拉夫语]</td></tr>
<tr><td>16</td><td>WCP1252 [拉丁语 1]</td><td>40</td><td>ISO-8859-6[阿拉伯语]</td></tr>
<tr><td>17</td><td>WCP1253 [希腊]</td><td>41</td><td>ISO-8859-7[希腊语]</td></tr>
<tr><td>18</td><td>CP852 [拉丁语 2]</td><td>42</td><td>ISO-8859-8[希伯来语]</td></tr>
<tr><td>19</td><td>CP858 [多种语言拉丁语 1+欧符]</td><td>43</td><td>ISO-8859-9[土耳其语]</td></tr>
<tr><td>20</td><td>伊朗 II [波斯语]</td><td>44</td><td>ISO-8859-15[拉丁语9]</td></tr>
<tr><td>21</td><td>拉脱维亚</td><td>45</td><td>[泰文2]</td></tr>
<tr><td>22</td><td>CP864 [阿拉伯语]</td><td>46</td><td>CP856</td></tr>
<tr><td>23</td><td>ISO-8859-1 [西欧]</td><td>47</td><td>Cp874</td></tr>
<tr><td>255</td><td>GBK2312</td><td></td><td></td></tr>
</table></td></tr>
<tr><td>parameters</td><td colspan="2">0 ≤n ≤5, 16 ≤n ≤19, n = 255</td></tr>
<tr><td>The default value</td><td colspan="2">n = 0</td></tr>
<tr><td>considerations</td><td colspan="2">nothing</td></tr>
<tr><td>And</td><td colspan="2">Character code table</td></tr>
</table>

according to	
Use the sample	Take PC850 as an example to print é, and PC850 according to table n = 0x02, PC850 is selected as: 1B 702 Step 2: cancel the Chinese character mode 1C 2E Step 3: the value of the char code table e is 0x82, and 82 0d 0a (0a is just for easy viewing) You can print an é character 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

34	ESC * m nL nH d1 . . . dk	
Instruction names	The figure is filled with the module	
Instruction code	ASCII CODE	ESC * m Hl Hh d1...dk
	Decimal code	27 42 m Hl Hh d1...dk
	Hexadecimal code	1B 2A m Hl Hh d1...dk

Functional description

To print the image data of longitudinal data, the parameters are as follows ：

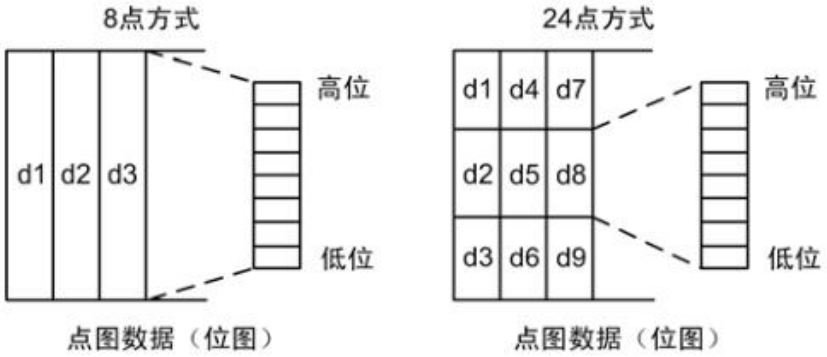
M for dot graph format ：

m	model	The vertical direction	The horizontal direction
0	8-point Single density	×3	×2
1	8-point Dual density	×3	×1
32	24-point Single density	×1	×2
33	24-point Dual density	×1	×1

Hl and Hh are horizontal points (Hl + 256 x Hh)

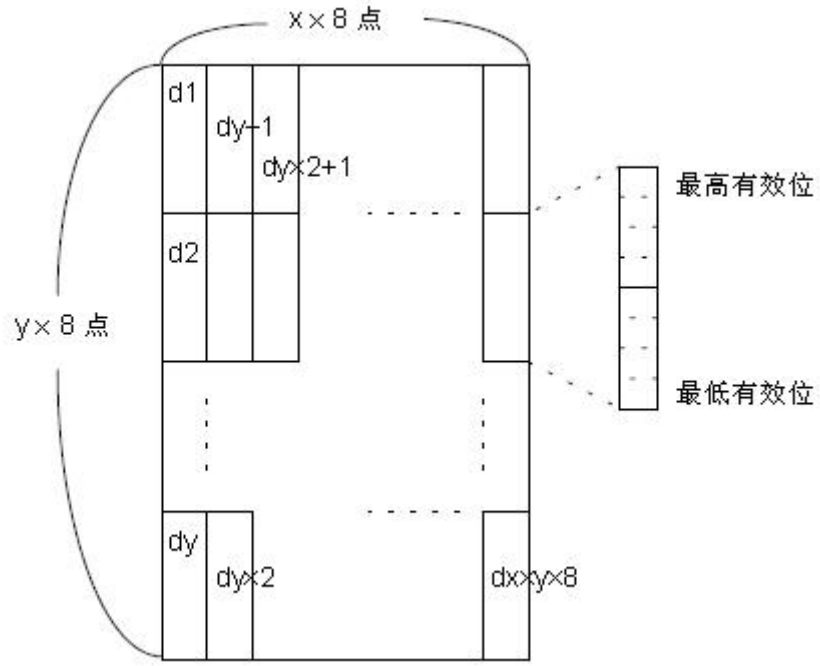
[d] k is the point graph data

K is used to indicate the number of bytes in the graph, not to participate in transmission

parameters	XX58： m = 0、1、32、33 1 ≤ Hl + Hh × 256 ≤ 384 0 ≤ d ≤ 255 k = Hl + Hh × 256（当 m = 0、1） k = (Hl + Hh × 256) × 3（当 m = 32、33） XX80： m = 0、1、32、33 1 ≤ Hl + Hh × 256 ≤ 576 0 ≤ d ≤ 255 k = Hl + Hh × 256（当 m = 0、1） k = (Hl + Hh × 256) × 3（当 m = 32、33）
The default value	nothing
considerations	[d]k The corresponding bit of 1 indicates that the dot is printed and the corresponding bit is 0, which indicates that the point is not printed The part of the image level that goes beyond the print area will be ignored The relationship between point graph data and printing effect is as follows:  This instruction only fills the print cache. The print of the image will only begin after receiving the print instruction, and the print cache will be emptied after the image is printed If the image required to print is highly significant, you can split it into several images that are 8 (m = 0, 1) or 24 (m = 32, 33) After you fill in the graphics data, you can continue to populate other information to make the graph printed along with other information After filling spot diagram, generally use the ESC J (n = 24) instruction for printing, also can use LF instructions for printing, but LF instructions can cause feed operation (by line spacing in the paper), makes the multi-line image discontinuity, can set the line spacing is 0, is not too much into the paper. (the needle printer starts to offset, if there is a broken line in the middle, please send the data continuously)
And according to	nothing
Use the sample	For example, print a 24 * 250 bitmap: Step 1: make sure that the previous instructions are 1B 2A 20 FA 00 and the hexadecimal system of 0x20 is 32, which is 24, and the horizontal direction is 250 and its hexadecimal 0x00FA The second step: to set up the parameters of the parameters, and generate the font data of the parameters

	by means of the font software. Step 3: the data from step 1 and step 2 are: 1B 2A 20 FA 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 38 00 00 FE 00 00 FE 00 01 FF 00 01 FF 80 03 FF 80 03 EF 80 07 EF C0 07 C7 C0 07 C7 C0 07 C7 C0 07 C7 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F 81 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 1F 01 F0 0F 81 F0 0F 83 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F C7 E0 07 C7 C0 07 C7 C0 07 C7 C0 07 EF C0 03 EF 80 03 FF 80 01 FF 80 01 FF 00 00 FE 00 00 FE 00 00 38 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 01 FF 80 03 FF C0 03 FF C0 03 FF C0 03 FF C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 0F E7 F0 1F E7 F8 1F E7 F8 1F E7 F8 1F C3 F8 0F 81 F0 0F 81 F0 0F 81 F0 0F C1 F0 07 C3 E0 07 C3 E0 07 C3 E0 07 C3 E0 03 E7 C0 03 E7 C0 03 E7 C0 03 E7 C0 01 FF 80 01 FF 80 01 FF 80 01 FF 80 00 FF 80 00 FF 00 00 FF 00 00 FF 00 00 7F 00 00 7E 00 00 7E 00 00 7E 00 00 7E 00 00 3C 00 00 1C 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 01 FF 80 03 FF C0 07 FF C0 07 FF E0 07 FF E0 07 C3 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F 83 E0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F8 0F 80 F8 0F 80 F8 0F 80 F8 0F 80 F8 0F 81 F8 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 F0 0F 81 E0 0F 83 E0 0F 83 E0 0F 83 E0 07 C3 E0 07 FF E0 07 FF E0 07 FF C0 03 FF C0 01 FF 80 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 0d 0a 1B 40 1b 2a 00 0C 00 FF FF FF FF FF FF FF FF FF FF FF FF 1B 33 00 0A

35	GS * x y d1 . . . d(x×y×8)	
Instruction names	Define a map mode	
Instruction code	ASCII CODE	GS * x y d1...d(x×y×8)
	Decimal code	29 42 x y d1 ...d(x×y×8)
	Hexadecimal code	1D 2A x y d1...d(x×y×)
Functional description	Use x and y to specify points to define the transfer bitmap. •x Specify horizontal direction points 8×x。 •y Specify the vertical number of points 8×y。	
parameters	1 ≤x ≤255 1 ≤y ≤48 (x×y ≤1536)	

	0 ≤d ≤255
The default value	nothing
considerations	• if x * y exceeds the specified range, the command is prohibited. • d represents bitmap data. The data (d) specifies that the print bit is 1 and the non-printing bit is 0. • clear the definition of a bitmap in the following situations: 1) perform ESC @. 2) implement ESC &. 3) printer reset or turn off power. • the relationship between the next bitmap and the printed data is as follows: 
And according to	GS /
Use the sample	举例下载一个 24*32 的位图(一般最好以 8 的倍数) 第一步：1D 2A 04 03 确定水平定为 32=8*4 和 垂直点为 24=8*3 所以第三个字符和第四个字符分别为 04 03 第二步：通过字模软件生成数据（配置为阴码、逐列式、顺向）80 08 00 40 08 00 20 08 00 10 08 0C 08 08 08 04 08 08 06 08 18 06 08 10 03 09 B0 03 7D 60 02 88 C0 02 68 C0 00 69 40 00 1A 40 02 0C 40 00 18 40 FF F7 FC 02 3A 18 02 28 80 02 09 00 00 C8 80 03 88 C0 03 6F 20 03 C8 20 04 08 00 08 08 18 08 08 08 18 08 04 10 08 04 60 08 00 40 08 00 00 08 00 第三步：把第一步和第二步的数据综合起来即为： 1D 2A 04 03 80 08 00 40 08 00 20 08 00 10 08 0C 08 08 08 04 08 08 06 08 18 06 08 10 03 09 B0 03 7D 60 02 88 C0 02 68 C0 00 69 40 00 1A 40 02 0C 40 00 18 40 FF F7 FC 02 3A 18 02 28 80 02 09 00 00 C8 80 03 88 C0 03 6F 20 03 C8 20 04 08 00 08 08 18 08 08 08 18 08 04 10 08 04 60 08 00 40 08 00 00 08 00 第四步：5.1.38 打印下传位图指令：1D 2F 30 0d 0a（这里 0d 0a 是为了换行方便观察到打印效果，不是必须的）

	1B 40 1D 2A 03 03 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF 1D 2F 00

36	GS / m	
Instruction names	Print a bitmap	
Instruction code	ASCII CODE	GS / m
	Decimal code	29 47 m
	Hexadecimal code	1D 2F m
Functional description	Print the bitmap using the mode specified by m. M from the following table setting pattern:	
parameters	0 ≤ m ≤ 3, 48 ≤ m ≤ 51	
The default value	nothing	
considerations	• if bitmap data is not defined, this command is ignored. • in standard mode, this command works only when there is no data in the print buffer. • print mode (bold, overlapping, underline, character size, or anti-white print) is invalid, except for inverted print mode. • if the next bitmap that is to be printed exceeds the print area, the excess data is not printed.	
And according to	GS *	
Use the sample	Refer to the method for the fourth step of instruction	

m	模式	垂直点密度	水平点密度
0, 48	普通	203.2 dpi	203.2 dpi
1, 49	倍宽	203.2 dpi	101.6 dpi
2, 50	倍高	101.6 dpi	203.2 dpi
3, 51	倍宽 倍高	101.6 dpi	101.6 dpi

37	GS v 0 m xL xH yL yH d1 .... dk
Instruction	The image level is printed with the modulus

<table>
<tr><td>names</td><td colspan="2"></td></tr>
<tr><td rowspan="3">Instruction code</td><td>ASCII CODE</td><td>GS v 0 m xL xH yL yH d1...dk</td></tr>
<tr><td>Decimal code</td><td>29 118 48 m xL xH yL yH d1...dk</td></tr>
<tr><td>Hexadecimal code</td><td>1D 76 30 m xL xH yL yH d1...dk</td></tr>
<tr><td>Functional description</td><td colspan="2">Set raster bitmap mode. The m value setting pattern is as follows:
<table>
<tr><th>m</th><th>model</th><th>Horizontal Scale</th><th>Vertical scaling</th></tr>
<tr><td>0, 48</td><td>common</td><td>X1</td><td>X1</td></tr>
<tr><td>1, 49</td><td>double width</td><td>X2</td><td>X1</td></tr>
<tr><td>2, 50</td><td>double height</td><td>X1</td><td>X2</td></tr>
<tr><td>3, 51</td><td>double width
double height</td><td>X2</td><td>X2</td></tr>
</table>
xL、xH Number of bytes in horizontal direction (xL + xH × 256)
yL、yH Points for the vertical direction (yL + yH × 256)
[d]k Dot graph data
k For the dot graph data bytes, k is used for motioning and no transmission</td></tr>
<tr><td>parameters</td><td colspan="2">XX58:
0 ≤ m ≤ 3; 48 ≤ m ≤ 51
1 ≤ xL + xH×256 ≤ 48
0 ≤ yL ≤255, 0 ≤ yH ≤255
0 ≤ d ≤ 255
k = (Hl + Hh×256)×(yL + yH×256)
XX80:
0 ≤ m ≤ 3; 48 ≤ m ≤ 51
1≤ xL + xH×256 ≤ 72
0 ≤ yL ≤ 255, 0 ≤ yH ≤ 255
0 ≤ d ≤ 255
k = (Hl + Hh×256)×(yL + yH×256)</td></tr>
<tr><td>The default value</td><td colspan="2">nothing</td></tr>
<tr><td>considerations</td><td colspan="2">[d]k The corresponding bit of 1 indicates that the dot is printed and the corresponding bit is 0, which indicates that the point is not printed
If the number of images horizontally exceeds the print area, the excess will be ignored
This instruction is executed by image size and is not affected by the line spacing of ESC 2 and ESC 3
After the instruction is executed, the print coordinate is reset to the left, and the image is cleared
The relationship between bitmap data and printing effect is as follows:</td></tr>
</table>

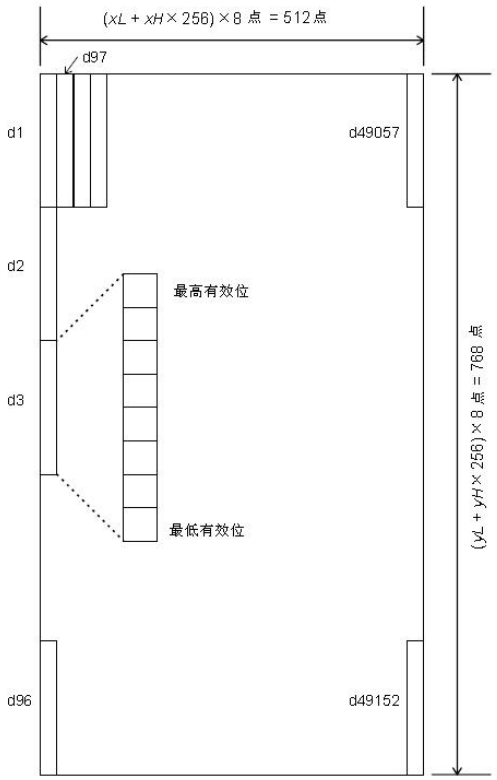
<table>
<tr><td></td><td>
<table>
<tr><td>d1</td><td>d2</td><td>……</td><td>dx</td></tr>
<tr><td>d(x+1)</td><td>d(x+2)</td><td>……</td><td>d(x×2)</td></tr>
<tr><td>|</td><td>|</td><td>……</td><td>|</td></tr>
<tr><td>……</td><td>d(k-2)</td><td>d(k-1)</td><td>dk</td></tr>
<tr><td>MSB LSB</td><td>MSB LSB</td><td>MSB LSB</td><td>MSB LSB</td></tr>
</table>
This instruction has printing function, edge pass data printing, do not need to use printing instruction
</td></tr>
<tr><td>And according to</td><td>nothing</td></tr>
<tr><td>Use the sample</td><td>1B 40
1d 76 30 00 03 00 09 00
FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF</td></tr>
</table>

<table>
<tr><th>38</th><th colspan="2">FS p n m</th></tr>
<tr><td>Instruction names</td><td colspan="2">Print NV bitmap</td></tr>
<tr><td rowspan="3">Instruction code</td><td>ASCII CODE</td><td>FS p n m</td></tr>
<tr><td>Decimal code</td><td>28 112 n m</td></tr>
<tr><td>Hexadecimal code</td><td>1C 70 n m</td></tr>
<tr><td>Functional description</td><td colspan="2">Print NV bitmap n with m specified mode ：
<table>
<tr><th>m</th><th>model</th><th>Vertical point density</th><th>Horizontal point density</th></tr>
<tr><td>0, 48</td><td>ordinary</td><td>203.2 dpi</td><td>203.2 dpi</td></tr>
<tr><td>1, 49</td><td>double width</td><td>203.2 dpi</td><td>101.6 dpi</td></tr>
<tr><td>2, 50</td><td>double height</td><td>101.6 dpi</td><td>203.2 dpi</td></tr>
<tr><td>3, 51</td><td>double width
double height</td><td>101.6 dpi</td><td>101.6 dpi</td></tr>
</table>
• n Is the number of NV bitmaps (defined by the FS q command) 。
• m Specifies a bitmap schema 。</td></tr>
<tr><td>parameters</td><td colspan="2">1 ≤n ≤255
0 ≤m ≤3
48 ≤m ≤51</td></tr>
<tr><td>The default value</td><td colspan="2">nothing</td></tr>
<tr><td>considerations</td><td colspan="2">• NV bitmap is a bitmap defined in nonvolatile memory. FS p printing is defined with FS q
The command is invalid when the specified NV bitmap does not exist.
• in standard mode, this command only works when there is no data in the print buffer.
. This command is not affected by print mode (in bold print, overlapping, underline,</td></tr>
</table>

	character size, reverse printing or character 90 °), and rotated inverted except the print mode. • if you want to print more than one line, the data is not printed. In common and times as wide as mode, the command into the paper n points (n NV bitmap level), under the mode of high times and four times the size (the command into the paper 2 n, n for NV bitmap height), and ESC 2 or 3 set the line spacing of ESC has nothing to do. After the print bitmap, the command sets the print location to the beginning of a line and handles the subsequent data as normal data.
And according to	ESC *, FS q , GS / , GS v
Use the sample	1C 70 01 00

39	FS q n [xL xH yL yH d1 ... dk] 1 ... [xL xH yL yH d1 ... dk] n	
Instruction names	Define NV bitmap	
Instruction code	ASCII CODE	FS q n [xL xH yL yH d1...dk]1...[x L xH yL yH d1...dk]n
	Decimal code	28 113 n [xL xH yL yH d1...dk]1...[x L xH yL yH d1...dk]n
	Hexadecimal code	1C 71 n [xL xH yL yH d1...dk]1...[x L xH yL yH d1...dk]n
Functional description	NV bitmap is defined with a specific n value. • n specifies the number of NV bitmaps defined. • xL, xH Specify the horizontal direction points for the NV bitmap in the definition (xL + xH × 256) × 8。 • yL, yH Specifies the number of points in the vertical direction for the NV bitmap in the definition (yL + yH × 256) × 8。	
parameters	1 ≤ n ≤ 255 0 ≤ xL ≤ 255 0 ≤ xH ≤ 3 (当 1 ≤ (xL + xH × 256) ≤ 1023, 0 ≤ yL ≤ 255) 0 ≤ yH ≤ 1 (当 1 ≤ (yL + yH × 256) ≤ 288, 0 ≤ d ≤ 255) k = (xL + xH × 256) × (yL + yH × 256) × 8 And the defined data area = 64K bytes	
The default value	nothing	
considerati	• frequent execution of write commands may damage NV storage. Therefore, it is recommended to do no more than 10 writing operations on NV memory per day. • after placing an image in the NV storage process, the printer performs a hardware reset	

ons	operation so the user customizes the character, and the next bitmap should be defined after the command has been completed. The printer clears the receive and print buffers and resets the mode that works when the power is switched on. (hardware reset interface is not supported) • this command cancels all NV bitmaps that have been defined by this command. • from this command, when the hardware reset is completed, mechanical operation can not be performed (including the initial printing head position when the cover plate is opened). • during this command processing, the printer is busy and stops receiving data while writing data to the user NV memory. Therefore, it is forbidden to transmit data during this command, including real-time commands. • NV bitmap is a bitmap defined in nonvolatile memory. FS p printing is defined with FS q. • in standard mode, the command is valid only when the line starts processing. • the command 7 bytes < FS yH > command is valid after normal processing. • when the amount of data exceeds xL, x, H, yL, yH defines the left volume of the range, the printer will process the range defined by xL, xH, yL, and yH outside of the defined scope. • in the first set of bitmaps, when xL, xH, yL, and yH are outside the definition range, the command is banned. • in a set of bitmaps in the non-first group, when the printer encounters xL, x H, yL, yH beyond the definition range, it stops processing the command and starts writing the NV image. At this point, undefined NV bitmaps are forbidden (undefined), but any NV bitmaps previously defined are still valid. • d represents the definition of data. In data (d), a 1 bit specifies a point to print and a 0 to specify an unprintable point. • this command defines n as the number of NV bitmaps. The number of Numbers rose from the bitmap 01H. Therefore, the first data group [xL xH yL d1, d1, dk] is NV bitmap 01H, and the last data group [xL xH yL d1... dk] is NV bitmap n. The total number is consistent with the number of NV bitmaps set by the FS p command. • the definition of an NV bitmap is made up of [xL xH yL d1... dk]. Therefore, when there is only one NV bitmap, n = 1, the printer only processes the data group [xL xH yL d1... dk] once. Printers use NV memory ([data: (xL + xH x 256) x (yL + yH x 256) x 8] + [header: 4]) bytes. • the definition area in this printer is 192K bytes (largest). This command can define several bitmaps, but it is not possible to define a bitmap with a total capacity [bitmap data + head] over 192K bytes. • even if the ASB is set, the printer does not pass ASB status or perform state checks during the processing of the command. • once an NV bitmap is defined, it cannot be executed by ESC @ command, reset, and power off. • this command executes only the definition of NV bitmaps and does not print. The print of the NV bitmap is executed via the FS p command. when xL = 64, xH = 0, yL = 96, yH = 0

	
And according to	FS p
Use the sample	1B 40 1C 71 01 03 00 03 00 FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF FF

40	ESC @	
Instruction names	Printer initialization	
Instruction code	ASCII CODE	ESC @
	Decimal code	27 64
	Hexadecimal code	1B 40
Functional description	Clear out the data in the print buffer, reset the printer mode to the power of the power to open the effective mode of the printer.	
parameters	nothing	
The default	nothing	

value	
considerations	• the DIP toggle switch is no longer checked. • the data in the receive buffer is not cleared.
And according to	nothing
Use the sample	nothing

41	GS r n	
Instruction names	Transfer state	
Instruction code	ASCII CODE	GS r n
	Decimal code	29 114 n
	Hexadecimal code	1D 72 n
Functional description	The transport is specified by n as shown below : **n** | function 1, 49 | Transmission of printer paper sensor status	
parameters	n = 1, 49	
The default value	nothing	
considerations	• when using the serial interface: If the DTR/DSR control is set, the printer will transmit only one byte after confirming that the host receiving data is ready (DSR signal is SPACE). If the host computer is not ready to receive the data (the DSR signal is MARK), the printer waits until the host is ready. If a XON/XOFF control is set, the printer only passes one byte and does not confirm the DSR signal state. • execute the command when the data is generated in the print buffer. Therefore, there may be a time interval between receiving the command and the transfer state, depending on the state of the receive buffer. • when the automatic status response ASB is activated by GS a, the state and ASB status of the GS r transfer must be separated. • the status type of transmission is shown below: Printing paper sensor status (n = 1, 49) :	

<table>
<tr><td></td><td>
<table>
<tr><th>Place</th><th>Close/ Open</th><th>Hexadecimal code</th><th>Decimal code</th><th>ASB state</th></tr>
<tr><td>0,1</td><td>-</td><td>-</td><td>-</td><td>meaningless</td></tr>
<tr><td rowspan="2">2,3</td><td>Close</td><td>00</td><td>0</td><td>Paper sensor: sufficient printing paper.</td></tr>
<tr><td>Open</td><td>(0C)</td><td>(12)</td><td>Paper is missing paper.</td></tr>
<tr><td>4</td><td>Close</td><td>00</td><td>0</td><td>It's not used, it's fixed.</td></tr>
<tr><td>5,6</td><td>-</td><td>-</td><td>-</td><td>Undefined.</td></tr>
<tr><td>7</td><td>Close</td><td>00</td><td>0</td><td>It's not used, it's fixed.</td></tr>
</table>
2 and 3: the printer enters the offline state when the printing paper is finished, and the command is not implemented. So bit 2 and 3 do not send the missing paper state.
</td></tr>
<tr><td>And according to</td><td>GS a</td></tr>
<tr><td>Use the sample</td><td>nothing</td></tr>
</table>

<table>
<tr><th>42</th><th colspan="2">GS a n</th></tr>
<tr><td>Instruction names</td><td colspan="2">Allow/disable status automatically upload</td></tr>
<tr><td rowspan="3">Instruction code</td><td>ASCII CODE</td><td>GS a n</td></tr>
<tr><td>Decimal code</td><td>29 97 n</td></tr>
<tr><td>Hexadecimal code</td><td>1D 61 n</td></tr>
<tr><td>Functional description</td><td colspan="2">When effective, the printer finds state changes and automatically sends status to the host.</td></tr>
<tr><td>parameters</td><td colspan="2">0 ≤ n ≤ 255
<table>
<tr><th rowspan="2">Place</th><th rowspan="2">function</th><th colspan="2">value</th></tr>
<tr><th>0</th><th>1</th></tr>
<tr><td>0</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>1</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>2</td><td>Disable/allow status automatically upload</td><td>ban</td><td>allow</td></tr>
<tr><td>3-4</td><td>-</td><td>-</td><td>-</td></tr>
<tr><td>5</td><td>Paper control is prohibited/permitted BUSY RTS=BUSY</td><td>ban</td><td>allow</td></tr>
<tr><td>6-7</td><td>-</td><td>-</td><td>-</td></tr>
</table></td></tr>
<tr><td>The default</td><td colspan="2">nothing</td></tr>
</table>

value	
considerations	nothing
And according to	nothing
Use the sample	Allow state automatic upload instruction 1D 61 24 when the printer from the paper to the detection of the paper will send to the host to send 04, indicating the paper

43	GS H n	
Instruction names	Select the print location of the HRI character	
Instruction code	ASCII CODE	GS H n
	Decimal code	29 72 n
	Hexadecimal code	1D 48 n
Functional description	Select the print position of the HRI character when printing the barcode N select the print position as shown in the figure below :	

n	Print position
0, 48	Don't print
1, 49	Above the bar code
2, 50	Underneath the bar code
3, 51	Above and below the bar code

	•HRI Represents a readable barcode corresponding character 。
parameters	0 ≤n ≤3, 48 ≤n ≤51
The default value	n = 0
considerations	When ESC @, printer reset, power off, the setting of this directive fails
And according to	GS f , GS k
Use the sample	nothing

44	GS h n	
Instruction names	Set barcode height	
Instruction code	ASCII CODE	GS h n
	Decimal code	29 104 n
	Hexadecimal code	1D 68 n
Functional description	The height of the bar code is n, and the parameter n is the following ：  高度为 50  高度为 100	
parameters	1 ≤n ≤255	
The default value	n = 162	
considerations	When ESC @, printer reset, power off, the setting of this directive fails	
And according to	GS k	
Use the sample	nothing	

45	GS w n	
Instruction names	Set the width of the bar code	
Instruction code	ASCII CODE	GS w n
	Decimal code	29 119 n
	Hexadecimal code	1D 77 n
Functional	Set bar code size. N sets the bar code width as below ：	

<table>
<tr><td>description</td><td>
<table>
<tr><th rowspan="2">n</th><th rowspan="2">Multilevel barcode units Width (mm)</th><th colspan="2">Binary code</th></tr>
<tr><th>Narrow strip width (mm)</th><th>Width width (mm)</th></tr>
<tr><td>2</td><td>0.250</td><td>0.250</td><td>0.625</td></tr>
<tr><td>3</td><td>0.375</td><td>0.375</td><td>1.000</td></tr>
<tr><td>4</td><td>0.560</td><td>0.500</td><td>1.250</td></tr>
<tr><td>5</td><td>0.625</td><td>0.625</td><td>1.625</td></tr>
<tr><td>6</td><td>0.750</td><td>0.750</td><td>2.000</td></tr>
</table>
·Below are the multilevel barcodes ：
UPC-A, UPC-E, JAN13 (EAN13), JAN8 (EAN8), CODE93, CODE128
·Here are the binary barcodes ：
CODE39, ITF, CODABAR

The bar code unit is n point, and the parameter n is the following ：
  宽度为 3
  宽度为 4</td></tr>
<tr><td>parameters</td><td>2 ≤n ≤6</td></tr>
<tr><td>The default value</td><td>n = 3</td></tr>
<tr><td>considerations</td><td>When ESC @, printer reset, power off, the setting of this directive fails</td></tr>
<tr><td>And according to</td><td>GS k</td></tr>
<tr><td>Use the sample</td><td>nothing</td></tr>
</table>

46	①GS k m d1 . . . dk NUL②GS k m n d1 . . . dn	
Instruction names	Print the barcode	
Instruction	ASCII CODE	GS k m d1...dk NUL
	Decimal code	29 107 m d1...dk 0

<table>
<tr><td>code</td><td>Hexadecimal code</td><td>1D 6B m d1...dk 00</td></tr>
<tr><td></td><td>ASCII CODE</td><td>GS k m n d1...dn</td></tr>
<tr><td></td><td>Decimal code</td><td>29 107 m n d1...dn</td></tr>
<tr><td></td><td>Hexadecimal code</td><td>1D 6B m n d1...dn</td></tr>
<tr><td>Functional description</td><td colspan="2">
Printing one-dimensional bar code, the parameters are as follows:
M for encoding
N is the length of encoding data, only (B). The difference between (A) and (B) is that the data segment (A) ends with A NULL character, and (B) indicates the length of the data
[d] k is barcode data
K is the length of barcode data, used for motioning and not transmitting
The relationship between the parameters is shown in the following table:
(instruction A)
<table>
<tr><td rowspan="2">m</td><td rowspan="2">Coding system</td><td colspan="4">Barcode data (SP represents space)</td></tr>
<tr><td>The length of the data</td><td>k</td><td>Character set</td><td>data（d）</td></tr>
<tr><td>0</td><td>UPC-A</td><td>immobilization</td><td>k = 11，12</td><td>0~9</td><td>48≤d≤57</td></tr>
<tr><td>1</td><td>UPC-E</td><td>immobilization</td><td>6≤k≤8，k = 11，12</td><td>0~9</td><td>48≤d≤57
[when k = 7,8,11,12，
d1 = 48]</td></tr>
<tr><td>2</td><td>JAN13 (EAN13)</td><td>immobilization</td><td>k = 12，13</td><td>0~9</td><td>48≤d≤57</td></tr>
<tr><td>3</td><td>JAN8 (EAN8)</td><td>immobilization</td><td>k = 7，8</td><td>0~9</td><td>48≤d≤57</td></tr>
<tr><td>4</td><td>CODE39</td><td>variable</td><td>1≤k≤255</td><td>0~9，A~Z
SP，$，%，+，
-，.，/</td><td>48≤d≤57，
65≤d≤90，
d = 32，36，37，42，43，45，46，47</td></tr>
<tr><td>5</td><td>ITF (Interleaved 2 of 5)</td><td>variable</td><td>2≤k≤255（An even number ）</td><td>0~9</td><td>48≤d≤57</td></tr>
<tr><td>6</td><td>CODABAR (NW-7)</td><td>variable</td><td>1≤k</td><td>0~9，A~D，a~d
$，+，-，.，/，:</td><td>48≤d≤57，
65≤d≤68，
97≤d≤100，
d = 36，43，45，46，47，58
(65≤d1≤68，
65≤dk≤68，</td></tr>
</table>
</td></tr>
</table>

					97≤d1≤100， 97≤dk≤100)

(instruction B)

m	Coding system	Barcode data (SP represents space)			
		The length of the data	n	Character set	data（d）
65	UPC-A	immobilization	n = 11，12	0~9	48≤d≤57
66	UPC-E	immobilization	6≤n≤8，n = 11，12	0~9	48≤d≤57 [当 n = 7,8,11,12， d1 = 48]
67	JAN13 (EAN13)	immobilization	n = 12，13	0~9	48≤d≤57
68	JAN8 (EAN8)	immobilization	n = 7，8	0~9	48≤d≤57
69	CODE39	variable	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 (Interleaved 2 of 5)	variable	1≤n≤255（An even number ）	0~9	48≤d≤57
71	CODABAR (NW-7)	variable	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	variable	1≤n≤255	00H~7FH	0≤d≤127
73	CODE128	variable	2≤n≤255	00H~7FH	0≤d≤127
74	UCC/EAN128	variable	2≤n≤255	00H~7FH C1H~C4H(FNC)	0≤d≤127 d = 193，194,195,196

parameters	①0 ≤ m ≤ 6 (K and d depend on the barcode system used) ②65 ≤ m ≤ 74 (N and d depend on the barcode system used)
The default	nothing

value	
considerations	If the barcode width exceeds the printable area, the printer does not execute barcode printing When the instruction is executed according to the need, it is not affected by ESC 2, ESC 3 row spacing and the row spacing setting This directive is not subject to ESC! Effect of character style setting After this instruction is executed, the print position is restored to the starting position of the print M parameters 0 ~ 6 (A) and 65 ~ 71 (B) choose the same coding system and print the same effect When m parameter 0 ~ 6 (A), the bar code data ends in NULL When m parameters are 65 ~ 74 (B), the barcode data represents the data length in n K is used for motioning and does not need to be transmitted When you print UPCA (m = 0 or 65), you need to note: Whether the input data length is 11 or 12, the check bit is automatically inserted or corrected Initiators, intermediate delimiters, and end characters are inserted automatically When printing UPCE (m = 1 or 66), please note: When the data length is 6, the system character (NSC) 0 is inserted automatically When the data length is 7, 8, 11 and 12, the first system character (NSC) d1 must be 0 Whether the input data length is 6, 7, 8, 11 or 12, the check bit is automatically inserted or corrected Whether the input data length is 6, 7, 8, 11 or 12, the barcode readable character (HRI) only shows 6 bits of data, excluding system character (NSC) and check code; The relationship between transmission data and print data transformation is as follows ：

传输的数据										打印的数据					
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, d7, d8, d9, d10 are 0, d11 is 5 ~ 9, and end character is inserted automatically
When printing EAN13 (m = 2 or 67), take note:
Whether the input data length is 12 or 13, the checkbit automatically inserts or corrects the wrong start, the middle delimiter, and the terminator automatically inserts
When printing EAN8 (m = 3 or 68), note:
Whether the input data length is 7 or 8, the check bit is automatically inserted or corrected
Initiators, intermediate delimiters, and end characters are inserted automatically
When you print CODE39 (m = 4 or 69), take note:
When d1 or dn is not "*" for start/end, encoder inserts "*" automatically.
When the "*" is encountered in the data, the encoder sees it as an end, and the rest data is treated as ordinary data.
Check bits are not automatically calculated and added
When printing ITF25 (m = 5 or 70), note that:
The start and end characters are inserted automatically
Check bits are not automatically calculated and added

When printing CODABAR (nw-7) (m = 6 or 71), please note:
The start and end characters are not inserted automatically, requiring the user to add manually, with A range of "A" ~ "D" or "A" ~ "D".
Check bits are not automatically calculated and added
When you print CODE93 (m = 72), please note:
The start and end characters are inserted automatically
Two check codes are automatically calculated and inserted
When a barcode readable character (HRI) is set, no HRI characters representing start/end are set
When a barcode readable character (HRI) is set, the control character will be replaced with a space
When choosing CODE128 (m = 73) :

- refer to appendix A, CODE 128 for related information and character sets.
- when using CODE 128, the following instructions are coded:

You must select A character set (CODE A, CODE B, and CODE C) before barcode data.
The select character set is accomplished by the combination of the sending character "{" and another character. ASCII characters
"{" is done by the continuous sending character" {" twice.

Special characters	To send data		
	ASCII	Hexadecimal code	Decimal 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

[instance] for example, print ″No. 123456″

In this instance, the printer prints ″No.″ first with CODE B, and then CODE C prints the rest of the Numbers:

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

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 front end of the barcode data is not a character set selection, the printer will stop the processing of this command and will be left

The data below is treated as normal data.

	• if the "{" and the subsequent character are not the combination specified above, the printer stops the command The rest of the data is processed as normal data. • if the character that the printer receives is not a bar code character set data, the printer will stop the processing of this command and will be left The data below is treated as normal data. • when printing HRI characters, the printer does not print shift characters and character set selection data. • the HRI character of the function character is not printed. • control characters (< 00 > H to < 1F > H and < 7F > H) also do not print; < other > must ensure the left and right margins of barcode. The gap is different by barcode type.
And according to	GS H、 GS h、 GS w
Use the sample	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 0D0A 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

47	GS x n	
Instruction names	Set the bar code to print the left spacing	
Instruction code	ASCII CODE	GS x n
	Decimal code	29 120 n
	Hexadecimal code	1D 78 n
Functional description	The starting position of the printed bar code is: 0→255	
parameters	nothing	
The default value	nothing	
considerations	nothing	
And according to	nothing	
Use the sample	nothing	

48	GS (k pL pH cn fn n1 n2 (fn=65)

<table>
<tr><td>Instruction names</td><td colspan="2">Specify the mode of QR code by n1</td></tr>
<tr><td rowspan="3">Instruction code</td><td>ASCII CODE</td><td>GS (k pL pH cn fn n1 n2</td></tr>
<tr><td>Decimal code</td><td>29 40 107 pL pH cn fn n1 n2</td></tr>
<tr><td>Hexadecimal code</td><td>1D 28 6b pL pH cn fn n1 n2</td></tr>
<tr><td>Functional description</td><td colspan="2">Specify the mode of QR code by n1<table><tr><td>n</td><td>function</td></tr><tr><td>49</td><td>Specifies the mode 1 transformation process</td></tr><tr><td>50</td><td>Specifies the mode 2 transformation process</td></tr></table></td></tr>
<tr><td>parameters</td><td colspan="2">pL=4, pH=0
cn=49
fn=65
n1=49,50
n2=0</td></tr>
<tr><td>The default value</td><td colspan="2">nothing</td></tr>
<tr><td>considerations</td><td colspan="2">nothing</td></tr>
<tr><td>And according to</td><td colspan="2">nothing</td></tr>
<tr><td>Use the sample</td><td colspan="2">nothing</td></tr>
</table>

49	GS (k pL pH cn fn n (fn=67)	
Instruction names	Set the type of QR code graphic module	
Instruction code	ASCII CODE	GS (k pL pH cn fn n
	Decimal code	29 40 107 pL pH cn fn n
	Hexadecimal code	1D 28 6b pL pH cn fn n

Functional description	Set the QR code graphics module type to [n points x npoints].
parameters	pL=3, pH=0 cn=49 fn=67 0 ≤ n ≤16
The default value	n=3
considerations	nothing
And according to	nothing
Use the sample	nothing

50	GS (k pL pH cn fn n (fn=69)	
Instruction names	Set the error correction level error of QR code	
Instruction code	ASCII CODE	GS (k pL pH cn fn n
	Decimal code	29 40 107 pL pH cn fn n
	Hexadecimal code	1D 28 6b pL pH cn fn n

Functional description

Set the error correction level error of QR code

n	function	Reference: the approximate representation of recovery (%)
48	Error correction level error L	7
49	Error correction level error m	15
50	Error correction level error q	25
51	Error correction level	30

			error h	
parameters	pL=3, pH=0 cn=49 fn=69 48 ≤ n ≤51			
The default value	n=48			
considerations	nothing			
And according to	nothing			
Use the sample	nothing			

51	GS (k pL pH cn fn m d1…dk (fn=80)	
Instruction names	The data stored for receiving QR codes is in a 2d barcode area	
Instruction code	ASCII CODE	GS (k pL pH cn fn m d1...dk
	Decimal code	29 40 107 pL pH cn fn m d1...dk
	Hexadecimal code	1D 28 6b pL pH cn fn m d1...dk
Functional description	Store qr code data (d1... Dk is in the area of QR code 2d barcode. ((pL + pH x 256) -3) byte in m (d1... Dk is processed as graph data.	
parameters	4≤(pL + pH×256) ≤7092 (0 ≤ pL ≤255, 0 ≤ pH ≤28) cn=49 fn=80 m=48 0 ≤ d ≤255 k=(pL + pH×256)-3	
The default value	nothing	
considerations	nothing	

And according to	nothing
Use the sample	nothing

52	GS (k pL pH cn fn m (fn=82)	
Instruction names	The data information types that transmit QR code graphics are in 2d barcode area	
Instruction code	ASCII CODE	GS (k pL pH cn fn m
	Decimal code	29 40 107 pL pH cn fn m
	Hexadecimal code	1D 28 6b pL pH cn fn m

Functional description

The type of data that transmits the QR code is in a two-dimensional barcode region.

Here are the basic types of graphic type information:

To send data	Hexadecimal code	Decimal code	The data type
Header	37H	55	1byte
Flag	36H	54	1byte
Width	30H-39H	48-57	1-5byte
Separator	1FH	31	1byte
Height	30H-39H	48-57	1-5byte
Separator	1FH	31	1byte
Fixed Value	31H	49	1byte
Separator	1FH	31	1byte
Other Information	30H or 31H	48 or 49	1byte
NUL	00H	0	1byte

Width and height data send:

• the height and width of the graphic data are in points.

Other information data sent:

• "hexadecimal = 30H/decimal = 48" means that the data is not printed.

• "hexadecimal = 31H/decimal = 49" means that the data is not printed.

parameters	pL=3, pH=0 cn=49 fn=82 m=48
The default	nothing

value	
considerations	This command does not print QR code graphics. The user must consider the space of the QR code graphics (the spacing of the QR code graphics and the spacing of the left and right are specified in the specification).
And according to	nothing
Use the sample	nothing

53	ESC 7 n1 n2 n3	
Instruction names	Set printing concentration	
Instruction code	ASCII CODE	ESC 7 n1 n2 n3
	Decimal code	27 55 n1 n2 n3
	Hexadecimal code	1B 37 n1 n2 n3
Functional description	Set the most hot spots for printing, heating time and spacing time: N1 = 0-255 maximum number of heating points, the unit (8dots), the default value of 9 (80 points); N2 = 0-255 heating time, unit (10us), default value 80; N3 = 0-255 heating interval time, unit (10us), default value 2; The maximum power consumption current of the control panel is large and the printing speed is fast. The maximum heating points are 8 x (n1 + 1); The longer the heating time, the higher the printing speed, the slower the printing speed. If the heating time is too short, there may be a blank print; The longer the interval, the clearer the printing, the slower the printing speed;	
parameters	nothing	
The default value	nothing	
considerati	The "heating time" and "heating interval" control board will adjust automatically	

ons	according to the input voltage.
And according to	nothing
Use the sample	Heating points: 80 point, heating time: 800us, time interval 200us. 1B 40 1B 37 09 50 02 12 54 Heating points: 80 point, heating time: 1600us, time interval 200us. 1B 40 1B 37 09 A0 02 12 54 It can be seen that after the heating time is prolonged, the printing concentration becomes significantly darker.

54	ESC 9 n	
Instruction names	Select the Chinese code format	
Instruction code	ASCII CODE	ESC 9 n
	Decimal code	27 57 n
	Hexadecimal code	1B 39 n
Functional description	Choose the Chinese encoding format, and the n value corresponds to the following code: 0: GBK code 1: utf-8 3: BIG5 traditional coding The English version does not support this command.	
parameters	nothing	
The default value	nothing	
considerations	nothing	
And	nothing	

according to	
Use the sample	nothing

55	DC2 T	
Instruction names	Print self test page	
Instruction code	ASCII CODE	DC2 T
	Decimal code	18 94
	Hexadecimal code	12 54
Functional description	The printer prints a self-test page that contains the program version of the printer, the type of communication interface, the code page, and some other data.	
parameters	nothing	
The default value	nothing	
considerations	nothing	
And according to	nothing	
Use the sample	1B 40 12 54	

56	ESC c 5 n (for buttons)	
Instruction names	Cancel/activate panel button (button only)	
Instruction code	ASCII CODE	ESC c 5 n
	Decimal code	27 99 53 n
	Hexadecimal code	1B 63 35 n

Functional description	Cancel/activate the panel button. The minimum valid value is 0, cancel the panel button; The minimum effective value is 1, activate the panel button.
parameters	0 ≤ n ≤ 255
The default value	n = 0
considerations	nothing
And according to	nothing
Use the sample	nothing

57	DLE EOT n	
Instruction names	Real-time transmission mode	
Instruction code	ASCII CODE	DLE EOT n
	Decimal code	16 4 n
	Hexadecimal code	10 04 n
Functional description	According to the following parameters, the state of the printer is transmitted in real time, and the parameter n is used to specify the state of the printer to be transmitted: N = 1: transfer printer status N = 2: transmission offline state N = 3: transmits the error state N = 4: transfer paper sensor status	
parameters	1 ⩽ n ⩽ 4	
The default value	nothing	
considerati	• the printer returns the associated status immediately after receiving this command	

ons

• this command should not be inserted into two or more byte command sequences.

• the command remains valid even if the printer is set to be disabled by the ESC = (select peripheral) command.

• the printer transmits the current state with one byte of data for each state.

• the printer does not confirm whether the host received when the printer is transmitted.

• the printer received the command to execute immediately.

• this command only works with the serial printer. The printer receives this command in any state immediately.

N = 1: printer status

Place	0/1	Hxadecimal codee	Decimal code	Function
0	0	00	0	Fixed 0
1	1	02	2	Fixed 1
2	0	00	0	One or two money boxes open (the machine with no money box is fixed to 0)
	1	04	4	Both the money boxes are closed
3	0	00	0	online
	1	08	8	Offline
4	1	10	16	Fixed 1
5,6		--	--	Undefined
7	0	00	00	The paper has been torn away
	1	80	96	Paper not to tear away

n=2：Send offline state

Place	0/1	Hxadecimal codee	Decimal code	Function
0	0	00	0	Fixed 0
1	1	02	2	Fixed 1
2	0	00	0	On the cover off
	1	04	4	Cover open
3	0	00	0	Unpressed paper key
	1	08	8	Press the paper key
4	1	10	16	Fixed 1

5	0	00	0	The printer does not lack paper
	1	20	32	Printer paper
6	0	00	00	There is no error
	1	40	64	Error condition
7	0	00	0	Fixed 0

n=3：Error condition

Place	0/1	Hxadecimal codee	Decimal code	Function
0	0	00	0	Fixed 0
1	1	02	2	Fixed 1
2		--	--	undefined
3	0	00	0	No error in cutting knife
	1	08	8	There's an error in the cutting
4	1	10	16	Fixed 1
5	0	00	0	No unrecoverable error
	1	20	32	There are unrecoverable errors
6	0	00	00	The printing head temperature and voltage are normal
	1	40	64	Print head temperature or voltage exceed range
7	0	00	0	Fixed 0

n=4：transport paper sensor status

Place	0/1	Hxadecimal codee	Decimal code	Function
0	0	00	0	Fixed 0
1	1	02	2	Fixed 1
2，3	0	00	0	Have a paper
	1	0C	12	The paper will do
4	1	10	16	Fixed 1
5，6	0	00	0	Have a paper
	1	60	96	The paper do
7	0	00	0	Fixed 0

And according to	nothing
Use the sample	10 04 01 10 04 02 10 04 03 10 04 04