BT-2 Embedded Printer
User Manual

Catalog

Print self-test page 39

1. Product overview

Name: Embedded Miniature printer unit
model: PT-2
Mounting port size: 103 (width) * 57 (height) mm
Embedded depth: 50mm

Application areas: medical printing equipment, measuring equipment, security equipment, analytical instruments and meters.

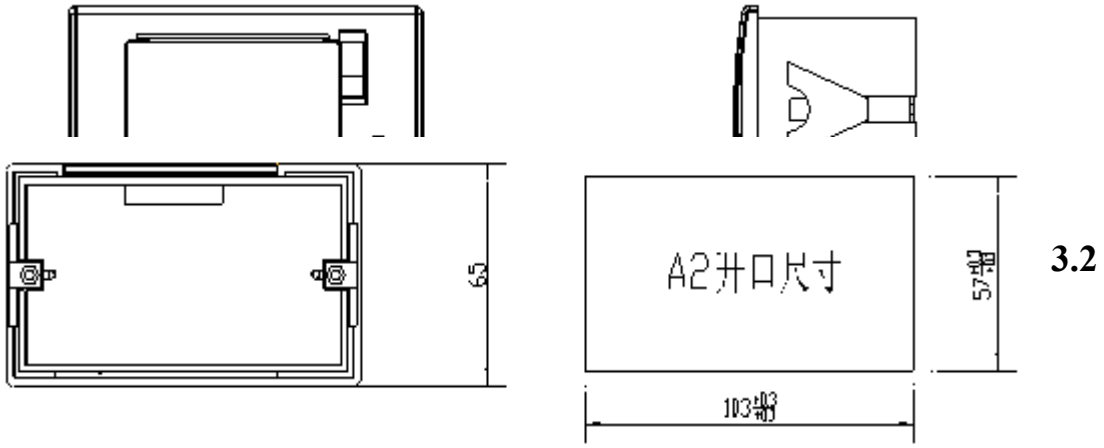
2. Product features

① Beautiful appearance
② Support ESC / POS printing instruction set
③ Easy paper structure
④ Low noise, thermal printing

⑤ Different interfacesselected
can be⑥ It is easily embedded in various instruments and meters

3. Product specifications

3.1 Product size



3.2

Installation method

As shown in Figure 1, insert the printer from the front of the machine installed, and then install it as shown in Figure 2; then install the fixing block from the rear according to Figure 3 and lock the screws.

Note: The sub-panel of the installation machine can adapt to the thickness change of 1 to 6MM.

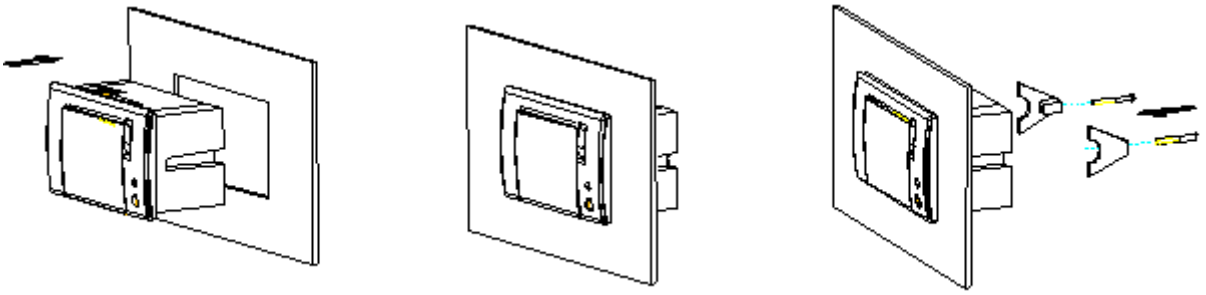


Figure 1 Figure 2 Figure 3

4. Printer parameters

Printing	printing method	Thermal line dot printing
	Printing speed	50-80 mm / s
	Resolution	8 dots / mm, 384 Dot / line
	effective printing width	48mm
character	character set	ASCII code, GB2312-80 (Chinese)
	printing font	ANK: (8 * 16, 9 * 17, 9 * 24, 12 * 24) Chinese: (16 * 16, 24 * 24)
Paper Specifications	Paper Type	ThermalRoll
	PaperPaper Width	57.5±0.5 mm
	Roll Paper Diameter	Max: 39 mm
Reliability	Mean Time Between Failures	5 Million Line

	(MCBF)	
Interface		Serial Port (RS232, TTL) / Parallel / USB
Embedded Depth		50 mm
power		5V-9V / 12V DC
physical properties	dimensions (W * D * H)	111 * 65 * 57 mm
	mounting opening size of	103 * 57 mm
	color	white / black
ambient	operating temperature	5 ° C ~ 50 ° C
	humidity	10% ~ 80%
	storage temperature	-20 ° C ~ 60 ° C
	storage humidity	10% ~ 90%

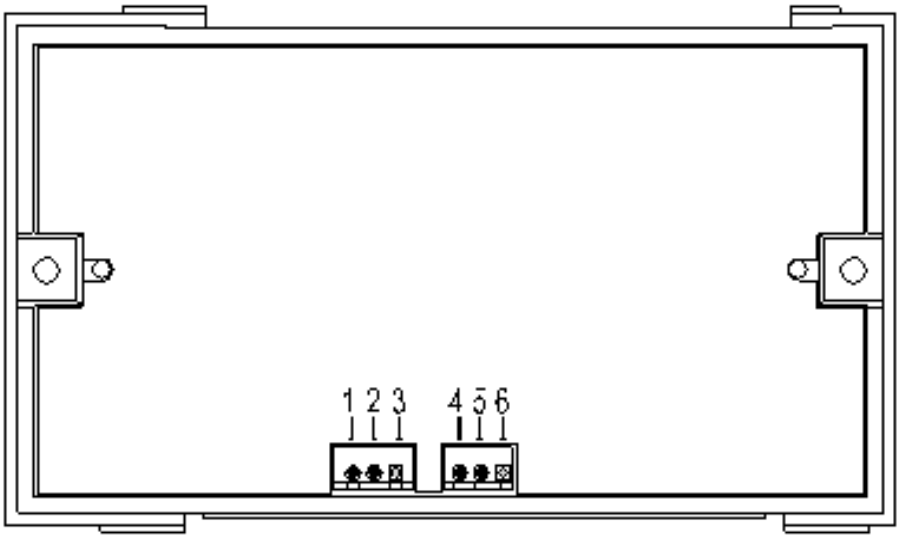
5. Paper roll installation

1. Open the upper cover of the printer;
2. Put the paper roll upside down;
3. Close the upper cover of the printer. Let the paper show up slightly.

Note: Before installing the printing paper, please tear off the adhesive tape on the paper roll, and there should be no foreign matter to protect the print head.

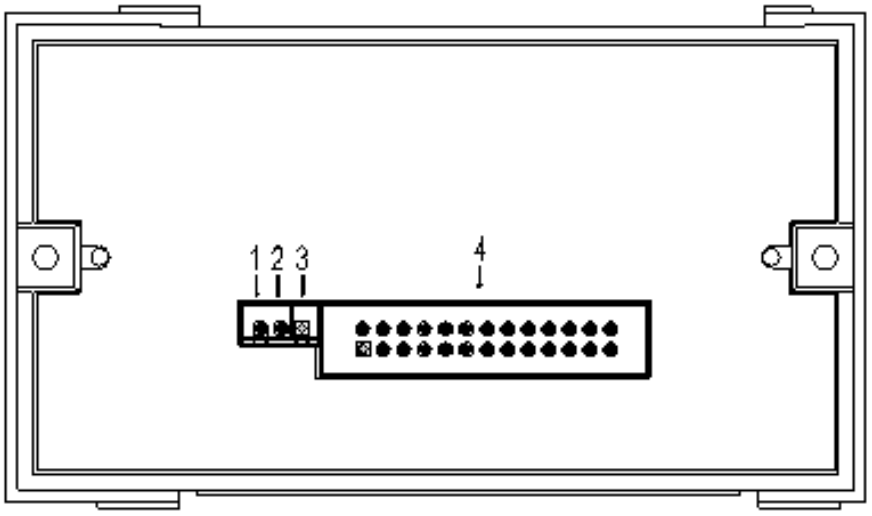
6. Control board parameters

6.1 Serial port interface pin definition description



Pin	direction	description
1.		GND ground
2.3.		
NULLVH	input	voltage between
5-9V 4.		GND ground
5. RXD	input	receive data
6. TXD	output	send data

6.2 LPT interface pin definition description



Pin	detailed	description
1.		GND ground
2. VH		voltage between 5-9V
3. + 5V		input power LPT interface
4. Pin Definition	1. STROBE	strobe
	2-9.DATA0-DATA7	data0-7
	10. ACKNLG	confirmation
	11. BUSY	busy
	12. PE	out of paper
	13. SLCT	selection
	14. AUTO FEED	wrap
	15. ERROR	Error
	16. INIT	Initialization
	17. LCT IN	selection input
	18. GND	ground

7. Instruction description

7.1 Instruction list

LF	print	and feed print and feed instructionand feed
CR	Enter	
ESC J	printn points	
ESC d	print and feed n lines	
ESC 3	Set the line spacing to n Dot	print setting instruction

ESC 2	Set line spacing to default value	
ESC $	Set print position	
GS L nL nH	Set left margin	
ESC!	Set character print method	
GS! n	Set character size	
GS B n	Set and cancel reverse printing	
ESC-n	set, underline	
ESC V n	set, cancel 90 ° rotation printing	
ESC a	set print alignment	
FS &	set Chinese character mode	
FS .cancel	Chinese character mode	
ESC% n	select, cancel user-defined character set	
ESC &	definition User-defined character set	
ESC? N	Cancel user-defined character	
ESC R n	Select international character set	
ESC tn	Select character code page	
ESC *	Graphics vertical modulus data fill	graphics print instruction
GS v 0	Picture horizontal modulus data print	
GS *	definition Bitmap	
GS / m	Print Bitmap	
FS q	Definition N V bitmap	
FS pnm	print NV bitmap	
HT	horizontal tabulation	tab command
ESC D	set horizontal tab position	
GS H	set one-dimensional bar code readable characters (HRI) print position	one-dimensional bar code print instruction
GS h	set one-dimensional bar code height	
GS w	Set one-dimensional barcode width	
GS k	Print one-dimensional barcode	
GS k	Print two-dimensional code	Two-dimensional code Print instruction
	Print line segment	curve print instruction
GS rn	Transmission status	status query instruction
DLE EOT n	Real-time transmission status	
ESC @	Initialize printer	other instructions
DC2 T	printself-test page	

7.2 Detailed instructions

①printing andfeed instruction

feeds the paperto print

the name ofinstruction	the printand feeds the paper
instruction code	ASCII: LF decimal: 10 hex: 0A
functiondescribed	will bein the print buffer content to print, based on the current line spacing after Set the paper feed line and adjust the print position to the starting position of the

	next line.
Parameter range	No
default value	No
supported models	All models
Note	no
use examples	No

carriage return

instruction name	carriage return
instruction code	ASCII: CR decimal: 13 hex : 0D
function description	print position adjustment to the first position on does not wrap
parameters	with no
default	unsupported
model	allmodels
Notes	execution After the command car, the new printing data will be bitwise "or" print the cover original data cache
uses examples	non-point

Print and paper n

instruction name of	the printn and feeds the paper point
instruction code	ASCII: ESC J n Decimal: 27 74 n Hex: 1B 4A n
Function description	Print and feed the contents of the print buffer n Point
parameter range	0 ≤ n ≤ 255
Default value	No
supported models	All models
Note	When the print buffer is empty, only paper npoint after thisinstruction is executed, the print starting position to the next row positionthe
usingexample	1b 40 30 31 32 1b 4a 10

Print and paper n

command-line name of	the printn lines and feeds the paper
instruction code	ASCII: ESC dn decimal: 27 100 n ten Hexadecimal: 1B 64 n
Function description	Print and feed the content in the print buffer n Line
parameter range	0 ≤ n ≤ 255
Default value	No
supported models	All models

Note that	this command sets the print start position to the start of the line
Use example	1b 40 30 31 32 1b 64 01

② **print setting instruction**

to set the line spacingpoint n

command name	setto point n line spacing
instruction code	ASCII: ESC 3 n decimal: 27 51 n hex: 1B 33 n
function Said	set of n dot line spacing
parameter range	0 ≤ n ≤ 255
default values	n = 33
the supported models	for allmodels
considerations	row spacingindicate the following:  If the line spacing is set smaller than the maximum height of a character row, then the pitch is equal trekkingmaximum character height is If theESC 2, ESC @, the printer is reset, and the printer is powered off, the line spacing is restored to the default value
. Example of use	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

Set the line spacing to the default value.

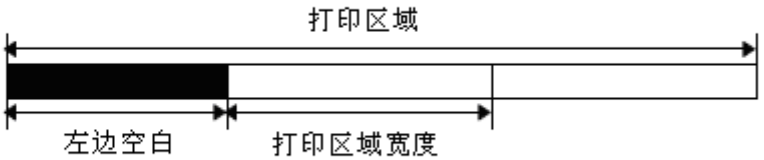
Command name	Set the line spacing to the default value.
Instruction code	ASCII: ESC 2 Decimal: 27 50 Hex: 1B 32
Function Description	Set the line spacing to the default 33 points.
Parameter range	No
default value	No
support models	All models
precautions	line spacing a schematic detailed look atcommand ESC 3 the maximum height of the character line spacingis less than if the line is set, then the pitch is equal to the maximum character height trekking available ESC 3 line spacing custom
using the example	no

print positionprovided

Instruction	Set print position

name	
instruction code	ASCII: ESC $ nL nH Decimal: 27 36 nL nH Hexadecimal: 1B 24 nL nH
Function description	Adjust print position to distanceat the (nL + nH × 256) point of the printing start position
Parameter range	0 ≤ nL ≤ 255, 0 ≤ nH ≤ 255
Default value	No
supported models	All models
Note	This command is only valid for this line, the print position is reset to print after line feed If the starting position is out of the printing range, move to the next line. Printing
example	1b 40 1b 24 08 00 30 31 32 0d 0a 30 31 32 0d 0a

Set the left margin

command name	Set the print position
command code	ASCII: GS L nL nH Decimal: 29 76 nL nH Hex: 1D 4C nL nH
Function description	Set the left margin to (nL + nH × 256) point
Parameter range	0 ≤ nL ≤ 255, 0 ≤ nH ≤ 255
Default value	No
supported models	All models
Note Note	This command is valid only when processed at the beginning of a line. The illustration is as follows:  If the setting exceeds the printable range, the maximum value of the printable unit is
used. Example	1b 40 1d 4c 08 00 30 31 32 0d 0a 30 31 32 0d 0a

Set the character print mode

instruction name	Set the character print mode
instruction code	ASCII: ESC! N Decimal: 27 33 n Hexadecimal: 1B 21 n
Function	Sets the print mode of the character (font, reverse, invert, bold, double height,

description	double width, and underline), the bit of the parameter n Defined as follows: **bit function value** **0 1** 0 Normal small print 1 Undefined 2 Undefined 3 Canceled in boldCanceled in 4double height 5 Canceled in width 6 Undefined 7 Underlined Cancel Setting
Parameter range	No
default value	n = 0
Supportmodels	allModel
Precautions	This instruction is valid for Chinese fonts and foreign fonts. When ESC @, printer reset, power off, the setting of this instruction is invalid
. 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 the character size

instruction name	Set the character size
instruction code	ASCII: GS! N Decimal: 29 33 n Hex: 1d 21 n
Function description	Set the character size to 1-8 Double width and 1-8 times height are defined as follows: Use 0 to 3 bits to set the character height and 4 to 7 bits to set the character width as shown below
Parameter range	No

Table 2
sets the character width of the character height setting

Hex	Dec	width	Hex	Dec	width
	0001	(normal)		0001	(normal)
10	162	(double width)		0, 112	(times)
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

default value	n = 0
Supported models	All models
Note	this addition instruction HRI character font of Chinese characters and English are effective when ESC @, the printer is reset, power failure, failure of the instruction setaccording to the present
usedexemplary	1b 40 1 d 21 11 30 31

provided Set or cancel the reverse print

command name	setting, cancel reverse print
command code	ASCII: GS B n Decimal: 29 66 n Hex: 1d 42 n
Function description	Set or cancel reverse print mode. When the least significant bit of n is 0, the highlight mode is turned off. When the least significant bit of n is 1, the highlight mode is turned on.
Parameter range has	no
default value	n = 0
Supported models	All models
Note that	only the lowest bit of n is valid. This command is valid for both built-in characters and user-defined characters. When reverse mode is on, it also works for the blanks set by ESC SP. This command does not affect bitmaps, user-defined bitmaps, barcodes, HRI characters, and space skipped by HT, ESC $. This command does not affect line spacing. The reverse mode takes precedence over the underline mode. When reverse highlight mode is set, even underline mode is turned off (but not cancelled). When ESC @, the printer is reset, and the power is off, the setting of this instruction is invalid
. Example of use	1b 40 1d 42 01 30 31 32 0d 0a 30 31 32 0d 0a

setting, cancel the underlined

command name	setting, cancel the underlined
command code	ASCII: ESC-n Decimal: 27 45 n Hexadecimal: 1B 2D n
Function description	Sets / unsets the underline mode based on the following values of n:

n	function
0, 48	cancels the underline mode
1, 49	sets the underline mode (1 point thick)
2, 50	Set underline mode (2 point thick)

Parameter range	0 ≤ n ≤ 2, 48 ≤ n ≤ 50
Default value	n = 0
Supported	All models

models	
Notes	■ The printer can print underline for all characters (including the right side of characters) Interval), except for blanks set by HT. ■ The printer cannot print underlined characters rotated 90 ° clockwise and reversed characters. ■ When the underline mode is released by setting the value of n to 0 or 48, the subsequent data is not printed underlined, and the thickness of the underline set before the underline mode is released does not change. The default underline thickness is 1 point. ■ Changing the character size does not affect the thickness of the current underline. ■ Use ESC! To set or cancel the underline mode. Note, however, that the last command received is valid.
Usage example	1b 40 1b 2d 01 30 31 32 0d 0a 1b 40 1b 2d 02 30 31 32 0d 0a 1b 40 1b 2d 00 30 31 32 0d 0a

setting, release 90 ° rotation print

command name	release, release 90 ° clockwise Rotary print
instruction code	ASCII: ESC V n Decimal: 27 86 n Hexadecimal: 1B 56 n
Function description	Sets or cancels 90 ° rotation printing. When n is equal to 0 or 48, 90 ° rotation printing is cancelled. When n is equal to 1 or 49, set 90 ° rotation printing.
Parameter range	0 ≤ n ≤ 1, 48 ≤ n ≤ 49
Default value	n = 0
Supported models	All models
Note	When the underline mode is set, for characters rotated 90 ° clockwise, the printer does not underline. In the clockwise 90 ° rotation mode, the direction in which the double height and double width commands enlarge characters is opposite to the direction in which the double height and double width commands enlarge characters. When ESC @, the printer is reset, and the power is off, the setting of this instruction is invalid
. Example of use	1b 40 1b 56 01 30 31 32 0d 0a 30 31 32 0d 0a

Set the print alignment

instruction name	Set the print alignment (left, center, right))
Instruction code	ASCII: ESC an Decimal: 27 97 n Hexadecimal: 1B 61 n
Function description	Aligns all data in one line. The value of n is as follows: n Mode 0, 48 Left 1, 49 Center

	2, 50 Right
parameter range	0 ≤ n ≤ 2 or 48 ≤ n ≤ 50
Default value	n = 0
Supported models	All models
Note	when ESC @, printer reset, power off, the setting of this instruction is invalid
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 Character Mode

Command Name	Set Chinese Character Mode
Command Code	ASCII: FS & Decimal: 28 38 Hex: 1C 26
Function description	Selecting Chinese character mode
Parameter range	No
default value	No
supported models	All models
Note When	selecting Chinese character mode, the printer processes all Chinese character codes, two bytes at a time. Chinese character codes are processed in the order of the first byte and the second byte.
Usage 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 character mode

instruction name	Cancel Chinese character mode
instruction code	ASCII: FS. Decimal: 28 46 Hex : 1C 2E
Function description	Cancel Chinese character mode
Parameter range	No
default value	No
supported models	All models
Note When the	Chinese character mode is not selected, all character codes are treated as ASCII codes, one character at a time for processing.
Usage example	No

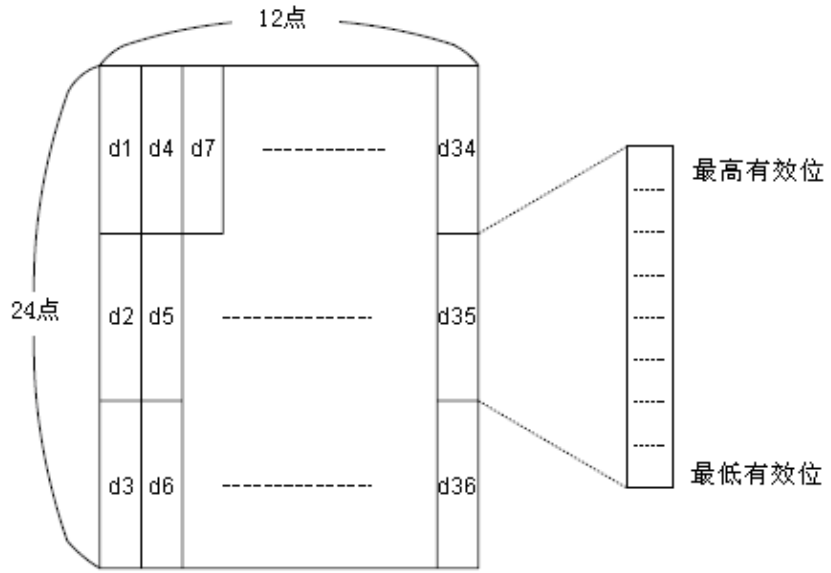
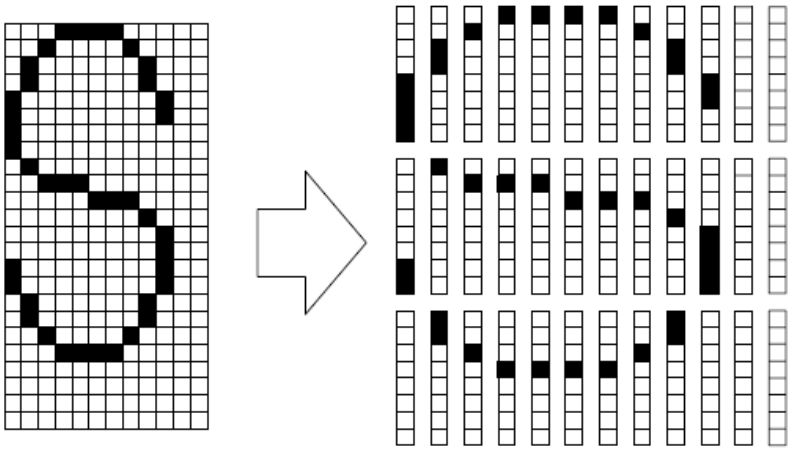
selection, cancel user-defined character set

instruction name	Select or cancel user-defined character set

instruction code	ASCII: ESC% n Decimal: 27 37 n Hex: 1B 25 n
Functional description	Select or cancel user-defined character Set When the least significant bit of n is 0, cancel the user-defined character set. When the least significant bit of n is 1, a user-defined character set is selected.
Parameter range	0 ≤ n ≤ 255
Default value	0
Support models	All models
Note	When canceling the user-defined character set, the internal character set is automatically selected.
example using the	No

user-defined character set defined in

command name	defines the user-defined character set
instruction code	ASCII: ESC & y c1 c2 [] Decimal: 27 38 y c1 c2 [x1 d1 ... d (yx1)] ... [xk d1 ... d (yxk)] Hex: 1B 26 y c1 c2 [x1 d1 ... d (y x1)] ... [xk d1 ... d (yxk)] The
function description	defines 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. ■ xk specifies the number of points in the horizontal direction.
The range of the parameter range	xy corresponds to the internal font. If a 6 * 12 font is selected, then y = 2, 0 ≤ x ≤ 6 If a 12 * 24 font is selected, y = 3, 0 ≤ x ≤ 12 32 ≤ c1 ≤ c2 ≤ 126 0 ≤ d1 ... d (y * xk) ≤ 255
Default value	No
supported models	All models
Note	The range of character encoding can be defined: ASCII code (95 characters from <20> H to <7E> H). ■ You can define consecutive character encodings for multiple characters. When only one character is required, let c1 = c2. ■ d is the dot data for the character. The dot pattern starts horizontally from the left. The remaining points on the right are blank. ■ Data defining user-defined characters is (y * x) bytes. ■ Set the corresponding bit of the printed dot to 1 or the corresponding bit of the non-printed dot to 0. ■ This command defines different user-defined character patterns for each font. Use ESC! To set the font. ■ User-defined characters and download bitmaps cannot be defined at the same time. When this command is executed, the download bitmap is cleared. ■ User-defined characters are cleared in the following cases: Execute ESC @. Execute GS *. Perform ESC?. The printer is reset or turned off.

	Illustration: When setting font A (12✐24).   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....
Example of use	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 FF FF 1b 25 01 20 20 0D 0A 1b 3f 20 30 20 30 20 0d 0a

Cancel user-defined character

instruction name	Cancel user-defined character
instruction code	ASCII: ESC? N Decimal: 27 63 n Hex: 1B 3F n
Function description	Cancel user-defined character code specified by n
Parameter range	32 ≤ n ≤ 126
Default value	No
supported models	all models
Note for	This command terminates the use of the style defined for character encoding, which is specified by n. After the user-defined character is canceled, it is printed in the corresponding mode of the internal character. In fonts selected with ESC!, This command deletes the style defined for the specified encoding. If a user-defined character is not defined, the printer ignores the command.
Usage example	No

selection of international character set

instruction name	Selection of international character set
instruction code	ASCII: ESC R n Decimal: 27 82 n Hexadecimal: 1B 52 n
Function description	Select the value of n according to the following table to set the international character set n character set 0 United States 1 France 2 Germany 3 United Kingdom 4 Denmark I 5 Sweden 6 Italy 7 Spain I 8 Japan 9 Norway 10 Denmark II 11 Spain II 12 Latin America 13 South Korea 14 Slovenia 15 Chinese
parameter range	0 ≤ n ≤ 15
Default value	0
Support models	All models
Note	

Usage 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

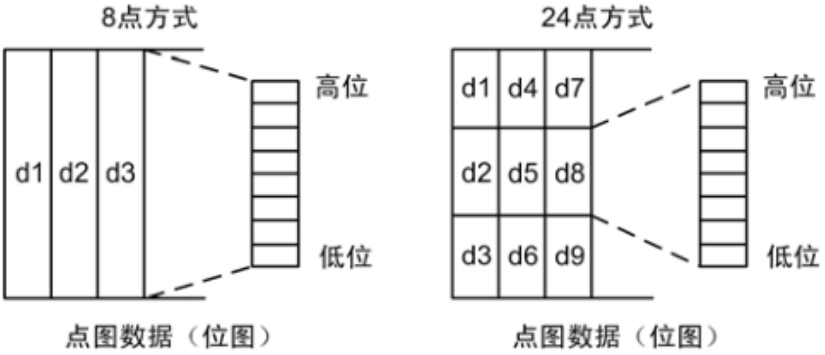
select character code page

instruction name	select character code page
instruction code	ASCII: ESC tn decimal: 27 116 n hex: 1B 74 n
Sets	nfunctionfrom the character code page N Codepage 0 CP437 [U.S., European standards] Kata Kana 1[katakana] 2 CP850 [multilingual] 3 CP860 [Portugal] 4 CP863 [Canada-French] 5 CP8 65 WCP1251 6 [Nordic][Cyrillic] 7 CP866 Slavic 2 8 MIK [Slavic / CP755 9 Bulgarian][Eastern Europe, Latvia 2] 10 [Iranian Persian] 11 Reserved 12 Reserved 13 Reserved 14 Reserved CP862 15[Hebrew] 16 WCP1252 [Latin 1] 17 WCP1253 [Greek] 18 CP852 [Latin 2] 19 CP858 [Multilingual Latin 1 + Euro sign] 20 Iran Ⅱ [Persian] 21 Latvia 22 CP864 [Arabic] 23 ISO-8859-1 [Western Europe] 24 CP737 [Greece] 25 WCP1257 [Baltic] 26 Thai 27 CP720 [Arabic] 28 CP855

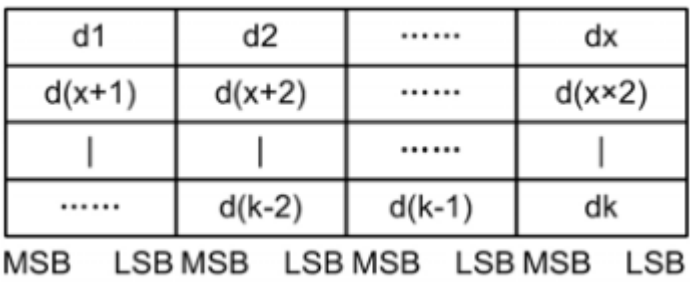
	29 CP857 [Turkish] 30 WCP1250 [Central Europe] 31 CP775 32 WCP1254 [Turkish] 33 WCP1255 [Heber] 34 SourceWCP1256 [Arabic] 35 WCP1258 [Vietnamese] 36 ISO-8859-2 [Latin 2] 37 ISO-8859-3 [Latin 3] 38 ISO-8859-4 [Baltic] 39 ISO-8859-5 [Slavic] 40 ISO-8859-6 [Arabic] 41 ISO-8859-7 [Greek] 42 ISO-8859-8 [Hebrew] 43 ISO-8859-9 [Turkish] 44 ISO-8859-15 [Latin 9] 45 [Thai 2] 46 CP856 47 Cp874 255 GBK2312
Parameter range	0 ≤ n ≤ 255
Default value	0
Supported models	All models
Note	
Usage 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

③ Graphic print instruction
graphic vertical modulus data filling

instruction name	Graphic vertical modulus data filling
Instruction code	ASCII: ESC * m Hl Hh [d] k Decimal: 27 42 m Hl Hh [d] k Hexadecimal: 1B 2A m Hl Hh [d] k
Function description	Print vertical modulus image data, the meaning of the parameters is as follows : M is a dot map format: m mode horizontal scale vertical scale 0 8-point single density × 2 × 3 1 8-point double density × 1 × 3 32 24-point single density × 2 × 1

	33 24-point double density × 1 × 1 Hl , Hh is the number of dots in the horizontal direction (Hl + 256 × Hh) [d] k is the dot map data k is used to indicate the number of bytes of the dot map data and does not participate in the transmission
parameter range	XX58:32, 33 m = 0, 1,1 ≤ Hl + Hh × 256 ≤ 384 0 ≤ d ≤ 255 k = Hl + Hh × 256 (when m = 0, 1) k = (Hl + Hh × 256) × 3 (when m = 32, 33)32, 33 XX80: m = 0, 1,1 ≤ Hl + Hh × 256 ≤ 576 0 ≤ d ≤ 255 k = Hl + Hh × 256 (when m = 0, 1) k = (Hl + Hh × 256) × 3 (when m = 32, 33)
Default value	None
supported models	all models of
Note for	[d] k The corresponding bit is 1 to indicate that the dot is printed, and the corresponding bit is 0 to indicate that the dot is not printed. The part of the image that exceeds the print area in the horizontal direction will be ignored . The relationship between the dot plot data and the printing effect As follows:  This instruction only fills the print buffer. The printing of the image only starts after receiving the print instruction. After the image is printed, the print buffer is emptied. If the height of the image to be printed is large, it can be split into several pieces with height 8 (After m = 0, 1) or 24 (m = 32, 33) points are printed and filled with graphic data, you can continue to fill in other information, so that the graphics and other information are printed together with the filled dot map. Generally, ESC J (n = 24) command to print, you can also use LF command to print, but LF command will cause paper feed operation (Feeding according to the line spacing), so that the multi-line image is discontinuous and discontinuous. You can set the line spacing to 0 so that the paper will not be fed too much. (Dot matrix printer will start offset, if the intermediate appear broken, please continuously transmit data)
using Example	1B 40 1b 2a 00 0C 00 FF

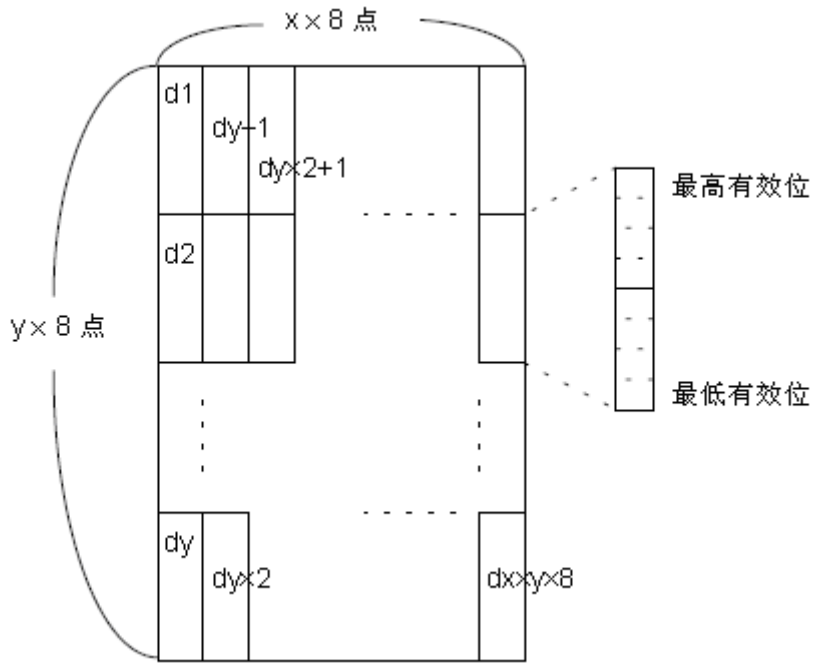
level image data modulo Print

<table>
<tr><td>instruction name</td><td>Picture horizontal modulus data Print</td></tr>
<tr><td>instruction code</td><td>ASCII: GS v 0
Decimal: 29 118 48 m xL xH yL yH [d] k
Hexadecimal: 1D 76 30 m xL xH yL yH [d] k</td></tr>
<tr><td>Function description</td><td>print The image data is taken horizontally. The meaning of the parameters is as follows:
m is the bitmap mode:
m mode horizontal scale vertical scale
0,48 normal × 1 × 1 1,49
times wide × 2 × 1
2,50 times high × 1 × 2
3, 51 times width and height × 2 × 2
xL, xH is the number of bytes in the horizontal direction (xL + xH × 256)
yL, yH is the number of dots in the vertical direction (yL + yH × 256)
[d] k is the dot map data
k is The number of bytes of the dot chart data, k is used for illustration, without transmitting the</td></tr>
<tr><td>parameter range</td><td>XX58:
0 ≤ m ≤ 3; 48 ≤ m ≤ 51
1 ≤ xL + xH × 256 ≤ 48
0 ≤ yL ≤255,≤ yH ≤255
00 ≤ 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 ≤ 2 55
0 ≤ d ≤ 255
k = (Hl + Hh × 256) × (yL + yH × 256)</td></tr>
<tr><td>Default value</td><td>No</td></tr>
<tr><td>supported</td><td>modelsall models</td></tr>
<tr><td>Note for</td><td>[d] k If the corresponding bit is 1, it means the dot is printed, and the corresponding bit is 0 , it indicates that the dot is not printed
when the level of the image print area exceeds the number of bytes, the excess will be ignored
by the image size feed when this instruction is executed, without ESC 2, ESC 3 line spacing is providedimpact
after theof this instruction is executed, the printing The coordinates are reset to the left margin position, and the content of the image is cleared
. The relationship between the bitmap data and the printing effect is as follows:
 

This command has a print function, and the data is printed while transmitting. No need to use the print command again.</td></tr>
</table>

Example	1B 40 1d 76 30 00 03 00 09 00 FFFF FF FF FF FF FF FF FF

downstreambitmaps toinstruction

name	bit image Definition
instruction code	ASCII: GS * xy d1 ... d (x × y × 8) Decimal: 29 42 xy d1 ... d (x × y × 8) Hex: 1D 2A xy d1 ... d (x × y × 8)
Functional description	Specify the number of points with x and y to define the download bitmap. x specifies that the number of dots in the horizontal direction is 8 * x. y specifies that the number of points in the vertical direction is 8 * y.
Parameter range	1 ≤ x ≤ 255 1 ≤ y ≤ 48 x * y ≤ 1536 0 ≤ d ≤ 255
Default value	No
supported models	All models
Caution	If x * y exceeds the specified range, this command is prohibited. ■ d indicates bitmap data. Data (d) specifies that the printing bit is 1 and the non-printing bit is 0. ■ Clear the bitmap definition in the following cases: Execute ESC @. Perform ESC &. The printer is reset or turned off. ■ The relationship between the download bitmap and the print data is shown in the figure below. 
Example of use	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

	1D

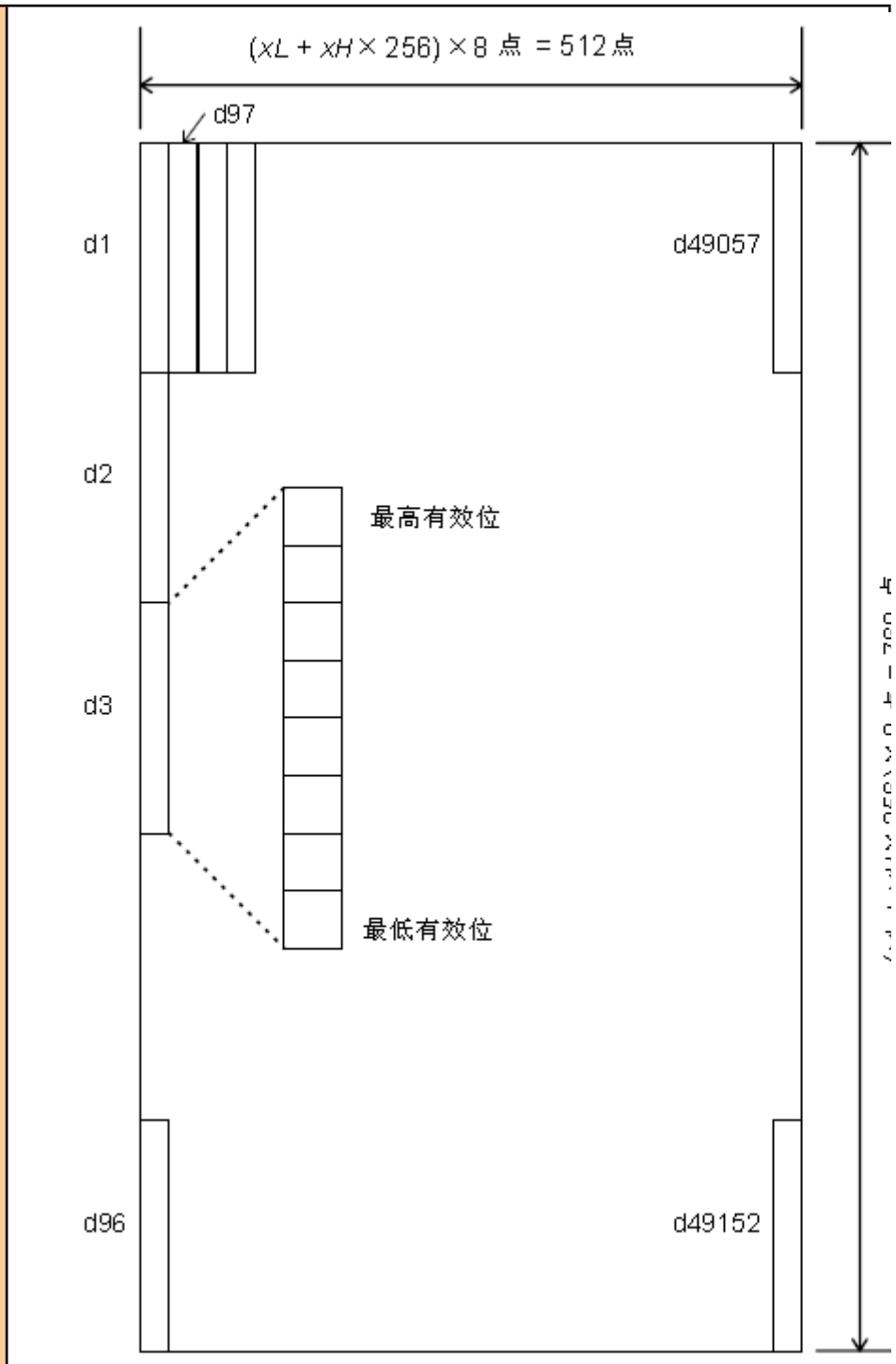
Print the download bitmap

instruction name	Print the download bitmap
instruction code	ASCII: GS / m decimal: 29 47 m hex: 1D 2F m
Function description	Print the download bitmap m: mode 0, 48: Normal 1, 49: times width 2, 50: times height 3, 51: times width, double height
Parameter range	0 ≤ m ≤ 3 48 ≤ m ≤ 51
Default value	No
supported models	All models
Note	If the bitmap data is not defined, this command be ignored. ■ In standard mode, this command is effective only when there is no data in the print buffer. ■ This command is invalid in print mode (bold, overlap, underline, character size, or reverse printing), except for upside down print mode. ■ If the download bitmap to be printed exceeds the print area, the excess data is not printed.
examples using	No

bitmapdefined NV

instructionsname	NV bit imageis defined
instruction code	ASCII: FS qn [xL xH yL Decimal: 28113 n [xL xH yL yH d1 ... dk] 1 ... [xL xH yL yH d1 ... dk] nHex: 1C 71 n [xL xH yL yH d1 ... dk] 1 .. . [xL xH yL yH d1 ... dk] n
Functional description	Defines the NV bitmap with a specific n value. ■ n specifies the number of defined NV bitmaps. ■ xL, xH specifies the number of horizontal points in the definition of the NV bitmap as (xL + xH * 256) * 8. ■ yL, yH specifies the number of points in the vertical direction for the NV bitmap in the definition as (yL + yH * 256) * 8.
Parameter range	1 ≤ n ≤ 255 0 ≤ xL ≤ 255 0 ≤ xH ≤ 3 (1 ≤ (xL + xH * 256) ≤ 1023) 0 ≤ yL ≤ 255) 0 ≤ yH ≤ 1 (1 ≤ (yL + yH * 256) ≤ 288) 0 ≤ d ≤ 255) k = (xL + xH * 256) * (yL + yH * 256) * 8 and the data area defined by the meter = 64K bytes
Default value	No

supported models	All models
Note	frequently Executing a write command may damage the NV memory. Therefore, it is recommended to perform no more than 10 write operations on the NV memory a day. After the process of putting an image into NV memory, the printer performs a hardware reset operation. Therefore, user-defined characters and download bitmaps should be defined after completing this command.clearingthe printer And receives print buffer, and when the power is turned on to reset the active mode. (Hardware reset interface is not supported) This command cancels all NV bitmaps that have been defined with this command. ■ From the start of the processing of this command to the completion of the hardware reset, mechanical operations cannot be performed (including initializing the print head position when the cover is opened and feeding the paper with the feed button, etc.). ■ During the processing of this command, the printer was busy and stopped receiving data while writing data to the user's NV memory. It is therefore forbidden to transmit data during this command, including real-time commands. ■ NV bitmap is a bitmap defined in non-volatile memory. Define FS p print with FS q. ■ In standard mode, this command is valid only at the beginning of a line. ■ The 7-byte <FS↗yH> command is valid only after it is processed normally. ■ When the data volume exceeds the left capacity of the range defined by xL, x H, yL, yH, the printer will process the range defined by xL, xH, yL, yH outside the defined range. ■ In the first set of bitmaps, when any parameter in xL, xH, yL, yH is outside the defined range, the command is disabled. ■ In a set of bitmaps other than the first group, when the printer encounters a situation where xL, xH, yL, yH exceeds the defined range, it stops processing the command and starts writing NV images. At this time, undefined NV bitmaps are disabled (undefined,) but any previously defined NV bitmaps are still valid. ■ d stands for definition data. In data (d), one 1-bit designates one to be printed Dot and a 0 bit specifies a dot that is not printed. ■ This command defines n as the number of NV bitmaps. The number starts to rise in order from the bitmap 01H. So the first data group [xL xH yL yH d1 ... dk] is the NV bitmap 01H, and the last data group [xL xH yL yH d1 ... dk] is the NV bitmap n. The total number is the same as the number of NV bitmaps set by the FS p command. ■ The definition data of an NV bitmap consists of [xL xH yL yH d1 ... dk]. Therefore, when there is only one NV bitmap, n = 1, the printer only processes the data group [xL xH yL yH d1 ... dk] once. The printer uses ([data: (xL + xH * 256) * (yL + yH * 256) * 8] + [header: 4]) bytes of NV memory. ■ The defined area in this printer is 192K bytes (maximum). This command can define several bitmaps, but cannot define bitmaps whose total data capacity [bitmap data + header] exceeds 192K bytes. ■ Even if ASB is set, the printer does not transmit ASB status or perform status detection during processing of this command. ■ Once an NV bitmap is defined, it cannot be deleted by executing the ESC @ command, reset, or power failure. ■ This command only executes the definition of NV bitmaps, not printing. Printing of NV bitmaps is performed by the FS p command. Illustration: When xL = 64, xH = 0, yL = 96, yH = 0

	
Example of use	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 1C 70 01 00

Print bitmapNV

instructionsname of	NV bit imagethe print
instruction code	ASCII: FS pnm decimal: 28 112 nm

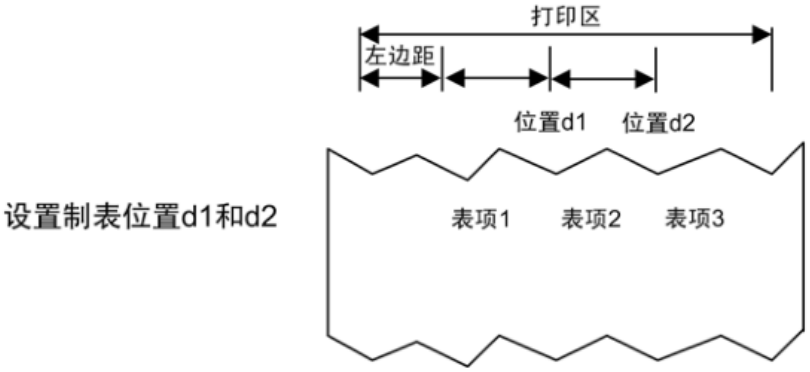
<table>
<tr><td></td><td>hex: 1C 70 nm</td></tr>
<tr><td>features described</td><td>by the designated mode m NV bit image printing
<table>
<tr><th>n-m</th><th>mode</th></tr>
<tr><td>0, 48</td><td>Normal</td></tr>
<tr><td>1, 49</td><td>times wide</td></tr>
<tr><td>2, 50</td><td>times high</td></tr>
<tr><td>3, 51</td><td>times wide, double height</td></tr>
</table></td></tr>
<tr><td>Parameter range</td><td>0 ≤ m ≤ 3
48 ≤ m ≤ 51
1 ≤ n ≤ 255</td></tr>
<tr><td>Default value</td><td>No</td></tr>
<tr><td>supported</td><td>modelsall models</td></tr>
<tr><td>Note for</td><td>n is NV bit Number of graphs (defined with the FS q command).
■ m specifies the bitmap mode.
An NV bitmap is a bitmap defined in non-volatile memory. Define FS p printing with FS q
■ This command is invalid when the specified NV bitmap does not exist.
■ In standard mode, this command is valid only when there is no data in the print buffer.
■ This command is not affected by the print mode (bold print, overlap, underline, character size, reverse print, or 90■ characters), except for upside down print modes such as rotation.
■ If more than one line of the download bitmap is to be printed, the excess data is not printed.
■ In normal and double-width modes, this command feeds n points (n is the height of the NV bitmap), in double-height and quadruple-size modes (the command feeds 2n points, n is the height of the NV bitmap), It has nothing to do with the line spacing set by ESC 2 or ESC 3.
After ■ printing bitmap, the printing position is set in the command line begins, and the subsequent data as normal data processing</td></tr>
<tr><td>example uses</td><td>no</td></tr>
</table>

instructiontab ④
horizontal tab

Instruction Name	Horizontal Tab
instruction code	ASCII: HT Decimal: 9 hex: 09
functional description	moving the print position to the next tab position
parameters	None
default	None
supported models	All models
Notes	tab positions set by ESC D

	If the tab position is not set (no default horizontal tab), This instruction will be regarded as LF instruction. If the tab position exceeds the print area, the coordinates will move to the starting position of the next line (as the data in thisis full, print and linewrap)
. Example of use	No

setting horizontal tab position

instruction name	
instruction Code	ASCII: ESC D [d] k NUL Decimal: 27 68 [d] k 0 Hexadecimal: 1B 44 [d] k 00
Function description	Set the horizontal tab position, the meaning of the parameters is as follows: d1 ... dk: horizontal Tab position in 8-point units and NULL as the terminator.
Parameter range	XX58: 1 ≤ d ≤ 46 (d1 <d2 <…… dk, 1 ≤ k ≤ 16) XX80: 1 ≤ d ≤ 70 (d1 <d2 < ..... dk, 1 ≤ k ≤ 16
Mo The value	[d] k = 0 (no horizontal tab default)
supported models	all models
Notes	tab position indicated as follows:  set supports up to 16 tab positions usingThis command unsets the tab position conventional kbyin the illustrative purposes, without transmission of the transmission [d] k encountered NULL, considered complete when the normal data processingthan or equal to dk dk-1, regarded as the end, the remaining data as by the HT switch tab position when changing from the leftAfter that, the tab positions are changed at the same time. When ESC @, the printer is reset, and the power is off, the setting of this instruction is invalid
. Example	1B 44 04 06 08 0A 00 09 30 09 31 09 32 09 33 0D 0A

⑤ One-dimensional barcode printing instruction

setting one维条码可读字符(**HRI**)打印位置

指令名称	设置条码可读字符(HRI)打印位置
指令代码	ASCII :GS H n 十进制:29 72 n 十六进制:1D 48 n
功能描述	设置条码可读字符(HRI)打印位置, n 参数意义如下: n 打印位置

	0, 48 不打印 1, 49 条码的上方 2, 50 条码的下方 3, 51 条码的上方和下方
参数范围	0 ≤ n ≤ 3 或48 ≤ n ≤ 51
默认	n = 0
支持型号	所有型号
注意事项	当ESC @、打印机复位、断电后，本指令的设置失效
使用示例	无

设置一维条码高度

指令名称	设置一维条码高度
指令代码	ASCII：GS hn 十进制：29 104 n 十六进制：1D 68 n
功能描述	设置条码的高度为n 点，参数n 意义如下：  高度为 50  高度为 100
参数范围	1 ≤ n ≤ 255
默认值	n = 64
支持型号	所有型号
注意事项	当ESC @、打印机复位、断电后，本指令的设置失效
使用示例	无

设置一维条码宽度

指令名称	设置一维条码宽度
指令代码	ASCII：GS wn 十进制：29 119 n 十六进制：1D 77 n
功能描述	设置条码单元为n 点，参数n 意义如下：  宽度为 3  宽度为 4
参数范围	1 ≤ n ≤ 6
默认值	n = 2
支持型号	所有型号
注意事项	当ESC @、打印机复位、断电后，本指令的设置失效
使用示例	无

打印一维条码

指令名称	
指令代码	**(A)** ASCII：GS km [d]k NUL 十进制：29 107 m [d]k NUL

	十六进制：1D 6B m [d]k NUL **(B)** ASCII ：GS kmn [d]k 十进制：29 107 mn [d]k 十六进制：1D 6B mn [d]k
功能描述	打印一维条码，各参数意义如下： m 为编码方式 n 为编码数据长度，仅(B)方式使用，(A)与(B)指令的区别在于(A)的数据段用 NULL 字符结束，而(B)用指示数据的长度 [d]k 为条码数据 k 为条码数据的长度，用于示意，不用传输 各参数之间的关系如下表所示： **(**指令**A)**

m	编码系统	条码数据（SP表示空格）			
		数据长度	k	字符集	数据（d）
0	UPC-A	固定	k = 11，12	0~9	48≤d≤57
1	UPC-E	固定	6≤k≤8， k = 11，12	0~9	48≤d≤57 [当k = 7,8,11,12 ， d1 = 48]
2	JAN13 (EAN13)	固定	k = 12，13	0~9	48≤d≤57
3	JAN8 (EAN8)	固定	k = 7，8	0~9	48≤d≤57
4	CODE39	可变	1≤k	0~9，A~Z SP，$，%，*，+ ，-，.，/	48≤d≤57， 65≤d≤90， d = 32，36，37，42，43，45，46，47
5	ITF (Interleaved 2 of 5)	可变	2≤k≤255 （偶数）	0~9	48≤d≤57
6	CODABAR (NW-7)	可变	1≤k	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)

(指令**B)**

m	编码系统	条码数据（SP表示空格）			
		数据长度	n	字符集	数据（d）
65	UPC-A	固定	n = 11，12	0~9	48≤d≤57
66	UPC-E	固定	6≤n≤8， n = 11，12	0~9	48≤d≤57 [当n = 7,8,11,12 ， d1 = 48]
67	JAN13 (EAN13)	固定	n = 12，13	0~9	48≤d≤57

<table>
<tr><td></td><td>
<table>
<tr><td>68</td><td>JAN8 (EAN8)</td><td>固定</td><td>n = 7, 8</td><td>0~9</td><td>48≤d≤57</td></tr>
<tr><td>69</td><td>CODE39</td><td>可变</td><td>1≤n</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>70</td><td>ITF (Interleaved 2 of 5)</td><td>可变</td><td>2≤n≤255 （偶数）</td><td>0~9</td><td>48≤d≤57</td></tr>
<tr><td>71</td><td>CODABAR (NW-7)</td><td>可变</td><td>1≤n</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, 97≤d1≤100, 97≤dk≤100)</td></tr>
<tr><td>72</td><td>CODE93</td><td>可变</td><td>1≤n≤255</td><td>00H~7FH</td><td>0≤d≤127</td></tr>
<tr><td>73</td><td>CODE128</td><td>可变</td><td>1≤n≤255</td><td>00H~7FH C1H~C4H(FNC)</td><td>0≤d≤127 d = 193, 194,195,196</td></tr>
<tr><td>74</td><td>UCC/EAN128</td><td>可变</td><td>1≤n≤255</td><td>00H~7FH C1H ~C4H(FNC)</td><td>0≤d≤127 d = 193, 194,195,196</td></tr>
</table>
</td></tr>
<tr><td>参数范围</td><td>(A) 0 ≤ m ≤ 6
(B) 65 ≤ m ≤ 74</td></tr>
<tr><td>默认值</td><td>无</td></tr>
<tr><td>支持型号</td><td>所有型号</td></tr>
<tr><td>注意事项</td><td>若条码宽度超出可打印区域，打印机不执行条码打印
此指令执行时按需要进纸，不受ESC 2、ESC 3 行间距设置影响也不影响行间距设置
此指令不受ESC ！字符样式设置影响
此指令执行后，打印位置恢复至打印起始位置处
m 参数0 ~ 6(A)和65 ~ 71(B)选择相同的编码系统，打印效果相同
m 参数0 ~ 6(A)时，条码数据以NULL 结束
m 参数65 ~ 74(B)时，条码数据以n 表示数据长度
k 用于示意，不需要传输
打印UPCA（m = 0 或65）时，需要注意：
不论输入数据长度是11 还是12，校验位自动插入或纠错
起始符、中间分隔符、结束符自动插入
打印UPCE（m = 1 或66）时，需要注意：
当数据长度为6 时，系统字符（NSC）0 自动插入
当数据长度为7、8、11和12时，第一位系统字符（NSC）d1必须为0
不论输入数据长度是6、7、8、11 还是12，校验位自动插入或纠错
不论输入数据长度是6、7、8、11 还是12，条码可读字符（HRI）只显示6 为数据，不包含系统字符（NSC）和校验码；
传输数据与打印数据转换关系如下：</td></tr>
</table>

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

当d6为1~9 时，应保证d7,d8,d9,d10为0，d11 为5~9

□□始符、结束符自动插入

打印EAN13（m = 2 或67）时，需要注意：

不论输入数据长度是12 还是13，校验位自动插入或纠错

起始符、中间分隔符、结束符自动插入

打印EAN8（m = 3 或68）时，需要注意：

不论输入数据长度是7 还是8，校验位自动插入或纠错

起始符、中间分隔符、结束符自动插入

打印CODE39（m = 4 或69）时，需要注意：

当d1 或dn 不为起始符/结束符“*”时，编码器自动插入“*”

当数据中间遇到“*”时，编码器视其为结束符，其余数据视为普通数据处理；

校验位不会自动计算和添加

打印ITF25（m = 5 或70）时，需要注意：

起始符和结束符自动插入

校验位不会自动计算和添加

打印CODABAR（NW-7）（m = 6 或71）时，需要注意：

起始符和结束符不会自动插入，需要用户手动添加，范围为“A”~“D”或“a”~“d”

校验位不会自动计算和添加

打印CODE93（m = 72）时，需要□□□□意：

起始符和结束符自动插入

两个校验码自动计算并插入

当设置条码可读字符（HRI）打印时，不设任何表示起始/结束的HRI 字符

当设置条码可读字符（HRI）打印时，控制字符将用空格代替

打印CODE128（m = 73）时，需要注意：

编码系统智能识别数据并实现最小长度编码，无需用户设置字符集（包括起始字符集）或切换字符集

功能字符FNC1~FNC4 使用C1H~C4H 输入

校验位自动计算和添加

当设置条码可读字符（HRI）打印时，控制字符和FNC1~FNC4 将用空格代替

打印EAN128（m = 74）时，需要注意

基本结构如下：

起始字符集	FNC1	AI	数据部分	校验位A	校验位B	结束符
自动插入		（d1...dk）			自动插入	

连接结构如下：

起始字符	FNC1	AI	数据部分	校验位A	FNC1	AI	数据部分	校验位A	校验位B	结束符

<table>
<tr><td></td><td>
<table>
<tr><td>集</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>自动插入</td><td colspan="9">(d1...dk)</td><td>自动插入</td></tr>
</table>
编码系统智能识别数据并实现最小长度编码，无需用户设置字符集(包括  始字
符集)或切换字符集
功能字符FNC1~FNC4 使用C1H~C4H 输入
用户输入数据中AI 不需要用“(”“)”指示，编码系统自动插入，否侧会出错，如:GS k 74 18 "019501234567890*" ，01 是AI，以下是错误的:GS k 74 18 "(01)9501234567890*"
当使用连接结构时，中间需要插入FNC1(C1H “Decimal = 193”)输入例子如下:
GS k 74 18 "019501234567890*" 193 "029501234567890*"
当设置条码可读字符(HRI)打印时，控制字符将用空格代替，而FNC1~FNC4
将去掉</td></tr>
<tr><td>使用示例</td><td>1b 40 1d 48 02
1d 6b 41 0c 31 32 33 34 35 36 37 38 39 30 31 32
1d 6b 42 0c 30 32 33 34 35 36 30 30 30 30 38 39
1d 6b 43 0c 30 32 33 34 35 36 30 30 30 30 38 39
1d 6b 44 08 30 32 33 34 35 36 30 30
1d 6b 45 08 30 32 33 34 35 36 30 30
1d 6b 46 08 30 32 33 34 35 36 30 30
1d 6b 47 08 41 32 33 34 35 36 30 41
1d 6b 48 08 41 30 32 33 34 35 36 41
1d 6b 49 08 41 30 32 33 34 35 36 41</td></tr>
</table>

⑥状态查询指令

传送状态

<table>
<tr><td>指令名称</td><td>传送状态</td></tr>
<tr><td>指令代码</td><td>ASCI I :GS rn
十进制:29 114 n
十六进制:1D 72 n</td></tr>
<tr><td>功能描述</td><td>传送由n指定的状态,如下所示:
<table>
<tr><td>n</td><td>状态</td></tr>
<tr><td>1.49</td><td>传送纸传感器状态</td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
</table></td></tr>
<tr><td>参数范围</td><td>n = 1, 49</td></tr>
<tr><td>默认值</td><td>无</td></tr>
<tr><td>支持型号</td><td>所有型号</td></tr>
<tr><td>注意事项</td><td>当使用串行接口时:
若设定DTR/DSR控制，则打印机在确认主机接收数据就绪后(DSR 信号为SPACE)，仅传送一个字节。如果主计算机没有准备好接收送数据(DSR 信号为MARK)，则打印机等待直到主机就绪。
若设定XON/XOFF控制，打印机仅传送一个字节，且不确认DSR信号状态。
  当数据在打印缓冲区中生成时，执行该命令。因此在接收该命令和传送状态之间，可能有一个时间间隔，这取决于接收缓冲区的状态。
 当用GS a 激活自动状态回复ASB 时，用GS r 传送的状态和ASB状态必须区分开。
  传送的状态类型如下所示:
打印纸传感器状态(n = 1, 49):</td></tr>
</table>

<table>
<tr><td></td><td>
<table>
<tr><td>位</td><td>关/开</td><td>十六进制</td><td>十进制</td><td>ASB状态</td></tr>
<tr><td>0,1</td><td>-</td><td>-</td><td>-</td><td>无意义。</td></tr>
<tr><td rowspan="2">2,3</td><td>关</td><td>00</td><td>0</td><td>纸尽传感器:打印纸充足。</td></tr>
<tr><td>开</td><td>(0C)</td><td>(12)</td><td>纸尽传感器缺纸。</td></tr>
<tr><td>4</td><td>关</td><td>00</td><td>0</td><td>未用,固定为关。</td></tr>
<tr><td>5,6</td><td>-</td><td>-</td><td>-</td><td>未定义。</td></tr>
<tr><td>7</td><td>关</td><td>00</td><td>0</td><td>未用,固定为关。</td></tr>
</table>
位2 和3: 打印纸尽传感器检测到打印纸尽时，打印机进入脱机状态，且该命令不执行。因此位2和3不传送缺纸状态。
</td></tr>
<tr><td>使用示例</td><td>无</td></tr>
</table>

实时传送状态

指令名称	实时传送状态
指令代码	ASCII :DLE EOT n 十进制:16 4 n 十六进制:10 04 n
功能描述	根据下列参数，实时传送打印机状态，参数n 用来指定所要传送的打印机状态: n = 1:传送打印机状态 n = 2:传送脱机状态 n = 3:传送错误状态 n = 4:传送纸传感器状态
参数范围	1 ≤ n ≤ 4
默认值	无
支持型号	所有型号

注意事项

• 打印机收到该命令后立即返回相关状态
• 该命令尽量不要插在2个或更多字节的命令序列中。
• 即使打印机被ESC =(选择外设)命令设置为禁止，该命令依然有效。
• 打印机传送当前状态，每一状态用1个字节数据表示。
• 打印机传送状态时并不确认主机是否收到。
• 打印机收到该命令立即执行。
• 该命令只对串口打印机有效。打印机在任何状态下收到该命令都立即执行。

n=1：打印机状态

位	0/1	十六进制码	十进制码	功能
0	0	00	0	固定为0
1	1	02	2	固定为1
2	0	00	0	一个或两个钱箱打开 （没有钱箱的机器该位固定为零）
	1	04	4	两个钱箱都关闭
3	0	00	0	联机
	1	08	8	脱机
4	1	10	16	固定为1
5, 6		--	--	未定义
7	0	00	00	纸已撕走
	1	80	96	纸未撕走

n=2：传送脱机状态

位	0/1	十六进制码	十进制码	功能
0	0	00	0	固定为0
1	1	02	2	固定为1
2	0	00	0	上盖关
	1	04	4	上盖开
3	0	00	0	未按走纸键
	1	08	8	按下走纸键
4	1	10	16	固定为1
5	0	00	0	打印机不缺纸
	1	20	32	打印机缺纸
6	0	00	00	没有出错情况
	1	40	64	有错误情况
7	0	00	0	固定为0

n=3：传送错误状态

位	0/1	十六进制码	十进制码	功能
0	0	00	0	固定为0
1	1	02	2	固定为1
2		--	--	未定义
3	0	00	0	切刀无错误
	1	08	8	切刀有错误
4	1	10	16	固定为1
5	0	00	0	无不可恢复错误
	1	20	32	有不可恢复错误
6	0	00	00	打印头温度和电压正常
	1	40	64	打印头温度或电压超出范围
7	0	00	0	固定为0

n=4:传送纸传感器状态

位	0/1	❓ ❓六进制码	十进制码	功能
0	0	00	0	固定为0
1	1	02	2	固定为1
2，3	0	00	0	有纸
	1	0C	12	纸将近
4	1	10	16	固定为1
5，6	0	00	0	有纸
	1	60	96	纸尽
7	0	00	0	固定为0

使用示例	10 04 01 10 04 02 10 04 03 10 04 04

⑦打印二维码

打印二维码

指令名称	打印二维码
指令代码	ASCII :GS kmvr nL nH d1…dk 十进制:29 107 97 vr nL nH d1…dk 十六进制:1D 6B 61 vr nl nH d1…dk
功能描述	打印二维码 v表示二维码的规格, v=0表示自动选择二维码的规格 r表示纠错等级 nL nH表示数据长度 d1…dk表示要打印的二维码数据
参数范围	0 ≤ v ≤ 17 1 ≤ r ≤ 4 k = nL + 256 * nH
默认值	无
支持型号	便携打印机
注意事项	打印QR码。
使用示例	1b 40 1D 6B 61 08 02 08 00 30 31 32 33 34 35 36 37

⑧其他指令

初始化打印机

指令名称	初始化打印机
指令代码	ASCII :ESC @ 十进制:27 64 十六进制:1B 40
功能描述	初始化打印机下列内容: 清除打印缓存 各参数恢复默认值
参数范围	无
默认值	无
支持型号	所有型号

注意事项	无
使用示例	无

打印自测页

指令名称	打印自测页
指令代码	ASCII :DC2 T 十进制:18 94 十六进制:12 54
功能描述	打印机打印一张自测页，上面包含打印机的程序版本，通讯接口类型，代码页和其他一些数据
参数范围	无
默认值	无
支持型号	所有型号
注意事项	无
使用示例	1B 40 12 54