CK837 User’s manual

Catalog

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1 Introduction

① CK837

The CK837 is a lightweight and sophisticated printer that fits a wide range of industry ticket and cash register printing. Low power consumption, high quality, stable performance, motor and thermal print head through numerous tests to achieve high standards, printer support USB, network port, GPRS interface, can be connected to the external cash box control interface, convenient and fast, wide practicality.

List of supported operating systems:

WINDOWS XP

WINDOWS 7 32/64

WINDOWS 8

UBUNTU 12.04 32/64

UBUNTU 14.04 32/64

② Main features

1) Exquisite and beautiful
2) Support USB (or network port) WIFI.GPRS. cloud printing
3) Cash drawer interface
4) Low noise, high quality printing
5) Convenient and fast way to paper
6) Easy to use and maintain
7) Support continuous paper printing
8) Compatible with multiple widths of paper
9) Printing speed 180mm/s

2 interface definition

① POWER

Interface Definition Power pin definition (24v model):

Pin number	Signal name
1	VIN(+24V)
2	GND

②Pin definition for the cash drawer interface

Pin number	Signal name	Direction
1	FG	shell
2	DRAWER 1	Cash drawer 1 drive signal
3	DRSW	Cash drawer condition monitoring signal
4	VDR	Cash drawer drive power
5	DRAWER 2	Cash drawer 2 drive signal
6	GND	Circuit common ground

③USB interface pin definition（Mini-USB）

Pin number	Signal name	Direction
1	VBUS	+5V
2	D-	Data Line (D-)
3	D+	Data Line (D+)
4	ID	Null
5	GND	Ground

④Ethernet interface pin definition

Pin number	Signal name
1	TX+
2	TX-
3	RX+
4	n/c
5	n/c
6	RX-
7	n/c
8	n/c

3 Specification

Printing mode	thermal line printing
Paper width	80mm
Pringting width	72mm
resolution	203DPI
Line point	384point
Printing speed	100mm/s
Printing content	GBK Chinese character library, ASCII characters, one-dimensional bar code, support different density point map, raster bitmap and download bitmap printing. Scalable 2D barcode.
Default font	9X24(ASCII),24x24(Chinese)
Bar Code type	UPC-A, UPC-E, EAN13,EAN8,Code 39, Codebar,Code 93，ITF，CODAB，Code 128，UCC/EAN128
Operating voltage	24V

4 command list

LF	Print and line feed	Print and feed command
CR	Print and carriage return	
ESC J	Print and feed n points	
ESC d	Print and feed n lines	
ESC 3	Set n points line spacing	Print setup instruction
ESC 2	Select default line spacing	
ESC $	Set print position	
GS L nL nH	Set left space	
ESC SP n	Set right space	
ESC !	Select print mode(s)	
ESC M n	Select font type	
GS ! n	Select character size	
GS B n	Turn white/black reverse printing mode	
ESC - n	Turn underline mode on/off	
ESC V n	Turn 90° clockwise rotation mode on/off	
ESC E n	Set and remove bold print	
ESC G n	Set and remove overlapping printing	
ESC { n	Set and unreverse printing	
ESC a	Set the print alignment	
FS &	Set Chinese character mode	
FS ！ n	Set Chinese character print mode combination	
FS .	Unhanzi mode	
ESC % n	Select or deselect user-defined character sets	
ESC &	Define user-defined character sets	
ESC ? n	Cancel user-defined characters	
ESC R n	Select an international character set	
ESC t n	Select the character code page	
ESC 9 n	Toggle double-byte encodings	
ESC *	figure vertical modulus data filling	Graphic print instruction
GS v 0	Picture horizontal module data printing	
GS *	Define the down-pass bitmap	
GS / m	Print the down-pass bitmap	
FS q	Define the NV bitmap	
FS p n m	Print the NV bitmap	
GS v 0 m	Print raster bitmap	
GS n	Horizontal position Print line segments (curve print command)	
HT	Horizontal tabulation	Tabulating instruction
ESC D	Set the horizontal TAB position	

GS H	Set the 1D barcode Readable character (HRI) print position	One-dimensional barcode printing instructions
GS h	Set one-dimensional bar code height	
GS w	Set one-dimensional bar code width	
GS k	Printing 1D bar code	
GS k	Print QR code	Two-dimensional code printing instruction
US Q	Double QR code printing	
GS (k	PDF417 Sets the number of columns for the data area	
GS (k pL pH cn fn n	Set the module type of the QR code	
GS (k pL pH cn fn n	Set the error correction level error of the QR code	
GS(k pL pH cn fn m d1…dk	Store the QR code data into the QR code buffer	
GS(k pL pH cn fn m	Print QR code	
GS(k pL pH cn fn m	Set the graphic information for the QR code	
GS r n	Transfer state	Status instruction
DLE EOT n	Real-time transfer state	
DLE ENQ n	Real-time printer request	
GS a n	Enable/Disable Automatic Status Recovery (ASB)	
ESC @	Initialize printer	Other instruction
DC2 T	Print the self-test page	
ESC 7	Set print concentration	
GS V	Select the cutting mode and cut the paper	
ESC i	Full cut（OnlyForCut）	
ESC m	Half cult（OnlyForCut）	
ESC p m	Generate a cash box pulse	
FF	Print and return to standard mode (in page mode)	Page mode instruction
CAN	Cancel printing data in page mode	
ESC FF	Print in page mode	
ESC L	Select page mode	
ESC S	Selection standard mode	
ESC T n	Select the print area orientation in Page mode	
ESC W	Set the print area in page mode	
GS $	Set vertical absolute position in page mode	
GS \	Set vertical relative position in page mode	
GS P	Set horizontal and vertical move units	

5 Instruction detail

①print and feed command

Print and line feed

Name	Print and line feed
Format	ASCII ： LF Decimal ： 10 Hex ： 0A
Description	Prints the data in the print buffer and feeds one line, based on the current line spacing.
Range	
Default	
Support model	All the printers
Note	
Example	

Print and carriage return

Name	Print and carriage return
Format	ASCII ： CR Decimal ： 13 Hex ： 0D
Description	When automatic line feed is enabled, this command functions the same as **LF**; when automatic line feed is disabled, this command is ignored.
Range	
Default	
Support model	All the printers
Note	
Example	

Print and feed paper

Name	Print and feed paper
Format	ASCII ： ESC J n Decimal ： 27 74 n Hex ： 1B 4A n
Description	Prints the data in the print buffer and feeds the paper [n× 0.125 mm (0.0049”)].

Range	0 ≤ n ≤ 255
Default	
Support model	All the printers
Note	When the print cache is empty, only n points are fed After this instruction is executed, the print position is moved to the starting position of the next line
Example	1b 40 30 31 32 1b 4a 10

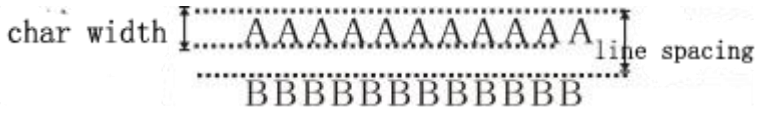
Print and feed n lines

Name	Print and feed n lines
Format	ASCII ： ESC d n Decimal ： 27 100 n Hex ： 1B 64 n
Description	Prints the data in the print buffer and feeds n lines.
Range	0 ≤ n ≤ 255
Default	
Support model	All the printers
Note	This command sets the print start position to the line start
Example	1b 40 30 31 32 1b 64 01

②character command

Set the line spacing to n points

Name	Set the line spacing to n points
Format	ASCII ： ESC 3 n Decimal ： 27 51 n Hex ： 1B 33 n
Description	Set the line spacing to n points
Range	0 ≤ n ≤ 255
Default	n = 33
Support model	All the printers
Note	The line spacing is shown as follows:

	 If the set line spacing is less than the maximum character height in a line, then the line spacing is equal to the maximum character height If ESC2, ESC@, the printer is reset, or the printer is powered off, the line spacing restores to the default value
Example	1b 40 1b 33 60 30 31 32 0d 0a 30 31 32 0d 0a 1b 32 30 31 32 0d 0a 30 31 32 0d 0a

Select default line spacing

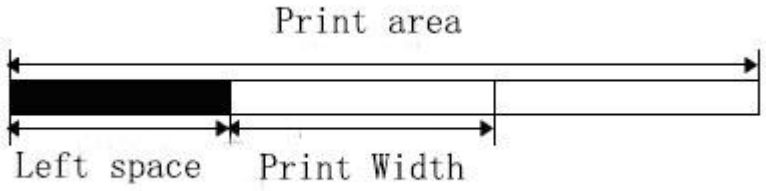
Name	Select default line spacing
Format	ASCII ： ESC 2 Decimal ： 27 50 Hex ： 1B 32
Description	Set the line spacing to the default 33 points
Range	
Default	
Support model	All the printers
Note	Look at the ESC 3 instruction in detail If the set line spacing is less than the maximum character height in a line, then the line spacing is equal to the maximum character height You can customize the line spacing using ESC 3
Example	

Set absolute print position

Name	Set absolute print position
Format	ASCII ： ESC $ nL nH Decimal ： 27 36 nL nH Hex ： 1B 24 nL nH
Description	The distance from the beginning of the line to the print position is[(nL + nH×256)
Range	0 ≤ nL ≤ 255，0 ≤ nH ≤ 255
Default	
Support model	All the printers
Note	This command is only valid for this line, and the print position is reset to the print start position after line wrapping

	If out of print range, move to the next line
Example	1b 40 1b 24 08 00 30 31 32 0d 0a 30 31 32 0d 0a

Set left space

Name	Set left space
Format	ASCII ： GS L nL nH Decimal ： 29 76 nL nH Hex ： 1D 4C nL nH
Description	Set left space（nL + nH × 256) dots.
Range	0 ≤ nL ≤ 255，0 ≤ nH ≤ 255
Default	
Support model	All the printers
Note	This command is only effective in a line of the starting position of the treatment. As shown in the figure：  If set outside the printable area, use the maximum printing unit.
Example	1b 40 1d 4c 30 00 30 31 32 0d 0a 30 31 32 0d 0a

Set the right space

Name	Set the right space
Format	ASCII ： ESC SP n Decimal ： 27 32 n Hex ： 1B 20 n
Description	Set the spacing to the right of the character to [n x 0.125 mm].
Range	0 ≤ n ≤ 255
Default	0
Support model	All the printers
Note	For double width mode, the character spacing on the right side is twice as large as in normal mode. When the characters are enlarged, the spacing of the characters on the right is n times that in normal mode. This command does not affect the setting of Chinese characters.

Example	1B 40 1B 20 18 30 31 32 0D 0A

Select font type

Name	Select font type
Format	ASCII ： ESC M n Decimal ： 27 77 n Hex ： 1b 4d n
Description	Select font type **n** | Function 0, 48 | Select font type A (12×24) 。 1, 49 | Select font type B (9×24) 。 2，50 | Select font type C (9×17) 3，51 | Select font type D (8×16) 4, 52 | Select font type E (16×18)
Range	n = 0, 1
Default	n = 0
Support model	Some model
Note	**ESC !** Also can choose font type,but in the end receives the command set effective.
Example	1b 40 1b 4d 00 30 31 32 0d 0a 1b 4d 01 30 31 32 0d 0a

Select print mode(s)

Name	Select print mode(s)
Format	ASCII ： ESC ! n Decimal ： 27 33 n Hex ： 1B 21 n
Description	Selects print mode(s) using n as follows:（Font、white/black reverse、Inversion、Bold、double-height、double-width、underline） bit function value 0 1 0 font normal small 1 inverse 2 inversion 3 bold cancel set 4 double-height cancel set 5 double-width cancel set

	6 underline 7 undefined cancel set
Range	
Default	n = 0
Support model	All the printers
Note	This command is valid for both Chinese and foreign fonts When ESC@, printer reset, power off, 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

Select character size

<table>
<tr><td>Name</td><td>Select character size</td></tr>
<tr><td>Format</td><td>ASCII ： GS ! n
Decimal ： 29 33 n
HEX ： 1d 21 n</td></tr>
<tr><td>Description</td><td>1 vertical number of times 8, 1 horizontal number of times 8
Selects the character height using bits 0 to 2 and selects the character width using bits 4 to 7, as follows:
Table 1
Set the width of character
<table><tr><th>HEX</th><th>Decimal</th><th>width</th></tr><tr><td>00</td><td>0</td><td>1(normal)</td></tr><tr><td>10</td><td>16</td><td>2(double-width)</td></tr><tr><td>20</td><td>32</td><td>3</td></tr><tr><td>30</td><td>48</td><td>4</td></tr><tr><td>40</td><td>64</td><td>5</td></tr><tr><td>50</td><td>80</td><td>6</td></tr><tr><td>60</td><td>96</td><td>7</td></tr><tr><td>70</td><td>112</td><td>8</td></tr></table>Table 2
Set the height of character
<table><tr><th>HEX</th><th>Decimal</th><th>width</th></tr><tr><td>00</td><td>0</td><td>1(normal)</td></tr><tr><td>01</td><td>1</td><td>2(double-height)</td></tr><tr><td>02</td><td>2</td><td>3</td></tr><tr><td>03</td><td>3</td><td>4</td></tr><tr><td>04</td><td>4</td><td>5</td></tr><tr><td>05</td><td>5</td><td>6</td></tr><tr><td>06</td><td>6</td><td>7</td></tr><tr><td>07</td><td>7</td><td>8</td></tr></table></td></tr>
<tr><td>Range</td><td></td></tr>
<tr><td>Default</td><td>n = 0</td></tr>
<tr><td>Support</td><td>All the printers</td></tr>
</table>

model	
Note	This command is valid for both Chinese fonts and foreign fonts except HRI characters When ESC@, printer reset, power off, this instruction is invalid
Example	1b 40 1d 21 11 30 31 32 0d 0a 30 31 32 0d 0a

Turn white/black reverse printing mode

Name	Turn white/black reverse printing mode
Format	ASCII ： GS B n Decimal ： 29 66 n HEX ： 1d 42 n
Description	Turns on or off white/black reverse printing mode. When the LSB of n is 0, white/black reverse mode is turned off. When the LSB of n is 1, white/black reverse mode is turned on.
Range	
Default	n = 0
Support model	All the printers
Note	Only the lowest position of n is valid. This command is valid for both built-in characters and user-defined characters. When the anti-white mode is turned on, it also works on 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 the line spacing. Anti-white mode takes precedence over underline mode. When the anti-white mode is set, even if the underline mode is turned on, it is disabled (but not cancelled). When ESC@, printer reset, power off, this instruction is invalid
Example	1b 40 1d 42 01 30 31 32 0d 0a 30 31 32 0d 0a

Turn underline mode on/off

Name	Turn underline mode on/off
Format	ASCII ： ESC - n Decimal ： 27 45 n HEX ： 1B 2D n
Description	Turns underline mode on or off, based on the following values n:

	<table><tr><th>n</th><th>Function</th></tr><tr><td>0, 48</td><td>Turns off underline mode</td></tr><tr><td>1, 49</td><td>Turns on underline mode (1 dot thick)</td></tr><tr><td>2, 50</td><td>Turns on underline mode (2 dots thick)</td></tr></table>
Range	0 ≤ n ≤ 2, 48 ≤ n ≤ 50
Default	n = 0
Support model	All the printers
Note	The printer can underline all characters (including right-side character spacing), but cannot underline the space set by HT. The printer cannot underline 90 clockwise rotated characters and white/black inverted characters. When underline mode is turned off by setting the value of n to 0 or 48, the following data is not underlined, and the underline thickness set before the mode is turned off does not change. The default underline thickness is 1 dot. Changing the character size does not affect the current underline thickness. Underline mode can also be turned on or off by using ESC !
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

Turn 90° clockwise rotation mode on/off

Name	Turn 90° clockwise rotation mode on/off
Format	ASCII ： ESC V n Decimal ： 27 86 n HEX ： 1B 56 n
Description	Turns 90 clockwise rotation mode on/off n is used as follows: <table><tr><th>n</th><th>Function</th></tr><tr><td>0,48</td><td>Turns off 90 clockwise rotation mode</td></tr><tr><td>1,49</td><td>Turns on 90 clockwise rotation mode</td></tr></table>
Range	0 ≤ n ≤ 1， 48 ≤ n ≤ 49
Default	n = 0
Support model	All the printers
Note	When underline mode is set, the printer does not underline characters that are rotated 90° clockwise. In the 90° clockwise rotation mode, the direction of the magnification character of the double height and double width command is opposite to the direction of the magnification character of the double height and double width command in

	normal mode. When ESC@, printer reset, power off, this instruction is invalid
Example	1b 40 1b 56 01 30 31 32 0d 0a 30 31 32 0d 0a

Set and remove bold print

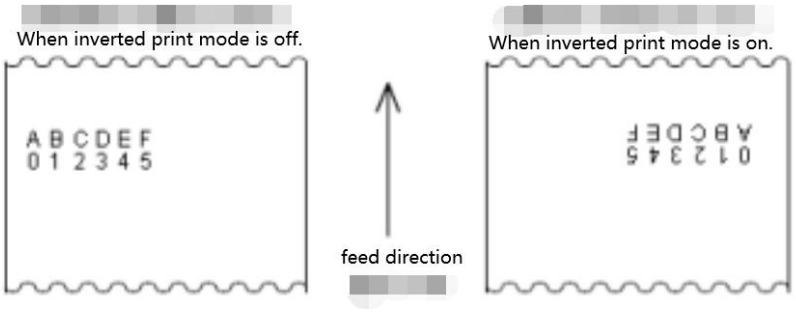
Name	Set and remove bold print
Format	ASCII ： ESC E n Decimal ： 27 69 n HEX ： 1B 45 n
Description	Set or unset bold print mode. When the least significant bit of n is 0, the bold print mode is removed. When the least significant bit of n is 1, set the bold print mode.
Range	0 ≤ n ≤ 255
Default	n = 0
Support model	All the printers
Note	Only the least significant bit of n is allowed The command and ESC! Set and unset the bold print mode in the same way. When this command and ESC! Be careful when using them together. When ESC@, printer reset, power off, this instruction is invalid
Example	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

Set and remove overlapping printing

Name	Set and remove overlapping printing
Format	ASCII ： ESC G n Decimal ： 27 71 n HEX ： 1B 47 n
Description	Set or unoverlap print mode. When the least significant bit of n is 0, the overlapping printing mode is removed. When the least significant bit of n is 1, the overlapping print mode is set.
Range	0 ≤ n ≤ 255
Default	n = 0
Support	All the printers

model	
Note	Only the least significant bit of n is allowed. Printer output is the same in overlay mode and bold mode. When ESC@, printer reset, power off, this instruction is invalid
Example	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

Set and unreverse printing

Name	Set and unreverse printing
Format	ASCII ： ESC { n Decimal ： 27 123 n HEX ： 1B 7B n
Description	Set or disable reverse print mode. When the least significant bit of n is 0, reverse print mode is turned off. When the least significant bit of n is 1, the inverted print mode is turned on. 
Range	0 ≤ n ≤ 255
Default	n = 0
Support model	All the printers
Note	Only the lowest position of n is valid. This command is valid only when entered at the beginning of a line in standard mode. In reverse print mode, the printer rotates the line to be printed by 180° before printing. When ESC@, printer reset, power off, this instruction is invalid
Example	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

Set the print alignment

Name	Select justification（left、center、right）
Format	ASCII ： ESC a n Decimal ： 27 97 n HEX ： 1B 61 n
Description	Aligns all the data in one line to the specified position.n selects the justification as follows: **n** | **Justification** 0,48 | Left justification 1, 49 | Centering 2, 50 | Right justification
Range	0 ≤ n ≤ 2 or 48 ≤ n ≤ 50
Default	n = 0
Support model	All the printers
Note	When ESC@, printer reset, power off, 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

Select Chinese character mode

Name	Select Chinese character mode
Format	ASCII ： FS & Decimal ： 28 38 HEX ： 1C 26
Description	Selects Chinese character mode.
Range	
Default	
Support model	All the printers
Note	When the Kanji character mode is selected, the printer processes all kanji codes, two bytes at a time. Process the kanji code in the order of the first byte and the second byte.
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

Set Chinese character print mode combination

<table>
<tr><td>Name</td><td>Set Chinese character print mode combination</td></tr>
<tr><td>Format</td><td>ASCII ： FS ! n
Decimal ： 28 33 n
HEX ： 1C 21 n</td></tr>
<tr><td>Description</td><td>Set Chinese character print mode combination</td></tr>
<tr><td>Range</td><td>0 ≤ n ≤ 255</td></tr>
<tr><td>Default</td><td>0</td></tr>
<tr><td>Support model</td><td>All the printers</td></tr>
<tr><td>Note</td><td>
<table>
<tr><th>Bit</th><th>Off/on</th><th>hex</th><th>Decimal</th><th>ASB status</th></tr>
<tr><td>0</td><td>—</td><td>—</td><td>—</td><td>Undefined</td></tr>
<tr><td>1</td><td>—</td><td>—</td><td>—</td><td>Undefined</td></tr>
<tr><td>2</td><td>off</td><td>00</td><td>0</td><td>Double width mode is disabled.</td></tr>
<tr><td></td><td>on</td><td>04</td><td>4</td><td>Double width mode is allowed.</td></tr>
<tr><td>3</td><td>off</td><td>00</td><td>0</td><td>Double width mode is disabled.</td></tr>
<tr><td></td><td>on</td><td>08</td><td>8</td><td>Double width mode is allowed.</td></tr>
<tr><td>4</td><td>—</td><td>—</td><td>—</td><td>Undefined</td></tr>
<tr><td>5</td><td>—</td><td>—</td><td>—</td><td>Undefined</td></tr>
<tr><td>6</td><td>—</td><td>—</td><td>—</td><td>Undefined</td></tr>
<tr><td>7</td><td>off</td><td>00</td><td>0</td><td>The underline mode is disabled.</td></tr>
<tr><td></td><td>on</td><td>80</td><td>128</td><td>The underline mode is allowed.</td></tr>
</table>
If the Chinese character mode is not selected, all character codes are treated as ASCII codes, one character at a time.
With double width mode and double height mode set at the same time (including right and left character spacing), four times the size of the character will be printed.
The printer can underline all characters (including the right and left character spacing), but cannot underline Spaces set by the HT command, or characters rotated 90° clockwise.
When some characters in the line are double height or higher, all characters in the line are aligned along the baseline.
can use GS! The command contains Chinese characters. The Settings of the last received command are valid.
</td></tr>
</table>

Example	1b 40 1C 26 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 00 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 01 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 02 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 04 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 08 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 10 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 20 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 40 B0 AE C9 CF D7 D4 BC BA 0D 0A 1C 21 80 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

Name	Cancel Chinese character mode
Format	ASCII ： FS . Decimal ： 28 46 HEX ： 1C 2E
Description	Cancel Chinese character mode
Range	
Default	
Support model	All the printers
Note	If the Chinese character mode is not selected, all character codes are treated as ASCII codes, one character at a time.
Example	

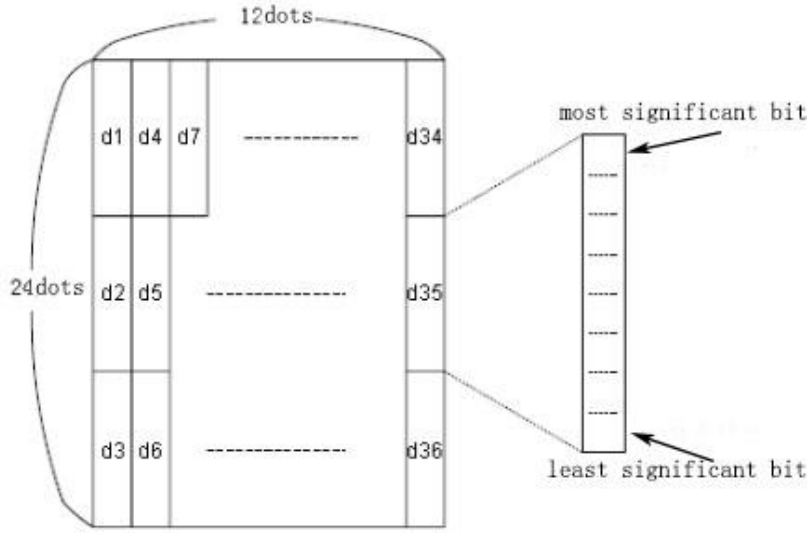
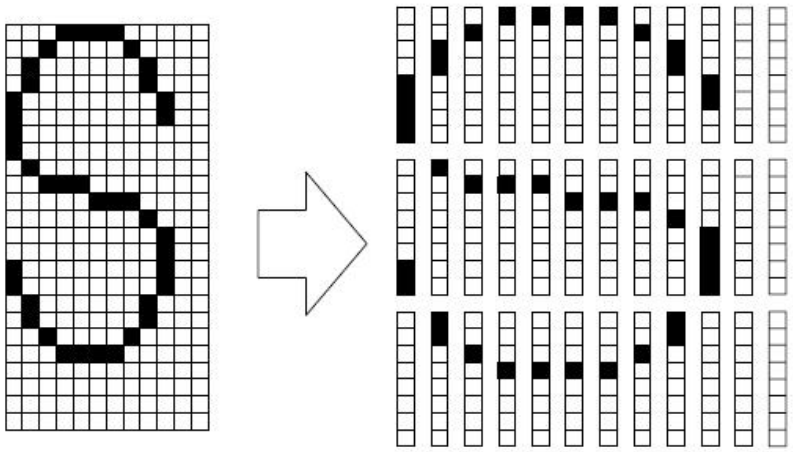
Select/cancel user-defined character set

Name	Select/cancel user-defined character set
Format	ASCII ： ESC % n Decimal ： 27 37 n HEX ： 1B 25 n

Description	Selects or cancels the user-defined character set. When the LSB of n is 0, the user-defined character set is canceled. When the LSB of n is 1, the user-defined character set is selected.
Range	0 ≤ n ≤ 255
Default	0
Support model	All the printers
Note	When the user-defined character set is disabled, the internal character set is automatically selected.
Example	

Define user-defined characters

Name	Define user-defined characters
Format	ASCII ： ESC & y c1 c2 [x1 d1 ... d (yx1)] ... [xk d1 ... d(y x k)] 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)]
Description	Defines user-defined characters. y specifies the number of bytes in the vertical direction. c1 specifies the beginning character code for the definition, and c2 specifies the final code. xk specifies the number of dots in the horizontal direction.
Range	y = 2 0 x 6 (when Font A (6×12) is selected) y = 3 32 c1 c2 126 0 x 12 (when Font A (12×24) is selected) 0 d1 ... d(y×xk) 255
Default	
Support model	All the printers
Note	The allowable character code range is from ASCII code <20>H to <7E>H (95 characters). It is possible to define multiple characters for consecutive character codes. If only one character is desired, use c1 = c2. d is the dot data for the characters. The dot pattern is in the horizontal direction from the left side. Any remaining dots on the right side are blank. The data to define user-defined characters is (y×x) bytes. Set a corresponding bit to 1 to print a dot or 0 not to print a dot. This command can define different user-defined character patterns for each font. To select a font, use **ESC !** User-defined characters and a downloaded bit image cannot be defined simultaneously. When this command is executed, the downloaded bit image is cleared. The user-defined character definition is cleared when:

	1） ESC @ is executed. 2） GS is executed. 3） ESC ? is executed. 4） The power is turned off. When Font A (12× 24) is selected.   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	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 0C 0F 03 00 30 80 00 40 40 20 80 40 10 80 40 10 80 20 10 80 20 10 40 20 20 30 10 C0 0C 00 00 00 00 00 00 00 00 1b 25 01 20 20 0D 0A 1b 3f 20 30 20 30 20 0d 0a

Cancel user-defined characters

Name	Cancel user-defined characters
Format	ASCII ： ESC ? n Decimal ： 27 63 n HEX ： 1B 3F n
Description	Cancels user-defined characters.
Range	32 ≤ n ≤ 126
Default	
Support model	All the printers
Note	This command cancels the patterns defined for the character codes specified by n. After the user-defined characters are canceled, the corresponding patterns for the internal characters are printed. This command deletes the pattern defined for the specified code in the font selected by **ESC !**. If a user-defined characters have not been defined, the printer ignores this command.
For example	

Select an international character set

Name	Select an international character set
Format	ASCII ： ESC R n Decimal ： 27 82 n HEX ： 1B 52 n
Description	Selects international character set n from the following table:

n	Character set
0	U.S.A
1	France
2	Germany
3	U.K
4	Denmark I
5	Sweden
6	Italy
7	Spain I
8	Japan

		9	Norway
		10	Denmark II
		11	Spain II
		12	Latin America
		13	Korea
		14	Slovenia/Croatia
		15	China
Range	0 ≤ n ≤ 15		
Default	0		
Support model	All the printers		
Note			
For 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		

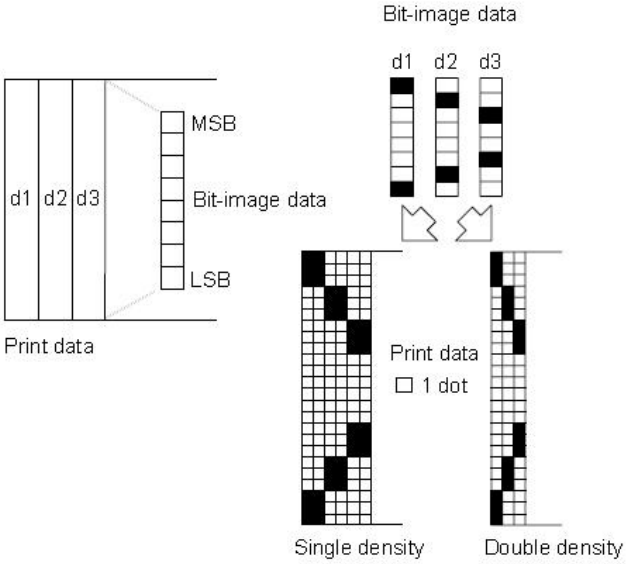
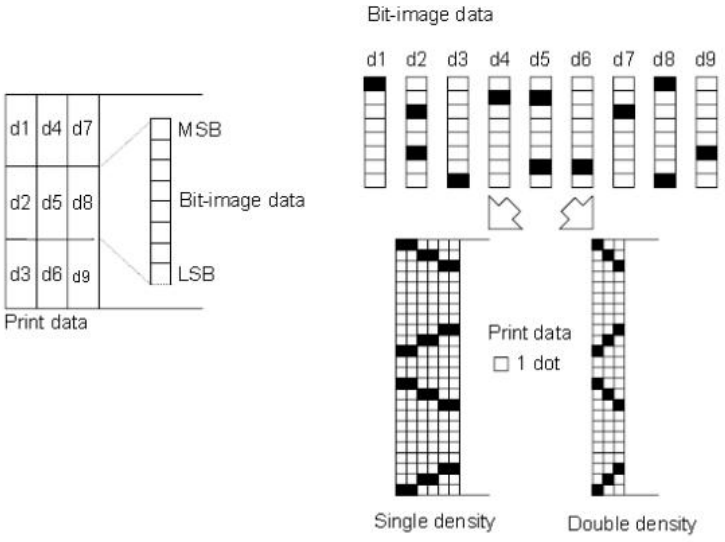
Toggle double-byte encodings

Name	Toggle double-byte encodings
Format	ASCII ： ESC 9 n Decimal ： 27 56 n HEX ： 1B 39 n
Description	The encoding of n is as follows: n code 0 GBK 1 UTF8 2 remain 3 BIG5 4 SHIFT-JIS 5 EUC-KR
Range	0 ≤ n ≤ 5
Default	0
Support model	Some printers
Note	Chinese character mode must be enabled before use (command 1C 26 can be enabled)
Example	1B 40 1C 26 1B 39 01

③bit image command

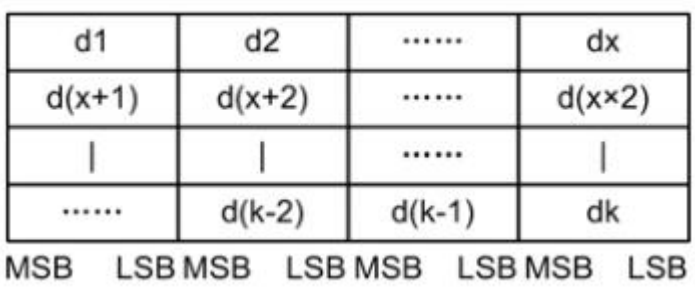
Select bit-image mode

Name	Select bit-image mode
Format	ASCII ： ESC * m Hl Hh [d]k Decimal ： 27 42 m Hl Hh [d]k HEX ： 1B 2A m Hl Hh [d]k
Description	Selects a bit-image mode using m for the number of dots specified by nL and nH, as follows: m mode **Horizontal Scale** **Vertical Scale** 0 8-dot single-density ×2 ×3 1 8-dot double-density ×1 ×3 32 24-dot single-density ×2 ×1 33 24-dot double-density ×1 ×1 Hl、Hh specifies the number of dots in the horizontal direction. （Hl＋256×Hh） [d]k is bit-image mode datas
Range	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）
Default	
Support model	All the printers
Note	If the value of m is out of the specified range, nL and nH the data following are processed as normal data. The nL and nH indicate the number of dots in the bit image in the horizontal direction. The number of dots is calculated by nL + nH 256. If the bit-image data input exceeds the number of dots to be printed on a line, the excess data is ignored. d indicates the bit-image data. Set a corresponding bit to 1 to print a dot or to 0 not to print a dot. After printing a bit image, the printer returns to normal data processing mode.

	This command is not affected by print modes (emphasized, double-strike, underline, character size, or white/black reverse printing), except upside-down printing mode. The relationship between the image data and the dots to be printed is described in Figure 3.11.3. When 8-dot bit image is selected:  3.11.3 When 24-dot bit image is selected:  3.11.3
For example	1B 40 1b 2a 00 0C 00 FF FF FF FF FF FF FF FF FF FF FF FF 1B 33 00 0A

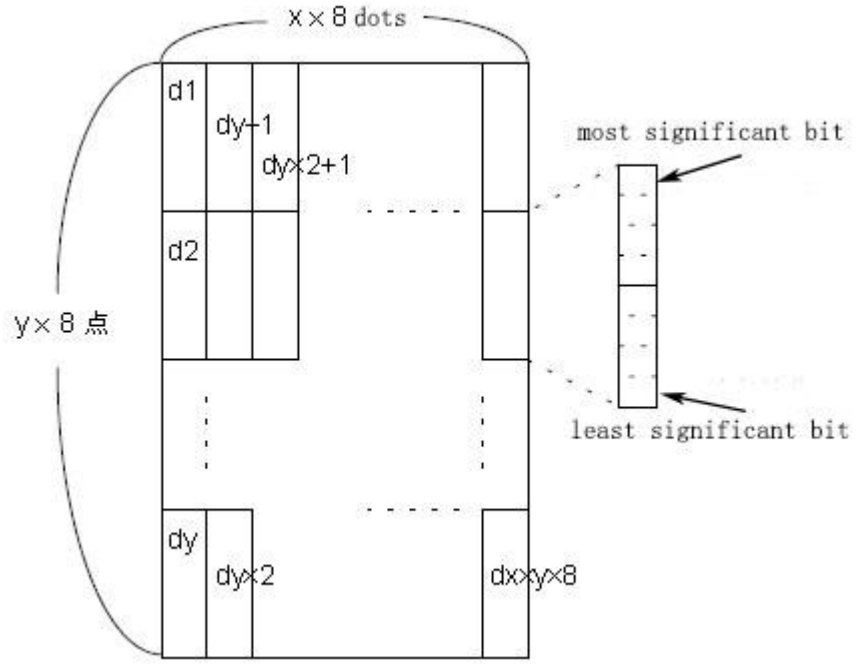
Picture horizontal module data printing

Name	Picture horizontal module data printing
Format	ASCII ： GS v 0 Decimal ： 29 118 48 m xL xH yL yH [d]k HEX ： 1D 76 30 m xL xH yL yH [d]k
Description	Print transverse mode-taking image data, and the parameter meanings are as follows: m is bitmap mode: m mode Horizontal vertical 0,48 nomal × 1 × 1 1,49 double width × 2 × 1 2,50 double height × 1 × 2 3,51 double width and height × 2 × 2 xL and xH are horizontal bytes (xL + xH × 256) yL and yH are vertical points (yL + yH × 256) [d]k is the point plot data k indicates the number of bytes of point map data. k is used for illustration and does not need to be transmitted
Range	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)
Default	
Support model	All the printers
Note	[d]k if the corresponding bit is 1, it means that the point is printed, and the corresponding bit is 0, it means that the point is not printed If the number of horizontal bytes of the image exceeds the print area, the excess is ignored This command is executed according to the size of the image feed, regardless of the line spacing Settings of ESCs 2 and 3 After this command is executed, the print coordinates are reset to the left margin position and the image contents are cleared

	The relationship between bitmap data and the print effect is as follows:  This command has a print function, while transferring data while printing, there is no need to use the print command
Example	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

Define downloaded bit image

Name	Define downloaded bit image
Format	ASCII ： GS * x y d1...d(x×y×8) Decimal ： 29 42 x y d1 ...d(x×y×8) HEX ： 1D 2A x y d1...d(x×y×8)
Description	Defines a downloaded bit image using the number of dots specified by x and y. x specifies the number of dots in the horizontal direction. y specifies the number of dots in the vertical direction.
Range	1 ≤ x ≤ 255 1 ≤ y ≤ 48 x*y ≤ 1536 0 ≤ d ≤ 255
Default	
Support model	All the printers
Note	If x×y is out of the specified range, this command is disabled. The d indicates bit-image data. Data (d) specifies a bit printed as 1 and not printed as 0. The downloaded bit image definition is cleared when: 1) ESC @ is executed. 2) ESC & is executed. 3) Printer is reset or the power is turned off. The following figure shows the relationship between the downloaded bit image and the printed data.

	
Example	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

Print downloaded bit image

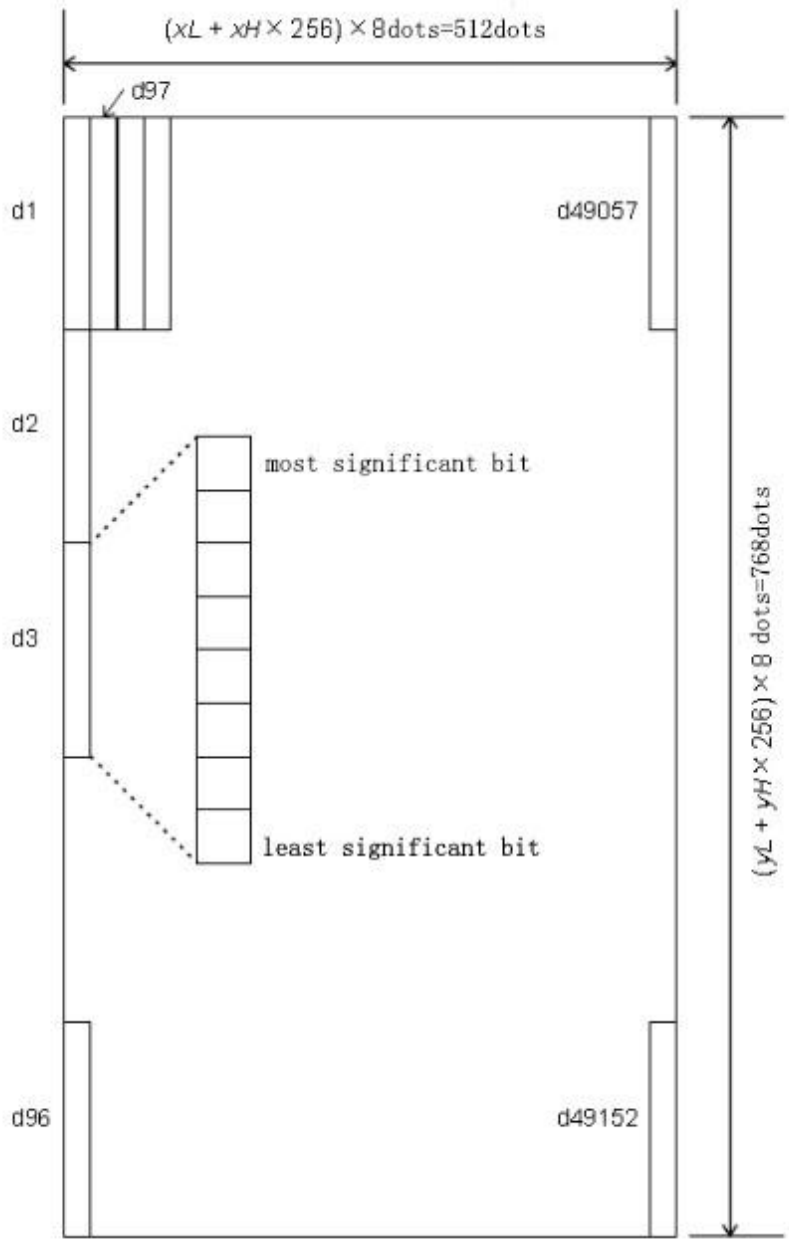
Name	Print downloaded bit image
Format	ASCII ： GS / m Decimal ： 29 47 m HEX ： 1D 2F m
Description	Prints a downloaded bit image using the mode specified by m. m selects a mode from the table below: **n** | **Mode** 0, 48 | Normal 1, 49 | Double-width 2, 50 | Double-height 3, 51 | Quadruple
Range	0 ≤ m ≤ 3 48 ≤ m ≤ 51
Default	
Support model	All the printers

Note	This command is ignored if a downloaded bit image has not been defined. In standard mode, this command is effective only when there is no data in the print buffer. This command has no effect in the print modes (emphasized, double-strike, underline, character size, or white/black reverse printing), except for upsidedown printing mode. If the downloaded bit-image to be printed exceeds the printable area, the excess data is not printed.
Example	

Define NV bit image

Name	Define NV bit image
Format	ASCII ： FS q n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n Decimal ： 28 113 n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n HEX ： 1C 71 n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n
Description	Define the NV bit image specified by n. n specifies the number of the defined NV bit image. xL, xH specifies (xL xH 256) 8 dots in the horizontal direction for the NV bit image you are defining. yL, yH specifies (yL yH 256) 8 dots in the vertical direction for the NV bit image you are defining.
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 Total defined data area = 64K Bytes
Default	
Support model	All the printers
Note	Frequent write command executions may damage the NV memory. Therefore, it is recommended to write the NV memory 10 times or less a day. The printer performs a hardware reset after the procedure to place the image into the NV memory. Therefore, user-defined characters, downloaded bit images should be defined only after completing this command. The printer clears the receive and print buffers and resets the mode to the mode that was in effect at power on. (this version is not support hardware reset) This command cancels all NV bit images that have already been defined by this command.

	From the beginning of the processing of this command till the finish of hardware reset, mechanical operations (including initializing the position of the print head when the cover is open, paper feeding using the FEED button, etc.) cannot be performed. During processing of this command, the printer is BUSY when writing data to the user NV memory and stops receiving data. Therefore it is prohibited to transmit the data, including real-time commands, during the execution of this command. NV bit image is a bit image defined in non-volatile memory by FS q and printed by FS p. In standard mode, this command is effective only when processed at thebeginning of the line. This command is effective when 7 bytes <FS yH> of the command areprocessed normally. When the amount of data exceeds the capacity left in the range defined by xL, xH, yL, yH, the printer processes xL, xH, yL, yH out of the defined range. In the first group of NV bit images, when any of the parameters xL, xH, yL, yH is out of the definition range, this command is disabled. In groups of NV bit images other than the first one, when the printer encounters xL, xH, yL, yH out of the defined range, it stops processing this command and starts writing into the NV images. At this time, NV bit images that haven’t been defined are disabled (undefined), but any NV bit images before that are enabled. The d indicates the definition data. In data (d) a 1 bit specifies a dot to be printed and a 0 bit specifies a dot not to be printed. This command defines n as the number of a NV bit image. Numbers rise in order from NV bit image 01H. Therefore, the first data group [xL xH yL yH d1...dk] is NV bit image 01H, and the last data group [xL xH yL yH d1...dk] is NV bit image n. The total agrees with the number of NV bit images specified by the command FS p. The definition data for an NV bit image consists of [xL xH yL yH d1...dk]. Therefore, when only one NV bit image is defined n=1, the printer processes a 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 definition area in this printer is a maximum of 192K bytes. This command can define several NV bit images, but cannot define bit image data whose total capacity [bit image data header] exceeds 192K bytes. The printer does not transmit ASB status or perform status detection during processing of this command even when ASB is specified. Once an NV bit image is defined, it is not erased by performing ESC @, reset, and power off. This command performs only definition of an NV bit image and does not perform printing. Printing of the NV bit image is performed by the FS pcommand.

	For example : xL = 64, xH = 0, yL = 96, yH = 0 
Example	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 FF FF FF FF FF FF 1C 70 01 00

Print NV bit image

Name	Print NV bit image
Format	ASCII ： FS p n m Decimal ： 28 112 n m

<table>
<tr><td></td><td>HEX ： 1C 70 n m</td></tr>
<tr><td>Description</td><td>Prints NV bit image n using the mode specified by m.
<table>
<tr><td>m</td><td>Mode</td></tr>
<tr><td>0，48</td><td>Normal</td></tr>
<tr><td>1，49</td><td>Double-width</td></tr>
<tr><td>2，50</td><td>Double-height</td></tr>
<tr><td>3，51</td><td>Quadruple</td></tr>
</table></td></tr>
<tr><td>Range</td><td>0 ≤ m ≤ 3
48 ≤ m ≤ 51
1 ≤ n ≤ 255</td></tr>
<tr><td>Default</td><td></td></tr>
<tr><td>Support model</td><td>All the printers</td></tr>
<tr><td>Note</td><td>NV bit image is a bit image defined in non-volatile memory by FS q and printed by FS p.
This command is not effective when the specified NV bit image has not been defined.
In standard mode, this command is effective only when there is no data in the print buffer.
This command is not affected by print modes (emphasized, underline, character size, white/black reverse printing, or 90 rotated characters, etc.), except upside-down printing mode.
If the downloaded bit-image to be printed exceeds one line, the excess data is not printed.
This command feeds dots (for the height n of the NV bit image) in normal and double-width modes, and (for the height n 2 of the NV bit image) in doubleheight and quadruple modes, regardless of the line spacing specified by ESC 2 or ESC 3.
After printing the bit image, this command sets the print position to the beginning of the line and processes the data that follows as normal data.</td></tr>
<tr><td>Example</td><td></td></tr>
</table>

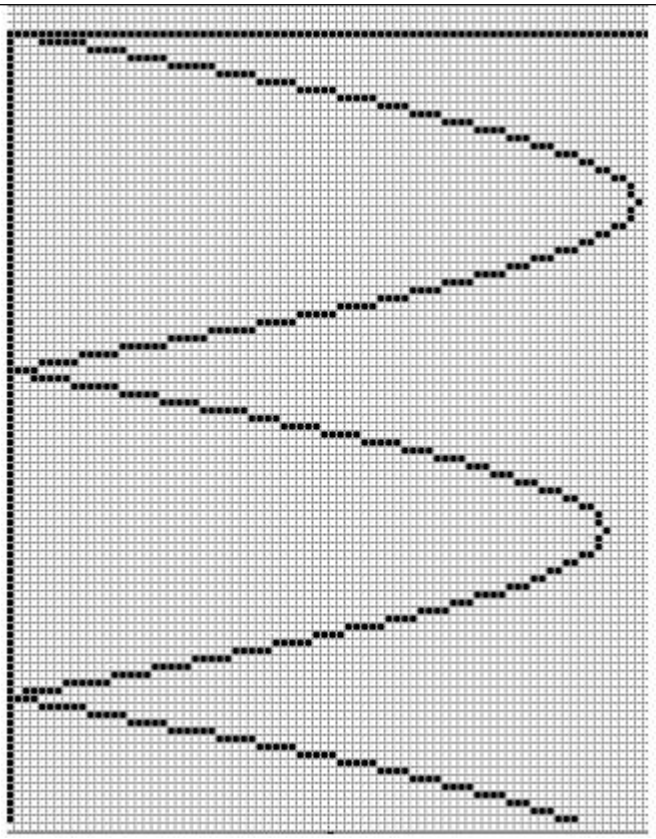
Print raster bitmap

<table>
<tr><td>Name</td><td>Print raster bitmap</td></tr>
<tr><td>Format</td><td>ASCII ： GS v 0 m xL xH yL yH d1...dk
Decimal ： 29 118 48 m xL xH yL yH d1...dk
HEX ： 1D 76 30 m xL xH yL yH d1...dk</td></tr>
<tr><td>Description</td><td>Print raster bitmap, select raster bitmap mode by m value:
<table>
<tr><td>m</td><td>mode</td><td>longitudinal resolution（DPI）</td><td>Lateral resolution（DPI）</td></tr>
<tr><td>0,48</td><td>nomal</td><td>200</td><td>200</td></tr>
<tr><td>1,49</td><td>Double width</td><td>200</td><td>100</td></tr>
<tr><td>2,50</td><td>Double height</td><td>100</td><td>200</td></tr>
</table></td></tr>
</table>

	3,51	Double width and height	100	100	
Range	0 ≤ m ≤ 3 or 48 ≤ m ≤ 51 0 ≤ xL ≤ 255 0 ≤ xH ≤ 255 0 ≤ yL ≤ 255 0 ≤ d ≤ 255 k = (xL + xH * 256) * (yL + yH * 256) (k≠0)				
Default					
Support model	All the printers				
Note	xL and xH indicate the number of horizontal bitmap bytes (xL+xH*256) yL and yH indicate the number of vertical bitmap points (yL+yH*256) In standard mode, this command is valid only if the printer buffer has no data. The command does not apply to print modes such as character enlargement, bold, double print, inverted print, underline, and black and white echo. Parts of the bitmap that are beyond the print area are not printed. ESC is effective for raster bitmaps. During macro definition, the command stops the macro definition and executes the command. This command is not part of the macro definition. d stands for bitmap data. The corresponding bit of each byte is 1 to print the point, and 0 to not print the point.				
Example	当 xL+xH*256=64 				

Horizontal position Print line segments (curve print command)

Name	Horizontal position Print line segments (curve print command)
Format	ASCII ： GS ‘ n x1sL x1eH x1eL x1eH ...xnsL xnsH xneL xneH Decimal ： 1D 27 n x1sL x1eH x1eL x1eH ...xnsL xnsH xneL xneH HEX ： 29 39 n x1sL x1eH x1eL x1eH ...xnsL xnsH xneL xneH
Description	An enlarged print is shown below: Each horizontal curve segment can be viewed as consisting of these points of segment length 1. If n horizontal lines are printed, the desired curve can be printed by using this command continuously.



xksL: the horizontal coordinate of the lower order starting point of the K line;
xksH: the horizontal coordinate of the higher order of the starting point of the K line;
xkeL: Horizontal coordinates of lower order at the end point of the K line;
xkeH: the horizontal coordinate of the higher order of the end point of the K line;

The starting position of the coordinate is usually to the left of the print area. The minimum coordinate coordinate is (0,0) and the maximum horizontal coordinate value is 383, xkeL+xkeH*256
Rows of data may not be arranged in a specified order;

```
Char SendStr[8];
Char SendStr2[16];
Float i;
Short y1,y2,y1s,y2s;
//Print the Y-axis (one line)
SendStr[0]=0x1D;
SendStr[1]=0x27;
SendStr[2]=1；     // one line
SendStr[3]=30
SendStr[4]=0;     //start point
SendStr[5]=104;
SendStr[6]=1;        //finish point
```

	PreSendData(SendStr,7);
	
	//Print curve
	SendStr[0]=0x1D;
	SendStr[1]=0x27;
	SendStr[2]=3; //Three lines:X-axis,sin and cos function curve function
	SendStr[3]=180; SendStr[4]=0; // X-axis position
	SendStr[5]=180; SendStr[6]=0;
	for(i=1;i<1200;i++)
	{
	y1=sin(i/180*3.1416)*(380-30)/2+180; //Calculate the sin function coordinates
	y2=cos(i/180*3.1416)*(380-30)/2+180; //Calculate the coordinates of the cosine function
	If(i==1){y1s=y1;y2s=y2;}
	PreSendData(SendStr,7);
	
	If(y1s<y1)
	{
	PreSendData(&y1s,2); //The sin function is the starting point of this row
	PreSendData(&y1,2); //The sin function is at the end of that row
	}
	Else
	{
	PreSendData(&y1,2); //The sin function is the starting point of this row
	PreSendData(&y1s,2); //The sin function is at the end of that row
	}
	If(y2s<y2)
	{
	PreSendData(&y2s,2); //Cosine is the starting point of this row
	PreSendData(&y2,2); // Cosine is the end of the line
	}
	Else
	{
	PreSendData(&y2,2); //Cosine is the starting point of this row
	PreSendData(&y2s,2); //Cosine is the end of the line}
	y1s=y1; // When printing goes to the next line, the sin function curve starts at the horizontal coordinate
	y2s=y2; //When printing goes to the next line, the cosine function curve starts at the horizontal coordinate}

Range	0≤n≤8
Default	

Support model	Portable printers
Note	When a point is printed, xkeL=xksL, xkeH=xksH
Example	1d 27 01 00 00 00 00 1d 27 01 01 00 0f 00 1d 27 01 10 00 1f 00 1d 27 01 20 00 2c 00 1d 27 01 2d 00 3a 00 1d 27 01 3b 00 44 00 1d 27 01 45 00 4c 00 1d 27 01 4d 00 54 00 1d 27 01 55 00 5c 00 1d 27 01 5d 00 63 00 1d 27 01 64 00 6a 00 1d 27 01 6b 00 71 00 1d 27 01 72 00 77 00 1d 27 01 78 00 7d 00 1d 27 01 7e 00 84 00 1d 27 01 85 00 8a 00 1d 27 01 8b 00 91 00 1d 27 01 92 00 97 00 1d 27 01 98 00 9d 00 1d 27 01 9e 00 a3 00 1d 27 01 a4 00 a9 00 1d 27 01 aa 00 af 00 1d 27 01 b0 00 b4 00 1d 27 01 b5 00 b9 00 1d 27 01 ba 00 bf 00 1d 27 01 c0 00 c4 00 1d 27 01 c5 00 c9 00 1d 27 01 ca 00 cf 00 1d 27 01 d0 00 d4 00 1d 27 01 d5 00 d8 00 1d 27 01 d9 00 dc 00 1d 27 01 dd 00 df 00 1d 27 01 e0 00 e3 00 1d 27 01 e4 00 e6 00 1d 27 01 e7 00 e9 00 1d 27 01 ea 00 ec 00 1d 27 01 ed 00 ef 00 1d 27 01 f0 00 f1 00 1d 27 01 f2 00 f3 00 1d 27 01 f4 00 f5 00 1d 27 01 f6 00 f7 00 1d 27 01 f8 00 f8 00 1d 27 01 f9 00 fa 00 1d 27 01 fb 00 fb 00 1d 27 01 fc 00 fd 00 1d 27 01 fe 00 fe 00 1d 27 01 ff 00 ff 00 1d 27 01 00 01 00 01 1d 27 01 01 01 01 01 1d 27 01 02 01 02 01 1d 27 01 03 01 03 01 1d 27 01 04 01 04 01 1d 27 01 05 01 05 01 1d 27 01 06 01 06 01 1d 27 01 06 01 06 01 1d 27 01 07 01 07 01 1d 27 01 07 01 07 01 1d 27 01 07 01 07 01 1d 27 01 07 01 07 01 1d 27 01 07 01 07 01 1d 27 01 06 01 06 01 1d 27 01 06 01 06 01 1d 27 01 05 01 05 01 1d 27 01 04 01 04 01 1d 27 01 04 01 04 01 1d 27 01 03 01 03 01 1d 27 01 02 01 02 01 1d 27 01 00 01 00 01 1d 27 01 ff 00 ff 00 1d 27 01 fe 00 fe 00 1d 27 01 fc 00 fd 00 1d 27 01 f9 00 fa 00 1d 27 01 f8 00 f8 00 1d 27 01 f6 00 f7 00 1d 27 01 f4 00 f5 00 1d 27 01 f2 00 f3 00 1d 27 01 f0 00 f1 00 1d 27 01 ed 00 ef 00 1d 27 01 ea 00 ec 00 1d 27 01 e7 00 e9 00 1d 27 01 e4 00 e6 00

	1d 27 01 e0 00 e3 00 1d 27 01 dd 00 df 00 1d 27 01 d9 00 dc 00 1d 27 01 d5 00 d8 00 1d 27 01 d0 00 d4 00 1d 27 01 ca 00 cf 00 1d 27 01 c5 00 c9 00 1d 27 01 c0 00 c4 00 1d 27 01 ba 00 bf 00 1d 27 01 b5 00 b9 00 1d 27 01 b0 00 b4 00 1d 27 01 aa 00 af 00 1d 27 01 a4 00 a9 00 1d 27 01 9e 00 a3 00 1d 27 01 98 00 9d 00 1d 27 01 92 00 97 00 1d 27 01 8b 00 91 00 1d 27 01 85 00 8a 00 1d 27 01 7e 00 84 00 1d 27 01 78 00 7d 00 1d 27 01 72 00 77 00 1d 27 01 6b 00 71 00 1d 27 01 64 00 6a 00 1d 27 01 5d 00 63 00 1d 27 01 55 00 5c 00 1d 27 01 4d 00 54 00 1d 27 01 45 00 4c 00 1d 27 01 3b 00 44 00 1d 27 01 2d 00 3a 00 1d 27 01 20 00 2c 00 1d 27 01 10 00 1f 00 1d 27 01 01 00 0f 00 1d 27 01 00 00 00 00 1d 27 01 00 00 00 00 1d 27 01 01 00 0f 00 1d 27 01 10 00 1f 00 1d 27 01 20 00 2c 00 1d 27 01 2d 00 3a 00 1d 27 01 3b 00 44 00 1d 27 01 45 00 4c 00 1d 27 01 4d 00 54 00 1d 27 01 55 00 5c 00 1d 27 01 5d 00 63 00 1d 27 01 64 00 6a 00 1d 27 01 6b 00 71 00 1d 27 01 72 00 77 00 1d 27 01 78 00 7d 00 1d 27 01 7e 00 84 00 1d 27 01 85 00 8a 00 1d 27 01 8b 00 91 00 1d 27 01 92 00 97 00 1d 27 01 98 00 9d 00 1d 27 01 9e 00 a3 00 1d 27 01 a4 00 a9 00 1d 27 01 aa 00 af 00 1d 27 01 b0 00 b4 00 1d 27 01 b5 00 b9 00 1d 27 01 ba 00 bf 00 1d 27 01 c0 00 c4 00 1d 27 01 c5 00 c9 00 1d 27 01 ca 00 cf 00 1d 27 01 d0 00 d4 00 1d 27 01 d5 00 d8 00 1d 27 01 d9 00 dc 00 1d 27 01 dd 00 df 00 1d 27 01 e0 00 e3 00 1d 27 01 e4 00 e6 00 1d 27 01 e7 00 e9 00 1d 27 01 ea 00 ec 00 1d 27 01 ed 00 ef 00 1d 27 01 f0 00 f1 00 1d 27 01 f2 00 f3 00 1d 27 01 f4 00 f5 00 1d 27 01 f6 00 f7 00 1d 27 01 f8 00 f8 00 1d 27 01 f9 00 fa 00 1d 27 01 fb 00 fb 00 1d 27 01 fc 00 fd 00 1d 27 01 fe 00 fe 00 1d 27 01 ff 00 ff 00 1d 27 01 00 01 00 01 1d 27 01 01 01 01 01 1d 27 01 02 01 02 01 1d 27 01 03 01 03 01 1d 27 01 04 01 04 01 1d 27 01 05 01 05 01 1d 27 01 06 01 06 01 1d 27 01 06 01 06 01

	1d 27 01 07 01 07 01 1d 27 01 07 01 07 01 1d 27 01 07 01 07 01 1d 27 01 07 01 07 01 1d 27 01 07 01 07 01 1d 27 01 06 01 06 01 1d 27 01 06 01 06 01 1d 27 01 05 01 05 01 1d 27 01 04 01 04 01 1d 27 01 04 01 04 01 1d 27 01 03 01 03 01 1d 27 01 02 01 02 01 1d 27 01 00 01 00 01 1d 27 01 ff 00 ff 00 1d 27 01 fe 00 fe 00 1d 27 01 fc 00 fd 00 1d 27 01 f9 00 fa 00 1d 27 01 f8 00 f8 00 1d 27 01 f6 00 f7 00 1d 27 01 f4 00 f5 00 1d 27 01 f2 00 f3 00 1d 27 01 f0 00 f1 00 1d 27 01 ed 00 ef 00 1d 27 01 ea 00 ec 00 1d 27 01 e7 00 e9 00 1d 27 01 e4 00 e6 00 1d 27 01 e0 00 e3 00 1d 27 01 dd 00 df 00 1d 27 01 d9 00 dc 00 1d 27 01 d5 00 d8 00 1d 27 01 d0 00 d4 00 1d 27 01 ca 00 cf 00 1d 27 01 c5 00 c9 00 1d 27 01 c0 00 c4 00 1d 27 01 ba 00 bf 00 1d 27 01 b5 00 b9 00 1d 27 01 b0 00 b4 00 1d 27 01 aa 00 af 00 1d 27 01 a4 00 a9 00 1d 27 01 9e 00 a3 00 1d 27 01 98 00 9d 00 1d 27 01 92 00 97 00 1d 27 01 8b 00 91 00 1d 27 01 85 00 8a 00 1d 27 01 7e 00 84 00 1d 27 01 78 00 7d 00 1d 27 01 72 00 77 00 1d 27 01 6b 00 71 00 1d 27 01 64 00 6a 00 1d 27 01 5d 00 63 00 1d 27 01 55 00 5c 00 1d 27 01 4d 00 54 00 1d 27 01 45 00 4c 00 1d 27 01 3b 00 44 00 1d 27 01 2d 00 3a 00 1d 27 01 20 00 2c 00 1d 27 01 10 00 1f 00 1d 27 01 01 00 0f 00 1d 27 01 00 00 00 00

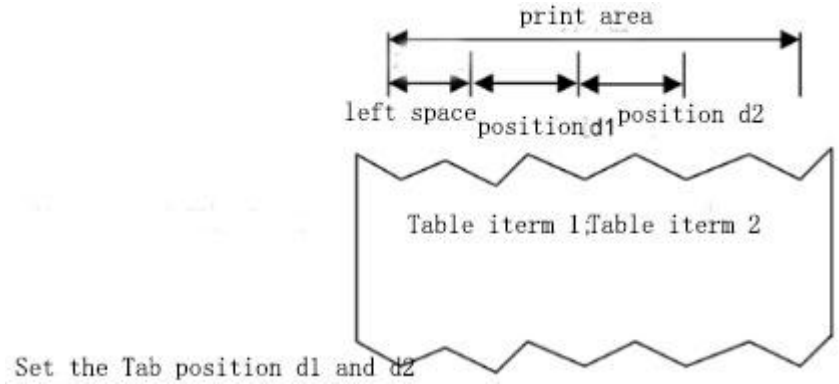
④Tab command

Horizontal tab

Name	Horizontal tab
Format	ASCII ： HT Decimal ： 9 HEX ： 09
Description	Moves the print position to the next horizontal tab position.
Range	
Default	
Support	All the printers

model	
Note	The TAB position is set by ESC D If the TAB position is not set (there is no horizontal TAB position by default), this instruction is treated as an LF instruction If the tabulation position is outside the print area, the coordinates are moved to the starting position of the next row (if the row is full, print and wrap)
Example	

Set horizontal tab positions

Name	Set horizontal tab positions
Format	ASCII ： ESC D [d]k NUL Decimal ： 27 68 [d]k 0 HEX ： 1B 44 [d]k 00
Description	Set the horizontal TAB position. The meanings of the parameters are as follows: d1 ... dk: Horizontal table position, in 8 points, NULL as the end character
Range	XX58：1 ≤ d ≤ 46（d1 <d2 < …… dk ， 1 ≤ k ≤ 16） XX80：1 ≤ d ≤ 70（d1 < d2 < …… dk ， 1 ≤ k ≤ 16）
Default	[d]k = 0（By default, there is no horizontal TAB position）
Support model	All the printers
Note	Set the Tab position:  Set the Tab position d1 and d2 Supports a maximum of 16 TAB positions Using this command cancels previous TAB location Settings k is used for signaling purposes without transmission Transmission [d]k is considered terminated when it encounters NULL If dk is less than or equal to DK-1, it is regarded as the end, and the remaining data is regarded as ordinary data processing TAB position can be switched by HT When the left margin is changed, the tabulating position changes at the same time When ESC@, printer reset, power off, this instruction is invalid
Example	1B 44 18 1E 00 46 4F 4F 44 09 50 52 49 43 45 09 49 44 0D0A0D0A 1B 44 18 1E 00

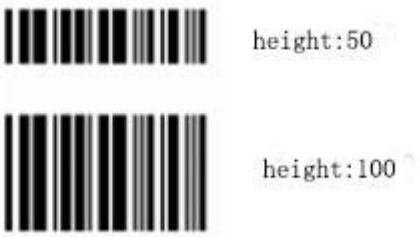
	44 45 43 41 46 31 36 09 33 30 09 31 0D0A

⑤bar code command

Select printing position for HRI characters

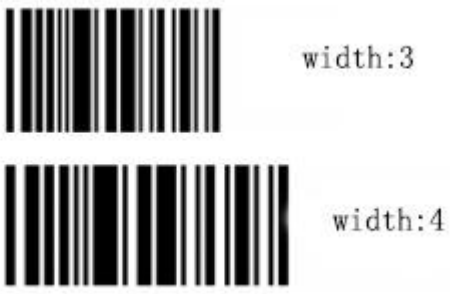
Name	Select printing position for HRI characters
Format	ASCII ： GS H n Decimal ： 29 72 n HEX ： 1D 48 n
Description	Selects the printing position of HRI characters when printing a bar code. n selects the printing position as follows: n Printing position 0，48 Printing position 1，49 Above the bar code 2，50 Below the bar code 3，51 Both above and below the bar code
Range	0 ≤ n ≤ 3 or 48 ≤ n ≤ 51
Default	n = 0
Support model	All the printers
Note	ESC @,dump and restart,Reset the printer,This command setting failure.
Example	

Select bar code height

Name	Select bar code height
Format	ASCII ： GS h n Decimal ： 29 104 n HEX ： 1D 68 n
Description	Set the bar code height to n. The meaning of parameter n is as follows: 
Range	1 ≤ n ≤ 255
Default	n = 64
Support model	All the printers
Note	ESC @,dump and restart,Reset the printer,This command setting failure.
Example	

Set bar code width

Name	Set bar code width

Format	ASCII ： GS w n Decimal ： 29 119 n HEX ： 1D 77 n
Description	Set bar code width unit to n， Parameters n meaning as follow： 
Range	1 ≤ n ≤ 6
Default	n = 2
Support model	All the printers
Note	ESC @,dump and restart,Reset the printer,This command setting failure.
Example	

Print bar code

Name	
Format	(A) ASCII ： GS k m [d]k NUL Decimal ： 29 107 m [d]k NUL HEX ： 1D 6B m [d]k NUL (B) ASCII ： GS k m n [d]k Decimal ： 29 107 m n [d]k HEX ： 1D 6B m n [d]k
Description	Print a one-dimensional bar code, the meaning of each parameter is as follows: m indicates the encoding mode n is the length of the encoded data, used only in (B), the difference between (A) and (B) directives is that (A) the data segment ends with a NULL character, while (B) is used to indicate the length of the data [d]k indicates barcode data k indicates the length of the barcode data, which is used for illustration and does not need to be transmitted The relationship between parameters is shown in the following table: **(Command A)**

<table>
<tr><td></td><td>
<table>
<tr><th colspan="2">m</th><th>Bar Code System</th><th>Number of Characters</th><th>Remarks</th></tr>
<tr><td rowspan="7">①</td><td>0</td><td>UPC-A</td><td>11 ≤ k ≤ 12</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>1</td><td>UPC-E</td><td>11 ≤ k ≤ 12</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>2</td><td>JAN13 (EAN13)</td><td>12 ≤ k ≤ 13</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>3</td><td>JAN 8 (EAN8)</td><td>7 ≤ k ≤ 8</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>4</td><td>CODE39</td><td>1 ≤ k′</td><td>48 ≤ d ≤ 57, 65 ≤ d ≤ 90, 32, 36, 37, 43, 45, 46, 47</td></tr>
<tr><td>5</td><td>ITF</td><td>1 ≤ k (even number)</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>6</td><td>CODABAR</td><td>1 ≤ k′</td><td>48 ≤ d ≤ 57, 65 ≤ d ≤ 68 , 36, 43, 45, 46, 47, 58</td></tr>
</table>
(Command B)
<table>
<tr><td rowspan="10">②</td><td>65</td><td>UPC-A</td><td>11 ≤ n ≤ 12</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>66</td><td>UPC-E</td><td>11 ≤ n ≤ 12</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>67</td><td>JAN13 (EAN13)</td><td>12 ≤ n ≤ 13</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>68</td><td>JAN 8 (EAN8)</td><td>7 ≤ n ≤ 8</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>69</td><td>CODE39</td><td>1 ≤ n ≤ 255</td><td>48 ≤ d ≤ 57, 65 ≤ d ≤ 90, 32, 36, 37, 43, 45, 46, 47</td></tr>
<tr><td>70</td><td>ITF</td><td>1 ≤ n ≤ 255 (even number)</td><td>48 ≤ d ≤ 57</td></tr>
<tr><td>71</td><td>CODABAR</td><td>1 ≤ n ≤ 255</td><td>48 ≤ d ≤ 57, 65 ≤ d ≤ 68 , 36, 43, 45, 46, 47, 58</td></tr>
<tr><td>72</td><td>CODE93</td><td>1 ≤ n ≤ 255</td><td>0 ≤ d ≤ 127</td></tr>
<tr><td>73</td><td>CODE128</td><td>2 ≤ n ≤ 255</td><td>0 ≤ d ≤ 127</td></tr>
</table>
</td></tr>
<tr><td>Range</td><td>(A) 0 ≤ m ≤ 6
(B) 65 ≤ m ≤ 74</td></tr>
<tr><td>Default</td><td></td></tr>
<tr><td>Support model</td><td>All the printers</td></tr>
<tr><td>Note</td><td>If the bar code width exceeds the printable area, the printer does not print the bar code
This command is executed as required, and does not affect the line spacing Settings of ESC 2 and ESC 3
This command is not subject to ESC! Character style Settings are affected
After this command is executed, the print position is restored to the print start position</td></tr>
</table>

m parameters 0 ~ 6(A) and 65 ~ 71(B) select the same encoding system, and the printing effect is the same

m If the parameter is 0 to 6(A), the bar code data ends with NULL

m If the parameter is 65 to 74(B), the bar code data is

k is used for signaling and does not require transmission

When printing UPCA (m = 0 or 65), note:

Whether the input data length is 11 or 12, the check bit is automatically inserted or corrected

The start, middle, and end characters are automatically inserted

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

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

When the data length is 7, 8, 11, or 12, the first NSC character 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) displays only 6 bits of data, excluding the system character (NSC) and the check code.

The conversion relationship between transmitted data and printed data 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 ranges from 1 to 9, ensure that d7,d8,d9, and d10 are 0, and d11 is 5 to 9

The start and end characters are automatically inserted

When printing EAN13 (m = 2 or 67), note:

Whether the input data length is 12 or 13, the check bit is automatically inserted or corrected

The start, middle, and end characters are automatically inserted

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

The start, middle, and end characters are automatically inserted

When printing CODE39 (m = 4 or 69), note:

When d1 or dn is not the start/end character "*", encoder automatically inserts

"*"

When "*" is encountered in the middle of the data, the encoder regards it as the end symbol, and the rest of the data is regarded as ordinary data processing;

Check bits are not calculated and added automatically

When printing ITF25 (m = 5 or 70), note:

Start and end characters are inserted automatically

Check bits are not calculated and added automatically

When printing CODABAR (NW-7) (m = 6 or 71), note:

The start and end characters are not automatically inserted. You need to manually add them. The value ranges from A to D or a to d.

Check bits are not calculated and added automatically

When printing CODE93 (m = 72), note:

Start and end characters are inserted automatically

Two check codes are automatically calculated and inserte

When bar code Readable character (HRI) printing is set, no HRI character indicating start/end is set

When setting Bar Code Readable Character (HRI) printing, the control character is replaced with a space

When CODE128 (m = 73) is selected:

• Refer to Appendix A, CODE 128 for information and character sets.

• When using CODE 128, follow these instructions:

① The character set (CODE A, CODE B, and CODE C) must be selected before the barcode data.

The selection of character set is done by sending the character "{" combined with another character; ASCII character

"{" is done by sending the character" {" twice in a row.

Special characters send data

ASCII hexadecimal code Decimal code

Specific character	Transmit data		
	ASCII	Hex	Decimal
SHIFT	{S	7B, 53	123,83
CODE A	{A	7B, 41	123,65
CODE B	{B	7B,42	123,66
CODE C	{C	7B,43	123,67
FNC1	{1	7B,31	123,49
FNC2	{2	7B,32	123,50
FNC3	{3	7B,33	123,51
FNC4	{4	7B,34	123,52
"{"	{{	7B,7B	123,123

	[Example] Example data for printing "No. 123456" In this example, the printer first prints "No." using CODE B, then prints the following numbers using CODE C. 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 top of the bar code data is not the code set selection character, the printer stops command processing and processes the following data as normal data. If the combination of "{" and the following character does not apply any special character, the printer stops command processing and processes the following data as normal data. If the printer receives characters that cannot be used in the special code set, the printer stops command processing and processes the following data as normal data. The printer does not print HRI characters that correspond to the shift characters or code set selection characters. HRI character for the function character is space. HRI characters for the control character (<00>H to <1F>H and <7F>H) are space.
Example	1b 40 1d 48 02 1d 68 64 1d 77 01 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

⑥QR CODE COMMAND

Set the model type

Name	Set the model type
Format	ASCII ： GS (k pL pH cn fn n Decimal ： 29 40 107 pL pH cn fn n HEX ： 1D 28 6b pL pH cn fn n
Description	Set the model type
Range	pL=3, pH=0 cn=49 fn=67 0 ≤ n ≤ 16
Default	n=3
Support model	All the printers
Note	Set the QR code size of the smallest unit of graphics module[n dots× n dots].
Example	

Set the QR code error correction level error (ECC)

<table>
<tr><td>Name</td><td>Set the QR code error correction level error (ECC)</td></tr>
<tr><td>Format</td><td>ASCII ： GS (k pL pH cn fn n
Decimal ： 29 40 107 pL pH cn fn n
HEX ： 1D 28 6b pL pH cn fn n</td></tr>
<tr><td>Description</td><td>Set the QR code error correction level error (ECC)</td></tr>
<tr><td>Range</td><td>pL=3, pH=0
cn=49
fn=69
48 ≤ n ≤ 51</td></tr>
<tr><td>Default</td><td>n=48</td></tr>
<tr><td>Support model</td><td>All the printers</td></tr>
<tr><td>Note</td><td>Set the QR code error correction level error
<table>
<tr><td>n</td><td>function</td><td>The general proportion of recovery (%)</td></tr>
<tr><td>48</td><td>Error correction level L</td><td>7</td></tr>
<tr><td>49</td><td>Error correction level m</td><td>15</td></tr>
<tr><td>50</td><td>Error correction level q</td><td>25</td></tr>
<tr><td>51</td><td>Error correction level h</td><td>30</td></tr>
</table></td></tr>
<tr><td>Example</td><td></td></tr>
</table>

Set the QR code graphic data

<table>
<tr><td>Name</td><td>Set the QR code graphic data</td></tr>
<tr><td>Format</td><td>ASCII ： GS (k pL pH cn fn m d1…dk
Decimal ： 29 40 107 pL pH cn fn m d1…dk
HEX ： 1D 28 6b pL pH cn fn m d1…dk</td></tr>
<tr><td>Description</td><td>Set the QR code graphic data.</td></tr>
<tr><td>Range</td><td>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</td></tr>
<tr><td>Default</td><td></td></tr>
<tr><td>Support model</td><td>All the printers</td></tr>
<tr><td>Note</td><td>Set the QR code graphic data(d1...dk)to QR code buffer.
(d1...dk) （(pL + pH×256)-3） Byte as a graphic data is processed.</td></tr>
<tr><td>For example</td><td></td></tr>
</table>

Print store QR codes graphics

Name	Print store QR codes graphics
Format	ASCII ： GS (k pL pH cn fn m Decimal ： 29 40 107 pL pH cn fn m HEX ： 1D 28 6b pL pH cn fn m
Description	Print store QR codes graphics
Range	pL=3, pH=0 cn=49 fn=81 m=48
Default	
Support model	All the printers
Note	Print store QR codes graphics. The user must consider QR code graphic space（QR code graphics about spacing and the spacing of up and down）.
For example	1b 40 1d 28 6b 03 00 31 43 03 1d 28 6b 03 00 31 45 30 1d 28 6b 06 00 31 50 30 41 42 43 1b 61 01 1d 28 6b 03 00 31 52 30 1d 28 6b 03 00 31 51 30

Set the graphic information for the QR code

Name	Set the graphic information for the QR code
Format	ASCII ： GS (k pL pH cn fn m Decimal ： 29 40 107 pL pH cn fn m HEX ： 1D 28 6b pL pH cn fn m
Description	Set the graphic information for the QR code. Here are the details of the graphic information:

Send data	Hex	Decimal	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	30H or	48 or 49	1byte

	<table><tr><td>Information</td><td>31H</td><td></td><td></td></tr><tr><td>NUL</td><td>00H</td><td>0</td><td>1byte</td></tr></table> Widt h and height of data to send: The height and width values for the graph data are in points. Other information data send: Hexadecimal =30H/ Decimal =48 indicates that data is not printed. Hexadecimal =31H/ Decimal =49 indicates that data is not printed.
Range	pL=3, pH=0 cn=49 fn=82 m=48
Default	
Support model	All the printers
Note	This command does not print QR code graphics. The user must consider the space of the QR code graph (the spacing above and below the QR code graph and the spacing left and right are specified in the specification).
Example	

Print QR code

Name	Print QR code
Format	ASCII ：GS k m v r nL nH d1…dk Decimal ：29 107 97 v r nL nH d1…dk HEX ：1D 6B 61 v r nl nH d1…dk
Description	Print QR code v indicates the specifications of the QR code, and v=0 indicates that the specifications of the QR code are automatically selected r indicates the error correction level nL nH Indicates the data length d1… dk indicates the QR code data to be printed
Range	0 ≤ v ≤ 17 1 ≤ r ≤ 4 k = nL + 256 * nH
Default	
Support model	Mobile printers
Note	Print QR code
Example	1b 40 1D 6B 61 08 02 08 00 30 31 32 33 34 35 36 37

Double QR code printing

Name	Double QR code printing

Format	ASCII ： US Q m n p1H p1L l1H l1L ecc1 v1 d1…dn P2H p2L l2H l2L ecc2 v2 dk…dm Decimal ： 27 81 m n p1H p1L l1H l1L ecc1 v1 d1…dn P2H p2L l2H l2L ecc2 v2 dk…dm hex ： 1F 51 m n p1H p1L l1H l1L ecc1 v1 d1…dn P2H p2L l2H l2L ecc2 v2 dk…dm
Description	Print one or two QR codes m Specifies the number of QR codes. n Specifies the module width. p1H p1L Specifies the position of QR1. (p1H*256+p1L) l1H l1L Indicates the data length of QR1. (l1H*256+l1L) ecc1 Specifies the error correction level of QR1. (0:7%, 1:15%,2:25%,3:30%) v1 Specifies the version of QR1. (1 to 40, 0: automatic calculation version. The larger the version, the larger the overall QR code size, but be careful not to exceed the printable width.) d1... dn Indicates the data of QR1. p2H p2L Specifies the location of QR2. (p2H*256+p2L) l2H l2L Specifies the data length of QR2. (l2H*256+l2L) ecc2 Specifies the error correction level for QR2. (0:7%, 1:15%,2:25%,3:30%) v2 Indicates the QR2 version. (1 to 40, 0: automatic calculation version. The larger the version, the larger the overall QR code size, but be careful not to exceed the printable width.) dk... dm Indicates the data of QR2.
Range	0＜m＜3 1≤n≤8 0≤p1H，p1L，l1H，l1L≤255 0≤ecc1≤3 0≤v1≤40 0≤p2H，p2L，l2H，l2L≤255 0≤ecc2≤3 0≤v2≤40
Default	
Support model	some printers
Note	
Example	1F 51 02 03 00 00 00 28 00 00 CED2CAC7D7F3B1DFB5C4C4C7B8F6B6FECEACC2EBCED2CAC7D7F3B1DFB5C4C4C7B8F6B6FECEACC2EB 00 C0 00 28 00 00 CED2CAC7D3D2B1DFB5C4C4C7B8F6B6FECEACC2EBCED2CAC7D3D2B1DFB5C4C4C7B8F6B6FECEACC2EB

PDF417 Sets the number of columns for the data area

Name	PDF417 Sets the number of columns for the data area
Format	ASCII ： GS (k pL pH cn fn n Decimal ： 29 40 107 pL pH cn fn n hex ： 1D 28 6b pL pH cn fn n
Description	Sets the number of columns in the data area of the PDF417. When n=0, the number of columns is calculated automatically. When n≠0, set the number of columns to n.
Range	pL=3, pH=0 cn=48 fn=65 0 ≤ n ≤ 30
Default	n = 0
Support model	Some printers
Note	The following data is not included in the number of columns. Start pattern and stop pattern Left line marker word and right line marker word
Example	

PDF417 Set number of rows

Name	PDF417 Set number of rows
Format	ASCII ： GS (k pL pH cn fn n Decimal ： 29 40 107 pL pH cn fn n hex ： 1D 28 6b pL pH cn fn n
Description	Set the number of rows for PDF417 When n=0, the number of rows is calculated automatically. If n≠0, set the number of rows to n.
Range	pL=3, pH=0 cn=48 fn=66 n=0, 3 ≤ n ≤ 90
Default	n = 0
Support model	Some printers
Note	
Example	

PDF417 Set module width

Name	PDF417 Set module width
Format	ASCII ： GS (k pL pH cn fn n decimal ： 29 40 107 pL pH cn fn n hex ： 1D 28 6b pL pH cn fn n

Description	Set the module width of the PDF417 to n points.
Range	pL=3, pH=0 cn=48 fn=67 2 ≤ n ≤ 8
Default	n = 3
Support model	Some printers
Note	
Example	

PDF417 Set row height

Name	PDF417 Set row height
Format	ASCII ： GS (k pL pH cn fn n decimal ： 29 40 107 pL pH cn fn n hex ： 1D 28 6b pL pH cn fn n
Description	Set the row height of the PDF417 to the [n*(module width)] point.
Range	pL=3, pH=0 cn=48 fn=68 2 ≤ n ≤ 8
Default	n = 3
Support model	Some printers
Note	
Example	

PDF417 Set the error correction level

Name	PDF417 Set the error correction level
Format	ASCII ： GS (k pL pH cn fn m n decimal ： 29 40 107 pL pH cn fn m n hex ： 1D 28 6b pL pH cn fn m n
Description	PDF417 Set the error correction level
Range	pL=3, pH=0 cn=48 fn=69 m=48,49 48 ≤ n ≤ 56[when m = 48] 1 ≤ n ≤ 40 [when m = 49]
Default	m = 49， n = 1
Support model	Some printers
Note	Set the error correction level of the PDF417

When m=48, the error correction level is set by Level Settings, and the error correction level set by Ratio Settings is cancelled. Error correction digits are as follows:

n	function	Error correction code word
48	Set the error correction level to 0	2
49	Set the error correction level to 1	4
50	Set the error correction level to 2	8
51	Set the error correction level to 3	16
52	Set the error correction level to 4	32
53	Set the error correction level to 5	64
54	Set the error correction level to 6	128
55	Set the error correction level to 7	256
56	Set the error correction level to 8	512

When m=49, the error correction level is set by "Scale Settings", and the error correction level with "level Settings" will be cancelled. The ratio is set to [N× 10%].

The error correction levels in the table below are determined by calculation [Data code word ×N×0.1= (A)] (Parts of 0.5 and above are rounded and will be truncated.)

Result (A)	error correction level	Error correction code word
0 to 3	Set the error correction level to 1	4
4 to 10	Set the error correction level to 2	8
11 to 20	Set the error correction level to 3	16
21 to 45	Set the error correction level to 4	32
46 to 100	Set the error correction level to 5	64
101 to 200	Set the error correction level to 6	128
201 to 400	Set the error correction level to 7	256
401	Set the error correction level to 8	512

Example	

PDF417 optional project

Name	PDF417 optional project
Format	ASCII ： GS (k pL pH cn fn m decimal ： 29 40 107 pL pH cn fn m hex ： 1D 28 6b pL pH cn fn m
Description	PDF417 optional project
Range	pL=3, pH=0

	cn=48 fn=70 m=0,1
Default	m=0
Support model	Some printers
Note	PDF417 optional project m: function 0: Select standard PDF417 1: Select Truncate PDF417
Example	

PDF417 Stores data to the symbol storage area

Name	PDF417 Stores data to the symbol storage area
Format	ASCII : GS (k pL pH cn fn m d1...dk decimal : 29 40 107 pL pH cn fn m d1...dk hex : 1D 28 6b pL pH cn fn m d1...dk
Description	PDF417 Store data (d1... dk) to the symbol storage area
Range	4 ≤ (pL + pH × 256) ≤ 65535 (0 ≤ pL ≤ 255, 0 ≤ pH ≤ 255) cn = 48 fn = 80 m = 48 0 ≤ d ≤ 255 k = (pL + pH × 256) – 3
Default	
Support model	Some printers
Note	
Example	

PDF417 Print symbol storage area data

Name	PDF417 Print symbol storage area data
Format	ASCII : GS (k pL pH cn fn m decimal : 29 40 107 pL pH cn fn m hex : 1D 28 6b pL pH cn fn m
Description	Code and print the PDF417 code
Range	(pL + pH × 256) = 3 (pL = 3, pH = 0) cn = 48 fn = 81 m = 48
Default	
Support model	Some printers

Note	
Example	1D 28 6B 08 00 30 50 30 31 32 33 34 35 1D 28 6B 03 00 30 51 30

⑦STATUS COMMAND

Transmit status

Name	Transmit status
Format	ASCII ： GS r n decimal ： 29 114 n hex ： 1D 72 n
Description	Transmits the status specified by n as follows: n — **Function** 1.49 — Transmits paper sensor status
Range	n = 1, 49
Default	
Support model	All the printers
Note	When using a serial interface When DTR/DSR control is selected, the printer transmits only 1 byte after confirming the host is ready to receive data (DSR signal is SPACE). If the host computer is not ready to receive data (DSR signal is MARK), the printer waits until the host is ready. When XON/XOFF control is selected, the printer transmits only 1 byte without confirming the condition of the DSR signal. This command is executed when the data in the receive buffer is developed. Therefore, there may be a time lag between receiving this command and transmitting the status, depending on the receive buffer status. When Auto Status Back (ASB) is enabled using GS a, the status transmitted by GS r and the ASB status must be differentiated using. The status types to be transmitted are shown below:

Bit	Off/On	Hex	Decimal	Status for ASB
0,1	-	-	-	Undefined.
2,3	Off	00	0	Paper roll end sensor: paper adequate.
	On	(0C)	(12)	Paper roll end sensor: paper near end.
4	Off	00	0	Not used. Fixed to Off.
5,6	-	-	-	Undefined.
7	Off	00	0	Not used. Fixed to Off.

	Paper sensor status (n = 1, 49): Bits 2 and 3: When the paper end sensor detects a paper end, the printer goes offline and does not execute this command. Therefore, bits 2 and 3 do not transmit the status of paper end.
Example	

Real-time transmission status

Name	Real-time transmission status
Format	ASCII ： DLE EOT n decimal ： 16 4 n hex ： 10 04 n
Description	The printer state is transmitted in real time according to the following parameters, the parameter n is used to specify the printer state to be transmitted: n = 1： printer status n = 2： send offline status n = 3： Transmission error status n = 4： Transmission paper sensor status
Range	1 ≤ n ≤ 4
Default	
Support model	All printers

Note

• The printer returns the status immediately after receiving the command
• Try not to insert the command in a command sequence of 2 or more bytes.
• This command works even if the printer is disabled by the ESC =(Select peripherals) command.
• The printer transmits the current state, each state represented by 1 byte of data.
• The printer transmits status without acknowledging whether the host received it.
• The printer executes the command immediately after receiving it.
• This command is valid only for serial port printers. The printer executes this command as soon as it is received in any state.

n=1：printer status

bit	0/1	HEX	Decimal	Function
0	0	00	0	0
1	1	02	2	1
2	0	00	0	Open one or two cash drawer （No cash drawer is fixed to 0）
	1	04	4	Close cash drawer
3	0	00	0	On-line
	1	08	8	Off-line
4	1	10	16	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 status

位	0/1	HEX	Decimal	function
0	0	00	0	0
1	1	02	2	1
2	0	00	0	Close paper warehouse
	1	04	4	Open paper warehouse
3	0	00	0	Not push Feed button
	1	08	8	Push feed button
4	1	10	16	1
5	0	00	0	Paper normal
	1	20	32	Paper out
6	0	00	00	Normal status
	1	40	64	Error status
7	0	00	0	0

n=3：Transmission error status

bit	0/1	HEX	Decimal	function
0	0	00	0	0
1	1	02	2	1
2		--	--	Undefined
3	0	00	0	cutter normal
	1	08	8	Cutter error
4	1	10	16	1
5	0	00	0	Unrecoverable Error
	1	20	32	Unrecoverable Error
6	0	00	00	Print head temperature and voltage are normal
	1	40	64	Print head temperature and voltage are over range.
7	0	00	0	0

n=4：Transmission paper sensor status

bit	0/1	HEX	Decimal	Function
0	0	00	0	0
1	1	02	2	1
2，3	0	00	0	normal status
	1	0C	12	paper will out
4	1	10	16	1
5，6	0	00	0	normal status
	1	60	96	Paper out
7	0	00	0	0

Example

10 04 01
10 04 02
10 04 03
10 04 04

Real-time printer request

Name	Real-time printer request
Format	ASCII ： DLE ENQ n decimal ： 16 5 n hex ： 10 05 n
Description	The printer responds to the host's request. n Specify the following requests:

n	request
1	Recover from the error and restart printing from the line where

<table>
<tr><td></td><td><table>
<tr><td></td><td>the error occurred.</td></tr>
<tr><td>2</td><td>Recover from errors after clearing the receive and print buffers.</td></tr>
<tr><td></td><td></td></tr>
</table></td></tr>
<tr><td>Range</td><td>n = 1, 2</td></tr>
<tr><td>Default</td><td></td></tr>
<tr><td>Support model</td><td>All printers</td></tr>
<tr><td>Note</td><td>This command is valid only when the automatic paper cutter is wrong and the cover plate opening error occurs.
The printer starts processing the data as soon as it receives this command.
This command is executed even if the printer is offline, the print buffer is full, or there is a serial interface mode error.
In parallel interface mode, this command cannot be executed when the printer is busy.
Status is sent whenever a <10>H<05>H<n> (1≤n≤2) data series is received.
For example:
ESC * m nL nH dk , d1 = <10>H, d2 = <05>H, d3 = <01>H
Do not use this command in data that contains 2 or more bytes.
For example:
If you want to send ESC 3n to the printer, but before n is sent, DTR(for
The host is DSR) will change to MARK, and DLE ENQ will occur before n is received
2 Interrupt. DLE ENQ 2 code <10>H is treated as ESC 3 code
<10>H processing.
DLE ENQ 2 allows the printer to recover from an error state after clearing data in the receive and print buffers. The printer retains Settings that are valid when an error occurs (such as ESC! , ESC3, etc.) You can use this command and esc@to fully initialize the printer. This command is only valid for errors that have the potential to be recovered, except for print head temperature errors.</td></tr>
<tr><td>Example</td><td>10 05 01</td></tr>
</table>

Enable/Disable Automatic Status Back (ASB)

<table>
<tr><td>Name</td><td>Enable/Disable Automatic Status Back (ASB)</td></tr>
<tr><td>Format</td><td>ASCII ： GS a n
Decimal ： 29 97 n
HEX ： 1d 61 n</td></tr>
<tr><td>Description</td><td>Allow or disable ASBs and specify the included status items with n, as follows:
<table>
<tr><td>bit</td><td>off/on</td><td>HEX</td><td>Decimal</td><td>ASB status</td></tr>
<tr><td>0</td><td>-</td><td>-</td><td>-</td><td>Undefined</td></tr>
<tr><td>1</td><td>-</td><td>-</td><td>-</td><td>Undefined</td></tr>
<tr><td rowspan="2">2</td><td>off</td><td>00</td><td>0</td><td>error status prohibition</td></tr>
<tr><td>on</td><td>04</td><td>4</td><td>Error status allows</td></tr>
<tr><td>3</td><td>off</td><td>00</td><td>0</td><td>Paper sensor status prohibition</td></tr>
</table></td></tr>
</table>

	on	08	8	Paper sensor status allows
4-7	-	-	-	Undefined

First byte (printer information) :

bit	off/on	HEX	Decimal	ASB status
0,1	off	00	0	Undefined,The value is fixed to 0.
2	on	04	0	Undefined,The value is fixed to 1.
3	off	00	0	Undefined,The value is fixed to 0.
4	on	10	16	Undefined,The value is fixed to 1.
5	off	00	0	Undefined,The value is fixed to 0.
6	off	00	0	The paper was not fed by pressing the feed key
	on	40	64	Paper is being moved by pressing the feed key.
7		00	0	Undefined,The value is fixed to 0.

Second byte (printer information) :

bit	On/off	HEX	HEX	ASB status
0-4	off	00	0	Undefined,The value is fixed to 0.
5	off	00	0	No unrecoverable errors occurred.
	on	20	32	An unrecoverable error occurred.
6	off	00	0	No recoverable error occurred.
	on	40	64	A recoverable error occurred.
7	off	00	0	Undefined,The value is fixed to 0.

Thirdly byte (printer information) :

bit	On/off	HEX	HEX	ASB status
0,1	off	00	0	Undefined,The value is fixed to 0.
2,3	off	00	0	With paper
	on	0c	12	Paper out
4-7	off	00	0	Undefined,The value is fixed to 0.

Forth byte (printer information) :

bit	On/off	HEX	HEX	ASB status
0-3	-	-	-	Undefined
4-7	off	00	0	Undefined,The value is fixed to 0.

Range	0≤n≤255
Default	
Support model	All printers
Note	If any of the status items in the above table are allowed, then the printer enters the status when the command is executed. Once the "Allow" status item changes, the printer automatically transfers the state. Because each state transfer represents the current state, prohibited state items can be changed.

	If all status items are disabled, then the ASB feature is also disabled. If ASB is allowed as the default, the printer transfers status the first time printer data can be received and transferred from the printer on. transmits the following four status bytes without determining whether the host is ready to receive data. The four status bytes must be contiguous, except for the XOFF code. Because the command data is executed after being processed in the receive buffer, there may be a lag time between the data received and the status transfer. When using DLE EOT, you must distinguish between the state transmitted by these commands and the ASB state.
Example	1D 61 08

⑧Other command

Initialize printer

Name	Initialize printer
Format	ASCII ： ESC @ Decimal ： 27 64 HEX ： 1B 40
Description	Initialize the following for the printer: Clear print cache The default values of each parameter are restored
Range	
Default	
Support model	All printers
Note	
Example	

print self-test page

Name	print self-test page
Format	ASCII ： DC2 T Decimal ： 18 94 HEX ： 12 54
Description	The printer prints a self-test page that contains the printer's program version, communication interface type, code page, and other data
Range	
Default	
Support model	All printers
Note	
Example	1B 40 12 54

Set the print concentration

Name	Set the print concentration
Format	ASCII ： ESC 7 n1 n2 n3 Decimal ： 27 55 n1 n2 n3 HEX ： 1B 37 n1 n2 n3
Description	Set “max heating dots”,”heating time”, “heating interval” ; • n1 = 0-255 Max printing dots，Unit(8dots)，Default:9(80 dots); • n2 = 3-255 Heating time，Unit(10us),Default:80(800us); • n3 = 0-255 Heating interval,Unit(10us)，Default:2(20us); The more max heating dots, the more peak current will cost when printing, the faster printing speed. The max heating dots is 8*(n1+1); The more heating time, the more density , but the slower printing speed. If heating time is too short, blank page may occur. The more heating interval, the more clear, but the slower printing speed.
Range	
Default	
Support model	All the printers
Note	‘heating time’、’heating interval’ PCB will automatically adjust according to the input voltage
Example	Heating dots：80dots，heating time：800us，heating interval：20us。 1B 40 1B 37 09 50 02 12 54 Heating dots：80dot，heating time：1600us，heating interval：20us。 1B 40 1B 37 09 A0 02 12 54 It is observed that the more heating time,the more printing dark.

Select the cutting mode and cut the paper

Name	Select the cutting mode and cut the paper
Format	① ASCII ： GS V m decimal ： 29 86 m hex ： 1D 56 m ② ASCII ： GS V m n decimal ： 29 86 m n hex ： 1D 56 m n

Description	Select a paper cutting mode and cut the paper. Select the cutting mode according to the value of m, as shown below M: Cutting pattern 0, 48: Full cut 1, 49: Half cut 66: Feed the paper and cut
Range	① m = 0，48，1，49 ② m = 66， 0 ≤ n ≤ 255
Default	
Support model	All printers
Note	This command is only valid at the beginning of the line. • m = 0,48,1, 49, the printer cuts the paper directly. • When m = 66, the printer feeds the paper [distance between the print position and the cutter + n x (vertical moving units)] and then cuts the paper. • Horizontal move units and vertical move units are set by the GPS command. • Paper feed is calculated in longitudinal moving units.
Example	1B 40 30 30 30 0D 0A 1D 56 00 30 30 30 0D 0A 1D 56 01 30 30 30 0D 0A 1D 56 42 00

Full cut（OnlyForCut）

Name	Full cut
Format	ASCII ：ESC i Decimal ：27 105 Hex：1B 69
Description	Select the cutter mode and full cut
Range	
Default	
Support model	All printers
Note	
Example	1B 40 30 30 30 0D 0A 1B 69

Half cult（OnlyForCut）

Name	Half cut

Format	ASCII ： ESC m Hex ： 1B 6D
Description	Select the cutter mode and half cut
Range	
Default	
Support model	All the printers
Note	
Example	1B 40 30 30 30 0D 0A 1B 6D

Generate a cash drawer pulse（OnlyForDrawer）

Name	Generate a cash drawer pulse
Format	ASCII ： ESC p m t1 t2 Decimal ： 27 112 m t1 t2 Hex ： 1B 70 m t1 t2
Description	Output pulses (pulses specified by t1 and t2) to pins specified by m
Range	m=0,1,48,49 0 ≤ t1 ≤ 255 0 ≤ t2 ≤ 255
Default	
Support model	All printers
Note	1、The cash drawer pins are specified by m m: 0,48 — cash drawer open/close signal (connect pin 2) m: 1,49 — cash drawer open/close signal (connect pin 5) 2、When the cash drawer is open, it is [t1×2ms] and when it is closed, it is [t2×2ms]. 3、If t2 < t1, it is [t1×2ms] when closed.
Example	1B 40 1B 70 00 60 60 1B 70 01 60 60

⑨page mode

Print and return to standard mode (in page mode)

Name	Print and return to standard mode (in page mode)
Format	ASCII ： FF Decimal ： 12

	Hex ：0C
Description	Print out all the data in the print buffer in page mode and return it to standard mode.
Range	
Default	
Support model	80XXX
Note	• After printing, clear the data in the buffer. • Resets the print area set by ESC W to the default Settings. • The printer does not perform the paper cutting action. • This command sets the print position to the starting point of the line. • This command is valid only in page mode.
Example	

Cancel printing data in page mode

Name	Cancel printing data in page mode
Format	ASCII ：CAN Decimal ：24 Hex ：18
Description	In page mode, deletes all print data in the current print area.
Range	
Default	
Support model	80XXX
Note	• This command is valid only in page mode. • If there is overlap between the previously set region and the current region, the overlap is also deleted.
Example	

Print in page mode

Name	Print in page mode
Format	ASCII ：ESC FF Decimal ：27 12 Hex ：1B 0C
Description	In page mode, prints all of the contents of the buffer.
Range	
Default	
Support model	80XXX
Note	• This command is valid only in page mode. • The contents of the print buffer, ESC T and ESC W Settings and character positions are not cleared after printing.
Example	

Select page mode

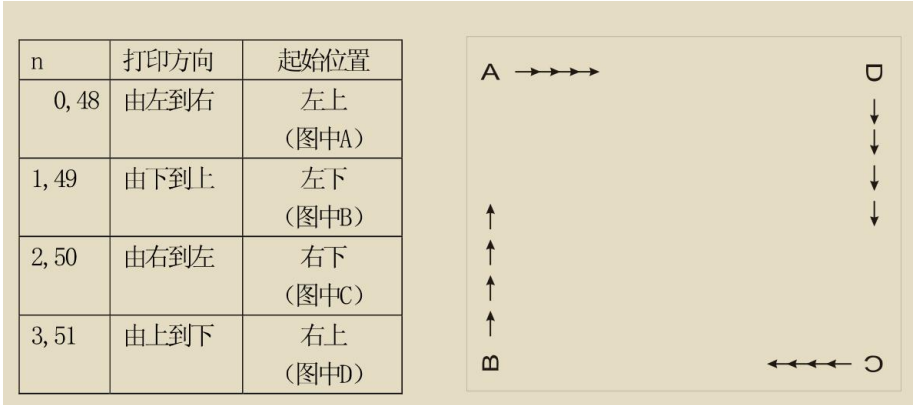
Name	Select page mode
Format	ASCII ： ESC L Decimal ： 27 76 Hex ： 1B 4C
Description	Switch from standard mode to page mode.
Range	
Default	
Support model	80XXX
Note	• This command is valid only at the beginning of a line in standard mode. • In page mode, this command takes effect. • When FF or ESCS are executed, the printer returns to standard mode. • This command sets the print location to the location determined by the ESC T command and the ESC W command. • This command converts the Settings of the following commands (where values can be set separately in standard mode and page mode) to values in page mode: 1. Set the right spacing of characters: ESC SP, FS S 2. Set the line spacing: ESC 2, ESC 3 • The following commands only change flag bits in page mode and take effect when converted to standard mode. 1, clockwise rotation 90° : ESC V 2. Select the alignment mode: ESC a 3, select the inverted mode: ESC { 4, set the left margin: GS L 5, set the width of the printing area: GS W • In page mode, ignore the following commands: 1, perform test printing: GS (A • The following commands are not available in page mode: 1, print NV bitmap: FS p 2. Define NV bitmap: FS q 3, write to user NV memory: FS g 1 4, print raster bitmap: GS v 0 • When the power is turned off, the printer is reset, or the ESC@ command is executed, the printer returns to standard mode.
Example	

Selection standard mode

Name	Selection standard mode
Format	ASCII ： ESC S

	Decimal ： 27 83 Hex ： 1B 53
Description	Set standard mode
Range	
Default	
Support model	80XXX
Note	• This command is valid in page mode. • This command clears page buffer print data. • This command puts the current position at the beginning of the line. • The page mode area is initialized to its default value. • This command converts the Settings of the following commands to values in standard mode: 1. Set the right distance: ESC SP, FS S 2. Select line spacing: ESC 2, ESC 3 • The following commands can set relevant parameters in standard mode, but their Settings only take effect after entering page mode: 1. Set the printing area in page mode: ESC W 2. Set the region direction in page mode: ESC T • The following commands are ignored in standard mode: 1. Set the vertical absolute printing position in page mode: GS $ 2, set the relative print position in page mode: GS \ • After the printer hardware is reset or the ESC@ command is executed, the printer returns to standard mode.
Example	

Select the print area orientation in Page mode

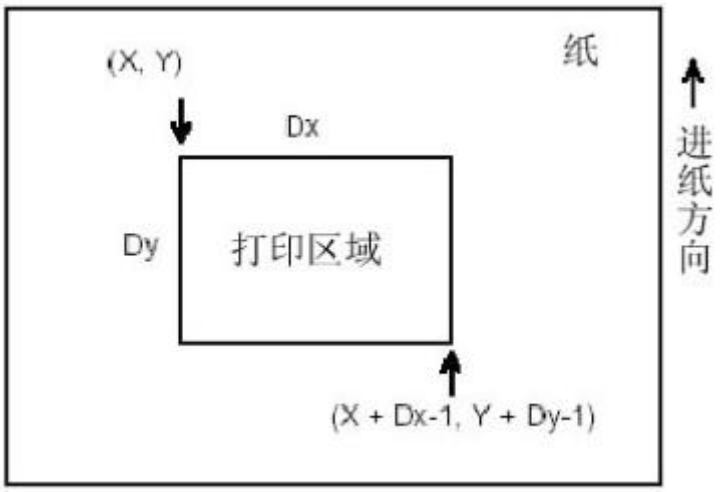
Name	Select the print area orientation in Page mode
Format	ASCII ： ESC T n Decimal ： 27 84 n Hex ： 1B 54 n
Description	In Page mode, select the orientation and starting position of the print area. n Specify the direction and starting position of the print area: 
Range	0 ≤ n ≤ 3,48 ≤ n ≤ 51

n	打印方向	起始位置
0, 48	由左到右	左上 （图中A）
1, 49	由下到上	左下 （图中B）
2, 50	由右到左	右下 （图中C）
3, 51	由上到下	右上 （图中D）

Default	n=0
Support model	80XXX
Note	• If the current mode is standard mode, only internal flag bits are set, which does not affect printing. • This command sets the starting position of the print content in the print area. • The use of moving units horizontally or vertically varies depending on the starting position of the regional print: 1, if the printing starting position is the upper left or lower right corner of the printing area, then the printing content arrangement direction is perpendicular to the printing paper feeding direction. The following commands use horizontal move units: ESC SP, ESC $, ESC \ The following commands move units vertically: ESC 3, ESC J, GS $, GS \ 2, if the starting position of the printer is the lower left or upper right corner of the printing area, the printing content is arranged in the same direction as the printer feed direction. The following commands use horizontal movement units: ESC 3, ESC J, GS $, GS \ The following commands move units vertically: ESC SP, ESC $, ESC \
Example	

Set the print area in page mode

Name	Set the print area in page mode
Format	ASCII ： ESC W xL xH yL yH dxL dxH dyL dyH Decimal ： 27 87 xL xH yL yH dxL dxH dyL dyH Hex ： 1B 57 xL xH yL yH dxL dxH dyL dyH
Description	• Set the horizontal start position, vertical start position, width and height of the area as follows: Horizontal starting position: x0 = [(xL + xH × 256) × horizontal movement unit] Vertical starting position: y0 = [(yL + yH × 256) × vertical movement unit] Print area width: dx = [dxL + dxH × 256] × horizontal move unit] Print area height: dy = [dyL + dyH × 256] × vertical movement unit
Range	0 ≤ (xL + xH × 256) ≤ 65535 (0 ≤ xL ≤ 255, 0 ≤ xH ≤ 255) 0 ≤ (yL + yH × 256) ≤ 65535 (0 ≤ yL ≤ 255, 0 ≤ yH ≤ 255) 1 ≤ (dxL + dxH × 256) ≤ 65535 (0 ≤ dxL ≤ 255, 0 ≤ dxH ≤ 255) 1 ≤ (dyL + dyH × 256) ≤ 65535 (0 ≤ dyL ≤ 255, 0 ≤ dyH ≤ 255)
Default	xL = xH = yL = yH = 0 dxL = 72, dxH = 2, dyL = 176, dyH = 4
Support model	80XXX
Note	• This command only sets internal flag bits in standard mode and does not affect printing. • If the horizontal start position or vertical start position exceeds the print area, the printer stops processing the command and the subsequent data is

	processed as normal data. • If the width or height of the print area is set to 0, the printer stops processing the command and the subsequent data is processed as normal data. • This command, in conjunction with the ESC T command, determines the current print location. • If the value of horizontal start position + print area width exceeds the printable area, the width of the print area is automatically adjusted to horizontal printable width - horizontal start position. • If the value of portrait start position + print area height exceeds the printable area, the height of the print area is automatically adjusted to portrait printable height - Portrait start position. • Horizontal and vertical move units are specified by GPS, changing horizontal and vertical move units does not change the current print area. • Use horizontal move units to set the horizontal start position and area width, and vertical move units to set the vertical start position and area height. • Assuming that the horizontal start position, vertical start position, print area width and print area height are X,Y,Dx,Dy, the print area is set as shown below: 
Example	

Set vertical absolute position in page mode

Name	Set vertical absolute position in page mode
Format	ASCII ： GS $ nL nH Decimal ： 29 36 nL nH Hex ： 1D 24 nL nH
Description	• Set absolute portrait position in page mode. • This command sets the absolute position at [(nL + nH × 256) × (vertical or horizontal movement units)] inches.
Range	0 ≤ nL ≤ 255, 0 ≤ nH ≤ 255
Default	-
Support model	80XXX
Note	• This command is only valid in page mode.

	• If [(nL + nH × 256) × (move units in portrait or landscape)] exceeds the set print area, this command is ignored. • After the command is executed, the horizontal position does not change. • The reference location is set by the ESC T command. • Depending on the print area direction and starting position set by the ESC T command, this command causes the printer to perform the following operations: ① If the printing starting position is the upper left or lower right corner, this command sets the absolute position in the direction parallel to the paper direction. ② If the printing start position is in the upper right or lower left corner, this command sets the absolute position in the direction perpendicular to the paper direction. • Horizontal and vertical movement units are set by the GPS command.
Example	

Set vertical relative position in page mode

Name	Set vertical relative position in page mode
Format	ASCII ： GS \ nL nH Decimal ： 29 92 nL nH Hex ： 1D 5C nL nH
Description	In page mode, set the vertical move distance with the current point as the reference point. • This command sets the vertical move relative to the current point to [(nL + nH × 256) x vertical or horizontal move units] inches.
Range	0 ≤ nL ≤ 255, 0 ≤ nH ≤ 255
Default	-
Support model	80XXX
Note	• This command is only valid in page mode and is ignored in other modes. • When the print position is moved down: nL + nH × 256 = N When the print position is moved up, calculate with the complement: nL + nH × 256 = 65536-N • Any Settings outside the print area are ignored. • This command determines the use of mobile units based on the print area orientation set by ESC T: ① When the printing starting position is set to the upper left corner (printing direction from left to right) or the lower right corner (printing direction from right to left), use the vertical moving unit. ② When the printing starting position is set to the upper right corner (printing direction from top to bottom) or the lower left corner (printing direction from bottom to top), use the horizontal moving unit. • Horizontal and vertical move units are set by the GS P command.

	• The GPS command can change horizontal and vertical movement units.
Example	

Set horizontal and vertical move units

Name	Set horizontal and vertical move units
Format	ASCII ： GS P x y Decimal ： 29 80 x y Hex ： 1D 50 x y
Description	• The horizontal movement unit is approximately set to 25.4/ x mm (1/ x inch) and the vertical movement unit is set to 25.4/ y mm (1/ y inch) respectively. • When x and y are 0, x and y are set to default values.
Range	0 ≤ x ≤ 255, 0 ≤ y ≤ 255
Default	x = 200, y = 200, where a moving unit is a print point. The transverse distance is about 1/8mm and the longitudinal distance is about 1/7mm.
Support model	80XXX
Note	• Perpendicular to the feed direction is transverse, and the feed direction is longitudinal. • In standard mode, the following commands use x or y, even if the character is rotated (inverted or rotated 90° clockwise; ① Use the x command: ESC SP, ESC $, ESC \, FS S, GS L, GS W ② Use y command: ESC 3, ESC J, GS V • In page mode, use x or y depending on the region direction and print start position: ① When the printing starting position is set to the upper left corner (printing direction from left to right) or the lower right corner (printing direction from right to left) with the ESC T command With the x command: ESC SP, ESC $, ESC W, ESC \, FS S With the command y: ESC 3, ESC J, ESC W, GS $, GS \, GS V ② When the printing starting position is set to the upper right corner (printing direction from top to bottom) or the lower left corner (printing direction from bottom to top) with the ESC T command: Use the x command: ESC 3, ESC J, ESC W, GS $, GS \ With the command y: ESC SP, ESC $, ESC W, ESC \,FS S, GS V • This command does not affect other Settings previously configured. • The minimum move unit is the result of the combined action of this command and other commands. • One inch is equal to 25.4mm.
Example	