ESC/POS control command

HT horizontal tab

[name] Horizontal tab [format]		
ASCII		HT
	Hex	09
	Decimal	9
[Description] Move the current position to the next tab position.		
[Notes] * If the next tab position is not set, this command is ignored. * If the next horizontal tab position is beyond the print area, set the current position to [print width + 1]. * The horizontal tab position is set by command ESC D. * If the current position is at [print width + 1] when this command is received, the printer executes the current line buffer Full action and move the print position to the start of the next line. * When the current line buffer is full, the printer prints the content of the current line and places the print position at the beginning of the next line start position.		
[Reference] **ESC D**		

LF line feed

[name] Print and line feed		
[Format] **ASCII Hex**		LF
	Decimal	0A
	[Description]	10
Newline.		
[Comment] * This command places the current position at the beginning of		
the next line. [Reference] **ESC** 2, **ESC 3**		

ESC SP n Set right-side character spacing

[name] Set right-side character spacing [format] **ASCII**		
		ESC SP n
	Hex	1B 20 32 n
	Decimal 27	n
[Range] 0ÿnÿ96		
[Description] Set the right spacing of characters to n points (8 points is 1mm). n is an integer multiple of 8, non-integral multiples will be automatica minus the remainder		
[Comment] * When the characters are enlarged, the spacing remains the same. max 96		
[default] n=0		
[reference]		

ESC ! n select print mode

[Name] Select print mode(s) [Format] **ASCII** ESC !					
			n		
	Hex 1B 21 **Decimal** 27 33 [Range]		n		
	0ÿnÿ255 [Description] Set character print		n		
mode bits according to the value of n **1/0 HEX Decimal**					
				achievement can	
	0,1,2 ÿ				undefined
	3	0	00	0 cancel bold mode (not supported)	
		1	08	8 Select bold mode (not supported)	
	4	0	00	0 Cancel double height mode (not supported)	
		1	10	16 Select double height mode (not supported)	
	5	0	00	0 Cancel double-width mode (not supported)	
		1	20	32 Select double-width mode (not supported)	
	6 ÿ				undefined
	7	0	00	0 cancels underline mode	
		128 Select	80	underline mode	
1 [Comment] * When double-width and double-height modes are selected at the same time, characters are enlarged twice both horizontally and vertically.					
	* Any character can be underlined except for spaces set by HT and characters for rotated printing. * The degree of underscore is determined by ESC -, independent of characters. * When some characters in a line are double-height or higher, all characters are aligned at the bottom.				
	* ESC E can also select or cancel the bold mode, and the last executed command is valid.				
	* ESC - can also select or cancel the underline mode, the last executed command is valid.				
	* GS ! can also set the character size, the last executed command is valid. [default] n=0				
[reference] **ESC**					
	-, **ESC** E, **GS !**				

ESC $ nL nH Set the absolute print position [name Set absolute print position

Mode]	**ASCII**	ESC $ [cell	nl	nH
	Hex	1B 24 27 36	nl nl	nH
	Decimal			nH
[Range 0ÿnLÿ255; 0ÿnHÿ2 [Set the current				
position to the distance from the beginning of the line (nL+nH×256) points (8 points are 1mm). is an integer multiple of 8.				
[Note * If the setting position is outside the specified print area, this command is ignored. [See **ESC **				

ESC * m nL nH d1...dk Select bit-image mode [name] Select bit-image

mode [format] **ASCII** ESC * nL d1...dk

	m	nNH
Hex 1B 2A m nL d1...dk **Decimal** 27 42 m nL d1...dk		nH

[Range] m = 0, 1, 32, 33; 0 ÿ nL ÿ 255; 0 ÿ nH ÿ 3; 0 ÿ d ÿ 255 [Description] Select a bitmap mode specified by m, the number of bitmap points by nL and nH Determined: Horizontal

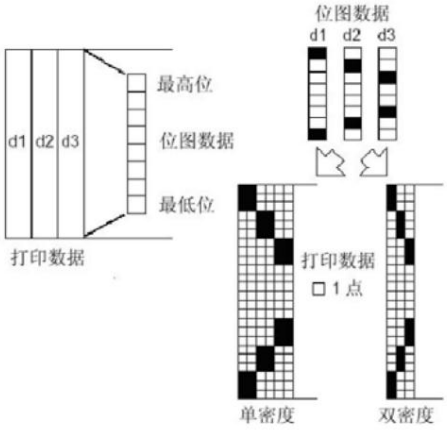
m	model	portrait		Towards	
		Points Resolution	Resolution	Data Number (k)	
0	8 point single density 8	8	67DPI	100DPI	nL+nH×256
1	point dual density 8 24	point	67DPI	200DPI	nL+nH×256
32	single density 24 24	point dual	200DPI	100DPI	(nL+nH×256)×3
33	density 24		200DPI	200DPI	(nL+nH×256)×3

[Notes] * If the value of m is out of the specified range, nL and subsequent data are handled as normal data. * The number of horizontal printing dots is determined by nL and nH, and the total number of dots is nL+nH×256. * The part of the bitmap beyond the current area is cut off. d is the data of the bitmap. If each bit of the data is 1, the dot is printed, and * if it is 0, it is not printed.

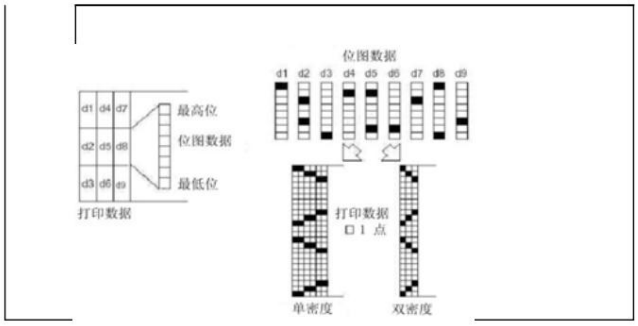
* After the bitmap data is sent, the printer returns to the normal data processing mode. * This command is not affected by other print modes (bold, double print, underline, character enlargement and reverse display). *

The relationship between the data and the points to be printed is as follows

Bottom: When 8-point density is selected:



When 24 point density is selected:



ESC - n select/cancel underline mode

[Name] Select/cancel user-defined character set [Format] **ASCII**

	ESC - n
Hex	1B 2D n
Decimal 27 45 [Range] 0ÿnÿ2 ,	n

48ÿnÿ50 [Description] Select or cancel the underline

mode according to the value of n:

n	achievement can
0,48	Cancel underline mode
1,49	Select underline mode (1 point width)
2,50	Select underline mode (2 dots wide)

[Comment] * Underscore can be added under all characters (including right spacing), but not HT and relative positions Set the space. *

Underscore cannot be used in character rotation mode and reversed characters. *

When the underline mode is canceled, the following characters are not underlined, and the width of the underline does not change. default The width is a little

wider. * Changing the character size does not affect the current

underline width. [default] n=0 [reference] **ESC !**

ESC 2 Set default line height [Name]

Select default line spacing [Format] **ASCII Hex**

Decimal [Description] Select 33-point line height.	ESC 2
[note]	1B 32
	27 50

[Reference] **ESC 3**

ESC 3 n Set line height

[name] Set line spacing [format] **ASCII**

	ESC 3 n
Hex	1B 33 27 51 n
Decimal	n

[Range] 0ÿnÿ255

[Description] Set the line height to n point

lines. [Notes] * The maximum paper travel distance is 1016mm (40 inches), if it exceeds this distance, take the maximum

distance. [Default] The default line height is 33 points.

[Reference] **ESC 2**

ESC @ initialize printer

[name] Initialize printer [format]		
ASCII		ESC @
	Hex	1B 40 27 64
	Decimal	
[Description] Clear the print buffer data, and the print mode is set to the default mode at power-on.		
[Comment] * Instruction buffer contents are reserved.		

ESC D n1...nk NUL Set horizontal tab positions [name]

Set horizontal tab positions [format] **ASCII Hex**				
Decimal		ESC D	n1...nk NULL n1...nk 00	
		1B 44 68		
		27	n1...	0
[Range] 1 ÿ n ÿ 255; 0 ÿ k ÿ 32 [Description]				
Set the horizontal tab position. * Set a tab position from the nth column from the beginning of the line. * There are k tab positions in total. [Notes] * The horizontal tab position is calculated by the following formula: ASCII character width×n, the character width includes right spacing and font size related * This command cancels the previous tab position setting. * When n=8, the current position is the ninth column. * Set up to 32 (k=32) tab positions, the tab position data exceeding 32 are regarded as normal data processing. * Tab positions are in ascending order, terminated by NUL. * When [n]k is less than or equal to the previous [n]k-1 value, the tab setting ends, and the following data are treated as normal data. * ESC D NUL Cancels all tab position settings. * Changing the character size, the previously specified tab position changes. [Default]				
The default tab setting is 0 tab positions. [Reference] **HT**				

ESC E n Select/cancel bold mode (not supported yet)

[Name] Turn emphasized mode on/off [Format] **ASCII**			
		ESC E	n
	Hex	1B 45 27 69	n
	Decimal		n
[Range] 0ÿnÿ255			
[Description] Select or cancel the bold mode: When the lowest bit of n is 0, cancel the bold model. When the least significant bit of n is 1, select			
[Note] * n Only the least significant bit is valid. * ESC ! You can also select/cancel the bold mode, and the last received command is valid. [default] n = 0 [reference] **ESC !**			

ESC G n Select/cancel the double-strike mode (not currently supported)

[Name] Turn on/off double-strike mode [Format] **ASCII Hex Decimal**			
[Range] 0ÿnÿ255 [Description] Select or cancel the double-strike mode:		ESC G	n
		1B 47 27 71	n
			n
	When the least significant bit of n is 0, double printing is canceled model. When the least significant bit of n is 1, select double		
[Note] * n Only the least significant bit is valid. * This command has the same effect as bold			
printing. [default] n = 0 [reference] **ESC E**			

ESC J n Print and feed paper

[Name] Print and feed paper [Format]			
ASCII Hex Decimal [Range] 0ÿnÿ255		ESC J	n
	[Description] Print buffer data	1B 4A n	
	and feed n dot lines	27 74	n
[Comment] * After printing, place the			
current print position at the beginning of the line.			
	* The paper feed distance is not affected by the ESC 2 or ESC 3 command setting.		
[reference]			

ESC \ nL nH Set relative horizontal print position [Name] Set

relative print position [Format] **ASCII**			
		ESC \ nL	nH
	Hex	1B 5C nL	nH
	Decimal 27 92 nL		nH
[Range] 0 ÿ nL ÿ 255; 0 ÿ nH ÿ 255 [Description] *			
This command sets the print position to n ASCII characters from the current position. [Notes] *			
Settings beyond the printable area will be ignored. * The print start position is moved from the current position to N ASCII characters.			
[Reference] **ESC $**			

ESC an select alignment mode

[Name] Select justification [Format]			
ASCII ESC a **Hex** 1B 61 **Decimal** 27 97 [Range]			n
0 ÿ n ÿ 2; 48 ÿ n ÿ 50 [Description]			n
data arranged in a specified			n
	The corresponding relationship between the value of n and the alignment is		
	n	as follows: Alignment	
	0,48 left justified		
	1, 49 Center aligned		
	2, 50 right justified		
[Notes] * Setting this command is valid for subsequent printing.			
* This command adjusts the blank area according to the HT, ESC $ or ESC \			
command. [default] n = 0 [instance]			
	左对齐	居中	右对齐
	ABC ABCD ABCDE	ABC ABCD ABCDE	ABC ABCD ABCDE

ESC dn Print and feed n lines [Name] Print

and feed n lines [Format] **ASCII Hex**			
Decimal [Range] 0 ÿ n ÿ 255 [Description]		ESC d	n
Print the data in the buffer	1B 64 n	27 100 n	
and feed n lines (characters)			
Row). [Comment] * This command sets			
the print start position of the printer at the beginning of the line.			
* This command does not affect the line spacing set by ESC 2 or ESC 3.			
[Reference] **ESC** 2, **ESC 3**			

ESC mn set print grayscale

[Name] Setting Print Gray Level [Format] **ASCII**			
		ESC m	n
	Hex	1B 6D n 109	
	Decimal 27		n
[Range] 1 ÿ n ÿ 10			
[Description] Set the gray level of the print content 1-10			
[Comment] * This command sets the printing gray level of the printer to n. The lower the gray level, the faster the printing speed			
[default] 6			

GS ! n set character size

[Name] Select character size [Format] **ASCII**			
GS !			n
	Hex 1D 21 **Decimal** 29 33 [Range] n		n
	value is 0x00,0x11,0x22,0x33 corresponding to		n
size 16,24,32,48			
[default] n = 0x11 [reference]			
ESC !			

GS B n Select/cancel the black and white reverse printing mode (this command is not currently

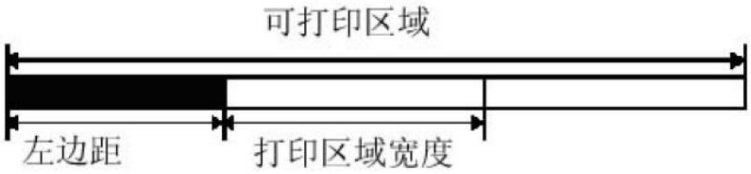
supported) [Name] Turn white/black reverse printing mode [Format] **ASCII Hex Decimal** [Range]			
0 ÿ n ÿ 255 [Description] Select/cancel the black and white reverse printing mode Displays the print		GS B	n
	mode. * When the lowest digit of n is 0, reverse printing is canceled. * When the	1D 42 29 66	n
	lowest digit of n is 1, select reverse printing.		n
is valid. [Note] * * This command is valid for all	n Only the least significant bit		
	characters (except HRI characters). * After selecting reverse display printing,		
	the character spacing set by the ESC SP command is also reversed.		
	* This command does not affect bitmaps, custom bitmaps, barcodes, HRI characters, and characters		
	created by HT, ESC $, ESC \		
	set blank.		
	* This directive does not affect whitespace between lines. * Black		
	and white reverse print mode has higher priority than underline mode. Reverse print mode in black and white		
	When the mode is selected, the underline mode does not work. After canceling the black and white inverse display mode, set the		
	Underscore mode only works.		
[default] n = 0			

GS H n Select the print position of HRI characters

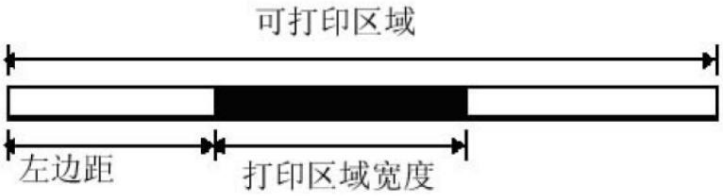
[Name] Select printing position for HRI characters [Format] **ASCII**			
		GS H	n
	Hex	1D 48 29 72	n
	Decimal		n
[Range] 0 ÿ n ÿ 3	48 ÿ n ÿ 51		
[Description] When printing barcode, select the printing position for HRI characters. n Specify the HRI print position: * HRI is a character that annotates the barcode content.			
[note]			
[default] n = 0			
[reference] **GS k**			

GS L nL nH Set left margin

[Name] Set left margin			
[Format] **ASCII** GS L **Hex** 1	**Decimal** 29		nL nH
[Range] 0 ÿ nL ÿ 255	[Description]	4C nL nH 76 nL nH	
* Set the left margin with nL			
and nH; * Set the left margin to	0 ÿ nH ÿ 255		
(nL+nH×256) points , the maximum value is 384.			
[note]	* This command is only valid at the beginning of the line. * If the setting exceeds the maximum available print width, the maximum available print width is taken. * is an integer multiple of 8, non-integral multiples will automatically subtract the remainder		
[Default] nL = 0, nH = 0			
[Reference] **GS W**			



GS W nL nH Set printing area width [Name] Set printing

area width [Format] **ASCII** GS W nL **Hex** 1D 57	
nL **Decimal** 29 87 nL [Range] 0 ÿ nL ÿ 255	[Description] * Set printing nH
area width with nL and nH ; 0 ÿ nH ÿ 255 * Set the printing area width,	nH
value is 384 points.	nH
	0 ÿ nH ÿ 255
	
[Comment] * This command is only valid at the beginning of the line. * If [left margin + print area width] exceeds the printable area, the print area width is the printable area Field width minus left margin. * The width is an integer multiple of 8, non-integral multiples will automatically subtract the remainder	
[Default] 384 points	
[Reference] **GS L**	

GS hn set barcode height

[Name] Select bar code height [Format] **ASCII**	
GS h **Hex** 1D 68 **Decimal** 29 104 n [Range] 1 ÿ n ÿ 16	n
[Description] Select barcode height. The code height	n
height unit is 24 points. [Default] **GS h** 6	

ÿGS km d1...dk NULÿGS kmn d1...dn Print barcode

[Name] Print bar code [Format] ÿ

ASCII Hex Decimal 0 ÿ **ASCII**	GS km d1...dk ZERO 1D 6B m d1...dk 00 29 107
d1...dn **Hex**	m d1...dk GS kmn 1D 6B mn 29 107 mn
d1...dn **Decimal** d1...dn [Range] ÿ 0ÿmÿ6 (the value range of k and d is	
determined by the barcode type)	

ÿ 65ÿmÿ73 (the value range of k and d is determined by the barcode type)

[Description] Select a barcode type and print the barcode. m is used to select the barcode type as follows:

m		Barcode Type	number of characters	d	Remark
ÿ	**0**	UPC-A	11 ÿk ÿ12	48 ÿd ÿ57	The 12th bit is the check value
	1	UPC-E	11 ÿk ÿ12	48 ÿd ÿ57	Not currently supported
	2	JAN13 (EAN13)	12 ÿk ÿ13	48 ÿd ÿ57	The 13th digit is the check value
	3	JAN 8 (EAN8)	7 ÿ k ÿ 8	48 ÿd ÿ57	and the 8th digit is the check value
	4	CODE39	1 ÿ k ÿ 255	45 ÿd ÿ57, 65 ÿd ÿ90, d = 32 36 37 43	
	5	ITF	1 ÿ k ÿ 255 (even) 48 ÿd ÿ57		
	6	CODABAR	1 ÿ k ÿ 255	48 ÿd ÿ57, 65 ÿd ÿ68, d = 36,43,45,46,47,58	
ÿ	**65**	UPC-A	11 ÿn ÿ12	48 ÿd ÿ57	The 12th bit is the check value
	66	UPC-E	11 ÿn ÿ12	48 ÿd ÿ57	
	67	JAN13 (EAN13)	12 ÿn ÿ13	48 ÿd ÿ57	The 13th digit is the check value,
	68	JAN 8 (EAN8)	7 ÿn ÿ8	48 ÿd ÿ57	the 8th digit is the check value
	69	CODE39	1ÿ n ÿ 255	45 ÿd ÿ57, 65 ÿd ÿ90, d = 32,36, 37,43 d1 = dk = 42	character>12, if it is too long, no printing
	70	ITF	1 ÿ nÿ 255 (even number) 48 ÿd ÿ57		
	71	CODABAR	1 ÿ nÿ 255	48 ÿd ÿ57 65 ÿd ÿ68, d = 36 43 45 46 47 58	
	72	CODE93	1 ÿ nÿ 255	0 ÿd ÿ127	Not currently supported
	73	CODE128	2 ÿ nÿ 255	0 ÿd ÿ127	

[Noteÿ] * The command ends with NULL in this format. * When selecting UPC-A or UPC-E code, after the printer receives the 12-byte barcode data, the remaining The remaining characters are treated as normal characters. * When the JAN13 (EAN13) type is selected, after the printer receives the 13-byte barcode data, the remaining Characters are treated as normal characters.

* When the JAN8(EAN8), type is selected, after the printer receives the 8-byte barcode data, the remaining words characters are treated as normal characters.

* The number of ITF code data must be an even number. If an odd number of barcode data is entered, the last data is neglect.

[Note ÿ] * n is used to indicate the number of barcode data, the printer uses the n bytes of data behind it as the barcode data

	reason. * If n is out of the specified range, the printer will not process this command, and use the following data as normal through data
processing.	[Notes] * If the barcode data d is out of the specified range, this command is invalid. * If the bar code exceeds the printing area horizontally, it will be invalid. * This command will travel the same distance regardless of the line height set by the ESC 2 or ESC 3 command. The set barcode heights are equal. * This command is only valid when there is no data in the print buffer. If there is data in the print buffer, this command order is ignored. * After printing the barcode, set the print position at the beginning of the line. * Print mode settings (such as bold, double print, underline, character size, inverse color, and character rotation, etc.) do not affect this command, but alignment mode, left margin, and print area affect barcode printi

GS v 0 m xL xH yL yH d1....dk print raster bitmap

[Name] Print raster bit image [Format]		
ASCII		GS v 0 m xL xH yL yH
	Hex	1D 76 30 m xL xH yL yH
	Decimal	29 118 48 m xL xH yL yH
[Range] 0ÿmÿ3, 48ÿmÿ51; 0ÿxLÿ255; 0ÿxHÿ255; 0ÿyLÿ255; 0ÿdÿ255; k = (xL+xH×256)×(yL+yH×256) (kÿ0)		

[Description] Print raster bitmap, select raster bitmap mode by m value.

m	model	Vertical Resolution **(DPI)**	Lateral resolution **(DPI)**
0,48	Normal mode 200 times wide		200
1,49	mode 200 times height mode		100
2,50	double height and double	100	200
3,51	width mode 100		100

* xL, xH represent the number of bitmap bytes in the horizontal direction (xL+xH×256)
* yL, yH represent the number of bitmap points in the vertical direction (yL+yH×256)

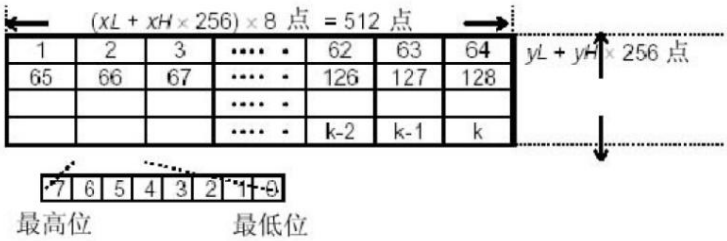
[Notes] * Printing modes such as character enlargement, bold, double printing, upside-down printing, underline, black and white reverse display are invalid for this command.

* The part of the bitmap beyond the print area is not printed.

* The alignment mode and left margin are valid for raster bitmaps.

* d represents bitmap data. The corresponding bit of each byte is 1 to print the dot, and 0 to not print the dot.

[Example] When xL + (xH×256) = 64



GS wn set barcode width

[Name] Set bar code width		
[Format] **ASCII**		GS w n
	Hex	1D 77 n
	Decimal 29 119	n
[Range] 1ÿnÿ16		
[Description] Unit 24 pixels		
[default] n = 10		
[Reference] **GS k**		

GS (k pL pH cn fn [parameters] Set and print QR code

[Name] Set up and print symbol [Description]	
* Process QR code data pL, pH Determine * the data after pH by (pL + pH × 256) (cn, fn and [parameters]) total quantity. * cn specifies the type of QR code, fixed at 49. * fn Specified function command **fn** format 65 GS (k pL pH cn fn n1 n2 67 GS (k pL pH cn fn n 80 169	

	GS (k pL pH cn fn n	Function number function name
(k pL pH cn fn m d1...dk 81 GS (k pL pH cn fn m	165	QR code: Select model (invalid)
82 GS (k pL pH cn fn m	167	QR Code: Set QR code block size
	169	QR code: select error correction level
	180	QR code: save QR code data
	181	QR Code: Print the QR code of the stored data
	182	QR code: Get the size information of the stored data

[Note] When the command to get the size information of the stored data is sent, do not send the subsequent data before receiving the returned data according to.

<Function 167> GS (k pL pH cn fn n(cn = 49, fn = 67) setting two

QR Code: Set the

size of module [Format] **ASCII**						
		GS (pL k	pH	cn	fn	n
	Hex	1D 28 6B pL	pH	cn	fn	n
	Decimal 29 40 107 pL (pL+(pH+256))=3 (pL=3, pH=0)		pH	cn	fn	n
[scope]	cn = 49 fn = 67 1 ÿ n ÿ 16					
[Description] * Set the block size of QR code to n 24 points. Unit 24 points						
[default] n = 10						

<Function 169> GS (k pL pH cn fn n(cn = 49, fn = 69)Choose two

QR Code: Select

the error correction level						
[Format]	**ASCII**	GS (k pL	pH	cn	fn	n
	Hex	1D 28 6B pL	pH	cn	fn	n
	Decimal 29 40 107	pL (pL+(pH+256))=3 (pL=3,	pH	cn	fn	n
[scope]	pH=0) Cn=49 fn=69 48 ÿ n ÿ 51					

[Description] * Select the QR code encoding error

N	correction level function	Coverable area ratio
48	Select error correction level	7%
L 49	Select error correction	15%
level M 50	Select error correction	25%
level Q 51	Select error correction	30%

level H [default n = 48

<Function 180> GS (k pL pH cn fn m d1 dk (cn = 49, fn = 80)
Save QR code data

[Name] QR Code: Store the data in the symbol storage area [Formality] **ASCII**				
		GS (pL pH k	cn	sc with d1 dk
	Hex	1D 28 6B pL pH	cn	sc with d1 dk
	Decimal 29 40 107 pL pH 4 ÿ (pL + pH × 256) ÿ 7092 (0 ÿ		cn	sc with d1 dk
[scope]	pL ÿ 255, 0 ÿ pH ÿ 27) cn = 49 fn = 80 m = 48 0 ÿ d ÿ 255 k = (pL + pH × 256) – 3			
[Description] * Store QR code data (d1 dk)				

<Function 181> GS (k pL pH cn fn m(cn = 49, fn = 81) prints the stored data

QR

Code [Name] QR Code: Print the symbol data in the symbol storage area [Format]					
ASCII		GS (fn fn k pL	pH cn pH	n
	Hex	1D 28 6B pL 107	cn pH cn	n
	Decimal 29 40 fn (pL+(pH+256))=3 pH=0) cn= 49 fn = 81 m = 48	pL (pL=3,		n
[scope]				
[Description] * Encode and print the QR code stored in data via GS (k<Function 180>				

[Comment] Alignment, left margin and print area, valid when QR code printing	

Chinese character control order

FS & select Kanji mode

[Name] Select Chinese character mode [Format] **ASCII**			
		FS	&
	Hex	1C	26
	Decimal 28 [Description]		38
Select Kanji mode			
[Notes] * When the Chinese character mode is selected, the printer judges whether the character is a Chinese character internal code, if it is a Chinese character internal code, process it first The first byte, and then judge whether the second byte is the internal code of Chinese characters. * The Chinese character mode is automatically selected after the printer is			
powered on. [Reference] **FS .**			

FS . Cancel Chinese character mode

[Name] Cancel Chinese character mode [Format] **ASCII**			
		FS	
	Hex	1C	2E
	Decimal 28 [Description]		46
Cancel Chinese character mode			
[Notes] * When the Chinese character mode is canceled, all characters are treated as ASCII characters, and only one character is processed at a time Festival. * Automatically select Chinese character mode when power on.			
[Reference] **FS &**			

FS C n Select double-byte character encoding system

[Name] Select Kanji character code system [Format] **ASCII**				
		FS	C	n
	Hex	1C	43	n
	Decimal	28	67	n
[Range] 0ÿnÿ1 , 48ÿnÿ49 [Description] Select				
the double-byte character encoding system according to the value of n:				

n	coding system system
0,48	Utf-8 Android system default
1,49	GBK Simplified Chinese

[default] n=1 [reference]	