



Manual de Comandos TSM-1000



ESC/POS command guide

HT

[Name]	Horizontal tab	
[Format]	ASCII	HT
	Hex	09
	Decimal	9
[Description]	Move the current position to the next tab position	
[Note]	<ul style="list-style-type: none"> ● If the next tab position werent set, this order should be ignored ● If the next horizontal tab position is beyond printing area, the current position should be set as [Printing width+1] ● Use ESC D to set the horizontal tab position. ● If current position is in[Printing width+1] when receiving this order, the printer runs the current buffer full actions and move printing position to the beginning of next line. ● The default tab position is to tab by each 8 standard ASCII characters(12x24) ● When the current buffer area is full, printer runs below actions: printer prints contents of current line and move the print position to the beginning of next line. 	
[Reference]	ESC D	

LF

[Name]	Print and line feed	
[Format]	ASCII	LF
	Hex	0A
	Decimal	10
[Description]	Print the data in buffer and line feed	
[Note]	<ul style="list-style-type: none"> ● This order puts current position to the begins of a line 	
[Reference]	ESC 2, ESC 3	

ESC SP n

[Name]	Set right-side character spacing		
[Format]	ASCII	ESC	SP n
	Hex	1B	20 n
	Decimal	27	32 n
[Range]	0n255		
[Description]	Set the right-side character interspaces as N point		
[Note]	<ul style="list-style-type: none"> ● This setting only valid to character instead of Chinese. ● When character enlarges the interspaces enlarge correspondingly with same multiples. 		
[Default]	n=0		
[Reference]	ESC 2, ESC 3		

ESC ! n

[Name]	Batch specify print mode		
[Format]	ASCII	ESC	! n

	Hex	1B	21	n
	Decimal	27	33	n
[Range]	0n255			
[Description]	Set the character print mode by the N value			
		1/0	HEX	Decima l
	0,1,2			undefined
	3	0	00	0
		1	08	8
	4	0	00	0
		1	10	16
	5	0	00	0
		1	20	32
	6			undefined
	7	0	00	0
		1	80	128
[Note]	<ul style="list-style-type: none"> ● When selecting the multi-high and multi-wide mode in the same time, the characters double in either horizontal and vertical way. ● Except the spaces set by HT and characters printed by rotating, any other characters could be underlined. ● ESC- defines the underline but not the characters. ● When some characters within one line are multi-high or more, all characters align to bottom. ● ESC E could also select or cancel the bold mode. The final executed order is valid. ● ESC could also select or cancel underline mode. The final executed order is valid ● GS ! could also set the character size. Final executed order is valid. 			
[Default]	n=0			
[Reference]	ESC -, ESC E, GS !			

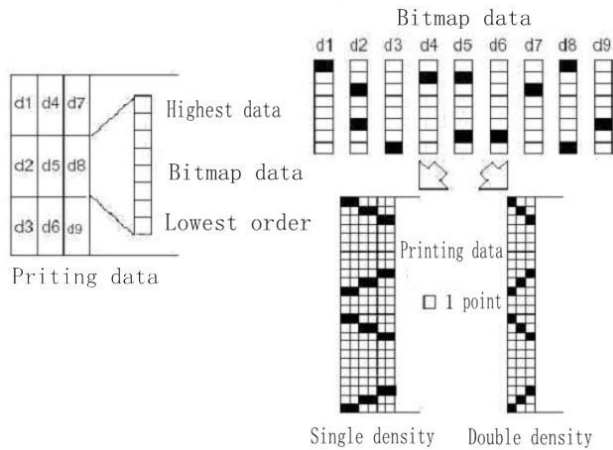
ESC \$ nL nH

[Name]	Set absolute print position			
[Format]	ASCII	ESC	\$	nL nH
	Hex	1B	24	nL nH
	Decimal	27	36	nL nH
[Range]	0nL2550nH2			
[Description]	Set the currently position to (nL+nHx256) dot from the beginning of a line.			
[Note]	<ul style="list-style-type: none"> ● If the preset position is out of print area, this order will be ignored. ● Both horizontal and vertical moving unit is set by GS P ● Use the horizontal moving unit under standard mode ● Under Page mode, we should select horizontal or vertical moving unit according to direction and beginning point of the print area. The selection as below: 1. When the beginning point is set at left upper corner or right bottom corner by ESC T, select the horizontal. 2. When the beginning point is set at left bottom corner or right upper corner by ESC T, then select vertical. 			
[Reference]	ESC \, GS \			

ESC * m nL nH d1...dk

[Name]	Select bit-image mode					
[Format]	ASCII	ESC	*	m	nL	nH d1...dk
	Hex	1B	2A	m	nL	nH d1...dk
	Decimal	27	42	m	nL	nH d1...dk
[Range]	m = 0, 1, 32, 330 nL 2550 nH 30 d 255					
[Description]	Select one of the bit-image modes designated by M. The bits are determined by nL and nH					
	m	Mode	Vertical		Horizontal	
			Dot	Resolutio n	Resolutio n	Data k
	0	8 Dot single density	8	67DPI	100DPI	nL+nH256
	1	8 Dot double density	8	67DPI	200DPI	nL+nH256
	32	24 Dot single density	24	200DPI	100DPI	(nL+nH256) 3
33	24 Dot double density	24	200DPI	200DPI	(nL+nH256) 3	
[Note]	<ul style="list-style-type: none"> ● If the value of M exceeds range, nL and data after it will be executed as common data. ● The horizontal printer dots are determined by nL and nH. The total dots are nL+nHx256 ● Bit-image which exceeds current area will be cut off. ● D is data of bit-image. When all the unit of data be 1 then it prints this dot, and no printers when be 0. ● After sending bit-image data, the printer returns to common data mode. ● ()This order wont be affected by other printing mode(bold, double printing, underline, zoom in) except the revert mode. ● The relation between data and dots going to be print is as below: When selecting 8 dot density 					
<p>The diagram illustrates the bit-image mode. On the left, a 3D perspective shows three vertical columns of printing data labeled d1, d2, and d3. To the right, a 2D grid shows the resulting bitmaps. The top part shows 'Bitmap data' as three vertical columns of black and white squares. Below this, two jagged shapes represent the bitmaps for 'Single density' and 'Double density'. The 'Single density' grid shows a sparse pattern of black squares, while the 'Double density' grid shows a denser pattern. A legend indicates that a square represents 1 point.</p>						

When selecting 14 dot density



ESC - n

[Name]	Specify/cancels underline mode		
[Format]	ASCII	ESC	- n
	Hex	1B	2D n
	Decimal	27	45 n
[Range]	0n248n50		
[Description]	Select or cancel underline mode according to value of n		
	n	Function	
	0, 48	Cancel underline mode	
	1, 49	Select underline mode(1 dot width)	
	2, 50	Select underline mode(2 dot width)	
[Note]	<ul style="list-style-type: none"> ● The underline could be put under all characters(including right GAP) but not included spaces set by HT ● Underline cant be functioned to characters under rotating mode and revert display ● When canceling the underline mode, following characters are without underlines and underline width unchanged. Default width is one dot. ● Changing the character size wont affect current underline width ● The cancellation of underline could be set by ESC ! as well. The final executed order is valid. 		
[Default]	n=0		
[Reference]	ESC !		

ESC 2

[Name]	Select default line spacing		
[Format]	ASCII	ESC	2
	Hex	1B	32
	Decimal	27	50
[Description]	Select 30 dots height.		
[Note]			
[Reference]	ESC 3		

ESC 3 n

[Name]	Set line spacing		
[Format]	ASCII	ESC	3 n
	Hex	1B	33 n
	Decimal	27	51 n
[Range]	0n255		
[Description]	Set the height of line to be n dot		
[Note]			
[Default Value]	The default value of height of line is 30 dots.		
[Reference]	ESC 2		

ESC @

[Name]	Initialize printer		
[Format]	ASCII	ESC	@
	Hex	1B	40
	Decimal	27	64
[Description]	Eliminating the data in print buffer area. It is the default mode when printing mode is set as power on.		
[Note]	<ul style="list-style-type: none"> ● Save contents in order buffer area. 		

ESC D n1...nk NUL

[Name]	Set horizontal tab positions				
[Format]	ASCII	ESC	D	n1...nk	NUL
	Hex	1B	44	n1...nk	00
	Decimal	27	68	n1...nk	0
[Range]	1 n 2550 k 32				
[Description]	Set horizontal tab position. <ul style="list-style-type: none"> ● Set a tab position at the No.n line from beginning of the line. ● Totally there are k pcs of tab position. 				
[Note]	<ul style="list-style-type: none"> ● The horizontal tab position is calculated by below formula: character width x n. Character width includes right GAP. If character is multi-wide, then the tab position multiplies correspondingly. ● This order cancels the previous setting of tab position ● When n=8, current tab position is No.9. ● Max 32(k=32) tab positions could be set. Data exceeds 32 will be regarded as common data. ● NULtab position is aligned by ascending order, the finished mark is NUL. ● When [n]k is less or equivalent to previous [n]k-1 value, the tab position ends. Following data is treated as common data. ● ESC D NUL cancels all tab position setting. ● Changing the character width won't change the designated tab position. ● Character width under standard mode and page mode is independent. 				
[Default]	Default tab position is each 8 standard ASCII character(12x24) with one tab position.				
[Reference]	HT				

ESC E n

[Name]	Turn emphasized mode on/off		
[Format]	ASCII	ESC	E n
	Hex	1B	45 n
	Decimal	27	69 n
[Range]	0n255		
[Description]	Select or cancel bold mode When the lowest position of n is 0, the bold mode canceled. When the lowest position of n is 1, the bold mode selected		
[Note]	<ul style="list-style-type: none"> ● N validates only at lowest position ● /ESC ! could also select/cancel bold mode. The final received order is valid. 		
[Default]	n = 0		
[Reference]	ESC !		

ESC G n

[Name]	Turn on/off double-strike mode		
[Format]	ASCII	ESC	G n
	Hex	1B	47 n
	Decimal	27	71 n
[Range]	0n255		
[Description]	Turn on/off double-strike mode nWhen the lowest position of n is 0, cancel the double strike mode n1When the lowest position of n is 1, turn on the double strike mode		
[Note]	<ul style="list-style-type: none"> ● N validates only at lowest position ● This order has same effect as bold printing. 		
[Default]	n = 0		
[Reference]	ESC E		

ESC J n

[Name]	Print and feed paper		
[Format]	ASCII	ESC	J n
	Hex	1B	4A n
	Decimal	27	74 n
[Range]	0n255		
[Description]	Print the data in buffer area and feed paper for n dots line.		
[Note]	<ul style="list-style-type: none"> ● When printing finished, puts the current print position at beginning of line. ● ESC 2 ESC 3 Feeding of paper wont be affected by ESC 2 or ESC 3 order set. ● The max paper feed is 1016mm(40). If distance exceeds it, the max value is taken. 		
[Reference]	GS P		

ESC \ nL nH

[Name]	Set relative print position
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[Format]	ASCII	ESC	\	nL	nH
	Hex	1B	5C	nL	nH
	Decimal	27	92	nL	nH
[Range]	0 nL 2550 nH 255				
[Description]	Set relative print position by horizontal or vertical moving unit. <ul style="list-style-type: none"> This order sets the print position to (nL+nHx256) dot from current position. 				
[Note]	<ul style="list-style-type: none"> Settings exceed printable area are ignored. When print position moves right: nL+nHx256=N nL+nH256=65536N When print position moves left, nL+nH256=65536N The print beginning point moves from current position to N dot. 				
[Reference]	ESC \$				

ESC a n

[Name]	Select justification												
[Format]	ASCII	ESC	a	n									
	Hex	1B	61	n									
	Decimal	27	97	n									
[Range]	0 n 248 n 50												
[Description]	Keep all the printing data aligned by certain way. Relation between alignment way and Value of N												
	<table border="1"> <thead> <tr> <th>n</th> <th>Alignment way</th> </tr> </thead> <tbody> <tr> <td>0,48</td> <td>Left Alignment</td> </tr> <tr> <td>1, 49</td> <td>Middle</td> </tr> <tr> <td>2, 50</td> <td>right</td> </tr> </tbody> </table>		n	Alignment way	0,48	Left Alignment	1, 49	Middle	2, 50	right			
n	Alignment way												
0,48	Left Alignment												
1, 49	Middle												
2, 50	right												
[Note]	<ul style="list-style-type: none"> This order works only for beginning of line under standard mode. This order changes only internal bit zone under page mode. This order adjusts space area according to HT,ESC \$ or ESC \ order. 												
[Default value]	n = 0												
[Example]	<table style="width:100%; text-align:center;"> <tr> <td>Align left</td> <td>Align center</td> <td>Align right</td> </tr> <tr> <td style="border:1px solid black; padding:5px;"> ABC ABCD ABCDE </td> <td style="border:1px solid black; padding:5px;"> ABC ABCD ABCDE </td> <td style="border:1px solid black; padding:5px;"> ABC ABCD ABCDE </td> </tr> </table>					Align left	Align center	Align right	ABC ABCD ABCDE	ABC ABCD ABCDE	ABC ABCD ABCDE		
Align left	Align center	Align right											
ABC ABCD ABCDE	ABC ABCD ABCDE	ABC ABCD ABCDE											

ESC d n

[Name]	Print and feed n lines				
[Format]	ASCII	ESC	d	n	
	Hex	1B	64	n	
	Decimal	27	100	n	
[Range]	0 n 255				
[Description]	Print contents in buffer area and feed n lines(character line)				
[Note]	<ul style="list-style-type: none"> This command sets the start position of printer at the beginning of line. This command doesnt affect the line distance set by ESC2 or ESC3 The max feeding distance is 1016mm. When value is larger than 1016mm, take the max instead 				
[Reference]	ESC 2, ESC 3				

GS ! n

[Name]	Select character size					
[Format]	ASCII	GS	!	n		
	Hex	1D	21	n		
	Decimal	29	33	n		
[Range]	0 n 2551 Vertical zoom in times 81 Horizontal zoom in times 8					
[Description]	Use 0 to 3 to select character height, 4 to 7 to select character width. As below chart					
	Digit	0/1	Hex	Decimal	Function	
	0	Character height selectionsee chart2				
	1					
	2					
	3					
	4	Character width selectionsee chart1				
	5					
	6					
	7					
	chart1 Width selection			chart2 Height selection		
	Hex	Decimal	Horizontal zoom in times	Hex	Decimal	Vertical zoom in times
	00	0	1 (Normal)	00	0	1 (Normal)
	10	16	2 (2 times width)	01	1	2 (2 times height)
	20	32	3	02	2	3
30	48	4	03	3	4	
40	64	5	04	4	5	
50	80	6	05	5	6	
60	96	7	06	6	7	
70	112	8	07	7	8	
[Note]	<ul style="list-style-type: none"> ● This command validates to all characters(ASCII and Chinese characters), besides the HRI Characters. ● If n exceeds regular Range, this command will be ignored. ● If same line of characters are with different magnifying times, all characters align to Bottom. ● ESC ! commend could also select or cancel character width or height. The final Received commend valid. 					
[Default value]	n = 0					
[Reference]	ESC !					

GS B n

[Name]	Turn white/black reverse printing mode		
[Format]	ASCII	GS	B n
	Hex	1D	42 n
	Decimal	29	66 n
[Range]	0 n 255		
[Description]	/Select/Cancel white black reverse printing mode ● When the lowest of n is 0, cancel the reverse printing. ● When the lowest of N is 1, select the reverse printing.		
[Note]	● N only validates to lowest position. ● This command is effective to all characters(except the HRI character) ● By selecting reverse printing, character distance set by ESC SP reverses too. ● HRI HT,ESC \$,ESC \This command wont affect bmp, customized bmp, bar code HRI character and spaces set by HT,ESC \$,ESC \ ● This command wont affect spaces between lines. ● White black reverse printing mode has higher priority than underline mode. When selecting reverse mode, the underline mode palls on. It wont affect until the reverse mode is canceled.		
[Default]	n = 0		

GS H n

[Name]	Select printing position for HRI characters		
[Format]	ASCII	GS	H n
	Hex	1D	48 n
	Decimal	29	72 n
[Range]	0 n3 , 48 n51		
[Description]	Select printing position for HRI character when printing bar codes. N defines the HRI printing position		
	n	printing position	
	0,48	No printing	
	1,49	Upon bar code	
	2,50	beneath bar code	
3,51	print both up and beneath bar code		
[Note]	● HRI is character to Note bar code content		
[Default value]	n = 0		
[Reference]	GS f, GS k		

GS LnL nH

[Name]	Set left margin			
[Format]	ASCII	GS	L nL nH	
	Hex	1D	4C nL nH	
	Decimal	29	76 nL nH	
[Range]	0 nL255 , 0nH255			
[Description]	● Set the left margin by nL and nH ● Set the left margin as [(nL+nH256)Horizontal moving unit)] Inch			

[Note]	<ul style="list-style-type: none"> ● This command only effects at the beginning of line ● If setting exceeds max usable printing width, then take the max usable printing width
[Default]	nL = 0, nH = 0
[Reference]	GS W

GS W nL nH

[Name]	Set printing area width				
[Format]	ASCII	GS	W	nL	nH
	Hex	1D	57	nL	nH
	Decimal	29	87	nL	nH
[Range]	0 nL255 , 0nH255				
[Description]	<ul style="list-style-type: none"> ● Set the printing area width by nL and nH ● Set the printing area width as (nL+nH256) dots 				
[Note]	<ul style="list-style-type: none"> ● This command only effects at the beginning of line ● If (left margin+printing area width) exceeds printable area, then the printing area width is the printable width minus left margin. 				
[Default value]	nL = 76, nH = 2				
[Reference]	GS L				

GS h n

[Name]	Select bar code height				
[Format]	ASCII	GS	h	n	
	Hex	1D	68	n	
	Decimal	29	104	n	
[Range]	1 n 255				
[Description]	Selecting the bar codes height				
[Default]	n = 162				
[Reference]	GS k				

GS k m d1...dk NULGS k m n d1...dn

[Name]	Print bar code					
[Format]	① ASCII	GS	k	m	d1...dk	NUL
	Hex	1D	6B	m	d1...dk	00
	Decimal	29	107	m	d1...dk	0
	② ASCII	GS	k	m	n	d1...dn
	Hex	1D	6B	m	n	d1...dn

	Decimal	29	107	m	n	d1...dn
[Range]	① 0m6 Value range of K and D is defined by bar code type ② 65m73 Value range of K and D is defined by bar code type					
[Description]	Select a bar code type to print bar codes. M is used for selecting bar code type, as below shows:					
	m	Bar code type	Character No.	d	Remark	
	0	UPC-A	11 k 12	48 d 57	12 th is verification value	
	1	UPC-E	11 k 12	48 d 57		
	2	JAN13 (EAN13)	12 k 13	48 d 57	13 th is verification value	
	3	JAN 8 (EAN8)	7 k 8	48 d 57	8 th is verification value	
	4	CODE39	1 k 255	45 d 57, 65 d 90, d = 32,36, 37,43		
	5	ITF	1 k 255 (even Number)	48 d 57		
	6	CODABAR	1 k 255	48 d 57, 65 d 68, d = 36,43,45,46,47, 58		
	6 5	UPC-A	11 n 12	48 d 57	12 th is verification value	
	6 6	UPC-E	11 n 12	48 d 57		
	6 7	JAN13 (EAN13)	12 n 13	48 d 57	13 th is verification value	
	6 8	JAN 8 (EAN8)	7 n 8	48 d 57	8 th is verification value	
	6 9	CODE39	1 n 255	45 d 57, 65 d 90, d = 32,36, 37,43 d1 = dk = 42	Character >12 to o long to print	
	7 0	ITF	1 n 255 (Even Number)	48 d 57		
	7 1	CODABAR	1 n 255	48 d 57 65 d 68, d = 36,43,45,46,47 58		
	7 2	CODE93	1 n 255	0 d 127		
	7 3	CODE128	2 n 255	0 d 127		
[Note]	<ul style="list-style-type: none"> ● This command ends with NULL under such Format ● When selecting UPC-A or UPC-E code, the rest of characters will be processed as common character after printer receives 12 byte bar code data. ● When selecting JAN13(EAN13) type, the rest of characters will be processed as common character after printer receives 13 byte bar code data. ● When selecting JAN8(EAN8) type, the rest of characters will be processed as common character after printer receives 8 byte bar code data. ● The Number of ITF code data should be even number. If an odd number were entered, then the last digit will be ignored. 					

[Note]	<ul style="list-style-type: none"> ● N is used for instructing numbers of bar code data. The printer processes the N byte data behind it as bar code data. ● Rangelf n exceeds regular Range, the printer doesnt process this command and processes subsequent data as common data.
[Note(Standard Mode)]	<ul style="list-style-type: none"> ● The command void if barcode data d exceeds regular Range. ● If barcode horizontally exceeds printing area, Its void. ● No matter what line height is set by ESC2 or ESC 3, the feeding distance is equal to preset barcode height. ● This order effects only when printing buffer area is without data. It will be ignored if the buffer area has data. ● After printing barcode, set the printing position at the beginning of line. ● The print mode setting(such as bold, double print, underline, size of character, color reverse and character rotation) wont affect this order. But the reverse mode will effect the barcode printing.
[Note(Page mode)]	<ul style="list-style-type: none"> ● This order only generates the barcode image to buffer area, but not printed. After processing barcode data, it moves the printing position to right side of barcode. ● If D exceeds the regular Range, this order will be ignored. ● If barcode width exceeds printing area, this order will be ignored.
[Reference]	GS H, GS f, GS h, GS w

GS v 0 m xL xH yL yH d1....dk

[Name]	Print raster bit image			
[Format]	ASCII	GS	v	0 m xL xH yL yH d1....dk
	Hex	1D	76 30 m xL xH yL yH d1....dk	
	Decimal	29	118 48 m xL xH yL yH d1....dk	
[Range]	0m348m510xL2550xH2550yL2550d255 k =(xL+xH256)(yL+yH256)(k0)			
[Description]	Print Raster bit image, select the mode by m value			
	m	mode	Vertical resolution (DPI)	Horizontal resolution (DPI)
	0,48	standard mode	200	200
	1,49	multi-width mode	200	100
	2,50	Multi-height mode	100	200
3,51	Multi width and multi height mode	100	100	
[Note]	<ul style="list-style-type: none"> ● xL,xH indicates byte qty on horizontal direction ● yL, yH indicates byte qty on vertical direction. ● This order effects only when buffer area without data. ● Print modes such as zoom in, bold, double print, reverse print, under line, color reverse wont affect this order. ● Bmp which exceeds printing area wont be printed. ● ESC a(select align mode) effects to raster bit image. 			

	<ul style="list-style-type: none"> D represents bmp data. If corresponding position of each byte were 1 then print this dot, if it were 0 then this dot wont be printed.
[Instance]	$xL + (xH \times 256) = 64$ <p style="text-align: right;">highest position / lowest position</p>

GS w n

[Name]	Set bar code width																											
[Format]	ASCII	GS	w n																									
	Hex	1D	77 n																									
	Decimal	29	119 n																									
[Range]	2n6																											
[Description]	Set the horizontal width of barcode. Use n to designate the width																											
	<table border="1"> <thead> <tr> <th rowspan="2">n</th> <th rowspan="2">Single standard mode width(mm)</th> <th colspan="2">Dual standard mode width</th> </tr> <tr> <th>Narrow standard mode(mm)</th> <th>Wide standard mode(mm)</th> </tr> </thead> <tbody> <tr> <td>2</td> <td>0.25</td> <td>0.25</td> <td>0.625</td> </tr> <tr> <td>3</td> <td>0.375</td> <td>0.375</td> <td>1.0</td> </tr> <tr> <td>4</td> <td>0.5</td> <td>0.5</td> <td>1.25</td> </tr> <tr> <td>5</td> <td>0.625</td> <td>0.625</td> <td>1.625</td> </tr> <tr> <td>6</td> <td>0.75</td> <td>0.75</td> <td>1.875</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Single standard mode code is as follows UPC-A, UPC-E, JAN13(EAN13), JAN8(EAN8), CODE93, CODE128 Wide standard mode code is as follow CODE39, ITF, CODABAR 	n	Single standard mode width(mm)	Dual standard mode width		Narrow standard mode(mm)	Wide standard mode(mm)	2	0.25	0.25	0.625	3	0.375	0.375	1.0	4	0.5	0.5	1.25	5	0.625	0.625	1.625	6	0.75	0.75	1.875	
n	Single standard mode width(mm)			Dual standard mode width																								
		Narrow standard mode(mm)	Wide standard mode(mm)																									
2	0.25	0.25	0.625																									
3	0.375	0.375	1.0																									
4	0.5	0.5	1.25																									
5	0.625	0.625	1.625																									
6	0.75	0.75	1.875																									
[Default]	n = 2																											
[Reference]	GS k																											

GS (k pL pH cn fn [parameters])

[Name]	Set up and print symbol																	
[Description]	<ul style="list-style-type: none"> Handle QR-Code data (pL + pH *256) determine the total account of (cn,fn and parameters) Cn assign QR-Code type ,fixed to 49. Fn assign command <ul style="list-style-type: none"> Parameters was assigned by different command 																	
	<table border="1"> <thead> <tr> <th>fn</th> <th>format</th> <th>No</th> <th>Function name</th> </tr> </thead> <tbody> <tr> <td>65</td> <td>GS (k pL pH cn fn n1 n2</td> <td>165</td> <td>QR-code:select mode (Invalid)</td> </tr> <tr> <td>67</td> <td>GS (k pL pH cn fn n</td> <td>167</td> <td>QR-code: setting the qr-code size</td> </tr> <tr> <td>69</td> <td>GS (k pL pH cn fn n</td> <td>169</td> <td>QR-code: select the error correction level</td> </tr> </tbody> </table>	fn	format	No	Function name	65	GS (k pL pH cn fn n1 n2	165	QR-code:select mode (Invalid)	67	GS (k pL pH cn fn n	167	QR-code: setting the qr-code size	69	GS (k pL pH cn fn n	169	QR-code: select the error correction level	
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69	GS (k pL pH cn fn n	169	QR-code: select the error correction level															

	80	GS (k pL pH cn fn m d1...dk	180	QR-code: .storage the qr-code data
	81	GS (k pL pH cn fn m	181	QR-code: print the qr-code which has been storage.
	82	GS (k pL pH cn fn m	182	QR-code: Getting the information of data which has been storated.
[Note]	The command which getting the size of saved data has been sended,there is no need to resending data before getting the return values.			
[Reference]				

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

[Name]	QR Code: Set the size of module								
[Format]	ASCII	GS	(	k	pL	pH	cn	fn	n
	Hex	1D	28	6B	pL	pH	cn	fn	n
	Decimal	29	40	107	pL	pH	cn	fn	n
[Range]	(pL+(pH+256))=3 (pL=3, pH=0) cn = 49 fn = 67 1 n 16								
[Description]	● Setting the QR-Code size to n point								
[Default value]	n = 4								
[Reference]									

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

[Name]	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	pH	cn	fn	n	
[Range]	(pL+(pH+256))=3 (pL=3, pH=0) cn = 49 fn = 69 48 n 51									
[Description]	● Selecting QR-Code Error correctionlevel									
	N	function						Proportionofareatobecoved		
	48	Error correctionlevel L						7%		
	49	Error correctionlevel M						15%		
	50	Error correctionlevel Q						25%		
	51	Error correctionlevel H						30%		
[Default]	n = 48									
[Reference]										

<Function 180> GS (k pL pH cn fn m d1dk (cn = 49, fn = 80)

[Name]	QR Code: Store the data in the symbol storage area									
[Format]	ASCII	GS	(	k	pL	pH	cn	fn	m	d1dk
	Hex	1D	28	6B	pL	pH	cn	fn	m	d1dk
	Decimal	29	40	107	pL	pH	cn	fn	m	d1dk
[Range]	4 (pL + pH 256) 7092 (0 pL 255, 0 pH 27)									

	cn = 49 fn = 80 m = 48 0 d 255 $k = (pL + pH \cdot 256) \cdot 3$
[Description]	● Storage QR-Code data(d1dk)
[Reference]	

<Function 181> **GS (k pL pH cn fn m(cn = 49, fn = 81)**

[Name]	QR Code: Print the symbol data in the symbol storage area								
[Format]	ASCII	GS	(	k	pL	pH	cn	fn	n
	Hex	1D	28	6B	pL	pH	cn	fn	n
	Decimal	29	40	107	pL	pH	cn	fn	n
[Format]	$(pL+(pH+256))=3$ (pL=3, pH=0) cn = 49 fn = 81 m = 48								
[Description]	● Decoding code								
[Note]	While printing QR-Code, you must control blank area yourself								
[Reference]									

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