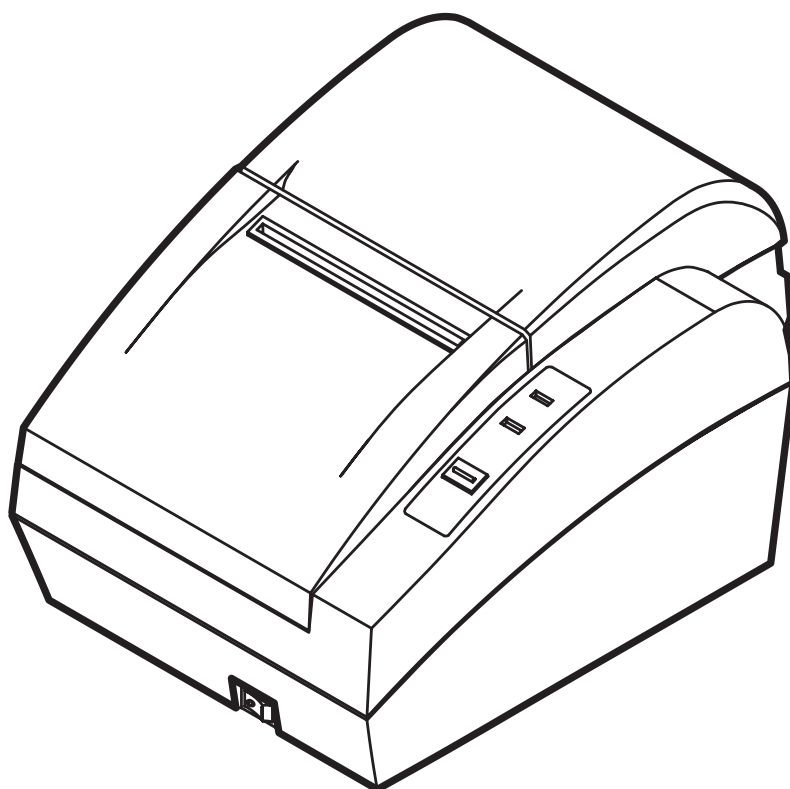


# Command Manual **STP-131**

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**Thermal Printer**  
**Rev. 1.00**



# 1. Control Command List

Command	Name
HT	Horizontal tab
LF	Print and line feed
CR	Print and carriage return
DLE EOT	Real-time status transmission
ESC SP	Set right-side character spacing
ESC !	Select print mode(s)
ESC \$	Set absolute print position
ESC %	Select/cancel user-defined character set
ESC &	Define user-defined characters
ESC *	Define user-defined characters
ESC -	Turn under line mode on/off
ESC 2	Select 1/6-inch line spacing
ESC 3	Set line spacing
ESC =	Select peripheral device
ESC ?	Cancel user-defined characters
ESC @	Initialize printer
ESC D	Set horizontal tab positions
ESC E	Turn emphasized mode on/off
ESC G	Turn double-strike mode on/off
ESC J	Print and feed paper
ESC R	Select an international character set
ESC V	Turn 90 clockwise rotation mode on/off
ESC \	Set relative print position
ESC a	Select justification
ESC c3	Select paper sensor(s) to output Paper-end signals
ESC c4	Select paper sensor(s) to stop printing
ESC c5	Enable/disable panel buttons
ESC d	Print and feed paper n lines
ESC i	Partial cut(one point center uncut)
ESC p	General pulse
ESC t	Select character code table
ESC{	Turn upside-down printing mode on/off
FS p	Print NV bit image
FS q	Defined NV bit image
GS !	Select character size
GS *	Define downloaded bit image
GS /	Print downloaded bit image
GS :	Start/end macro definition
GS B	Turn white/black reverse printing mode on/off
GS H	Select printing position of HRI characters
GS I	Transmit print ID
GS L	Set left margin
GS P	Set vertical and horizontal motion units
GS V	Select cut mode and cut paper
GS W	Set printing area width
GS ^	Execute macro
GS f	Select font for HRI characters
GS h	Set bar code height
GS k	print bar code
GS r	Transmit status
GS v	Print raster bit image
GS w	Set bar code width

**2. Control Commands Details**

HT				
[Name]	Horizontal tab.			
[Format]	ASCII	HT		
	Hex	09		
	Decimal	9		
[Description]	Moves the print position to the next horizontal tab position.			

LF				
[Name]	Print and line feed.			
[Format]	ASCII	LF		
	Hex	0A		
	Decimal	10		
[Description]	Prints the data in the print buffer and feeds one line based on the current line spacing.			

FF				
[Name]	Print and return o standard mode in page mode.			
[Format]	ASCII	FF		
	Hex	0C		
	Decimal	12		
[Description]	Prints the data in the print buffer collectively and returns to standard mode.			

CR				
[Name]	Print and carriage return.			
[Format]	ASCII	HT		
	Hex	0D		
	Decimal	13		
[Description]	When automatic line feed is enabled, this command functions the same as LF; when automatic line feed is disabled, this command is ignored.			

CAN				
[Name]	Cancel print data in page mode.			
[Format]	ASCII	CAN		
	Hex	18		
	Decimal	24		
[Description]	In page mode, deletes all the print data in the current printable area.			

DLE EOT n				
[Name]	Real-time status transmission.			
[Format]	ASCII	DLE	EOT	n
	Hex	10	04	n
	Decimal	16	4	n
[Range]	1 ≤n ≤4			
[Description]	Transmits the selected printer status specified by n in real-time, according to the following parameters : n = 1 : Transmit printer status. n = 2 : Transmit off-line status. n = 3 : Transmit error status. n = 4 : Transmit paper roll sensor status.			

**n = 1 : Printer status**

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2	Off	00	0	Drawer open/close signal is LOW (connector pin 3).
	On	04	4	Drawer open/close signal is HIGH (connector pin 3).
3	Off	00	0	On-Line
	On	08	8	Off-Line
4	On	10	16	Not used. Fixed to On.
5-6	-	-	-	Undefined.
7	Off	00	0	Waiting for on-line recovery.

**n = 2 : Off-line status**

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2	-	-	-	Undefined.
3	Off	00	0	Paper is not being fed by using the PAPER FEED button.
	On	08	8	Paper is being fed by the PAPER FEED button.
4	On	10	16	Not used. Fixed to On.
5	On	08	8	No paper-end stop.
6	On	10	16	Printing stops due to paper end.
7	Off	00	0	No error.

Bit 5 : Becomes on when the paper end sensor detects paper end and printing stops.

**n = 3 : Error status**

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2	-	-	-	Undefined.
3	Off	00	0	Not used. Fixed to Off.
4	On	10	16	Not used. Fixed to On.
5	Off	00	0	Not used. Fixed of Off.
6	Off	00	0	Not used. Fixed of Off.
7	Off	00	0	Not used. Fixed to Off.

Bit 3 : If these errors occur due to paper jams or the like, it is possible to recover by correcting the cause of the error and executing DLE ENQ n( $1 \leq n \leq 2$ ).  
If an error due to a circuit failure (e.g. wire break) occurs, it is impossible to recover.

Bit 6 : When printing is stopped due to high print head temperature until the print head temperature drops sufficiently or when the paper roll cover is open during printing, bit 6 is On.

n = 4 : Continuous paper sensor status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2, 3	Off	00	0	Paper roll end sensor. Paper adequate.
	On	0C	12	Paper near-end is detected by the paper roll near-end sensor.
4	On	10	16	Not used. Fixed to On.
5, 6	Off	00	0	Not roll end sensor. Paper present.
	On	60	96	Paper is detected by the paper roll end sensor.
7	Off	00	0	Not used. Fixed to Off.

#### ESC SP n

[Name] Set right-side character spacing.

[Format]

ASCII	ESC	SP	n
Hex	1B	20	n
Decimal	27	32	n

[Range]  $0 \leq n \leq 255$

[Description] Sets the character spacing for the right side of the character to n/160 inches.

#### ESC ! n

[Name] Select print mode(s).

[Format]

ASCII	ESC	!	n
Hex	1B	21	n
Decimal	27	33	n

[Range]  $0 \leq n \leq 255$

[Description] Selects print mode(s) using n as follows.

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Character font(9 ×9) selected.
	On	01	1	Character font(9 ×7) selected.
1,2	-	-	-	Undefined.
3	Off	00	0	Emphasized mode not selected.
	On	08	8	Emphasized mode selected.
4	Off	00	0	Double-height mode not selected.
	On	10	16	Double-height mode selected.
5	Off	00	0	Double-width mode not selected.
	On	20	32	Double-width mode selected.
6	-	-	-	Undefined.
7	Off	00	0	Underline mode not selected.
	On	80	128	Underline mode selected.

<b>ESC-\$ nL nH</b>					
[Name]	Set absolute print position.				
[Format]	ASCII	ESC	\$	nL	nH
	Hex	1B	24	nL	nH
	Decimal	27	36	nL	nH
[Range]	$0 \leq nL \leq 255$				
	$0 \leq nH \leq 255$				
[Description]	Set the distance from the beginning of the line to the position at with subsequent characters are to be printed.				
	<ul style="list-style-type: none"> <li>The distance from the beginning of the line to the print position is <math>[(nL + nH \times 256) \times (\text{vertical or horizontal motion unit})]</math> inches.</li> </ul>				

<b>ESC % n</b>				
[Name]	Select / Cancel user-defined character set.			
[Format]	ASCII	ESC	%	n
	Hex	1B	25	n
	Decimal	27	37	n
[Range]	$0 \leq n \leq 255$			
[Description]	Selects or cancels the user-defined character set..			
	<ul style="list-style-type: none"> <li>When the LSB of n is 0, the user-defined character set is canceled.</li> <li>When the LSB of n is 1, the user-defined character set is selected.</li> </ul>			

<b>ESC &amp; y c1 c2 [x1 d1...d(y X x1)]... [xk d1... d(yx X xk)]</b>					
[Name]	Define user-defined characters.				
[Format]	ASCII	ESC	&	n y c1 c2	$[x1 d1...d(y X x1)]... [xk d1... d(yx X xk)]$
	Hex	1B	26	n y c1 c2	$[x1 d1...d(y X x1)]... [xk d1... d(yx X xk)]$
	Decimal	27	38	n y c1 c2	$[x1 d1...d(y X x1)]... [xk d1... d(yx X xk)]$
[Range]	$y = 3$				
	$32 \leq c1 \leq c2 \leq 126$				
	$0 \leq x \leq 12$ Font A (12 x 24)				
	$0 \leq x \leq 9$ Font B ( 9 x 24)				
	$0 \leq d1 ... d(y x xk) \leq 255$				
[Description]	Defines user-defined characters.				
	<ul style="list-style-type: none"> <li>y specifies the number of bytes in the vertical direction.</li> </ul>				
	<ul style="list-style-type: none"> <li>c1 specifies the beginning character code for the definition, and c2 specifies the final code.</li> </ul>				
	<ul style="list-style-type: none"> <li>x specifies the number of dots in the horizontal direction.</li> </ul>				

<b>ESC * m nL nH d1...dk</b>				
[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]	$m = 0, 1, 32, 33$			
	$0 \leq nL \leq 255$			
	$0 \leq nH \leq 3$			
	$0 \leq d \leq 255$			
[Description]	Selects a bit-image mode using m for the number of dots specified by nL			
	nH, as follows:			

m	Mode	Vertical direction		Horizontal direction	
		Number of Dots	Dot Destiny	Dot Destiny	Number of Data (K)
0	8-dot single-density	8	60 DPI	90 DPI	nL + nH x 256
1	8-dot double-density	8	60 DPI	180 DPI	nL + nH x 256
32	24-dot single-density	24	180 DPI	90 DPI	(nL + nH x 256) x 3
33	24-dot double-density	24	180 DPI	180 DPI	(nL + nH x 256) x 3

**ESC - n**

[Name] Turn underline mode on / off.

[Format]      ASCII      ESC      -      n  
                  Hex        1B      2D      n  
                  Decimal    27      45      n

[Range]  $0 \leq n \leq 2, 48 \leq n \leq 50$ 

[Description] Turns underline mode on or off, based on the following values of n :

n	Function
0, 48	Turns off underline mode.
1, 49	Turns on underline mode (1-dot thick).
2, 50	Turns on underline mode (2-dots thick).

**ESC 2**

[Name] Select default line spacing.

[Format]      ASCII      ESC      2  
                  Hex        1B      32  
                  Decimal    27      50

[Description] Select 1/6-inch line (approximately 4.23mm) spacing.

**ESC 3 n**

[Name] Set line spacing

[Format]      ASCII      ESC      3      n  
                  Hex        1B      33      n  
                  Decimal    27      51      n

[Range]  $0 \leq n \leq 255$ 

[Description] Sets the line spacing to [n X vertical or horizontal motion unit] inches.

**ESC = n**

[Name] Select peripheral device.

[Format]      ASCII      ESC      =      n  
                  Hex        1B      3D      n  
                  Decimal    27      61      n

[Range]  $0 \leq n \leq 3$ 

[Description] Selects device to which host computer sends data, using n as follows :

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Printer Disabled.
	On	01	1	Printer Enabled.
1-7	-	-	-	Undefined.

**ESC ? n**

[Name] Cancel user-defined characters.  
 [Format] ASCII ESC ? n  
 Hex 1B 3F n  
 Decimal 27 63 n  
 [Range]  $32 \leq n \leq 126$   
 [Description] Cancels user-defined characters.

**ESC @**

[Name] Initialize printer.  
 [Format] ASCII ESC @  
 Hex 1B 40  
 Decimal 27 64  
 [Description] Clears the data in the print buffer and resets the printer mode to the mode that was in effect when the power was turned on.

**ESC D n1... nk NUL**

[Name] Set horizontal tab positions.  
 [Format] ASCII ESC D n1... nk NUL  
 Hex 1B 44 n1... 00  
 Decimal 27 68 n1... 0  
 [Range]  $1 \leq n \leq 255$   
 $0 \leq k \leq 32$   
 [Description] Sets horizontal tab positions.  
 • n specifies the column number for setting a horizontal tab position from the beginning of the line.  
 • k indicates the total number of horizontal tab positions to be set.

**ESC E n**

[Name] Turn emphasized mode on / off.  
 [Format] ASCII ESC E n  
 Hex 1B 45 n  
 Decimal 27 69 n  
 [Range]  $1 \leq n \leq 255$   
 [Description] Turns emphasized mode on or off.  
 When the LSB is 0, emphasized mode is turned off.  
 When the LSB is 1, emphasized mode is turned on.

**ESC G n**

[Name] Turn on / off double-strike mode.  
 [Format] ASCII ESC G n  
 Hex 1B 47 n  
 Decimal 27 71 n  
 [Range]  $0 \leq n \leq 255$   
 [Description] Turns double-strike mode on or off.  
 • When the LSB is 0, double-strike mode is turned off.  
 • When the LSB is 1, double-strike mode is turned on.



**ESC J n**

[Name]	Print and feed paper.			
[Format]	ASCII	ESC	G	n
	Hex	1B	4A	n
	Decimal	27	74	n
[Range]	$0 \leq n \leq 255$			
[Description]	Prints the data in the print buffer and feeds the paper n X vertical or horizontal motion unit.			

**ESC R n**

[Name]	Select an international character set.			
[Format]	ASCII	ESC	R	n
	Hex	1B	52	n
	Decimal	27	82	n
[Range]	$0 \leq n \leq 10$			
[Description]	Selects an international character set in from the following table.			

n	Character set	n	Character set
0	U.S.A.	5	Sweden
1	France	6	Italy
2	Germany	7	Spain
3	U.K.	9	Norway
4	Denmark I	10	Denmark II

[Default]      n=0

**ESC V n**

[Name]	Turn 90° clockwise rotation mode on/off.			
[Format]	ASCII	ESC	U	n
	Hex	1B	56	n
	Decimal	27	86	n
[Range]	$0 \leq n \leq 3, 48 \leq n \leq 49$			
	Turns 90° clockwise rotation mode on/off.			
[Description]	n is used follows:			

n	Function
0, 48	Turn off 90° clockwise rotation mode
1, 49	Turns on 90° clockwise rotation mode

**ESC \ nL nH**

[Name]	Set relative print position.				
[Format]	ASCII	ESC	\	nL	nH
	Hex	1B	5C	nL	nH
	Decimal	27	92	nL	nH
[Range]	$0 \leq nL \leq 255$				
	$0 \leq nH \leq 255$				
[Description]	Selects the print starting position based on the current position by using the horizontal or vertical motion unit.				
	<ul style="list-style-type: none"> <li>This command sets the distance from the current position to [(nL + nH x 256) x horizontal or vertical motion unit]</li> </ul>				

ESC a n				
[Name]	Select justification.			
[Format]	ASCII	ESC	a	n
	Hex	1B	61	n
	Decimal	27	97	n
[Range]	$0 \leq n \leq 2, 48 \leq n \leq 50$			
[Description]	Aligns all the data in one line to the specified position. n selects the type of justification as follows.			

n	Justification
0, 48	Left justification
1, 49	Centering
2, 50	Right justification

ESC c 3 n				
[Name]	Select paper sensor(s) to output paper end signals.			
[Format]	ASCII	ESC	c	3 n
	Hex	1B	63	33 n
	Decimal	27	99	51 n
[Range]	$0 \leq n \leq 255$			
[Description]	Selects the paper sensor(s) to output paper end signals. ■ Each bit of n is used as follows:			

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Paper roll near-end sensor disable.
	On	01	1	Paper roll near-end sensor enable.
1	Off	00	0	Paper roll near-end sensor disable.
	On	02	2	Paper roll near-end sensor enable.
2	Off	00	0	Paper roll end sensor disable.
	On	04	4	Paper roll end sensor enable.
3	Off	00	0	Paper roll end sensor disable.
	On	08	8	Paper roll end sensor enable.
4-7	-	-	-	Undefined.

ESC c 4 n				
[Name]	Select paper sensor(s) to stop printing.			
[Format]	ASCII	ESC	c	3 n
	Hex	1B	63	34 n
	Decimal	27	99	52 n
[Range]	$0 \leq n \leq 255$			
[Description]	Selects the paper sensor(s) used to stop printing when a paper-end is detected, using n as follows:			

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Paper roll end sensor disable.
	On	01	1	Paper roll end sensor enable.
1	Off	00	0	Paper roll end sensor disable.
	On	02	2	Paper roll end sensor enable.
2-7	-	-	-	Undefined.

**ESC c 5 n**

[Name]	Enable / Disable panel button.				
[Format]	ASCII	ESC	c	3	n
	Hex	1B	63	35	n
	Decimal	27	99	53	n
[Range]	$0 \leq n \leq 255$				
[Description]	Enables or disables the panel button.				
	<ul style="list-style-type: none"> <li>• When the LSB of n is 0, the panel buttons are enabled.</li> <li>• When the LSB of n is 1, the panel buttons are disabled.</li> </ul>				

**ESC d n**

[Name]	Print and feed n lines.				
[Format]	ASCII	ESC	d		n
	Hex	1B	64		n
	Decimal	27	100		n
[Range]	$0 \leq n \leq 255$				
[Description]	Prints the data in the print buffer and feeds n lines.				

**ESC i n**

[Name]	Partial Cut				
[Format]	ASCII	ESC	i		
	Hex	1B	69		
	Decimal	27	105		
[Range]	$0 \leq n \leq 255$				
[Description]	Prints the data in the print cut of paper.				

**ESC p m t1 t2**

[Name]	Generate pulse.					
[Format]	ASCII	ESC	p	m	t1	t2
	Hex	1B	70	m	t1	t2
	Decimal	27	112	m	t1	t2
[Range]	$m = 0, 1, 48, 49$					
	$0 \leq t1 \leq 255, 0 \leq t2 \leq 255$					
[Description]	Outputs the pulse specified by t1 and t2 to connector pin m as follows.					

m	Connector pin
0, 48	Drawer kick-out connector pin 2
1, 49	Drawer kick-out connector pin 5

**ESC t n**

[Name]	Select character code table.				
[Format]	ASCII	ESC	t		n
	Hex	1B	74		n
	Decimal	27	116		n
[Range]	$0 \leq n \leq n, n = 255$				
[Description]	Selects a page n from the character code table.				

n	Page
0	0 (PC437 [U.S.A., standard Europe])
1	1 (Katakana)
2	2 (PC850 [Multilingual])
3	3 (PC860 [Portuguese])
4	4 (PC863 [Canadian-French])
5	5 (PC865 [Nordic])
255	Space page

<b>ESC { n</b>				
[Name]	Turns on / off upside-down printing mode.			
[Format]	ASCII	ESC	{	n
	Hex	1B	7B	n
	Decimal	27	123	n
[Range]	0 ≤ n ≤ 255			
[Description]	Turns upside-down printing mode on or off.			
	<ul style="list-style-type: none"> <li>• When the LSB is 0, upside-down printing mode is turned off.</li> <li>• When the LSB is 1, upside-down printing mode is turned off.</li> </ul>			

<b>FS p n m</b>				
[Name]	Print NV bit image.			
[Format]	ASCII	FS	p	n
	Hex	1C	70	n
	Decimal	28	112	n
[Range]	1 ≤ n ≤ 255			
[Description]	0 ≤ m ≤ 3, 48 ≤ m ≤ 51			
	Prints a NV bit image n using the mode specified by m.			

m	Mode	Vertical Dot Density (DPI)	Horizontal Dot Density (DPI)
0.48	Normal	180	180
1.49	Double-width	180	90
2.50	Double-height	90	180
3.51	Quadruple	90	90

\* n is the number of the NV bit image (defined using the FS q command).

\* m specifies the bit image mode.

FS q n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n				
[Name]	Defined NV bit image.			
[Format]	ASCII	FS	q	n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n
	Hex	1B	71	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
[Range]	$1 \leq n \leq 255$			
	$0 \leq xL \leq 255$			
	$0 \leq xH \leq 3 \leq (\text{when } 1 \leq (xL + xH \times 256) \leq 1023)$			
	$0 \leq yL \leq 3 \leq (\text{when } 1 \leq (xL + xH \times 256) \leq 288)$			
	$1 \leq d \leq 255$			
	$k = (xL + xH \times 256) \times (yL + yH \times 256) \times 8$			
[Description]	Total defined data area = 2M bits (256K bytes)			
	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.			

GS ! n				
[Name]	Select character size.			
[Format]	ASCII	GS	!	n
	Hex	1D	21	n
	Decimal	29	33	n
[Range]	$0 \leq n \leq 255$			
	$(1 \leq \text{vertical number of times} \leq 8, 1 \leq \text{horizontal number of times} \leq 8)$			
[Description]	Selects the character height using bits 0 to 2 and selects the character width using bits 4 to 7, as following:			

Bit	Off/On n	Hex	Decimal	Function
0-1	Character height selection. See Table 2			
4-5	Character width selection. See Table 1			

Table 1  
Character Width Selection

Hex	Decimal	Width
00	0	1(normal)
10	16	2(double-width)

Table 2  
Character Height Selection

Hex	Decimal	Width
00	0	1(normal)
01	1	2(double-width)

**GS \* x y d1...d(x x y x 8)**

[Name]	Define downloaded bit image.					
[Format]	ASCII	GS	*	x	y	d1...d(x x y x 8)
	Hex	1D	2A	x	y	d1...d(x x y x 8)
	Decimal	29	42	x	y	d1...d(x x y x 8)
[Range]	$0 \leq n \leq 255$					
	$1 \leq y \leq 255$					
	$x \times y \leq 1536$					
	$0 \leq d \leq 255$					
[Description]	Defines a downloaded bit image using the dots specified by x any y.					
	<ul style="list-style-type: none"> <li>• x indicates the number of dots in the horizontal direction.</li> </ul>					
	<ul style="list-style-type: none"> <li>• y indicates the number of dots in the vertical direction.</li> </ul>					

**GS / m**

[Name]	Print downloaded bit image.			
[Format]	ASCII	GS	/	n
	Hex	1D	2F	n
	Decimal	29	47	n
[Range]	$0 \leq m \leq 3, \quad 48 \leq m \leq 51$			
[Description]	Prints a downloaded bit image using the mode specified by m. m selects a mode from the table below:			

m	Mode	Vertical Dot Density(DPI)	Horizontal Dot Density(DPI)
0, 48	Normal	180	180
1, 49	Double-width	180	90
2, 53	Double-height	90	180
3, 51	Quadruple	90	90

**GS :**

[Name]	Start/End macro definition.		
[Format]	ASCII	GS	:
	Hex	1D	3A
	Decimal	29	58
[Description]	Starts or ends macro definition.		

**GS B n**

[Name]	Turn white/black reverse printing mode on/off.			
[Format]	ASCII	GS	B	n
	Hex	1D	42	n
	Decimal	29	66	n
[Range]	$0 \leq n \leq 255$			
[Description]	Turn on or off white/black reverse printing mode.			
	<ul style="list-style-type: none"> <li>• When the LSB is 0, white/black reverse printing mode is turned off.</li> </ul>			
	<ul style="list-style-type: none"> <li>• When the LSB is 1, white/black reverse printing mode is turned off.</li> </ul>			

**GS H n**

[Name] Select printing position of HRI characters.  
 [Format] ASCII ESC H n  
 Hex 1B 48 n  
 Decimal 27 72 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	Not printed.
1, 49	Above bar code.
2, 50	Below bar code.
3, 51	Both above and below the bar code.

- HRI indicates Human Readable Interpretation.

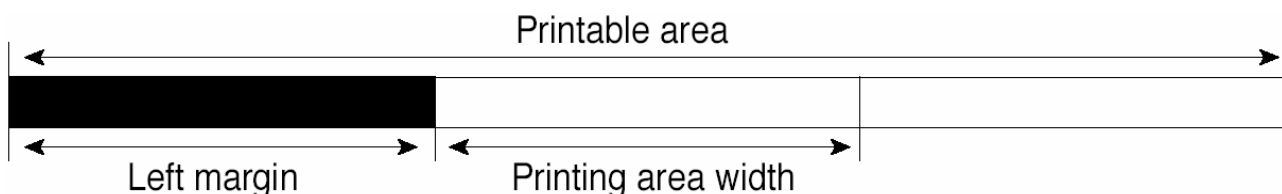
**GS I n**

[Name] Transmit printer ID.  
 [Format] ASCII GS I n  
 Hex 1D 49 n  
 Decimal 29 73 n  
 [Range]  $1 \leq n \leq 3, 49 \leq n \leq 51$   
 [Description] Transmits the printer ID specified by n as follows :

n	Printer ID	Specification	ID (hexadecimal)
1, 49	Printer model ID	STP-131S / STP-131P	30
2, 50	Type ID		02
3, 51	ROM version ID	Depends on ROM version	10

**GS L nL nH**

[Name] Set left margin.  
 [Format] ASCII GS L nL nH  
 Hex 1D 4C nL nH  
 Decimal 29 76 nL nH  
 [Range]  $1 \leq nL \leq 255$   
 $0 \leq nH \leq 255$   
 [Description] Set the left margin using nL and nH.  
 • The left margin is set to  $[(nL + nH \times 256) \times \text{horizontal motion unit}]$  inches.

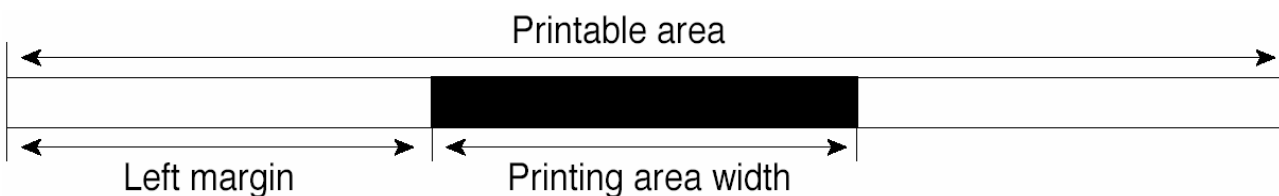


GS P x y					
[Name]	Set horizontal and vertical motion units.				
[Format]	ASCII	GS	P	x	y
	Hex	1D	50	x	y
	Decimal	29	80	x	y
[Range]	$1 \leq x \leq 255$				
	$0 \leq y \leq 255$				
[Description]	Sets the horizontal and vertical motion units to approximately 25.4/x mm {1/x inch and} and approximately 25.4/y mm {1/y inches}, respectively. When x and y are set to 0, the default setting of each value is used				

① GS V m,      ② GS V m n					
[Name]	Select cut mode and cut paper.				
[Format]	① ASCII	GS	V	m	
	Hex	1D	56	m	
	Decimal	29	86	m	
	② ASCII	GS	V	m	n
	Hex	1D	56	m	n
	Decimal	29	86	m	n
[Range]	① m = 1, 49				
	② m = 66, $0 \leq n \leq 255$				
[Description]	Selects a mode for cutting paper and executes paper cutting. The value of m selects the mode as follows:				

m	Print Mode
0, 1, 49	Partial cut (one point center uncut)
66	Feeds paper (cutting position + [n x )vertical motion unit])), and cuts the paper partially (one point center uncut).

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]	$0 \leq nL \leq 255$				
	$0 \leq nH \leq 255$				
[Description]	Set the left margin using nL and nH.				
	<ul style="list-style-type: none"> <li>• The left margin is set to [(nL + nH x 256) x horizontal motion unit] inches.</li> </ul>				





**GS ^ r t m**

[Name]	Execute macro.					
[Format]	ASCII	GS	^	r	t	m
	Hex	1D	5E	r	t	m
	Decimal	29	94	r	t	m
[Range]	$0 \leq r \leq 255$					
	$0 \leq t \leq 255$					
[Description]	m = 0, 1					
	Executes a macro.					
	<ul style="list-style-type: none"> <li>• r specifies the number of times to execute the macro.</li> <li>• t specifies the waiting time for executing the macro.</li> <li>• m specifies macro executing mode.</li> </ul>					
	When the LSB of m = 0					
	The macro executes r times continuously at the interval specified by t.					
[Description]	When the LSB of m = 1:					
	After waiting for the period specified by t, the PAPER OUT LED					
	indicators blink and the printer waits for the FEED button to be pressed. After the button is pressed, the printer executes the macro once. The printer repeats the operation r times.					

**Gs f n**

[Name]	Select font for Human Readable Interpretation (HRI) characters.			
[Format]	ASCII	GS	f	n
	Hex	1D	66	n
	Decimal	29	102	n
[Range]	n = 0, 1, 48, 49			
[Description]	Selects a font for the HRI characters used when printing a bar code. n selects a font from the following table:			

n	Font
0, 48	Font A (12 x 24)
1, 49	Font B (9 x 24)

**GS h n**

[Name]	Set bar code height.			
[Format]	ASCII	GS	h	n
	Hex	1D	68	n
	Decimal	29	104	n
[Range]	$1 \leq n \leq 255$			
[Description]	Set the height of the bar code.			
	n specifies the number of dots in the vertical direction.			

① GS k m d1... dk NUL,      ② GS 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	104	m	d1...dk	0
	② ASCII	GS	V	m	n	d1...dn
	Hex	1D	56	m	n	d1...dn
	Decimal	29	86	m	n	d1...dn
[Range]	① $0 \leq m \leq 6$ (k and d depends on the bar code system used.)					
	② $65 \leq m \leq 73$ (n and d depends on the bar code system used)					
[Description]	Selects a bar code system and prints the bar-code.					
	m selects a bar code system as follows:					

m	Bar Code System	Number of Characters	Remarks
①	0	UPC-A	$11 \leq k \leq 12$ $48 \leq d \leq 57$
	1	UPC-E	$11 \leq k \leq 12$ $48 \leq d \leq 57$
	2	JAN13(EAN13)	$12 \leq k \leq 13$ $48 \leq d \leq 57$
	3	JAN8(EAN8)	$7 \leq k \leq 8$ $48 \leq d \leq 57$
	4	CODE39	$1 \leq k$ $48 \leq d \leq 57, 65 \leq d \leq 90, 32, 36, 37, 43, 45, 46, 47$
	5	ITF	$1 \leq k$ (even number) $48 \leq d \leq 57$
	6	CODABAR	$1 \leq k$ $48 \leq d \leq 57, 65 \leq d \leq 68, 36, 43, 45, 46, 47, 58$
②	65		$11 \leq n \leq 12$ $48 \leq d \leq 57$
	66	UPC-E	$11 \leq n \leq 12$ $48 \leq d \leq 57$
	67	JAN13(EAN13)	$12 \leq n \leq 13$ $48 \leq d \leq 57$
	68	UPC-A	$7 \leq n \leq 8$ $48 \leq d \leq 57$
	69	CODE39	$1 \leq n \leq 255$ $48 \leq d \leq 57, 65 \leq d \leq 90, 32, 36, 37, 43, 45, 46, 47$ $d1 = dk = 42(1)$
	70	ITF	$1 \leq n \leq 255$ (even number) $48 \leq d \leq 57$
	71	CODABAR	$1 \leq n \leq 255$ $48 \leq d \leq 57, 65 \leq d \leq 68, 36, 43, 45, 46, 47, 58$
	72	CODE93	$1 \leq n \leq 255$ $0 \leq d \leq 127$
	73	CODE128	$2 \leq n \leq 255$ $0 \leq d \leq 127$

GS r n				
[Name]	Transmit status.			
[Format]	ASCII	GS	r	n
	Hex	1D	72	n
	Decimal	29	114	n
[Range]	n = 1, 2, 49, 50			
[Description]	Transmits the status specified by n as follows.			

n	Function
1, 49	Transmits paper sensor status.
2, 50	Transmits drawer kick-out connector status.

GS v 0 m xL xH yL yH [d1...dk]										
[Name]	Transmit status.									
[Format]	ASCII	G S	v	0	m	xL	x H	y L	y H	[d1...dk]
	Hex	1 D	7 6	3 0	m	xL	x H	y L	y H	[d1...dk]
	Decimal	29	118	48	m	xL	xH	yL	yH	[d1 ...dk]
[Range]	0 m 3, 48 m 51									
	$0 \leq xL \leq 255$									
	$0 \leq xH \leq 255$									
	$0 \leq yL \leq 255$									
	$0 \leq d \leq 255$									
[Description]	$k = (xL + xH \times 256) (yL + yH \times 256) (k \neq 0)$									
	Selects Raster bit-image mode. The value of m selects the mode, as follows :									

m	Mode	Vertical Dot Density (DIP)	Horizontal Dot Density (DIP)
0, 48	Normal	180 DPI	180 DPI
1, 49	Double-width	180 DPI	90 DPI
2, 50	Double-height	90 DPI	180 DPI
3, 51	Quadruple	90 DPI	90 DPI

\* xL, xH, select the number of data bits (xL + xH 256) in the horizontal direction for the bit image.

\* yL, yH, select the number of data bits (yL + yH 256) in the vertical direction for the bit image.

GS w n				
[Name]	Set bar code width.			
[Format]	ASCII	GS	w	n
	Hex	1D	77	n
	Decimal	29	119	n
[Range]	$2 \leq n \leq 6$			
[Description]	Set the horizontal size of the bar code. n specifies the bar code width as follows.			

n	Module width for multi-level bar code	Binary-level bar code	
		Thin element width (mm)	Thick element width (mm)
2	0.282	0.282	0.706
3	0.423	0.423	1.129
4	0.564	0.564	1.411
5	0.706	0.706	1.834
6	0.847	0.847	2.258

- Multi-level bar codes are as follows : UPC-A, UPC-E, JAn13(ENA13), JAN8(EAN8), CODE93, CODE128.
- Binary-level bar codes are as follows : CODE39, ITF, CODABAR