COMMAND REFERENCE

TG2460H
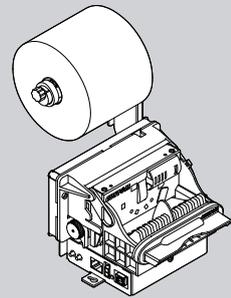
TG2480H
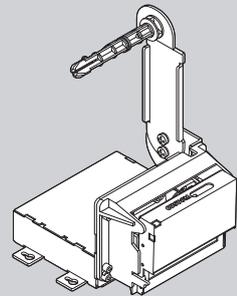
TL60
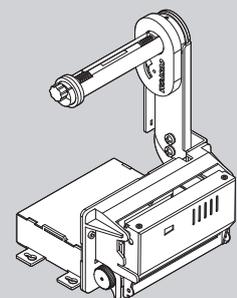
TL80

Edit by:

1 INTRODUCTION

1.1 Command description

Each command reported in this manual is described as shown in the following picture. In the first heading line (grey colour) is reported the hexadecimal command value. In the second heading line are listed the printers on which it is possible to use the command (for example printer AAAA).
The next fields give all the information useful to use the command.

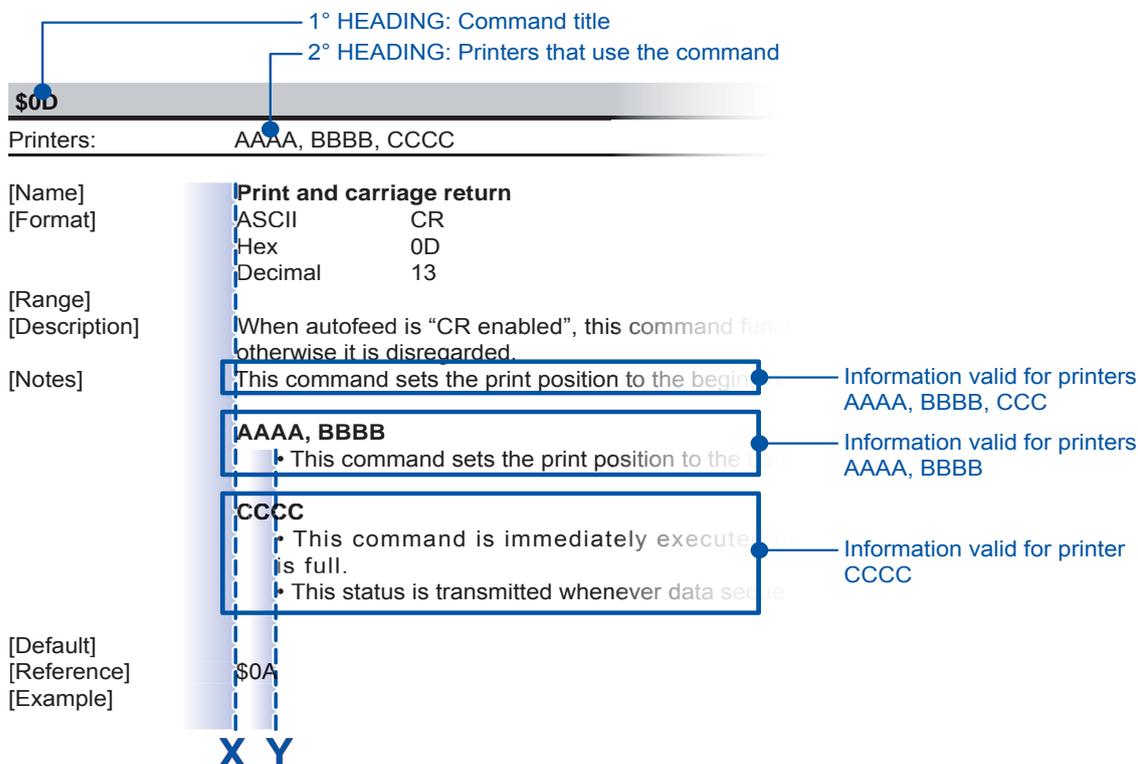|	
[Name]	Command title
[Format]	ASCII, hexadecimal and decimal command value.
[Range]	Limits of the values the command and its variables can take
[Description]	Description of command function
[Notes]	Additional information about command use and settings .
[Default]	Default value of the command and its variables.
[Reference]	Pertaining commands related to described command.
[Example]	

1° HEADING: Command title
2° HEADING: Printers that use the command

$0D

Printers: AAAA, BBBB, CCCC

[Name]	**Print and carriage return**
[Format]	ASCII CR
	Hex 0D
	Decimal 13
[Range]	
[Description]	When autofeed is "CR enabled", this command func... otherwise it is disregarded.
[Notes]	This command sets the print position to the begin...

Information valid for printers AAAA, BBBB, CCC

AAAA, BBBB
• This command sets the print position to the ...

Information valid for printers AAAA, BBBB

CCCC
• This command is immediately execute... is full.
• This status is transmitted whenever data se...

Information valid for printer CCCC

[Default]	
[Reference]	$0A
[Example]	

X   Y

The information reported in the picture are aligned with line X or line Y:	
LINE X	Description valid for all the printers listed in the second heading line.
LINE Y	Description valid for a specific printer (written in bold).

LEGEND	
$	indicates the representation of the command hexadecimal value (for example $40 means HEX 40).
{ }	indicates an ASCII character not performable.
n, m, t, x, y	are optional parameters that can have different values.

1.2 Print direction

The printer has two printing direction which can be selected by means of the control characters: normal and reverse.

```
1234567890
abcdefghilmnopqrs
ABCDEFGHILMN□PQRS
```

PAPER OUTFEED DIRECTION

Normal Mode

Reverse Mode

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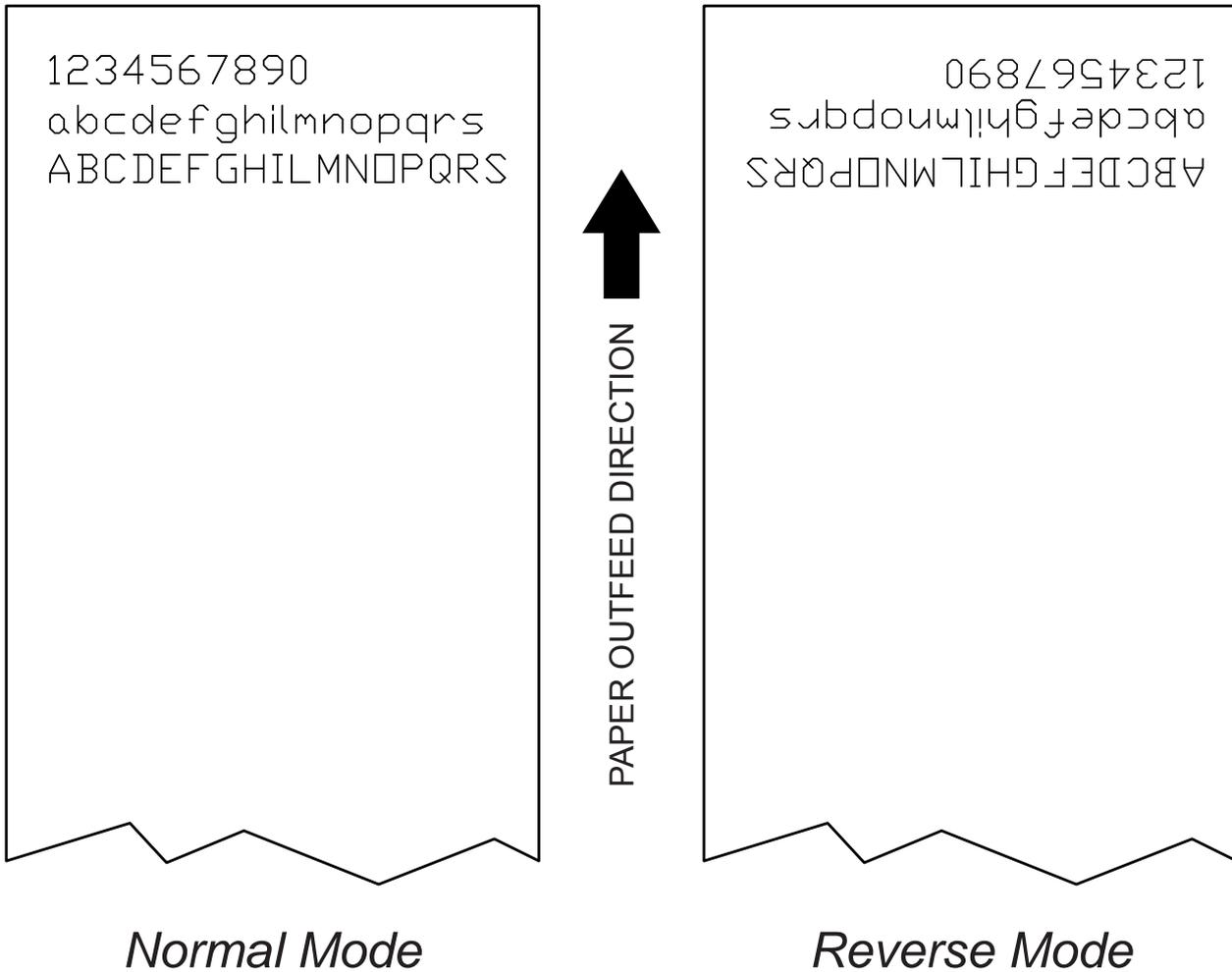
2 ESC/POS™ EMULATION

The following table lists all the commands for function management in ESC/POS Emulation of the printer. The commands can be transmitted to the printer at any moment, but they will only be carried out when the commands ahead of them have been executed. The commands are carried out when the circular buffer is free to do so.

COMMAND DESCRIPTION TABLE

Tab.1

Com. HEX	Com. ASCII	Description
PRINT COMMANDS		
$0A	LF	Print and line feed
$0D	CR	Print and carriage return
$1B $4A	ESC J	Print and feed paper
$1B $64	ESC d	Print and feed paper n lines
LINE SPACING COMMANDS		
$1B $32	ESC 2	Select 1/6-inch line spacing
$1B $33	ESC 3	Set line spacing using minimum units
CHARACTER COMMANDS		
$1B $20	ESC SP	Set right-side character spacing
$1B $21	ESC !	Set print mode
$1B $2D	ESC -	Turn underline mode on/off
$1B $34	ESC 4	Set/reset script mode
$1B $45	ESC E	Select emphasized mode
$1B $47	ESC G	Select double-strike mode
$1B $52	ESC R	Select international character set
$1B $56	ESC V	Select print mode 90° turned
$1B $74	ESC t	Select character code table
$1B $7B	ESC { }	Set/cancel upside-down character printing
$1B $C1	ESC { }	Set/cancel cpi mode
$1D $21	GS !	Seleziona dimensione caratteri
$1D $42	GS B	Select character size
PRINT POSITION COMMANDS		
$09	HT	Horizontal tab
$1B $24	ESC $	Set absolute print position
$1B $44	ESC D	Set horizontal tab position
$1B $5C	ESC \	Set relative print position
$1B $61	ESC a	Select justification
$1D $24	GS $	Set absolute vertical print position in page mode
$1D $4C	GS L	Set left margin
$1D $57	GS W	Set printing area width
BIT-IMAGE COMMANDS		
$1B $2A	ESC *	Select image print mode
$1D $2A	GS *	Logo extra storage
STATUS COMMANDS		
$10 $04	DLE EOT	Real-time status transmission
$1B $76	ESC v	Transmit printer status
$1D $72	GS r	Transmit status

BARCODE COMMANDS		
$1D $48	GS H	Select printing position of HRI characters
$1D $68	GS h	Select barcode height
$1D $6B	GS k	Print barcode
$1D $77	GS w	Select horizontal size (enlargement) of barcode
MECHANISM CONTROL COMMANDS		
$1B $69	ESC i	Total cut
MISCELLANEOUS COMMANDS		
$1B $3D	ESC =	Select peripherals device
$1B $40	ESC @	Initialize printer
$1B $4B	ESC K	Power ON / OFF led bar
$1B $63 $35	ESC c 5	Enable/Disable front panel keys
$1B $78	ESC x	Select speed / quality mode
$1C $C0 $34	FS { } 4	Total cut and automatic paper moving back
$1C $C0 $AA $0F $EE $34	FS { } { } { } { } 4	Select logo share and print it in any graphic page point
$1D $49	GS I	Transmit printer ID
$1D $50	GS P	Set horizontal and vertical motion units (mode 1)
$1D $70	GS p	Print logo
TICKET MANAGEMENT COMMANDS		
$1D $7C	GS { }	Set printing density

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Given below are more detailed descriptions of each command.

$09	
Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Horizontal tab**	
[Format]	ASCII	HT
	Hex	09
	Decimal	9
[Range]		
[Description]	Moves the print position to the next horizontal tab position.	
[Notes]	• Ignored unless the next horizontal tab position has been set..	
	• If the command is received when the printing position is at the right margin, the printer executes print buffer full printing and horizontal tab processing from the beginning of the next line.	
	• Horizontal tab positions are set using $1B $44.	
[Default]		
[Reference]	$1B $44	
[Example]		

$0A	
Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Print and line feed**	
[Format]	ASCII	LF
	Hex	0A
	Decimal	10
[Range]		
[Description]	Prints the data in the buffer and feeds one line based on the current line spacing.	
[Notes]	• Sets the print position to the beginning of the line.	
	• If the buffer is empty, the printing feeds of (character height + spacing gap) dot.(default 32 dot).	
[Default]		
[Reference]	$0D	
[Example]		

$0D	
Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Print and carriage return**	
[Format]	ASCII	CR
	Hex	0D
	Decimal	13
[Description]	When autofeed is "CR enabled", this command functions in the same way as $0A, otherwise it is disregarded.	
[Notes]	• Sets the print position to the beginning of the line.	
[Default]	See "Autofeed in setup" parameter.	
[Reference]	$0A	
[Example]		

$10 $04 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Real-time status transmission**
[Format]	ASCII DLE EOT n
	Hex 10 04 n
	Decimal 16 4 n

[Range]	$1 \leq n \leq 4$, n = 17, n = 20, n=21
[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 = 17   transmit print status
n = 20   transmit FULL STATUS
n = 21   transmit printer ID

[Notes]	• This command is executed when the data buffer is full.
	• This status is transmitted whenever data sequence $10 $04 is received.
[Default]	
[Reference]	See tables below.
[Example]	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	Not used. Fixed to Off
3	Off	00	0	On-line.
	On	08	8	Off-line.
4	On	10	16	Not used. Fixed to On
5	-	-	-	RESERVED
6	Off	00	0-	LF key released
	On	40	64	LF key pressed
7	Off	00	0	Not used. Fixed to Off

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	Off	00	0	Not used. Fixed to Off
3	Off	00	0	Paper isn't feeded by FEED. key
	On	08	8	Paper is feeded by FEED. key
4	On	10	16	Not used. Fixed to On
5	Off	00	0	Paper present
	On	20	32	Printing stop due to paper end
6	Off	00	0	No error
	On	40	64	Error.
7	Off	00	0	Not used. Fixed to Off

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	Off	00	0	Not used. Fixed to Off
3	Off	00	0	Not used. Fixed to Off
4	On	10	16	Not used. Fixed to On
5	Off	00	0	No unrecoverable error.
	On	20	32	Unrecoverable error
6	Off	00	0	No auto-recoverable error
	On	40	64	Auto-recoverable error
7	Off	00	0	Not used. Fixed to Off

n=4: Paper roll sensor status

BIT	OFF/ON	HEX	Decimal	FUNCTION
0	Off	00	0	Not used. Fixed to Off
1	On	02	0	Not used. Fixed to On
2	Off	00	0	Paper present
	On	04	4	Near paper end
3	Off	00	0	Paper present
	On	08	8	Near paper end
4	On	10	16	Not used. Fixed to On
5	Off	00	0	Paper present
	On	20	32	Paper absent
6	Off	00	0	Paper present
	On	40	64	Paper absent
7	Off	00	0	Not used. Fixed to Off

n=17: Print status

BIT	OFF/ON	HEX	Decimal	FUNCTION
0	-	-	-	RESERVED.
1	-	-	-	RESERVED.
2	Off	00	0	Paper drag motor off
	On	04	4	Paper drag motor on
3	-	-	-	RESERVED.
4	-	-	-	RESERVED.
5	Off	00	0	Paper present
	On	20	32	Paper absent
6	-	-	-	RESERVED.
7	-	-	-	RESERVED.

n=20: FULL status (6 bytes)

1st Byte = $10 (DLE);

2nd Byte = $0F

3rd Byte = Paper status

BIT	OFF/ON	HEX	Decimal	FUNCTION
0	Off	00	0	Paper present
0	On	01	1	Paper not present
1	-	-	-	RESERVED.
2	Off	00	0	Paper present in abundance
2	On	04	4	Near paper end
3	-	-	-	RESERVED.
4	-	-	-	RESERVED.
5	Off	00	0	Ticket not present in output.
5	On	20	32	Ticket present in output.
6	Off	00	0	Not virtual paper end (*)
6	On	40	64	Virtual paper end (*)
7	Off	00	0	Notch not found
7	On	80	128	Notch found

(*) Virtual paper end is set when the paper length available, read by $1D $E1, is 0.

4th Byte = User status

BIT	OFF/ON	HEX	Decimal	FUNCTION
0	Off	00	0	No error printing head down
0	On	01	1	Printing head up error
1	Off	00	00	Cover closed
1	On	02	2	Cover opened
2	Off	00	0	No spooling
2	On	04	4	Spooling
3	Off	00	0	Drag paper motor off
3	On	08	8	Drag paper motor on
4	-	-	-	RESERVED.
5	Off	00	0	LF key released
5	On	20	32	LF key pressed
6	Off	00	0	FF key released
6	On	40	64	FF key pressed
7	-	-	-	RESERVED.

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5th Byte = Recoverable error status

BIT	OFF/ON	HEX	Decimal	FUNCTION
0	Off	00	0	Head temperature ok.
	On	01	1	Head temperature error
1	Off	00	00	Ejection ok (*)
	On	02	2	Ejection error after a forced cut (*)
2	Off	00	0	No COM error
	On	04	4	RS232 COM error
3	Off	00	0	Power supply voltage ok
	On	08	8	Power supply voltage error
4	Off	00	0	No timeout error
	On	10	16	Reception timeout
5	Off	00	0	Acknowledge command
	On	20	32	Not acknowledge command error
6	Off	00	0	Free paper path
	On	40	64	Paper jam
7	Off	00	0	Notch search ok
	On	80	128	Error in notch search

(*) : Only for TG2480H printer. model

6th Byte = Unrecoverable error status

BIT	OFF/ON	HEX	Decimal	FUNCTION
0	Off	00	0	Cutter ok (*)
	On	01	1	Cutter error (*)
1	-	-	-	RESERVED.
2	Off	00	0	RAM ok
	On	04	4	RAM error
3	Off	00	0	EEPROM ok
	On	08	8	EPROM error
4	-	-	-	RESERVED.
5	-	-	-	RESERVED.
6	Off	00	0	Flash ok
	On	40	64	Flash error
7	-	-	-	RESERVED.

(*) : This bit is not set in the TG2460H printers without cutter.

n=21: transmit printer ID1st byte= (refer to command $1D $49)

$1B $20 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Set right-side character spacing**		
[Format]	ASCII	ESC	SP	n
	Hex	1B	20	n
	Decimal	27	32	n

[Range] 0 ≤ n ≤ 255

[Description] Sets the character spacing for the right side of the character to [n x horizontal or vertical motion units].

[Notes]
• The right character spacing for double-width mode is twice the normal value. When the characters are enlarged, the right side character spacing is m (2 or 4) times the normal value.
• The horizontal and vertical motion units are specified by $1D $50. Changing the horizontal or vertical motion units does not affect the current right side spacing.
• The $1D $50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount.
• In standard mode, the horizontal motion unit is used.
• The maximum right side spacing is 255/200 inches.

[Default] n = 0

[Reference] $1D $50

[Example]

$1B $21 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Select print modes**		
[Format]	ASCII	ESC	!	n
	Hex	1B	21	n
	Decimal	27	33	n

[Range] 0 ≤ n ≤ 255

[Description] Selects print modes using n (see table below):

BIT	OFF/ON	HEX	Decimal	FUNCTION	11/15 cpi	15/20 cpi
0	Off	00	0	Character font A selected.	18 x 24	14 x 24
	On	01	1	Character font B selected	14 x 24	10 x 24
1	-	-	-	Undefined.		
2	-	-	-	Undefined.		
3	Off	00	0	Expanded mode not selected.		
	On	08	8	Expanded 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	Off	00	0	Italic mode not selected.		
	On	40	64	Italic mode selected.		
7	Off	00	0	Underline mode not selected.		
	On	80	128	Underline mode selected.		

[Notes]
• The printer can underline all characters, but cannot underline the spaces set by $09, $1B $24, $1B $5C and 90°/270° rotated characters.

• This command resets the left and right margin at default value (see $1D $4C, $1D $57).
• $1B $45 can also be used to turn the emphasized mode on/off. However, the last-received setting command is the effective one.
• $1B $2D can also be used to turn the underlining mode on/off. However, the last-received setting command is the effective one.
• $1D $21 can also be used to select character height/width. However, the last-received setting command is the effective one.
• $1B $34 can also be used to turn the italic mode on/off. However, the last-received setting command is the effective one.

[Default]	n = 0
[Reference]	$1B $2D, $1B $34, $1B $45, $1D $21
[Example]	

$1B $24 nL nH

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Set absolute print position**			
[Format]	ASCII	ESC	$	nL	nH
	Hex	1B	24	nL	nH
	Decimal	27	36	nL	nH

[Range] $0 \le nL \le 255$
$0 \le nH \le 255$

[Description] Sets the distance from the beginning of the line to the position at which subsequent characters are to be printed.
The distance from the beginning of the line to the print position is [(nL + nH × 256) × (vertical or horizontal motion unit)] inches.

[Notes] • Settings outside the specified printable area are ignored.
• The horizontal and vertical motion unit are specified by $1D $50.
• $1D $50 can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum horizontal movement amount.
• In standard mode, the horizontal motion unit (x) is used.
• If the setting is outside the printing area width, it sets the absolute print position, but the left or right margin is set at default value.

[Default]	
[Reference]	$1B $5C, $1D $50
[Example]	

$1B $2A m nL nH d1...dk

Printers:	TG2460H, TG2480H, TL60, TL80

[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
$0 \le nL \le 255$
$0 \le nH \le 3$
$0 \le d \le 255$

[Description]   Selects a bit image mode using m for the number of dots specified by nL and nH, as follows:

m	MODE	VERTICAL DIRECTION		HORIZONTAL DIRECTION	
		N° dots	DPI	DPI	N° of data (k)
0	8 dot single density	8	67	100	nL + nH x 256
1	8 dot double density	8	67	200	nL + nH x 256
32	24 dot single density	24	200	100	(nL + nH x 256) x 3
33	24 dot double density	24	200	200	(nL + nH x 256) x 3

[Notes]   • The nL and nH parameters indicate the number of dots of the bit image in the horizontal direction. The number of dots is calculated using: nL + nH x 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 to not print the dot.
• If the value of m is outside the specified range, nL and data following it are processed as normal data.

• If the width of the printing area set by $1D $4C and $1D $57 is less than the width required by the data set using $1B $2A, the excess data are ignored.
• To print the bit image use $0A, $0D, $1B $4A or $1B $64.
• After printing a bit image, the printer returns to normal data processing mode.
• This command is not affected by the emphasized, double-strike, underline (etc.) print modes, except for the upside-down mode.
• The relationship between the image data and the dots to be printed is as follows:
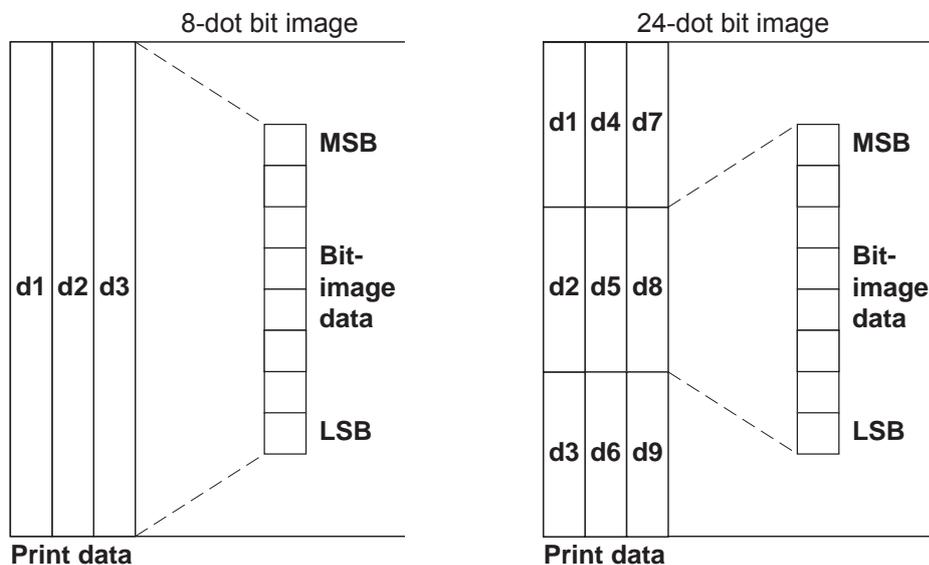
[Default]
[Reference]
[Example]

$1B $2D n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Turn underline mode on/off**		
[Format]	ASCII	ESC	-	n
	Hex	1B	2D	n
	Decimal	27	45	n
[Range]	0 ≤ n ≤ 2, 48 ≤ n ≤ 50			
[Description]	Turns underline mode on or off, based on the following values of n:			
	n = 0, 48	Turns off underline mode		
	n = 1, 49	Turns on underline mode (1-dot thick)		
	n = 2, 50	Turns on underline mode (2-dot thick)		

[Notes]
• The printer can underline all characters, but cannot underline the space and right-side character spacing (command $09).
• The printer cannot underline 90°/270° rotated characters and white/black inverted characters.
• When underline mode is turned off by setting the value of n to 0 or 48, the data which follows is not underlined.
• Underline mode can also be turned on or off by using $1B $21. Note, however, that the last received command is the effective one.

[Default] n=0
[Reference] $1B $21
[Example]

$1B $32

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Select 1/6-inch line spacing**		
[Format]	ASCII	ESC	2	
	Hex	1B	32	
	Decimal	27	50	
[Description]	Selects 1/6-inch line spacing.			

[Notes]
[Default]
[Reference] $1B $33
[Example]

$1B $33 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Set line spacing**		
[Format]	ASCII	ESC	3	n
	Hex	1B	33	n
	Decimal	27	51	n
[Range]	0 ≤ n ≤ 255			
[Description]	Sets line spacing to [n × (vertical or horizontal motion unit)] inches.			

[Notes]
• The horizontal and vertical motion unit are specified by $1D $50. Changing the horizontal or vertical motion unit does not affect the current line spacing.
• The $1D $50 command can change the horizontal (and vertical) motion unit. However, the value cannot be less than the minimum vertical movement amount.
• In standard mode, the vertical motion unit is used.

[Default] n = 64 (1/6 inch)
[Reference] $1B $32, $1D $50
[Example]

$1B $34 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Set / reset italic mode**		
[Format]	ASCII	ESC	4	n
	Hex	1B	34	n
	Decimal	27	52	n

[Range] 0 ≤ n ≤ 1, 48 ≤ n ≤ 49

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

n	Function
0, 48	Turns off italic mode
1, 49	Turns on italic mode

[Notes]
- The printer can print any character in italic mode.
- When italic mode is turned off by setting the value of n to 0 or 48, the data which follows is printed in normal mode.
- Italic mode can also be turned on or off using $1B $21. Note, however, that the last received command is the effective one.

[Default] n = 0

[Reference] $1B $21

[Example]

$1B $3D n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Select peripheral device**		
[Format]	ASCII	ESC	=	n
	Hex	1B	3D	n
	Decimal	27	61	n

[Range] 1 ≤ n ≤ 3

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

n	Function
1	Printer enabled
2	Printer disabled
3	Printer enabled

[Notes]
- When the printer is disabled, it ignores all transmitted data until the printer is enabled through this command.
- When the Pass-trough function is enabled, all transmitted data are sent on the 2nd serial.

[Default] n = 1

[Reference]

[Example]

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$1B $40

Printers:	TG2460H, TG2480H, TL60, TL80

[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 that in effect when power was turned on.		
[Notes]	• Same as hardware reset.		
	• After the command has been transmitted, 1,5 seconds elapse before the printer is enabled.		
[Default]			
[Reference]			
[Example]			

$1B $44 [n1...nk] $00

Printers:	TG2460H TG2480H, TL60, TL80

[Name]	**Set horizontal tab position**				
[Format]	ASCII	ESC	D	n1...nk	NUL
	Hex	1B	44	n1...nk	00
	Decimal	27	68	n1...nk	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 calculated from the beginning of the line.				
	• k indicates the total number of horizontal tab positions to be set.				
[Notes]	• The horizontal tab position is stored as a value of [character width x n] measured from the beginning of the line. The character width includes the right-side character spacing and double-width characters are set with twice the width of normal characters.				
	• This command cancels previous tab settings.				
	• When setting n = 8, the print position is moved to column 9 sending $09.				
	• Up to 32 tab positions (k = 32) can be set. Data exceeding 32 tab positions is processed as normal data.				
	• Send [n] k in ascending order and place a 0 NUL code at the end. When [n] k is less than or equal to the preceding value [n] k-1, the setting is complete and the data which follows is processed as normal data.				
	• $1B $44 00 cancels all horizontal tab positions.				
	• The previously specified horizontal tab position does not change, even if the character width is modified.				
[Default]	Default tab positions are set at intervals of 8 characters (columns 9, 17, 25, …) for Font A when the right-side character spacing is 0.				
[Reference]	$09				
[Example]					

$1B $45 n	
Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Select emphasized mode**		
[Format]	ASCII	ESC	E	n
	Hex	1B	45	n
	Decimal	27	69	n

[Range]	0 ≤ n ≤ 255
[Description]	Turns emphasized mode on/off.
	• When the LSB of n is 0, the emphasized mode is off.
	• When the LSB of n is 1, the emphasized mode is on.
[Notes]	• Only the LSB of n is effective.
	• $1B $21 also turns on and off the emphasized mode. However, the last received command is the effective one.
[Default]	n = 0
[Reference]	$1B $21
[Example]	

$1B $47 n	
Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Select double-strike mode**		
[Format]	ASCII	ESC	G	n
	Hex	1B	47	n
	Decimal	27	71	n

[Range]	0 ≤ n ≤ 255
[Description]	Turns double-strike mode on or off.
	• When the LSB of n is 0, the double-strike mode is off.
	• When the LSB of n is 1, the double-strike mode is on.
[Notes]	• Only the LSB of n is effective.
	• Printer output is the same in double-strike and emphasized mode.
[Default]	n = 0
[Reference]	$1B $45
[Example]	

$1B $4A n	
Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Print and fedd paper**		
[Format]	ASCII	ESC	J	n
	Hex	1B	4A	n
	Decimal	27	74	n

[Range]	0 ≤ n ≤ 255
[Description]	Prints the data in the print buffer and feeds the paper [n × (vertical or horizontal motion unit)] inches.
[Notes]	• After printing has been completed, this command sets the print starting position to the beginning of the line.
	• The paper feed amount set by this command does not affect the values set by $1B $32 or $1B $33.
	• The horizontal and vertical motion units are specified by $1D $50.
	• $1D $50 can change the vertical (and horizontal) motion unit. However, the value cannot be less than the minimum vertical movement amount.

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• In standard mode, the vertical motion unit is used.
• The maximum paper feed amount is 520 mm.

[Default]
[Reference] $1D $50
[Example]

$1B $4B n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Power ON / OFF led bar**
[Format]   ASCII   ESC   K   n
                Hex   1B   4B   n
                Decimal   27   75   n
[Range]   n = 0, 1, 2
[Description]   Power on / off the led bar, using n as follows:

n	Function
0	Power off led bar
1	Power on led bar
2	Returns to automatic mode

[Notes]   **TG2480H**
                • This command functions only in the printers equipped with led bar.

[Default]
[Reference]
[Example]

$1B $52 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Select international character set**
[Format]   ASCII   ESC   R   n
                Hex   1B   52   n
                Decimal   27   82   n
[Range]   0 ≤ n ≤ 10
[Description]   Selects the international character set n according to the table below:

	Hex	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
n	Characters Set												
0	U.S.A.	#	$	@	[	\	]	^	`	{	|	}	~
1	France	#	$	à	°	ç	§	^	`	é	ù	è	"
2	Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	b
3	United Kingdom	£	$	@	[	\	]	^	`	{	|	}	~
4	Denmark I	#	$	@	Æ	Æ	Å	^	`	æ	f	å	~
5	Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
6	Italy	#	$	@	°	\	é	^	ù	à	ò	è	ì
7	Spain 1	Pt	$	@	i	Ñ	¿	^	`	"	ñ	}	~
8	Japan	#	$	@	[	¥	]	^	`	{	|	}	~
9	Norway	#	¤	É	Æ	Æ	Å	Ü	é	æ	f	å	ü
10	Denmark II	#	$	É	Æ	Æ	Å	Ü	é	æ	f	å	ü

[Notes]
[Default]   n = 0
[Reference]
[Example]

$1B $56 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Select print mode 90° turned**

[Format]
	ASCII	ESC	V	n
	Hex	1B	56	n
	Decimal	27	86	n

[Range]   0 ≤ n ≤ 1, 48 ≤ n ≤ 49

[Description]   Turns 90° rotation mode on/off. n is used as follows:

n	FUNCTION
0, 48	Turns off 90° rotation mode
1, 49	Turns on 90° rotation mode

[Notes]   • When underlined mode is turned on, the printer does not underline 90° rotated charac-
ters. All the same it's possible select the underline mode.
• Double-width and double-height commands in 90° rotation mode enlarge characters in
the opposite directions from double-height and double-width commands in normal mode.

[Default]   n = 0

[Reference] $1B $21 , $1B $2D

[Example]

$1B $5C nL nH

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Set relative print position**

[Format]
	ASCII	ESC	\	nL	nH
	Hex	1B	5C	nL	nH
	Decimal	27	92	nL	nH

[Range]   0 ≤ nL ≤ 255
0 ≤ nH ≤ 255

[Description]   Sets the print starting position based on the current position by using the horizontal or
vertical motion unit.
This command sets the distance from the current position to [(nL+ nH × 256) × (horizontal
or vertical motion unit)].

[Notes]   • When the starting position is specified by n motion units to the right : nL + nH × 256 =
N
When the starting position is specified by n motion units to the left (negative direction)
use the complementof di 65536 : nL + nH × 256 = 65536 – N
• If setting exceeds the printing area width, the left or right margin is set to the default
value.
• The horizontal and vertical motion unit are specified by $1D $50.
• $1D $50 can change the horizontal (and vertical) motion units. However, the value can-
not be less than the minimum horizontal movement amount.
• In standard mode, the horizontal motion unit is used.

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• It's possible to print further on the right margin set for every font. In this case the printing continues up to the maximum border of the printer mechanism and then begins a new row.

[Default]
[Reference] $1B $24, $1D $50
[Example]

$1B $61 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Select justification**
[Format]

ASCII	ESC	a	n
Hex	1B	61	n
Decimal	27	97	n

[Range]   0 ≤ n ≤ 2, 48 ≤ n ≤ 50
[Description]   Aligns all data in one line to the specified position. n selects the type of justification as follows:

n	JUSTIFICATION
0, 48	Flush left
1, 49	Centered
2, 50	Flush right

[Notes]   • This command is only enabled when inserted at the beginning of a line.
                  • Lines are justified within the specified printing area.
                  • Spaces set by$09, $1B $24 and $1B $5C will be justified according to the previously-entered mode.
[Default]   n = 0
[Reference]
[Example]

Flush left	Centred	Flush right
ABC ABCD ABCDE	ABC ABCD ABCDE	ABC ABCD ABCDE
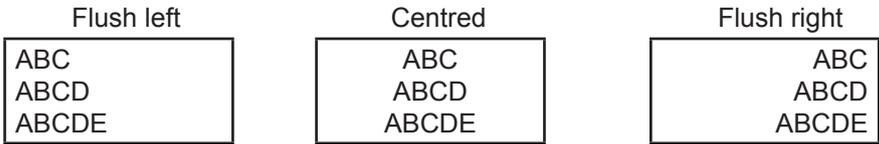
$1B $63 $35 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Enable/Disable front panel keys**
[Format]

ASCII	ESC	c	5	n
Hex	1B	63	35	n
Decimal	27	99	53	n

[Range]   n = 0, 1
[Description]   Enables/disables the keys of the front panel:

n	FUNCTION
0	Disables front panel keys
1	Enables front panel keys

[Notes]
[Default]   n = 1
[Reference]
[Example]

$1B $64 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Print and feed paper n rows**		
[Format]	ASCII	ESC	d	n
	Hex	1B	64	n
	Decimal	27	100	n

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

[Description]   Prints the data in the print buffer and feeds the paper *n* rows.

[Notes]
• n rows paper feed is equivalent to (n × char height + line spacing set).
• Sets the print starting position at the beginning of the line.
• This command does not affect the line spacing set by $1B $32 or $1B $33.
• The maximum paper feed amount is 254 rows. Even if a paper feed amount of more than 254 rows is set, the printer feeds the paper only 254 rows.

[Default]

[Reference] $1B $32, $1B $33

[Example]

$1B $69

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Total cut**		
[Format]	ASCII	ESC	i
	Hex	1B	69
	Decimal	27	105

[Description]   This command enables cutter operation. If there is no cutter, a disabling flag is set and any subsequent cut commands will be ignored.

[Notes]   • The printer waits to complete all paper movement commands before it executes a total cut.

[Default]

[Reference]

[Example]

$1B $74 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Select character code table**		
[Format]	ASCII	ESC	t	n
	Hex	1B	74	n
	Decimal	27	116	n

[Range]   n = 0, 2, 3, 4, 5, 17, 18, 19, 255

[Description]   Selects a page n from the character code table, as follows:

n	PAGE
0	0 (PC437 [U.S.A., Standard Europe])
2	2 (PC850 [Multilingual])
3	3 (PC860 [Portuguese])
4	4 (PC863 [Canadian-French])
5	5 (PC865 [Nordic])
17	17 (PC866 [Cyrillic])
18	18 (VISCII [Vietnamese Standard Code])
19	19 (PC858 for Euro symbol at position 213)
255	Space page

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[Notes]
[Default]   n = 0
[Reference]   See character code table.
[Example]   For printing Euro symbol (€), the command sequence is: 1B, 74, 13, D5

$1B $76

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Transmit paper sensor status**
[Format]   ASCII   ESC   v
                   Hex   1B   76
                   Decimal   27   118
[Description]   When this command is received, transmit the current status of the paper sensor.
                   The status to be transmitted is shown in the table below:

BIT	OFF/ON	HEX	Decimal	FUNCTION
0,1	Off	00	0	Near paper-end sensor: paper present.
	On	03	3	Near paper-end sensor: paper not present.
2,3	Off	00	0	Paper-end sensor: paper present.
	On	0C	12	Paper-end sensor: paper not present.
4	Off	00	0	Not used. Fixed to Off.
5	-	-	-	Undefined
6	-	-	-	Undefined
7	Off	00	0	Not used. Fixed to Off.

[Note]   • This command is executed immediately, even when the data buffer is full (Busy).
[Default]
[Reference] $10 $04 n
[Example]

$1B $78

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Select speed / quality mode**
[Format]   ASCII   ESC   x   n
                   Hex   1B   78   n
                   Decimal   27   120   n
[Description]   Selects speed / quality mode based on the following values of n:

n	FUNCTION
0	Normal mode
1	High quality (low speed)

[Default]   n=0
[Reference]
[Example]

$1B $7B n

Printers:	TG2480H, TG2480H, TL60, TL80

[Name]	**Set/cancel upside-down character printing**
[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.
	• When the LSB of n is 0, the upside-down printing mode is off.
	• When the LSB of n is 1, the upside-down printing mode is on.
[Notes]	• Only the LSB of n is effective.
	• This command is valid only if entered at the beginning of a line.
	• In upside-down printing mode, the printer rotates the line to be printed 180° and then prints it.
[Default]	n = 0
[Reference]	
[Example]	

Upside-down printing Off

```
ABCDEFG
123456
```

Upside-down printing On

```
123456
ABCDEFG
```
(shown upside-down)

Printing direction

$1B $C1 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Set/cancel cpi mode**
[Format]	ASCII ESC { } n
	Hex 1B C1 n
	Decimal 27 193 n
[Range]	0 ≤ n ≤ 1, 48 ≤ n ≤ 50
[Description]	Sets cpi mode based on the following values of n:

n	PRINTING MODE	
0, 48	Font A = 11 cpi	Font B = 15 cpi
1, 49	Font A = 15 cpi	Font B = 20 cpi

[Default]	n = 0
[Reference]	$1B $21
[Example]	

$1C $C0 $34

Printers:	TG2460H, TL60

[Name]	**Total cut and automatic paper moving back**
[Format]	ASCII FS { } 4
	Hex 1C C0 34
	Decimal 28 192 52
[Description]	This command enables cutter operation and executes a total cut and automatic paper moving back; if there is no cutter, a disabling flag is set any subsequent cutting commands will be ignored.

[Notes]   The printer waits until all the paper movement commands have been completed before executing total cut.

[Default]
[Reference]
[Example]

$1C $C0 $AA $0F $EE $34

Printers:	TG2480H, TL80

[Name]   **Total cut and automatic paper moving back**

[Format]

	ASCII	FS	{}	{}	{}	{}	4
	Hex	1C	C0	AA	0F	EE	34
	Decimal	28	192	170	15	238	52

[Description]   This command enables cutter operation and executes a total cut and automatic paper moving back; if there is no cutter, a disabling flag is set any subsequent cutting commands will be ignored.

[Notes]   The printer waits until all the paper movement commands have been completed before executing total cut.

[Default]
[Reference]
[Example]

$1D $21 n

Printers:	TG2480H, TG2480H, TL60, TL80

[Name]   **Select character size**

[Format]

	ASCII	GS	!	n
	Hex	1D	21	n
	Decimal	29	33	n

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

[Description]   Selects character height and width, as follows:
• Bits 0 to 3: to select character height (see table 2).
• Bits 4 to 7: to select character width (see table 1).

Table 1 Select character width

HEX	Decimal	Width
00	0	1 (normal)
10	16	2 (width = 2x)
20	32	3 (width = 3x)
30	48	4 (width = 4x)
40	64	5 (width = 5x)
50	80	6 (width = 6x)
60	96	7 (width = 7x)
70	112	8 (width = 8x)

Table 2 Select character height

HEX	Decimal	Height
00	0	1 (normal)
01	1	2 (height = 2x)
02	2	3 (height = 3x)
03	3	4 (height = 4x)
04	4	5 (height = 5x)
05	5	6 (height = 6x)
06	6	7 (height = 7x)
07	7	8 (height = 8x)

[Notes]   • This command is effective for all characters (except HRI characters).
• If n falls outside the defined range, this command is ignored.
• Characters enlarged to different heights on the same line are aligned at the baseline or topline.

• $1B $21 can also be used to select character size. However, the setting of the last received command is the effective one.

[Default]	n = 0
[Reference]	$1B $21
[Example]	

$1D $24 nL nH

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Set absolute vertical print position in page mode**			
[Format]	ASCII	GS	$	nL	nH
	Hex	1D	24	nL	nH
	Decimal	29	36	nL	nH
[Range]	0 ≤ nL ≤ 255, 0 ≤ nH ≤ 255				
[Description]	Set the absolute vertical print starting position for buffer character data in page mode.				

• This command sets the absolute print position to [(nL + nH × 256) × (vertical or horizontal motion unit)] inches.

[Notes] • This command is effective only in page mode.

• If the [(nL + nH × 256) × (vertical or horizontal motion unit)] exceeds the specified printing area, this command is ignored.

• The horizontal starting buffer position does not move.

• The reference starting position is that specified by $1B $54.

• This command operates as follows, depending on the starting position of the printing area specified by $1B $54:

1) When the starting position is set to the upper left or lower right, this command sets the absolute position in the vertical direction.

2) When the starting position is set to the upper right or lower left, this command sets the absolute position in the horizontal direction.

• The horizontal and vertical motion unit are specified by $1D $50.

• The $1D $50 command can change the horizontal and vertical motion unit. However, the value cannot be less than the minimum horizontal movement amount, and it must be in even units of the minimum horizontal movement amount.

[Reference]	$1B $24, $1B $54, $1B $57, $1B $5C, $1D $50, $1D $5C.
[Example]	

$1D $2A m Bit image width BMP file

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Dowload logo extra**			
[Format]	ASCII	GS	*	m	monochromatic BMP
	Hex	1D	2A	m	monochromatic BMP
	Decimal	29	42	m	monochromatic BMP
[Range]	0 ≤ m ≤ 1				
[Description]	Storages a logo in memory place specified by m. The following table contains a description of the contents of a BMP file.				

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OFFSET	FIELD	SIZE	CONTENTS
0000h	Identified	2 bytes	The characters identifying the bitmap. The following entries are possible : **'BM' - Windows 2K3, XP, VISTA**
0002h	File size	1 dword	Complete file size of BMP image in bytes.
0006h	Reserved	1 dword	Reserved for later use.
000Ah	Bitmap Data Offset	1 dword	Offset from the beginning of the file until the beginning of the graphics.
000Eh	Bitmap Header Size	1 dword	Length of the bitmap Info header used to describe the bitmap colours, compression, etc... The following sizes are possible : **3Eh - Windows 2K3, XP, VISTA**
0012h	Width	1 dword	Horizontal width of bitmap in pixels.
0016h	Height	1 dword	Vertical height of bitmap in pixels.
001Ah	Planes	1 dword	Number of planes in this bitmap **1 - single plane**
001Ch	Bits per Pixel	1 dword	Bits per pixel used to store palette entry information. This also identifies in an indirect way the number of possible colours. Possible values are: **1 - Monochrome bitmap** 4 - 16 bitmap color 8 - 256 bitmap color 16 - 16bit (high color) bitmap 24 - 24bit (true color) bitmap 32 - 32bit (true color) bitmap
001Eh	Compression	1 dword	Compression specifications. The following values are possible: **0 - none (Also identified by BI_RGB)** 1 - RLE 8-bit / pixel (Also identified by BI_RLE4) 2 - RLE 4-bit / pixel (Also identified by BI_RLE8) 3 - Bitfields (Also identified by BI_BITFIELDS)
0022h	Bitmap data Size	1 dword	Size of the bitmap data in bytes. This number must be rounded to the next 4 byte boundary.
0026h	HResolution	1 dword	Horizontal resolution expressed in pixel per meter.
002Ah	VResolution	1 dword	Vertical resolution expressed in pixels per meter.
002Eh	Colors	1 dword	Number of colours used by this bitmap. For a 8-bit / pixel bitmap this will be 100h or 256.
0032h	Important Colorsi	1 dword	Number of important colors. This number will be equal to the number of colors when every color is important.
0036h	Palette	N*4 bytes	The palette specification. For every entry in the palette four bytes are used to describe the RGB values of the colour in the following way: 1 byte for blue component 1 byte for green component 1 byte for red component 1 byte filler which is set to 0 (zero)
0436h	Bitmap Data	x bytes	Depending on the compression specifications, this field contains all the bitmap data bytes which represent indices in the colour palette.

[Notes]

• Simple monochrome images must be used.
• Maximum BMP size is 32 kbytes
• The following sizes were used in the specification above:

SIZE	BYTES	SIGN
char	1	signed
word	2	unsigned
dword	4	unsigned

[Default]
[Reference]
[Example]

$1D $42 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Turn white/black reverse printing mode on/off**
[Format]	ASCII GS B n
	Hex 1D 42 n
	Decimal 29 66 n
[Range]	0 ≤ n ≤ 255
[Description]	Turns white/black reverse printing mode on or off.
	• When the LSB of n is 0, white/black reverse printing is turned off.
	• When the LSB of n is 1, white/black reverse printing is turned on.
[Notes]	• Only the LSB of n is effective.
	• This command is available for both built-in and user-defined characters.
	• This command does not affect bit image, downloaded bit image, bar code, HRI characters and spacing skipped by $09, $1B $24 and $1B $5C.
	• This command does not affect white space between lines.
	• White/black reverse mode has a higher priority than underline mode. Even if underline mode is on, it will be disabled (but not cancelled) when white/black reverse mode is selected.
[Default]	n = 0
[Reference]	
[Example]	

$1D $48 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Select printing position of Human Readable Interpretation (HRI) characters**
[Format]	ASCII GS H n
	Hex 1D 48 n
	Decimal 29 72 n
[Range]	0 ≤ n ≤ 3, 48 ≤ n ≤ 51
[Description]	Selects the printing position of HRI characters when printing bar codes. n selects the printing positions as follows::

n	FUNCTION
0, 48	Not printed
1, 49	Above the bar code
2, 50	Below the bar code
3, 51	Both above the below the bar code

[Notes]	• HRI characters are printed using the font specified by $1D $66.
[Default]	n = 0
[Reference]	$1D $66, $1D $68
[Example]	

$1D $49 n

Printers:	TG2480H, VKP80, TL60, TL80

[Name]	**Transmit printer ID**		
[Format]	ASCII	GS	I	n
	Hex	1D	49	n
	Decimal	29	73	n

[Range] 1 ≤ n ≤ 3, 49 ≤ n ≤ 51
[Description] Transmits the printer ID specified by n follows:

n	PRINTER ID	SPECIFICATION
1, 49	Printer model ID	$A7 (TG2460H) $A8 (TG2480H) $AC (TL80) $AD (TL60)
2, 50	Type ID	Undefined
3, 51	ROM version ID	Depends on ROM version (4 character)
5, 53	Printer model ID	(see value for n=1)

[Notes] • The printer only transmits 1 byte (printer ID) without confirmation that the host is ready to receive data.
• This command is executed when the data is processed in the data buffer. Therefore, there could be a time lag between command reception and data transmission, depending on data buffer status.

[Default]
[Reference]
[Example]

$1D $4C nL nH

Printers:	TG2480H, TL60, TL80

[Name]	**Set left margin**			
[Format]	ASCII	GS	L	nL	nH
	Hex	1D	4C	nL	nH
	Decimal	29	76	nL	nH

[Range] 0 ≤ nL, nH ≤ 255
[Description] Sets the left margin.
• The left margin is set to [(nL + nH × 256) × (horizontal motion unit)] inches.

Printable area

Left margin   **Printing area width**
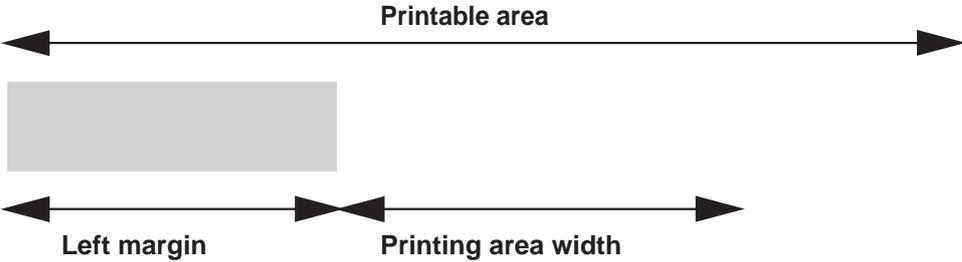
[Notes] • This command is enabled only if set at the beginning of the line.
• If the setting exceeds the printable area, the maximum value of the printable area is used.
• If the left margin + printing area width is greater than the printable area, the printing area width is set at maximum value.
• The horizontal and vertical motion unit are specified by $1D $50. Changing the horizontal or vertical motion unit does not affect the current left margin.

• The $1D $50 command can change the horizontal (and vertical) motion unit.
• However, the value cannot be less than the minimum horizontal movement amount and it must be in even units of the minimum horizontal movement amount.

[Default]
[Reference] $1D $50, $1D $57
[Example]

$1D $50 x y (mode 1)

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Set horizontal and vertical motion units**			
[Format]	ASCII	GS	P	x	y
	Hex	1D	50	x	y
	Decimal	29	80	x	y

[Range] $0 \leq x, y \leq 255$
[Description]   Sets the horizontal and vertical motion units to 1/x inch and 1/y inch respectively.
When x is set to 0, the default setting value is used.
When y is set to 0, the default setting value is used.
[Notes]   • The horizontal direction is perpendicular to the paper feed direction.
• In standard mode, the following commands use x or y, regardless of character rotation (upside-down or 90° clockwise rotation):

❶ Commands using x : $1B $20, $1B $24, $1B $5C, $1D $4C, $1D $57.
❷ Commands using y : $1B $33, $1B $4A.

• This command does not affect the previously specified values.
• The calculated result from combining this command with others is truncated to the minimum value of the mechanical pitch or an exact multiple of that value.

[Default]   x = 204, y = 408   (for the 204 dpi model)
[Reference] $1B $20, $1B $24, $1B $5C, $1B $33, $1B $4A, $1D $4C, $1D $57
[Example]

$1D $57 nL nH

Printers:	TG2460H, TG2480H, TL60, TL80

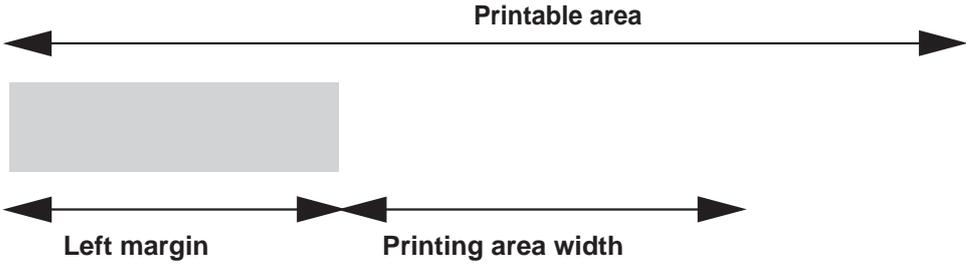| [Name]	**Set printing area width**			
[Format]	ASCII	GS	W	nL	nH
	Hex	1D	57	nL	nH
	Decimal	29	87	nL	nH

[Range] $0 \leq nL, nH \leq 255$
$0 \leq nL + nH \times 256) \leq 640$

[Description]   Sets the printing area width to the area specified by nL and nH.
• The left margin is set to [(nL+nH×256) × (horizontal motion unit)] inches.

Printable area

Left margin · **Printing area width**

[Notes]	• This command is only enabled if set at the beginning of the line.
	• If the right margin is greater than the printable area, the printing area width is set at maximum value.
	• If the printing area width = 0, it is set at the maximum value.
	• The horizontal and vertical motion units are specified by $1D $50. Changing the horizontal or vertical motion unit does not affect the current left margin.
	• The $1D $50 command can change the horizontal (and vertical) motion unit.
	• However, the value cannot be less than the minimum horizontal movement amount and it must be in even units of the minimum horizontal movement amount.
[Default]	
[Reference]	$1D $4C, $1D $50
[Example]	

$1D $68 n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Set bar code height**			
[Format]	ASCII	GS	h	n
	Hex	1D	68	n
	Decimal	29	104	n
[Range]	$1 \le n \le 255$			
[Description]	Sets the height of the bar code. n specifies the number of vertical dots.			
[Notes]				
[Default]	n = 162			
[Reference]	$1D $6B			
[Example]				

❶ $1D $6B m [d1...dk] $00, ❷ $1D $6B m [d1...dn]

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]	**Print barcode**				
[Format]	❶	ASCII	GS	k	m	NUL
		Hex	1D	6B	m	00
		Decimal	29	107	m	0
	❷	ASCII	GS	k	m	n
		Hex	1D	6B	m	n
		Decimal	29	107	m	n
[Range]	❶	$0 \le m \le 20$				
	❷	$65 \le m \le 90$				
[Description]	Selects a bar code system and prints the bar code. m selects a bar code system as follows:					

	m	BARCODE SYSTEM	No. OF CHARACTERS	REMARKS
❶	0	UPC-A	$11 \le k \le 12$	$48 \le d \le 57$
	1	UPC-E	$11 \le k \le 12$	$48 \le d \le 57$
	2	EAN13 (JAN)	$12 \le k \le 13$	$48 \le d \le 57$
	3	EAN8 (JAN)	$7 \le k \le 8$	$48 \le d \le 57$
	4	CODE39	$1 \le k$	$48 \le d \le 57$, $65 \le d \le 90$, 32, 36, 37, 43, 45, 46, 47
	5	ITF	$1 \le k$ (even number)	$48 \le d \le 57$
	6	CODABAR	$1 \le k$	$48 \le d \le 57$, $65 \le d1 \le 68$, 36, 43, 45, 46, 47, 58
	7	CODE93	$1 \le k \le 255$	$1 \le d \le 127$
	8	CODE128	$2 \le k \le 255$	$1 \le d \le 127$
	20	CODE32	$8 \le k \le 9$	$48 \le d \le 57$

	m	BARCODE SYSTEM	No. OF CHARACTERS	REMARKS
❷	65	UPC-A	$11 \le n \le 12$	$48 \le d \le 57$
	66	UPC-E	$11 \le n \le 12$	$48 \le d \le 57$
	67	EAN13 (JAN)	$12 \le n \le 13$	$48 \le d \le 57$
	68	EAN8 (JAN)	$7 \le n \le 8$	$48 \le d \le 57$
	69	CODE39	$1 \le n \le 255$	$48 \le d \le 57$, $65 \le d \le 90$, 32, 36, 37, 43, 45, 46, 47
	70	ITF	$1 \le n \le 255$	$48 \le d \le 57$
	71	CODABAR	$1 \le n \le 255$	$48 \le d \le 57$, $65 \le d1 \le 68$, 36, 43, 45, 46, 47, 58
	72	CODE93	$1 \le n \le 255$	$1 \le d \le 127$
	73	CODE128	$2 \le n \le 255$	$1 \le d \le 127$
	90	CODE32	$8 \le n \le 9$	$48 \le d \le 57$

[Notes]
• If d is outside of the specified range, the printer prints the following message: "BAR CODE GENERATOR IS NOT OK!" and processes the data which follows as normal data.
• If the horizontal size exceeds the printing area, the printer only feeds the paper.
• This command feeds as much paper as is required to print the bar code, regardless of the line spacing.
• After printing the bar code, this command sets the print position to the beginning of the line.
• This command is not affected by print modes (emphasized, double-strike, underline or character size), except for upside-down and justification mode.

[Note per ❶]
• This command ends with a NUL code.
• When the bar code system used is UPC-A or UPC-E, the printer prints the bar code data after receiving 11 (without check digit) or 12 (with check digit) bytes bar code data.
• When the bar code system used is EAN13, the printer prints the bar code data after receiving 12 (without check digit) or 13 (with check digit) bytes bar code data.
• When the bar code system used is EAN8, the printer prints the bar code data after receiving 7 (without check digit) or 8 (with check digit) bytes bar code data.
• The number of data for ITF bar code must be even numbers. When an odd number of data is input, the printer ignores the last received data.

[Note per ❷]
• If n is outside of the specified range, the printer stops command processing and processes the following data as normal data.

CUST✪M

When CODE93 is used the printer :

> • prints an HRI character (o) as a start character at the beginning of the HRI character string
>
> • prints an HRI character (o) as a stop character at the end of the HRI character string.
>
> • the printer prints an HRI character (n) as a control character ($00 to $1F and $7F).

When CODE128 is used the printer :

> • please note the following regarding data transmission:
>
> • The top part of the bar code data string must be a code set selection character (CODE A, CODE B or CODE C) which selects the first code set.
>
> • Special characters are defined by combining two characters "{" and one character. ASCII character "{" is defined by transmitting "{" twice, consecutively.

SPECIFIC CHARACTER	DATA TRANSMISSION		
	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

[Default]
[Reference] $1D $48, $1D $66, $1D $68, $1D $77
[Example]

$1D $70 m n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Print logo**
[Format]

ASCII	GS	p	m	n
Hex	1D	70	m	n
Decimal	29	47	m	n

[Range]   0 ≤ m ≤ 3 (No. logo)
              n = 0, n = 1, n = 2, n = 3
[Description] Print bit image specified by m if stored in flash :

n	PRINT MODE
0	Normal
1	Double width
2	Double height
3	Double width and Double height

[Notes]
[Default]
[Reference]
[Example]

$1D $72 n

| Printers: | TG2460H, TG2480H, TL60, TL80 |

[Name]   **Transmit status**
[Format]   ASCII   GS   r   n
              Hex   1D   72   n
              Decimale   29   114   n
[Range]   n =1, 49
[Description] Transmits the status specified by n as follows:

n	FUNCTION
1, 49	Transmits paper sensor status (as for $1B $76).

Paper sensor status (n = 1, 49)

BIT	OFF/ON	HEX	Decimal	FUNCTION
0,1	Off	00	0	Near paper-end sensor: Paper present
	On	03	3	Near paper-end sensor: Paper not present
2,3	Off	00	0	Paper-end sensor: Paper present
	On	0C	12	Paper-end sensor: Paper not present
4	Off	00	0	Not used. Fixed to Off.
5	-	-	-	Undefined.
6	-	-	-	Undefined.
7	Off	00	0	Not used. Fixed to Off.

[Notes]   • This command is executed when the data is processed in the data buffer. Therefore, there may be a time lag between receiving the command and transmitting the status, depending on data buffer status.
[Default]
[Reference] $10 $04, $1B $76
[Example]

$1D $77 n

| Printers: | TG2460H, TG2480H, TL60, TL80 |

[Name]   **Set bar code width**
[Format]   ASCII   GS   w   n
              Hex   1D   77   n
              Decimal   29   119   n
[Range] $1 ≤ n ≤ $6, $81 ≤ n ≤ $86
[Description] Sets the horizontal size of the bar code. n specifies the bar code width (referred to the narrow bar) as follows:

n	MODULE WIDTH (mm)
$1, $81	0.125
$2, $82	0.25
$3, $83	0.375
$4, $84	0.5
$5, $85	0.625
$6, $86	0.75

CUSTOM

• If barcode ≠ CODE128 the wide and narrow bar ratio is the following:

	n	Wide bar / narrow bar ratio
If n<$80	$1, $2, $3, $4, $5, $6	3:1
If n>$80	$81	3:1
	$82	2,5:1
	$83	2,33:1
	$84	2,25:1
	$85	3:1
	$86	3:1

[Notes]
[Default]   n = 3
[Reference] $1D $6B
[Example]

$1D $7C n

Printers:	TG2460H, TG2480H, TL60, TL80

[Name]   **Set printing density**
[Format]   ASCII   GS   { }   n
              Hex   1D   7C   n
              Decimal   29   124   n
[Range]   0 ≤ n ≤ 8, 48 ≤ n ≤ 56
[Description] Sets printing density. *n* specifies printing density as follows:

n	PRINTING DENSITY
0, 48	- 50%
1, 49	- 37%
2, 50	- 25%
3, 51	- 12%
4, 52	0%
5, 53	+ 12%
6, 54	+ 25%
7, 55	+ 37%
8,56	+ 50%

[Notes]   • Printing density reverts to the default value when the printer is reset or turned off.
[Default]   n = 4
[Reference]
[Example]

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