
PP8X Printer Command Manual



Pinnacle Technology Corp.

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1 COMMANDS

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● **HT Horizontal tab**

Format: ASCII HT

Decimal 9

Hex 09

Description: Moves the print position to the next horizontal tab position.

Notes: This command is ignored unless the next horizontal tab position has been set.

If the next horizontal tab position exceeds the printing area, the printer sets the printing position to [printing area width + 1].

Horizontal tab positions are set with ESC D.

If this command is received when the printing position is at [printing area width + 1], the printer executes print bufferfull printing of the current line and horizontal tab processing from the beginning of the next line.

Please refer to ESC D

● **LF Print and line feed**

Format:	ASCII:	LF
	Decimal	10
	Hex	0A

Note: - LF prints the data in the print buffer and fed per line based on the current line space;

- Print characters with CR command

● **CR Print and carriage return**

Format:	ASCII	CR
	Decimal	13
	Hex	0D

Note: - Set the print position to the beginning of the line.

- Print characters with LF command

● **DLE EOT n Transmit real-time state**

Format:	ASCII	DLE	EOT	n
	Decimal	16	4	n
	Hex	10	04	n

Range: $1 \leq n \leq 4$

Note: transmit the real-time state parameter n of the printer, in order to designate the deferent printer state, define as follows:

n=1: transmit printer state;

n=2: transmit offline state;

n=3: transmit error state;

n=4: transmit paper roll sensor state;

● **ESC SP n** Set right-side character spacing

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

Range: $0 \leq n \leq 255$

ESC SP n sets the right-side character spacing to n (horizontal or vertical motion unit). It is used to change the spacing between characters. The default setting is n=0. When standard mode is selected, the horizontal motion unit set by GS P is used. When page mode is selected, the vertical or horizontal motion unit set by GS P is used for the print direction set by ESC T.

This command is effective for all characters (except for HRI characters).

● **ESC !** **Select print modes**

Format:	ASC II	ESC	!	n
	Decimal	27	33	n
	Hex	1B	21	n

Range: $0 \leq n \leq 255$

Initial Value $n=0$

Function Select print mode(s) using n as follows.

Bit	Off/On	1/0	Hex	Decimal	Functions
0	Off	0	00	0	Character font A(12×24) selected
1, 2	Off		---	---	Reserved
3	Off	0	00	0	Emphasized mode not selected.
	On	1	08	8	Emphasized mode selected.
4	Off	0	00	0	Double-height mode not selected.
	On	1	10	16	Double-height mode selected.
5	Off	0	00	0	Double-width mode not selected.
	On	1	20	32	Double-width mode selected.
6	Off		---	---	Reserved
7	Off	0	00	0	Underline mode not selected.
	On	1	80	128	Underline mode selected.

Details:

- Quadruple-size characters are printed by specifying both double-tall (bit4=1) and double-wide (bit 5=1) modes.
- An underline is applied to the entire character width, including the ESC SP (character right space amount). However, underlines are not applied to portions that have been skipped using HT (horizontal tab) or ESC V (character 90 degree rotation).
- The thickness of the underline is set by ESC - (specify/cancel underlines)

regardless of the character.

- The base line for characters is the same when there are characters having different vertical direction ratios in the same line.
- The setting of the last received command is effective even when emphasized printing is executed by the ESC E (specify/cancel emphasized printing) command.
- The setting of the last received command is effective even when underlines are executed by the (ESC -) Specify/cancel underline command.
- The setting of the last received command is effective even when character size is executed by the GS! command.
- Emphasized printing (bit 3) is effective for ANK and Chinese characters. Other printing modes are effective only on ANK characters. Specifications using this command are ignored in HRI characters.

The following are the font configurations on printers.

Reference: ESC-, ESC E, GS!

● **ESC \$ Set absolute print position**

Format:	ASC II	ESC	\$	nL	nH
	Decimal	27	36	nL	nH
	Hex	1B	24	nL	nH

Range: $0 \leq nL \leq 255$ $0 \leq nH \leq 255$

● **ESC * Select bit-image mode**

Format: ASCII ESC * m nL nH d1 ... dk

Decimal 27 42 m nL nH d1 ... dk

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

Range: m=0, 1, 32, 33 $0 \leq nL \leq 255$ $0 \leq nH \leq 3$ $0 \leq d \leq 255$

ESC * m nL nH d1 ... dk selects a bit-image mode using m for the number of dots specified by (nL + nH×256). Set a bit to 1 to print a dot, or set a bit to 0 to not print a dot. d indicates the bit image data. The modes selectable by m are as follows:

m	Mode	Vertical direction		Horizontal direction	
		Number of bits for vertical data	Dot density (DPI)	Dot density (DPI)	Amount of data (k)
0	8-dot single-density	8	68	101	192
1	8-dot double-density	8	68	203	384
2	24-dot single-density	24	203	101	192
33	24-dot double-density	24	203	203	384
39	24-dot double-density	24	203DPI	203DPI	384

● **ESC - Turn underline mode on/off**

Format:	ASC II	ESC	-	n
	Decimal	27	45	n
	Hex	1B	2D	n

Range: $0 \leq n \leq 1$

● **ESC 2 select default line spacing**

Format:	ASC II	ESC	2
	Decimal	27	50
	Hex	1B	32

● **ESC 3 Set line spacing**

Format:	ASC II	ESC	3	n
	Decimal	27	51	n
	Hex	1B	33	n

Range: $0 \leq n \leq 255$

ESC 3 n sets the line spacing to $n \times$ (vertical or horizontal motion unit). The default setting of the paper feed amount is 1/6 inch ($n=60$). The maximum line spacing amount is 40 inches. When standard mode is selected, the vertical motion unit set by GS P is used. When page mode is selected, the vertical or horizontal motion unit set by GS P is used for the print direction set by ESC T.

The line spacing can be set independently in standard mode and in page mode.

● **ESC = n** **Select peripheral device**

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

Range: $0 \leq n \leq 255$

ESC = n selects the device to which the host computer sends data, based on the value of n as follows:

Bit	Off/on	Hex	Decimal	Function
0	Off	00	0	Printer disabled
	On	01	1	Printer enabled
1-7	-	-	-	undefined

When the LSB (least significant bit) of n is 1, the printer is enabled; when it is 0, the printer is disabled. When the printer is disabled, it ignores all received data with the exception of DLE ENQ 1 and DLE ENQ 2. The default setting is n. If ASB is enabled when the printer is disabled by ESC =, the printer transmits a 4-byte status message whenever the status changes.

● **ESC @** **Initialize printer**

Format ASC II ESC @
 Decimal 27 64
 Hex 1B 40

ESC @ initializes the printer. All settings, including character font and line spacing settings, are canceled. The data in the print buffer is cleared and the printer

mode is reset to the mode that was in effect when the power was turned on. The DIP switch settings are not checked again, the data in the receive buffer is not cleared, and any macro definitions are not cleared.

● **ESC D** **Set horizontal tab positions**

Format:	ASC II	ESC	D	n1 ... nk NUL
	Decimal	27	68	n1 ... nk 00
	Hex	1B	44	n1 ... nk 0

Range: $1 \leq n \leq 255$ $0 \leq k \leq 32$

ESC D n1 ... nk NUL sets a horizontal tab position to n columns from the beginning of a line, with k indication the total number of horizontal tab positions to be set. When a left margin is set in standard mode, the position of the left margin is the beginning of the line. A maximum of 32 tab positions can be set. This command cancels any previous horizontal tab settings. The default tab positions are every eight characters for the font A (12×24).

● **ESC J** **print and feed paper**

Format:	ASC II	ESC	J	n
	Decimal	27	74	n
	Hex	1B	4A	n

Range: $0 \leq n \leq 255$

ESC J n prints the data in the print buffer and feeds the paper n×(vertical or horizontal motion unit). This command is used to temporarily feed a specific length without changing the line spacing set by other commands. The maximum paper

feed amount is 40 inches. When standard mode is selected, the vertical motion unit set by GS P is used. When page mode is selected, the vertical or horizontal motion unit set by GS P is used from the print direction set by ESC T.

● **ESC a** Position alignment

Format: ASCII ESC a n
 Hex. 1B 61 n
 Decimal 27 97 n

Range: $0 \leq n \leq 2, 48 \leq n \leq 50$

Default Value: n = 0

Description: Aligns all print data in one line to a specified position.

N	Position
0, 48	Left alignment
1, 49	Center
2, 50	Right alignment

Notes:

- * This command is effective only when input at the top of the line when standard mode is being used.
- * This command has no affect in page mode. In page mode, this command is only effective for the setting.
- * Specifies the alignment position in the printing region that has been set.
- * Portions skipped using command HT, ESC \$ and ESC \ are also targeted for position alignment.

E.g.

Left alignment

ABC ABCD ABCDE

Center

ABC ABCD ABCDE

Right alignment

ABC ABCD ABCDE

● **ESC d** Print and feed paper 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 performs a paper feed of n lines.

Notes:

- * Sets the print position to the beginning of the next line after printing.
- * Line feeds set by command ESC 2 and ESC 3 are not affected.
- * Paper is fed approximately 1016 mm (40 inches) if the [n x line feed amount] exceeds approximately 1016 mm (40 inches).

Reference: ESC 2, ESC 3

● **ESC v** **Transmit paper sensor status**

Format:	ASCII	ESC	v
	Decimal	27	118
	Hex	1B	76

ESC v transmits the status of a paper sensor as 1 byte of data. This command allows the host to obtain the near-end or paper-out status for each line. GS r 1 can

also be used to check the status. GS r is recommended for transmitting the paper sensor status. The status to be transmitted is shown in the table below.

Bit	Off/on	Hex	Decimal	Status
0,1	Off	00	0	Paper roll near-end sensor: paper adequate.
	On	03	3	Paper roll near-end sensor: paper near end.
	Off	00	0	Paper roll end sensor: paper present.
	On	(0C)	(12)	Paper roll end sensor: paper not present.
4	Off	00	0	Not used. Fixed to Off.
5,6	-	-	-	Undefined.
7	Off	00	0	Not used. Fixed to Off.

● **ESC { Turn upside-down printing mode on/off**

Format: ASC II ESC { n
 Decimal 27 123 n
 Hex 1B 7B n

Range: 0 ≤ n ≤ 255

ESC { n turns upside-down printing mode on or off. When the LSB (least significant bit) of n is 1, upside-down printing mode is turned on; when it is 0, upside-down printing mode is turned off. The default setting is n=0. When upside-down mode is turned on, the printer prints 180°-rotated characters from right to left. The line printing order is not reversed; therefore, be careful of the order of the data transmitted. In standard mode, this command is enabled only when processed at the beginning of a line. In page mode, an internal flag is activated and

this command is enabled when the printer returns to standard mode.

● **FS ! n** **Set Chinese characters printing mode compages**

Format ASCII FS ! n
 Decimal 28 33 n
 Hex 1C 21 n

Range: $0 \leq n \leq 255$

Set the parameter n of Chinese characters printing mode as follows:

Digit	0/1	Hex	Decimal	Function
0, 1		---	---	Undefined.
2	0	00	0	Double-width mode not selected.
	1	04	4	Double-width mode selected.
3	0	00	0	Double-height mode not selected.
	1	08	8	Double-height mode selected.
4-6		--	--	Undefined.
7	0	00	0	Underline not selected.
	1	80	128	Underline selected.

● **FS S n1 n2** **Set Chinese character space amount**

Format: ASCII FS S n1 n2
 Decimal 28 83 n1 n2
 Hex 1C 53 n1 n2

Range: $0 \leq n1 \leq 255, 0 \leq n2 \leq 255$

Initial value: n1=0, n2=0

Description: 1. Sets the Chinese character space amount and right space amount.

2. Left space amount: $n1 \times$ (basic calculated pitch)

3. Right space amount: $n2 \times$ (basic calculated pitch)

Note:

- * The space amount set by this command is the amount when using standard sized characters. When expanding characters more than double in the horizontal direction, the space amount is [set amount \times horizontal direction magnification].
- * Space amount can be set independently for both the standard and page modes.
- * The basic calculated pitch is set by GSP (Set basic calculated pitch). Also, after setting the Chinese character space amount, it is not affected even if the basic calculated pitch is changed.
- * If there are fractions in the result, correct to the minimum mechanical pitch and discard.
- * Use the basic calculated pitch (x) for the horizontal direction in standard mode.
- * In page mode, the basic calculated pitch that is used according to the starting point is shown below.
 - a. When the starting point is specified to be upper left or lower right by the ESC T command (Character print direction selection in page mode), the basic calculated pitch (x) for the horizontal direction is used.
 - b. When the starting point is specified to be upper right or lower left by the ESC T command, the basic calculated pitch (y) for the vertical direction is used.
 - c. The maximum value for the left or right space for Chinese characters is approximately 35.893 mm (255/180 inches). Specifications that exceed the

maximum value are rounded off to that value.

Reference: GSP

- **FS p n m** Print the bit image that download to flash

Format	ASCII	FS	p	n	m
	Hex	1C	70	n	m
	Decimal	28	112	n	m

Range: $1 \leq n \leq 255, 0 \leq m \leq 3, 48 \leq m \leq 51$

Description: Using mode m to print bit image that download to flash.

m	Mode	Density of Vertical Direction Dots	Density of Horizontal Direction Dots
0, 48	Normal Mode	180DPI	180 DPI
1, 49	Double-wide Mode	180DPI	90 DPI
2, 50	Double-tall Mode	90 DPI	180 DPI
3, 51	Quadruple Mode	90 DPI	90 DPI

n specifies the bit image(defined by command FS q) number.

m specifies the bit-image mode.

Details:

- ✧ Flash bit image is a bit image defined in flash memory by FS q and printed by this command.
- ✧ This command is ignored when the bit image is undefined.

- ✧ This command is effective only when no data exists in the print buffer in standard mode.
- ✧ Excluding upside-down printing, print modes (emphasized printing, double printing, double wide, double tall, underlines, character sizes, black/white inverted printing and 90 degree clockwise rotation) are unaffected.
- ✧ If bit image specification is of a size that exceeds the print region, the data in the print region is targeted for printing, but the excessive data is not printed.
- ✧ This command feeds dots (for the height n of the NV bit image) in normal and double-width modes,
- ✧ and (for the height of the NV bit image $n \times 2$) in double-height and quadruple modes, regardless of
- ✧ the line spacing specified by ESC 2 or ESC 3.
- ✧ After printing the bit image, this command sets the print line feed and processes the subsequent data as normal data.

Reference: ESC *, FS q, GS /, GS v 0

● **FS q n [xL xH yL yH d1...dk] 1... [xL xH yL yH d1...dk] n Define NV bit image**

Format	ASCII	FS	q	n	[xLxHyLyHd1...dk]1 ... [xLxHyLyHd1...dk] n
	Hex	1C	71	n	[xLxHyLyHd1...dk]1 ... [xLxHyLyHd1...dk] n
	Decimal	28	113	n	[xLxHyLyHd1...dk]1 ... [xLxHyLyHd1...dk] n

Range:

$$1 \leq n \leq 255$$

$$0 \leq xL \leq 255$$

$$1 \leq (xL+xH \times 256) \leq 1023$$

$$1 \leq (yL+yH \times 256) \leq 288$$

$$0 \leq d \leq 255$$

$$k = (xL+xH \times 256) \times (yL+yH \times 256) \times 8$$

The maximum capacity that downloads to NV is 8096 bytes.

Descriptions: Defines the specified flash bit image.

- n specifies the number of NV bit images to define.
- xL and xH specify the horizontal direction for one NV bit image (xL + xH x 256) x 8 dots.
- yL and yH specify the vertical direction for one NV bit image (yL + yH x 256) x 8 dots.

Notes:

- * There is the potential of damaging the non-volatile memory by overusing the command, so only use this command once a day to write to the non-volatile memory.
- * This command erases all previously defined NV bit images. The printer cannot redefine only one of several data definitions that had been defined before. Therefore, all data must be resent.
- * The printer may enter a BUSY state while writing data to the non-volatile memory when using this command. While the printer is BUSY, the printer will stop receptions so data will not be received from the host (including real-time commands).
- * . NV bit image is a bit image defined by this command in non-volatile memory and is printed by the FS p (Print NV bit image) command.
- * . This command is effective only when processed at the top of the line when

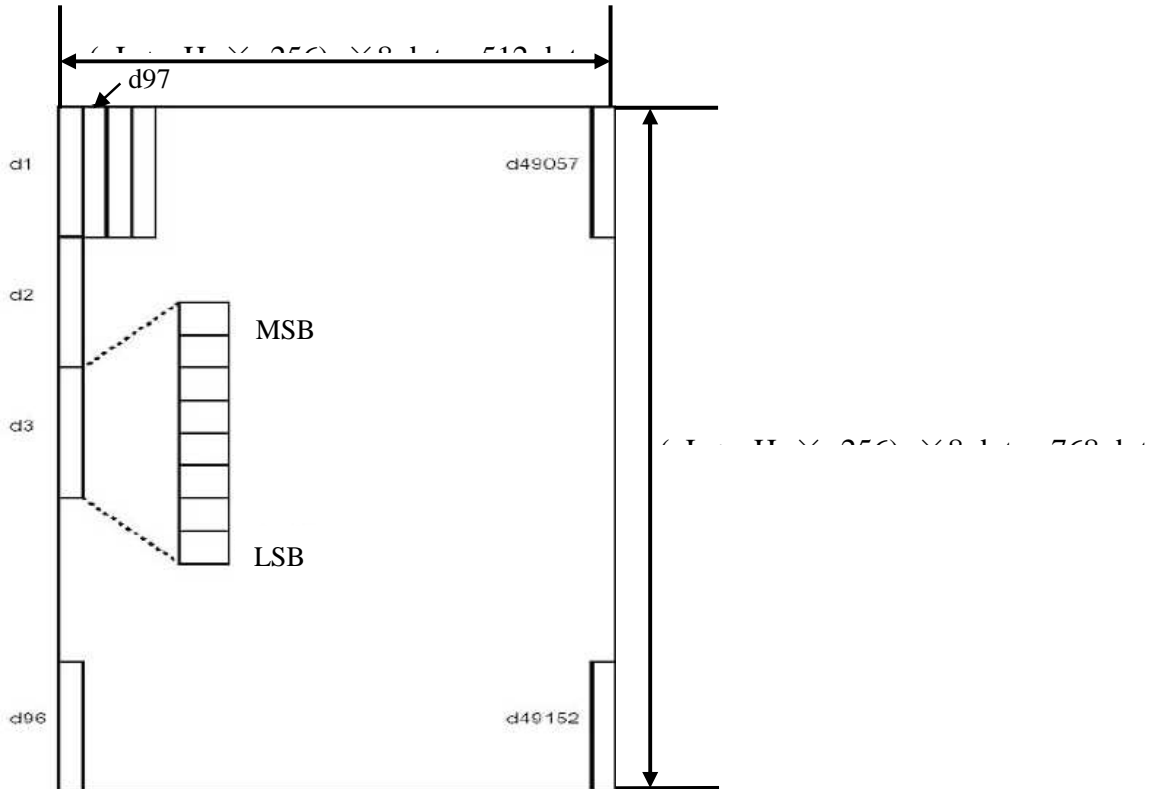
standard mode is being used.

- * This command is effective when 7 bytes of FS to yH of the command are processed normally.
- * When the amount of data exceeds the capacity left in the range defined by xL, xH, yL, yH, the printer only processes the data in the defined range.
- * This command is invalid when processing an argument that is out of the defined range with the initial NV bit image data.
- * The printer terminates processing of this command and starts writing data to the non-volatile memory if an argument out of the defined range is processed on the second and subsequent NV bit image data. This invalidates the NV bit image being defined (making it undefined), but the NV bit images prior to that are valid.
- * d specifies defined data. Bits that correspond to the dots to print are 1, and the bits that correspond to the dots that are not printed are 0.
- * An n number of NV bit images are defined in ascending order from 01H. Therefore, The first data of [xLxHyLyHd1.dk] is an NV bit image of the number 01H. The final data of [xLxHyLyHd1.dk] is the NV bit image of the number n. This matches with the NV bit image number that is specified for NV bit image printing (by FS p).
- * One NV bit image definition data is configured by [xL xH yL yH d1.dk]. Therefore, if defining only one NV bit image data, n = 1. The data of [xL xH yL yH d1.dk] is processed only once. This uses ([data: (xL + xH x 256) x (yL + yH x 256) x 8] + [Data: 4]) of non-volatile memory.

- * The printer is in a BUSY state just prior to writing to the non-volatile memory.
- * The sending of ASB status and detection of status are not possible while processing this command even when the ASB function is specified.
- * When processing this command while defining a macro, the macro definition is terminated and the command commences with processing.
- * NV bit images that have been defined are not initialized by the ESC @ (Initialize printer), a reset or by turning off the printer's power.
- * This command only defines the NV bit image, but it does not print it. To print an NV bit image, use FS p (Print NV bit image).

Reference: FS p

Ex.: For xL=64, xH=0, yL=96, yH=0



● **GS ! n: Select character size**

Format: ASCII GS ! n

Hex 1D 21 n

Decimal 29 33 n

Range: $0 \leq n \leq 255$

GS ! n selects the character height using bits 0 to 3, and selects the character width using bits 4 to 7.

Character width selection is as follows:

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

Character height selection is as follows:

Hex	Decimal	Height
00	0	1 (normal)
01	1	2 (double-width)
02	2	3
03	3	4
04	4	5
05	5	6
06	6	7
07	7	8

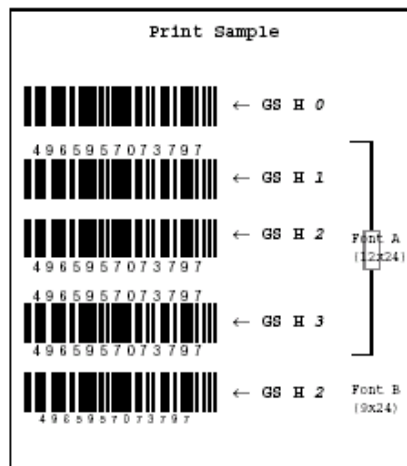
● **GS H n: Select printing position of HRI characters**

Format:	ASCII	GS	H	n
	Hex	1D	48	n
	Decimal	29	72	n
Range:	$0 \leq n \leq 3$			
	$48 \leq n \leq 51$			

GS H n selects the printing position for HRI characters when printing a bar code.

n selects the printing position as follows:

The default setting is n=0. HRI characters are printed at the position specified by GS H.



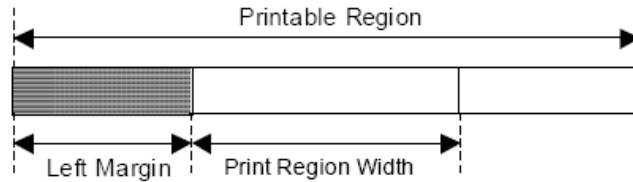
● **GS L nL nH Set left margin**

Format:	ASCII	GS	L	nL	nH
	Hex	1D	4C	nL	nH
	Decimal	29	76	nL	nH

Range: $0 \leq nL \leq 255, 0 \leq nH \leq 255$

Description: 1. nL and nH set the specified left margin.

2. The left margin is $[(nL + nH \times 256) \times \text{basic calculated pitch}]$



Note:

- * This command is effective only when input at the top of the line when standard mode is being used.
- * This command has no affect in page mode. This command is only effective for the setting.
- * The maximum setting for the left margin is the same size as the printable region for the horizontal direction. Specifications that exceed the maximum value are rounded off to that value.
- * The basic calculated pitch is set by GSP (Set basic calculated pitch). Also, after setting the left margin, it is not affected even if the basic calculated pitch is changed.
- * Use the basic calculated pitch (x) for the horizontal direction of GS P (Set basic calculated pitch) to calculate the left margin. If the calculation results in fractions, the pitch is corrected to a minimal mechanical pitch and the rest is discarded.

Reference: GS P, GS W

● **GS h n: Set bar code height**

Format:	ASCI	GS	h	n
	Hex	1D	68	n
	Decimal	29	104	n

Range: $1 \leq n \leq 255$

GS h n selects the height of a bar code. n specifies the number of dots in the vertical direction. One dot corresponds to 1/180 inch. The default setting is n=162

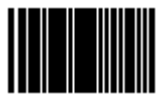
Program Example

```
PRINT #1,CHR$(&H1D);"h";CHR$(50);Set height to 50  
PRINT #1,CHR$(&H1D);"k";CHR$(2);Print bar code  
PRINT #1,"496595707379";CHR$(0);  
PRINT #1,CHR$(&HA);  
PRINT #1,CHR$(&H1D);"h";CHR$(100);Set height to 100  
PRINT #1,CHR$(&H1D);"k";CHR$(2);Print bar code  
PRINT #1,"496595707379";CHR$(0);  
PRINT #1,CHR$(&HA);
```

Print Sample



Height: 50 dots



Height: 100 dots

● GS k m d1 ... dk NUL GS k m n d1 ... dn: Print bar code

Format:	①ASCII	GS	k	m d1 ... dk NUL
	Hex	1D	6B	m d1 ... dk 00
	Decimal	29	107	m d1 ... dk 0
	②ASCII	GS	k	m n d1 ... dn

Hex 1D 6B m n d1 ... dn

Decimal 29 107 m n d1 ... dn

Range: ① $0 \leq m \leq 6$ (k and d depend on the bar code system used)

 ② $65 \leq m \leq 73$ (n and d depend on the bar code system used)

①GS k m d1 ... dk NUL and ②GS k m n d1 ... dn select a bar code system and print the bar code. m specifies 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	$1 \leq k$	$48 \leq d \leq 57, 65 \leq d \leq 90,$ $d = 32, 36, 37, 43, 45, 46, 47$
	6	ITF CODABAR	$1 \leq k$ (even number) $1 \leq k$	$48 \leq d \leq 57$ $48 \leq d \leq 57, 65 \leq d \leq 68,$ $d = 36, 43, 45, 46, 47, 58$
②	65	UPC-A	$11 \leq n \leq 12$	$48 \leq d \leq 57$
	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	JAN8 (EAN8)	$7 \leq n \leq 8$	$48 \leq d \leq 57$
	69	CODE39	$1 \leq n \leq 255$	$48 \leq d \leq 57, 65 \leq d \leq 90,$ $d = 32, 36, 37, 43, 45, 46, 47$
	70	ITF	$1 \leq n \leq 255$ (even number)	$48 \leq d \leq 57$
	71	CODABAR	$1 \leq n \leq 255$	$48 \leq d \leq 57, 65 \leq d \leq 68,$ $d = 36, 43, 45, 46, 47, 58$
	73	CODE93 CODE128	$1 \leq n \leq 255$ $2 \leq n \leq 255$	$0 \leq d \leq 127$ $0 \leq d \leq 127$

In GS k m d1 ... dk NUL, d indicates the character code to be printed and k indicates the number of characters to be printed. In GS k m n d1 ... dn, n indicates the number of the bar code data; the printer processes n bytes from the next character data as bar code data. d indicates the character code to be printed. If n is outside of the specified range, the printer stops command processing and processes the following data as normal data. If the bar code width exceeds the printing area, the printer does not print the bar code. In standard mode, these commands are enabled only when no data exists in the print buffer.

Program Example

```
PRINT #1,CHR$(&H1D);"k";CHR$(2);Print bar code
```

```
PRINT #1,"496595707379";CHR$(0);
```

```
PRINT #1,CHR$(&HA);
```

```
PRINT #1,CHR$(&H1D);"k";CHR$(67);CHR$(12);
```

```
PRINT #1,"496595707379"; Print bar code
```

Print Sample



● GS v: 0 m xL xH yL yH d1...dk Print raster graphic

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: m=0

$0 \leq xL \leq 27$

xH=0

yL=24

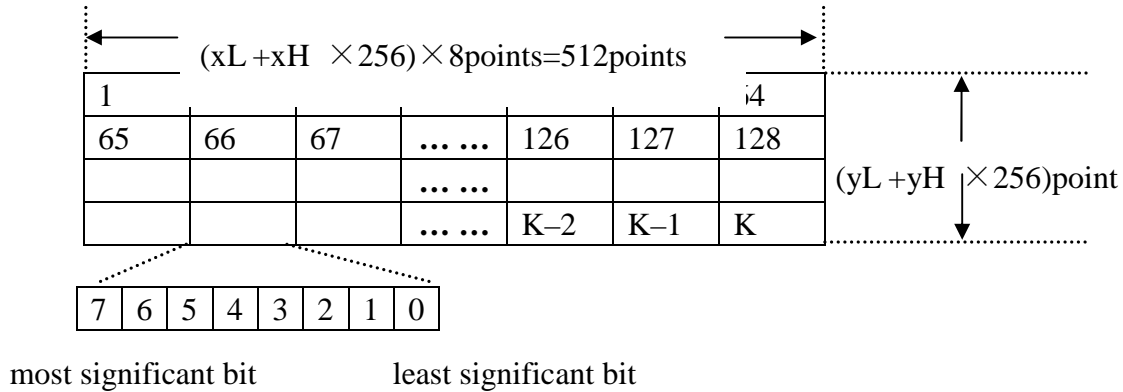
yH=0

$0 \leq d \leq 5$

$k = (xL + xH \times 256) \times (yL + yH \times 256) (k \neq 0)$

- ❖ x_L, x_H indicate the number of the byte in horizontal raster graphic ($x_L + x_H \times 256$)
- ❖ y_L, y_H indicate the number of the point in vertical raster graphic ($y_L + y_H \times 256$)

E.g. when $x_L + x_H \times 256 = 64$



● **GS w n: Set bar code width**

Format:	ASCII	GS	w	n
	Hex	1D	77	n
	Decimal	29	119	n

Range: $2 \leq n \leq 6$

GS w n selects the horizontal size of a bar code. n specifies the bar code width as shown below. The multilevel bar codes are UPC-A, UPC-E, JAN13 (EAN13), JAN8 (EAN8), CODE93, and CODE128. The binary level bar codes are CODE39, ITF, and CODABAR. The default setting is $n=3$.

n	Module Width (mm) for Multilevel 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

Program Example

```
PRINT #1,CHR$(&H1D);"w";CHR$(3);Set width size to 3
```

```
PRINT #1,CHR$(&H1D);"k";CHR$(2);Print bar code
```

```
PRINT #1,"496595707379";CHR$(0);
```

```
PRINT #1,CHR$(&HA);
```

```
PRINT #1,CHR$(&H1D);"w";CHR$(4);Set width size to 4
```

```
PRINT #1,CHR$(&H1D);"k";CHR$(2);Print bar code
```

```
PRINT #1,"496595707379";CHR$(0);
```

```
PRINT #1,CHR$(&HA);
```

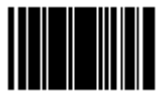
```
PRINT #1,CHR$(&H1D);"w";CHR$(5);Set width size to 5
```

```
PRINT #1,CHR$(&H1D);"k";CHR$(2);Print bar code
```

```
PRINT #1,"496595707379";CHR$(0);
```

```
PRINT #1,CHR$(&HA);
```

Print Sample



Width size 3



Width size 4



Width size 5

2 COMMAND SAMPLE (hex command)

1d 68 64 1d 6b 02 34 39 36 35 39 35 37 30 37 33 37 39 00 0a

//print a barcode width 1, height 100

1d 77 02 1d 6b 02 34 39 36 35 39 35 37 30 37 33 37 39 00 0a

// print a barcode width 2, height 100

1d 77 02 1d 6b 02 32 32 30 30 30 30 32 30 30 30 35 30 35 00 0a

// print EAN-13 barcode

1d 6b 00 30 30 30 30 30 30 30 30 30 30 00 0a

//print UPC-A barcode

1d 6b 03 30 30 30 30 30 30 30 00 0a

//print EAN-8 barcode

1d 6b 04 30 30 30 30 30 30 30 30 30 30 00 0a

// CODE39

1d 68 64 1d 48 03 1d 6b 04 30 30 30 30 30 30 30 30 30 30 30 00 0a

//set the position of digits on the barcode

