

BIXOLON®

SRP-275III Command Manual

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1. Notice

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2. SRP-275III Supported Commands

| No. | Command | Function |
|-----|------------------|--|
| 1 | EOT | Transmit status |
| 2 | HT | Horizontal tab |
| 3 | LF | Print and line feed |
| 4 | CR | Print and carriage return |
| 5 | DLE | Set real-time command mode |
| 6 | DC4 | Generate pulse |
| 7 | ESC SP | Set the character right space |
| 8 | ESC ! | Set print mode |
| 9 | ESC % | Select/cancel user-defined character set |
| 10 | ESC & | Define user-defined character set |
| 11 | ESC * | Specify bit image mode |
| 12 | ESC - | Turn underline mode on/off |
| 13 | ESC 2 | Select default line spacing |
| 14 | ESC 3 | Set line spacing |
| 15 | ESC < | Return home |
| 16 | ESC = | Select peripheral device |
| 17 | ESC ? | Cancel user-defined characters |
| 18 | ESC @ | Initialize printer |
| 19 | ESC D | Set horizontal tab positions |
| 20 | ESC E | Turn emphasized mode on/off |
| 21 | ESC G | Turn double-strike mode on/off |
| 22 | ESC J | Print and feed paper |
| 23 | ESC K | Print and reverse feed |
| 24 | ESC M | Select character font |
| 25 | ESC R | Specify an international character set |
| 26 | ESC U | Specify unidirectional print mode |
| 27 | ESC a | Set position alignment |
| 28 | ESC d | Print and feed n lines |

| No. | Command | Function |
|-----|-----------------|--|
| 29 | ESC e | Print and reverse feed n lines |
| 30 | ESC g 0 | Define macro (For logo) |
| 31 | ESC g n | Execute macro (For logo) |
| 32 | ESC i | Partial cut (one point left uncut) |
| 33 | ESC m | Partial cut (one point left uncut) |
| 34 | ESC p | Generate pulse |
| 35 | ESC r | Select print color |
| 36 | ESC t | Select character code table |
| 37 | ESC u | Transmit peripheral device status |
| 38 | ESC v | Transmit paper sensor status |
| 39 | ESC { | Turn upside-down print mode on/off |
| 40 | FS ! | Set print mode for Kanji characters |
| 41 | FS & | Select Kanji character mode |
| 42 | FS - | Turn underline mode on/off for Kanji characters |
| 43 | FS . | Cancel Kanji character mode |
| 44 | FS 2 | Specify user-defined Kanji characters |
| 45 | FS p | Print NV bit image |
| 46 | FS q | Define NV bit image |
| 47 | FS S | Set Kanji character spacing |
| 48 | FS W | Turn quadruple-size mode on/off for Kanji characters |
| 49 | FS (L | Feeds paper to the cutting position |
| 50 | FS ? | Cancel user-defined Kanji characters |
| 51 | GS (A | Execute test print |
| 52 | GS I | Transmit printer ID |
| 53 | GS V | Select cut mode and cut paper |
| 54 | GS a | Enable/disable Automatic Status Back (ASB) |
| 55 | GS r | Transmit status |
| | | |

2-1 Command Description Items**Command**

| | |
|---------------------|--|
| Function: | Command function outline |
| Code: | Command format expressed in ASCII, hexadecimal, and decimal codes |
| Range: | Argument value (Setting range) for the command |
| Default: | Initial argument value for the command |
| Description: | Detailed command function description |
| Remarks: | Additional information about using the command |
| Differences: | Variations depending on the printer model |

2-2 Details of Control Commands

EOT

Function: Transmit status

Code:

| | | |
|----------------|-----|---|
| ASCII | EOT | n |
| Hex | 04 | n |
| Decimal | 4 | n |

Range: $1 \leq n \leq 4$

Default: None

Description: This command transmits the printer-related status specified by n as follows:

| n | Function |
|---|-----------------------------------|
| 1 | Transmit printer status |
| 2 | Transmit off-line status |
| 3 | Transmit error status |
| 4 | Transmit paper roll sensor status |

■ Printer transmits the following status

n=1: Printer status

| Bit | Binary | Hex | Decimal | Status |
|-----|--------|-----|---------|---|
| 0 | 0 | 00 | 0 | Not used. Fixed to Off |
| 1 | 1 | 02 | 2 | Not used. Fixed to On |
| 2 | 0 | 00 | 0 | Drawer kick-out connector pin 3 is LOW |
| | 1 | 04 | 4 | Drawer kick-out connector pin 3 is HIGH |
| 3 | 0 | 00 | 0 | Online |
| | 1 | 08 | 8 | Offline |
| 4 | 1 | 10 | 16 | Not used. Fixed to On |
| 5 | 0 | 00 | 0 | Not used. Fixed to Off |
| 6 | 0 | 00 | 0 | Not used. Fixed to Off |
| 7 | 0 | 00 | 0 | Not used. Fixed to Off |

n=2: Off-line status

| Bit | Off/On | Hex | Decimal | Status |
|-----|--------|-----|---------|---|
| 0 | Off | 00 | 0 | Fixed |
| 1 | On | 02 | 2 | Fixed |
| 2 | Off | 00 | 0 | Cover is closed |
| | On | 04 | 4 | Cover is open |
| 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 | Fixed |
| 5 | Off | 00 | 0 | No paper-end stop |
| | On | 20 | 32 | Printing is being stopped |
| 6 | Off | 00 | 0 | No error |
| | On | 40 | 64 | Error has occurred |
| 7 | Off | 00 | 0 | Fixed |

n=3: Error status

| Bit | Binary | Hex | Decimal | Status |
|-----|--------|-----|---------|---------------------------------|
| 0 | 0 | 00 | 0 | Not used. Fixed to Off |
| 1 | 1 | 02 | 2 | Not used. Fixed to On |
| 2 | 0 | 00 | 0 | No mechanical error |
| | 1 | 04 | 4 | Mechanical error occurred |
| 3 | 0 | 00 | 0 | No autocutter error |
| | 1 | 08 | 8 | Autocutter error occurred |
| 4 | 1 | 10 | 16 | Not used. Fixed to On |
| 5 | 0 | 00 | 0 | No unrecoverable error |
| | 1 | 20 | 32 | Unrecoverable error occurred |
| 6 | 0 | 00 | 0 | No auto-recoverable error |
| | 1 | 40 | 64 | Auto-recoverable error occurred |
| 7 | 0 | 00 | 0 | Not used. Fixed to Off |

n=4: paper sensor status

| Bit | Binary | Hex | Decimal | Status |
|-----|--------|-----|---------|---------------------------------------|
| 0 | 0 | 00 | 0 | Not used. Fixed to Off |
| 1 | 1 | 02 | 2 | Not used. Fixed to On |
| 2,3 | 00 | 00 | 0 | Paper near end sensor: paper adequate |
| | 11 | 0C | 12 | Paper near end sensor: paper near end |
| 4 | 1 | 10 | 16 | Not used. Fixed to On |
| 5,6 | 00 | 00 | 0 | Paper end sensor: paper present |
| | 11 | 60 | 96 | Paper end sensor: paper not present |
| 7 | 0 | 00 | 0 | Not used. Fixed to Off |

Remarks:

- This command can be executed in a real time mode using DLE.
- In a real time mode, the status is transmitted to the host upon being requested that can check the printer operational condition with it and takes appropriate measures accordingly.

Differences: None

HT

Function: Horizontal tab

Code:

| | |
|----------------|----|
| ASCII | HT |
| Hex | 09 |
| Decimal | 9 |

Range: None

Default: None

Description: This command moves the print position to the next horizontal tab position. If the next horizontal tab position is not specified, this command will be void.

Remarks:

- The horizontal tab position is set by <ESC> D.
- With the underline mode turned on, the underline printing is not applied to the tab space created by this command.

Differences: None

LF

Function: Print and line feed

Code:

| | |
|----------------|----|
| ASCII | LF |
| Hex | 0A |
| Decimal | 10 |

Range: None

Default: None

Description: This command prints the data in the print buffer and feeds one line based on the current set line spacing in standard mode.

Remarks: ■ In page mode, the printer does not perform actual printing, but moving only the print position to the next line.

Differences: None

CR

Function: Print and carriage return

Code:

| | |
|----------------|----|
| ASCII | CR |
| Hex | 0D |
| Decimal | 13 |

Range: None

Default: None

Description: This command prints the data. With auto line feed enabled, it performs printing and one line feeding same as LF.

Remarks: ■ Auto line feed is only enabled with a parallel interface using the DIP switch.

Differences: ■ Auto line feed is turned on by setting DIP S/W 2-1

DLE

Function: Set real-time command mode

Code:

| | |
|----------------|-----|
| ASCII | DLE |
| Hex | 10 |
| Decimal | 16 |

Range: None

Default: None

Description: This command enables commands to be operable in real-time.

Remarks:

- A single command following this command is regarded as a real time command.
- The real time command is stored into the receive buffer and executed with higher priority than other commands.
- If this command is processed as a parameter of the other command, the data following this command might bring about the unwanted result.
- The commands that are allowed to be executed in real time mode vary depending on the printer model.

Differences: ■ Commands that can be executed in real time mode: EOT, DC4, GS I,GS a, GS r

DC4

Function: Generate pulse

| | | | | | |
|--------------|----------------|-----|---|---|---|
| Code: | ASCII | DC4 | n | m | t |
| | Hex | 14 | n | m | t |
| | Decimal | 20 | n | m | t |

Range: $n = 1, m=0,1, 1 \leq t \leq 8$

Default: None

Description:

- This command generates the drive pulse to connector pin m with pulse width defined by t as following:
 - Drawer kick-out connector pin 2 is selected with m=0 while pin 5 chosen for m=1.
 - Pulse ON time is [t x100 ms] and OFF time [t x100 ms]

Remarks:

- This command can be executed in a real time mode by placing DLE prior to it.
- In a real time mode, upon receiving this command, the printer outputs the drive pulse to the specified connector pin.

Differences: None

ESC SP

Function: Set the character right space

Code:

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

Range: $0 \leq n \leq 255$

Default: n=0

Description: ■ This command sets the size of space to right of character.
 • Right space = n × [horizontal motion units].

Remarks: ■ In a double width mode, the right space will be doubled.
 ■ Horizontal motion unit varies depending the printer model.

Differences: ■ Horizontal motion unit: 0.159mm(1/160 inch)

ESC !

Function: Set print mode

| | | | | |
|--------------|----------------|-----|----|---|
| Code: | ASCII | ESC | ! | n |
| | Hex | 1B | 21 | n |
| | Decimal | 27 | 33 | n |

Range: $0 \leq n \leq 255$

Default: n=0

Description: This command selects print mode(s) with bits having following meanings.

| Bit | Off/On | Hex | Decimal | Function |
|-----|--------|-----|---------|---------------------------------|
| 0 | Off | 00 | 0 | Character font A selected |
| | On | 01 | 1 | Character font B selected |
| 1,2 | Off | 00 | 0 | Reserved |
| 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 | Off | 00 | 0 | Reserved |
| 7 | Off | 00 | 0 | Underline mode not selected |
| | On | 80 | 128 | Underline mode selected |

Remarks:

- As alternative to this command, ESC M, ESC E and ESC – can be used for the selection for character font, emphasized mode and underline mode respectively.
- The entire character print width is underlined, but the space skipped by HT is not.
- If both double width and double height are selected, the characters will be quadrupled.

Differences: ■ Character configuration(Font A, Font B): Font A(9 x 9), Font B(7 x 9)

ESC %

Function: Select/cancel user-defined character set

Code:

| | | | |
|----------------|-----|----|---|
| ASCII | ESC | % | n |
| Hex | 1B | 25 | n |
| Decimal | 27 | 37 | n |

Range: $0 \leq n \leq 255$

Default: $n = 0$

Description: ■ This command selects/deselects user-defined character set that is downloaded by user. To make it valid, the least significant bit should be defined like following.

- When $n=0$, the user-defined character set is deselected.
- When $n=1$, the user-defined character set is selected.

Remarks: ■ The resident character set is enabled and used right after canceling the user defined character set.

Differences: None

ESC &

Function: Define user-defined character set

| | | | | | | | | | | | | | | |
|--------------|----------------|-----|----|---|----|----|-----|----|-----|---------------|-----|----|-----|------------|
| Code: | ASCII | ESC | & | y | c1 | c2 | [x1 | d1 | ... | d(y × x1)]... | [xk | d1 | ... | d(y × xk)] |
| | Hex | 1B | 26 | y | c1 | c2 | [x1 | d1 | ... | d(y × x1)]... | [xk | d1 | ... | d(y × xk)] |
| | Decimal | 27 | 38 | y | c1 | c2 | [x1 | d1 | ... | d(y × x1)]... | [xk | d1 | ... | d(y × xk)] |

Range: $y = 2$
 $32 \leq c1 \leq c2 \leq 126$
 $0 \leq x \leq 12$ (Font A)
 $0 \leq x \leq 10$ (Font B)
 $0 \leq d \leq 255$
 $k = c2 - c1 + 1$

Default: None

Description: ■ This command defines user-defined characters for character codes in a designated range from the start character code, c1 to the end character code, c2.

- y denotes the number of bytes in the vertical direction, x the number of dots in the horizontal direction, and d the dot data for the user-defined characters.

Remarks:

- Alphanumeric characters (20H (decimal 32) to 7EH (decimal 126)) are definable.
- Once user defined characters are defined, they remain available until they are redefined; ESC ? or ESC @ is executed; the printer is reset.
- The following shows the relationship between the definition data and printing result with downloaded character consisting of 9x7 dots.

| | | | | | | | |
|----|----|----|----|-----|-----|-----|-----|
| d1 | d3 | d5 | d7 | d9 | d11 | d13 | MSB |
| d2 | d4 | d6 | d8 | d10 | d12 | d14 | LSB |

Differences: ■ Character configuration(Font A, Font B): Font A(9 × 9), Font B(7 × 9)

ESC *

Function: Specify bit image mode

| | | | | | | | |
|--------------|----------------|-----|----|---|----|----|---------|
| Code: | ASCII | ESC | * | m | nL | nH | d1...dk |
| | Hex | 1B | 2A | m | nL | nH | d1...dk |
| | Decimal | 27 | 42 | m | nL | nH | d1...dk |

Range: $m = 0, 1$
 $0 \leq nL \leq 255$
 $0 \leq nH \leq 3$
 $0 \leq d \leq 255$
 $k = nL + nH \times 255$

Default: None

Description: ■ This command specifies the bit image for the mode m as to the number of dots specified by nL and nH .

- d specifies the bit image data with 1 for printed data and 0 for not printed.
- k denotes the number of horizontal dots.

DPI : Dots per Inch (25.4mm)

| m | Mode | Number of dots in vertical direction | Vertical dot density (DPI) | Horizontal dot density (DPI) | Number of bytes (k) |
|----|-----------------------|--------------------------------------|----------------------------|------------------------------|---------------------------------|
| 0 | 8-dot single-density | 8 | 203/3 | 203/2 | $nL + nH \times 256$ |
| 1 | 8-dot double-density | 8 | 203/3 | 203 | $nL + nH \times 256$ |
| 32 | 24-dot single-density | 24 | 203 | 203/2 | $(nL + nH \times 256) \times 3$ |
| 33 | 24-dot double-density | 24 | 203 | 203 | $(nL + nH \times 256) \times 3$ |

Remarks: ■ If the bit image data being entered is beyond the number of dots to be printed, the surplus will be discarded.
 ■ If the value of m is beyond the conditions, the subsequent data after m will be treated as normal data.

Differences:

DPI : Dots per Inch (25.4mm)

| m | Mode | Number of dots in vertical direction | Vertical dot density (DPI) | Horizontal dot density (DPI) | Number of bytes (k) |
|---|----------------------|--------------------------------------|----------------------------|------------------------------|---------------------|
| 0 | 8-dot single-density | 8 | 72 | 80 | nL + nH x 256 |
| 1 | 8-dot double-density | 8 | 72 | 160 | nL + nH x 256 |

ESC –

Function: Turn underline mode on/off

| | | | | |
|--------------|----------------|-----|----|---|
| Code: | ASCII | ESC | - | n |
| | Hex | 1B | 2D | n |
| | Decimal | 27 | 45 | n |

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

Default: n=0

Description: ■ This command enables the print data following it to be printer out underlined.
 • The underline mode varied depending on the following values of n:

| n | Function |
|------|---|
| 0,48 | Turns off underline mode |
| 1,49 | Turns on underline mode, set at 1-dot thick |
| 2,50 | Turns on underline mode, set at 2-dot thick |

Remarks: ■ The spaces generated by horizontal tab are not underlined.
 ■ Using bit 7 of ESC !, the underline mode can be activated/deactivated as well.

Differences: None

ESC 2

Function: Select default line spacing

Code:

| | | |
|----------------|-----|----|
| ASCII | ESC | 2 |
| Hex | 1B | 32 |
| Decimal | 27 | 50 |

Range: None

Default: None

Description: This command sets the default line spacing. The default line spacing is approximately 3.75 mm, which is equivalent to 30 dots.

Remarks:

- The line spacing can be set independently in standard mode and in page mode.
- The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: ■ Default line spacing: 4.23 mm(12 dots)

ESC 3

Function: Set line spacing

| | | | | |
|--------------|----------------|-----|----|---|
| Code: | ASCII | ESC | 3 | n |
| | Hex | 1B | 33 | n |
| | Decimal | 27 | 51 | n |

Range: $0 \leq n \leq 255$

Default: Corresponding to the default line spacing defined by ESC 2

Description: ■ This command sets the line spacing using a following rule.
 • Line spacing = $n \times$ (vertical or horizontal motion units)

Remarks: ■ With standard mode selected, the vertical motion unit is used.
 ■ In page mode, the horizontal motion unit is applied when printing start poison is defined to the upper right or lower right of print area using ESC T, otherwise, the vertical motion unit is used.
 ■ The line spacing is settable independently for each of standard and page modes.

Differences: ■ Vertical or horizontal motion unit and maximum line spacing settable:

| Model | Vertical unit | Horizontal unit | Max line spacing |
|------------|------------------------|------------------------|------------------|
| SRP-275III | 0.176mm (1/144 inches) | 0.176mm (1/144 inches) | 44.98mm |

ESC <

Function: Return home

Code:

| | | |
|----------------|-----|----|
| ASCII | ESC | < |
| Hex | 1B | 3C |
| Decimal | 27 | 60 |

Range: None

Default: None

Description: This command moves the print head to the standby position.

Remarks:

- The standard position is on the left.
- After processing this command, the print position may be readjusted.

Differences: None

ESC =

Function: Select peripheral device

| | | | | |
|--------------|----------------|-----|----|---|
| Code: | ASCII | ESC | = | n |
| | Hex | 1B | 3D | n |
| | Decimal | 27 | 61 | n |

Range: $1 \leq n \leq 3$

Default: None

Description: This command selects the device to which the host computer communicates according to n as follows:

| n | Function |
|---|----------------------|
| 1 | Enables the printer |
| 2 | Disables the printer |
| 3 | Enables the printer |

Remarks:

- The printer discards all of the received data commands with the exception of ESC = and real-time commands while being disabled.
- The normal operation will be resumed by ESC @, power cycling or printer reset.
- If ASB is activated when the printer is disabled by this command, the status is transmitted to the host at a preset interval.

Differences: None

ESC ?

Function: Cancel user-defined characters.

Code:

| | | | |
|----------------|-----|----|---|
| ASCII | ESC | ? | n |
| Hex | 1B | 3F | n |
| Decimal | 27 | 63 | n |

Range: $32 \leq n \leq 126$

Default: None

Description: This command removes user-defined character specified by character code n.

Remarks:

- In place of the deleted user-defined character, the corresponding resident character is printed.
- The user-defined characters for each font can be deleted independently.

Differences: None

ESC @

Function: Initialize printer

Code:

| | | |
|----------------|-----|----|
| ASCII | ESC | @ |
| Hex | 1B | 40 |
| Decimal | 27 | 64 |

Range: None

Default: None

Description: This command cancels conditions previously set and initializes the printer to the conditions having existed at power on.

Remarks:

- The data in the printer buffer is cleared.
- The settings of DIP switch are not re-read.
- The data in the receive buffer is not discarded.
- All of the settings such as print mode and line feed are cleared.
- NV graphics and NV user memory are not cleared.
- In page mode, this command removes the data in print areas, restores the initial settings and returns to standard mode.

Differences: None

ESC D

Function: Set horizontal tab position

| | | | | | |
|--------------|----------------|-----|----|---------|-----|
| Code: | ASCII | ESC | D | n1...nk | NUL |
| | Hex | 1B | 44 | n1...nk | 00 |
| | Decimal | 27 | 68 | n1...nk | 0 |

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

Default: n=8, 16, 24, 32, 40,....., 232, 240, 248

Description:

- This command sets the horizontal tab position.
 - n defines the number of columns from the beginning of the line to the horizontal tab setting.
 - k denotes the number of horizontal tab positions to be set.
 - The horizontal tab position is stored as a value of [character width x n] measured form the beginning of the line.

Remarks:

- The data [n]k signifying the set position is transmitted in the ascending order and ends with a NUL code.
- ESC D NUL cancels all horizontal tab positions.
- Tab position is set at the value of [character width x n] from the beginning of the line.
- The character width includes the space to the right of the character, and it will be twice the normal character when the double width characters are selected.
- If the data [n]k is equal to or smaller than the preceding data [n]k-1, the horizontal tab setting has been completed.
- Up to 32 horizontal tabs can be set, the data exceeding this limit is processed as normal ones.
- Even if the character width is changed after setting the horizontal tab positions, the horizontal tab positions remain unchanged.

Differences: None

ESC E

Function: Turn emphasized mode on / off

| | | | | |
|--------------|----------------|-----|----|---|
| Code: | ASCII | ESC | E | n |
| | Hex | 1B | 45 | n |
| | Decimal | 27 | 69 | n |

Range: $0 \leq n \leq 255$

Default: n=0

Description: ■ This command turns emphasized mode on or off by toggling the least significant bit of n like following.

- When the LSB of n is 0, emphasized mode is turned off.
- When the LSB of n is 1, emphasized mode is turned on.

Remarks: ■ The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: ■ In the emphasized mode, the print speed will be slow because 2-pass print starts.

ESC G

Function: Turn double-strike mode on/off

Code:

| | | | |
|----------------|-----|----|---|
| ASCII | ESC | G | n |
| Hex | 1B | 47 | n |
| Decimal | 27 | 71 | n |

Range: $0 \leq n \leq 255$

Default: n=0

Description: ■ This command turns double-strike mode on or off by toggling the least significant bit of n like following.

- When the LSB of n is 0, emphasized mode is turned off.
- When the LSB of n is 1, emphasized mode is turned on.

Remarks: ■ The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: ■ In the double-strike mode, the print speed will be slow because 2-pass print starts.

ESC J

Function: Print and feed paper

| | | | | |
|--------------|----------------|-----|----|---|
| Code: | ASCII | ESC | J | n |
| | Hex | 1B | 4A | n |
| | Decimal | 27 | 74 | n |

Range: $0 \leq n \leq 255$

Default: None

Description: This command prints the data in the print buffer and feeds the paper [n X vertical motion unit].

Remarks:

- The maximum feed amount available varies depending on the printer model.
- With standard mode selected, the vertical motion unit is used.
- In page mode, the horizontal motion unit is applied when printing start position is defined to the upper right or lower right of print area using ESC T, otherwise, the vertical motion unit is used.
- When used in page mode, this command moves only the print position, not executing actual printing.

Differences: ■ Vertical motion unit and maximum feed amount:

| Model | Vertical unit | Max feed amount |
|------------|------------------------|-----------------|
| SRP-275III | 0.176mm (1/144 inches) | 44.98mm |

ESC K

Function: Print and reverse feed

| | | | | |
|--------------|----------------|-----|----|---|
| Code: | ASCII | ESC | K | n |
| | Hex | 1B | 4B | n |
| | Decimal | 27 | 75 | n |

Range: $0 \leq n \leq 48$

Default: None

Description: This command prints the data in the print buffer and feeds the paper n x (vertical motion unit) in the reverse direction.

Remarks:

- With standard mode selected, the vertical motion unit is used.
- In page mode, the horizontal motion unit is applied when printing start position is defined to the upper right or lower right of print area using ESC T, otherwise, the vertical motion unit is used.
- When used in page mode, this command moves only the print position, not executing actual printing.
- The reverse paper feeding may cause unexpected problems such as incorrect paper feeding, unusual noise and paper rubbing against the ink ribbon.

Differences: None

ESC M

Function: Select character font

Code:

| | | | |
|----------------|-----|----|---|
| ASCII | ESC | M | n |
| Hex | 1B | 4D | n |
| Decimal | 27 | 77 | n |

Range: n = 0, 1, 48, 49

Default: n=1

Description: None

Remarks:

- The printer model has its own configuration of Font A and B.
- The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: None

ESC R

Function: Specify international character set

| | | | | |
|--------------|----------------|-----|----|---|
| Code: | ASCII | ESC | R | n |
| | Hex | 1B | 52 | n |
| | Decimal | 27 | 82 | n |

Range: $0 \leq n \leq 11$

Default: n=0

Description: This command specifies international characters according to n values.

| n | Character set | n | Character set |
|---|---------------|----|---------------|
| 0 | U.S.A | 6 | Italy |
| 1 | France | 7 | Spain I |
| 2 | Germany | 8 | Japan |
| 3 | U.K | 9 | Norway |
| 4 | Denmark I | 10 | Denmark II |
| 5 | Sweden | 11 | PC-999 |

Remarks: ■ The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: ■ When n = 11, PC-999 is available.

ESC U

Function: Specify unidirectional print mode

Code:

| | | | |
|----------------|-----|----|---|
| ASCII | ESC | U | n |
| Hex | 1B | 55 | n |
| Decimal | 27 | 85 | n |

Range: $0 \leq n \leq 255$

Default: $n = 0$

Description:

- This command selects/deselects the unidirectional print according to the value of n that is valid only for the least significant bit.
 - Unidirectional print mode is turned on with $n=0$, and turned off with $n=1$

Remarks:

- In this mode, the printer will print from the left to the right, preventing horizontal shear in printing, in particular, for double height print.
- The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: None

ESC a

Function: Set position alignment

Code:

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

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

Default: n=0

Description: This command specifies position alignment for all data in one line in standard mode, using n as follows:

| n | Alignment |
|-------|------------------|
| 0, 48 | Left alignment |
| 1, 49 | Center alignment |
| 2, 50 | Right alignment |

Remarks:

- This command is not effective in page mode. If this command is processed in page mode, the setting by this command becomes effective when the printer returns to standard mode.
- The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: None

ESC d

Function: Print and feed n lines.

Code:

| | | | |
|----------------|-----|-----|---|
| ASCII | ESC | d | n |
| Hex | 1B | 64 | n |
| Decimal | 27 | 100 | n |

Range: $0 \leq n \leq 255$

Default: None

Description: This command feeds the paper by n lines after printing the data in the print buffer.

Remarks:

- The per-line paper feed amount is based on the value set by the line spacing related commands, ESC 2 and ESC 3.
- In page mode, this command moves only the print position, not performing actual print.
- If the feed amount set is beyond the maximum feed amount, the feed amount will be set to the maximum feed amount automatically.

Differences: ■ Maximum feed amount: 255 lines.

ESC e

Function: Print and reverse feed n lines.

Code:

| | | | |
|----------------|-----|-----|---|
| ASCII | ESC | e | n |
| Hex | 1B | 65 | n |
| Decimal | 27 | 101 | n |

Range: $0 \leq n \leq 1$

Default: None

Description: ■ This command feeds the paper by n lines in the reverse direction after printing the data in the print buffer.

Remarks: ■ The per-line paper feed amount is based on the value set by the line spacing related commands, ESC 2 and ESC 3.
 ■ In page mode, this command moves only the print position, not performing actual print.

Differences: ■ The maximum reverse paper feed amount is 1 line to prevent the paper jam and paper rubbing against the ink ribbon.

ESC g 0

Function: Define macro

| | | | | | |
|--------------|----------------|-----|-----|----|---|
| Code: | ASCII | ESC | g | 0 | <k> [<nH > <nL>] _k [d1...dm] _k |
| | Hex | 1B | 67 | 00 | <k> [<nH > <nL>] _k [d1...dm] _k |
| | Decimal | 27 | 103 | 0 | <k> [<nH > <nL>] _k [d1...dm] _k |

Range: $k \leq 10$
 $0 \leq nL \leq 255$
 $0 \leq nH \leq 255$
 $[(256 \times nH) + nL]_1 + \dots + [(256 \times nH) + nL]_k < 2\text{Mbit (256KB)}$
 $0 \leq d \leq 255$

Default: None

Description:

- This command defines macro into NV memory such as a logo image.
 - k denotes the total number of macro to be stored in NV memory.
 - $m=(256 \times nH) + nL$ specifies the size of macro in byte

Remarks:

- 2M bit (256KB) of the flash is allocated for saving NV bit image.
- This command is useful to define NV bit image (Logo).
- The NV bit image is printed by ESC g n.

Differences: None

ESC g n

Function: Execute macro

Code:

| | | | |
|----------------|-----|-----|---|
| ASCII | ESC | g | n |
| Hex | 1B | 67 | n |
| Decimal | 27 | 103 | n |

Range: $1 \leq n \leq 10$

Default: None

Description:

- This command executes macro using the value of n.
 - n denotes the macro index number that is automatically given to the macro in a downloading order while being defined by ESC g.

Remarks:

- The NV bit image should be defined by ESC g preceding this command. When executing the macro not being defined, this command is ignored.

Differences: None

ESC i

Function: Partial cut

Code:

| | | |
|----------------|-----|-----|
| ASCII | ESC | i |
| Hex | 1B | 69 |
| Decimal | 27 | 105 |

Range: None

Default: None

Description: ■ This command executes a partial cut of the paper with one point left uncut.

Remarks: ■ The same partial cut as this command is executed using ESC m and GS V.

Differences:

- This command is effective for the printer equipped with an autocutter.
- Autocutter operation should be enabled by setting the autocutter control DIP switch.
- If the autocutter control DIP switch of the printer not equipped with autocutter is set, the printer does not operate, displaying the error signal by LED.

ESC m

Function: Partial cut

Code:

| | | |
|----------------|-----|-----|
| ASCII | ESC | m |
| Hex | 1B | 6D |
| Decimal | 27 | 109 |

Range: None

Default: None

Description: ■ This command executes a partial cut of the paper with one point left uncut.

Remarks: ■ The same partial cut as this command is executed using ESC i and GS V.

Differences:

- This command is effective for the printer equipped with an autocutter.
- Autocutter operation should be enabled by setting the autocutter control DIP switch.
- If the autocutter control DIP switch of the printer not equipped with autocutter is set, the printer does not operate, displaying the error signal by LED.

ESC p

Function: Generate pulse

| | | | | | | |
|--------------|----------------|-----|-----|---|----|----|
| Code: | ASCII | ESC | p | m | t1 | t2 |
| | Hex | 1B | 70 | m | t1 | t2 |
| | Decimal | 27 | 112 | m | t1 | t2 |

Range: m = 0, 1, 48, 49
 $0 \leq t1 \leq 255, 0 \leq t2 \leq 255$

Default: None

Description: This command outputs the signals specified with t1 and t2 to the connector pins defined by m.

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

Remarks:

- The ON time is [t1 x 2ms], and the OFF time is as [t2 x 2ms].
 - If t2 is smaller than t1, OFF time is set to [t1 x 2ms].

Differences: None

ESC r

Function: Select print color

Code:

| | | | |
|----------------|-----|-----|---|
| ASCII | ESC | r | n |
| Hex | 1B | 72 | n |
| Decimal | 27 | 114 | n |

Range: n = 0, 1, 48, 49

Default: n = 0

Description:

- This command selects a print color for each line, using n as follows.
 - When n = 0 or 48, black is selected.
 - When n=1 or 49, red is selected.

Remarks:

- In standard mode, this command is valid only when processed at the beginning of the line.
- The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: None

ESC t

Function: Select character code table

| | | | | |
|--------------|----------------|-----|-----|---|
| Code: | ASCII | ESC | t | n |
| | Hex | 1B | 74 | n |
| | Decimal | 27 | 116 | n |

Range: $0 \leq n \leq 5$, $16 \leq n \leq 19$, $21 \leq n \leq 31$, $33 \leq n \leq 41$, $n=255$

Default: For model not supporting Thai character: $n=0$
For model supporting Thai character support : $n = 20$

Description: This command specifies code page according to the value of n as follows:

| n | Code page |
|----|-----------------------------------|
| 0 | Page 0 437 (USA, Standard Europe) |
| 1 | Page 1 Katakana |
| 2 | Page 2 850 (Multilingual) |
| 3 | Page 3 860 (Portuguese) |
| 4 | Page 4 863 (Canadian-French) |
| 5 | Page 5 865 (Nordic) |
| 16 | Page 16 1252 (Latin I) |
| 17 | Page 17 866 (Cyrillic #2) |
| 18 | Page 18 852 (Latin 2) |
| 19 | Page 19 858 (Euro) |
| 21 | Page 21 862 (Hebrew DOS code) |
| 22 | Page 22 864 (Arabic) |
| 23 | Page 23 Thai42 |
| 24 | Page 24 1253 (Greek) |
| 25 | Page 25 1254 (Turkish) |

| n | Code page |
|-----|--------------------------------|
| 26 | Page 26 1257 (Baltic) |
| 27 | Page 27 Farsi |
| 28 | Page 28 1251 (Cyrillic) |
| 29 | Page 29 737 (Greek) |
| 30 | Page 30 775 (Baltic) |
| 31 | Page 31 Thai14 |
| 33 | Page 33 1255 (Hebrew New code) |
| 34 | Page 34 Thai 11 |
| 35 | Page 35 Thai 18 |
| 36 | Page 36 855 (Cyrillic) |
| 37 | Page 37 857 (Turkish) |
| 38 | Page 38 928 (Greek) |
| 39 | Page 39 Thai 16 |
| 40 | Page 40 1256 (Arabic) |
| 41 | Page 41 1258 (Vietnam) |
| 255 | User Code Page (Space) |

Remarks: ■ The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: ■ Code pages not supported:

- n = 36, 39, 40
- When n=255, the code page specified by the memory switch is enabled.

ESC u

Function: Transmit peripheral device status

| | | | | |
|--------------|----------------|-----|-----|---|
| Code: | ASCII | ESC | u | n |
| | Hex | 1B | 75 | n |
| | Decimal | 27 | 117 | n |

Range: n = 0, 48

Default: None

Description: This command transmits a byte of data with the least significant bit(LSB) specifying the peripheral device status as follows:

| LSB | Status of drawer kick-out connector pin 3 |
|-----|---|
| 0 | Low |
| 1 | High |

Remarks: ■ The peripheral device status can be transmitted using GS r.

Differences: None

ESC v

Function: Transmit paper sensor status

Code:

| | | |
|----------------|-----|-----|
| ASCII | ESC | v |
| Hex | 1B | 76 |
| Decimal | 27 | 118 |

Range: None

Default: None

Description:

- This command transmits a byte of data specifying the paper sensor status.
- The status of paper near end and paper end sensors is sent to the host as follows:
 - When paper near end is detected, 0x03 is transmitted.
 - When paper end is detected, 0xC is transmitted.

Remarks:

- The paper sensor status can be transmitted using GS r.
- The near end sensor is optional while paper end sensor required.
- If the printer is not equipped with a near end sensor, the paper near end sensor is considered as normal condition.

Differences: None

ESC {

Function: Turns upside-down printing mode on/off

Code:

| ASCII | ESC | { | n |
|---------|-----|-----|---|
| Hex | 1B | 7B | n |
| Decimal | 27 | 123 | n |

Range: $0 \leq n \leq 255$

Default: n=0

Description: This command selects/deselects upside-down printing mode according to the least significant bit as follows.

| LSB | Upside-down mode |
|-----|------------------|
| 0 | Turned off |
| 1 | Turned on |

- Remarks:**
- This command is valid only when entered at the beginning of the line.
 - The upside-down print mode has no effect in page mode. If this command is processed in page mode, upside-down printing mode is enabled when the printer returns to standard mode.
 - 180 rotated characters are printed from right to left in upside-down print mode.
 - The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

| Example | |
|---------|-------------------|
| Normal | Upside- down Mode |
| ABCDEF | FEDCBA |

Differences: None

FS !

Function: Set print mode for Kanji characters

| | | | | |
|--------------|----------------|----|----|---|
| Code: | ASCII | FS | ! | n |
| | Hex | 1C | 21 | n |
| | Decimal | 28 | 33 | n |

Range: $0 \leq n \leq 255$

Default: n=0

Description: This command signifies the print modes such as double-width mode, double-height mode, and underline mode for Kanji characters as follows:

| Bit | Binary | Hex | Decimal | Status |
|-----|--------|-----|---------|-----------------------------|
| 0 | Off | 00 | 0 | Reserved |
| 1 | Off | 00 | 0 | Reserved |
| 2 | Off | 00 | 0 | Double-width mode is Off |
| | On | 04 | 4 | Double-width mode is On |
| 3 | Off | 00 | 0 | Double-height mode is Off |
| | On | 08 | 8 | Double-height mode is On |
| 4-6 | Off | 00 | 0 | Reserved |
| 7 | Off | 00 | 0 | Kanji underline mode is Off |
| | On | 80 | 128 | Kanji underline mode is On |

- Remarks:**
- Kanji underline mode can be set using FS -.
 - Double-width and height modes can be set using GS !.
 - In Kanji underline mode, the underline printing is not performed under 90°clockwise rotated characters, white/black reverse characters, and spaces skipped by HT, ESC \$, or ESC \.
 - The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: None

FS &

Function: Select Kanji character mode

Code:

| | | |
|----------------|----|----|
| ASCII | FS | & |
| Hex | 1C | 26 |
| Decimal | 28 | 38 |

Range: None

Default: None

Description: This command sets Kanji character mode.

Remarks:

- This command is available only for the Japanese, Chinese, and Korean models.
- Kanji codes are comprised of 2 bytes and processed in order of the first and second byte.
- The setting of this command remains effective until ESC !, ESC @, printer reset, power cycling or FS is executed.

Differences: None

FS -

Function: Turn underline mode on/off for Kanji characters

| | | | | |
|--------------|----------------|----|----|---|
| Code: | ASCII | FS | - | n |
| | Hex | 1C | 2D | n |
| | Decimal | 28 | 45 | n |

Range: $0 \leq n \leq 1, 48 \leq d \leq 49$

Default: n=0

Description: This command select/deselects underline mode for Kanji characters, based on the following values of n:

| n | Underline mode for Kanji characters |
|-------|-------------------------------------|
| 0, 48 | Turned off |
| 1, 49 | Turned on |

Remarks:

- Kanji underline mode can be set using FS !.
- The settings of this command are valid only for Kanji characters.
- The setting of this command remains effective until ESC !, ESC @, printer reset, or power cycling is executed.

Differences: None

FS .

Function: Cancel Kanji character mode

Code:

| | | |
|----------------|----|----|
| ASCII | FS | . |
| Hex | 1C | 2E |
| Decimal | 28 | 46 |

Range: None

Default: None

Description: This command cancels Kanji character mode.

Remarks:

- This command is available only for the Japanese, Chinese, and Korean models.
- Kanji character mode is enabled using FS &.
- Once Kanji character mode is canceled, the printer processes a character code as 1-byte code of alphanumeric characters.
- The setting of this command remains effective until ESC !, ESC @, printer reset, or power cycling is executed.

Differences: None

FS 2

Function: Specify user-defined Kanji characters

| | | | | | | |
|--------------|----------------|----|----|----|----|---------|
| Code: | ASCII | FS | 2 | c1 | c2 | d1...dk |
| | Hex | 1C | 32 | c1 | c2 | d1...dk |
| | Decimal | 28 | 50 | c1 | c2 | d1...dk |

Range: $c1 = FEH, A1H \leq c2 \leq FEH$
 $0 \leq d \leq 255$
 $k = 32$

Default: None

Description:

- This command defines user-defined Kanji characters for the character codes specified by c1 and c2.
 - c1 and c2 denote the first and second byte of a character code respectively for a user-defined character.
 - d indicates 1 byte of defined data.
 - k indicates the maximum number of defined data.

Remarks:

- The bits of defined data (d) include 1 to print a dot or 0 not to print a dot.
- Defined data remains effective until ESC !, ESC @, printer reset, or power cycling is executed.
- In case user-defined characters are not defined, space is printed at the default.
- The relationship between the defined data and a print result is as follows. (2 bytes in vertical × 16 dots in horizontal) is necessary.

| | | | | | | | |
|----|----|----|-----|-----|-----|-----|-----|
| d1 | d3 | d5 | ... | d27 | d29 | d31 | MSB |
| | | | | | | | LSB |
| d2 | d4 | d6 | ... | d28 | d30 | d32 | MSB |
| | | | | | | | LSB |

Differences: None

FS p

Function: Print NV bit image

| | | | | | |
|--------------|----------------|----|-----|---|---|
| Code: | ASCII | FS | p | n | m |
| | Hex | 1C | 70 | n | m |
| | Decimal | 28 | 112 | n | m |

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

Default: None

Description: This command prints NV bit image n using the mode specified by m as follows:

| m | Mode |
|-------|---------------|
| 0, 48 | Normal |
| 1, 49 | Double-width |
| 2, 50 | Double-height |
| 3, 51 | Quadruple |

- Remarks:**
- BS ^ L and BS ^ 7 can be used for printing NV bit image.
 - The NV bit image is defined by FS q.
 - n is assigned to each NV bit image to be stored in download order by FS q.
 - This command has no effect with NV bit image not defined in advance.
 - In page mode, the NV bit image is saved without being printed.
 - The printer does not print the NV bit image that is beyond one line of print area.
 - When using unidirectional print mode, there will be no vertical misalignment between the top and bottom parts of the printed pattern.

Differences:

DPI : Dots per Inch (25.4mm)

| Mode | Vertical Dot Density (DPI) | Horizontal Dot Density (DPI) |
|---------------|----------------------------|------------------------------|
| Normal | 72 | 160 |
| Double-width | 72 | 80 |
| Double-height | N/A | |
| Quadruple | N/A | |

FS q

Function: Define NV bit image

| | | | | | |
|--------------|----------------|----|-----|---|--|
| Code: | ASCII | FS | q | n | [xL xH yL yH d1...dk]1... [xL xH yL yH d1...dk]n |
| | Hex | 1C | 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:
 $1 \leq n \leq 255$
 $1 \leq (xL + xH \times 256) \leq 1023$ ($0 \leq xL \leq 255$, $0 \leq xH \leq 3$)
 $1 \leq (yL + yH \times 256) \leq 288$ ($0 \leq yL \leq 255$, $yH=0,1$)
 $0 \leq d \leq 255$
 $k = (xL + xH \times 256) \times (yL + yH \times 256) \times 8$

Default: None

Description:

- This command defines the NV bit image in the NV memory.
 - n denotes the number of the NV being defined.
 - (xL, xH) and (yL, yH) set the number of dots in the horizontal and vertical directions to $[(xL + xH \times 256) \times 8]$ and $[(yL + yH \times 256) \times 8]$ respectively for the NV bit image.

Remarks:

- BS ^ L and BS ^ 7 can be used for defining NV bit image.
- When this command is entered, all NV bit images previously defined are removed from the NV memory.
- After completion of this command, the printer executes a software reset to restore the settings as when turned on.
- The NV bit image is printed by FS p.
- During the execution of this command, paper feed button, ASB and real time functions will not operate.

- Bit image data and print result ws:

| | | | | |
|----|--------|-----|------|-----|
| d1 | dY+1 | ... | . | MSB |
| | | | . | LSB |
| | | | . | MSB |
| d2 | dY+2 | ... | dk-2 | LSB |
| | | | | MSB |
| . | . | ... | dk-1 | LSB |
| . | . | | | MSB |
| . | . | | | LSB |
| dY | dY x 2 | ... | dk | MSB |
| | | | | LSB |

- Differences:**
- The capacity of NV memory available is 256KB.

FS S

Function: Set Kanji character spacing

Code:

| | | | | |
|----------------|----|----|----|----|
| ASCII | FS | S | n1 | n2 |
| Hex | 1C | 53 | n1 | n2 |
| Decimal | 28 | 83 | n1 | n2 |

Range: $0 \leq n1 \leq 32, 0 \leq n2 \leq 32$

Default: $n1 = 0, n2 = 0$

Description:

- This command sets left- and right-side spacing for Kanji characters, n1 and n2 respectively.
 - Left-side character spacing is [n1×horizontal unit].
 - Right-side character spacing is [n2×horizontal unit].

Remarks:

- In a double width mode, the right space will be doubled.
- The character spacing can be set independently for standard and page modes.
- The setting of this command remains effective until ESC !, ESC @, printer reset or power cycling is executed.

Differences: None

FS W

Function: Turn quadruple-size mode on/off for Kanji characters

Code:

| ASCII | FS | W | n |
|---------|----|----|---|
| Hex | 1C | 57 | n |
| Decimal | 28 | 87 | n |

Range: $0 \leq n \leq 1$

Default: $n = 0$

Description: This command turns quadruple-size mode on or off for Kanji characters, using a least significant bit of n as follows:

| n | Quadruple-size mode |
|---|---------------------|
| 0 | Turned off |
| 1 | Turned on |

Remarks:

- FS ! or GS ! can be used to generate the quadruple-size Kanji characters.
- The setting of this command remains effective until ESC @, printer reset or power cycling is executed.

Differences: None

FS (L

Function: Feeds paper to the cutting position

| | | | | | | | | |
|--------------|----------------|----|----|----|----|----|----|---|
| Code: | ASCII | FS | (| L | pL | pH | fn | m |
| | Hex | 1C | 28 | 4C | 02 | 00 | 42 | m |
| | Decimal | 28 | 40 | 76 | 2 | 0 | 66 | m |

Range: $(pL + pH \times 256) = 2$ (pL = 2, pH = 0)
 fn = 66
 m = 48, 49

Default: None

Description: ■ Feeds paper to the cutting position.

| m | Function |
|----|---|
| 48 | Feeds paper to the next cutting position. <ul style="list-style-type: none"> This command is ignored if the current position is located on the cutting position. |
| 49 | Feeds paper to the next cutting position. <ul style="list-style-type: none"> Feeds paper to the next cutting position if the current position is located on the cutting position. |

- Feeds paper forward only (Does not feed paper backward).

Remarks:

Differences: None

FS ?

Function: Cancel user-defined Kanji characters

Code:

| | | | | |
|----------------|----|----|----|----|
| ASCII | FS | ? | c1 | c2 |
| Hex | 1C | 3F | c1 | c2 |
| Decimal | 28 | 63 | c1 | c2 |

Range: c1 = FEH, A1H ≤ c2 ≤ FEH

Default: None

Description:

- This command cancels user-defined Kanji characters for the character codes specified by c1 and c2.
 - c1 and c2 specify the first and second byte of a character code for a user-defined Kanji character respectively.

Remarks:

- This command is effective only for Chinese model.
- A space is printed for the user-defined Kanji character canceled.

Differences: None

GS (A

Function: Execute test print

| | | | | | | | | |
|--------------|----------------|----|----|----|----|----|---|---|
| Code: | ASCII | GS | (| A | pL | pH | n | m |
| | Hex | 1D | 28 | 41 | pL | pH | n | m |
| | Decimal | 29 | 40 | 65 | pL | pH | n | m |

Range: $(pL + pH \times 256) = 2$ ($pL=2, pH=0$)
 $0 \leq n \leq 2, 48 \leq n \leq 50$
 $1 \leq m \leq 3, 49 \leq m \leq 51$

Default: None

Description: ■ This command prints a specified pattern for testing on a roll paper.
 • Roll paper is selected with n specified as follows:

| n | Paper type |
|-------|------------|
| 0, 48 | Roll paper |
| 1, 49 | |
| 2, 50 | |

• Different kinds of test patterns are selected according to m as follows:

| m | Test pattern |
|-------|--------------------------------|
| 1, 49 | Hexadecimal dump mode |
| 2, 50 | Printer configuration printing |
| 3, 51 | Rolling pattern printing |

Remarks: ■ The printer cancels a macro definition in progress If this command is processed. The macro becomes invalid.
 ■ After completion of this command, a software reset is executed automatically to restore the printer status set during power cycling.
 ■ All of the data transmitted from the host to the printer is printed and identified in hexadecimal dump mode.
 ■ The real time command and ASB operations are not executed during the printing of printer configuration ($m=2, 50$) and rolling pattern ($m=3, 51$).

Differences: None

GS I

Function: Transmits printer ID

| | | | | |
|--------------|----------------|----|----|---|
| Code: | ASCII | GS | I | n |
| | Hex | 1D | 49 | n |
| | Decimal | 29 | 73 | n |

Range: $1 \leq n \leq 69$

Default: None

Description: ■ This command transmits the printer ID or information.

- Transmits 1 byte of printer ID, using n as follows:

| n | Printer ID | Specification |
|------|--------------------|----------------------------------|
| 1,49 | Printer model ID | Printer model |
| 2,50 | Type ID | Printer type |
| 3,51 | Printer feature ID | Printing method and Printer size |

- Transmits specified printer information, using n as follows:

| n | Printer ID type | Specification |
|----|------------------|-----------------------------|
| 65 | Firmware version | Firmware version |
| 66 | Manufacturer | BIXOLON |
| 67 | Printer model | Printer model |
| 69 | Code page | Currently enabled code page |

Remarks: ■ Printer information (When n = 65, 66, 67, 69) consist of [Header ~ NULL] data as shown below:

| Transmitted data | Hex | Decimal | Amount of data |
|---------------------|----------------------|----------------------|----------------|
| Header | 5FH | 95 | 1byte |
| Printer information | Depends on the model | Depends on the model | 0-15 bytes |
| NUL | 00H | 0 | 1byte |

- The firmware version can be confirmed by self test printing.
- This command can be executed in real-time command mode using DLE.

Differences: ■ The printer ID is shown according to printer models as follows:

| Printer ID | SRP-275III |
|-----------------------|---|
| 1(Printer model ID) | 0x0d |
| 2(Type ID) | Type ID varies depending on functions the printer supports as follows: - 0x01 (Multi-byte character) - 0x02 (Autocutter) - 0x03 (Autocutter + Multi-byte character) - 0x04 (Customer display) - 0x05 (Multi-byte character + Display) - 0x07 (Customer display + Autocutter + Multi-byte Character) |
| 3(Printer feature ID) | 0x64 |
| 66(Manufacturer) | BIXOLON |
| 67(Printer model) | SRP-275III |
| 69(Language of Font) | Code page currently being used. Refer to cod page setting command, ESC t. |

GS V

Function: Select cut mode and cut paper

Code:

| | | | | | |
|---|----------------|----|----|---|---|
| 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=0, 1, 48, 49 ② m=65, 66, 0 ≤ n ≤ 255

Default: None

Description: This command cuts paper in the specified mode as follows.

| m | | Function |
|---|-----------|---|
| ① | 0,1,48,49 | Executes a partial cut (one point left uncut) |
| ② | 65 | Feeds paper to (cutting position + n × vertical motion unit) and executes a partial cut(one point left uncut) |
| | 66 | Feeds paper to (cutting position + n × vertical motion unit) and executes a partial cut(one point left uncut) |

Remarks:

For ①

■ If an auto cutter is not provided, this command is ignored command is executed.

For ②

■ When n = 0, the printer feeds the paper to the cutting position and cuts it.

■ If an auto cutter is not provided, the printer only feeds the paper for specified amount.

■ Vertical motion unit is used for calculating a paper feed amount.

GS a

Function: Enable/Disable Automatic Status Back (ASB)

| | | | | |
|--------------|----------------|----|----|---|
| Code: | ASCII | GS | a | n |
| | Hex | 1D | 61 | n |
| | Decimal | 29 | 97 | n |

Range: $0 \leq n \leq 255$

Default: n=0

Description: ■ This enables or disables ASB (Automatic Status Back) according to n.
 • ASB is enabled when $n > 0$.

Remarks:

- ASB is the function that transmit the printer status such as cover open/close and Online/Offline] continuously at the time interval specified regardless of the status change if ASB is enabled. Using this ASB function, the host can check to see if the printer is running properly.
- Once ASB has been enabled, the printer continues to transmit the current printer status at the specified interval until ASB is disabled.
- When $n = 0$, ASB is disabled. The printer stops transmitting the status.
- With parallel and USB interface, the printer status is transmitted whenever the host computer changes to the reverse mode regardless of the printer status change. It is recommended that the periodic time interval at which the host changes to reverse mode is more than 500ms in order to receive the correct status.
- With serial interface, ASB status is transmitted continuously at the interval of 1 sec even if the status is not changed.
- The setting of this command remains effective until ESC @, printer reset or power cycling is executed.

- The printer information transmitted is comprised of 4 bytes as follows:

- First byte(printer information)

| Bit | Off/On | Hex | Decimal | Function |
|-----|--------|-----|---------|---|
| 0 | Off | 00 | 0 | Not used. Fixed to Off |
| 1 | Off | 00 | 0 | Not used. Fixed to Off |
| 2 | Off | 00 | 0 | Drawer kick-out connector pin 3 is LOW |
| | On | 04 | 4 | Drawer kick-out connector pin 3 is HIGH |
| 3 | Off | 00 | 0 | On-line |
| | On | 08 | 8 | Off-line |
| 4 | On | 10 | 16 | Not used. Fixed to On |
| 5 | Off | 00 | 0 | Cover is close |
| | On | 20 | 32 | Cover is open |
| 6 | Off | 00 | 0 | Paper is not being fed by the paper feed button |
| | On | 40 | 64 | Paper is being fed by the paper feed butto |
| 7 | Off | 00 | 0 | Not used. Fixed to Off |

- Second byte(printer information)

| Bit | Off/On | Hex | Decimal | Function |
|-----|--------|-----|---------|--|
| 0 | Off | 00 | 0 | Not used. Fixed to Off |
| 1 | Off | 00 | 0 | Not used. Fixed to Off |
| 2 | Off | 00 | 0 | No mechanical error |
| | On | 04 | 4 | Mechanical error |
| 3 | Off | 00 | 0 | No auto cutter error |
| | On | 08 | 8 | Auto cutter error occurred |
| 4 | Off | 00 | 0 | Not used. Fixed to Off |
| 5 | Off | 00 | 0 | No unrecoverable error |
| | On | 20 | 32 | Unrecoverable error |
| 6 | Off | 00 | 0 | No automatically recoverable error |
| | On | 40 | 64 | Automatically recoverable error occurred |
| 7 | Off | 00 | 0 | Not used. Fixed to Off |

- If an unrecoverable error (bit 5) occurs, turn off the power as soon as possible.

- Third byte (paper sensor information)

| Bit | Off/On | Hex | Decimal | Function |
|-----|--------|-----|---------|---------------------------------------|
| 0,1 | Off | 00 | 0 | Paper near end sensor: paper adequate |
| | On | 03 | 3 | Paper near end sensor: paper near end |
| 2,3 | Off | 00 | 0 | Paper end sensor: paper present |
| | On | 0C | 12 | Paper end sensor: no paper present |
| 4 | Off | 00 | 0 | Not used. Fixed to Off |
| 5 | Off | 00 | 0 | Not used. Fixed to Off |
| 6 | Off | 00 | 0 | Not used. Fixed to Off |
| 7 | Off | 00 | 0 | Not used. Fixed to Off |

- Fourth byte (paper sensor information)

| Bit | Off/On | Hex | Decimal | Function |
|-----|--------|-----|---------|------------------------|
| 0 | On | 01 | 1 | Not used. Fixed to On |
| 1 | On | 02 | 2 | Not used. Fixed to On |
| 2 | On | 04 | 4 | Not used. Fixed to On |
| 3 | On | 08 | 8 | Not used. Fixed to On |
| 4 | Off | 00 | 0 | Not used. Fixed to Off |
| 5 | Off | 00 | 0 | Not used. Fixed to Off |
| 6 | Off | 00 | 0 | Not used. Fixed to Off |
| 7 | Off | 00 | 0 | Not used. Fixed to Off |

Differences: None

GS r

Function: Transmit status

| | | | | |
|--------------|----------------|----|-----|---|
| Code: | ASCII | GS | r | n |
| | Hex | 1D | 72 | n |
| | Decimal | 29 | 114 | n |

Range: n=1, 2, 49, 50

Default: None

Description: The command transmits the status specified by n as follows:

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

- Remarks:**
- The status is one byte.
 - The status to be transmitted is as follows:
 - Paper sensor status (n=1, 49):

| Bit | Off/On | Hex | Decimal | Function |
|------|--------|-----|---------|---------------------------------------|
| 0, 1 | Off | 00 | 0 | Paper near-end sensor: Paper adequate |
| | On | 03 | 3 | Paper near-end sensor: Paper near end |
| 2, 3 | Off | 00 | 0 | Paper end sensor: Paper present |
| | On | 0C | 12 | Paper end sensor: Paper not present |
| 4 | Off | 00 | 0 | Fixed |
| 5 | Off | 00 | 0 | Reserved |
| 6 | Off | 00 | 0 | Reserved |
| 7 | Off | 00 | 0 | Fixed |

Bits 2 and 3: This command can not be executed when the printer is offline due to the lack of paper. Therefore, the status of bit 2 (1) and bit 3 (1) is not transmitted.

- Drawer kick-out connector status (n=2, 50):

| Bit | Off/On | Hex | Decimal | Function |
|-----|--------|-----|---------|---|
| 0 | Off | 00 | 0 | Drawer kick-out connector pin 3 is LOW |
| | On | 01 | 1 | Drawer kick-out connector pin 3 is HIGH |
| 1 | Off | 00 | 0 | Reserved |
| 2 | Off | 00 | 0 | Reserved |
| 3 | Off | 00 | 0 | Reserved |
| 4 | Off | 00 | 0 | Fixed |
| 5 | Off | 00 | 0 | Reserved |
| 6 | Off | 00 | 0 | Reserved |
| 7 | Off | 00 | 0 | Fixed |

- This command can be executed in real-time mode using DLE.

Differences: None