Programmer's Guide
SRP-500 InkJet Receipt Printer

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Inkjet Printer

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Approx. 6.5 LPS (at 42 columns)
(LPS: Lines Per Second)

Note1: If the printing duty ratio is too high, the printing quality is poor by the duty limit. In such circumstances, the printing speeds shown above cannot be guaranteed.

Note2: When select 2-color combination printing, the printing speed goes down compared to mono-color printing. It is caused by the switching operation in the printer.

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Black / red / blue / green colors are selectable.

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1.4 Paper Specifications

(1) Paper feeding method: Friction feed
(2) Paper feed interval: Initial setting: 1/6 inch
Able to set feeding interval by every 1/192 inch with command.

(3) Paper dimensions
Width 76 mm ± 0.5 mm
Maximum diameter 83 mm

1.5 Auto Cutter

Partial cut is executed by command.
Partial cut: Cutting with one point left uncut

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8 KB

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(1) Life
Mechanism: 15,000,000 lines
Print head: 7 million characters
Auto cutter: 500,000 cuts

(2) MTBF
30,000 hours

2. CONFIGURATION

2.1 Interface Specifications

2.1.1 RS-232 serial interface

2.1.1.1 Specifications

Data transmission:	Serial
Synchronization:	Asynchronous
Handshaking:	DTR/DSR or XON/XOFF control
Signal levels:	MARK = -3 to -15 V ... logic '1' / OFF SPACE = +3 to +15 V ... logic '0' / ON
Baud rate:	2400, 4800, 9600, 19200 bps
Data word length:	7 or 8 bits
Parity:	None, even, odd
Stop bits:	1 stop bit (fixed)
Connector:	D-SUB 25 (female) or equivalent

2.1.1.2 On-line/Off-line switching

The printer does not have an on-line/off-line button. The printer goes on-line or off-line under the following conditions:

<Conditions to go off-line>

1) Between the time when the power is turned on(including reset using the interface) and when the printer is ready to receive data.
2) During the self-test
3) During paper feeding using the FEED button.
4) Between the time when the printer stops printing due to a paper-end and when the on-line recovery wait time finishes after loading paper.
5) When an error has occurred.

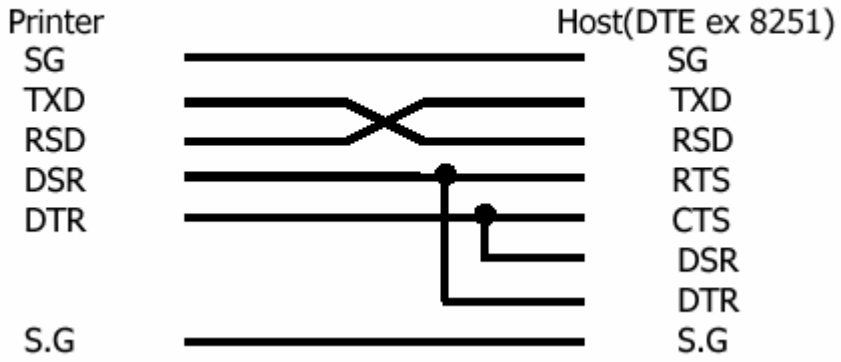
<Conditions to go on-line>

1) Automatically after the time when the power is turned on (including reset using the interface) when the printer is ready to receive data.
2) Automatically after the self-test.
3) Automatically after the paper feeding is stopped releasing the FEED button.

2.1.1.3 Interface connector terminal assignments and signal functions

Pin No.	Signal name	Direction	Function
1	FG	-	Frame Ground
2	TxD	Output	Transmit Data
3	RxD	Input	Receive Data
6	DSR	Input	Data Set Ready
7	SG	-	Signal Ground
20	DTR	Output	Data Terminal Ready

Serial Communication Interface(Example)



2.1.2 IEEE 1284 Bidirectional Parallel Interface (Parallel Interface Specifications)

2.1.2.1 Specifications

Synchronization:	Externally supplied nStrobe signals
Handshaking:	nAck and Busy signals
Signal levels:	TTL compatible
Connector:	Centronics 36P

Reverse communication (Printer Host): Nibble or Byte Mode, ECP Mode.

2.1.2.2 Switching between on-line and off-line

The printer is not equipped with any on-line/off-line switch. The printer is placed into off-line status in either of the followings:

- When the power is turned on or until the printer becomes ready for data transmission after it is initialized by the reset signal (nInit) from the interface.
- In the process of self-test.
- In the process of paper feeding using the paper feed switch
- Between the time when the printer stops printing due to a paper-end .
- When an error has occurred.

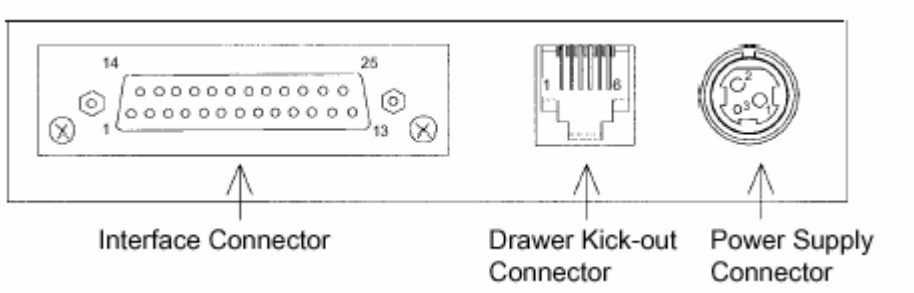
IEEE1284 Pin Description

Pin No.	Source	Compatible Mode	Nibble Mode	Byte Mode
1	Host	Nstrobe	HostClk	HostClk
2	Host / Printer	Data 0 (LSB)	-	Data 0 (LSB)
3	Host / Printer	Data 1	-	Data 1
4	Host / Printer	Data 2	-	Data 2
5	Host / Printer	Data 3	-	Data 3
6	Host / Printer	Data 4	-	Data 4
7	Host / Printer	Data 5	-	Data 5
8	Host / Printer	Data 6	-	Data 6
9	Host / Printer	Data 7 (MSB)	-	Data 7 (MSB)
10	Printer	Nack	PtrClk	PtrClk
11	Printer	Busy	PtrBusy / Data 3,7	PtrBusy
12	Printer	Perror	AckDataReq / Data 2,6	AckDataReq
13	Printer	Select	Xflag / Data 1,5	Xflag
14	Host	NautoFd	HostBusy	HostBusy
15	-	NC	ND	ND
16	-	GND	GND	GND
17	-	FG	FG	FG
18	Printer	Logic-H	Logic-H	Logic-H
19 ~ 30	-	GND	GND	GND
31	Host	Ninit	Ninit	Ninit
32	Printer	Nfault	nDataAvail / Data 0,4	nDataAvail
33	-	GND	ND	ND
34	Printer	DK_Status	ND	ND
35	Printer	+5V	ND	ND
36	Host	NselectIn	1284-Active	1284-Active

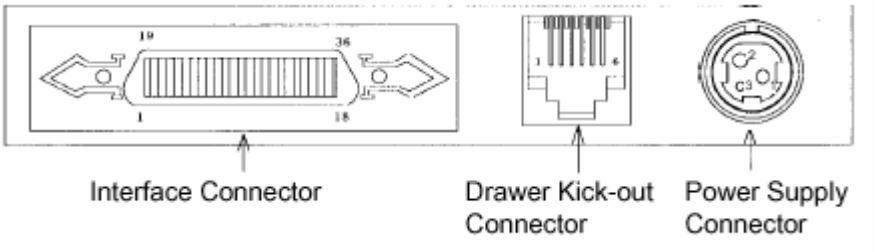
2.2 Connectors

2.2.1 Interface connectors

(1) RS-232 serial interface specification



(2) IEEE 1284 Parallel interface specification

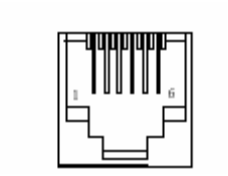


2.2.2 Drawer kick-out connector (modular connector)

The signal specified by the **ESC p** command is output to this connector. The host can confirm the input signal state by using the **DLE EOT**, **GS a**, and **GS r** commands.

1) Pin assignments

Pin No.	Signal Name	Direction
1	Frame GND	--
2	Drawer kick-out drive signal 1	Output
3	Drawer open/close signal	Input
4	+24 V	--
5	Drawer kick-out drive signal 2	Output
6	Signal GND	--

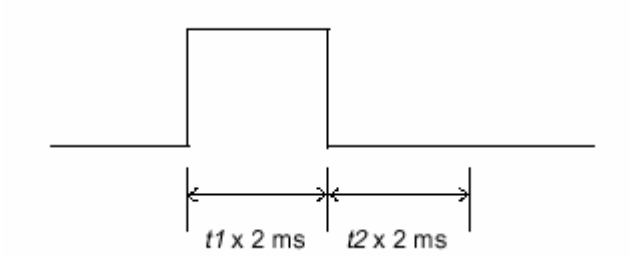


2) Drawer kick-out drive signal

Output signal: Voltage: Approximately 24 V
Current: 1 A or less

CAUTION: To avoid an overcurrent, the resistance of the drawer kick-out solenoid must be 24 Ω or more.

Output waveform (The **ESC p** command specifies ON time t1 and OFF time t2.)



3. FUNCTIONS

3.1 Commands

3.1.1 Commands list for SRP-500 Series. (EPSON TM-U200 Mode)

n	Command	Description	Hexadecimal
1	CR	Print and carriage return	0D
2	HT	Horizontal tab	09
3	LF	Print and linefeed	0A
4	DLE EOT	Transmit real-time status	10 04
5	DLE ENQ	Real-time request to printer	10 05
6	ESC SP	Set right-side character spacing	1B 20
7	ESC %	Select/Cancel user defined characters	1B 25
8	ESC &	Define user-defined characters	1B 26
9	ESC *	Select bit-image mode	1B 2A
10	ESC !	Select print mode	1B 21
11	ESC -	Turn underline mode on/off	1B 2D
12	ESC =	Select peripheral device status	1B 3D
13	ESC 2	Select default line spacing 1/6 lpi	1B 32
14	ESC 3	Set line spacing	1B 33
15	ESC <	Return home	1B 3C
16	ESC ?	Cancel user defined characters	1B 3F
17	ESC @	Initialize printer	1B 40
18	ESC D	Set horizontal positions	1B 44
19	ESC E	Turn emphasized mode on/off	1B 45
20	ESC G	Turn double-strike mode on/off	1B 47
21	ESC J	Print and feed paper <n> vertical units	1B 4A
22	ESC R	Select an international character set	1B 52
23	ESC U	Turn unidirectional printing mode on/off	1B 55
24	ESC a	Select justification	1B 61
25	ESC c 3	Select paper sensor to output paper end signal	1B 63 33
26	ESC c 4	Select paper sensor to stop printing	1B 63 34
27	ESC c 5	Enable/disable panel button	1B 63 35
28	ESC d	Print and feed <n> line	1B 64
29	ESC m	Execute partial cut	1B 6D
30	ESC p	Generate pulse	1B 70
31	ESC r	Select color	1B 72
32	ESC t	Select character code table	1B 74
33	ESC {	Turn upside-down printing mode on/off	1B 7B
34	GS I	Transmit printer ID	1D 49
35	GS V	Select cut mode and cut paper	1D 56
36	GS a	Enable/disable Automatic Status Back (ASB)	1D 61
37	GS r	Transmit status	1D 72

3.1.2 Commands list for SRP-500 Series. (STAR Mode)

n	Command	Description	Hexadecimal
1	BEL	Deferred drive command “A” for peripheral unit 1	07
2	FF	Page feed (Form feed)	0C
3	CR	Print and linefeed (same as LF)	0D
4	SO	Select expanded character mode	0E
5	SI	Select upside-down	0F
6	DC2	Cancel upside-down character	12
7	DC4	Cancel expanded character mode(Default setting)	14
8	CAN	Cancel print data in buffer	18
9	EM	Immediate drive command for peripheral unit2	19
10	SUB	Immediate drive command for peripheral unit 2	1A
11	ESC BEL	Adjust drive pulse width for peripheral unit (Default setting)	1B 07
12	ESC -	Set or Cancel underline mode	1B 2D
13	ESC 4	Red color print selection	1B 34
14	ESC 5	Red color print deselection	1B 35
15	ESC @	Initialize printer	1B 40
16	ESC C	Set page length at n lines	1B 43
17	ESC E	Emphasized print mode	1B 45
18	ESC F	Emphasized print mode deselection (Default setting)	1B 46
19	ESC M	Select 9 × 7(Half dots) character size	1B 4D
20	ESC R	Select international character set	1B 52
21	ESC U	Set or cancel uni-direction mode	1B 55
22	ESC W 1 ESC W <1>	Select expanded character mode	1B 57 31 1B 57 01
23	ESC W 0 ESC W <0>	Cancel expanded character mode (Default setting)	1B 57 30 1B 57 00
24	ESC _ 1 ESC _ <1>	Select over-line mode	1B 5F 31 1B 5F 01
25	ESC _ 0 ESC _ <0>	Cancel over-line mode	1B 5F 30 1B 5F 01
26	ESC a	Feed paper n lines	1B 61
27	ESC d 0	Partial cut	1B 64 30
28	ESC d 1	Partial cut	1B 64 31
29	ESC e 1 ESC e <1>	Set the control panel switch invalid	1B 65 31 1B 65 01
30	ESC e 0 ESC e <0>	Set the control panel switch valid	1B 65 30 1B 65 00
31	ESC f 1 ESC f <1>	Set the ON LINE switch invalid	1B 66 31 1B 66 01
32	ESC f 0 ESC f <0>	Set the ON LINE switch valid	1B 66 30 1B 66 00
33	FS	Immediate drive command “B” for peripheral unit 1	1C

3.1.3 Commands list for SRP-500 Series. (CITIZEN Mode)

n	Command	Description	Hexadecimal
1	BEL	First drawer drive command1	07
2	LF	Paper feed command	0A
3	FF n	“n”-lines paper feed command	0C n
4	SO	Enlarged character command	0E
5	SI	Normal character command	0F
6	DC1	Initial set command	11
7	DC2	Inverted character command	12
8	DC3	Red color print command	13
9	CAN	Clear command	18
10	SUB	Second drawer drive command	1A
11	ESC BEL	Drive pulse setting command for the first drawer	1B 07
12	ESC -	Underline command	1B 2D
13	ESC 1	1/9 inch paper feed preset command	1B 31
14	ESC 2	2/9 inch paper feed preset command	1B 32
15	ESC C	Paper length set command	1B 43
16	ESC P <0>	Paper partial cut command	1B 50 00
17	ESC P <1>	Paper partial cut command	1B 50 01
18	FS	First drawer quick drive command	1C

3.2 Character Code Tables

Support the total 12 pages.

n	Page
0	PC437
2	PC850
3	PC860
4	PC863
5	PC865
16	PC1252
17	PC866
18	PC852
19	PC858
21	PC862
22	PC864
23	PC874

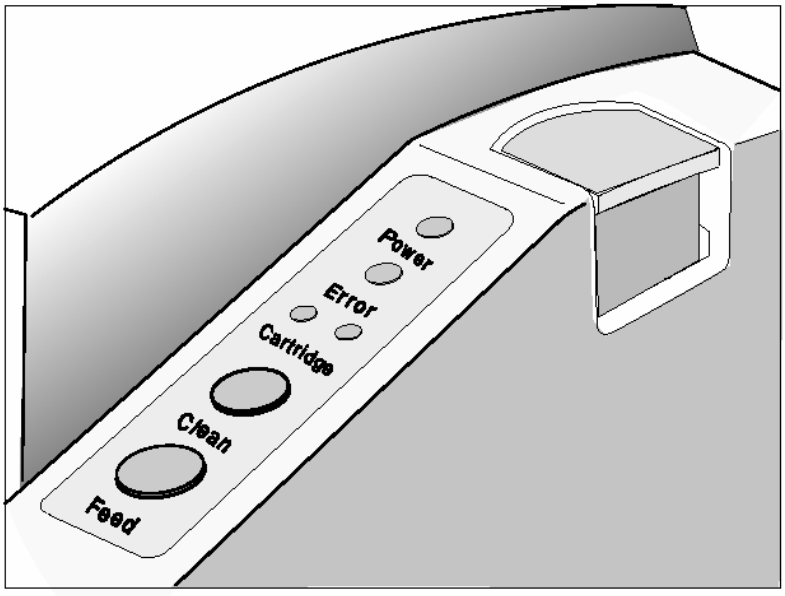
3.3 International character set

Country	ASCII code (Hex)											
	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
U.S.A	#	$	@	[	¥	]	^	`	{	|	}	~
France	#	$	à	°	ç	§	^	`	é	ù	è	¨
Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
U.K.	£	$	@	[	¥	]	^	`	{	|	}	~
Denmark I	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
Italy	#	$	@	°	¥	é	^	ù	à	ò	è	ì
Spain I	Pt	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
Denmark II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü

3.4 Using the control panel

Most of the functions of this printer are governed by software, but you can monitor the printer's status by looking at the lights on the control panel and for some procedures you will use the buttons.

Control Panel



3.4.1 Power (LED)

This indicator light is on when the power is turned on. It blinks when the printer is the self-test printing standby state.
Always wait until this indicator light stops blinking before you start using the printer and before you turn it off.

3.4.2 Error (LED)

When this indicator light is on but not blinking, it means that the printer is no paper or almost out of paper or the printer covers are open. When this light is blinking, there is an error. If you see this light is blinking, turn off the printer for a few seconds and then turn it back on.

3.4.3 Cartridge (LED)

The right indicator is for the right cartridge and the left indicator for the left cartridge. If the printer is a single color printer, the left cartridge indicator will be used. In the most cases, the left cartridge is black, and the right is a color. This indicator light (LH/RH) blinks when the cartridge is almost out of ink and stays on when the cartridge(s) is removed.

3.4.4 Clean (BUTTON)

Use this button to clean the printer head or to enter MENU mode.

3.4.5 Feed (BUTTON)

Use this button to feed paper or to start self-test and for hexadecimal dump mode.

3.5 DIP switch setting

Although the factory settings are best for almost all users, if you have special requirements, you can change the DIP switch.

DIP SW1

Switch	Function	ON	OFF	Default
1-1	Emulation Selection	Refer to the following table		OFF
1-2				OFF
1-3	Auto cutter	Enable	Disable	OFF
1-4	Pen	one pen	two pen	OFF
1-5	Reserved			OFF
1-6				OFF
1-7	Near end sensor	Enable	Disable	OFF
1-8	Low ink check	Disable	Enable	OFF

	1-1	1-2
EPSON	OFF	OFF
STAR	OFF	ON
CITIZEN	ON	OFF

DIP SW2

Switch	Function	ON	OFF	Default
2-1	Data receive error	Print "?"	Ignore	OFF
2-2	Reserved			OFF
2-3	Hand shaking	DTR/DSR	XON/XOFF	OFF
2-4	Word length	7 bits	8 bits	OFF
2-5	Parity check	Enable	Disable	OFF
2-6	Parity selection	EVEN	ODD	OFF
2-7	Baud rate selection	Refer to the following table		OFF
2-8				OFF

Transmission	2-7	2-8
2400 baud	ON	ON
4800 baud	OFF	ON
9600 baud	OFF	OFF
19200 baud	ON	OFF

4. COMMANDS

4.1 Command Notation

XXXX

[Name] The name of the command.

[Format] The code sequence.

[Range] Gives the allowable ranges for the arguments.

[Description] Describes the command's function.

[Notes] Provides important information on setting and using the printer command, if necessary. Item(s) marked with * indicates "important notice".

[Default] Gives the default values,(if any) for the command arguments.

[Reference] Lists related commands.

ASCII indicates the ASCII equivalents.
Hex indicates the hexadecimal equivalents.
Decimal indicates the decimal equivalents.
[ ] *k* indicates the contents of the [ ] should be repeated *k* times.

4.2 Explanation of Terms

(1) Reception buffer
The reception buffer is a buffer that stores, as is, the data received from the host (the reception data). The reception data is stored in the reception buffer temporarily, and is then processed sequentially.

(2) Print buffer
The print buffer is a buffer that stores the image data to be printed.

(3) Print buffer full
This is the state where the print buffer is full. If new print data is input while the print buffer is full, the data in the print buffer is printed out and a line feed is executed. This is the same operation as the LF operation.

(4) Start of line
The start of line state satisfies the following condition:
- There is no print data (including spaces and portions of data skipped due to HT) currently in the print buffer.

(5) Printable area
The maximum range within which printing is possible under the printer specifications. The printable area for this printer is 504/208 inches.

(6) Inch
A unit of length. One inch is 25.4mm.

(7) MSB
Most Significant Bit

(8) LSB
Least Significant Bit

4.3 Exception Processing

4.3.1 Undefined codes

This term refers to the codes ranging from 00H to 1FH in the character code table. If a code in this range that is not defined as a command is input, that code (one byte) is read in and discarded, and subsequent data is processed as normal data.

Example : 30H, 31H, 03H, 32H, 0AH, 33H
If the above data string is input, the printer reads in and discards "03H" as an undefined code.
Note that 0AH is defined as a command (**LF**). As a result, the data string that is actually processed is: 30H, 31H, 32H, 0AH, 33H

4.3.2 Undefined commands

If the data following **ESC** (1BH) or **GS** (1DH) is not defined as a command, then the two bytes (**ESC**/**GS** and the code that follows) are read in and discarded.

Example: 30H, 1BH, 22H, 31H, 32H
If the above data string is input, the printer discards the data 1BH and 22H as undefined commands.
As a result, the data string that is actually processed is: 30H, 31H, 32H

4.3.3 Settings outside the defined range

If a value outside of the defined range is input for a command that takes parameters, that command is ignored and the previous value for that setting remains unchanged. In the case of a command that takes multiple parameters, command processing is halted the moment that a value outside of the defined range is input and subsequent values are processed as normal data.

Example:1BH, 52H, 15H
If the above data string is input, 1BH and 52H are defined as a command (**ESC R**), but the parameter 15H is outside of the defined range. As a result, the printer reads in and discards the data string 1BH, 52H, 15H. Accordingly, the previously set international character set is not changed.

4.4 Command descriptions

HT

[Name] Horizontal tab

[Format]

ASCII	HT
Hex	09
Decimal	10

[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.
- Horizontal tab positions are set with ESC D.
- The default tab positions are at intervals of 8 characters (columns 9, 17, 25..) for the font B (12×12).

[Reference] **ESC D**

LF

[Name] Print and line feed

[Format]

ASCII	LF
Hex	0A
Decimal	10

[Description] Prints the data in the print buffer and feeds one line based on the current line spacing.

[Note] This command sets the print position to the beginning of the line.

[Reference] **ESC 2, ESC 3**

CR

[Name] Print and carriage return

[Format]

ASCII	CR
Hex	0D
Decimal	13

[Description] This command prints the data in the print buffer and does not feed the paper.

[Note] Sets the print starting position to the beginning of the line

[Reference] **LF**

DLE EOT *n*

[Name] Real-time status transmission

[Format]

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

[Range] $1 \leq n \leq 4$

[Description] Transmits the selected printer status specified by n in real time, according to the following parameters:

n = 1: Transmit printer status

n = 2: Transmit off-line status

n = 3: Transmit error status

n = 4: Transmit paper roll sensor status

[Notes]

- This command should not be used within the data sequence of another command that consists of 2 or more bytes. For example,

  If you attempt to transmit **ESC 3 *n*** to the printer, but DTR (DSR for the host computer) goes to MARK before n is transmitted and then **DLE EOT 3** interrupts before n is received, the code <10>H for **DLE EOT 3** is processed as the code for **ESC 3** <10>H.

n = 1 : Printer status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not used. Fixed to Off.
1	On	02	2	Not used. Fixed to On.
2	Off	00	0	Drawer kick-out signal is LOW (connector pin 3)
	On	04	4	Drawer kick-out signal is HIGH (connector pin 3)
3	Off	00	0	On-line.
	On	08	8	Off-line.
4	On	10	16	Not used. Fixed to On.
5	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.

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 is not being fed by using the paper feed button.
	On	08	8	Paper is being fed by the paper feed button.
4	On	10	16	Not used. Fixed to On.
5	Off	00	0	No paper-end stop.
	On	20	32	Printing stops due to paper end.
6	Off	00	0	No error.
	On	40	64	Error occurs.
7	Off	00	0	Not used. Fixed to Off.

Bit 5: On (printing stops due to paper-end) when printing stops due to paper-end detected by the paper-end sensor or the paper near-end enabled by using the **ESC c 4**.

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	No mechanical error.
	On	04	4	Mechanical error occurred.
3	Off	00	0	No auto-cutter error.
	On	08	8	Auto-cutter error occurs.
4	On	10	16	Not used. Fixed to On.
5	Off	00	0	No unrecoverable error.
	On	20	32	Unrecoverable error occurs.
6	Off	00	0	Automatic recover error.
	On	40	64	No automatic recover error.
7	Off	00	0	Not used. Fixed to Off.

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

n = 4 : Continuous paper sensor status

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

DLE ENQ *n*

[Name] Real-time request to printer

[Format]

ASCII	DLE	ENQ	*n*
Hex	10	05	*n*
Decimal	16	5	*n*

[Range] *n* = 0, *n* = 2

[Description] The printer responds to a request from the host specified by *n*.

n = 0: Recovers to on-line state.
n = 2: Recovers from an error after clearing the receive and print buffers.

[Notes]

- This command should not be used within the data sequence of another command that consists of two or more bytes. For example,

  If you attempt to transmit **ESC 3 *n*** to the printer, but DTR (DSR for the host computer) goes to MARK before n is transmitted, and **DLE ENQ 2** interrupts before n is received, the code <10>H for **DLE ENQ 2** is processed as the code for **ESC 3** <10>H.

- This command n = 2 is valid only when a mechanical error or an auto-cutter error has occurred.

- **DLE ENQ 2** enables the printer to recover from an error after clearing the data in the receive buffer and the print buffer. The printer retains the settings (by **ESC !**, **ESC 3**, etc.) in effect when the error occurred. The printer can be initialized completely by using this command and **ESC** @. This command is enabled only for errors that have the possibility of recovery

ESC SP *n*

[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 ×0.122 mm {1/208 inches}] .

[Notes] The right-side character spacing for double-width mode is twice the normal value.

[Default] *n* = 0

ESC ! *n*

[Name] Select print mode(s)

[Format]

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

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

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

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Character font A (12 ×14) selected.
	On	01	1	Character font B (12 ×12) selected.
1	-	-	-	Undefined.
2	-	-	-	Undefined.
3	Off	00	0	Emphasized mode not selected.
	On	08	8	Emphasized mode selected.
4	Off	00	0	Double-height mode not selected.
	On	10	16	Double-height mode selected.
5	Off	00	0	Double-width mode not selected.
	On	20	32	Double-width mode selected.
6	-	-	-	Undefined.
7	Off	00	0	Underline mode not selected.
	On	80	128	Underline mode selected.

[Notes]

- When both double-height and double-width modes are selected, quadruple size characters are printed.
- Underlining is added to the entire width of each character, including the space to the right of a character, but is not added to portions of lines that were skipped by means of an **HT**.

[Default] *n* = 1

[Reference] **ESC E, ESC –**

ESC % *n*

[Name] Select/cancel user-defined character set

[Format]

ASCII	ESC	%	*n*
Hex	1B	25	*n*
Decimal	27	37	*n*

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

[Description] Selects or cancels the user-defined character set.

When the Least Significant Bit (LSB) is 0, the user-defined character set is canceled and the internal character set is enabled.

When the LSB is 1, the user-defined character set is selected.

[Notes]

- When the downloaded character set has been released, the internal character set is specified automatically.

[Default] *n* = 0

[Reference] **ESC &, ESC ?**

ESC & y *c1 c2 [x1 d1...d(y × x1)]...[xk d1... d(y × xk)]*

[Name] Define user-defined characters

[Format]

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
$32 \leq c1 \leq c2 \leq 255$
$0 \leq x \leq 14$ (Font A)
$0 \leq x \leq 12$ (Font B)
$0 \leq d1 \ldots d(y \times x) \leq 255$

[Description] Defines user-defined characters.

- *y* specifies the number of bytes in the vertical direction.
- *c1* specifies the beginning character code for the definition, and *c2* specifies the final code. When only one character is desired, use *c1* = *c2*.
- *x* specifies the number of dots in the horizontal direction.

[Notes]

- Consecutive character codes for multiple characters can be defined in one definition. When specifying only one character, specify *c1* = *c2*.
- "*d*" is definition data that indicates the pattern for " *x*" dots in the horizontal direction starting from the left edge. If " *x*" does not satisfy the number of dots in the character configuration pattern, the remaining dots on the right are spaces.
- The number of bytes required to download a character definition for one character is " *y*" × " *x*".
- In the definition data, a "1" represents a dot that is to be printed, and a "0" represents a dot that is not to be printed.
- Independent downloaded character definitions are possible for each font. The font is selected by the "**ESC !**" command.
- The defined downloaded characters are cleared in the following circumstances:

  1) When "**ESC @**" is executed
  2) When deleted by "**ESC ?**"
  3) When the printer is reset or turned off

[Default] The internal character set

[Reference] **ESC %, ESC ?**

ESC * *m nL nH d1...dk*

[Name] Select bit-image mode

[Format]

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

[Range] *m* = 0, 1

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

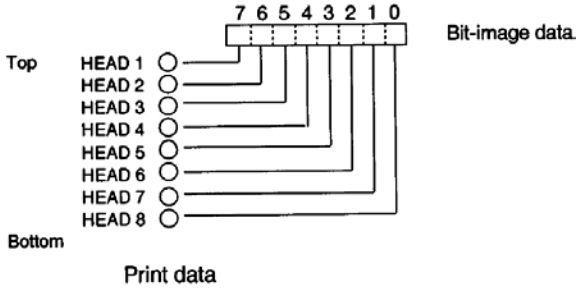
[Description] Selects a bit-image mode using *m* for the number of dots specified by *nL* and *nH*

- Divide the number of dots to be printed by 256. The interger answer is *nH* and the remainder is *nL*. Therefore, the number of dots in the horizontal direction is calculated by $nL + 256 \times nH$.
- 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 a dot.
- The bit-image modes selectable by *m* are as follows.

m	No. of Vertical Dots	Dot Density	Adjacent Dot	Maximum number of dots
0	8	Single Density	Permitted	252
1	8	Double Density	Permitted	504

[Notes]

- If the values of *m* and *nH* are out of the specified range, the following data is processed as normal data.
- After printing a bit image, the printer returns to normal data processing mode.
- The relationship between the image data and the dots to be printed is as follows.



ESC - *n*

[Name] Turn underline mode on/off

[Format]

ASCII	ESC	-	*n*
Hex	1B	2D	*n*
Decimal	27	45	*n*

[Range] *n* = 0, 1, 48, 49

[Description] Turns underline mode on or off,

- When *n* = 0 or 48, underline mode is turned off.
- When *n* = 1 or 49, underline mode is turned on.

[Notes]

- Underlines can be printed for all characters, but not for the space set by **HT**.
- This command and **ESC !** turn underline mode on or off in the same way.
- If *n* is out of the specified range, this command is ignored.

[Default] *n* = 0

[Reference] **ESC !**

ESC 2

[Name] Select default line spacing

[Format]

ASCII	ESC	2
Hex	1B	32
Decimal	27	50

[Description] Selects default (1/6-inch) line spacing.

[Reference] **ESC 3**

ESC 3 *n*

[Name] Set line spacing

[Format]

ASCII	ESC	3	*n*
Hex	1B	33	*n*
Decimal	27	51	*n*

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

[Description] Sets the line spacing to [n ×(1/192)] inches.

[Default] *n* = 32 (1/6 inch)

[Reference] **ESC 2**

ESC <

[Name] Return home

[Format]

ASCII	ESC	<
Hex	1B	3C
Decimal	27	60

[Description] Moves the print head to the standby position.

[Notes]

- The leftmost end is detected by the home position sensor.
- Since the home position is detected when this command is executed, the printing position may shift after this command is executed.

ESC = *n*

[Name] Select device

[Format]

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

[Range] *n* = 1

[Description] Selects device to which host computer sends data.

- *n* = 1 ; enable
- *n* = 2 ; disable

[Default] *n* = 1

ESC ? *n*

[Name] Cancel user-defined characters

[Format]

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

[Range] $32 \leq n \leq 255$

[Description] Cancels user-defined characters.

[Notes]

- This command cancels the pattern defined for the character code specified by *n*. After the user-defined characters is cancelled, the corresponding pattern for the internal character is printed.
- This command deletes the defined pattern for the specified code in the character font selected by the "**ESC !**" command.
- If a user-defined character has not been defined for the specified character code, the printer ignores this command.

[Reference] **ESC &, ESC %**

ESC @

[Name] Initialize printer

[Format]

ASCII	ESC	@
Hex	1B	40
Decimal	27	64

[Description] Clears the data in the print buffer and resets the printer mode to the mode that was in effect when the power was turned on.

[Notes]

- The DIP switch settings are not checked again.
- The data in the receive buffer is not cleared.

ESC D *n1... nk NUL*

[Name] Set horizontal tab positions

[Format]

ASCII	ESC	D	*n1...nk*	*NUL*
Hex	1B	44	*n1...nk*	*00*
Decimal	27	68	*n1...nk*	*0*

[Range]
$1 \leq n \leq 255$
$0 \leq k \leq 32$

[Description] Sets horizontal tab positions.

- *n* specifies the column number (counted from the beginning of the line) for setting a horizontal tab position.
- *k* indicates the total number of horizontal tab positions to be set.

[Notes]

- The tab position is set at [character width x *n*] from the beginning of the line. The character width includes the right-side space of the character, and is twice the normal value when double-width is specified.
- This command deletes horizontal tab positions that have already been set.
- When "*n* = 8" has been set for the horizontal tab position, the printing position moves to the ninth digit when **HT** is executed.
- Up to 32 tab positions can be set. Data exceeding 32 tab positions is processed as normal data.
- Input <*n*>k in ascending order and place a NUL code <00>H at the end when <*n*>k is less than or equal to the preceding value <*n*>k-1, tab setting is finished and the following data is processed as normal data.
- **ESC D NUL** cancels all horizontal tab positions.
- The previously specified horizontal tab positions do not change, even if the character width changes.

[Default] The default tab positions are at intervals of 8 characters (columns 9, 17, 25, ...) for the font B (12 × 14).

[Reference] **HT**

ESC E n

[Name] Turn emphasized mode on/off

[Format]

ASCII	ESC	E	*n*
Hex	1B	45	*n*
Decimal	27	69	*n*

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

[Description] Turns emphasized mode on or off.

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

[Notes] * Printing is slower in emphasized mode.

- Only the lowest bit of n is enabled.
- The printer does not emphasize bit-images.
- This command and **ESC !** turn on and off emphasized mode in the same way. The last proceeded command becomes effective.
- Printer output is the same in double-strike (**ESC G**) and in emphasized.

[Default] *n* = 0

[Reference] **ESC !, ESC G**

ESC G n

[Name] Turn double-strike mode on/off

[Format]

ASCII	ESC	G	*n*
Hex	1B	47	*n*
Decimal	27	71	*n*

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

[Description] Turns double-strike mode on or off.

- When the LSB of *n* is 0, double-strike mode is turned off.
- When the LSB of *n* is 1, double-strike mode is turned on.

[Notes] * Printing is slower in double-strike mode.

- Only the lowest bit of n is enabled.
- The printer does not double-strike for bit-images.
- Printer output is the same in double-strike and in emphasized (**ESC E**).

[Default] *n* = 0

[Reference] **ESC E**

ESC J *n*

[Name] Print and feed paper

[Format]

ASCII	ESC	J	*n*
Hex	1B	4A	*n*
Decimal	27	74	*n*

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

[Description] Prints the data in the print buffer and feeds the paper [$n \times 0.122$mm {1/192 inches}] .

[Notes]

- After printing is completed, this command sets the print starting position to the beginning of the line.
- This command has no effect on the line feed amount set by the "**ESC 2**" command or the "**ESC 3**" command.

ESC R *n*

[Name] Select an international character set

[Format]

ASCII	ESC	R	*n*
Hex	1B	52	*n*
Decimal	27	82	*n*

[Range] $0 \leq n \leq 10$

[Description] Selects an international character set n from the following table:

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

[Default] *n* = 0

ESC U *n*

[Name] Turn unidirectional printing mode on/off

[Format]

ASCII	ESC	U	*n*
Hex	1B	55	*n*
Decimal	27	85	*n*

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

[Description] Turns unidirectional printing mode on or off

- When the LSB of *n* is 1, turn on unidirectional printing mode.

[Notes]

- Only the lowest bit of n is enabled.
- To avoid horizontal printing misalignment, unidirectional printing mode should be used.

[Default] *n* = 0

ESC a *n*

[Name] Select justification

[Format]

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

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

[Description] Aligns all the data in one line to the specified position.

n selects the type of justification as follows:

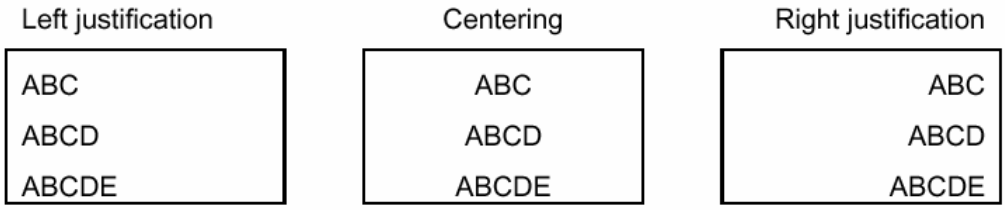
n	Justification
0, 48	Left justification
1, 49	Centering
2, 50	Right justification

[Notes]

- The command is enabled only when input at the beginning of the line.
- A portion of data skipped by means of **HT** is also target data for the justification function.

[Default] *n* = 0

[Example]



ESC c 3 *n*

[Name] Select paper detector(s)to output paper end signals

[Format]

ASCII	ESC	c	3	*n*
Hex	1B	63	33	*n*
Decimal	27	99	51	*n*

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

[Description] Selects paper detector(s) to output paper end signals, using n as follows:

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

[Notes]

- It is possible to select multiple detectors to output signals. Then, if any of the detectors detects a paper end, the paper end signal is output.
- Detectors are switched when executing this command. Because of this, the paper-out signal switching may delay depending on the receive buffer state.

[Default] *n* = 15

ESC c 4 *n*

[Name] Select paper sensor(s)to stop printing

[Format]

ASCII	ESC	c	4	*n*
Hex	18	63	34	*n*
Decimal	27	99	52	*n*

[Range] 0 ≤n ≤255

[Description] Selects the paper sensor(s) used to stop printing when a paper-end is detected, using *n* as follows :

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Paper roll near end sensor disabled.
	On	01	1	Paper roll near end sensor enabled.
1	Off	00	0	Paper roll near end sensor disabled.
	On	02	2	Paper roll near end sensor enabled.
2	-	-	-	Undefined
3	-	-	-	Undefined
4	-	-	-	Undefined
5	-	-	-	Undefined
6	-	-	-	Undefined
7	-	-	-	Undefined

[Notes]

- The printer goes off-line after printing stops.
- The paper roll near-end sensor is an option, therefore, if the paper roll near-end sensor is enabled by this command when the sensor is not equipped, it does not stop printing.
- The paper roll near-end sensor is enabled when either bit 0 or 1 is 1.
- The paper roll end sensor is a sensor which is always used to make an effective to stop printing.

[Default] *n* = 0

ESC c 5 *n*

[Name] Enable/disable panel buttons

[Format]

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

[Range] 0 ≤*n* ≤255

[Description] Enables or disables the panel buttons.

- When the LSB of *n* is 0, the panel buttons are enabled.
- When the LSB of *n* is 1, the panel buttons are disabled.

[Notes]

- Only the least significant bit of "*n*" is valid.
- When the panel buttons are disabled, no buttons on the panel are usable. If "disabled" is set, the paper feed switch no longer functions.

[Default] *n* = 0

ESC d *n*

[Name] Print and feed *n* lines

[Format]

ASCII	ESC	d	*n*
Hex	1B	64	*n*
Decimal	27	100	*n*

[Range] 0 ≤*n* ≤255

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

[Notes]

- This command sets the print starting position to the beginning of the line.
- The amount of paper fed per line is based on the value set using the line spacing command (**ESC 2** or **ESC 3**)

[Reference]

ESC m

[Name] Execute partial cut

[Format]

ASCII	ESC	m
Hex	1B	6D
Decimal	27	109

[Description] Execute partial cut with one point uncut

ESC p *m t1 t2*

[Name] Generate pulse

[Format]

ASCII	ESC	p	*m*	*t1*	*t2*
Hex	1B	*70*	*m*	*t1*	*t2*
Decimal	27	112	*m*	*t1*	*t2*

[Range]

m = 0, 1, 48, 49
0 ≤ *t1* ≤255
0 ≤ *t2* ≤ 255

[Description] Outputs the pulse specified by *t1* and *t2* to connector pin m as follows:

m	Connector Pin
0	Drawer kick-out connector pin 2
1	Drawer kick-out connector pin 5

[Notes]

- The pulse ON time is [*t1* ×2] ms and the OFF time is [*t2* ×2] ms.
- When t2 < t1, the printer processes *t1* ×2 ms.

[Reference]

ESC r *n*

[Name] Select print color

[Format]

ASCII	ESC	r	*n*
Hex	1B	72	*n*
Decimal	27	114	*n*

[Range] *n* = 0, 1, 48, 49

[Description] Selects the print color.

n	Selected color
0, 48	Black
1,49	Red

[Notes]

- Valid only when input at the beginning of a line.

[Default] *n* = 0

ESC t *n*

[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, 16, 17, 18, 19, 21, 22, 23

[Description] Selects a page *n* from the character code table.

n	Page
0	PC437
2	PC850
3	PC860
4	PC863
5	PC865
16	PC1252
17	PC866
18	PC852
19	PC858
21	PC862
22	PC864
23	PC874

[Default] *n* = 0

[Reference]

ESC { *n*

[Name] Turns on/off upside-down printing mode

[Format]

ASCII	ESC	{	*n*
Hex	1B	7B	*n*
Decimal	27	123	*n*

[Range] 0 ≤ *n* ≤ 255

[Description] Turns upside-down printing mode on or off.

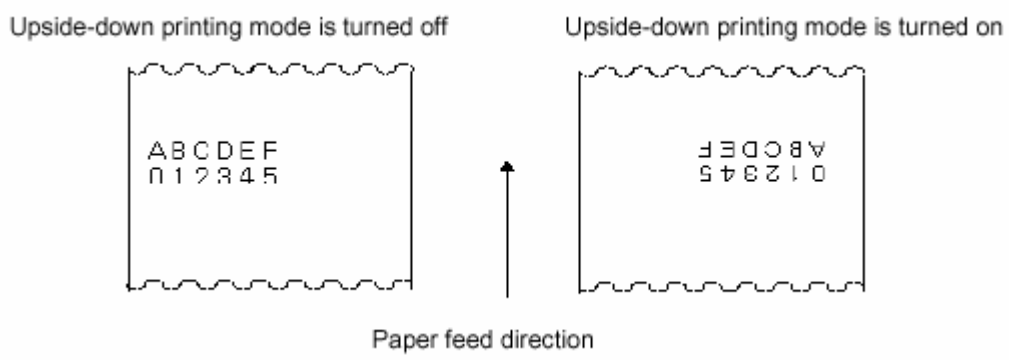
- When the LSB of *n* is 0, upside-down printing mode is turned off.
- When the LSB of *n* is 1, upside-down printing mode is turned on.

[Notes]

- Only the lowest bit of *n* is effective.
- This command is enabled only when input at the beginning of a line.
- In upside-down printing mode, the printer rotates the line to be printed by 180° and then prints it.

[Default] *n* = 0

[Example]



GS I *n*

[Name] Transmit printer ID

[Format]

ASCII	GS	I	*n*
Hex	1D	49	*n*
Decimal	29	73	*n*

[Range] $1 \leq n \leq 3$

[Function] Transmits the printer ID specified by n as follows:

n	Printer ID	Specification	ID (hexadecimal)
1,49	Printer model ID	SRP-500 series	0D
2,50	Type ID	See table below	
3,51	ROM version ID	ROM version	

n = 2, Type ID

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Two-byte character code not supported
	On	01	1	Two-byte character code supported
1	Off	00	0	Auto cutter not equipped.
	On	02	2	Auto cutter equipped.
2	-	-	-	Undefined.
3	-	-	-	Undefined.
4	Off	00	0	Not used. Fixed to Off.
5	-	-	-	Undefined.
6	-	-	-	Undefined.
7	Off	00	0	Not used. Fixed to Off.

[Notes]

- The printer ID is transmitted when the data in the receive buffer is developed. Therefore, there may be a time lag between receiving this command and transmitting the status, depending on the receive buffer status.

[Reference]

① GS V *m*
② GS V *m n*

[Name] Feeds paper for cutting position.

[Format]

①	ASCII	GS	V	*m*	
	Hex	1D	56	*m*	
	Decimal	29	86	*m*	
②	ASCII	GS	V	*m*	*n*
	Hex	1D	56	*m*	*n*
	Decimal	29	86	*m*	*n*

[Range] ① *m* = 1, 49 ② *m* = 66 , 0 ≤ *n* ≤ 255

[Description] Feeds paper for cutting position as follows;

m	Print mode
1, 49	Partial cut (one portion left uncut)
66	Feeds paper for (cutting position + [n × 0.122 mm {1/192 inches}]), and partial cut.

[Notes]

- This command is effective only at the beginning of a line.
- When *n* = 0, the printer feeds the paper to the cutting position.
- When *n* ≠ 0,the printer feeds the paper to (cutting position +[n × 0.122 mm {1/192 inches}]).

GS a n

[Name] Enable/Disable Automatic Status Back

[Format]

ASCII	GS	a	*n*
Hex	1D	61	*n*
Decimal	29	97	*n*

[Range] 0 ≤ *n* ≤ 255

[Description] Enables or disables ASB and specifies the status items to include, using *n* as follows:

Bit	Off/On	Hex	Decimal	Status for ASB
0	Off	00	0	Drawer kick-out connector pin 3 status disabled.
	On	01	1	Drawer kick-out connector pin 3 status enabled.
1	Off	00	0	On-line/off-line disabled.
	On	02	2	On-line/off-line enabled
2	Off	00	0	Error status disabled.
	On	04	4	Error status enabled.
3	Off	00	0	Paper roll sensor status disabled.
	On	08	8	Paper roll sensor status enabled.
4	-	-	-	Undefined.
5	-	-	-	Undefined.
6	-	-	-	Undefined.
7	-	-	-	Undefined.

[Notes]

- Even if only one of the statuses is enabled, the status is sent when this command is executed. Subsequently, whenever the state of a valid status changes, that status is sent. In this case, because the current state is shown for each status, there is a possibility of a state change for a status for which ASB is not enabled.
- If all statuses are disabled, the Automatic Status Back (ASB) function is disabled.
- When transmitting a status, the printer transmits only four bytes.
- Four bytes of status data must be consecutive, except for XOFF code.
- This command is executed when the data in the receive buffer is developed. Therefore, there may be a time lag between receiving this command and transmitting the status, depending on the receive buffer status.
- When the printer is disabled by **ESC =** (Select peripheral device), this command is disabled but ASB is not disabled.
- The status to be transmitted are 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	Not used. Fixed to Off.
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 button.
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	Not used. Fixed to Off.
7	Off	00	0	Not used. Fixed to Off.

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.

[Default] *n* = 0

[Reference]

GS r n

[Name] Transmit status

[Format]

ASCII	GS	r	*n*
Hex	1D	72	*n*
Decimal	29	114	*n*

[Range] $1 \leq n \leq 2$, $49 \leq n \leq 50$

[Description] Transmits the status specified by n as, follows:

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

[Notes]

- This command is executed when the data in the receive buffer is developed. Therefore, there may be a time lag between receiving this command and transmitting the status, depending on the receive buffer status.
- The status types to be transmitted are shown below:

Paper sensor status (*n* = 1, 49)

Bit	Off/On	Hex	Decimal	Status for ASB
0,1	Off	00	0	Paper near-end sensor: paper present.
	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.

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

Bit	Off/On	Hex	Decimal	Status for ASB
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	Not used. Fixed to Off.
2	Off	00	0	Not used. Fixed to Off.
3	Off	00	0	Not used. Fixed to Off.
4	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.

[Reference]