Spec. No	D-F0382

Product

Specifications for

Super High Speed Kiosk Printer

NP-266/366

Revision 1.00 2004.04.20 1st edition
Revision 1.10 2004.06.28 2nd edition

《Notice》 ・All features and specifications described are subject to change without notice.

Record of revision-1

Rev.	No.	Description			Approval	PIC
		Page	Item	Change		
1.00	1		New release		Kobayashi 2004.04.20	Abe 2004.04.20
1.10	2		Note	Add 19)	Kobayashi 2004.06.28	Abe 2004.06.28
		1	Model name	Add paper width, modified		
		2	Configuration	Add jack socket, add notes		
		3	Print speed	Add notes		
		4	Presenter	Added		
		4	External dimension	Add A type		
		4	Weight	Add A type		
		6	Power specification	Modified chart, notes		
		7	Presenter life	Added		
		7	Safety Regulation	certified		
		8	External drawing (NP-266)	Add dimensions		
		12	External drawing (NP-366 II AU)	Added		
		13	Upstream port	Modified		
		14	Datasignalinput	Add notes		
		15	CN9 USB Data signa l input	Added		
		16	DS1-7: ON	150mm/s, added notes		
		16	Dip switch	R,U type		
		17	Error details	Add presenter error		
				Add presenter cramp		
				Add blink-3		
		20	Presenter drive	Add / modify notes		
		22,45	Presenter compulsory eject	Added		
		22,45	Presenter retraction time setting	Added		
		36	Printer status transmission	bit5, bit6		
		41	Printer auto status transmission	bit5, bit6		
		60	Mode status of settings (line mode)	Add presenter retraction time setting		

Read Carefully Before Using the Printer

Wrong handling of the printer may cause its performance declined and the product damaged. Please read the notes below before handling.

1. Static discharge prevention must be made for installation and removal of the printer to protect IC and other electrical parts. Connect it to the earth ground. It is also requested to remove the static from body of the person before handling, especially, the input terminal.
2. Avoid excessive force to the input terminal for handling.
3. When any type of paper, other than specified in this manual, is used, it may cause deterioration of the print quality and thermal head reliability.
   Examples of troubles
   1) Print quality deterioration by using low sensitivity paper.
   2) Thermal head wears due to roughness of paper surface.
   3) Sticking between heat receipt layer and thermal head, and vibration noise during printing.
   4) Print ink disappears on low print durability paper.
   5) Electrolyte corrosion on thermal head due to low quality of heat receipt layer.
4. Avoid printing with no paper loaded. It damages platen and thermal head, printer life will be shorten.
5. Do not scrabble thermal head with sharp edge or something hard, or give impact. The heat element may be damaged.
6. Set the power of printer off before connecting or removing connecters.
7. When printing in high speed under low temperature of high humidity environment, the paper may be stained by moisture that appears from paper, or the printer may have condensation. Avoid dew from dropping down to the thermal head that may cause electrolyte corrosion. Turn the power off until any dew is removed.
8. The printer is not protected from water or dew formed. Do not water the printer or handle it with a wet hand, which may cause damage to the printer due to short circuit, or heat or fire.
9. The printer is not protected from dust or dirt. If it is used at dusty place, the thermal head may be damaged or paper feed is not operated properly.
10. When cooling the printer with a fan, avoid the printer's paper outlet from locating fan's air inlet. It may cause mal-function of printer.
11. Reflection type of infrared ray sensors are used at some locations in the printer. Direct sun light may cause mal-function of printer. Avoid from such a location for installation.
12. This printer does not support any operations caused by the commands or control commands not specified in this manual.
13. Please use both hand when you hold the printer.
14. In order to prevent excess current, please put elemental device to external 24V power line (Please refer to the power supply specification for the details), and also put fuse.
15. Please plug off the printer when you do not use the product for a long time. Please also insert paper between the platen.
16. When paper jam occurred, please make sure to slowly remove the paper to paper exit direction after head up status.
17. The product is designed to use with general electronic devices (Computer, PC, OA, others). This is not designed and not guaranteed to use with extremely high quality, high reliability product or product whose failure may danger human life (Atomic power control device, aerospace aircraft devices, Transportation devices, Traffic signal devices, Ignition control devices, Medical devices, other safety equipments: we call "Specific application" thereafter). Users take full responsibility for using with such specific application.
18. The product uses part that includes GaAS (Gallium arsenide). Please do not break the product, no chemical splitting ,otherwise it may harm human with such part broken pieces.
19. If less than Ø18 mm roll paper is used, the paper may be prevented to exit. Please do not use roll paper with coreless.

Table of Contents

1. Overview

1.1 Overview

This printer is 2-inch (NP-266) / 3-inch (NP-366) receipt thermal printer with super high printing speed. The NP-266/366 is designed compact and user-friendly by adopting easy operation mechanism. It is a high performance printer unit equipped with auto cutter, featuring super high speed and high quality printing, supporting a variety of applications.

1.2 Features

1) Easy operation mechanism applied for easy paper replacement
2) Super high printing speed of Max. 220mm/sec (when printing ASCII in full line, head temp. more than 35 degree C excluding transmission time)
3) Low cost
4) Interface available for USB (V2.0 FULL SPEED) and Serial (RS232C)
5) Downloading the firmware is available by communication.
6) Easy to rewrite firmware by flash memory
7) 3 patterns of registration available with bit image.
8) Emulation: compliant with ESC/POS
9) Universal type AC adapter (AC100V-AC240V) available.(see Note 1 below)
10) Windows drivers (Windows95/98/NT4.0/2000/XP) available.

Note 1: AC adapter is an option
Note 2: Windows Driver supporting USB is Windows 2000/XP version.

1.3 Model name

NP－266 II F U - *
①　②③④　⑤

1: Paper width (Factory option)
2: 58 mm (2 inch)　3: 80 mm (3 inch)
2: Board specs (Factory option)
I: Direct input to the control board with serial / USB
2 power supply 5V and 24V (18P)
II: Power supply and Interface input through the board
R: D-sub 9 pin connecter
U: USB connector B jack (4P)
Single power supply 24 V
3: Cutter type (Factory option)
F: Full cut
P: Partial cut
A: NPT-305 presenter attached (NP-366 only)
4: Interface (Factory option)
R: Serial (RS232C)
U: USB (V.2.0 Full Speed)
5: OEM number

1.4 Configuration

The printer consists of the following components

No	Product Name	Specifiction	Part No.	Q'ty	NP-266	NP-366
1	Printer	NP-266***-*	-	1	○	
2	Printer	NP-366***-*	-	1		○
3	Cable ※1	MMK code 4 ASSY	30-438A	1	○	○
4	Jack socket ※2	17L-003A3 (M2.6 x 0.45)	06-F102	2	○	○
5	Thermal roll paper	TF50KS-E2D W58xΦ30	24-X129	1	○	
6	Thermal roll paper	TF50KS-E2D W80xΦ30	24-X179	1		○

※ Note1: It will be attached with Type I only.

※ Note2: It comes with NP-266II*R / NP-366II*R

The equipped jack socket is for inch screw, please use attached socket for M2.6 mm screw.

Option

No	Product Name	Specifiction	Part No.	Q'ty
1	PS3-J	Adaptor set, Japan	70-243K	(1)
2	PS3-U	Adaptor set, USA	70-244K	(1)
3	PS3-E	Adaptor set, Europe	70-245K	(1)

2. Specifications

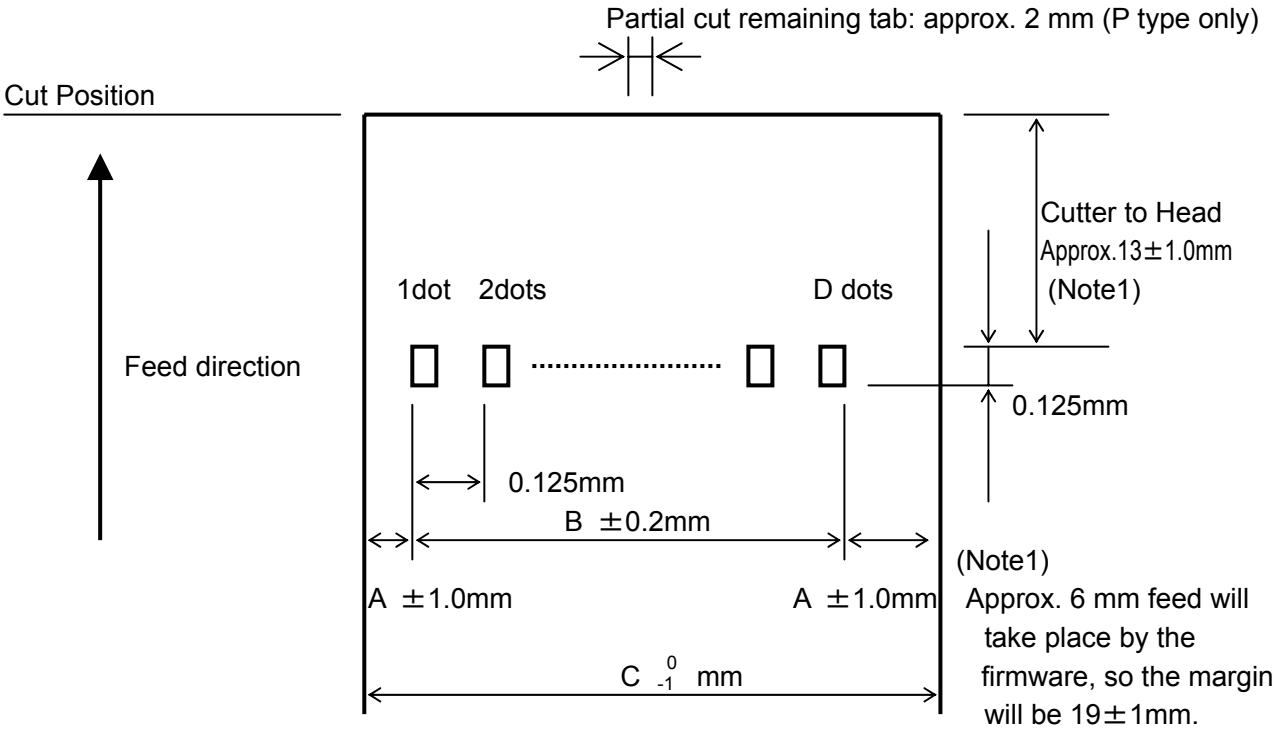
2.1 Basic specifications

No.	Items		Specifications	
			NP-266	NP-366
1	Print specs.	1. Print method	Line thermal dot	
		2. Total dots / line	432 dots	576 dots
		3. Dot density	8 dots / mm(203dpi)	
		4. Print width	54 mm	72mm
		5. Print speed (Max.)	Max. 220 mm / sec	
		Condition	Head temp. more than 35 ℃/ ASCII full print Except for communication time ※Max. 150 mm/sec for A type	
		6. Print digits		
		Font A (12 × 24)	36 digits	48 digits
		Font B (9 × 17)	48 digits	64 digits
		7.Space between characters	Adjustable by the command ※Default value	
		Font A (12 x 24)	0 mm	
		Font B (9 x 17)	0 mm	
		8. Line feed pitch	0.125 mm	
2	Character specs.	1. Character size		
		Font A (12 × 24)	1.50 × 3.00 mm	
		Font B (9 × 17)	1.13 × 2.13 mm	
		2. Character types		
		ASCII	224	
		Block graphics	80 x 2	
		International	32	
		3. Character modification	Double width	
			Vertical double	
			Quadruple	
			Bold	
			Double strike	
			Inverted	
			90°clockwise rotation	
			Underline	
		4. Line spacing (Default)	4.25 mm (1/6 inch)	
3	Print mode		ANK mode Bit image mode Barcode mode	

No.	Items		Specifications	
			NP-266	NP-366
4	Barcode specs	1. 1-D symbology	UPC-A UPC-E EAN-13 (JAN-13) EAN-8 (JAN-8) CODE39 ITF CODABAR (NW-7) CODE128	
		2. 2-D symology	QR code	
5	Interface	1. Serial	RS232C (R type)	
		2. USB	V.2.0 FULL SPEED (U type)	
6	Auto-cutter	1. Cut method	Guillotine type	
		2. Applicable paper	Thermal 60 - 80 (micro)	
		3. Cut cycle	30 cuts / minute	
		4. Cut mode	Full cut Partial cut (a 2mm tab left at the center) (Factory option setting before ship)	
		5. Life time	500,000 cuts	
7	Presenter (NP-366*A*)	1. Applicable paper	-	Thermal paper (65 μ m)
		2. Length to feed	-	70-250 mm
		3. Feed speed	-	Max. 690 mm/sec.
		4. Eject operation	-	Cramp Total eject Retraction
		5. Life	-	100,000 papers
8	Paper specs.	1. Paper width	58.0 $_{+0-1}$ mm	80.0 $_{+0-1}$ mm
		2. Max. diameter	Ø80 mm	
		3. Core diameter	Inner Ø12mm Outer Ø18mm	
		4. Papers recommended	TF50KS-E2D (Nihon Seishi) PD160R-N (Shin Oji Seishi) HP220AB1 (Mitsubishi Seishi)	
9	Receiving buffer		Approx. 10K bytes	
10	Operation SW		ALMLED OUT Line feed SW input	
11	Near empty	※1	Approx. Ø24±1mm	
12	Environment	1. Operation	Temp. 5~45℃, Humidity 35~85%RH No condensation	
		2. Storage	Temp. -10~60℃, Humidity 35~90%RH Except paper discoloration	
		3. Normal environment	General office use	
13	External spec	1. Dimension	103.5(W) x 106.7(D) x 161.3(H) mm	127.2(W) x 106.7(D) x 161.3(H) mm NP-366*A* 127.2(W) x 154.0(D) x 161.3(H)
		2. Weight	Approx. 1.1 kg (without paper)	Approx. 1.3 kg (without paper) NP-366*A * Approx. 1.6 kg (without paper)

※1: Paper should not be loosen for proper detection.

2.2 Printing area and cut position



Note2: Please take care not to take the paper very hard after the partial cut, which cause heavy load on platen and might cause the poor print quality on the head part of next line. To avoid such problem, please take care by feeding approx. 1 mm at the beginning of print or by take the paper to the direction to left or right.

Note3: The cut mode (full cut or partial cut) is set by the factory. No change of cut mode is done by the command setting.

	NP-266	NP-366
A	2	4
B	54	72
C	58	80
D	432	576

2.3 Power supply specifications

1) Power supply input connector

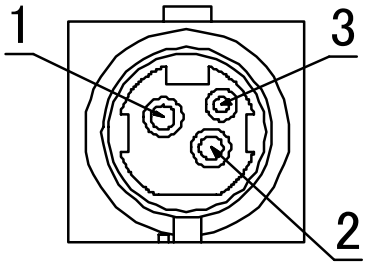
Optional AC adapter will be used for this printer（Power to be supplied from outside）

Connector on printer side ：TCS7960-532010 Hosiden or equivalent

Connector on Adapter side ：TCP8927-631100 Hosiden or equivalent

No	Function
1	+24V
2	GND
3	N.C
Shell	FG

Connector drawing



2) Electrical condition

Operating Voltage : DC24V±5% (Type II)

: DC24V±5%, DC5V±5% (Type I)

Current Consumption

Standby : Average approx. 0.1 A

Printing :

	Power supply	Printing average of 25%	Printing average of 100 %
NP-266 I	24V	Max. approx. 2.10 A	Max. approx. 8.33 A
	5V	Max. approx. 0.16 A	Max. approx. 0.17 A
NP-266 II	24V	Max. approx. 2.10 A	Max. approx. 7.33 A
NP-366 I	24V	Max. approx. 2.90 A	Max. approx. 11.33 A
	5V	Max. approx. 0.16 A	Max. approx. 0.17 A
NP-366II	24V	Max. approx. 2.90 A	Max. approx. 10.67 A
NP-366 IA	24V	Max. approx. 2.90 A	Max. approx. 11.38 A
	5V	Max. approx. 0.16 A	Max. approx. 0.17 A
NP-366IIA	24V	Max. approx. 2.90 A	Max. approx. 10.72 A

* Paper Feed only : Average approx. 0.30 A

3) Standard Adapter specifications（Option）

Model : POWER SUPPLY PS3 (UP0601S-24P)

Maker : UMEC

Input Power Voltage : AC100V～AC240V

Output Power Voltage : DC24V±5% 2.5A max

Note:

Printing average of 25% is available for the optional AC Adapter PS3 (UP0601S-24P) for NP-266 and 20% for the NP-366. Please use a higher capacity AC adaptor for more than such printing or for the other power supply prepared by your side.

2.4 Reliability

1) Head life

Pulse : More than 100 million pulses (Applied 25℃ of rated energy)

Wear distance : More than 100 km

* Normal temp. Normal humidity with recommended paper

2) Cutter life : 0.5million cut

3) Presenter life : 100, 000 paper feed

4) Operation environment : Temperature 5℃ – 45℃ non-condensation
Humidity 35%-85%RH

5) Storage environment : Temperature -10℃ - 60℃ (paper not included)
Humidity: 35% - 90%RH

6) Safety regulation

CE marking (NP-266 only)

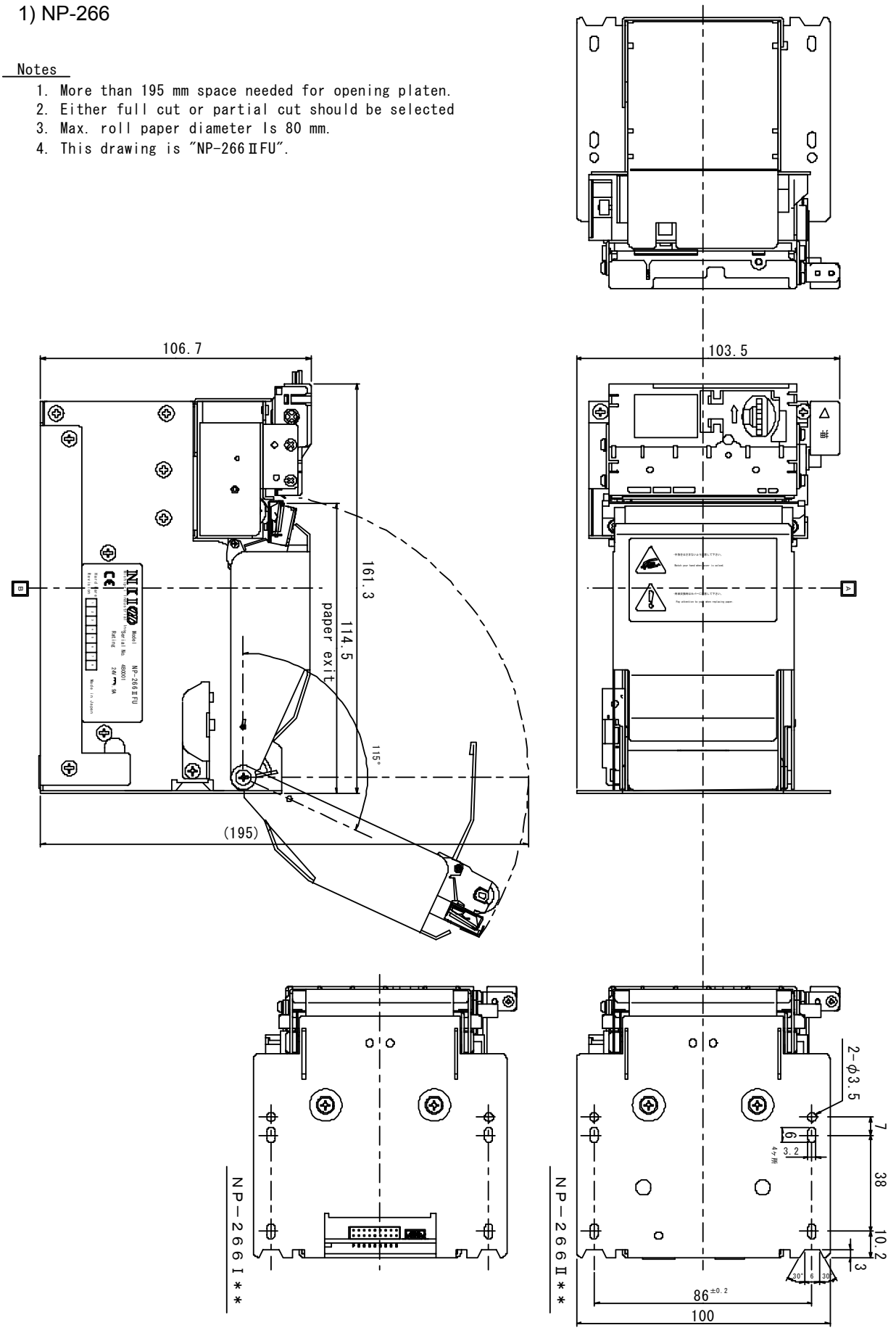
C-UL UL60950 (NP-266 only)

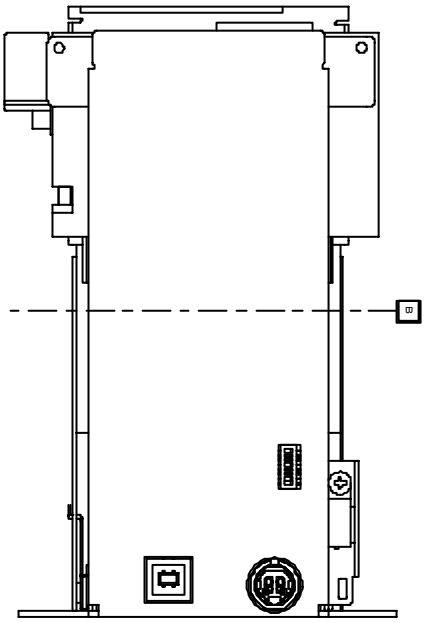
2.5 Dimensions

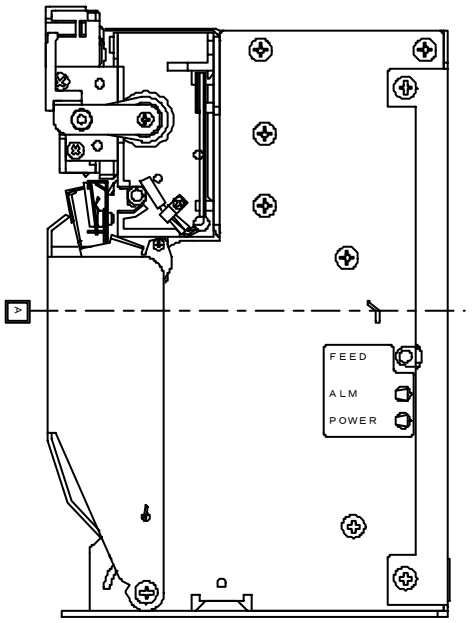
1) NP-266

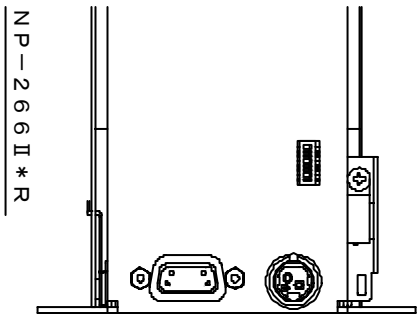
Notes

1. More than 195 mm space needed for opening platen.
2. Either full cut or partial cut should be selected
3. Max. roll paper diameter Is 80 mm.
4. This drawing is "NP-266ⅡFU".





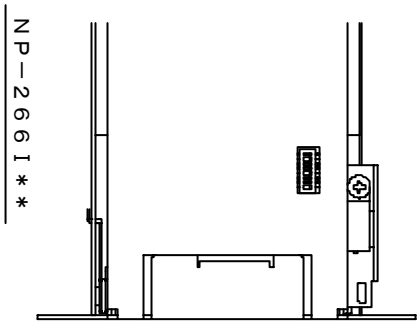


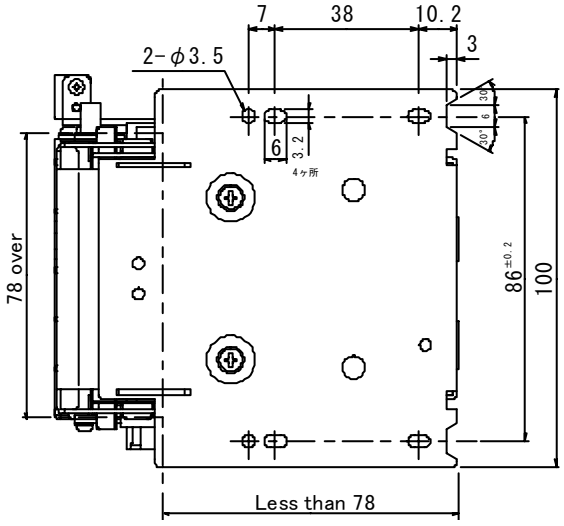


Notes

1. More than 195 mm space needed for opening platen.
2. Either full cut or partial cut should be selected
3. Max. roll paper diameter Is 80 mm.
4. This drawing is "NP-266ⅡFU".

Recommended dimension for mounting plate

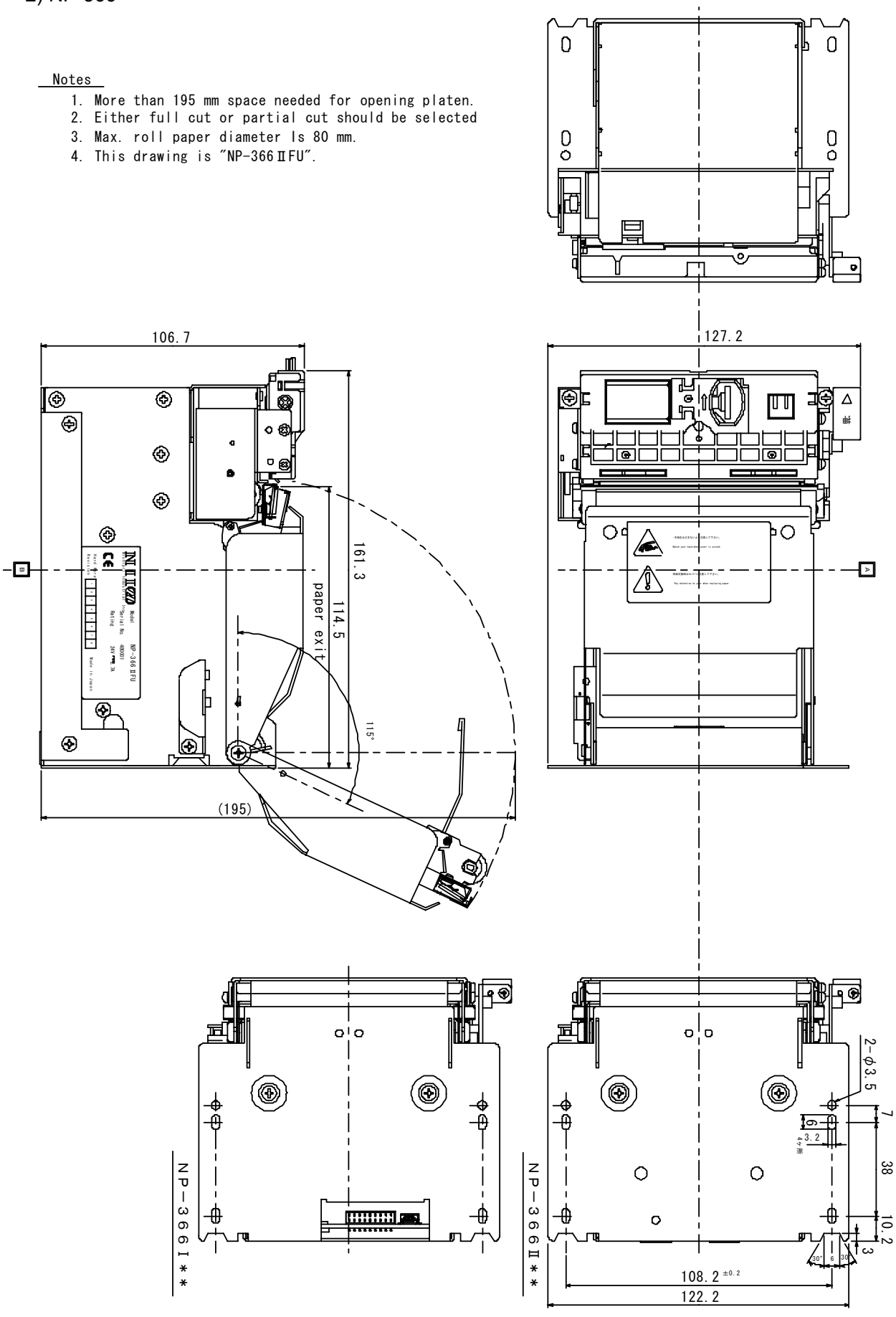


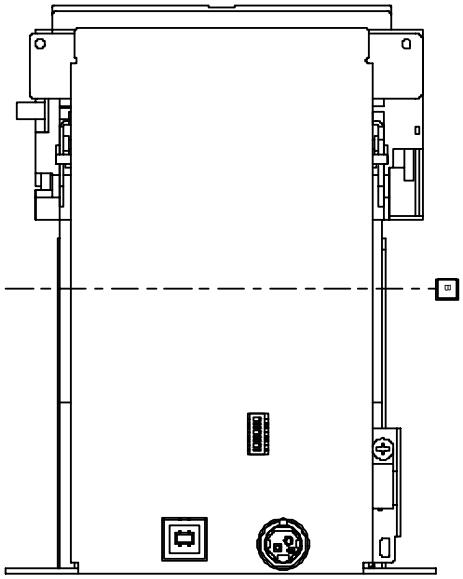


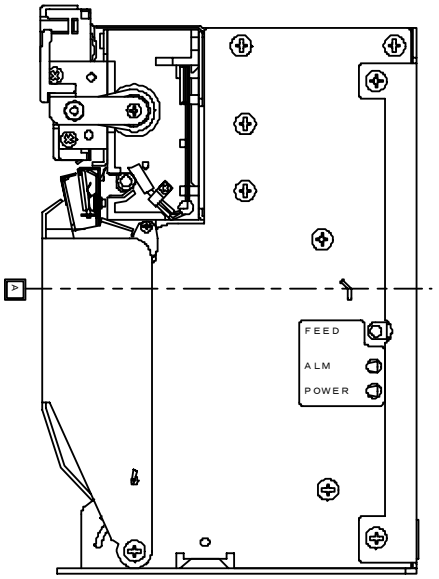
2) NP-366

Notes

1. More than 195 mm space needed for opening platen.
2. Either full cut or partial cut should be selected
3. Max. roll paper diameter Is 80 mm.
4. This drawing is "NP-366ⅡFU".



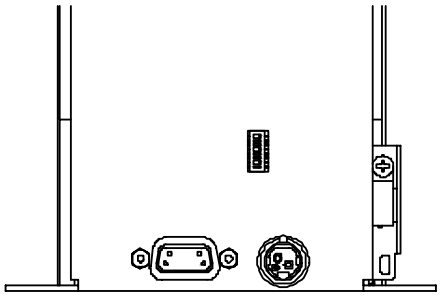




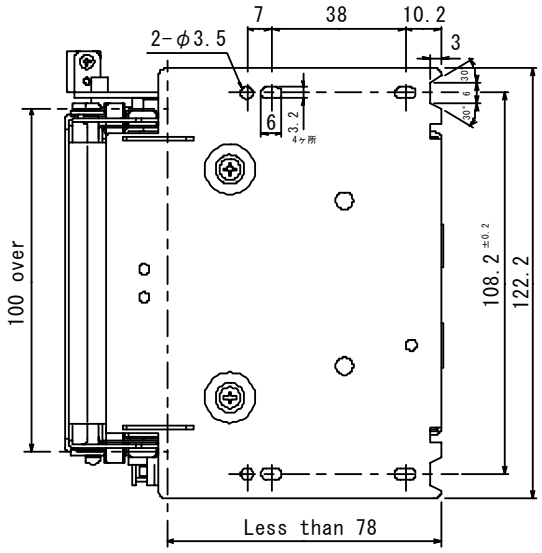
Notes

1. More than 195 mm space needed for opening platen.
2. Either full cut or partial cut should be selected
3. Max. roll paper diameter Is 80 mm.
4. This drawing is "NP-366ⅡFU".

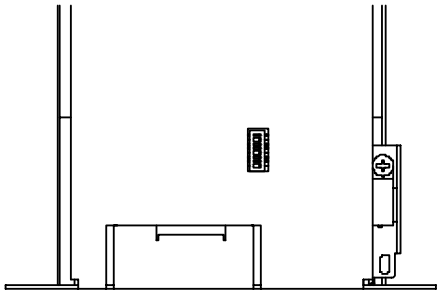
NP－366Ⅱ＊R



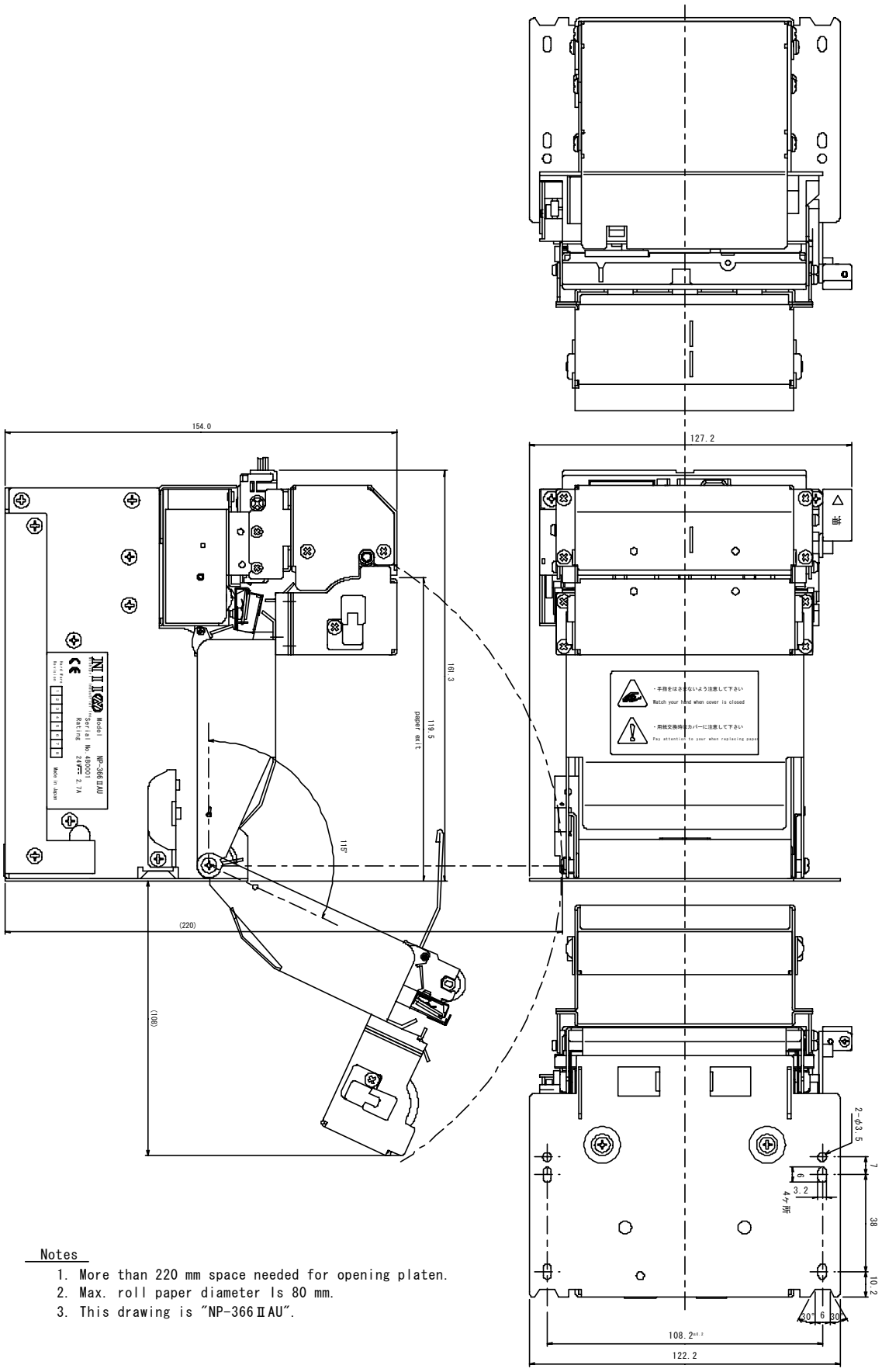
Recommended dimension for mounting plate



NP－366I＊＊



2) NP-366ⅡAU



Notes

1. More than 220 mm space needed for opening platen.
2. Max. roll paper diameter Is 80 mm.
3. This drawing is "NP-366ⅡAU".

3. Interface specifications

3.1 Serial interface (RS-232C)

1) Synchronization : Asynchronous

2) Transmission speed:19200, 38400bps (user selectable)

3) A word consists of

Start bit : 1bit

Data bit : 8 bit

Stop bit : more than 1 bit

4) Signal polarity

RS-232C

Mark = Logic “1” (-3V -- -12V)

Space = Logic “0” (+3V -- +12V)

5) Receive data (RD signal)

RS-232C

Mark = 1

Space = 0

6) Reception control (CTS signal)

RS-232C

Mark = Impossible to transmit data

Space = Possible to transmit data

7) Reception control (RTS signal)

Space = Possible to transmit data

Mark = Impossible to transmit data

3.2 USB interface (USB)

1) Version: V2.0 FULL SPEED (12Mbps)

2) Port: Upstream port (B jack or Mini-B)

3) Power Supply: Self Powered

3.3 Connector signal details

1) Data signal input connector (Serial Type II)

Printer side : 17LE23090-027(D4CK) (DDK) or equivalent

Host side : 17JE13090-02(DDK) or equivalent

Pin No.	Signal	Input/Output	Function	Remark
1	N.C	-		
2	TXD	Output	Serial transmit data	
3	RXD	Input	Serial receving data	
4	N.C	-		
5	GND	-	Singnal ground	
6	-	-		
7	CTS	Input	Transmit permission signal	
8	RTS	Output	Transmit request signal	
9	N.C			

2) Data signal input connector (Serial Type I)

Data signal and power input

Connecter on printer: DF11-18DP-2DS (52) Hirose

Proper connecter : DF11-18DS-2C Hirose

Pin No.	Signal name	Input/Output	Function	Remarks
1	/RESET	Input	RESET Input (-)	※1
2	RTS	Output	Printer busy	
3	CTS	Input	Host busy	
4	-	-	N.C.	
5	RXD	Input	Receives data	
6	TXD	Output	Transmitted data	
7	GND	-	Common GND	※2
8	GND	-	Common GND	※2
9	GND	-	Common GND	※2
10	GND	-	Common GND	※2
11	GND	-	Common GND	※2
12	GND	-	Common GND	※2
13	+5V	Input	Circuit power Vcc	※2
14	+5V	Input	Circuit power Vcc	※2
15	+24V	Input	Power supply VM for head, cuter, motor	※2
16	+24V	Input	Power supply VM for head, cuter, motor	※2
17	+24V	Input	Power supply VM for head, cuter, motor	※2
18	+24V	Input	Power supply VM for head, cuter, motor	※2

※1. It is reset by “L” pulse input at 50msec (typical). The level is below 0.7V.

/RESET signal input is effective only on Serial Type I.

※2. All pin no.7 -18 to be connected. Please connect thick and short, as large current may flow. Please take necessary measure to stabilize the power supply by connecting a electrolytic condenser (approx. 2200 μ) or so. Withstand voltage over 35V must be applied.

※3. Pin no.7-18 are the same when USB for type I.

3) Data Signal Input Connector (USB for type II)

Printer side connector: B jack DUSB-BRA42-T11(DDK) or equivalent

Host side Connector: B plug

Pin No.	Signal	Input / Output	Function	Remark
1	VBUS	Input	Power line	Non twist power line
2	D-	Input and output	Data line	Twist pair signal line
3	D+	Input and output	Data line	Twist pait signal line
4	GND	-	Power line	Non twist power line
Shell	Shield	-		

* Use USB cable which conforms to the standard (FULL SPEED)

* We do not support the operation by using a cable out of the standard.

4) CN9 Data Signal Input Connector (USB for type I)

Printer side connector: Mini-B 5P TCX0101-110100 Hosiden or equivalent

Host side Connector: Mini-B 5P equivalent

Pin No.	Signal	Input / Output	Function	Remark
1	VBUS	Input	Power line	Non twist power line
2	D-	Input and output	Data line	Twist pair signal line
3	D+	Input and output	Data line	Twist pait signal line
4	N.C	-		
5	GND	-	GND	Non twist power line
Shell	Shield	-	FG frame GND	

* Use USB cable which conforms to the standard (FULL SPEED)

* We do not support the operation by using a cable out of the standard.

4. Functions

4.1 Function setting

4.1.1 DIP switch DS1

	Functions	ON	OFF	Factory setting	
				U type	R type
DS1-1	Interface	USB	Serial	ON	OFF
DS1-2	Kanji code	Shift JIS	JIS	OFF	OFF
DS1-3	Near empty sensor	Ineffective	Effective	OFF	OFF
DS1-4	Print density select	125%	100%	OFF	OFF
DS1-5	Character set	Overseas	Domestic	OFF	OFF
DS1-6	Baud rate	38400bps	19200bps	OFF	OFF
DS1-7	Print speed select	Max.150 mm/s	Max. 220 mm/s	OFF	OFF
DS1-8	Partition drive	2 partition	Automatic	OFF	OFF

※ Print speed is 150 mm/sec for A type, regardless of setting of DS1-7.

※ The above setting is subject to change for adding 9600 bps baud rate

4.1.2 Paper sensor

Paper end sensor equipped in the paper course of the printer mechanism. Applicable bit of status will be ON and sotp printing when detected the paper end.

Print data will be ignored when detected the paper end during printing. Change of setting and status command will work as normal. The sensor can not detect paper end of the roll with glue. Please load the paper when detected the paper end.

4.2 Processing error

1) Error detection details

Name	Status	Status	ALM status	Removal
Comm. error	232C Comm. error Parity Overrun Flaming Data “?” print	—	—	Adjust comm.condition
Paper near empty	Remaining paper detect near empty detection	0 bit 1	Blink-1	Load paper
Rear cover open	Rear cover open	1 bit 1	On	Close the rear cover
Paper end	No paper	2 bit 1	On	Load paper
Excessive Head temp	Over approx.80°C	3 bit 1	Blink-2	Return regular operation At 60°C(approx.)
Cutter error	Cutter error	4 bit 1	Blink-2	After removing the error, (Jam etc), turn on power again or input /RESET signal
Presenter error	Presenter error	5 bit 1	Blink-3	After removing the error (jam etc), turn on power again or input /RESET signal
Presenter cramp	Presenter cramp the paper	6 bit 1	Blink-3	Remove the paper

When the above errors are detected (except transmission error and paper empty end error), printer stops all operation and turn on the error bit of the status.

Note: Blink-1: 0.5 sec on and 0.5 sec off
Blink-2: 2.5 sec on and 0.5 sec off
Blink-3: 0.2sec on and 0.2sec off x 3 times, 1.0 sec on, 0.2 sec off

2) Return to normal status from error statuses

Remove causes of error statuses and turn the power on again or input the /RESET signal to return to normal. When this process is activated, at the time of power switch turned off, the printer will be initialized, so that settings are required again.
If data remains in the buffer, attention should be paid

4.3 Partition drive

The 2 partition drive or “Automatic partition drive” can be selected by the DIP switch and 1partition drive can be selected by a command. It should be selected according to the power supply capacity and print duty.

1) Fixed partition

	Function	ON	OFF
DS1-8	Partition drive select	2 partitions	Automatic

* 2 fixed partition and Automatic partition select may decrease print speed.
* 1 partition drive can be selected by a command.

2) Automatic partition drive

Select automatically 1 partition or 2 partitions by total dots / line.

	1 partition	2 partitions
NP-266	Less than 248 dots	Higher than 249 dots
NP-366	Less than 352 dots	Higher than 353 dots

* Automatic partition drive will change the print speed according to print ratio. Print noise may occur.
* The default status is set as selected. Partition setting can be selected by DIP switch or command. Refer to the command description for the details.
* Automatic partition select may decrease print quality.
* Automatic partition select may decrease print speed.

4.4 Operation panel

1) FEED SW ［Paper feed switch］
Switch to feed paper in the normal direction
Also, used in rewriting Flash Rom, and self-printing.

2) ALM (red) ［alarm lamp］
Will turn on (or blink) when printer is on error status.
Will turn on/ blink/ turn off when rewriting Flash Rom

3) POWER (green) ［power lamp］
Will turn on when power is supplied to printer

4.5 HEX dump print

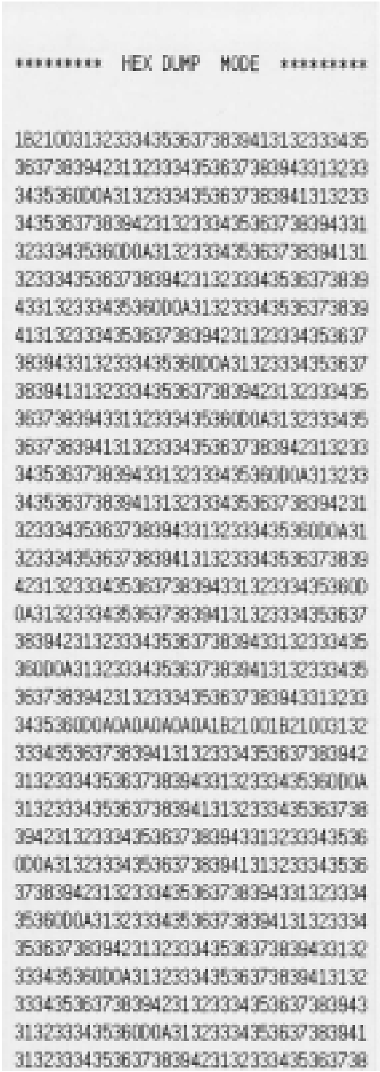
1) HEX dump function

Data sent from host will be output in HEX, used for application debug and analysis of distorted characters.

2) Start and end of HEX dump

Open the front cover when the nomal printer status, then close during pressing LF switch. Keep pressing the LF button for 5 seconds, printer will be HEX dump mode. Then, HEX dump will start. HEX dump will stop as you turn off power or input /RESET signal.

Printing Sample



```
********* HEX DUMP MODE *********

1B2100313233343536373839413132333435
363738394231323334353637383943313233
3435360D0A31323334353637383941313233
343536373839423132333435363738394331
32333435360D0A3132333435363738394131
323334353637383942313233343536373839
433132333435360D0A313233343536373839
413132333435363738394231323334353637
3839433132333435360D0A31323334353637
383941313233343536373839423132333435
36373839433132333435360D0A3132333435
363738394131323334353637383942313233
343536373839433132333435360D0A313233
343536373839413132333435363738394231
3233343536373839433132333435360D0A31
323334353637383941313233343536373839
42313233343536373839433132333435360D
0A3132333435363738394131323334353637
383942313233343536373839433132333435
360D0A313233343536373839413132333435
363738394231323334353637383943313233
3435360D0A0A0A0A0A0A1B21001B21003132
333435363738394131323334353637383942
313233343536373839433132333435360D0A
313233343536373839413132333435363738
394231323334353637383943313233343536
0D0A31323334353637383941313233343536
373839423132333435363738394331323334
35360D0A3132333435363738394131323334
353637383942313233343536373839433132
333435360D0A313233343536373839413132
333435363738394231323334353637383943
3132333435360D0A31323334353637383941
313233343536373839423132333435363738
```

4.6 Self print

1) By performing self-diagnostic print following items are checked.
   a) Proper function of control circuitry
   b) Proper function of printer mechanism
   c) Print quality
   d) Control F/W version
   e) DIP switch setting status
   f) Correct function of paper out sensor

2) Start and end of self diagnostic print

Open the front cover. Close the cover while pressing the FEED switch and release the FEED switch within 5 seconds. Self diafnostic print will take place.

The self diagnostic print automatically ends when a preset number of characters are finished printing. While printing, the printer is in Off-line mode. Without paper is loaded, no print occurs.

4.7 Buffer full print

If there remains data in the buffer after one line of data is received, printer automatically prints preceding data. The volume of buffer full data varies depending on ASCII characters (Font A, B) or bit images.(Line mode)

4.8 Presenter drive

Presenter NPT-305 can be drived.

※A type only

※Print speed is max. 150 mm/sec for A type.

5. Software specifications

5.1 Printer driver

Please apply the driver stated below for using under Windows environment. Please refer to the User's Manual for detailed information.

1) Windows 95/98: NII printer driver Windows 95/98, Version 1.00
2) Windows NT4.0: NII printer driver Windows NT4.0, Version 1.00
3) Windows 2000 / XP: NII printer driver Windows 2000, Version 1.00
4) Windows 2000/ XP: NII printer drive Windows 2000 USB, Version 1.00

5.2 Line mode command table

	Command	Functions	Pages
1	HT	Horizontal tab	23
2	LF	Print and paper feed	23
3	FF	Page feed	23
4	CR	Carriage return	23
5	DLE CAN	Reset software	23
6	ESC SP n	Character right space set	23
7	ESC ! n	Print mode overall set	24
8	ESC $ n1 n2	absolute position set	24
9	ESC % n	Download character set/reset	24
10	ESC & s n m a Dn	Download character definition	25
11	ESC * m n1 n2 Dn	Bit image mode set	28
12	ESC – n	Underline set/reset	29
13	ESC 2	1/6 inches line feed set	29
14	ESC 3 n	Smallest line feed pitch set	29
15	ESC = n	Data input control	29
16	ESC @	Initialize printer	30
17	ESC C n	Page length set for n lines	30
18	ESC D n1 n2 --- NUL	Set horizontal tab position	30
19	ESC E n	Bold print set/reset	30
20	ESC G n	Double strike print set/reset	31
21	ESC J n	Print and smallest pitch line feed	31
22	ESC L	Page mode select	31
23	ESC R n	Select international character	31
24	ESC V n	Character 90°clockwise rotation set/reset	32
25	ESC ¥ n1 n2	relative position set	32
26	ESC a n	position alignment	32
27	ESC c 5 n	FEED switch effective/not effective	32
28	ESC d n	Print and n line feed	32
29	ESC i	Cut	33
30	ESC t n	Select Character code table	33
31	ESC q S E M	QR code print	34
32	ESC v	Send Printer Status	36
33	ESC { n	Inverted character set/reset	36
34	GS % n	Partition drive selection	37
35	GS d Dn	Firmware download	37
36	GS f n	Select of HRI character style	37
37	GS h n	Select height of barcode	37
38	GS k n Dn NUL	Print barcode	38
39	GS w n	Select width of barcode	38
40	GS v NUL	Automatic transmission of printer status	38
41	GS H n	Select HRI character print position	39

	Control codes	Functions	Pages
42	GS P n	Print NV bit image	39
43	GS T n	Register NV bit image	39
44	GS ~ n	Set Print Density	39
45	ESC b n1 n2 n3	Raster bit image	40
46	GS * n1 n2 Dn	Definition of download bit image	41
47	GS / m	Print download bit image	41
48	ESC r 0	Presenter cramp compulsory eject	42
49	ESC r 1 n	Presenter retraction time setting	42

5.3 Line mode command details

1) Horizontal tab : << HT >>

Code : [09] h

Shift the print position to the next horizontal tab position

* Horizontal tab position is set by [horizontal tab set] command.
* The default status of horizontal tab position is set at every 8th character (9th digit, 17th digit, 25th digit and 33rd digit) in font A.
  ※41st digit for NP-366
* If the next tab position is not set, this command is ignored.

2) Line feed : << LF >>

Code : [0A] h

Prints data stored in the print line buffer and executes line feed according to data of feed pitch.

3) Page feed : << FF >>

This command is effective only in Windows mode.

Code : [0C] h

* Prints data in the print line buffer and executes page feed to the head of next page according to the page length in the setting.
* Default setting for the page length is [42] h (66 lines) .

4) Carriage return: << CR >>

Code : [0D] h

This command is ignored.

5) Software reset : << DLE CAN >>

Code : [10] h + [18] h

Description :Firmware is treated in the same manner as power is set on to start again.

* The command is stored in the internal receive input buffer and activated sequentially.
* After cutter action is completed, but during operation process, it returns to software operation.
* If there is any data, not yet transferred, in the transfer buffer, it goes to software reset action after all data are transferred.

6) Setting right space of a character: << ESC SP n >>

Code : [1B] h + [20] h + n * [00≤n≤20] h

Sets the right space of a character by unit of dot (1/203 of an inch). In the case of double width mode, the space will be doubled. The default value of “n” is [00] h.

7) Overall print mode setting: << ESC ! n >>

Code : [1B] h + [21] h + n * [00≤n≤FF] h

Sets print mode. “n” has following meanings

Bit	Function	Values	
		0	1
0	Character font	Font A	Font B
1	Undefined	-	-
2	Undefined	-	-
3	Bold	Reset	Set
4	Double height	Reset	Set
5	Double width	Reset	Set
6	Undefined	-	-
7	Underline	Reset	Set

* If double height and double width are set at the same time quadruple character will be formed.
* All of the printed characters will be underlined except for the 90° clockwise rotated characters and spaces created by horizontal tab.
* Underline width is determined by the value set in [Underline set/reset] section. The default value is “1”.
* Different sizes of character mixed such as double width and normal size can be printed.
* The default value of “n” is [00] h.

8) Absolute position set :<< ESC $ n1 n2 >>

Code : [1B] h + [24] h + n1 + n2 * [00≤n1≤FF] h

* [00≤n2≤02] h

Print start position is assigned by dots in 1/203rd of inch from the beginning of line.

* Divide the value of dot by 256, place quotient to n2, and remainder to n1.
* The print start position is n1 + n2 x 256 from top of the line.
* Setting which exceeds end of line is ignored.

9) Down load characters set/reset: << ESC % n >>

Code : [1B] h + [25] h + n * [00≤n≤FF]h

Setting or resetting the characters to be downloaded.

.

* Only LSB (b0) is valid for “n” value. LSB (b0) has the following meanings.

b0	Function
0	Resets download chraracter
1	Sets download chraracter

Default value is “n” = [00] h

10) Definition of download character :<< ESC & s n m a Dn >>

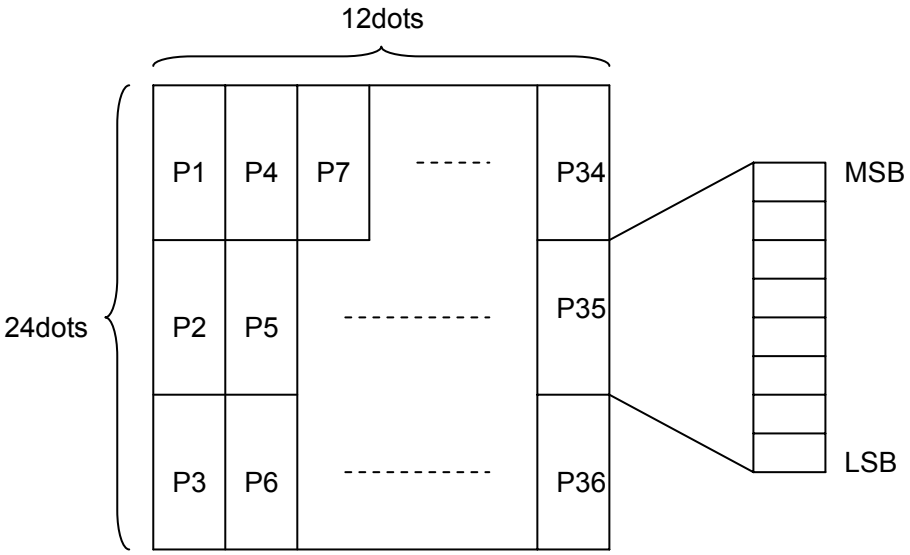
Code : [1B] h + [26] h + s + n + m + a + Dn

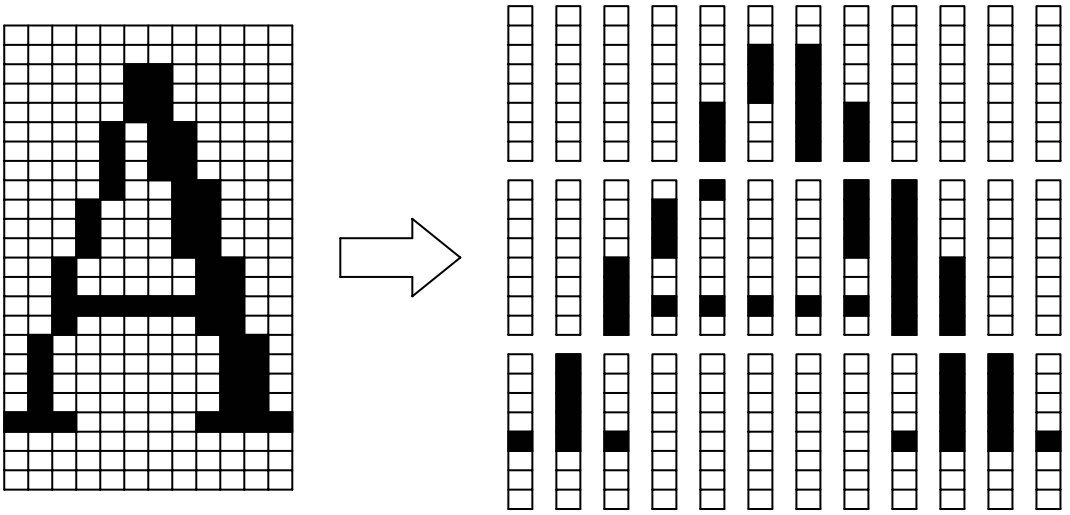
* [s = 03] h
* [20≤n≤7E] h
* [20≤m≤7E] h
* Font A [01≤a≤0C] h
* Font B [01≤a≤09] h

Definition of download character(such as alpha numeric characters).

* “s” indicates a number of bytes in a vertical direction and “a” is a number of dots in horizontal direction.
* “n” indicates the start character code, and “m” means the end character code. If only 1 character should be defined, then n = m.
* Definable characters are from <20>h to <7E>h in ASCII code (95 characters).
* “Dn” indicates the data to be defined. It indicates the “a” dots pattern from the left. Remaining area on the right of a character is filled with spaces.
* Once a download character is defined, it remains valid until the download character is redefined.
*Even though OFF/ON of power supply, Initialization of Printer and Software reset are executed, Defined content is not cleared.

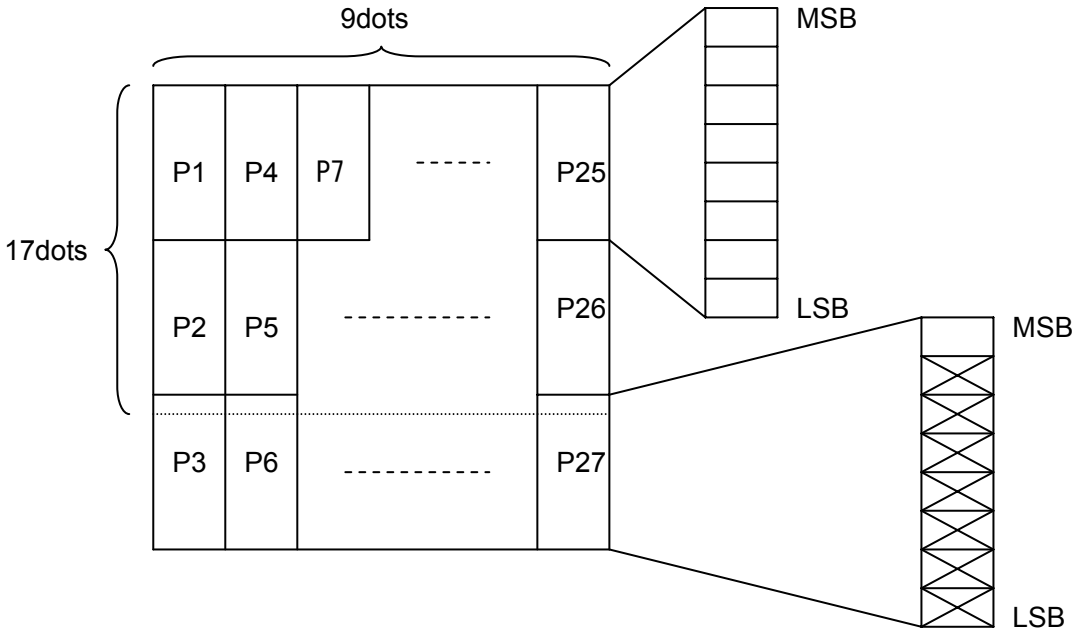
< Reference >
In the case of Font A

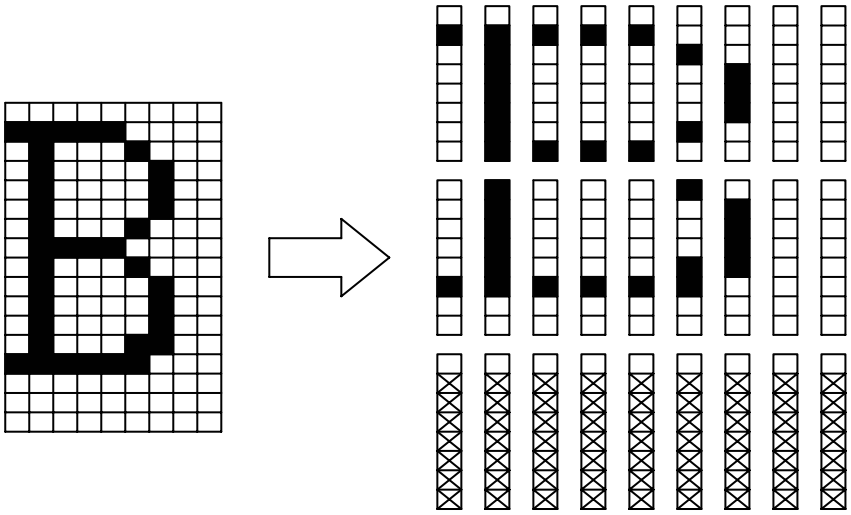




P1=〔00〕h,P4=〔00〕h,P7=〔00〕h,P10=〔00〕h,…
P2=〔00〕h,P5=〔00〕h,P8=〔0F〕h,P11=〔72〕h,…
P3=〔08〕h,P6=〔F8〕h,P9=〔08〕h,P12=〔00〕h,…

< Reference >
In the case of Font B





P1=〔40〕h,P4=〔7F〕h,P7=〔41〕h,P10=〔41〕h,…
P2=〔04〕h,P5=〔FC〕h,P8=〔04〕h,P11=〔04〕h,…
P3=〔00〕h,P6=〔00〕h,P9=〔00〕h,P12=〔00〕h,…

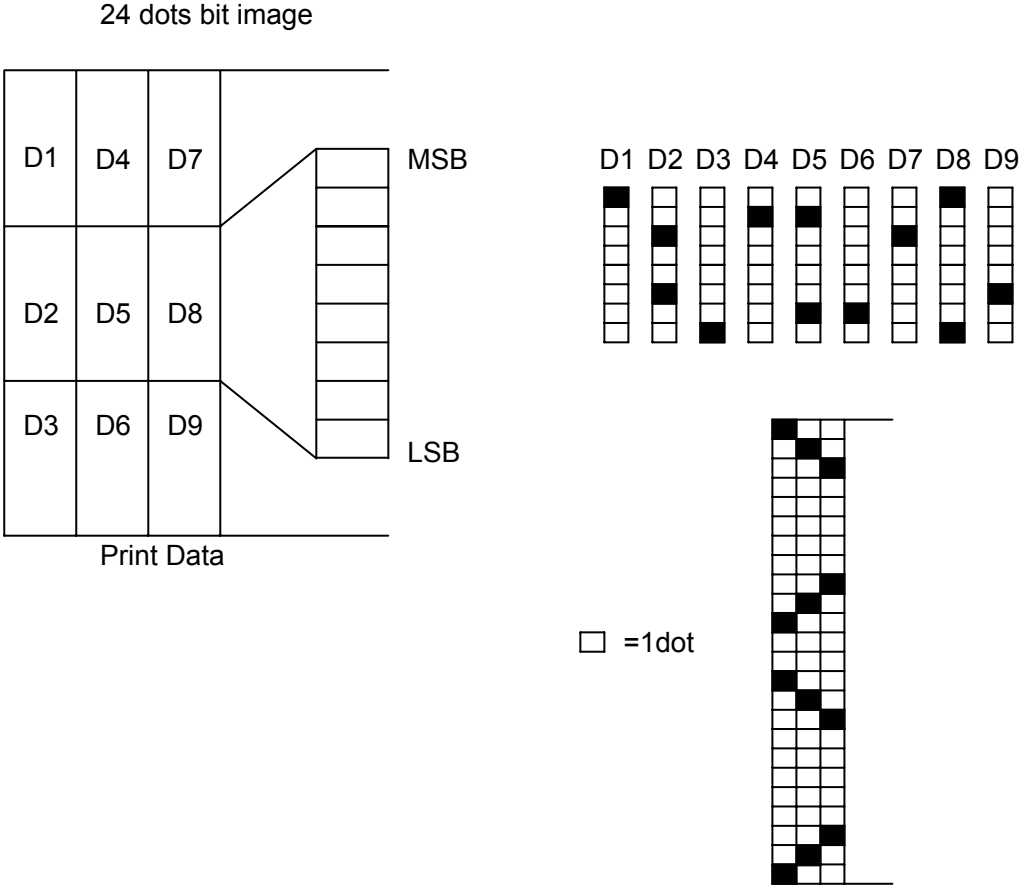
11) Bit image mode set: << ESC * m n1 n2 Dn >>

Code: [1B] h + [2A] h + m + n1 + n2 + Dn * [m = 23] h fixed
* [00≤n1+ (100hxn2)≤1b0] h NP-266
* [00≤n1+ (100hxn2)≤240] h NP-366

Data is printed in 24 dot bit image of resolution of 203 x 203DPI.

- Print total dots divided by 256, quotient is n2 and remainder is n1.
- Total dots in bit image mode are n1 + (256 x n2).
- If the bit image input data exceeds 1 dot/line position, the exceeded data will be disregarded and it is not automatically printed in the next line.
- Bit image data (Dn) interprets bit 1 as print and bit 0 as not print.
- The total dots to be printed in the bit image must be the same with quantity of bit image data that corresponds to the dots. If quantity of bit image data is less than the total dots, the same amount of following data, same as the balance, is treated as bit image data. If it is more than the total dots, the same exceeding volume of bit image data will be treated as normal data.
- When bit image is continuously printed, print by lines (3mm) and stop is repeated for such reason as communication speed and others, the print density may not be consistent. Use NV bit image to solve the problem.

< Relationship between bit image data and printed dots >



12) Underline set/reset : << ESC - n >>

Code : [1B] h + [2D] h + n * [00≤n≤02] h

Sets and resets the underline

* Underline is effective for all characters except for the area skipped by horizontal tab.
* Also Underline is not effective for 90°clockwise rotated character.
* Underline is verified with n value as shown bellow.

n(hex)	Type of underlines
00	Reset underline
01	Set one dot underline
02	Set two dot underline

* Default value is “n” = [00] h

13) 1/6th of an inch line feed pitch : << ESC 2 >>

Code : [1B] h + [32] h

Sets one line feed to 1/6th of an inch.

14) Sets smallest pitch line feed : << ESC 3 n >>

Code : [1B] h + [33] h + n * [00≤n≤FF] h

Sets a line feed pitch to n/203rd of an inch.

*The height of character for a line (24/203 inch for normal character print) is sent by line feed. If the value of “n” is set below the height of character(24/203 inch), the same space as character height (24/203 inch) will be spaced by line feed.

* The default value of n is [22]h.

15) Data input control :<< ESC = n >>

Code : [1B] h + [3D] h + n * [00≤n≤FF] h

Description: Selects valid device where data input is possible through host computer.

* Each bit of “n” has the following meaning.

Bit	Function	Values	
		0	1
0	Printer	Invalid	Valid
1	Not defined		
2	Not defined		
3	Not defined		
4	Not defined		
5	Not defined		
6	Not defined		
7	Not defined		

* If printer is not in “no selection” status, printer will discard all received data until it is in the selection status by this command.
* Even if printer is in no selection status, the status may become BUSY by printer operation.
* The default value of “n” is [01] h.

16) Printer initialization : << ESC @ >>

Code : [1B] h + [40] h

Clears the data stored in the print buffer and resets each setting to default values.

* It does not clear the data stored in the internal receive buffer.
* For each mode status in each setting function, refer to section 5.6 the mode status (Line mode) for setting function, [ESC @].
* It is stored in the internal receive buffer and activated sequentially.

17) “n” line page length setting: << ESC C n >>

Code : [1B] h + [43] h +n * [01≤n≤FF] h

Sets a page length for “n” lines with current line feed pitch.

* Position is set to the head of page
* Line pitch change after setting will not change page length.
* Default value for “n” is [42] h for 66 lines.
* If printer is initialized, the head of page is also initialized.

18) Horizontal tab position set : << ESC D n1 n2 --- NUL >>

Code : [1B] h + [44] h + n1 + n2 + --- + [00] h *[00≤n≤FF] h

Sets the horizontal tab position

1. “n” indicates the digits number from the left to horizontal tab position . In this case, n = tab position - 1.
2. Tab position is set at the location of character width x n from the beginning of a line. The character width in this case includes character right space. When double width function is set, then the width becomes double of ordinary character.
3. Maximum number of tab positions is 32. If setting exceeds 32, then the exceeded values are neglected.
4. < ESC D NUL > clears all tab positions being set. After the tab is cleared, horizontal tab will be ignored.
5. Default value is set at every 8 characters of font A (at 9 th, 17th, 25th and 33rd digit).

19) Bold print set/reset :<< ESC E n >>

Code : [1B] h + [45] h + n * [00≤ n ≤FF] h

Sets and resets the bold print

* “n” is only valid for LSB (b0)

LSB (b0) is defined as following.

b0	Values
0	Resets bold print
1	Sets the bold print

Valid for all characters

Bold print and double strike results in the same on this printer.

The default value of “n” is [00] h.

20) Double strike set/reset :<< ESC G n >>

Code : [1B] h + [47] h + n * [00≤n≤FF] h

Sets and resets the double strike function

* “n” is only valid for (b0)
* Control by “n” is explained as following.

b0	Description
0	Resets double strike
1	Sets double strike

* Valid for all characters
* The effect of double strike and bold print are exactly the same on this printer.
* The default value of “n” is [00] h.

21) Print and smallest pitch line feed: << ESC J n >>

Code : [1B] h + [4A] h + n * [00≤n≤FF] h

Prints the data in the print line buffer and feeds the paper by n/203rd of an inch.

* The height of character for a line (24/203 inch for normal character print) is always sent by line feed. If the value of height is set by “n” below the height of character, the same space with character height is sent by line feed.
* Beginning of a line is a print start position.
* Line feed is not affected.

22) Page mode select: << ESC L >>

Code : [1B] h + [4C] h

Description : Switches between the line mode and page mode.

* The data in the line buffer is cleared.
* Clear the each setting and definition of the line mode.
* The line mode setting will be the same as the status on the printer initialization <ESC @>.

23) International character select :<< ESC R n >>

Code : [1B] h + [52] h + n * [00≤n≤0A] h

Description: Selects the international characters.

* The values of “n” have following meanings

n(Hex)	Character sets
00	U.S.A.
01	France
02	Germany
03	England
04	Denmark 1
05	Sweden
06	Italy
07	Spain
08	Japan
09	Norway
0A	Denmark 2

Default value of “n” is [08] h.

24) 90° clockwise rotated character set and reset :<< ESC V n >>

Code : [1B] h + [56] h + n * [00≤n≤01] h

Description: Sets and resets 90° clockwise rotated character.

* Underline cannot be assigned to the 90° clockwise rotated character.
* “n” has the following meaning.

n(hex)	description
00	reset 90° rotated character
01	set 90° rotated character

* Default value for “n” is [00]h.

25) Relative position set :<< ESC ¥ n1 n2 >>

Code : [1B] h + [5C] h + n1 +n2 * [00≤n1≤FF] h

* [00≤n2≤02] h

Print start position is assigned by dots from current position in unit of 1/203rd of inch.

* Right direction is treated as plus and left as minus.
* To assign N dots in minus direction (left), it will be: N dots = 65536 - N
* Assigning beyond the end of a line is neglected

26) Print position alignment :<< ESC a n >>

Code : [1B] h + [61] h + n * [00≤n≤02] h

Description : Aligns all data to be printed on the assigned position in a line.

* “n” values are assigned to:

n (Hex)	Position
00	Left
01	Center
02	Right

* This command is valid only when it is input at the head of a line.
* The default value of “n” is [00] h.

27) FEED switch enable/disable :<< ESC c 5 n >>

Code : [1B] h + [63] h + [35] h + n * [00≤n≤FF] h

Description: Changes the FEED switch valid or invalid.

* “n” is only valid for LSB (b0)
* “n” bit has following meanings

b0	Description
0	enable FEED switch
1	disable FEED switch

Default value of “n” is [00] h.

28) Print and “n” line feed :<< ESC d n >>

Code : [1B] h + [64] h + n * [00≤n≤FF] h

Description: Prints the data in the print buffer and feeds paper by “n” lines.

* Beginning of a line is the starting position of printing.

29) Cut : << ESC i >>

Code : [1B] h + [69] h

Description: Execute paper cut

* Feeds paper by 3mm after paper cut to prevent from paper jam.

30) Character code table select : << ESC t n >>

Code : [1B] h + [74] h + n * [00≤n≤01] h

Description : Selects either Japan code table or overseas code table.

Explanation : “n” value has following meaning.

n(hex)	character code table
00	Overseas character code table
01	Japan character code table

The default value of “n” is [DS1-5] for DIP SW.

31) QR code print : << ESC q S E M >>

Code: [1B] h + [71] h + S + E + M + DATA [<2C>h + M + DATA +….] + NUL

About parameter

1. S: module size
   * Assign 1 module size of QR code by printer's dot numbers.
   * Selectable sizes are 1,2, 3, 4, 8 dots.
   * If invalid size is assigned, the printer assigns it as 4 dots
   Due to resolution level of the printing mechanism, data reading of module size 1, 2 and 3 cannot be guaranteed.
2. E: Correction level
   * Selects error correction level to be used for restoring QR symbol.
   * Following values can be assigned.
   * If invalid value is assigned, the printer determines it to be L.

E	Correction level	Restore. capability
0	L	7%
1	M	15%
2	Q	25%
3	H	30%

3. M: Input data mode
   * Assign input data mode.
   * Following modes can be assigned.
   * If invalid mode is commanded, data is ignored until valid mode is commanded.

M	Input data mode
"N"	Numeric mode
"A"	Alpha numeric mode
"B"	8 bit byte mode

* If multiple modes should be input, each mode data (M + data) needs to be separated by " , ".
* If you want to input " , " and NUL in the data of 8 bit byte mode, input " ! " <21>h+"," and " ! "<21> h + NUL.
* " ! " itself is input as " ! " + " ! "

Restrictions

Available QR codes are from version 1 to version 14 of model 1 symbols.
If input data exceeds the area to be printed, QR code is not printed.

Following table shows the number of characters and input data capacity for the model 1 in version 1 to 14.

Version	Correction level	Data code Word	Data bit	Numeric	Alpha numeric	Byte	Kanji
1	L	19	148	40	24	17	10
	M	16	124	33	20	14	8
	Q	13	100	25	15	11	6
	H	9	68	16	10	7	4
2	L	36	284	81	49	34	20
	M	30	236	66	40	28	17
	Q	24	188	52	31	22	13
	H	16	122	33	20	14	8
3	L	57	452	131	79	55	33
	M	44	348	100	60	42	25
	Q	36	284	81	49	34	20
	H	24	188	52	31	22	13
4	L	80	636	186	113	78	48
	M	60	476	138	84	58	35
	Q	50	396	114	69	48	29
	H	34	268	76	46	32	19
5	L	108	860	253	154	106	65
	M	82	652	191	116	80	49
	Q	68	540	157	95	66	40
	H	46	364	105	63	44	27
6	L	136	1084	321	194	134	82
	M	106	844	249	151	104	64
	Q	86	684	201	122	84	51
	H	58	460	133	81	56	34
7	L	170	1356	402	244	168	103
	M	132	1052	311	188	130	80
	Q	108	860	253	154	106	65
	H	72	572	167	101	70	43
8	L	208	1660	493	299	206	126
	M	160	1276	378	229	158	97
	Q	128	1020	301	183	126	77
	H	87	692	203	123	85	52
9	L	246	1964	585	354	244	150
	M	186	1484	441	267	184	113
	Q	156	1244	369	223	154	94
	H	102	812	239	145	100	61
10	L	290	2316	690	418	287	177
	M	222	1772	526	319	219	135
	Q	183	1460	433	262	180	111
	H	124	988	291	176	121	74
11	L	336	2684	800	485	333	205
	M	256	2044	608	368	253	156
	Q	208	1660	493	299	205	126
	H	145	1156	342	207	142	87

Version	Correction level	Data code Word	Data bit	Numeric	Alpha numeric	Byte	Kanji
12	L	384	3068	915	555	381	234
	M	292	2332	694	421	289	178
	Q	244	1948	579	351	241	148
	H	165	1316	390	236	162	100
13	L	432	3452	1030	624	429	264
	M	332	2652	790	479	329	202
	Q	276	2204	656	398	273	168
	H	192	1532	454	275	189	116
14	L	489	3908	1167	707	486	299
	M	368	2940	877	531	365	225
	Q	310	2476	738	447	307	189
	H	210	1676	498	302	207	127

1. The first code word is 4 bit length, and following all code words consist of 8 bit length.
2. Data bit numbers include “mode indicator” and “character number indicators”.

32) Printer status transmission : << ESC v >>

Code : [1B] h + [76] h

Sends current printer status

* Status to be transmitted consist of 1 byte and the content is explained in the chart below.

bit	Functions	Value	
		0	1
0	paper near empty	paper present	near empty
1	platen open	normal	head open
2	paper end	paper present	no paper
3	head temp. abnormal	normal	Temp. high
4	cutter problem	normal	cutter problem
5	Presenter error	normal	presenter error
6	Paper in presenter	No Paper	paper
7	Not defined		

* Make sure that command is issued before transmission of print data. (commands are stored in the input buffer and executed sequentially)
* Reception is available except in the buffer full status.

33) Inverted character set and reset : << ESC { n >>

Code : [1B] h + [7B] h + n * [00≤n≤FF] h

Sets or resets the inverted character function

* “n” is only valid for the LSB (b0)
* LSB (b0) has the following meaning

b0	Description
0	resets inverted character
1	sets inverted character

* The command is only valid when it is assigned at the beginning of a line.
* The default value of n is [00] h.

34) Partition drive select :<< GS % n >>

Code : [1D] h + [25] h + n * [01≤n≤03] h

Description : Selects partition drive.

* “n” indicates the following:

n(HEX)	Divide
01	1 fixed partition
02	2 fixed partitions
03	automatic partition

* Default value is selected by the DIP switch (DS1-8) (2 partitions/Automatic partition).

* If assigned beyond the specified area, the data is neglected and the select will not change.

* Automatic partition is as follows:

	1 partition	2 partitions
NP-266	Less than 248 dots	More than 249 dots
NP-366	Less than 352 dots	More than 353 dots

35) Firmware download :<< GS d Dn >>

Code : [1D] h + [64] h + Dn

Description : Download printer firmware in hexadecimal code and rewrite firmware according to the outcome.

* Dn is firmware’s hex code which complies with INTELLEX Hex format.

* When downloading is completed, the printer is activated with the new firmware rewritten.

36) Select of HRI character style :<< GS f n >>

Code : [1D] h + [66] h + n * [00≤n≤01] h

Description : Selects HRI character style in printing barcode

* “n” has the following meanings:

n (hex)	Style
00	Font A
01	Font B

* Default value of “n” is [00] h.

37) Barcode height select :<< GS h n >>

Code : [1D] h + [68] h + n * [00≤n≤FF] h

Description : Selects barcode height by dot unit.

* “n” shows the vertical dot number

* Default value of “n” is [A2] h (162 dots)

* Assign “n” value so that it matches the barcode reader specification for readable area.

38) Barcode print : << GS k n Dn NUL >>

Code : [1D] h + [6B] h + n + Dn + [00] h * [00≤n≤07] h

Description : Selects barcode symbology and prints barcode.

* The next print start position is on the line head
* Select following barcode symbology with “n” value.
* Dn indicates the character code to be printed.

n (Hex)	Barcode symbology
00	UPC-A
01	UPC-E
02	EAN-13 (JAN-13)
03	EAN-8 (JAN-8)
04	CODE 39
05	ITF
06	CODABAR (NW-7)
07	CODE128

* If the print character numbers are fixed in the barcode symbology, the input character numbers should match the print character numbers.
* If horizontal data exceed one line, the exceeded data cannot be printed.

39) Barcode width size select :<< GS w n >>

Code : [1D] h + [77] h + n * [02≤n≤04] h

Description : Selects width of barcode

* Default value of “n” is [03] h.

40) Automatic transmission of printer status: << GS v NUL >>

Code : [1D] h + [76] h + [00] h

Description : Automatically transmits the status when the printer status changes.

*Once setting is made, it is effective until software is reset, power is set off, or reset signal is input.

*The commands are stored in the internal receive input buffer and executed sequentially.

*Status of transmission is one byte and functions are explained below.

Bit	Function	Value	
		0	1
0	Paper near empty	Paper present	Near empty
1	Platen open	Normal	Open
2	Paper end	Paper present	Paper end
3	Head temp. too high	Normal	Head temp. too high
4	Cutter problem	Normal	Cutter problem
5	Presenter error	Normal	Presenter error
6	Paper in presenter	No Paper	paper
7	Not defined		

41) Select of HRI character print position :<< GS H n >>

Code : [1D] h + [48] h + n * [00≤n≤03] h

Description : Selects the print position of HRI characters in printing barcode.

* "n" has the following meaning.

n (Hex)	Print position
00	No printing
01	Above barcode
02	Below barcode
03	Above and below barcode

* HRI characters are the characters selected by "HRI character style select".

* Default value of "n" is [00] h.

42) NV bit image print :<< GS P n >>

Code : [1D] h + [50] h + Dn * [00≤n≤02] h

Description : Prints the bit image print data registered.

* Selects one of the print pattern among three registered patterns by assigning 0 to 2 value of "n".

43) NV bit image registration :<< GS T n >>

Code : [1D] h + [54] h + n

Description : Register the predetermined bit image print data.

* It is possible to register from 0 to 2 different kinds of patterns (3 patterns).

* In each pattern, up to the maximum of 150mm length for NP-266 and 110mm length for NP-366 of bit image print data can be registered. The bit image print data exceeding the maximum length is neglected.

* The registered data is not erased even though off/on of the power, initialization of printer and software reset are executed.

* "n" has a following meanings.

n (hex)	Function
00	Start of pattern 0 registration
01	Start of pattern 1 registration
02	Start of pattern 2 registration
FF	End of registration

* When registrations started in the middle of a line, whole line is registered.

* When registration ended in the middle of a line, whole line is not registered.

* Following is a command sequence of pattern 0 registration.

GS T [00] h + (bit image data assigned by ESC * + ESC J n) x m lines + GS T [FF] h

44) Print density set : << GS ~ n >>

Code : [1D] h + [7E] h + n * [41≤n≤87] h

Description : Sets print density in the range between 65% ~ 135% of the standard value, DS1-4 Off.

* "n" ranges from [41] h(65%) to [87] h(135%). However, set it for actual use in the range [41] h(65%) to [82] h(130%).

* At the initial status, 100% or 125% can be selected by the DIP switch, DS1-4.

* This command has priority over the setting by DIP switch.

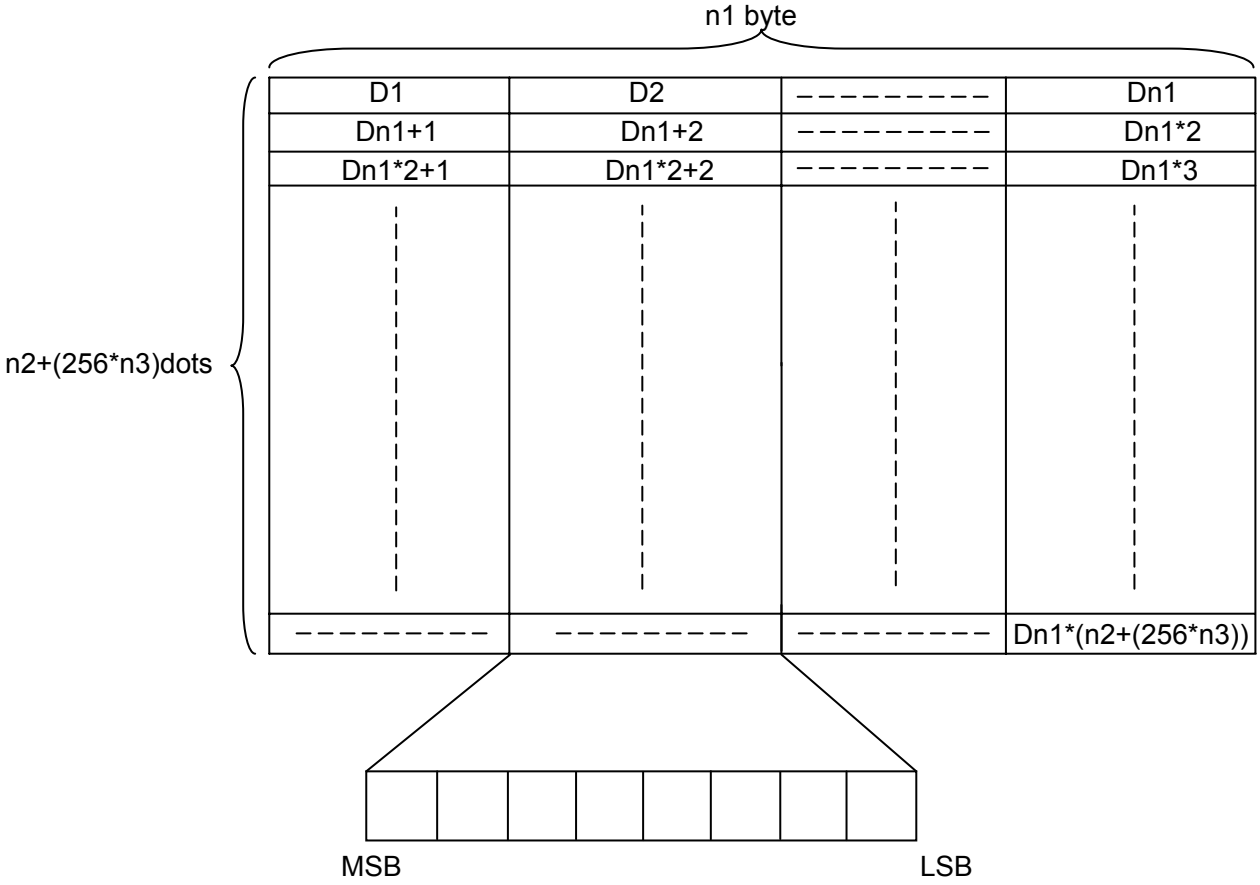
45) Raster bit image : << ESC b n1 n2 n3 Dn >>

Code : [1B] h + [62] h + n1 + n2 + n3 + Dn

* [01≤n1≤36] h : NP-266
* [01≤n1≤48] h : NP-366
* [00≤n2≤FF] h
* [00≤n3≤FF] h

Data is printed in a raster bit image.

- Dn is a raster bit image data.
- The printer prints raster bit image of width n1 byte by height n2+(256*n3) dot lines.
- The total byte of the requested raster bit image data (Dn) is n1*(n2+(256*n3)).
- Raster bit image data (Dn) exceeding the printing field will be disregarded.
- Raster bit image data (Dn) interprets bit”1” as print and bit”0” as not print.
- Relation between raster bit image data (Dn) and printed dots are as follows.



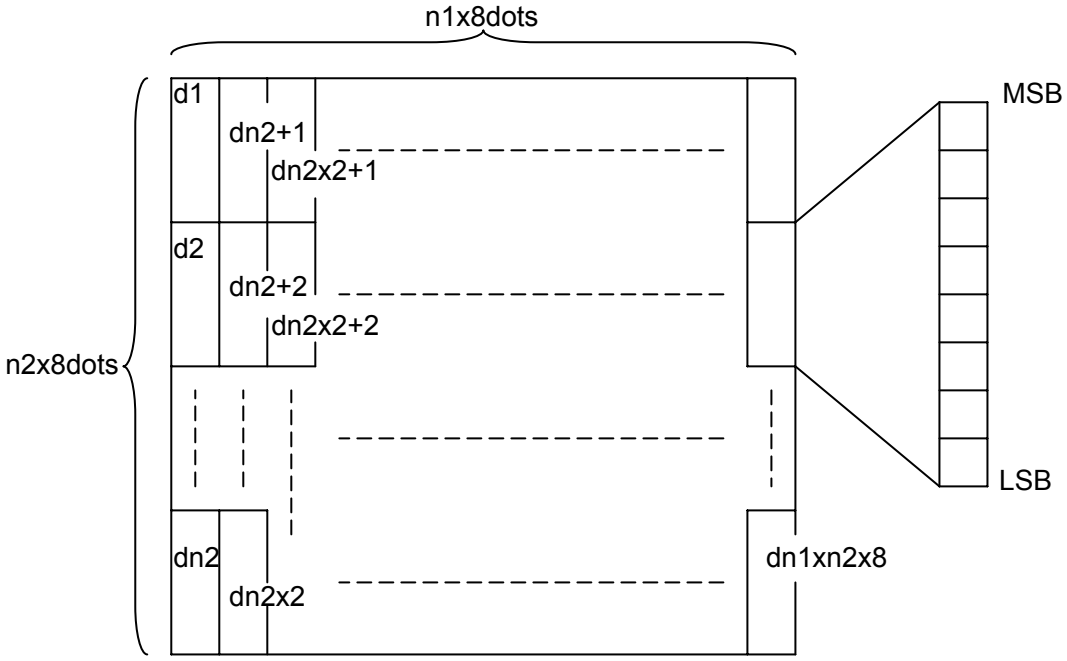
- Please add the command of 《ESC J 00h》(〔1B〕h＋〔4A〕h＋〔00〕h) at the end.
- If you send this command consecutively, please add 《ESC J n》(n≠〔00〕h) at the end of each image, and add the《ESC J 00h》at the very end of the image.

46) Download bit image definition :<< GS * n1 n2 Dn >>

Code : [1D] h + [2A] h + n1 + n2 + Dn * [01≤n1≤FF] h
* [01≤n2≤30] h
* [n1 x n2≤d80] h

Description : Defines “download bit image” of number of dots specified by n1 and n2.

* Horizontal dot numbers are obtained by n1 x 8 and vertical dot numbers by n2 x 8.
* Dn is bit image data.
* Once “download bit image” is defined, it is valid until it’s redefined, a download character is defined, and external characters are specified, a software is reset, power is set off.
* “Download bit image” cannot be defined at the same time with “download characters” or “external characters”. If this command is executed, “download character definition” or “external characters contents” are cleared.
* The relationship between bit image data & defined dots is shown below.



47) Download bit image print :<< GS / m >>

Code : [1D] h + [2F] h + m * [00≤m≤03] h

Description : Prints “download bit image” in a mode assigned by “m”.

* Modes to be assigned by m are as follows.

m(hex)	Modes	Dot density	
		Vertical	Horizontal
00	Normal mode	203 dpi	203 dpi
01	Double width	203 dpi	101 dpi
02	Vertical double	101 dpi	203 dpi
03	Quadruple	101 dpi	101 dpi

* If there are some data left in the print buffer, this command is neglected.
* If “download bit image” is not defined yet, this command is neglected.
* “Download bit image” data exceeding 1 line cannot be printed.
* Print modes (bold, double stike, inverted) except Alignment is not affected.
*Alignment is only valid to download bit image within print area.

48) Presenter cramp compulsory eject :<< ESC r 0 >>

Code : [1B] h + [72] h + [30] h

Description : Paper cramped in the presenter eject totally.

* This command is effective for A type.

49) Presenter retraction time setting :<< ESC r 1 n >>

Code : [1B] h + [72] h + [31] h + n * [00≤n≤3C] h

Description : Set time to retract the paper cramped in the presenter.

* The time can be set by n as follows.

The time to retract = n x 1.0 sec.

* Default value of n is [04] h.

5.4 Page mode command table

	Command	Function	Pages
1	ESC L n	Print & edit selection	44
2	ESC M nx1 nx2 nx3 ny1 ny2 ny3	Print edit position setting	46
3	FF	Print page feed	48
4	LF	Line feed	48
5	ESC c	Printer initialization	48
6	ESC I	Print/edit clear	48
7	GS ~	Print density setting	48
8	ESC l n1 n2 n3	Set page length	48
9	ESC A n1 n2	Line space setting	49
10	ESC W n	Character width enlarge setting	49
11	ESC w n	Vertical enlarge print setting	49
12	ESC g n1 n2	Vertical/horizontal character enlarge set	49
13	SO w	Double width enlarge print setting with auto reset	49
14	SO W	Quadruple enlarge print setting with auto reset	49
15	ESC $ n1 n2	Absolute position setting	50
16	ESC * m n1 n2 Dn	Bit image mode set	50
17	GS T n	NV bit image pattern registration	51
18	ESC F n	NV bit image double strike setting	51
19	GS b n1 nx1 nx2 nx3 ny1 ny2 ny3 n4 Dn LF	Barcode print edit	51
20	GS w n	Barcode width setting	52
21	GS h n1 n2	Barcode height setting	52
22	GS H n	HRI character print/edit setting	52
23	GS X n1 n2 n3 n4	Barcode modification total settings	52
24	ESC v	Send printer status	52
25	GS d Dn	Firmware download	52
26	ESC S	Line mode selection	52

* The characters covered in the section “ “ at the page mode command parameter are ASCII.
For example:
'1' ＝ [31] h
'02' ＝ [30] h + [32] h
* The first line start position means the start position of the first line for print/edit direction selected at that time.

5.5 Page mode command details

1) Print/edit direction select : << ESC L n >>

Code : [1B] h + [4C] h + n * ['0'≤n≤'5']

Description : Selects the print/edit direction selected in the print/edit page.

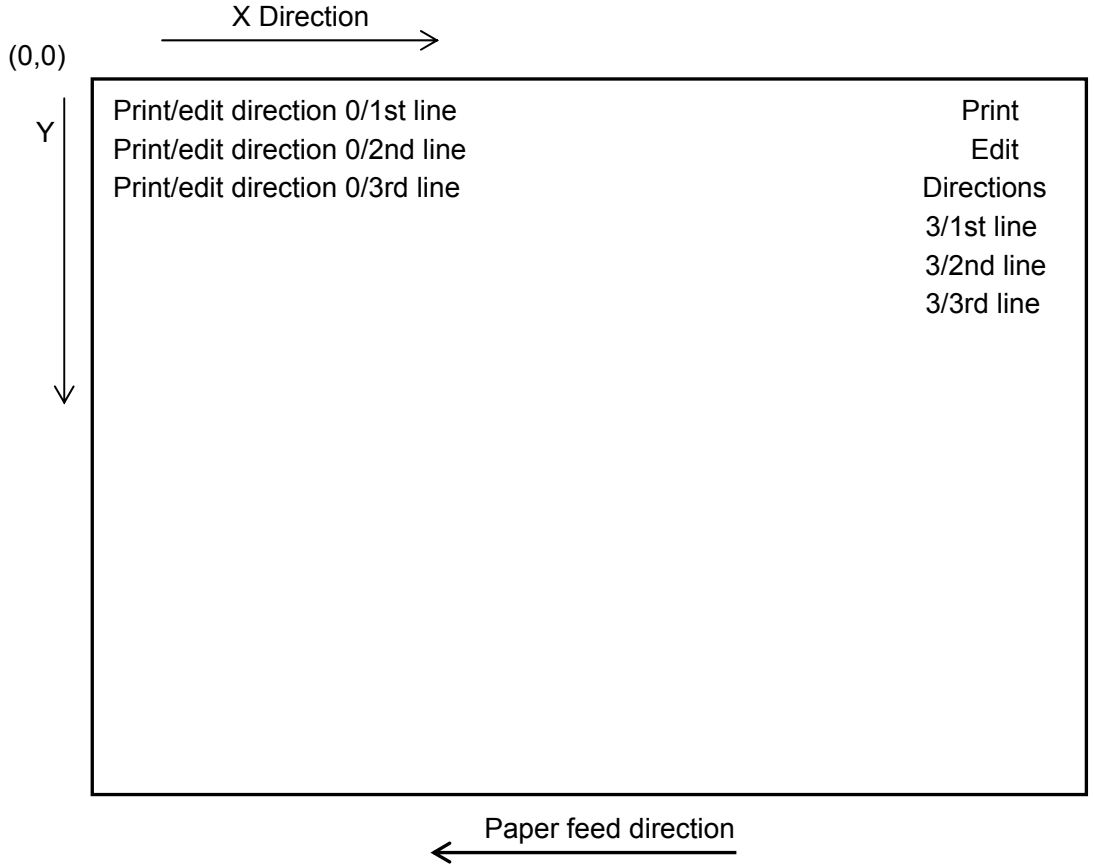
* Print/edit direction set by “n” value and axis are:

n	Description
'0'	Sets 0 for print/edit
'1'	Sets 1 for print/edit direction
'2'	Sets 2 for print/edit direction
'3'	Sets 3 for print/edit direction
'4'	Sets 4 for print/edit direction
'5'	Sets 5 for print/edit direction

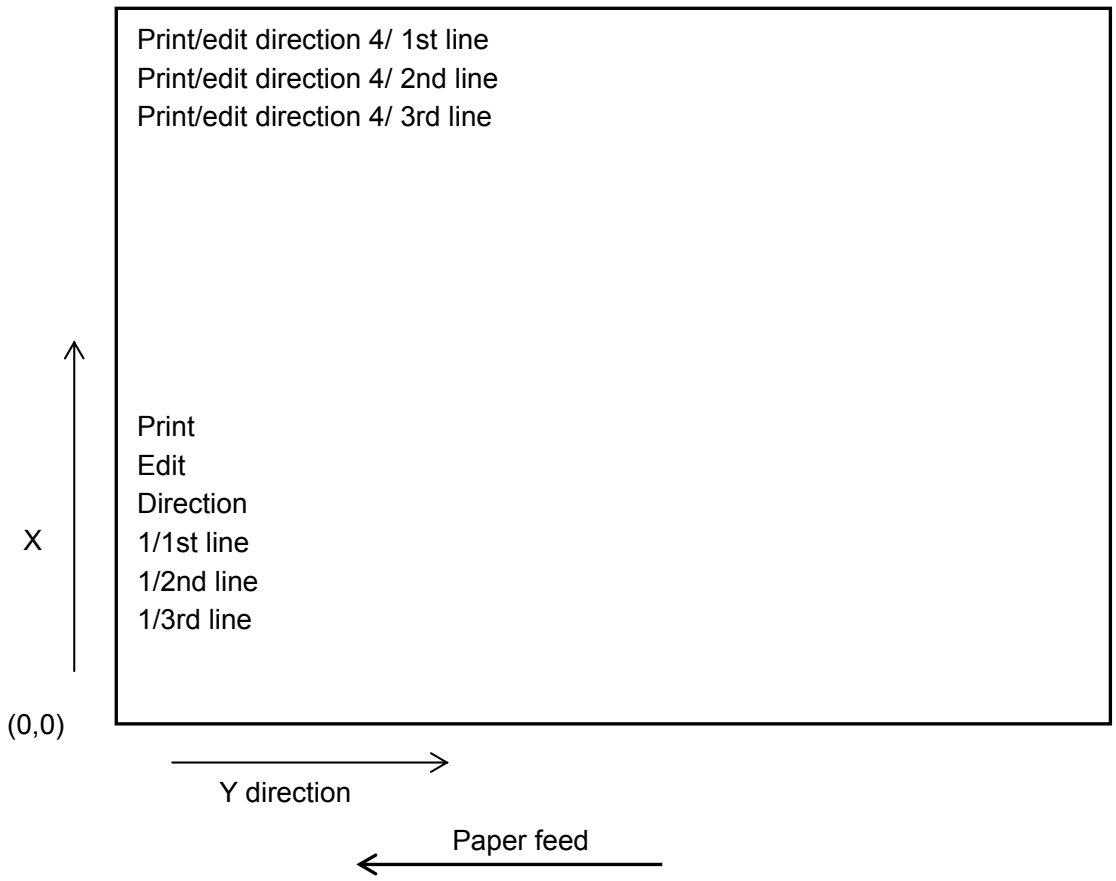
* For print/edit direction layout, refer to the drawings below and the next page.
* The default value of “n” is “1”.
* Once print/edit direction is changed, the next print/edit position will be at the start of line.
* The other settings remain unchanged. The command setting will not change after printer initialization.

Print/Edit Layout

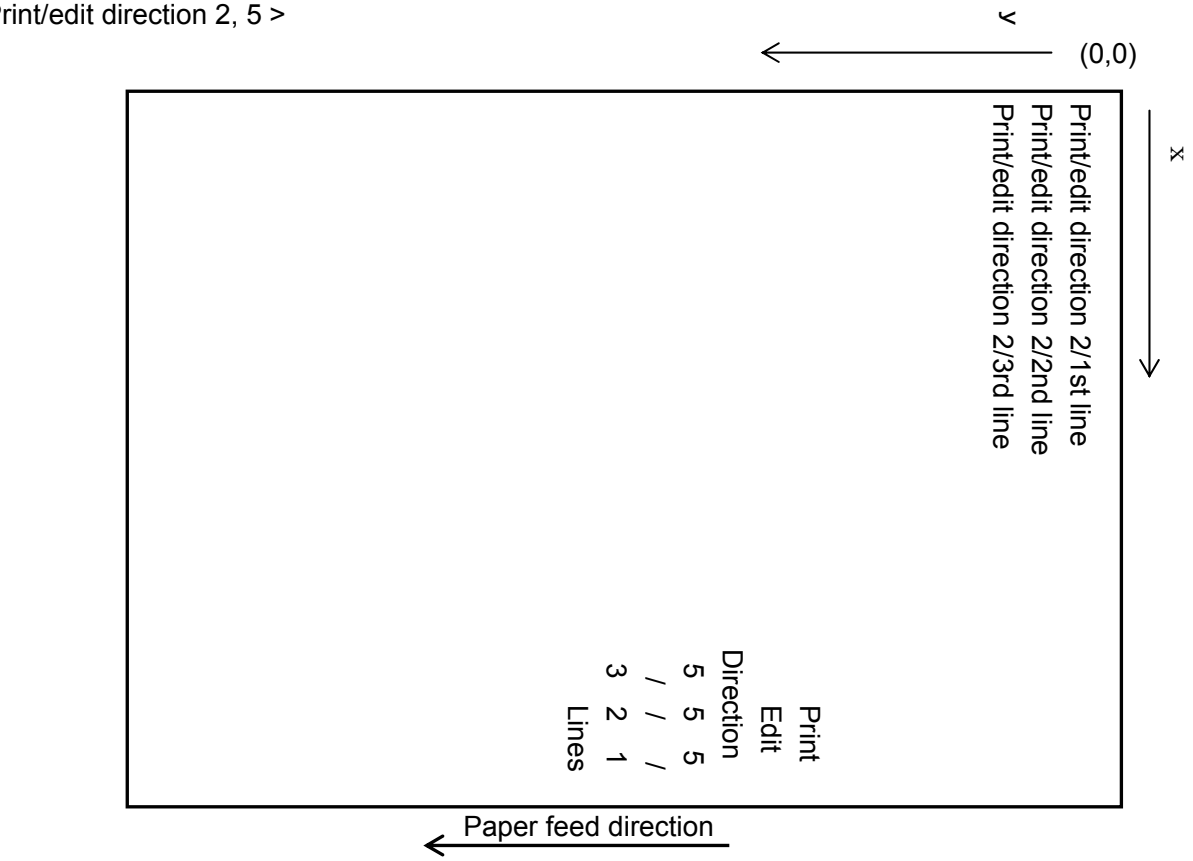
< Print/Edit direction 0, 3 >



< Print/Edit direction 1, 4 >



< Print/edit direction 2, 5 >



2) Print/edit position setting : << ESC M nx1 nx2 nx3 ny1 ny2 ny3 >>

Code: [1B] h + [4D] h + nx1 + nx2 + nx3 + ny1 + ny2 + ny3

For < print/edit direction 0, 3 > * ['000'≤nx1nx2nx3≤'150'] NP-266
* ['000'≤ny1ny2ny3≤'054'] NP-266
* ['000'≤ny1ny2ny3≤'110'] NP-366
* ['000'≤ny1ny2ny3≤'072'] NP-366

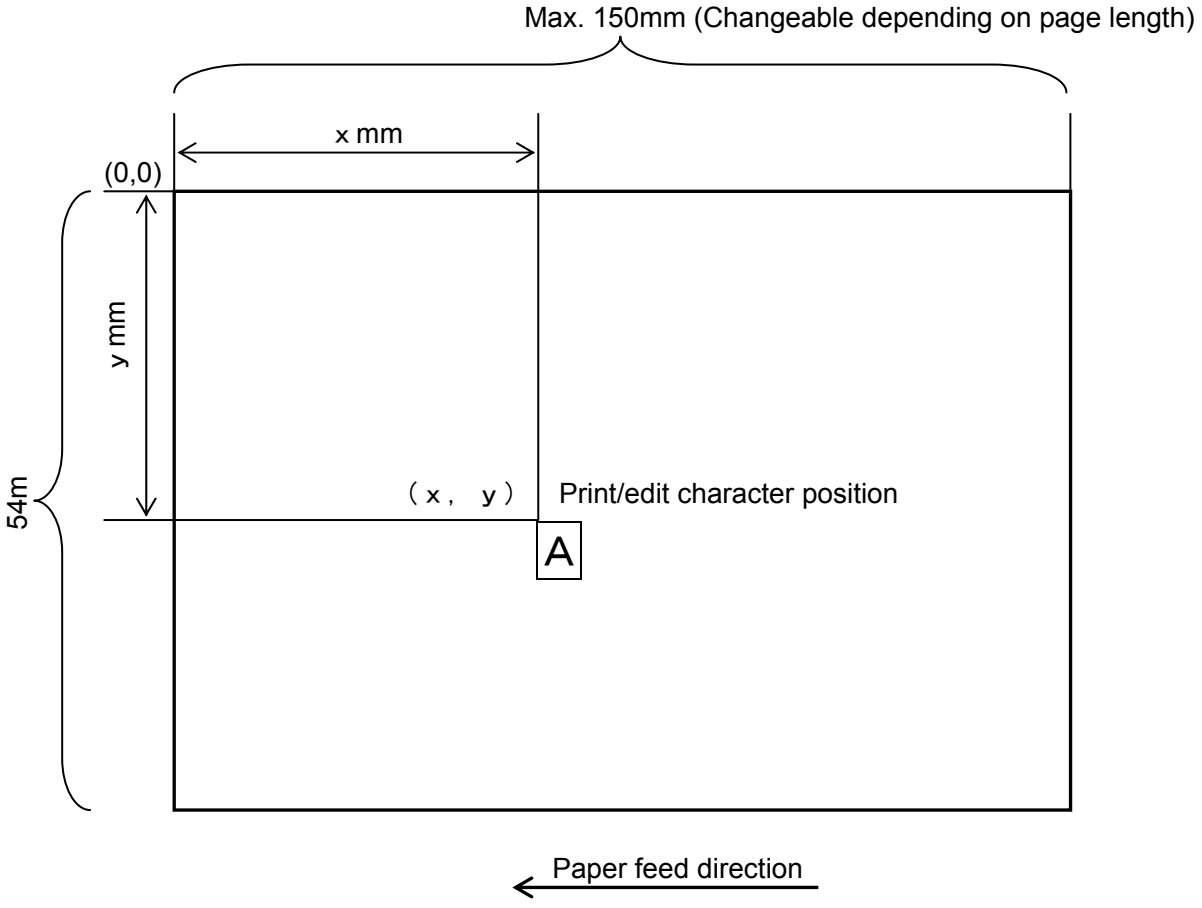
For < print/edit direction 1, 2, 4, 5 > * ['000'≤nx1nx2nx3≤'054'] NP-266
* ['000'≤ny1ny2ny3≤'150'] NP-266
* ['000'≤ny1ny2ny3≤'072'] NP-366
* ['000'≤ny1ny2ny3≤'110'] NP-366

The next print/edit position is specified by “x” and “y” axis (mm).

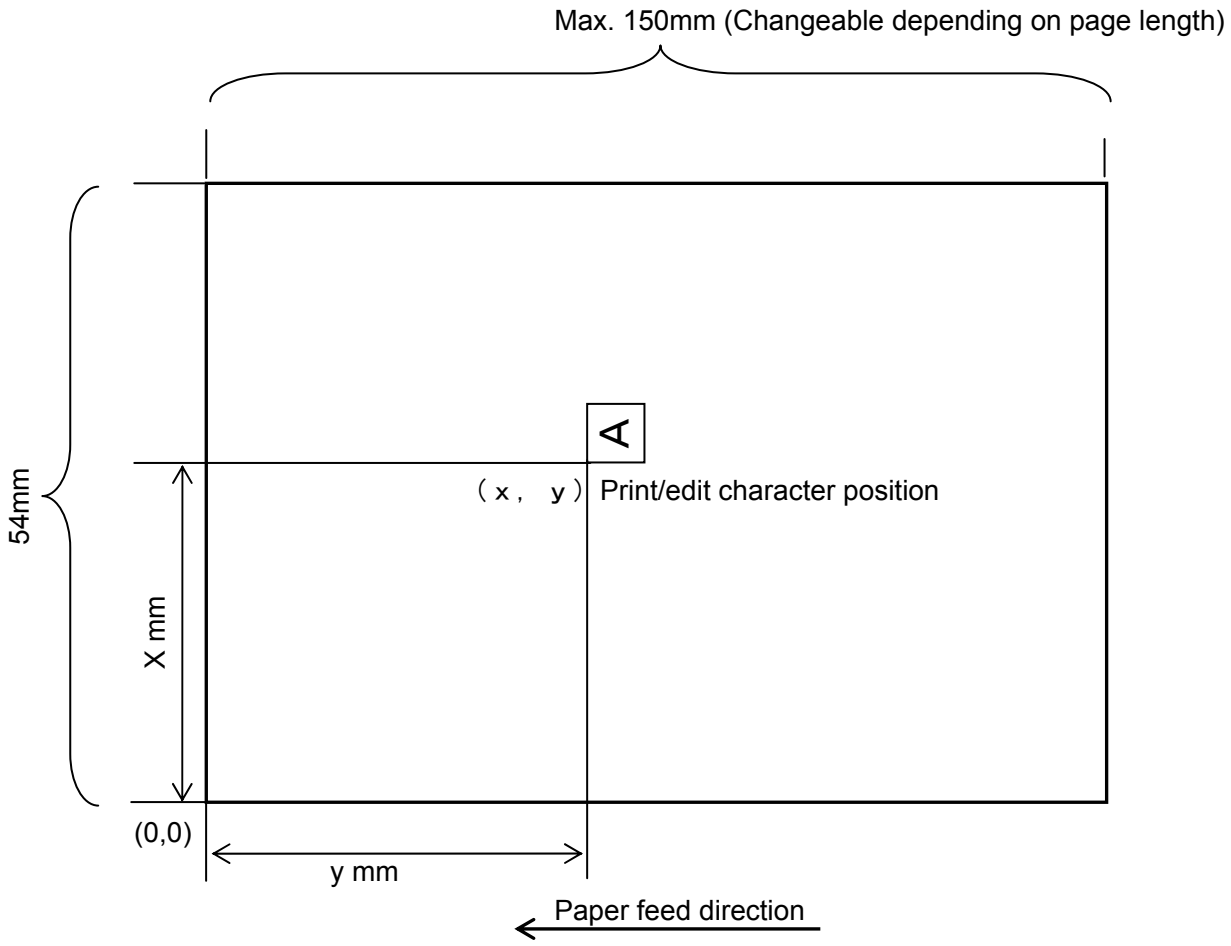
* The upper left corner is (x, y) = (0, 0)
* The upper left end of the next print/edit character is positioned at the axis specified.
* “x” axis value is specified by nx1, nx2 and nx3
  Example: If 8mm is specified, nx1＝'0'、nx2＝'0'、nx3＝'8'
* “y” axis value is specified by ny1, ny2 and ny3
  Example: If 135mm is specified, ny1＝'1'、ny2＝'3'、ny3＝'5'

Print/edit position when (x, y) axis are specified.

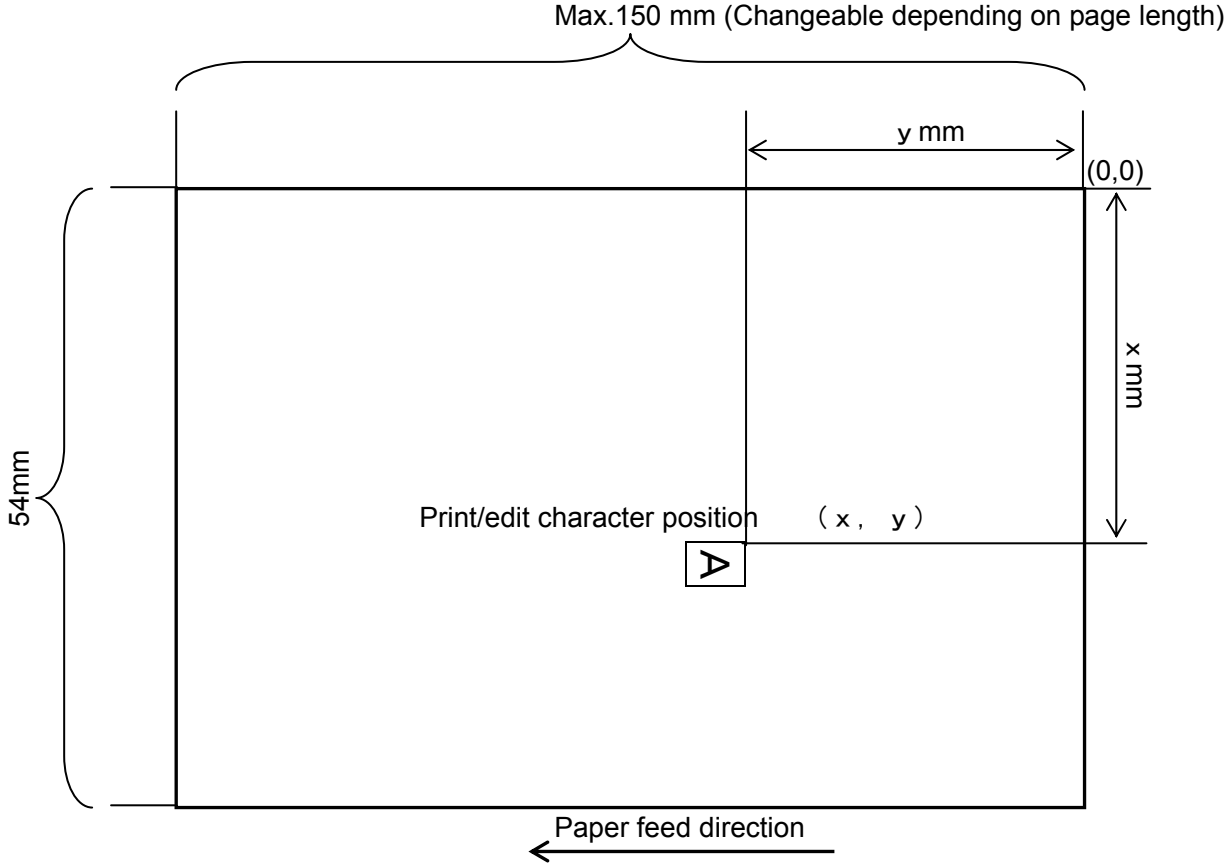
< Print/edit direction 0, 3 >



< Print/edit direction 1, 4 >



< Print/edit direction 2, 5 >



3) Print page feed : << FF >>

Code: [0C] h

Prints the data in the page buffer selected in the print/edit page.

* The data in the page buffer is not cleared after printing.
* The next print/edit position will be at the start position of the line.

4) Line feed : << LF >>

Code: [0A] h

Moves the print/edit position to the start position of the next line.

The line feed amount at this time will be:

< print/edit direction 0, 1, 2 > : height of character + line space

< print/edit direction 3, 4, 5 > : width of character + line space

Printing is not executed until “print page feed” is input.

5) Printer initialization : << ESC c >>

Code: [1B] h + [63] h

Clears the print data stored in the all page buffer and resets each setting to the default values.

* The data in the reception input buffer is not cleared.
* Please refer to the section 5.7 Mode status of setting function (Page mode) <ESC c> for the other function settings.
* The next print/edit position will be at the start position of line of the page 0.

6) Print/edit page clear : << ESC I >>

Code: [1B] h + [49] h

Clears the print data stored in the page buffer selected in the print/edit page.

* Each setting is not cleared.
* The next print/edit position will be at the start position of line.

7) Print density setting : << GS ~ n >>

Code: [1D] h + [7E] h + n * [41≤n≤87] h

Make a setting for the print density between 65% and 135% from the standard print density of (DS1-4 OFF).

* Make a setting between [41]h (65%) ~ [82]h (130%) in actual use, although the range of “n” is set between [41]h (65%) ~ [87]h (135%)
* By the DIP SW setting of (S2-1), you can set the default status for 100% or 125%.
* This command takes priority over the DIP SW settings.

8) Set page length : << ESC I n1 n2 n3 >>

Code: [1B] h + [6C] h + n1+ n2 + n3 * ['012’ ≤n1n2n3≤'150’]

Set the page range (where printing and editing is possible) by mm.

*The next print/edit position will be at the start position of line of the selected page.

*Data in the Page Buffer will not be cleared.

*The default status of page length is '150'mm

* ’110’mm for NP-366

9) Line space setting : << ESC A n1 n2 >>

Code: [1B] h + [41] h + n1 + n2 * ['00'≤n1n2≤'16']

Make a setting for line space for characters.

* The line space that can be set is n1n2 (mm).
* The default value of n1n2 is' 00'.

10) Width enlarge print setting : << ESC W n >>

Code: [1B] h + [57] h + n * ['1'≤n≤'4']

Sets the width enlargement number for the following print/edit characters.

The enlargement by n value is:

n	Enlargement
'1'	X 1 (reset)
'2'	X 2
'3'	X 3
'4'	X 4

11) Vertical enlargement setting : << ESC w n >>

Code: [1B] h + [77] h + n * ['1'≤n≤'4']

Sets the height enlargement number for the following print/edit characters.

The enlargement by n value is:

n	Enlargement
'1'	X 1 (reset)
'2'	X 2
'3'	X 3
'4'	X 4

12) Width/height enlargement settings : << ESC g n1 n2 >>

Code: [1B] h + [67] h + n1 + n2 * ['1'≤n1≤'4']

Set the width/height enlargement for the next print/edit characters. * ['1'≤n2≤'4']

* Set the width enlargement value by n1 value. (same manner with section 10 above)
* Set the height enlargement value by n2 value. (same manner with section 11 above)

13) Double width enlarge print setting with auto reset : << SO w >>

Code: [0E] h + [77] h

Double width setting of the print/edit characters.

* The only next one character after the command will be effective and the second one and after will be effective in the single width enlarge print settings.

14) Quadruple print setting with auto reset : << SO W >>

Code: [0E] h + [57] h

The next print/edit characters are enlarged (width is doubled and height is doubled)

* The only next one character after the command will be effective and the second one and after will be effective in the single width/height enlargement settings.

* Enlargement will be made from the lower left position of each character to the upper right direction.

15) Absolute position setting : << ESC $ n1 n2 >>

Code: [1B] h + [24] h + n1 + n2 * [00≤n1≤FF] h

The next print/edit position is specified by the dot numbers from the line start. * [00≤n2≤04] h

* Print total dots divided by 256, quotient is n2 and remainder is n1.
* The print/edit position will be at n1 + (256 x n2) from the start position.
* The specified position, exceeding the end of line is disregarded.

16) Bit image mode setting : << ESC * m n1 n2 Dn >>

Code: [1B] h + [2A] h + m + n1 + n2 + Dn * [m = 23]h fixed

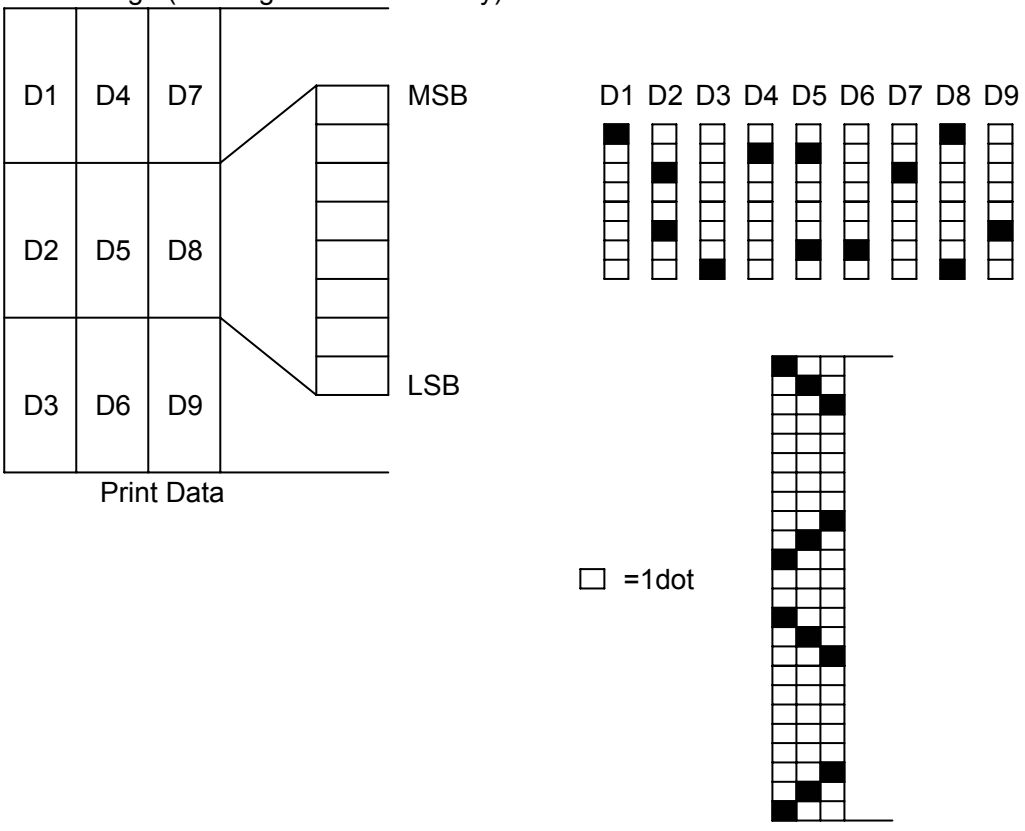
* [00≤n1+(100hxn2) ≤1b0] h : NP-266
* [00≤n1+(100hxn2) ≤240] h : NP-366

Data is printed in 24 dot bit image of resolution of 203 x 203DPI.

- Print total dots divided by 256, quotient is n2 and remainder is n1.
- Total dots in bit image mode are n1 + (256 x n2).
- If the bit image input data exceeds 1 dot/line (432 dots) position, the exceeded data will be disregarded and it is not automatically printed in the next line.
- Bit image data (Dn) interprets bit 1 as print and bit 0 as not print.
- The total dots to be printed in the bit image must be the same with quantity of bit image data that corresponds to the dots. If quantity of bit image data is less than the total dots, the same amount of following data, same as the balance, is treated as bit image data. If it is more than the total dots, the same exceeding volume of bit image data will be treated as normal data.
- This command is effective only in case of “Print/Edit direction 1”.

The relationship between the bit image data and dots to be printed

・24 dot bit image (drawing of 24dots density)



17) NV bit image pattern register : << GS T n >>

Code: [1D] h + [54] h + n *['1'≤n≤'2']

Register contents of page buffer as NV bit image pattern.

* It is necessary to write the data to be registered in the page buffer. Printing is not needed.
* There are two patterns able to be registered. (Selected by 'n' value)
* The registered data is effective until it is re-registered.
* Once registered, power on/off , printer initialization does not clear the data.

18) NV bit image pattern lay over : << ESC F n >>

Code: [1B] h + [46] h + n * ['0'≤n≤'2']

Specifies if the previously registered NV bit image pattern should be laid over to print (OR print), at printing the data by Print page feed <FF>.

* n means as follows:

n	Function
'0'	Clears lay over
'1'	Set lay over pattern 1
'2'	Set lay over pattern 2

* This command specification is effective until it is reset, execute <printer initialization>, the power is set off.
* The default value of n is '0'.

19) Barcode print/edit : << GS b n1 nx1 nx2 nx3 ny1 ny2 ny3 n4 Dn LF >>

Code: [1D] h + [62] h + n1 + nx1 + nx2 + nx3 + ny1 + ny2 + ny3 + n4 + Dn + [0A] h

Selects barcode structure and print/edit * ['0'≤n1≤'6']

* Selects the following barcode structure by n1 value: * ['0'≤n4≤'2']

n1	Barcode structure	Characters
'0'	UPC-A	12
'1'	UPC-E	12
'2'	JAN-13(EAN-13)	13
'3'	JAN-8(EAN-8)	8
'4'	CODE39	Changeable
'5'	ITF	14, 16
'6'	CODABAR	Changeable

*['000'≤nx1nx2nx3≤'150'] NP-266
*['000'≤ny1ny2ny3≤'150'] NP-266
*['000'≤nx1nx2nx3≤'110'] NP-366
*['000'≤ny1ny2ny3≤'110'] NP-366

* Specifies x axis (mm) for print/edit position by nx1, nx2 and nx3 and y axis (mm) by ny1, ny2 and ny3. It specifies in the same manner as Print/edit position setting.
* The following rotation is specified by n4 value.

n4	Rotates
'0'	0 degree
'1'	90 degree
'2'	270 degree

* Dn indicates the character code to be printed.
* If the character code (Dn) cannot be printed, the data after the code is treated as the non-specified data.
* If a barcode is selected with character volume fixed, it needs to match to the character volume.
* If the barcode exceeds the size of page, print/edit of the barcode is not executed.
* The print/edit position for the general characters does not move after barcode print/edit.

20) Barcode width size setting : << GS w n >>

Code: [1D] h + [77] h + n *['2'≤n≤'4']

Specifies the width of barcode.

* The default value of n is '3'.

21) Barcode height setting : << GS h n1 n2 >>

Code:[1D] h + [68] h + n1 + n2 * ['01'≤n1n2≤'70']

Specifies the height of barcode (mm).

* n1n2 indicates the height of barcode in mm.

* The default value of n1n2 is '20'.

22) HRI characters print/edit setting : << GS H n >>

Code: [1D] h + [48] h + n * ['0'≤n≤'1']

* Specify print/edit of HRI characters in case print/edit of barcode is executed.

* The edit by n value is specified as follows:

n	Print/edit
'0'	No print/edit
'1'	Print/edit below barcode

* The default value of n is '0'.

23) Barcode modification total setting : << GS X n1 n2 n3 n4 >> * ['0'≤n1≤'1']

Code: [1D] h + [58] h + n1 +n2 + n3 + n4 * ['2'≤n2≤'4']

Totally sets the modification of barcode for print/edit * ['01'≤n3n4≤'70']

* n1 is the same with the parameter of “HRI character print/edit setting”, n2 is the same with parameter of “Barcode width size setting” and n3n4 the same with parameter of “Barcode height setting”.

24) Send printer status : << ESC v >>

Code: [1B] h + [76] h + n

For the detail, please refer to [Send printer status] of line mode command.

25) Firmware download : << GS d Dn >>

Code: [1D] h + [64] h + Dn

For the detail, please refer to [Firmware download] of line mode command.

26) Line mode selection : << ESC S >>

Code: [1B] h + [53] h

Switched between the line mode and page mode.

* The data in the page buffer is cleared.

* The page mode setting will be the same as the status on the printer initialization < ESC c >.

* The default value is ‘Line mode.

5.6 Mode status of setting functions (Line mode)

Setting function	Power ON	Command	ESC @	DLE CAN	Remarks
Print line buffer	Clear	ESC@/DLE CAN	Clear	Clear	
Internal receive buffer	Clear	Software reset	Keep	Clear	
Assign horizontal tab	Font A.4 positions	Optional	Font A.4 positions	Font A.4 positions	NP-366 Font A 5 positions
Page length	66 lines	Optional	66 lines	66lines	
Line pitch	34/203 in.	Optional	34/203 in.	24/203 in	
Assign right space to character	0 dot	Optional	0 dot	0 dot	
Assign all print mode	00(h)	Optional	00(h)	00(h)	Notes 1,2,3
Define download characters	Not registered/regist-ered(Flash ROM)	Optional	Keep	Keep	
Assign/clear download character set	Clear	Optional	Clear	Clear	
Assign/clear underline	Clear	Optional	Clear	Clear	Note 2
Underline width by [Assign all print mode]	1 dot	the same width used last time	1 dot	1 dot	
Assign/clear double strike character	Clear	Optional	Clear	Clear	Note 3
Assign/clear bold character	Clear	Optional	Clear	Clear	Note 3
International character	8 (Japan)	Optional	8 (Japan)	8 (Japan)	
FEED Switch effective/not effective	effective	Optional	effective	effective	
Select Character code table	DS1-5	Optional	DS1-5 Note 4	DS1-5	
Assign/clear inverted character	Clear	Optional	Clear	Clear	Effective by one line unit
90°clockwise rotation character assign/clear	Clear	Optional	Clear	Clear	Effective by one character unit
Select barcode width	3 dots	Optional	3 dots	3 dots	1 module=3 dots
Select barcode height	162 dots	Optional	162 dots	162 dots	
Select print position of HRI character	0: no print	Optional	0: no print	0: no print	
Select style of HRI character	Font A	Optional	Font A	Font A	
Data input control	Effective	Optional	Keep	Effective	
Align position	align to left edge	Optional	align to left edge	Align to left edge	
Auto-transmission of Printer status	not effective	cannot change from “effective” to “not effective”	Keep	not effective	【Printer status transmit】will have no effect
NV bit image registration	not register / register(flash ROM)	optional	keep	keep	registered in Flash Rom
Partition drive selection	DS1-8	optional	keep	DS1-8	
Print Density setting	DS1-4	Optional	keep	DS1-4	
Definition of download bit image	Not registered	optional	Clear	Clear	
Presenter retraction time setting	4sec.	optional	keep	4sec.	

Please refer to next page for note.

5.7 Mode status of setting functions (Page mode)

Setting function	Power ON	Command	ESC c	Remarks
Page buffer	Clear	ESC c/ ESC I	Clear	
Internal receive buffer	Clear	Not applicable	Keep	
Select print edit direction	‘1’	Optional	‘1’	
Setting page length	150mm	Optional	150mm	NP-366: 110 mm
Space between lines	0 dot	Optional	0 dot	
Select enlarged printing (horizontal)	Regular size	Optional	Regular size	
Select enlarged printing (vertical)	Regular size	Optional	Regular size	
Select double size horizontal enlargement (auto cancellation function)	Clear	Assign	Clear	
Select 4 folded enlargement printing (auto cancellation function)	Clear	Assign	Clear	
Register NV bit image pattern	Not registered/ Registered (Flash Rom)	Optional	Keep	
Select NV bit image pattern layover	Clear	Optional	Clear	
Select barcode width	3 dots	Optional	3 dots	1 module=3 dots
Select barcode height	20mm	Optional	20mm	
Assign HRI character edit	no print	Optional	no print	
Print Density setting	DS1-4	optional	keep	

Notes

1. Underline width: the last used width set by [Assign underline]
2. Assign/clear underline is applied each time when either command is executed.
3. The effect of double strike character and bold character functions are the same. The command will take effect when either command is executed.
4. Original DIP SW setting (when turning on Power〔or reset〕or reset)

6. Character code table

6.1 Domestic character code table (International character set:: Japan)

	HEX	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
HEX	BIN	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	NUL	DLE	SP	0	@	P	`	p	▁	┴	SP	ー	タ	ミ	═	×
1	0001			!	1	A	Q	a	q	▂	┬	。	ア	チ	ム	╞	円
2	0010			"	2	B	R	b	r	▃	┤	「	イ	ツ	メ	╪	年
3	0011			#	3	C	S	c	s	▄	├	」	ウ	テ	モ	╡	月
4	0100			$	4	D	T	d	t	▅	‾	、	エ	ト	ヤ	◢	日
5	0101			%	5	E	U	e	u	▆	─	・	オ	ナ	ユ	◣	時
6	0110			&	6	F	V	f	v	▇	│	ヲ	カ	ニ	ヨ	◥	分
7	0111			'	7	G	W	g	w	▇	┃	ァ	キ	ヌ	ラ	◤	秒
8	1000		CAN	(	8	H	X	h	x	▏	┌	ィ	ク	ネ	リ	♠	〒
9	1001	HT		)	9	I	Y	i	y	▌	┐	ゥ	ケ	ノ	ル	♥	市
A	1010	LF		*	:	J	Z	j	z	▋	└	ェ	コ	ハ	レ	♦	区
B	1011		ESC	+	;	K	[	k	{	▊	┘	ォ	サ	ヒ	ロ	♣	町
C	1100	FF	FS	,	<	L	¥	l	¦	▉	┌	ャ	シ	フ	ワ	●	村
D	1101	CR	GS	−	=	M	]	m	}	▉	╮	ュ	ス	ヘ	ン	○	人
E	1110	SO		.	>	N	^	n	~	▉	╯	ョ	セ	ホ	゛	／	▒
F	1111			／	?	O	_	o	SP	+	╭	ッ	ソ	マ	゜	＼	SP

*[SP] indicates "space".

*Printer operation cannot be guaranteed if the blank control code (codes below [1F]h) or undefined code is transmitted to printer.

*This code table is for simplified symbols and does not present actual print result. There may be a different case between code table and print result.

6.2 Overseas character code table (International character set: U.S.A)

	HEX	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
HEX	BIN	0000	0001	0010	0011	0100	0101	0110	0111	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	NUL	DLE	SP	0	@	P	`	p	€	É	á	▒	└	╨	α	≡
1	0001			!	1	A	Q	a	q	ü	æ	í	▒	┴	╤	β	±
2	0010			"	2	B	R	b	r	é	Æ	ó	▒	┬	╥	Γ	≤
3	0011			#	3	C	S	c	s	â	ô	ú	│	├	╙	π	≥
4	0100			$	4	D	T	d	t	ä	ö	ñ	┤	─	╘	Σ	⌠
5	0101			%	5	E	U	e	u	à	ò	Ñ	╡	┼	╒	σ	⌡
6	0110			&	6	F	V	f	v	å	û	ª	╢	╞	╓	μ	÷
7	0111			'	7	G	W	g	w	ç	ù	º	╖	╟	╫	τ	≈
8	1000		CAN	(	8	H	X	h	x	ê	ÿ	¿	╕	╚	╪	φ	°
9	1001	HT		)	9	I	Y	i	y	ë	Ö	⌐	╣	╔	┘	θ	∙
A	1010	LF		*	:	J	Z	j	z	è	Ü	¬	║	╩	┌	Ω	·
B	1011		ESC	+	;	K	[	k	{	ï	¢	½	╗	╦	■	δ	√
C	1100	FF	FS	,	<	L	\	l	|	î	£	¼	╝	╠	▄	∞	ⁿ
D	1101	CR	GS	−	=	M	]	m	}	ì	¥	¡	╜	═	▌	φ	²
E	1110	SO		.	>	N	^	n	~	Ä	₧	«	╛	╬	▐	∈	■
F	1111			/	?	O	_	o	SP	Å	ƒ	»	┐	╧	▀	∩	SP

*[SP] indicates "space".

*Printer operation cannot be guaranteed if the blank control code (codes below [1F]h) is transmitted to printer.

*This code table is for simplified symbols and does not present actual print result. There may be a different case between code table and print result.

6.3 International character code table

n	Character set	23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
0	U.S.A	#	$	@	[	\	]	^	`	{	|	}	~
1	France	#	$	à	°	Ç	§	^	`	é	ù	è	¨
2	Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
3	U.K.	£	$	@	[	\	]	^	`	{	|	}	~
4	Denmark1	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
5	Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
6	Italy	#	$	@	°	\	é	^	ù	à	Ò	è	ì
7	Spain	₧	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
8	Japan	#	$	@	[	¥	]	^	`	{	|	}	~
9	Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
10	Denmark2	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü

*The code table is for simplified symbols and does not represent actual print result.
Accordingly the print result may be different from code table.