

USER'S MANUAL

SRP-275

IMPACT PRINTER



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EMC and Safety standards Applied

Product Name : SRP-275

The following standards are applied only to the printers that are so labeled.

Europe : CE marking, TUV/GS : EN60950-1; 2001
North America : EMI : FCC Class A
Safety standards : UL / C-UL : UL60950-1
National : CB-scheme : IEC 60950-1: 2001

WARNING

The connection of a non-shielded printer interface cable to this printer will invalidate the EMC standards of this device. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

CE Marking

The printer conforms to the following Directive and Norms

EMC Directive 89/336/EEC EN55022 Class A : 1998+A1 : 2000
EN55024 : 1998+A1 : 2001
EN61000-3-2 : 2000
EN61000-3-3 : 1995+A1 : 2001

Low Voltage Directive 73/23/EEC Safety : EN60950-1 : 2001

Safety precautions

In using the present appliance, please keep the following safety regulations in order to prevent any hazard or material damage.

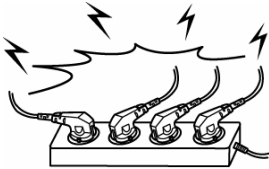


WARNING

Violating following instructions can cause serious injury or death.

Do not plug several products in one multi-outlet.

- This can provoke over-heating and a fire.
- If the plug is wet or dirty, dry or wipe it before usage.
- If the plug does not fit perfectly with the outlet, do not plug in.
- Be sure to use only standardized multi-outlets.



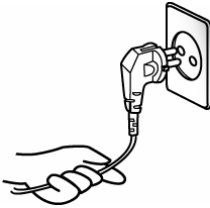
You must use only the supplied adapter.

- It is dangerous to use other adapters.



Do not pull the cable to unplug.

- This can damage the cable, which is the origin of a fire or a breakdown of the printer.



Keep the plastic bag out of children's reach.

- If not, a child may put the bag on his head.



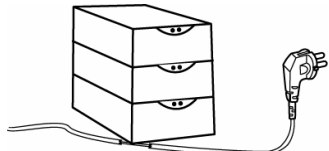
Do not plug in or unplug with your hands wet.

- You can be electrocuted.



Do not bend the cable by force or leave it under any heavy object.

- A damaged cable can cause a fire.





WARNING

Violating following instructions can cause serious injury or death.

If you observe a strange smoke, odor or noise from the printer, unplug it before taking following measures.

- Switch off the printer and unplug the set from the mains.
- After the disappearance of the smoke, call your dealer to repair it.

TO UNPLUG



Keep the desiccant out of children's reach.

- If not, they may eat it.

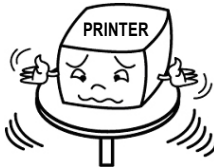
PROHIBIT



Install the printer on the stable surface.

- If the printer falls down, it can be broken and you can hurt yourself.

PROHIBIT



Use only approved accessories and do not try to disassemble, repair or remodel it for yourself.

- Call your dealer when you need these services.
- Do not touch the blade of auto cutter.

**DISASSEMBLING
PROHIBITED**



Do not let water or other foreign objects in the printer.

- If this happened, switch off and unplug the printer before calling your dealer.

PROHIBIT



Do not use the printer when it is out of order. This can cause a fire or an electrocution.

- Switch off and unplug the printer before calling your dealer.

TO UNPLUG



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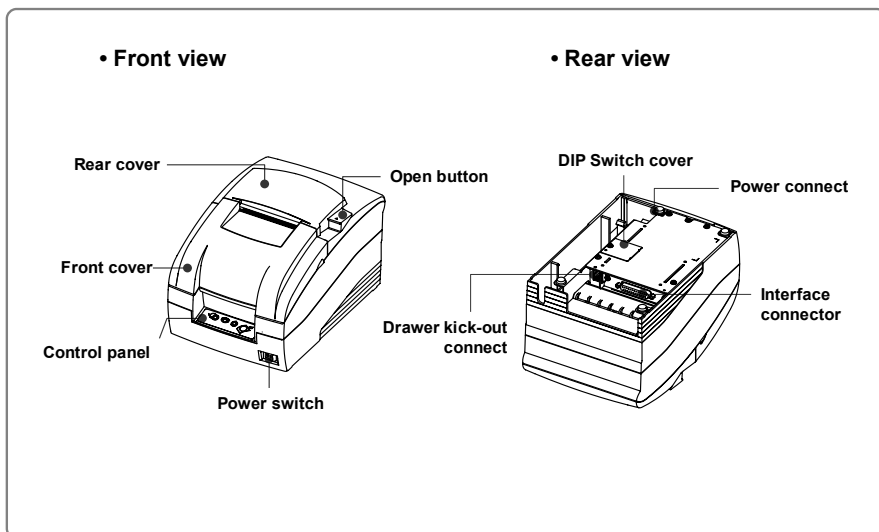
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Introduction

**The SRP-275 is a high-quality impact printer.
This one-station printer has the following features.**

- Compact design and light-weight.
- High-speed printing using logic-seeking (5.1LPS).
- Easy to use : Easy paper loading.
- High reliability and long life due to the use of stepping motors for head carriage return and paper feeding.
- Two color printing (red/black) available.
- Various formats are possible because the paper feeding pitch is selectable.
- High general control utility based on the ESC/POS(TM) standard.
- The head can be driven due to the internal drawer interface.
- Character font (7 x 9, 9 x 9) is selectable.
- The auto cutter uses a circular method with a high-quality blade and a long life (Approximately 1,000,000 cuts).
- Paper near end Switch is standard.
- A internal AC adaptor.



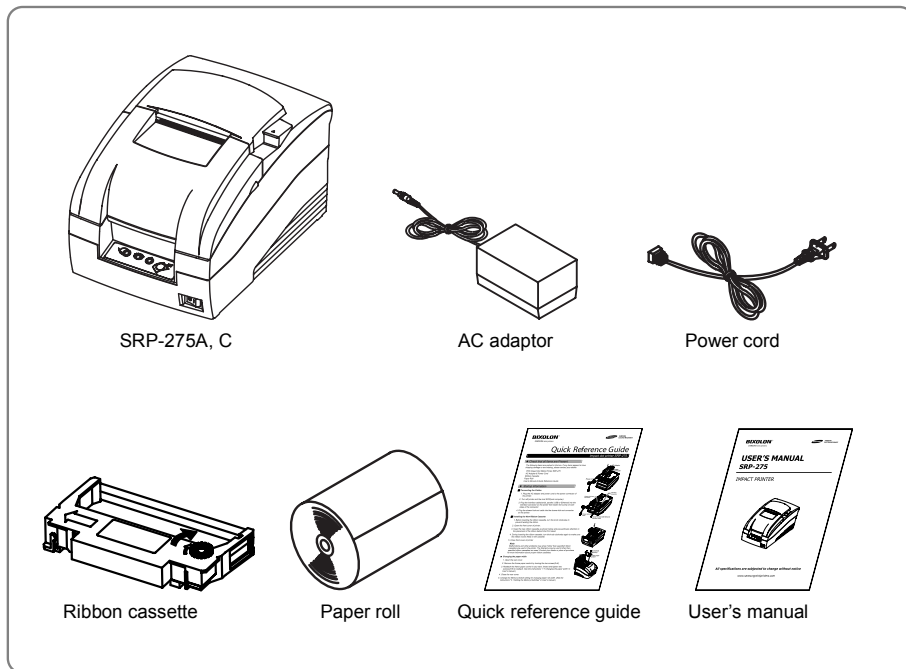
NOTES

Please be sure to read the instructions in this manual carefully before using your new printer.

1.1 Unpacking

Your printer box should include the items shown in the illustration below.

If any items are damaged or missing, please contact your dealer.

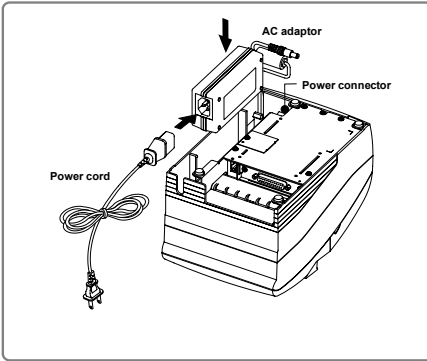


1.2 Choosing a place for the printer

- Avoid locations that are subject to direct sunlight or excessive heat.
- Avoid using or storing the printer in a place subject to excessive temperature or moisture.
- Do not use or store the printer in a dirty location.
- When setting up the printer, choose a stable, horizontal location.
- Intense vibration or shock may damage the printer.
- Ensure the printer has enough space to be used easily.

1.3 Connecting the cables

1.3.1 Connecting the AC adaptor



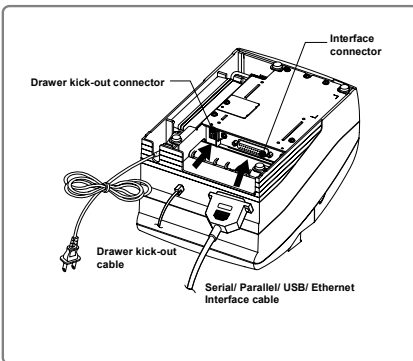
• Connect the AC adapter according to the following procedure.

- 1) Make sure the printer is turned off.
- 2) Before inserting the AC adaptor, connect the power cord.
- 3) Insert the AC adaptor as shown.
- 4) Plug the AC adapter cable into the printer's power connector.
- 5) Plug the power cord into the outlet, and turn on the power.

⚠ CAUTION

Before connecting the printer to the power supply, make sure that the voltage and power specifications match the printer's requirements. Using an incorrect power supply can cause serious damage to the printer.

1.3.2 Connecting the interface cable and drawer kick-out cable



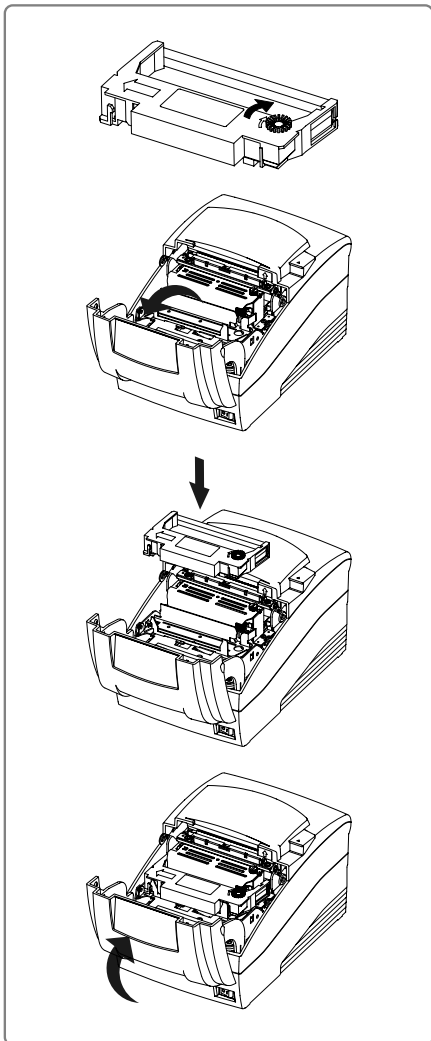
• Connect the cables according to the following procedure.

- 1) Turn off printer and the host ECR (host computer).
- 2) Plug the interface cable into the interface connector on the printer then fasten the screw on both sides of the connector.
- 3) Plug the drawer kick-out cable into the drawer kick-out connector on the printer.
(When removing the drawer kick-out cable, press on the connector's clip while pulling out.)

📖 NOTES

Connect the printer to the host ECR (host computer) through an interface cable matching the specification of the printer and the host ECR (host computer). Be sure to use a drawer that matches the printer's specification.

Depending on the interface your system uses, either connect the serial, parallel, USB or Ethernet communication cable to the appropriate connector on the back of the printer. Cables are provided by your dealer or system installer.

1.4 Installing the ribbon cassette

1) Before inserting the ribbon cassette, turn the knob clockwise to prevent twisting the ribbon.

2) Open the front cover of printer.

3) Take out the old ribbon cassette if there is one.

4) Insert the new ribbon cassette as shown and pay particular attention to the placement of the ribbon behind the Printer Head.

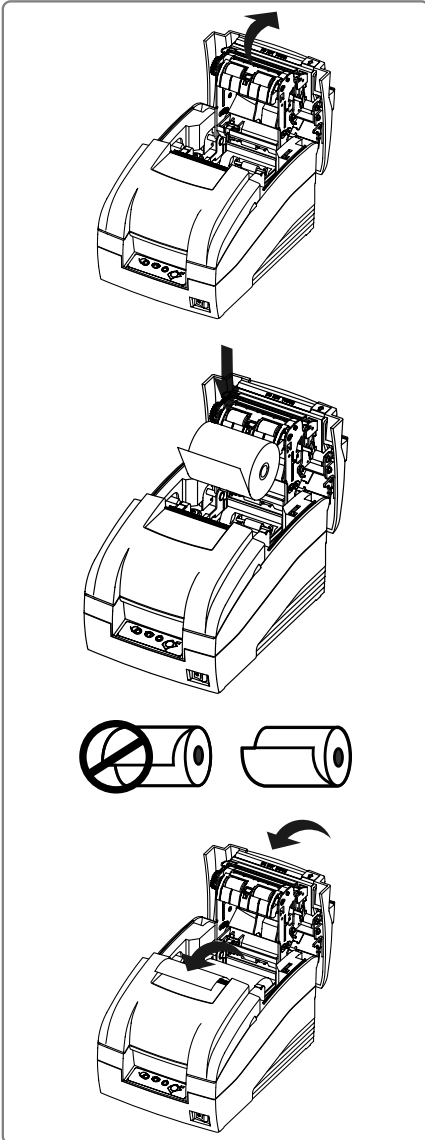
5) During inserting the ribbon cassette, turn the knob clockwise again to make sure the ribbon moves freely in the cassette.

6) Close front cover of printer.

NOTES

Malfunctions and other problems may arise if other than specified ribbon cassettes are used in the printer. The Warranty may be void if other than specified ribbon cassettes are used. Contact your dealer or place of purchase for more information about proper ribbon cassettes.

1.5 Installing the paper roll



1) To prevent data loss, make sure that the printer is not receiving data.

2) Open the rear cover by pushing the open button.

3) Remove the used paper roll core if there is one.

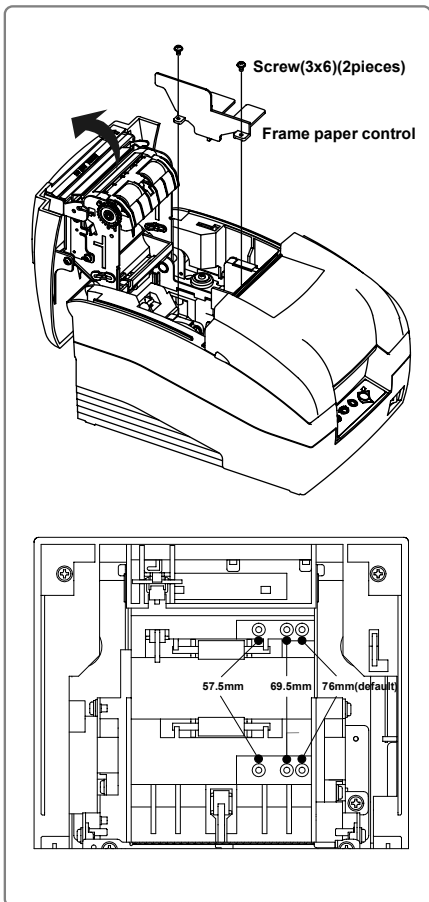
4) Insert the paper roll as shown.

5) Be sure to note the correct direction that the paper should come off the paper roll.

6) Pull out small amount of paper as shown. Then close the cover and tear off the extra paper by pulling it toward the front of the printer.

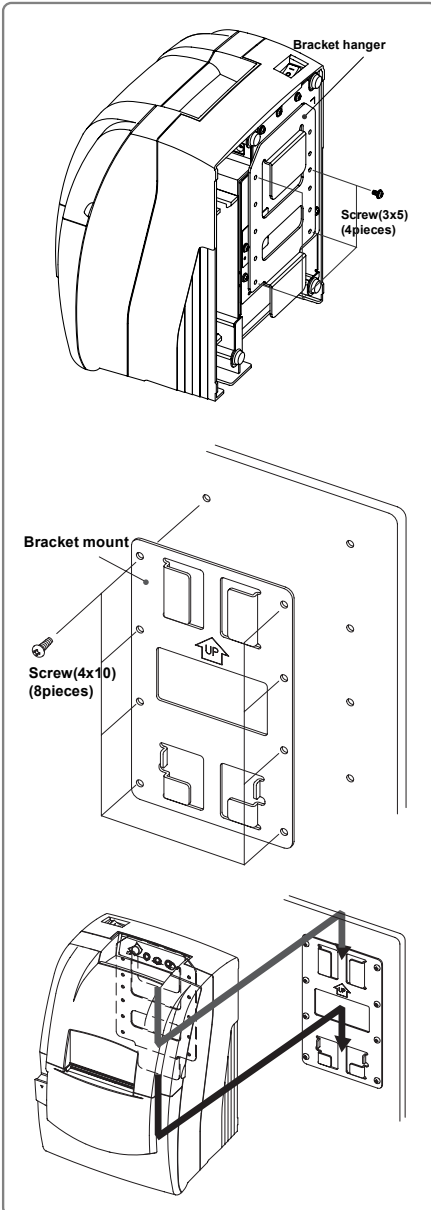
CAUTION

Do not touch the auto cutter blade when you open rear cover.

1.6 Changing the paper width

- 1) Open the rear cover.
- 2) Remove the frame paper control by loosening the two screws(3×6).
- 3) Reattach the frame paper control in you want. (Insert and tighten two screws(3×6) to reattach.)
- 4) Close the rear cover.
- 5) Change the Memory Switch setting for changing paper roll width. (See the instructions "Setting the Memory Switches"(3.1) in Chapter 3.)

1.7 Installing the wall mount (Option)



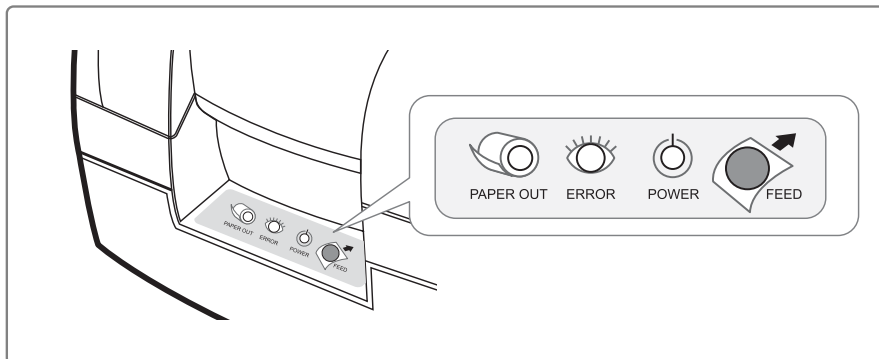
1) Turn the Set over and attach the Bracket hanger to the Frame base then tighten four screws.

2) Attach the Bracket mount to the wall firmly with the eight screws. Be sure that the Bracket attached properly to match the direction of arrow as shown. And the Bracket mount should be always fixed vertically.

3) Insert the Bracket hanger of Set to the Bracket mount as shown.

1.8 Using the operation 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**- POWER LED (Green Color)**

This indicator light is on when the power is turned on. It blinks when the printer is in 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.

- ERROR LED (Red Color)

When this indicator light is on (but not blinking), it means that the printer is out of paper or almost out of paper or the printer covers are open. When this light blinking, there is an error. (See "ERROR LED blinking pattern" (2.1) in Chapter 2.) If you see this light blinking, turn off the printer for a few seconds and then turn it back on. If the light is still blinking, call your supervisor or a service person.

- PAPER OUT LED (Red Color)

When this indicator light is on, it means that the paper near end. Replace the new paper roll. When ERROR and PAPER OUT indicator lights are on it means paper end. Install the paper roll. (See "Installing paper roll" (1.5) in Chapter 1.)

- FEED button

Use this button to feed paper or to start self test and for hexadecimal dump mode. (See the instructions "Self test" (1.7) in this chapter for self test.) (See the instructions "Hexadecimal dump" (2.6) in Chapter 2 for hexadecimal dump mode.)

1.9 Self test

The self test let you know if your printer is operating properly. It checks the printing quality, ROM version, DIP Switch settings, memory switch settings and statistic data.

The test is independent of any other equipment or software, so it is a good idea to run it when you first set up the printer or if you have any trouble. If the self test works correctly, the problem is in the other equipment or the software, not the printer.

- Running the self test

- 1) Make sure the printer is turned off and the printer cover is closed properly.
- 2) While holding down the FEED button, turn on the printer and continue to hold until the paper begins to feed. The self test prints the printer DIP Switch settings and memory switch settings. And cuts the paper and pauses. (The power light blinks.)
- 3) Press the FEED button to continue printing the statistic data.
- 4) Press the FEED button to continue printing the rolling ASCII pattern.
- 5) The self test mode terminates after printing the rolling ASCII pattern automatically.

This chapter gives solutions to some printer problems you may have.

2.1 ERROR LED blinking pattern

The printer stops all printer operations for the selected paper section, goes off line, and the ERROR LED blinks when an error is detected.

• Errors that automatically recover

Error	Description	ERROR LED blinking pattern	Recovery
Rear cover open error (When recoverable Error is selected)(*1)	The rear cover is opened when printing		Recovers automatically when the rear cover is closed.
Print head temperature error(*2)	The temperature of the print head is extremely high.		Recovers automatically when the print head cools.

NOTES

(*1) These conditions are selected by MSW8-5, 8-8. When MSW8-5 (mapping of the cover open status) is off, the error hasn't occurred but there is a "paper end error" instead. If MSW8-8 is off, this error is handled as an automatically recoverable error.

(*2) Print head temperature error is not abnormal.

• Recoverable errors

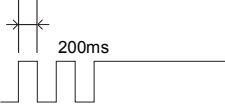
When a recoverable error occurs, after the cause of the error is removed, the printer can recover from the error by receiving an error recovery command without turning off the power.

Error	Description	ERROR LED blinking pattern	Recovery
Rear cover open error (*1)	The rear cover is opened when printing.		Recovers automatically when the rear cover is closed.
Auto cutter error (Type C only)	The auto cutter does not work correctly.		Recovers by error recovery command.
Home position detection error (This is "Mechanical error")	The home position cannot be detected due to a paper jam.		Recovers by error recovery command.

NOTES

(*1) These conditions are selected by MSW8-5, 8-8. When MSW8-5 (mapping of the cover open status) is off, the error hasn't occurred but there is a "paper end error" instead. If MSW8-8 is off, this error is handled as an automatically recoverable error.

• **Errors that are impossible to recover**

Error	Description	ERROR LED blinking pattern	Recovery
R/W error in memory or gate array	After R/W checking, the printer does not work correctly. Writing to, reading out, or erasing the NV memory for image scanning results does not work correctly.		Recovers automatically when the rear cover is closed.
High voltage error	The power supply voltage is extremely high.		Impossible to recover.
Low voltage error	The power supply voltage is extremely low.		Impossible to recover.
CPU execution error	The CPU executes an incorrect address or I/F board is not connected.		Impossible to recover.
Print head temperature detection circuit error.	There is an abnormality in the print head temperature.		Impossible to recover.

 **NOTES**

If you see this light blinking, turn off the printer for a few seconds and then turn it back on.
If the light is still blinking, call your supervisor or a service person.

2.2 The printer does not start printing

• **Are any of the operation panel lights on, If no operation panel lights are on, check the following:**

- Make sure that the printer is turned on.
- Make sure that the power supply cable is correctly plugged into the printer and to the power outlet.

• **If any of the lights are on, please check the following:**

- If the POWER LED is blinking, the printer is not ready yet.
Wait until the light quits blinking and the printer is ready to use.
- If the ERROR LED is on (but not blinking), the printer is off line. Check to see that the covers are closed and check the paper state. See "Installing paper roll" (1.5) in Chapter 1 for instructions on installing or replacing the paper roll.
- If the ERROR LED is blinking, there is an error. In this case, turn off the printer for a few seconds and then turn it back on. If the light is still blinking, call your supervisor or service person.
- If the PAPER OUT LED is on, check the paper roll in the printer. See "Installing paper roll" (1.5) in Chapter 1 for instruction on installing the paper roll.

2.3 The printer stops printing

- If the ERROR LED is on (but not blinking), the printer is off line. Check to see that the covers are closed and check the paper state. See "Installing paper roll"(1.5) in Chapter 1 for instructions on installing or replacing the paper roll.
- If the ERROR LED is blinking, there is an error. In this case, turn off the printer for a few seconds and then turn it back on. If the LED is still blinking, call your supervisor or a service person.
- Turn off the printer and check for a paper jam. To clear paper jam, follow the steps below:
 - 1) Turn off the printer and open the rear cover of the printer.
 - 2) Remove the jammed paper and reload the paper roll as described in Chapter 1.
 - 3) Close the rear cover.
 - 4) Turn on the printer.

2.4 You want to check the operation of the printer by itself

• Self test

Try to run the self test to check that the printer works properly. See the self test instructions in Chapter 1 to run the self test. If the self test does not work, contact your supervisor or a service person.

If the self test works properly, check the following:

- 1) Check the connection at both ends of the interface cable between the printer and the computer. Also make sure that this cable meets the specifications for both the printer and the computer.
- 2) The data transmission settings may be different between the printer and computer. Make sure that the printer's DIP Switch settings for data transmission are the same as the computer's. You can see the printer's interface settings on your self test printout.

NOTES

If the printer still does not print, contact your dealer or a qualified service person.

2.5 Printing is poor

Check the state of ribbon cassette. If the ribbon cassette life ends, replace the ribbon cassette as described in Chapter 1.

NOTES

If the printer is still poor, contact your dealer or a qualified service person.

2.6 You want to check a software program

• Hexadecimal dump

This feature allows experienced users to see exactly what data is coming to the printer.

This can be useful in finding software problems. When you turn on the hexadecimal dump function, the printer prints all commands and other data in hexadecimal format along with a guide section to help you find specific commands.

• To use the hexadecimal dump feature, follow these steps:

- 1) After you make sure that the printer is off, open the rear cover of the printer.
- 2) Hold down the FEED button while you turn on the printer.
- 3) Close the rear cover.
- 4) Run any software program that sends data to the printer. The printer prints "Hexadecimal dump" and then all the codes are received in a two column format. The first column contains the hexadecimal codes and the second column gives the ASCII characters that correspond to the codes.

```
Hexadecimal Dump
To terminate hexadecimal dump
Press FEED button three times

1B 21 00 1B 26 02 40 40 . ! . . & . . @ @
1B 25 01 1B 63 34 00 1B . % . . c 4 . .
41 42 43 44 45 46 47 48 A B C D E F G H

<Online Hex Dump Completed>
```

(A period(.) is printed for each code that has no ASCII equivalent.)

- 5) When the printing finishes, turn off the printer.

3.1 Setting the DIP Switch

Although the factory settings are best for almost all users, if you have special requirements, you can change the DIP Switch. Your printer has two sets of DIP Switches. The functions of the switches are shown in the following table.

3.1.1 DIP Switch setting for Epson(ESC/POS) mode

• DIP Switch 1

Switch	Function	ON	OFF	Default
1-1	Emulation Selection (*1)	Refer to the following table		OFF
1-2				
1-3	Auto cutter	Enable	Disable	OFF
1-4	BUSY condition	Receive buffer full	Receive buffer full or Offline	OFF
1-5	Serial interface selection	Memory Switch	DIP Switch	OFF
1-6	Print NV bit image #1 after cutting	Enable	Disable	OFF
1-7	Near end switch	Enable	Disable	OFF
1-8	Print column	42/35	40/33	OFF

• DIP Switch 2 (RS232C serial interface model)

Switch	Function	ON	OFF	Default
2-1	Data receive error	Ignore	Print “?”	OFF
2-2		Reserved		OFF
2-3	Hand shaking	XON/XOFF	DTR/DSR	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 (*2)	Refer to the following table		OFF
2-8				OFF

• DIP Switch 2 (Parallel interface model)

Switch	Function	ON	OFF	Default
2-1	Auto Line Feed	Enable	Disable	OFF
2-2~8		Undefined		OFF

NOTES

(*1) Emulation Selection (DSW 1-1 and 1-2)

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

- EPSON-KP(EPSON Kitchen Printer mode) : A alarm is generated by printer after auto cutting and in paper end error.

(*2) Baud rate selection (Transmission speed)

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

3.1.2 DIP Switch setting for Citizen(iDP 3550) mode

• **DIP Switch 1**

Switch	Function	ON	OFF	Default
1-1	Emulation Selection (*1)	Refer to the following table		OFF
1-2				
1-3	Auto cutter	Enable	Disable	OFF
1-4	CBM command	CBM2 mode (iDP3530 system)	CBM1 mode (iDP3540 system)	OFF
1-5	International characters (*2)	Refer to the following table		ON
1-6				
1-7				
1-8	CR mode	CR	CR+LF	OFF

• **DIP Switch 2 (RS232C serial interface model)**

Switch	Function	ON	OFF	Default
2-1	Word length	8 bits	7 bits	ON
2-2	Parity check	Disable	Enable	ON
2-3	Parity selection	ODD	EVEN	ON
2-4	Hand shaking	DTR/DSR	XON/XOFF	ON
2-5	Baud rate selection (*3)	Refer to the following table		OFF
2-6				
2-7	Near end switch	Enable	Disable	OFF
2-8	Mechanism type	Graphic	Character	OFF

 **NOTES**

(*1) Emulation Selection (DSW 1-1 and 1-2)

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

- EPSON-KP(EPSON Kitchen Printer mode) : A alarm is generated by printer after auto cutting and in paper end error.

(*2) International Character Selection

Country	No.	DSW 1-5	DSW 1-6	DSW 1-7	Code page
U.S.A.		ON	ON	ON	Page 0 (PC437 : U.S.A.)
France		OFF	ON	ON	
Germany		ON	OFF	ON	Page 2 (PC850 : Multilingual)
U.K.		OFF	OFF	ON	
Denmark		ON	ON	OFF	Page 5 (PC865 : Nordic)
Sweden		OFF	ON	OFF	
Italy		ON	OFF	OFF	Page 2 (PC850 : Multilingual)
Windows Code		OFF	OFF	OFF		Windows Code

(*3) Baud rate selection (Transmission speed)

Transmission	2-5	2-6
2400 baud	ON	ON
4800 baud	OFF	ON
9600 baud	OFF	OFF
19200 baud	ON	OFF

Setting the switches

3.1.3 DIP Switch setting for Star(SP500) mode

• DIP Switch 1

Switch	Function	ON	OFF	Default
1-1	Emulation Selection (*1)	Refer to the following table		OFF
1-2				
1-3	Auto cutter	Enable	Disable	OFF
1-4	Black/Red Printing	Enable	Disable	OFF
1-5	Reserved			OFF
1-6				
1-7				
1-8				

• DIP Switch 2 (RS232C serial interface model)

Switch	Function	ON	OFF	Default
2-1	Reserved			OFF
2-2				
2-3	Hand shaking	XON/XOFF	DTR/DSR	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 (*2)	Refer to the following table		OFF
2-8				OFF

NOTES

(*1) Emulation Selection (DSW 1-1 and 1-2)

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

- EPSON-KP(EPSON Kitchen Printer mode) : A alarm is generated by printer after auto cutting and in paper end error.

(*2) Baud rate selection (Transmission speed)

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

NOTICE

Change in DIP Switch settings are recognized only when the printer power is turned on or when the printer is reset by using the interface. If the DIP Switch setting is changed after the printer power is turned on, the change does not take effect until the printer is turned on again or is reset.

3.1.4 Changing the DIP Switch setting

If you need to change settings, follow the steps below to make your changes.

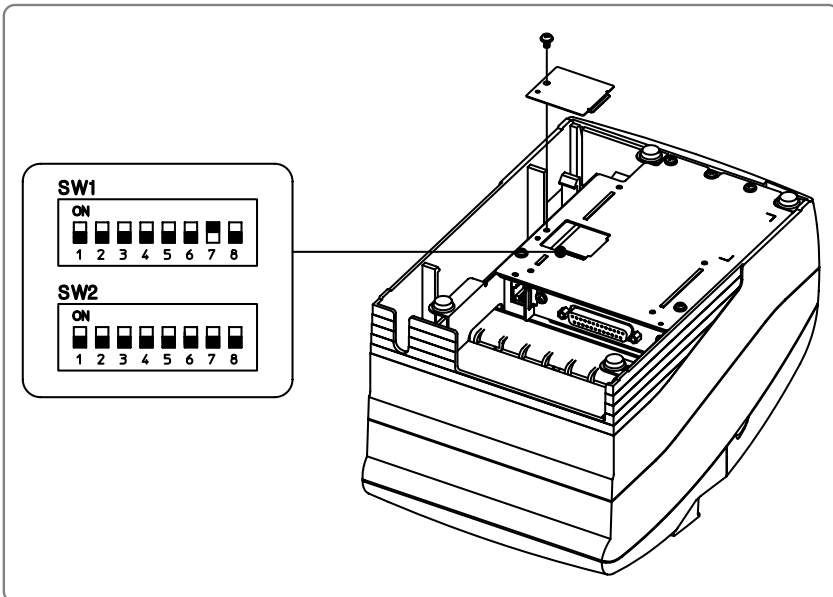
⚠ CAUTION

Turn off the printer before removing the DIP Switch cover to prevent an electric short, which can damage the printer.

- 1) Make sure the printer is turned off.
- 2) Remove the screw from the DIP Switch cover.
Then take off the DIP Switch cover, which is shown in the illustration below.
- 3) Set the switches using a pointed tool, such as tweezers or a small.
- 4) Replace the DIP Switch cover. Then secure it with the screw.

📄 NOTES

The new settings take effect when you turn on the printer.



3.2 Setting the Memory Switches

3.2.1 Memory Switch setting for Epson(ESC/POS) mode

This printer has "Memory Switch" set which is software switches. Memory Switch set has "MSW 2", "MSW 8", "Customize value", "Serial communication condition". "Memory Switch setting utility" can change the Memory Switch set to ON or OFF as shown in the table below (default: all OFF):

NOTES

The Memory Switch is available to be changed by three methods:

- Memory Switch setting utility
- Memory Switch setup mode (there are limitations on what can be changed)
- Control from ESC/POS command
- Some Memory Switch settings can be changed by the "Memory Switch setting mode". See "Procedure of Memory Switch setting".

Settings of the Memory Switch are stored in the NV memory; therefore, even if the printer is turned off, the settings are maintained. When you replace a SRP-270 with a SRP-275, you should adjust the MSW 8-5 to OFF.

• Memory Switch 2

Switch	Function	On	Off
1	Reserved	-	Fixed to Off
2	Reserved	-	Fixed to Off
3	Reserved for Chinese selection	-	Fixed to Off
4-8	Code page selection (*1)	Refer to the following table	

NOTES

Desired code page can be selected using Memory Switch 2-4~8 by setting as following.

(*1) Code page selection

MSW 2-8	MSW 2-7	MSW 2-6	MSW 2-5	MSW 2-4	Character Table
0	0	0	0	0	Page 0 (PC437 : U.S.A.)
0	0	0	0	1	Page 1 (Katakana)
0	0	0	1	0	Page 2 (PC850 : Multilingual)
0	0	0	1	1	Page 3 (PC860 : Portuguese)
0	0	1	0	0	Page 4 (PC863 : Canadian-French)
0	0	1	0	1	Page 5 (PC865 : Nordic)
0	0	1	1	0	Page 16 (WPC1252 : Latin1)
0	0	1	1	1	Page 17 (PC866 : Russian)
0	1	0	0	0	Page 18 (PC852 : Latin2)
0	1	0	0	1	Page 19 (PC858 : Euro)
0	1	0	1	0	Page 21 (PC862 : Israel)
0	1	0	1	1	Page 22 (PC864 : Arabic)
0	1	1	0	0	Page 23 (Thai character code 42)
0	1	1	0	1	Page 24 (WPC1253 : Greek)
0	1	1	1	0	Page 25 (WPC1254 : Turkish)
0	1	1	1	1	Page 26 (WPC1257 : Baltic)
1	0	0	0	0	Page 27 (Farsi) (*2)
1	0	0	0	1	Page 28 (WPC1251 : Russian) (*2)
1	0	0	1	0	Page 29 (PC737 : Greek) (*2)
1	0	0	1	1	Page 30 (PC775 : Baltic) (*2)
1	0	1	0	0	Page 31 (Thai character code 16)
1	0	1	0	1	Page 32 (OldCode : Israel)
1	0	1	1	0	Page 33 (WPC1255 : Israel)
1	0	1	1	1	Page 34 (Thai character code 11)
1	1	0	0	0	Page 35 (Thai character code 18)

(*2) Only Font B available.

• **Memory Switch 8**

Switch	Function	On	Off
1	Reserved	-	Fixed to Off
2			
3			
4			
5	Selection of the cover open status	Cover open	Paper end
6	Reserved	-	Fixed to Off
7	Receive buffer full release	Remaining 522 bytes	Remaining 640 bytes
8	Printer (Cover open during operation)	Errors that can possibly recover	Errors that automatically recover

 **NOTES**

MSW 8-5:

When Off is selected, a bit of the "paper end sensor" in each status that is transmitted from the printer is changed every time the rear cover is open or closed. When On is selected, a bit of the "rear cover open / close" in each status that is transmitted from the printer is changed every time the rear cover is open or closed. When you replace a SRP-270 with a SRP-275, you should adjust the MSW 8-5 to Off.

MSW 8-8:

When Off is selected, a bit of the "automatic recoverable error" in each status that is transmitted from the printer is changed every time the rear cover is open. When On is selected, a bit of the "mechanical error" in each status that is transmitted from the printer is changed every time the rear cover is open.

The setting of MSW 8-5 and 8-8 can be set by "Memory Switch setup mode".

• **Customize value**

Function	Selectable value
Paper roll width	57.5 mm / 69.5 mm / 76 mm (default value)

 **NOTES**

These setting can be set by "Memory Switch setup mode."

• **Serial communication**

Function	Selectable value	
baud rate	2400 bps	4800 bps
	9600 bps	19200 bps
Parity	None	Odd
	Even	-
Handshake	DSR/DTR	XON/XOFF
Data length	7 bit	8 bit

 **NOTES**

There are two methods, DIP Switch and Memory Switch, to adjust the serial communication conditions. DIP Switch 1-5 selects which is effective, DIP Switch or Memory Switch. To enable the "Serial communication" setting, you have to adjust the "Serial interface selection" function of DIP Switch 1-5 to "Memory Switch". These settings can be set by "Memory Switch setup mode".

Setting the switches

• Memory Switch Setup Mode

The following items are specified in the Memory Switch setup mode:

Basic Serial communication condition (Serial communication)

- Transmission speed
- Parity
- Handshaking
- Data length

Receive buffer full release condition (MSW 8-7)

Paper roll width (Customize value)

Cover open status (MSW 8-5)

NOTES

All new settings will be lost if the power supply is turned off in the Memory Switch setup mode. Be sure to follow the proper procedure, and turn the power off at the correct time.

Use the following procedure to start the Memory Switch setup mode.

- 1) Open the rear cover.
- 2) Turn the power on while pressing the paper FEED button.
- 3) Press the FEED button twice while POWER, ERROR, and PAPER OUT LEDs are lit.
- 4) Close the cover. The printer prints the enabled settings of the Memory Switches and instructions.
- 5) Follow the instructions to process the switch setup.

NOTES

In the Memory Switch setup, the power LED may be flashing.

• Example of Memory Switch setup sheet

Memory S/W Setup

You can choose desired item using YES or NO as following

YES: Keep pressing FEED button
Until printing starts
NO : Press & release it swiftly

Serial interface setting

Do you want to change
Serial interface condition?

Buffer full release condition

Current condition: 640 bytes left

Do you want to change
Buffer full release condition?

Paper width

Current paper width: 76.0 mm

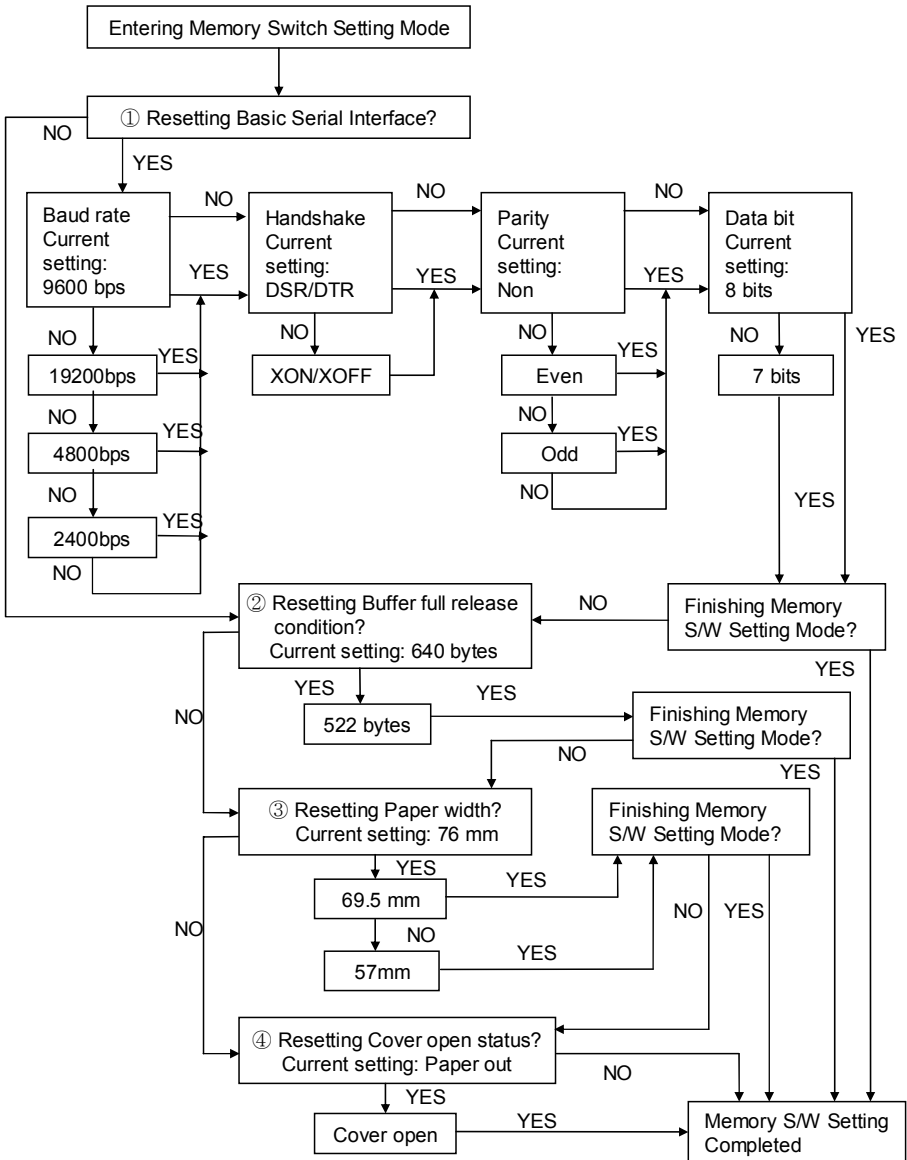
Do you want to change
paper width?

Cover open status

Current status: Paper out

Do you want to change
cover open status?

• Procedure of Memory Switch setting



3.2.2 Memory Switch setting for Star mode**• Settings**

Memory Switches are from MSW 0 to MSW 8. They are stored in non-volatile memory (flash memory). To change the settings, send the following commands from the host.

[Name]	Set Memory Switch				
[Code]	ASCII	ESC	GS	#	<i>m N n1 n2 n3 n4</i> LF NUL
	Hexadecimal	1B	1D	23	<i>m N n1 n2 n3 n4</i> 0A 00
	Decimal	27	29	35	<i>m N n1 n2 n3 n4</i> 10 0

[Defined Region] *m* = "W", "T", ",", "+", "-", "@"
 "0" ≤ *N,n1,n2,n3,n4* ≤ "9",
 "A" ≤ *N,n1,n2,n3,n4* ≤ "F"

[Function] Sends command to write after defining Memory Switch using the definition command specified by the following classes to set the Memory Switch. The printer is automatically reset after writing the setting defined by that command to the non-volatile memory.

Do not turn off the power to the printer while sending commands to the non volatile memory. Doing so will destroy the Memory Switch setting. It is also possible for all Memory Switch settings to become offset to their initial, default settings.

Consider the life of the non-volatile memory and avoid over-use of this command.

Function	Class	<i>m</i>	<i>N</i>	<i>n1 n2 n3 n4</i>
Data Definition (Data Specification)	Definition	","	N	<i>n1 n2 n3 n4</i>
Data definition (set specified bit)	Definition	","	N	<i>n1 n2 n3 n4</i>
Data definition (clear specified bit)	Definition	","	N	<i>n1 n2 n3 n4</i>
Data Definition (clear all data)	Definition	"@"	Fixed at "0"	Fixed at "0000"
Definition data write and reset	Write	"W"	Fixed at "0"	Fixed at "0000"
Definition data write and reset and test print	Write	"T"	Fixed at "0"	Fixed at "0000"

(Ex) Memory Switch 1-8 = 0; Memory Switch 2-7 = 1; Memory Switch 2-A = 1 for a test print:

```
PRINT #1, CHR$(&H1B);CHR$(&H1D);CHR$(&H23);CHR$(&H2D);CHR$(&H31); ' <ESC><GS> # - 1
PRINT #1, CHR$(&H30);CHR$(&H31);CHR$(&H30);CHR$(&H30);CHR$(&H0A);CHR$(0); ' 0100 <LF><NUL>
PRINT #1, CHR$(&H1B);CHR$(&H1D);CHR$(&H23);CHR$(&H2B);CHR$(&H32); ' <ESC><GS> # + 2
PRINT #1, CHR$(&H30);CHR$(&H34);CHR$(&H38);CHR$(&H30);CHR$(&H0A);CHR$(0); ' 0480 <LF><NUL>
PRINT #1, CHR$(&H1B);CHR$(&H1D);CHR$(&H23);CHR$(&H54);CHR$(&H30); ' <ESC><GS> # T 0
PRINT #1, CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H30);CHR$(&H0A);CHR$(&H0); ' 0000 <LF><NUL>
```

• **Default Settings**

The default settings for Memory Switch 0 to Memory Switch 8 are shown below.

Settings vary for single byte character countries (standard specifications (SBCS)) and for double-byte character countries (Chinese character specifications (DBCS)).

- **Standard Specifications (SBCS)**

Memory Switch Number	Ex-factory Settings (n1, n2, n3, n4)
MSW 0	"0000"
MSW 1	"0000"
MSW 2	"0000"
MSW 3	"0000"
MSW 4	"0000"
MSW 5	"0000"
MSW 6	"0000"
MSW 7	"0000"
MSW 8	"0000"

- **Chinese character specifications (DBCS) (For China)**

Memory Switch Number	Ex-factory Settings (n1, n2, n3, n4)
MSW 0	"0010"
MSW 1	"0000"
MSW 2	"0000"
MSW 3	"0000"
MSW 4	"0000"
MSW 5	"0000"
MSW 6	"0000"
MSW 7	"0000"
MSW 8	"0000"

Setting the switches

• Function

- Memory Switch 0

Bit	Function	0	1
F~C	Reserved		
B~A	Red and Black (inverted black and white) Commands (*3)	Refer to the following table	
9~5	Reserved		
4	Country Specifications (*1)	SBCS (Single Byte countries)	DBCS (Double Byte countries)
3~2	<FF> Command (*2)	Refer to the following table	
1~0	Reserved		

NOTES

(*1) Country Specifications

Country	MSW 0-4 = 0	MSW 0-4 = 1
Overseas	Standard Specifications	Chinese Characters

(*2) <FF> Command Function Selection

MSW 0-3	MSW 0-2	<FF> Command Function	<FF> Command Function
Auto cutter model			Tear Bar Model (SRP-275A type)
0	0	Executes a form feed.	Executes a form feed.
0	1	After paper fed to cutting position executes partial cut (*3)	Paper fed to the tear-bar position
1	0	Executes a form feed.	Executes a form feed.
1	1	After paper fed to cutting position executes partial cut (*3)	Paper fed to the tear-bar position

(*3) Red and Black (inverted black and white) Commands

MSW 0-B	MSW 0-A	<ESC> 4 / <ESC> 5 Command Functions
0	0	White/black inverted printing (1 Pass)
0	1	<Option 1> White/black inversion (7 × 9 font print) + enhancing (2 passes)
1	0	<Option 2> Upper line + Underline + enhancing (2 passes)
1	1	<Option 3> Upper line + Underline + double tall expanded + enhancing (4 passes)

This setting functions to specify adornments when the subsequent red (white/black inversion) print command is set. It is a substitute function for the conventional red/black (white/black inversion) printing. <ESC> "4": Red (white/black inversion) printing <ESC> "5": Red (white/black inversion) printing cancelled.

When using <ESC> 5 to cancel adornments, it returns to the previously set adornments. (Adornments such as underline, upper line, double-tall expanded and enhancing are cancelled if there is no command to set them (for example the <ESC> "-" 1 specification for underlines).)

This setting is enabled only for ANK characters and block characters. It is disabled for IBM block characters and Chinese characters composed of 12 dot vertical characters (IBM block characters and Chinese characters do not have adornment with this command).

- Precautions for selecting Option 1.

- 1) Prints white/black inverted characters using 7 × 9 fonts regardless of the current font size setting.
- 2) Inserts a one dot string of black printing to the head of the white/black inverted characters.
- 3) Printing data created on a conventional red/black printer, using 1 and 2 above, there are cases in which the printing position will shift to the right and a line of printable characters reduced.
(For example, to write 42 digits of red print data using conventional a 7 × 9 font, there is a line feed at the 35th digit, and the remaining 7 digits are printed on the next line.)
- 4) Download defined characters defined with 7 × 9 fonts are printed regardless of the current font setting (7×9/9×9).
- 5) MSW 3-6 must not be set to 1 (ANK character count = many). (This will cause a while line to appear between characters.)

- Precautions for selecting Option 2 and Option 3.

- 1) Do not apply an upper line or an underline to characters when rotating 90 or 270 degrees.

- Memory Switch 1

Bit	Function	0	1
F	Reserved		
E~5			
4	Zero style	Normal	Slash zero
3~0	International Characters (*1)	Refer to the following table	

 **NOTES**

(*1) International Characters Default Value Settings

MSW1-3	MSW1-2	MSW1-1	MSW1-0	International Characters
0	0	0	0	U.S.A
0	0	0	1	France
0	0	1	0	Germany
0	0	1	1	U.K.
0	1	0	0	Denmark1
0	1	0	1	Sweden
0	1	1	0	Italy
0	1	1	1	Spain1
1	0	0	0	Japan
1	0	0	1	Norway
1	0	1	0	Denmark2

- Memory Switch 2

Bit	Function	0	1
F	Reserved		
E	How to recover to print ready after inserting paper	Press FEED.	Auto-recovery
D~C	Reserved		
B	Printing region width (*1)	Refer to the following table	
A	Paper width selection (*1)	Refer to the following table	
9~4			
3	Contextual auto-cut function (*2)	Disabled	Enabled
2			
1~0	Near end switch function (*3)	Refer to the following table	

 **NOTES**

(*1) Print Region Width (MSW 2-B)/Paper Width (MSW 2-A) Selection

MSW 2-B	MSW 2-A	Printing Region Width	Paper Width
0	0	400 half dots	76mm
0	1	300 half dots	57.5mm
1	0	385 half dots	76mm
1	1	297 half dots	57.5mm

(*2) Contextual Auto-cut Function

This function auto-cuts paper when a paper feed command that feeds continuously over 7/6 inch. Hosts that cannot send an escape sequence, such as <ESC> "d" 0 can cut paper if a 1/6 inch line feed code <LF> is sent seven times.

(*3) Near end switch Function

When an near end switch is mounted, settings should abide by those shown in the table below.

MSW 2-1	MSW 2-0	Near end switch Function
0	0	Disabled
0	1	Disabled
1	0	Reflects the near end switch state to the status. Printing does not stop for near end, and the printer does not go offline.
1	1	Reflects the near end switch state to the status. Printing does stop for near end, and the printer goes offline.

Setting the switches

- Memory Switch 3

Bit	Function	0	1
F~D			
C~8	Character Table (*2)	Refer to the following table	
7~2			
1~0	<CR> Command Functions (*1)	Refer to the following table	

NOTES

(*1) <CR> Command Functions

MSW3-1	MSW3-0 <CR>	Functions
0	0 Ignored	
0	1 Ignored	
1	0	Prints and performs a line feed (same as <LF>.)
1	1	Prints (No line feed)

(*2) Character Table Settings

These settings are enabled only on standard specification printers.

MSW3-C	MSW3-B	MSW3-A	MSW3-9	MSW3-8	Character Table
0	0	0	0	0	Page 0 (PC437 : U.S.A.)
0	0	0	0	1	Page 1 (Katakana)
0	0	0	1	0	Page 2 (PC850 : Multilingual)
0	0	0	1	1	Page 3 (PC860 : Portuguese)
0	0	1	0	0	Page 4 (PC863 : Canadian-French)
0	0	1	0	1	Page 5 (PC865 : Nordic)
0	0	1	1	0	Page 16 (WPC1252 : Latin1)
0	0	1	1	1	Page 17 (PC866 : Russian)
0	1	0	0	0	Page 18 (PC852 : Latin2)
0	1	0	0	1	Page 19 (PC858 : Euro)
0	1	0	1	0	Page 21 (PC862 : Israel)
0	1	0	1	1	Page 22 (PC864 : Arabic)
0	1	1	0	0	Page 23 (Thai character code 42)
0	1	1	0	1	Page 24 (WPC1253 : Greek)
0	1	1	1	0	Page 25 (WPC1254 : Turkish)
0	1	1	1	1	Page 26 (WPC1257 : Baltic)
1	0	0	0	0	Page 27 (Farsi) (*3)
1	0	0	0	1	Page 28 (WPC1251 : Russian) (*3)
1	0	0	1	0	Page 29 (PC737 : Greek) (*3)
0	0	0	1	1	Page 30 (PC775 : Baltic) (*3)
1	0	1	0	0	Page 31 (Thai character code 16)
1	0	1	0	1	Page 32 (OldCode : Israel)
1	0	1	1	0	Page 33 (WPC1255 : Israel)
1	0	1	1	1	Page 34 (Thai character code 11)
1	1	0	0	0	Page 35 (Thai character code 18)

(*3) Only Font B available.

- Memory Switch 4

Bit	Function	0	1
F~9			
8	Automatic Status Function	Disabled	Enabled
7~4			
3	ESC RS a n command function	Only Setting	Auto-status sent only once
2~1			
0	Data reception error (serial)	Prints “?”	Ignored

- Memory Switch 5

Bit	Function	0	1
F~0	Reserved		

- Memory Switch 6

Bit	Function	0	1
F~A			
9	BUSY Condition	Reception Buffer or Offline	Reception Buffer Full
8~0			

- Memory Switch 7

Bit	Function	0	1
F~0	Reserved		

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 term

Item	Description
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.
Print buffer	The print buffer is a buffer that stores the image data to be printed.
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.
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.
Printable area	The maximum range within which printing is possible under the printer specifications.
Inch	A unit of length. One inch is 25.4mm.
MSB	Most Significant Bit
LSB	Least Significant Bit

4.3 Exception processing

• 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

• 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

• 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.

Control commands list

4.4 Commands for SRP-275 series

4.4.1 Commands list for EPSON mode (TM-U220)

No.	Command	Description	Hex
1	HT	Horizontal tab	09
2	LF	Print and line feed	0A
3	CR	Print and carriage return	0D
4	DLE EOT	Real-time status transmission	10 04
5	DLE ENQ	Real-time request to printer	10 05
6	DLE DC4(fn = 1)	Generate pulse at real-time	10 14
7	ESC SP	Set right-side character spacing	1B 20
8	ESC !	Select print mode(s)	1B 21
9	ESC %	Select/cancel user-defined character set	1B 25
10	ESC &	Define user-defined characters	1B 26
11	ESC *	Select bit-image mode	1B 2A
12	ESC -	Turn underline mode on/off	1B 2D
13	ESC 2	Select default line spacing	1B 32
14	ESC 3	Set line spacing	1B 33
15	ESC <	Return home	1B 3C
16	ESC =	Select peripheral device	1B 3D
17	ESC ?	Cancel user-defined characters	1B 3F
18	ESC @	Initialize printer	1B 40
19	ESC D	Set horizontal tab positions	1B 44
20	ESC E	Turn emphasized mode on/off	1B 45
21	ESC G	Turn double-strike mode on/off	1B 47
22	ESC J	Print and feed paper	1B 4A
23	ESC K	Print and reverse feed	1B 4B
24	ESC M	Select character font	1B 4D
25	ESC R	Select an international character set	1B 52
26	ESC U	Turn unidirectional printing mode on/off	1B 55
27	ESC a	Select justification	1B 61
28	ESC c 3	Select paper sensor(s) to output paper end signals	1B 63 33
29	ESC c 4	Select paper sensor(s) to stop printing	1B 63 34
30	ESC c 5	Enable/disable panel buttons	1B 63 35
31	ESC d	Print and feed <i>n</i> lines	1B 64
32	ESC e	Print and reverse feed <i>n</i> lines	1B 65
33	ESC g	Start macro record (For logo)	1B 67 00
34	ESC g<n>	Execute macro (For logo)	1B 67 <n>
35	ESC i	Partial cut (one point left uncut)	1B 69
36	ESC m	Partial cut (one point left uncut)	1B 6D
37	ESC p	Generate pulse	1B 70
38	ESC r	Select print color	1B 72
39	ESC t	Select character code table	1B 74
40	ESC u	Transmit peripheral device status	1B 75
41	ESC v	Transmit paper sensor status	1B 76
42	ESC {	Turn upside-down printing mode on/off	1B 7B
43	FS p	Print NV bit image	1C 70
44	FS q	Define NV bit image	1C 71
45	GS (A	Execute test print	1D 28 41
46	GS (C	Edit NV user memory	1D 28 43
47	GS (D	Enable/disable real-time command	1D 28 44
48	GS (E	User setup commands	1D 28 45
49	GS I	Transmit printer ID	1D 49
50	GS V	Select cut mode and cut paper	1D 56
51	GS a	Enable/disable Automatic Status Back (ASB)	1D 61
52	GS r	Transmit status	1D 72

4.4.2 Command description for EPSON mode (TM-U220)

HT

[Name] Horizontal tab
 [Format] ASCII HT
 Hex 09
 Decimal 9
 [Range] None
 [Default] None
 [Description] Moves the printing position to the next horizontal tab.

LF

[Name] Print and line feed
 [Format] ASCII LF
 Hex 0A
 Decimal 10
 [Range] None
 [Default] None
 [Description] Prints the data in the print buffer and feeds one line.

CR

[Name] Print and carriage return
 [Format] ASCII CR
 Hex 0D
 Decimal 13
 [Range] None
 [Default] None
 [Description]

When auto line feed is enabled(DSW 2-1) (Only available with Parallel Interface)	When auto line feed is disabled
Executes printing and one line feed as LF	Prints data in print buffer and does not feed the paper

Control commands list

DLE EOT

[Name]	Real-time status transmission			
[Format]	ASCII	DLE	EOT	<i>n</i>
	Hex	10	04	<i>n</i>
	Decimal	16	4	<i>n</i>

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

[Description] Transmits 1 byte of status data specified in real time, using *n* as follows:

<i>n</i>	Function
1	Transmit printer status
2	Transmit offline status
3	Transmit error status
4	Transmit paper sensor status

[Notes]

- Printer status (*n* = 1) is as follows:

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

- Offline status (*n* = 2) is as follows:

Bit	Binary	Hex	Decimal	Status
0	0	00	0.	Not used. Fixed to Off
1	1	02	2	Not used. Fixed to On
2	0	00	0	Cover is closed
	1	04	4	Cover is open
3	0	00	0	Paper is not being fed by the paper feed button
	1	08	8	Paper is being fed by the paper feed button
4	1	10	16	Not used. Fixed to On
5	0	00	0	No paper end stop
	1	20	32	Printing stops due to a paper end
6	0	00	0	No error
	1	04	4	Error occurred
7	0	00	0	Not used. Fixed to Off

- Error status (*n* = 3) is as follows:

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

- Paper sensor status (*n* = 4) is as follows:

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

DLE ENQ

[Name] Real-time request to printer
 [Format] ASCII DLE ENQ *n*
 Hex 10 05 *n*
 Decimal 16 5 *n*
 [Range] *n* = 2
 [Default] None
 [Description] Recovers from an error after clearing the receive and print buffers.

DLE DC4 (*fn* = 1)

[Name] Generate pulse at real-time
 [Format] ASCII DLE DC4 *n m t*
 Hex 10 14 *n m t*
 Decimal 16 20 *n m t*
 [Range] *n* = 1
m = 0, 1
 $1 \leq t \leq 8$
 [Description] Outputs the pulse specified by *t* to connector pin *m* as follows in real time:

<i>m</i>	Connector pin
0	Drawer kick-out connector pin 2
1	Drawer kick-out connector pin 5

The pulse ON time is [*t* x100 ms] and the OFF time is [*t* x100 ms]

ESC SP

[Name] Set right-side character spacing
 [Format] ASCII ESC SP *n*
 Hex 1B 20 *n*
 Decimal 27 32 *n*
 [Range] $0 \leq n \leq 255$
 [Default] *n* = 0
 [Description] Sets the right-side character spacing to *n* x (horizontal or vertical motion unit).

ESC !

[Name] Select print mode(s)
 [Format] ASCII ESC ! *n*
 Hex 1B 21 *n*
 Decimal 27 33 *n*
 [Range] $0 \leq n \leq 255$
 [Default] *n* = 1
 [Description] Selects or cancels print modes collectively (emphasized, double-height, double-width, underline) using *n* as follows:

Bit	On/Off	Hex	Decimal	Function
0	Off	00		Character font A(9x9)selected
	On	01		Character font B(7x9) selected
1,2	-	-	-	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	Off	-	-	Undefined
7	Off	00	0	Underline mode not selected
	On	80	128	Underline mode selected

Control commands list

ESC %

[Name]	Select/cancel user-defined character set			
[Format]	ASCII	ESC	%	<i>n</i>
	Hex	1B	25	<i>n</i>
	Decimal	27	37	<i>n</i>
[Range]	0 ≤ <i>n</i> ≤ 255			
[Default]	<i>n</i> = 0			
[Description]	Selects or cancels the user-defined character set. <ul style="list-style-type: none"> - When the LSB of <i>n</i> is 0, the user-defined character set is canceled. - When the LSB of <i>n</i> is 1, the user-defined character set is selected. 			

ESC &

[Name]	Define user-defined characters			
[Format]	ASCII	ESC	&	<i>y c1 c2 [x1 d1 ... d(y xx1)]... [xk d1 ... d(y xxk)]</i>
	Hex	1B	26	<i>y c1 c2 [x1 d1 ... d(y xx1)]... [xk d1 ... d(y xxk)]</i>
	Decimal	27	38	<i>y c1 c2 [x1 d1 ... d(y xx1)]... [xk d1 ... d(y xxk)]</i>
[Range]	<i>y</i> = 2 $32 \leq c1 \leq c2 \leq 126$ $0 \leq x \leq 12$ (Font A (9 × 9)) $0 \leq x \leq 10$ (Font B (7 × 9)) $0 \leq d \leq 255$ $k = c2 - c1 + 1$			
[Default]	None			
[Description]	Defines user-defined characters from character code check <i>c1</i> to <i>c2</i> . <ul style="list-style-type: none"> - <i>y</i> specifies the number of bytes in the vertical direction. - <i>x</i> specifies the number of dots in the horizontal direction. - <i>d</i> is the dot data for the user-defined characters. 			
[Notes]	<ul style="list-style-type: none"> • The relationship between the definition data and printing result is as follows. Example: Downloaded character definition consists of 9×7 dots. 			

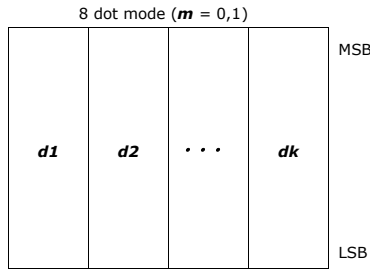
<i>d1</i>	<i>d3</i>	<i>d5</i>	<i>d7</i>	<i>d9</i>	<i>d11</i>	<i>d13</i>	MSB
							LSB
<i>d2</i>	<i>d4</i>	<i>d6</i>	<i>d8</i>	<i>d10</i>	<i>d12</i>	<i>d14</i>	MSB
							LSB

ESC *

[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 ≤ *nL* ≤ 255
 0 ≤ *nH* ≤ 3
 0 ≤ *d* ≤ 255
k = *nL* + *nH* x 255
 [Default] None
 [Description] Selects a bit-image mode using *m* for the number of dots specified by (*nL* + *nH* x 256) as follows:

<i>m</i>	Mode	Number of bits for vertical data	Dot density in horizontal	Amount of data (<i>k</i>)
0	8-dot single-density	8	Single-density	<i>nL</i> + <i>nH</i> x 256
1	8-dot double-density	8	Double-density	<i>nL</i> + <i>nH</i> x 256

[Notes] • The relationship between the bit image data and the print result is as follows.



• The modes selectable by *m* are as follows:

<i>m</i>	Mode	Vertical dot density	Dot density	Set adjacent dots	Horizontal	
					Maximum number of dots	
					DSW1-8: ON Paper Width: 76/ 69.5/ 57.5 (mm)	DSW 1-8: OFF Paper Width: 76/ 69.5/ 57.5 (mm)
0	8-dot single-density	72 dpi	80 dpi	Permitted	192/ 180/ 148	200/ 180/ 150
1	8-dot double-density	72 dpi	160 dpi	Prohibited	385/ 360/ 297	400/ 360/ 300

ESC -

[Name] Turn underline mode on/off
 [Format] ASCII ESC - *n*
 Hex 1B 2D *n*
 Decimal 27 45 *n*
 [Range] *n* = 0, 1, 48, 49
 [Default] *n* = 0
 [Description] Turns underline mode on or off using *n* as follows:

<i>n</i>	Function
0, 48	Turns off underline mode
1, 49	Turns on underline mode (1-dot thick)
2, 50	Turns on underline mode (1-dot thick)

Control commands list

ESC 2

[Name]	Select default line spacing		
[Format]	ASCII	ESC	2
	Hex	1B	32
	Decimal	27	50
[Range]	None		
[Default]	None		
[Description]	Sets the line spacing to the "default line spacing."		

ESC 3

[Name]	Set line spacing			
[Format]	ASCII	ESC	3	<i>n</i>
	Hex	1B	33	<i>n</i>
	Decimal	27	51	<i>n</i>
[Range]	0 ≤ <i>n</i> ≤ 255			
[Default]	Amount of line spacing which corresponds to "default line spacing." (See ESC 2 for the default line spacing.)			
[Description]	Sets the line spacing to <i>n</i> x (vertical or horizontal motion unit).			

ESC <

[Name]	Return home		
[Format]	ASCII	ESC	<
	Hex	1B	3C
	Decimal	27	60
[Range]	None		
[Default]	None		
[Description]	Moves the print head to the standby position.		

ESC =

[Name]	Select peripheral device			
[Format]	ASCII	ESC	=	<i>n</i>
	Hex	1B	3D	<i>n</i>
	Decimal	27	61	<i>n</i>
[Range]	0 ≤ <i>n</i> ≤ 255			
[Default]	<i>n</i> = 1			
[Description]	Selects the device to which the host computer sends data, using <i>n</i> as follows:			

<i>n</i>	Function
1	Enables the printer
2	Disables the printer
3	Enables the printer

ESC ?

[Name]	Cancel user-defined characters			
[Format]	ASCII	ESC	?	<i>n</i>
	Hex	1B	3F	<i>n</i>
	Decimal	27	63	<i>n</i>
[Range]	32 ≤ <i>n</i> ≤ 126			
[Default]	None			
[Description]	Cancels the user-defined characters defined for the character code <i>n</i> .			

ESC @

[Name] Initialize printer
 [Format] ASCII ESC @
 Hex 1B 40
 Decimal 27 64
 [Range] None
 [Default] None
 [Description] The data in the print buffer is cleared, and the printer mode(s) is reset to the mode that was in effect when the power was turned on.
 - Any macro definitions are not cleared.
 - Contents of user NV memory are not cleared.
 - NV bit image is not cleared.

ESC D

[Name] Set horizontal tab positions
 [Format] ASCII ESC D *n1 ... nk NULS*
 Hex 1B 44 *n1 ... nk 00*
 Decimal 27 68 *n1 ... nk 0*
 [Range] $0 \leq n \leq 255$
 $0 \leq k \leq 32$
 [Default] $n = 8, 16, 24, 32, \dots$
 (Every eight characters for the default font set by **ESC !** or **ESC M**)
 [Description] Sets a horizontal tab to *n* columns from the beginning of the line.
 - *k* indicates the number of horizontal tab positions to be set.

ESC E

[Name] Turn emphasized mode on/off
 [Format] ASCII ESC E *n*
 Hex 1B 45 *n*
 Decimal 27 69 *n*
 [Range] $0 \leq n \leq 255$
 [Default] $n = 0$
 [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.

ESC G

[Name] Turn double-strike mode on/off
 [Format] ASCII ESC G *n*
 Hex 1B 47 *n*
 Decimal 27 71 *n*
 [Range] $0 \leq n \leq 255$
 [Default] $n = 0$
 [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.

Control commands list

ESC J

[Name]	Print and feed paper			
[Format]	ASCII	ESC	J	<i>n</i>
	Hex	1B	4A	<i>n</i>
	Decimal	27	74	<i>n</i>
[Range]	$0 \leq n \leq 255$			
[Default]	None			
[Description]	Prints the data in the print buffer and feeds the paper <i>n</i> x (vertical or horizontal motion unit).			

ESC K

[Name]	Print and reverse feed			
[Format]	ASCII	ESC	K	<i>n</i>
	Hex	1B	4B	<i>n</i>
	Decimal	27	75	<i>n</i>
[Range]	$0 \leq n \leq 24$			
[Default]	None			
[Description]	Prints the data in the print buffer and feeds the paper <i>n</i> x (vertical motion unit) in the reverse direction.			

ESC M

[Name]	Select character font			
[Format]	ASCII	ESC	M	<i>n</i>
	Hex	1B	4D	<i>n</i>
	Decimal	27	77	<i>n</i>
[Range]	$n = 0, 1, 48, 49$			
[Default]	<i>n</i> = 1			
[Description]	Selects a character font, using <i>n</i> as follows:			

<i>n</i>	Font
0, 48	Font A (9x9)
1, 49	Font B (7x9)

ESC R

[Name]	Select an international character set			
[Format]	ASCII	ESC	R	<i>n</i>
	Hex	1B	52	<i>n</i>
	Decimal	27	82	<i>n</i>
[Range]	$0 \leq n \leq 10$			
[Default]	<i>n</i> = 0			
[Description]	Selects an international character set <i>n</i> as follows:			

<i>n</i>	Country
0	U.S.A.
1	France
2	Germany
3	U.K.
4	Denmark I
5	Sweden
6	Italy
7	Spain I
8	Japan
9	Norway
10	Denmark II

ESC U

[Name] Turn unidirectional printing mode on/off
 [Format] ASCII ESC U **n**
 Hex 1B 55 **n**
 Decimal 27 85 **n**
 [Range] $0 \leq n \leq 255$
 [Default] **n** = 0
 [Description] Turns unidirectional printing mode on or off.
 - When the LSB of **n** is 0, unidirectional printing mode is turned off.
 - When the LSB of **n** is 1, unidirectional printing mode is turned on.

ESC a

[Name] Select justification
 [Format] ASCII ESC a **n**
 Hex 1B 61 **n**
 Decimal 27 97 **n**
 [Range] $0 \leq n \leq 2, 48 \leq n \leq 50$
 [Default] **n** = 0
 [Description] Aligns all the data in one line to a specified position, using **n** as follows:

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

ESC c 3

[Name] Select paper sensor(s) to output paper end signals
 [Format] ASCII ESC c 3 **n**
 Hex 1B 63 33 **n**
 Decimal 27 99 51 **n**
 [Range] $0 \leq n \leq 255$
 [Default] **n** = 15
 [Description] Selects whether to output paper end signals to a parallel interface or not when a paper end is detected by the sensor selected, using **n** as follows:

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

Control commands list

ESC c 4

[Name]	Select paper sensor(s) to stop printing				
[Format]	ASCII	ESC	c	4	<i>n</i>
	Hex	1B	63	34	<i>n</i>
	Decimal	27	99	52	<i>n</i>
[Range]	0 ≤ <i>n</i> ≤ 255				
[Default]	<i>n</i> = 0				
[Description]	Selects whether to stop printing or not when the paper runs out using <i>n</i> as follows:				

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

ESC c 5

[Name]	Enable/disable panel buttons				
[Format]	ASCII	ESC	c	5	<i>n</i>
	Hex	1B	63	35	<i>n</i>
	Decimal	27	99	53	<i>n</i>
[Range]	0 ≤ <i>n</i> ≤ 255				
[Default]	<i>n</i> = 0				
[Description]	Enables or disables the panel buttons.				
	- When the LSB of <i>n</i> is 0, all buttons are enabled.				
	- When the LSB of <i>n</i> is 1, all buttons are disabled.				

ESC d

[Name]	Print and feed <i>n</i> lines			
[Format]	ASCII	ESC	d	<i>n</i>
	Hex	1B	64	<i>n</i>
	Decimal	27	100	<i>n</i>
[Range]	0 ≤ <i>n</i> ≤ 255			
[Default]	None			
[Description]	Prints the data in the print buffer and feeds <i>n</i> lines.			

ESC e

[Name]	Print and reverse feed <i>n</i> lines			
[Format]	ASCII	ESC	e	<i>n</i>
	Hex	1B	65	<i>n</i>
	Decimal	27	101	<i>n</i>
[Range]	0 ≤ <i>n</i> ≤ 1			
[Default]	None			
[Description]	Prints the data in the print buffer and feeds <i>n</i> lines in the reverse direction.			

ESC g

[Name]	Start macro record				
[Format]	ASCII	ESC	g	0	<k> [<nH > <nL>] _k [d1...dm] _k
	Hex	1B	67	00	<k> [<nH > <nL>] _k [d1...dm] _k
	Decimal	27	103	0	<k> [<nH > <nL>] _k [d1...dm] _k
[Range]	$k \leq 10$ $0 \leq nL \leq 255$ $0 \leq nH \leq 255$ $[(256 \times nH) + nL]_1 + \dots + [(256 \times nH) + nL]_k < 2\text{Mbit (256KB)}$ $0 \leq d \leq 255$				
[Description]	Start macro definition (Define logo) - k = the number of total macro index - $(256 \times nH) + nL$ = the Length of each macro - m = $(256 \times nH) + nL$				
[Notes]	The SRP-275 Printer maintains a 2M bit (256KB) section of flash memory to save NV bit image. <ul style="list-style-type: none"> • This command is useful to define NV bit image (Logo). • The NV bit image is printed by ESC g n. 				

ESC g <n>

[Name]	Execute Macro			
[Format]	ASCII	ESC	g	n
	Hex	1B	67	n
	Decimal	27	103	n
[Range]	$1 \leq n \leq 10$			
[Description]	Execute macro using the parameter by n .			
[Notes]	<ul style="list-style-type: none"> • n = Macro index number. • The NV bit image is defined by ESC g. 			

ESC i

[Name]	Partial cut (one point left uncut)		
[Format]	ASCII	ESC	i
	Hex	1B	69
	Decimal	27	105
[Range]	None		
[Default]	None		
[Description]	Executes a partial cut of the paper with one point left uncut.		

ESC m

[Name]	Partial cut (one point left uncut)		
[Format]	ASCII	ESC	i
	Hex	1B	69
	Decimal	27	105
[Range]	None		
[Default]	None		
[Description]	Executes a partial cut of the paper with one point left uncut.		

Control commands list

ESC p

[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
 1 ≤ **t1** ≤ 255
 1 ≤ **t2** ≤ 255

[Default] None

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

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

- The pulse for ON time is (**t1** × 2msec) and for OFF time is (**t2** × 2 msec).

[Notes]

- If **t2** < **t1**, the OFF time is equal to the ON time.
- If **t2** < 50, **t2** is supposed to be 50.

ESC r

[Name] Select print color
 [Format] ASCII ESC r **n**
 Hex 1B 72 **n**
 Decimal 27 114 **n**

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

[Default] **n** = 0

[Description] Selects a print color, using **n** as follows:

n	Selected color
0, 48	Black
1, 49	Red

ESC t

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

[Range] **n** = 0, 1, 2, 3, 4, 5, 16, 17, 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 255

[Default] **n** = 0

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

n	Page
0	Page 0 (PC437 : U.S.A.)
1	Page 1 (Katakana)
2	Page 2 (PC850 : Multilingual)
3	Page 3 (PC860 : Portuguese)
4	Page 4 (PC863 : Canadian-French)
5	Page 5 (PC865 : Nordic)
16	Page 16 (WPC1252 : Latin1)
17	Page 17 (PC866 : Russian)
18	Page 18 (PC852 : Latin2)
19	Page 19 (PC858 : Euro)
21	Page 21 (PC862 : Israel)
22	Page 22 (PC864 : Arabic)
23	Page 23 (Thai character code 42)
24	Page 24 (WPC1253 : Greek)
25	Page 25 (WPC1254 : Turkish)
26	Page 26 (WPC1257 : Baltic)
27	Page 27 (Farsi) (*1)
28	Page 28 (WPC1251 : Russian) (*1)
29	Page 29 (PC737 : Greek) (*1)
30	Page 30 (PC775 : Baltic) (*1)
31	Page 31 (Thai character code 16)
32	Page 32 (OldCode : Israel)
33	Page 33 (WPC1255 : Israel)
34	Page 34 (Thai character code 11)
35	Page 35 (Thai character code 18)

ESC u

[Name] Transmit peripheral device status
 [Format] ASCII ESC u *n*
 Hex 1B 75 *n*
 Decimal 27 117 *n*
 [Range] *n* = 0, 48
 [Description] Transmits the peripheral device status of 1 byte.
 [Notes] • The peripheral device status to be transmitted is as follows:

Bit	Binary	Hex	Decimal	Status
0	0			Drawer kick-out connector pin 3 is LOW.
	1			Drawer kick-out connector pin 3 is HIGH.
1-3	-	-	-	Undefined.
4	0	00	0	Not used. Fixed to Off.
5,6	-	-	-	Undefined.
7	0	00	0	Not used. Fixed to Off.

ESC v

[Name] Transmit paper sensor status
 [Format] ASCII ESC v
 Hex 1B 76
 Decimal 27 118
 [Description] Transmits the status of paper sensor(s) as 1 byte of data.
 [Notes] • The paper sensor status to be transmitted is as follows:

Bit	Binary	Hex	Decimal	Status
0,1	00	00	0	Paper near end sensor: paper adequate.
	11	03	3	Paper near end sensor: paper near end.
2,3	00	00	00	Paper end sensor: paper present.
	11	0C	12	Paper end sensor: paper not present.
4	0	00	0	Not used. Fixed to Off.
5,6	-	-	-	Undefined.
7	Off	00	0	Not used. Fixed to Off.

ESC {

[Name] Turn upside-down printing mode on/off
 [Format] ASCII ESC { *n*
 Hex 1B 7B *n*
 Decimal 27 123 *n*
 [Range] $1 \leq n \leq 255$
 [Default] *n* = 0
 [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.

Control commands list

FS p

[Name] Print NV bit image

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

[Range] $1 \leq n \leq 255$
 $m = 0, 1, 48, 49$

[Description] Prints a NV bit image *n* using the mode specified by *m*.

<i>m</i>	Mode	Scaling for horizontal	Scaling for vertical
0, 48	Normal	x 1	x 1
1, 49	Double-width	x 2	x 1

FS q

[Name] Define NV bit image

[Format] ASCII FS q *n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n*
 Hex *n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n*
 Decimal 28 113 *n [xL xH yL yH d1...dk]1...[xL xH yL yH d1...dk]n*

[Range] $1 \leq n \leq 255$
 $1 \leq (xL + xH \times 256) \leq 1023$ ($0 \leq xL \leq 255, 0 \leq xH \leq 3$)
 $1 \leq (yL + yH \times 256) \leq 288$ ($0 \leq yL \leq 255, yH = 0.1$)
 $1 \leq d \leq 255$
 $k = (xL + xH \times 256) \times (yL + yH \times 256) \times 8$

Total defined data area is 256 KB

[Description] Defines NV bit image specified.

- *n* specifies the number of defined NV bit images.
- *xL, xH* specifies (*xL* + *xH* × 256) bytes in the horizontal direction for the NV bit image you defined.
- *yL, yH* specifies (*yL* + *yH* × 256) bytes in the vertical direction for the NV bit image you defined.
- *d* specifies the definition data for the NV bit image.
- *k* indicates the number of the definition data. *k* is a parameter for an explanation; therefore, it does not need to be transmitted.

GS (A

[Name] Execute test print

[Format] ASCII GS (A *pL pH n m*
 Hex 1D 28 41 *02 00 n m*
 Decimal 29 40 65 *2 0 n m*

[Range] $1 \leq m \leq 3, 49 \leq m \leq 3$

[Description] Executes a specified test print.

- *pL* and *pH* specify the number of parameters following *n* to (*pL* + *pH* × 256) bytes.
- *n* specifies paper used for the test print as follows:

<i>n</i>	Paper
0, 48	Basic sheet (paper roll)
1, 49	Paper roll
2, 50	

- *m* specifies a type of the test print as follows:

<i>m</i>	Type
1, 49	Hexadecimal dump
2, 50	Printer status printing
3, 51	Rolling pattern

GS (C

[Name] Edit NV user memory
 [Format] ASCII GS (C *pl ph m fn b [c1, c2] [d1...dk]*
 Hex 1D 28 43 *pl ph m fn b [c1, c2] [d1...dk]*
 Decimal 29 40 67 *pl ph m fn b [c1, c2] [d1...dk]*
 [Description] Deletes, stores, and transmits data in the NV user memory area based on the functions defined in the table below. Also sends status information for the amount of space used in NV RAM and the amount of space still available.
 - The function code (*fn*) specifies the function.

<i>fn</i>	Function	Description
0, 48	Function 0	Deletes specified record
1, 49	Function 1	Stores data in specified record
2, 50	Function 2	Sends data stored in specified record
3, 51	Function 3	Sends capacity currently being used
4, 52	Function 4	Sends available capacity
5, 53	Function 5	Transmits the key code of the record stored in the NV user memory
6, 54	Function 6	Cancels all records stored in the NV user memory

- *pl* and *ph* specify the bytes following parameter *ph* (*m* and [*a1 b1*] ... [*ak bk*]) as (*pl* + (*ph* x 256)).
 - The other parameters are explained under each of the functions.

GS (C pl ph m fn b c1 c2 <Function 0>

[Format] ASCII GS (C *pl ph m fn b c1 c2*
 Hex 1D 28 43 *05 00 00 fn 00 c1 c2*
 Decimal 29 40 67 *5 0 0 fn 0 c1 c2*
 [Range] (*pl* + *ph* x 256) = 5 (*pl* = 5, *ph* = 0)
m = 0
fn = 0, 48
b = 0
 32 ≤ *c1* ≤ 126
 32 ≤ *c2* ≤ 126
 [Description] Deletes the specified record stored in the NV user memory. The deleted area becomes an "unused" area available for storage.

GS (C pl ph m fn b c1 c2 d1...dk <Function 1>

[Format] ASCII GS (C *pl ph m fn b c1 c2 d1...dk*
 Hex 1D 28 43 *pl ph 00 fn 00 c1 c2 d1...dk*
 Decimal 29 40 67 *pl ph 0 fn 0 c1 c2 d1...dk*
 [Range] 6 ≤ (*pl* + *ph* x 256) ≤ 65535 (0 ≤ *pl* ≤ 255, 0 ≤ *ph* ≤ 255)
m = 0
fn = 1, 49
b = 0
 32 ≤ *c1* ≤ 126
 32 ≤ *c2* ≤ 126
 32 ≤ *d* ≤ 254
k = (*pl* + *ph* x 256) - 5
 [Description] Stores data (*d1... dk*) in the record specified by parameters *c1* and *c2* (the key code ID numbers).
 - When the specified record already exists, the data is overwritten.
 - A terminator is automatically assigned.

Control commands list

GS (C pL pH m fn b c1 c2 <Function 2>

[Format]	ASCII	GS	(	C	pL	pH	m	fn	b	c1	c2
	Hex	1D	28	43	05	00	00	fn	00	c1	c2
	Decimal	29	40	67	5	0	0	fn	0	c1	c2
[Range]	$(pL + pH \times 256) = 5$ ($pL = 5, pH = 0$)										
	$m = 0$										
	$fn = 2, 50$										
	$b = 0$										
	$32 \leq c1 \leq 126$										
	$32 \leq c2 \leq 126$										
[Description]	Transmits the data for the record with the ID code specified by parameters c1 , c2 in the NV user memory.										
	- ESC/POS Handshaking Protocol is required for this function.										

GS (C pL pH m fn b <Function 3>

[Format]	ASCII	GS	(	C	pL	pH	m	fn	b
	Hex	1D	28	43	03	00	00	fn	00
	Decimal	29	40	67	3	0	0	fn	0
[Range]	$(pL + pH \times 256) = 3$ ($pL = 3, pH = 0$)								
	$m = 0$								
	$fn = 3, 51$								
	$b = 0$								
[Description]	The printer sends the host the number of data bytes currently used in the NV memory area.								
	- ESC/POS Handshaking Protocol is not required for this function.								

GS (C pL pH m fn b <Function 4>

[Format]	ASCII	GS	(	C	pL	pH	m	fn	b
	Hex	1D	28	43	03	00	00	fn	00
	Decimal	29	40	67	3	0	0	fn	0
[Range]	$(pL + pH \times 256) = 3$ ($pL = 3, pH = 0$)								
	$m = 0$								
	$fn = 4, 52$								
	$b = 0$								
[Description]	The printer sends the available NV user memory.								
	- ESC/POS Handshaking Protocol is not required for this function.								

GS (C pL pH m fn b <Function 5>

[Format]	ASCII	GS	(	C	pL	pH	m	fn	b
	Hex	1D	28	43	03	00	00	fn	00
	Decimal	29	40	67	3	0	0	fn	0
[Range]	$(pL + pH \times 256) = 3$ ($pL = 3, pH = 0$)								
	$m = 0$								
	$fn = 5, 53$								
	$b = 0$								
[Description]	Transmits the key code ID for the record stored in the NV user memory.								
	- ESC/POS Handshaking Protocol is required for this function.								

GS (C pL pH m fn b d1 d2 d3 <Function 6>

[Format] ASCII GS (C **pL pH m fn b d1 d2 d3**
 Hex 1D 28 43 **06 00 00 fn 00 43 4C 52**
 Decimal 29 40 67 **6 0 0 fn 0 67 76 82**

[Range] $(pL + pH \times 256) = 6$ ($pL = 6, pH = 0$)
m = 0
fn = 6, 54
b = 0
d1 = 67
d2 = 76
d3 = 82

[Description] The printer deletes all records stored in the NV user memory.
 - All area is changed to unused area.

GS (D

[Name] Enable/disable real-time command

[Format] ASCII GS (D **pL pH m [a1 b1]...[ak bk]**
 Hex 1D 28 44 **pL pH 14 [a1 b1]...[ak bk]**
 Decimal 29 40 68 **pL pH 20 [a1 b1]...[ak bk]**

[Range] $(pL + pH \times 256) = 3, 5$ ($pL = 3, 5, pH = 0$)
m = 20
a = 1
b = 0, 1, 48, 49

[Default] **a** = 1 / **b** = 1 (**DLE DC4 fn m t** ($n = 1$): enable)

[Description] Specifies enable or disable of a real-time command.
 - **pL, pH** sets the number of parameters after **pH** (**m** and **[a1 b1]...[ak bk]**) to $(pL + pH \times 256)$ bytes.
 - **a** specifies the type of real-time command.
 - **b** specifies enable/disable of real-time command processing.

a	b	Real-time command type
1	0, 48	Disable DLE DC4 n m t ($n = 1$): output a specified pulse in real-time (It does not process)
	1, 49	Enable DLE DC4 n m t ($n = 1$): output a specified pulse in real-time (It does process)

DLE DC4 n m t ($n=1$): output a specified pulse in real-time.

GS (E

[Name] User setup commands

[Format] ASCII GS (E **pL pH fn [parameters]**
 Hex 1D 28 45 **pL pH fn [parameters]**
 Decimal 29 40 69 **pL pH fn [parameters]**

[Description] Controls the user setting modes. The table below explains the functions available in this command.
 - The value of **fn** specifies the function.

fn	Function
1	Function1 Changes into the user setting mode
2	Function2 Ends user setting mode session. (Performs a software reset.)
3	Function3 Changes the Memory Switch
4	Function4 Transmits the host the value for the Memory Switch
5	Function5 Changes the customized setting values
6	Function6 Transmits the customized setting values
11	Function11 Sets communication condition of serial interface
12	Function12 Transmits communication condition of serial interface

- **pL** and **pH** specify the number of bytes for the parameters following **pH** (**fn** and **[a1 b1]** ... **[ak bk]**) as $(pL + pH \times 256)$.

Control commands list

GS (E pL pH fn d1 d2 <Function 1>

[Format]	ASCII	GS	(	E	pL	pH	fn	d1	d2
	Hex	1D	28	45	03	00	01	49	4E
	Decimal	29	40	69	3	0	1	73	78
[Range]	$(pL + pH \times 256) = 3$ ($pL = 3, pH = 0$)								
	$fn = 1$								
	$d1 = 73$								
	$d2 = 78$								
[Description]	This command changes the printer into the user setting mode.								

GS (E pL pH fn d1 d2 d3 <Function 2>

[Format]	ASCII	GS	(	E	pL	pH	fn	d1	d2	d3
	Hex	1D	28	45	04	00	02	4F	55	54
	Decimal	29	40	69	4	0	2	79	85	84
[Range]	$(pL + pH \times 256) = 4$ ($pL = 4, pH = 0$)									
	$fn = 2$									
	$d1 = 79$									
	$d2 = 85$									
	$d3 = 84$									
[Description]	Ends the user setting mode, and the printer performs a software reset.									

GS (E pL pH fn [a1 b1₈...b11]...[ak nk₈ nk1] <Function 3>

[Format]	ASCII	GS	(	E	pL	pH	fn	[a1 b1 ₈ ...b11]...[ak nk ₈ nk1]
	Hex	1D	28	45	pL	pH	03	[a1 b1 ₈ ...b11]...[ak nk ₈ nk1]
	Decimal	29	40	69	pL	pH	3	[a1 b1 ₈ ...b11]...[ak nk ₈ nk1]
[Range]	$a = 2, 8$							
[Default]	All Memory Switches are OFF ($b = 48$).							
[Description]	Changes the Memory Switch specified by a to the value specified by b .							
	- When $b = 48$, the Memory Switch is set to OFF.							
	- When $b = 49$, the Memory Switch is set to ON.							
	- When $b = 50$, does not change the Memory Switch.							
	• When $a = 2$, Memory Switch 2 is set as follows:							

MSW	Setting value (b)	Function
2-1 to 2-8	48	Reserved

- When $a = 8$, Memory Switch 8 is set as follows:

MSW	Setting value (b)	Function
8-1 to 8-4	48	Reserved
8-5	48	The printer status is sent back as "the paper end" when the rear cover is opened.
	49	The printer status is sent back "the rear cover open" when the rear cover is opened.
8-6	48	Reserved: Fixed to OFF (Don't change the setting)
8-7	48	Printer BUSY is released when the remaining capacity of the receive buffer goes to 640 bytes.
	49	Printer BUSY is released when the remaining capacity of the receive buffer goes to 522 bytes.
8-8	48	Printer rear cover open during operation: Error that automatically recovers.
	49	Printer rear cover open during operation: Error that can possibly recover.

- Setting of MSW 8-5 affects the statuses as follows:

- Basic ASB status (See "GS a" command)
- Real-time status (See "DLE EOT" command)

GS (E pL pH fn a <Function 4>

[Format]	ASCII	GS	(	E	pL pH fn a
	Hex	1D	28	45	02 00 04 a
	Decimal	29	40	69	2 0 4 a

[Range] $(pL + pH \times 256) = 2$ ($pL = 2, pH = 0$)
fn = 4
a = 2, 8

[Description] The printer transmits the host the value for the Memory Switch specified by parameter **a**.

GS (E pL pH fn [a1 n1L n1H]...[ak nKL nKH] <Function 5>

[Format]	ASCII	GS	(	E	pL pH fn [a1 n1L n1H] ... [ak nKL nKH]
	Hex	1D	28	45	pL pH 05 [a1 n1L n1H] ... [ak nKL nKH]
	Decimal	29	40	69	pL pH 5 [a1 n1L n1H] ... [ak nKL nKH]

[Range] $4 \leq (pL + pH \times 256) \leq 65533$
 $(0 \leq pL \leq 255, 0 \leq pH \leq 255: (pL + pH \times 256) = 3 \times k + 1)$
fn = 5
 $1 \leq k \leq 21844$
a = 3

$nL + nH \times 256 = 2, 4, 5$ ($nL = 2, 4, 5, nH = 0$)

[Default] $(nL + nH \times 256) = 5$ ($nL = 5, nH = 0$) [default value when **a** = 3]

[Description] Changes the customized value specified by parameter **a** to $(nL + nH \times 256)$.

a	Type of customized value
3	Paper width

[Notes] • Paper width settings (**a** = 3)

(nL + nH x 256)	Paper width
2	57.5mm (2.26 inch)
4	69.5 mm (2.74 inch)
5	76 mm (3.00 inch)

GS (E pL pH fn a <Function 6>

[Format]	ASCII	GS	(	E	pL pH fn a
	Hex	1D	28	45	02 00 06 a
	Decimal	29	40	69	2 0 6 a

[Range] $(pL + pH \times 256) = 2$ ($pL = 2, pH = 0$)
fn = 6
a = 3

[Description] The printer transmits to the host the customized value for the NV memory area specified by parameter **a**.

a	Type of customized value
3	Paper width

Control commands list

GS (E *pL pH fn a d1...dk* <Function 11>

[Format] ASCII GS (E *pL pH fn a d1...dk*
 Hex 1D 28 45 *pL pH 0B a d1...dk*
 Decimal 29 40 69 *pL pH 11 a d1...dk*

[Range] $3 \leq (pL + pH \times 256) \leq 8$ ($3 \leq pL \leq 8, 0 \leq pH \leq 255$)

fn = 11

$1 \leq a \leq 4$

$48 \leq d \leq 57$ [*a* = 1]

$48 \leq d \leq 50$ [*a* = 2]

d = 48, 49 [*a* = 3]

d = 55, 56 [*a* = 4]

$1 \leq k \leq 6$

[Default] *d1...dk* = "9600" [*a* = 1]

d = 48 [*a* = 2]

d = 48 [*a* = 3]

d = 56 [*a* = 4]

[Description] Changes the condition of the serial interface defined by *a*.

<i>a</i>	Item
1	Baud rate
2	Parity
3	Flow control
4	Bit length

- Baud rate (*a* = 1) is specified by number.

Example: When defining 19200 bps: 5 bytes as "19200" (Hexadecimal = 31H, 39H, 32H, 30H, 30H / Decimal= 49, 57, 50, 48, 48)

- Parity (*a* = 2) is specified by *d* as follows:

<i>d</i>	Function
48	Select no parity
49	Select odd parity
50	Select even parity

- Flow control (*a* = 3) is specified by *d* as follows:

<i>d</i>	Function
48	Select Flow control of DTR/DSR
49	Select Flow control of XON/XOFF

- Bit length (*a* = 4) is specified by *d* as follows:

<i>d</i>	Function
55	Select 7 bits length
56	Select 8 bits length

GS (E *pL pH fn a* <Function 12>

[Format] ASCII GS (E *pL pH fn a*
 Hex 1D 28 45 *pL pH 0B a*
 Decimal 29 40 69 *pL pH 11 a*

[Range] $(pL + pH \times 256) = 2$ ($pL = 2, pH = 0$)

fn = 12

$1 \leq a \leq 4$

[Description] Transmits the setting value of the serial interface communication condition specified by *a*.

[Notes]

- This function works in user setting mode and during normal operation.
- This function transmits "Header to NUL" as follows:

<i>a</i>	Communication condition
1	Baud rate
2	Parity
3	Flow control
4	Bit length

GS I

[Name] Transmit printer ID
 [Format] ASCII GS I *n*
 Hex 1D 49 *n*
 Decimal 29 73 *n*
 [Range] $1 \leq n \leq 3, 49 \leq n \leq 51, 65 \leq n \leq 68, n = 33$
 [Default] None
 [Description] Transmits 1 byte of printer ID which is specified by *n* as follows:

<i>n</i>	Printer ID	Specification
1, 49	Printer model ID	Printer model
2, 50	Type ID	Printer type
3, 51	Version ID	Firmware version

Transmits printer information A (common information), using *n* as follows:

<i>n</i>	Printer ID	Specification
33	Type information	Supported functions

Transmits printer information B (common information), using *n* as follows:

<i>n</i>	Printer ID	Specification
65	Firmware version	Firmware version
66	Maker name	BIXOLON
67	Printer model	Printer model
68	Serial No	Serial No of the printer

GS V

[Name] Select cut mode and cut paper
 [Format] Function A ASCII GS V *m*
 Hex 1D 56 *m*
 Decimal 29 86 *m*
 Function B ASCII GS V *m n*
 Hex 1D 56 *m n*
 Decimal 29 86 *m n*
 [Range] Function A $m = 0, 1, 48, 49$
 Function B $m = 65, 66; 0 \leq n \leq 255$
 [Default] None
 [Description] Select a paper cutting mode using *m* and then cut the paper, as follows:

<i>m</i>	Function
<A>	0,48 Executes a full cut (cuts the paper completely).
	1,49 Executes a partial cut (one point left uncut).
	65 Feeds paper to (cutting position + <i>n</i> × vertical motion unit) and executes a partial cut(one point left uncut).
	66 Feeds paper to (cutting position + <i>n</i> × vertical motion unit) and executes a partial cut(one point left uncut).

- [Note for <A>] • If an auto cutter is not provided, this command is ignored.
 • When *n* = 0, the printer feeds the paper to the cutting position and cuts it.
 [Notes for] • If an auto cutter is not provided, the printer only feeds the paper for specified amount.
 • Vertical motion unit is used for calculating a paper feed amount.

Control commands list

GS a

[Name]	Enable/disable Automatic Status Back (ASB)			
[Format]	ASCII	GS	a	n
	Hex	1D	61	n
	Decimal	29	97	n
[Range]	0 ≤ n ≤ 255			
[Default]	When DIP Switch or Memory Switch (BUSY condition) is Off: n = 0 When DIP Switch or Memory Switch (BUSY condition) is On: n = 2			
[Description]	Enables or disables basic ASB (Automatic Status Back) and specifies the status items to include, using n as follows:			

Bit	On/Off	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 sensor status disabled.
	On	08	8	Paper sensor status enabled.
4	-	-	-	Undefined.
5	-	-	-	Undefined.
6	-	-	-	Undefined.
7	-	-	-	Undefined.

[Notes]

- Basic ASB status is 4-byte configuration [first byte - fourth byte].
- The status to be transmitted are as follows:
- First byte (printer information)

Bit	On/Off	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	Rear cover is close
	On	20	32	Rear cover is open
6	Off	00	0	Paper is not being fed by the paper feed button.
	On	40	64	Paper is being fed by the paper feed button.
7	Off	00	0	Not used. Fixed to Off.

- Second byte (printer information)

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

- Third byte (paper sensor information)

Bit	On/Off	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.

- Forth byte

Bit	On/Off	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.

GS r

[Name]	Transmit status			
[Format]	ASCII	GS	r	<i>n</i>
	Hex	1D	72	<i>n</i>
	Decimal	29	114	<i>n</i>
[Range]	<i>n</i> = 1, 2, 49, 50			
[Description]	Transmits 1 byte of status data using <i>n</i> as follows:			

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

[Notes]

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

Bit	Binary	Hex	Decimal	Status
0, 1	00	00	0	Paper near end sensor: paper adequate.
	11	03	3	Paper near end sensor: paper not present.
2, 3	00	00	0	Paper end sensor: paper present.
	11	0C	12	Paper end sensor: paper not present.
4	0	00	0	Not used. Fixed to Off.
5,6	-	-	-	Undefined.
7	0	00	0	Not used. Fixed to Off.

- The status to be transmitted is as follows:
 - Drawer kick-out connector status (*n* = 2, 50)

Bit	Binary	Hex	Decimal	Status
0	0	00	0	Drawer kick-out connector pin 3 is LOW.
	1	01	1	Drawer kick-out connector pin 3 is HIGH.
1-3	-	-	-	Undefined.
4	0	00	0	Not used. Fixed to Off.
5,6				Undefined
7	0	00	0	Not used. Fixed to Off.

4.4.3 Commands list for STAR mode (SP500)

<i>n</i>	Command	Description	Hex
1	ESC GS t	Specify code page	1B 1D 74
2	ESC R	Specify international character set	1B 52
3	ESC /	Specify/cancel slash zero	1B 2F
4	ESC M	Specify 7×9 font (half dots)	1B 4D
5	ESC P	Specify 9×9 font	1B 50
6	ESC :	Specify 5×9 font (3P-1)	1B 3A
7	ESC SP	Specify character space	1B 20
8	SO	Specify double-wide expanded characters	0E
9	DC4	Cancel double wide printing	14
10	ESC W	Specify/cancel double-wide printing	1B 57
11	ESC h	Specify/cancel double-high printing	1B 68
12	ESC E	Select emphasized printing	1B 45
13	ESC F	Cancel emphasized printing	1B 46
14	ESC -	Select/cancels underline mode	1B 2D
15	ESC _	Select/cancels upperline mode	1B 5F
16	ESC 4	Specify white/black inversion and red color printing	1B 34
17	ESC 5	Cancel white/black inversion and specify black color printing	1B 35
18	SI	Select upside-down printing	0F
19	DC2	Cancel upside-down printing	12
20	ESC RS i	Specify/cancel rotating print mode	1B 1E 69
21	LF	Line feed	0A
22	CR	Line feed (according to Memory Switch settings)	0D
23	ESC a	Feed paper n lines	1B 61
24	ESC 0	Set line feed to 1/8 inch	1B 30
25	ESC 1	Set line feed to 7/72 inch	1B 31
26	ESC z 0("0")	Set line feed to 1/12 inch	1B 7A 00(30)
27	ESC z 1("1")	Set line feed to 1/6 inch	1B 7A 01(31)
28	ESC J	Execute n/72 inch paper feed one time	1B 4A
29	ESC A	Define n/72 inch pitch line feed	1B 41
30	ESC 2	Set ESC A line feed pitch	1B
31	ESC 3	Set line feed to n/216 inch line feed pitch (approximate value)	1B 33
32	ESC y	Set line feed to n/144 inch line feed pitch	1B 79
33	ESC l	Execute n/144 inch paper feed one time	1B 49
34	FF	Form feed	0C
35	ESC C	Set page length to n lines	1B 43
36	ESC C 0	Set page length to n inches	1B 43 00
37	VT	Feed paper to vertical table position	0B
38	ESC B	Set vertical tab position	1B 42
39	ESC N	Set bottom margin to n lines	1B 4E
40	ESC O	Cancel bottom margin	1B 4F
41	ESC l	Set left margin	1B 6C
42	ESC Q	Set right margin	1B 51
43	HT	Move print position to horizontal tab position	09
44	ESC D	Set/cancel horizontal tab position	1B 44
45	ESC GS a	Specify position alignment	1B 1D 61
46	ESC GS A	Specify absolute position	1B 1D 41
47	ESC GS R	Specify relative position	1B 1D 52
48	ESC &	Register/delete download characters	1B 26
49	ESC %	Set/cancel download characters	1B 25
50	ESC K	Standard density bit image	1B 4B

Control commands list

<i>n</i>	Command	Description	Hex
51	ESC L	Double density bit image	1B 4C
52	ESC d	Paper cut instruction	1B 64
53	ESC BEL	Set pulse width for external device drive	1B 07
54	BEL	External device 1 drive instruction	07
55	FS	External device 1 drive instruction (real time)	1C
56	SUB	External device 2 drive instruction (real time)	1A
57	EM	External device 2 drive instruction (real time)	19
58	ENQ	Inquire ENQ status	05
59	EOT	Inquire EOT status	04
60	ESC ACK SOH	Inquire status	1B 06 01
61	ESC RS a	Set status transmission conditions	1B 1E 61
62	ETB	Update ETB status (check after printing)	17
63	ESC RS E	Clear the ETB counter and ETB status	1B 1E 45
64	DC3	Printer deselect	13
65	DC1	Printer select	11
66	ESC @	Command initialization	1B 40
67	ESC U	Select printing direction	1B 55
68	ESC GS #	Set Memory Switch	1B 1D 23
69	ESC #	Set Memory Switch	1B 23
70	ESC ? LF NUL	Reset printer and test print	1B 3F 0A 00

4.4.4 Commands list for CITIZEN mode (iDP3550/3551)

n	Command	Description	Hexadecimal
1	FF n	n-line paper feed (CBM1 mode)	0C n
2	FF	Form feed (CBM2 mode)	0C
3	SO (Note)	Specifying the double width character (CBM1 mode)	0E
4	SI (Note)	Canceling the double width character	0F
5	LF	Print and paper feed	0A
6	CR	Printing	0D
7	DC1 (Note)	Initializing the printer (CBM1 mode)	11
8	DC2 (Note)	Specifying/Canceling the inverted character (CBM1 mode)	12
9	DC3 (Note)	Specifying the red print (CBM1 mode)	13
10	CAN	Canceling the print data	18
11	ESC * n1 n2	Specifying the bit image mode	1B 2A n1 n2
12	ESC - n	Specifying/Canceling the Underline	1B 2D n
13	ESC 1	Specifying 1/9-inch line feed width	1B 31H
14	ESC 2	Specifying 2/9-inch line feed width	1B 32
15	ESC 3	Specifying standard line feed width	1B 33
16	ESC C n	Setting the page length	1B 43 n
17	ESC N n	Specifying the perforation skip	1B 4E n
18	ESC O	Canceling the perforation skip	1B 4F
19	ESC f 1	Form feed (Changing the page)	1B 66 01
20	ESC t n	Selecting the character code table	1B 74 n
21	ESC BEL n1 n2	Setting the external device drive pulse width	1B 07 n1 n2
22	BEL	Driving command A for Drawer-1	07
23	FS	Driving command B for Drawer-1	1C
24	SUB	Driving command for Drawer-2	1A
25	RS	Buzzer-on	1E
26	ESC P 0	Partial cut	1B 50 00
27	ESC P 1	Partial cut	1B 50 01
28	ESC R n	Selecting the international character set	1B 52 n
29	ESC & 0 n1 n2	Defining the download character set	1B 26 00 n1 n2
30	ESC % n	Specifying/Canceling the download character	1B 25 n
31	ESC / n	Defining the message	1B 2F n
32	ESC DC3 n	Printing the message	1B 13 n
33	ESC y n	Setting the print lines after paper near end detection	1B 79 n
34	ESC DC2 n1 n2	Deleting the download character, message, bit image	1B 12 n1 n2
35	GS * n1 n2	Defining the download bit image	1D 2A n1 n2
36	GS / m	Printing the download bit image	1D 2F m

5.1 Printing specification

Item	Description	Remark
Printing method	Serial impact method	
Head wire	9 pin serial type	
Dot pitch	0.352mm (1/72")	
Dot wire diameter	0.3mm (0.01")	
Printing direction	Bidirectional (logic seeking) with friction feed	
Characters per line	Max. 42 (characters)	
Printing speed	5.1 LPS (Line Per Second) at 40 column	
Printing width	63.34 mm (2.49")	
Line interval	4.233 mm (1/6")	
Paper feed method	Friction feed	
Paper feed speed	Approximately 158 mm (6.2")	
Character font	7 x 9 / 9 x 9	
Character sets	Alphanumeric characters : 95 International characters : 32 Extended graphics : 128 x 25 pages	

5.2 Paper specifications

Item	Description	Remark
Paper type	Paper roll	
Paper roll width	76±0.5 mm, 69.5±0.5 mm, 57.5±0.5mm	
Paper roll diameter	Max. ø83 mm (3.27")	
Normal paper	Thickness : 1 sheet 0.07~0.085 mm (0.0028~0.0034") Weight : 52.3~64g/m ² (0.115~0.1411 lb)	
Paper core outside diameter	Max. ø19mm (0.75")	

5.3 Ribbon cassette specification

Item	Description	Remark
Standard	SRP 275 B/R	
Color	Black & Red	
Size	13 mm (W)	
Life	SRP 275 B/R : 1,500,000 characters (Black) 750,000 characters (Red)	Continuous printing 7x9 font ASCII 25°C

NOTES

Malfunctions and other problems may arise if other than specified ribbon cassettes are used in the printer. The Warranty may be void if other than specified ribbon cassettes are used. Contact your dealer or place of purchase for more information about proper ribbon cassettes.

5.4 Electrical characteristics

Item		Description	Remark
Supply voltage		24V DC \pm 10%	
Current consumption (at 24V, except for drawer kick-out driving)	Operating	Mean : Approximately 0.5A Peak : Approximately 1.5A	
	Standby	Mean: Approximately 0.3A	

NOTES

Maximum 1A for drawer kick-out driving.

5.5 Reliability

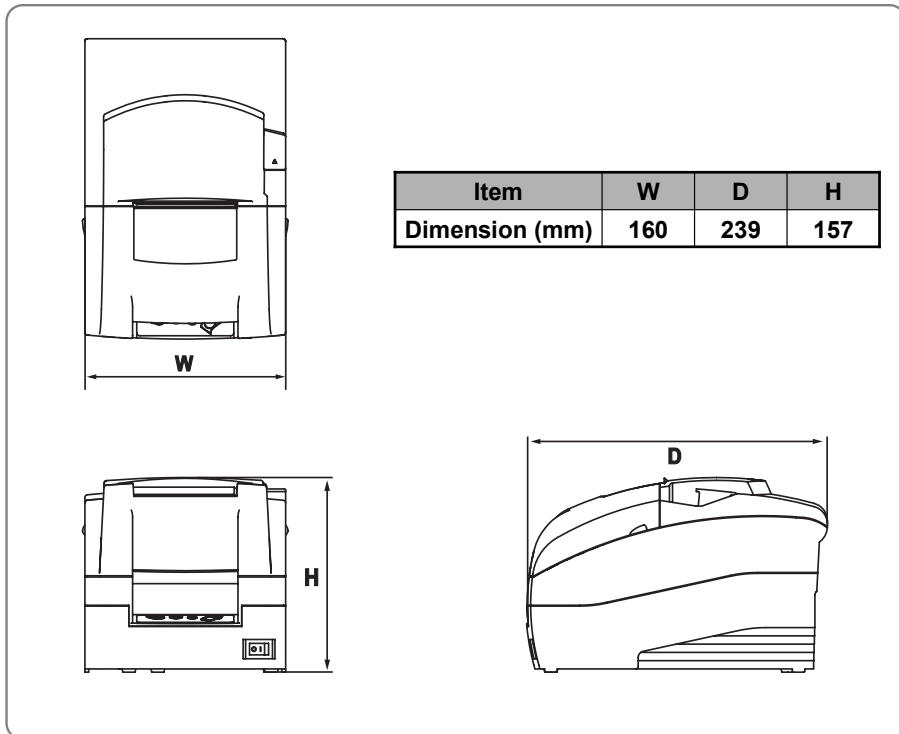
Item	Description	Remark
Life firing frequency	Mechanism : Approx. 10 million lines Auto cutter : Approx. 1 million cuts (End of life is defined as the point at which the printer reaches the beginning of the Wear out Period.)	
Head	Approx. 300 million dots/wire	

5.6 Environment conditions

Item	Description	Remark
Temperature	Operating : 0~50°C (32~122°F) Storage : -10~50°C (14~122°F)	
Relative humidity	Operating : 10~90% RH (Non-condensing) Storage : 10~90% RH (Non-condensing)	

5.7 Dimensions & weight

• Dimensions



• Weight

Approx. Wt. : 2.5 kg
Shipping Wt. : 4.0 kg

5.8 Optional features

The optional features either replace a standard feature or enhance the operation of the printer. All optional features are installed at the factory and must be selected when the printer is ordered.

- Auto cutter (SRP-275A : Exclude auto cutter, SRP-275C : Including auto cutter)
- Interface (Serial / Parallel / USB / Ethernet)
- Cabinet color (Ivory / Dark gray)

The following pages show the character code tables.

To find the character corresponding to a hexadecimal number, count across the top of the table for the left digit and count down the left column of the table right digit. For example, 4A=J.

**A.1 Page 0 (PC 437 : USA, Standard Europe
(International Character Set : USA))**

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	0001 DLE	0010 SP	0011 0	0100 @	0101 P	0110 `	0111 p	1000 Ç	1001 É	1010 á	1011 ■	1100 L	1101 √	1110 α	1111 ≡
1	0001	0010 XON	0011 I	0011 1	0100 A	0101 Q	0110 a	0111 q	1000 ú	1001 æ	1010 í	1011 ≡	1100 √	1101 β	1110 ±	1111
2	0010	0010	0011 "	0011 2	0100 B	0101 R	0110 b	0111 r	1000 é	1001 Æ	1010 ó	1011 ≡	1100 √	1101 Γ	1110 ≤	1111
3	0010	0010 XOFF	0011 %	0011 3	0100 C	0101 S	0110 c	0111 s	1000 â	1001 ô	1010 ú	1011 |	1100 √	1101 π	1110 ≥	1111
4	0100	0100 EQT	0100 \$	0100 4	0100 D	0101 T	0110 d	0111 t	1000 ä	1001 ö	1010 ñ	1011 |	1100 √	1101 Σ	1110 ∫	1111
5	0101	0101 ENQ	0100 %	0100 5	0100 E	0101 U	0110 e	0111 u	1000 à	1001 ò	1010 Ñ	1011 =	1100 √	1101 F	1110 σ	1111 J
6	0110	0110	0110 &	0110 6	0110 F	0111 V	0111 f	0111 v	1000 á	1001 ù	1010 *	1011 ¶	1100 √	1101 ¶	1110 μ	1111 +
7	0111	0111	0111 '	0111 7	0111 G	0111 W	0111 g	0111 w	1000 ç	1001 ù	1010 °	1011 ¶	1100 √	1101 ¶	1110 τ	1111 ≈
8	1000	1000 BS	1000 CAN	1000 (	1000 8	1000 H	1000 X	1000 h	1000 x	1000 ê	1001 ý	1001 ÿ	1001 √	1001 √	1001 φ	1001 °
9	1001	1001 HT	1001)	1001 9	1001 I	1001 Y	1001 i	1001 y	1001 é	1001 ò	1001 ¯	1001 ¶	1001 √	1001 √	1001 θ	1001 •
A	1010	1010 LF	1010 *	1010 :	1010 J	1010 Z	1010 j	1010 z	1010 è	1010 Û	1010 ¯	1010 √	1010 √	1010 √	1010 Ω	1010 •
B	1011	1011 ESC	1011 +	1011 ;	1011 K	1011 [	1011 k	1011 {	1011 ì	1011 ø	1011 1/2	1011 ¶	1011 √	1011 √	1011 δ	1011 √
C	1100	1100 FF	1100 FS	1100 ,	1100 <	1100 L	1100 \	1100 |	1100 ;	1100 î	1100 £	1100 1/4	1100 √	1100 √	1100 ∞	1100 n
D	1101	1101 CR	1101 GS	1101 -	1101 =	1101 M	1101]	1101 m	1101 }	1101 ï	1101 ¥	1101 |	1101 √	1101 √	1101 φ	1101 2
E	1110	1110	1110 .	1110 >	1110 N	1110 ~	1110 ñ	1110 ~	1110 Æ	1110 Pt	1110 «	1110 √	1110 √	1110 √	1110 √	1110 "
F	1111	1111	1111 /	1111 ?	1111 O	1111 _	1111 o	1111 SP	1111 Å	1111 f	1111 »	1111 ¶	1111 √	1111 √	1111 √	1111 SP

A.2 Page 1 (Katakana)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	▬	┌	SP	一	夕	ミ	二	×
		128	144	160	176	192	208	224	240
1	0001	▬	┐	。	ア	チ	ム	卍	円
		129	145	161	177	193	209	225	241
2	0010	▬	└	「	イ	ツ	メ	卍	年
		130	146	162	178	194	210	226	242
3	0011	▬	┘	」	ウ	テ	モ	卍	月
		131	147	163	179	195	211	227	243
4	0100	▬	—	、	エ	ト	ヤ	▲	日
		132	148	164	180	196	212	228	244
5	0101	▬	—	、	オ	ナ	ユ	▲	時
		133	149	165	181	197	213	229	245
6	0110	▬	|	ヲ	カ	ニ	ヨ	▲	分
		134	150	166	182	198	214	230	246
7	0111	▬	|	ア	キ	ヌ	ラ	▲	秒
		135	151	167	183	199	215	231	247
8	1000	|	┌	イ	ク	ネ	リ	♠	〒
		136	152	168	184	200	216	232	248
9	1001	|	┐	ウ	ケ	ノ	ル	♥	市
		137	153	169	185	201	217	233	249
A	1010	|	└	エ	コ	ハ	レ	♦	区
		138	154	170	186	202	218	234	250
B	1011	|	┘	オ	サ	ヒ	ロ	♣	町
		139	155	171	187	203	219	235	251
C	1100	▬	┌	ヤ	シ	フ	ワ	●	村
		140	156	172	188	204	220	236	252
D	1101	▬	┐	ユ	ス	ヘ	ン	○	人
		141	157	173	189	205	221	237	253
E	1110	▬	└	ヨ	セ	ホ	”	／	■
		142	158	174	190	206	222	238	254
F	1111	▬	┘	ツ	ソ	マ	°	＼	SP
		143	159	175	191	207	223	239	255

A.3 Page 2 (PC850 : Multilingual)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	■ 176	┌ 192	ř 208	Ó 224	— 240
1	0001	ü 129	æ 145	í 161	■ 177	└ 193	Ð 209	β 225	± 241
2	0010	é 130	Æ 146	ó 162	■ 178	┌ 194	É 210	Ô 226	— 242
3	0010	â 131	ô 147	ú 163	| 179	┌ 195	Ë 211	Ò 227	3/4 243
4	0100	ä 132	ö 148	ñ 164	┌ 180	— 196	È 212	ö 228	— 244
5	0101	à 133	ò 149	Ñ 165	Á 181	┌ 197	i 213	Ö 229	§ 245
6	0110	á 134	û 150	ª 166	Â 182	ã 198	f 214	u 230	+ 246
7	0111	ç 135	ù 151	º 167	À 183	Ã 199	î 215	þ 231	ˆ 247
8	1000	ê 136	ÿ 152	¿ 168	© 184	ℓ 200	Ï 216	p 232	° 249
9	1001	ë 137	ö 153	® 169	≠ 185	┌ 201	└ 217	Ú 233	— 249
A	1010	è 138	Û 154	¬ 170	|| 186	└ 202	┌ 218	Û 234	• 250
B	1011	ï 139	ø 155	1/2 171	┌ 187	┌ 203	■ 219	Ü 235	1 251
C	1100	î 140	£ 156	1/4 172	└ 188	┌ 204	■ 220	ý 236	3 252
D	1101	ì 141	Ø 157	ı 173	¢ 189	= 205	ı 221	Ý 237	2 253
E	1110	Ä 142	X 158	« 174	¥ 190	┌ 206	ı 222	— 238	▪ 254
F	1111	Å 143	f 159	» 175	└ 191	⊗ 207	■ 223	´ 239	SP 255

A.4 Page 3 (PC860 : Portuguese)

HEX	HEX BIN	8 1000	9 1001	A 1010	B 1011	C 1100	D 1101	E 1110	F 1111
0	0000	Ç 128	É 144	á 160	■ 176	┌ 192	└ 208	α 224	≡ 240
1	0001	ü 129	À 145	í 161	■ 177	└ 193	≡ 209	β 225	± 241
2	0010	é 130	É 146	ó 162	■ 178	└ 194	≡ 210	Γ 226	≤ 242
3	0010	â 131	ô 147	ú 163	| 179	└ 195	≡ 211	π 227	≥ 243
4	0100	ä 132	ö 148	ñ 164	└ 180	— 196	└ 212	Σ 228	┌ 244
5	0101	à 133	ò 149	Ñ 165	└ 181	└ 197	≡ 213	σ 229	┌ 245
6	0110	Á 134	ú 150	ª 166	≡ 182	≡ 198	≡ 214	μ 230	÷ 246
7	0111	ç 135	ù 151	º 167	≡ 183	≡ 199	≡ 215	τ 231	≈ 247
8	1000	ê 136	ì 152	¸ 168	≡ 184	≡ 200	≡ 216	Φ 232	° 249
9	1001	Ê 137	õ 153	Ò 169	≡ 185	≡ 201	└ 217	θ 233	• 249
A	1010	è 138	Ü 154	¬ 170	≡ 186	≡ 202	└ 218	Ω 234	• 250
B	1011	í 139	ø 155	1/2 171	≡ 187	≡ 203	■ 219	δ 235	√ 251
C	1100	Ô 140	£ 156	1/4 172	≡ 188	≡ 204	■ 220	∞ 236	n 252
D	1101	ì 141	Ù 157	ı 173	≡ 189	≡ 205	■ 221	φ 237	² 253
E	1110	Ã 142	Pt 158	« 174	└ 190	≡ 206	■ 222		▪ 254
F	1111	Â 143	Ó 159	» 175	└ 191	≡ 207	■ 223		SP 255

A.5 Page 4 (PC863 : Canadian-French)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	Ï 160	■ 176	Ł 192	⌌ 208	α 224	240
1	0001	Û 129	É 145	· 161	■ 177	⌌ 193	⌌ 209	β 225	± 241
2	0010	é 130	Ê 146	ó 162	■ 178	⌌ 194	⌌ 210	Γ 226	≥ 242
3	0010	â 131	ô 147	ú 163	· 179	⌌ 195	⌌ 211	π 227	≤ 243
4	0100	Â 132	Ë 148	· 164	· 180	— 196	⌌ 212	Σ 228	f 244
5	0101	à 133	Ï 149	· 165	· 181	⌌ 197	⌌ 213	σ 229	J 245
6	0110	134	û 150	³ 166	· 182	⌌ 198	⌌ 214	μ 230	÷ 246
7	0111	ç 135	ù 151	— 167	· 183	⌌ 199	⌌ 215	τ 231	≈ 247
8	1000	ê 136	⊘ 152	Ï 168	⌌ 184	⌌ 200	⌌ 216	Φ 232	° 249
9	1001	ë 137	Ô 153	⌌ 169	· 185	⌌ 201	⌌ 217	θ 233	• 249
A	1010	è 138	Û 154	⌌ 170	⌌ 186	⌌ 202	⌌ 218	Ω 234	• 250
B	1011	ï 139	ç 155	1/2 171	· 187	⌌ 203	■ 219	δ 235	251
C	1100	î 140	£ 156	1/4 172	· 188	⌌ 204	■ 220	∞ 236	n 252
D	1101	= 141	Û 157	3/4 173	· 189	= 205	■ 221	φ 237	² 253
E	1110	À 142	Û 158	« 174	· 190	⌌ 206	■ 222	238	² 254
F	1111	§ 143	f 159	» 175	⌌ 191	⌌ 207	■ 223	239	SP 255














































A.6 Page 5 (PC865 : Nordic)

HEX	HEX BIN	8 1000	9 1001	A 1010	B 1011	C 1100	D 1101	E 1110	F 1111
0	0000	Ç 128	É 144	á 160	■ 176	┘ 192	┘ 208	α 224	240
1	0001	ù 129	æ 145	í 161	■ 177	┘ 193	┘ 209	β 225	± 241
2	0010	é 130	Æ 146	ó 162	■ 178	┘ 194	┘ 210	Γ 226	≥ 242
3	0010	â 131	ô 147	ú 163	┘ 179	┘ 195	┘ 211	π 227	≤ 243
4	0100	ä 132	ö 148	ñ 164	┘ 180	— 196	┘ 212	Σ 228	f 244
5	0101	à 133	ò 149	Ñ 165	┘ 181	┘ 197	┘ 213	σ 229	j 245
6	0110	å 134	û 150	ª 166	‡ 182	ƒ 198	┘ 214	μ 230	÷ 246
7	0111	ç 135	ù 151	º 167	‡ 183	ƒ 199	‡ 215	τ 231	≈ 247
8	1000	ê 136	ÿ 152	¿ 168	┘ 184	┘ 200	‡ 216	Φ 232	° 249
9	1001	ë 137	Ö 153	ƒ 169	‡ 185	┘ 201	┘ 217	θ 233	• 249
A	1010	è 138	Ü 154	ƒ 170	|| 186	┘ 202	┘ 218	Ω 234	• 250
B	1011	ï 139	ø 155	1/2 171	‡ 187	┘ 203	■ 219	δ 235	251
C	1100	î 140	£ 156	1/4 172	┘ 188	┘ 204	■ 220	∞ 236	n 252
D	1101	ì 141	Ø 157	i 173	|| 189	= 205	■ 221	φ 237	² 253
E	1110	Ä 142	Pt 158	« 174	┘ 190	‡ 206	■ 222	238	² 254
F	1111	Å 143	f 159	⊗ 175	┘ 191	┘ 207	■ 223	239	SP 255

A.7 Page 16 (WPC1252 : Latin1)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	€ 128			◊ 176	À 192	Ð 208	à 224	đ 240
1	0001		‘ 129	ı 145	± 161	Á 177	Ñ 193	á 209	ñ 225
2	0010	’ 130	’ 146	φ 162	2 178	Â 194	Ò 210	â 226	ò 242
3	0011	f 131	“ 147	£ 163	3 179	Ã 195	Ó 211	ã 227	ó 243
4	0100	” 132	” 148	⌘ 164	´ 180	Ä 196	Ô 212	ä 228	ô 244
5	0101	… 133	● 149	¥ 165	μ 181	Å 197	Õ 213	å 229	ö 245
6	0110	† 134	- 150	ı 166	¶ 182	Æ 198	Ö 214	æ 230	ö 246
7	0111	‡ 135	- 151	§ 167	• 183	Ç 199	× 215	ç 231	+ 247
8	1000	^ 136	~ 152	" 168	· 184	È 200	Ø 216	è 232	ø 248
9	1001	‰ 137	™ 153	© 169	1 185	É 201	Ù 217	é 233	ù 249
A	1010	š 138	š 154	š 170	š 186	Ê 202	Ú 218	ê 234	ú 250
B	1011	{ 139	) 155	((171	)) 187	Ë 203	Û 219	ë 235	û 251
C	1100	œ 140	œ 156	¬ 172	¼ 188	Ì 204	Ü 220	ì 236	ü 252
D	1101			- 173	½ 189	Í 205	Ý 221	í 237	ý 253
E	1110	ž 142	ž 158	® 174	¾ 190	Î 206	Þ 222	î 238	þ 254
F	1111		ÿ 159	- 175	¿ 191	Ï 207	ß 223	ï 239	ÿ 255

A.8 Page 17 (PC866 : Russian)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	А 128	Р 144	а 160	 176	Л 192	 208	р 224	Ё 240
1	0001	Б 129	С 145	б 161	 177	 193	 209	с 225	ё 241
2	0010	В 130	Т 146	в 162	 178	 194	 210	т 226	Ѹ 242
3	0011	Г 131	У 147	г 163	| 179	 195	 211	у 227	ѹ 243
4	0100	Д 132	Ф 148	д 164	 180	— 196	 212	ф 228	Ӏ 244
5	0101	Е 133	Х 149	е 165	 181	 197	 213	х 229	ӑ 245
6	0110	Ж 134	Ц 150	ж 166	 182	 198	 214	ц 230	ӕ 246
7	0111	З 135	Ч 151	з 167	 183	 199	 215	ч 231	ӗ 247
8	1000	И 136	Ш 152	и 168	 184	 200	 216	ш 232	° 248
9	1001	Й 137	Щ 153	й 169	 185	 201	 217	щ 233	· 249
A	1010	К 138	Ъ 154	к 170	|| 186	 202	 218	ъ 234	· 250
B	1011	Л 139	Ы 155	л 171	 187	 203	 219	ы 235	√ 251
C	1100	М 140	Ь 156	м 172	 188	 204	 220	ь 236	№ 252
D	1101	Н 141	Э 157	н 173	 189	 205	 221	э 237	¤ 253
E	1110	О 142	Ю 158	о 174	 190	 206	 222	ю 238	 254
F	1111	П 143	Я 159	п 175	 191	 207	 223	я 239	NBSP 255










A.9 Page 18 (PC852 : Latin2)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	⌘ 176	Ł 192	đ 208	Ó 224	- 240
1	0001	ü 129	Í 145	í 161	⌘ 177	ł 193	Đ 209	Ô 225	ˆ 241
2	0010	é 130	İ 146	ó 162	⌘ 178	Ł 194	Ď 210	Ó 226	˘ 242
3	0011	â 131	Ö 147	ú 163	| 179	ł 195	Ě 211	Ň 227	ˇ 243
4	0100	û 132	Ö 148	À 164	⌘ 180	– 196	ď 212	ň 228	ˇ 244
5	0101	ć 133	Ľ 149	ą 165	À 181	+ 197	Ň 213	ň 229	§ 245
6	0110	Ç 134	İ 150	ž 166	Ā 182	Ă 198	í 214	Š 230	+ 246
7	0111	Ĺ 135	Ś 151	ž 167	Ě 183	ă 199	î 215	š 231	˙ 247
8	1000	ł 136	ś 152	Ę 168	Ş 184	Ł 200	ě 216	Ř 232	° 248
9	1001	ë 137	Ö 153	ę 169	⌘ 185	ł 201	ı 217	Ú 233	ˆ 249
A	1010	Ő 138	Ü 154	˘ 170	⌘ 186	ł 202	ı 218	ı 234	˙ 250
B	1011	ö 139	ÿ 155	Ž 171	⌘ 187	ł 203	■ 219	Ú 235	Ú 251
C	1100	ı 140	ÿ 156	Č 172	⌘ 188	ł 204	■ 220	ý 236	Ř 252
D	1101	Ž 141	Ł 157	š 173	Ž 189	= 205	Ĵ 221	Ý 237	ř 253
E	1110	Ä 142	x 158	« 174	ž 190	≠ 206	Û 222	ı 238	■ 254
F	1111	Ć 143	č 159	» 175	⌘ 191	ł 207	■ 223	˙ 239	255



A.10 Page 19 (PC858 : Euro)

HEX	HEX BIN	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	■ 176	Ł 192	ð 208	ó 224	— 240
1	0001	ü 129	æ 145	az 161	■ 177	Ł 193	ð 209	β 225	± 241
2	0010	é 130	Æ 146	ó 162	■ 178	Ł 194	Ê 210	Ô 226	= 242
3	0011	â 131	ô 147	ú 163	| 179	Ł 195	Ê 211	Ô 227	3/4 243
4	0100	ä 132	ö 148	" 164	† 180	— 196	È 212	Ó 228	† 244
5	0101	à 133	ò 149	' 165	À 181	+ 197	€ 213	σ 229	\$ 245
6	0110	á 134	û 150	³ 166	À 182	ä 198	í 214	μ 230	+ 246
7	0111	ç 135	ù 151	— 167	À 183	Ä 199	î 215	þ 231	' 247
8	1000	ê 136	ÿ 152	ÿ 168	© 184	Ł 200	† 216	þ 232	° 248
9	1001	ë 137	ö 153	ƒ 169	≠ 185	ƒ 201	Ł 217	Ú 233	" 249
A	1010	è 138	Û 154	ƒ 170	|| 186	ŁŁ 202	ƒ 218	Û 234	° 250
B	1011	ï 139	ø 155	1/2 171	ƒ 187	ƒƒ 203	■ 219	Û 235	1 251
C	1100	î 140	£ 156	1/4 172	ƒ 188	ƒ 204	■ 220	ý 236	3 252
D	1101	ì 141	ø 157	3/4 173	¢ 189	= 205	í 221	Ý 237	2 253
E	1110	Ä 142	x 158	« 174	¥ 190	ƒƒ 206	í 222	— 238	■ 254
F	1111	Å 143	f 159	» 175	ƒ 191	□ 207	■ 223	' 239	SP 255

A.11 Page 21 (PC862 : Israel)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	א 128	ב 144	א 160		ל 192	⌞ 208	α 224	≡ 240
1	0001	ב 129	ס 145	í 161		⌞ 193	⌞ 209	ß 225	± 241
2	0010	ג 130	ע 146	ó 162		⌞ 194	⌞ 210	Γ 226	≥ 242
3	0011	ד 131	ך 147	ú 163	| 179	⌞ 195	⌞ 211	π 227	≤ 243
4	0100	ה 132	פ 148	ñ 164	⌞ 180	— 196	⌞ 212	Σ 228	∫ 244
5	0101	ו 133	ץ 149	Ñ 165	⌞ 181	⊕ 197	⌞ 213	σ 229	∫ 245
6	0110	ז 134	צ 150	ª 166	⌞ 182	⌞ 198	⌞ 214	μ 230	÷ 246
7	0111	ח 135	ק 151	º 167	⌞ 183	⌞ 199	⌞ 215	τ 231	≈ 247
8	1000	ט 136	ר 152	¿ 168	⌞ 184	⌞ 200	⌞ 216	Φ 232	° 248
9	1001	י 137	ש 153	⌞ 169	⌞ 185	⌞ 201	⌞ 217	⊖ 233	· 249
A	1010	ך 138	ת 154	⌞ 170	⌞ 186	⌞ 202	⌞ 218	Ω 234	· 250
B	1011	כ 139	¢ 155	½ 171	⌞ 187	⌞ 203		δ 235	√ 251
C	1100	ל 140	£ 156	¼ 172	⌞ 188	⌞ 204		∞ 236	∞ 252
D	1101	מ 141	¥ 157	ı 173	⌞ 189	⌞ 205		φ 237	² 253
E	1110	נ 142	⌞ 158	« 174	⌞ 190	⌞ 206		ε 238	
F	1111	ס 143	f 159	» 175	⌞ 191	⌞ 207		∩ 239	NBSP 255

A.12 Page 22 (PC864 : Arabic)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	° 128	β 144	NBSP 160	· 176	ϕ 192	ذ 208	- 224	ـ 240
1	0001	· 129	∞ 145	— 161	٨ 177	ء 193	ر 209	ف 225	ـ 241
2	0010	· 130	Φ 146	آ 162	٢ 178	آ 194	ز 210	ق 226	ن 242
3	0011	√ 131	± 147	£ 163	٣ 179	أ 195	س 211	ك 227	هـ 243
4	0100	 132	½ 148	α 164	٤ 180	ؤ 196	شد 212	ل 228	ث 244
5	0101	— 133	¼ 149	أ 165	٥ 181	ع 197	ص 213	م 229	ي 245
6	0110	| 134	≈ 150	 166	٦ 182	ئ 198	ض 214	ن 230	ي 246
7	0111	⊕ 135	« 151	 167	٧ 183	ا 199	ط 215	هـ 231	غ 247
8	1000	⊖ 136	» 152	ل 168	٨ 184	ب 200	ظ 216	و 232	ق 248
9	1001	⊗ 137	لأ 153	ب 169	٩ 185	ة 201	ع 217	ي 233	لا 249
A	1010	⊘ 138	لاأ 154	ت 170	ف 186	ت 202	غ 218	ي 234	لاأ 250
B	1011	⊙ 139	 155	ث 171	؛ 187	ث 203	ا 219	ض 235	ل 251
C	1100	⊚ 140	 156	، 172	س 188	ج 204	⊖ 220	ع 236	ك 252
D	1101	⊛ 141	لا 157	ح 173	ش 189	ح 205	÷ 221	غ 237	ي 253
E	1110	⊜ 142	لا 158	س 174	ص 190	خ 206	× 222	غ 238	 254
F	1111	⊝ 143	لا 159	غ 175	؟ 191	د 207	ع 223	م 239	 255

A.13 Page 23 (Thai character code 42)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	┌ 128	○ 144	 160	ฅ 176	ญ 192	เ 208	· 224	๒ 240
1	0001	┐ 129	๑ 145	ก 161	ฆ 177	ฎ 193	แ 209	๓ 225	๓ 241
2	0010	└ 130	๒ 146	ข 162	ค 178	ถ 194	โ 210	๔ 226	๔ 242
3	0011	┘ 131	๓ 147	ค 163	ด 179	ด 195	ใ 211	๕ 227	๕ 243
4	0100	┌ 132	๔ 148	ฅ 164	ง 180	ว 196	ใ 212	๖ 228	๖ 244
5	0101	┐ 133	๕ 149	ง 165	ท 181	ศ 197	๑ 213	๗ 229	๗ 245
6	0110	└ 134	๖ 150	จ 166	ธ 182	ษ 198	๒ 214	๘ 230	๘ 246
7	0111	┘ 135	๗ 151	ฉ 167	น 183	สี 199	๓ 215	๙ 231	๙ 247
8	1000	┌ 136	๘ 152	ช 168	บ 184	ห 200	๔ 216	๑๐ 232	๑๐ 248
9	1001	┐ 137	๙ 153	ฃ 169	ป 185	ฬ 201	๕ 217	๑๑ 233	๑๑ 249
A	1010	└ 138	๑๐ 154	ฅ 170	ผ 186	อ 202	๖ 218	๑๒ 234	๑๒ 250
B	1011	┘ 139	๑๑ 155	ง 171	ฝ 187	ฮ 203	๗ 219	๑๓ 235	๑๓ 251
C	1100	← 140	๑๒ 156	ฉ 172	พ 188	๐ 204	๘ 220	๑๔ 236	๑๔ 252
D	1101	↑ 141	๑๓ 157	ช 173	ฟ 189	ก 205	๙ 221	๑๕ 237	๑๕ 253
E	1110	→ 142	๑๔ 158	ซ 174	ภ 190	ง 206	๑๐ 222	๑๖ 238	๑๖ 254
F	1111	↓ 143	๑๕ 159	ฌ 175	ม 191	๑ 207	๑๑ 223	๑๗ 239	๑๗ 255

A.14 Page 24 (WPC1253 : Greek)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	€ 128		NBSP 160	° 176	† 192	Π 208	ϖ 224	π 240
1	0001		‘ 145	” 161	± 177	Α 193	Ρ 209	α 225	ρ 241
2	0010	, 130	, 146	Α 162	² 178	Β 194		β 226	ς 242
3	0011	f 131	“ 147	£ 163	³ 179	Γ 195	Σ 211	γ 227	σ 243
4	0100	” 132	” 148	α 164	’ 180	Δ 196	Τ 212	δ 228	τ 244
5	0101	… 133	• 149	¥ 165	μ 181	Ε 197	Υ 213	ε 229	υ 245
6	0110	† 134	— 150	¡ 166	¶ 182	Ζ 198	Φ 214	ζ 230	φ 246
7	0111	‡ 135	— 151	§ 167	· 183	Η 199	Χ 215	η 231	χ 247
8	1000			” 168	Ε 184	Θ 200	Ψ 216	θ 232	ψ 248
9	1001	‰ 137	™ 153	© 169	Η 185	Ι 201	Ω 217	ι 233	ω 249
A	1010				Ι 186	Κ 202	Ϊ 218	κ 234	ϊ 250
B	1011	< 139	> 155	« 171	» 187	Λ 203	Ϋ 219	λ 235	ϋ 251
C	1100			¬ 172	Ό 188	Μ 204	ά 220	μ 236	ό 252
D	1101			- 173	½ 189	Ν 205	έ 221	ν 237	ύ 253
E	1110			® 174	Υ 190	Ξ 206	ή 222	ξ 238	ώ 254
F	1111			— 175	Ω 191	Ο 207	ί 223	ο 239	

A.15 Page 25 (WPC1254 : Turkish)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	€ 128		NBSP 160	° 176	À 192	Ā 208	à 224	ğ 240
1	0001		‘ 145	ı 161	± 177	Á 193	Ñ 209	á 225	
2	0010	, 130	, 146	¢ 162	² 178	Â 194	Ò 210	â 226	
3	0011	f 131	“ 147	£ 163	³ 179	Ã 195	Ó 211	ã 227	
4	0100	” 132	” 148	¤ 164	´ 180	Ä 196	Ö 212	ä 228	
5	0101	… 133	• 149	¥ 165	µ 181	Å 197	Õ 213	å 229	
6	0110	† 134	— 150	| 166	¶ 182	Æ 198	Ö 214	æ 230	
7	0111	‡ 135	— 151	§ 167	· 183	Ç 199	× 215	ç 231	
8	1000	^ 136	~ 152	¨ 168	˘ 184	È 200	Ø 216	è 232	
9	1001	‰ 137	™ 153	© 169	¹ 185	É 201	Ù 217	é 233	
A	1010	Š 138	š 154	ª 170	º 186	Ê 202	Ú 218	ê 234	
B	1011	‹ 139	› 155	« 171	» 187	Ë 203	Û 219	ë 235	
C	1100	Œ 140	œ 156	¬ 172	¼ 188	Ì 204	Ü 220	ì 236	
D	1101			- 173	½ 189	Í 205	İ 221	í 237	ı 253
E	1110			® 174	¾ 190	Î 206	Ş 222	î 238	ş 254
F	1111		ÿ 159	— 175	¿ 191	Ï 207	ß 223	ï 239	ÿ 255

A.16 Page 26 (WPC1257 : Baltic)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	€ 128		NBSP 160	° 176	À 192	Š 208	ą 224	š 240
1	0001		‘ 145		± 177	Ĳ 193	Ń 209	į 225	ń 241
2	0010	’ 130	’ 146	À 162	² 178	Ā 194	Ņ 210	ā 226	ņ 242
3	0011		“ 147	£ 163	³ 179	Ć 195	Ó 211	ć 227	ó 243
4	0100	” 132	” 148	α 164	’ 180	Ä 196	Ö 212	ä 228	ö 244
5	0101	… 133	• 149		μ 181	Å 197	Ő 213	å 229	ő 245
6	0110	† 134	— 150	ı 166	¶ 182	Ę 198	Ö 214	ę 230	ö 246
7	0111	‡ 135	— 151	§ 167	· 183	Ě 199	× 215	ě 231	÷ 247
8	1000			“ 168	∅ 184	Č 200	Ů 216	č 232	ů 248
9	1001	‰ 137	™ 153	© 169	¹ 185	É 201	Ł 217	é 233	ł 249
A	1010			Ŕ 170	ŕ 186	Ž 202	Ś 218	ż 234	ś 250
B	1011	‹ 139	› 155	« 171	» 187	Ě 203	Û 219	ě 235	ů 251
C	1100			¬ 172	¼ 188	Ģ 204	Ü 220	ģ 236	ü 252
D	1101	“ 141	— 157	- 173	½ 189	Ķ 205	Ž 221	ķ 237	ž 253
E	1110	˘ 142	˘ 158	® 174	¾ 190	Ī 206	Ž 222	ī 238	ž 254
F	1111	˙ 143		Æ 175	æ 191	Ł 207	ß 223	ł 239	· 255




A.17 Page 27 (Farsi)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	۰ 128	۱ 144	۲ 160	۳ 176	۴ 192	۵ 208	۶ 224	۷ 240
1	0001	۱ 129	۲ 145	۳ 161	۴ 177	۵ 193	۶ 209	۷ 225	۸ 241
2	0010	۲ 130	۳ 146	۴ 162	۵ 178	۶ 194	۷ 210	۸ 226	۹ 242
3	0011	۳ 131	۴ 147	۵ 163	۶ 179	۷ 195	۸ 211	۹ 227	۱۰ 243
4	0100	۴ 132	۵ 148	۶ 164	۷ 180	۸ 196	۹ 212	۱۰ 228	۱۱ 244
5	0101	۵ 133	۶ 149	۷ 165	۸ 181	۹ 197	۱۰ 213	۱۱ 229	۱۲ 245
6	0110	۶ 134	۷ 150	۸ 166	۹ 182	۱۰ 198	۱۱ 214	۱۲ 230	۱۳ 246
7	0111	۷ 135	۸ 151	۹ 167	۱۰ 183	۱۱ 199	۱۲ 215	۱۳ 231	۱۴ 247
8	1000	۸ 136	۹ 152	۱۰ 168	۱۱ 184	۱۲ 200	۱۳ 216	۱۴ 232	۱۵ 248
9	1001	۹ 137	۱۰ 153	۱۱ 169	۱۲ 185	۱۳ 201	۱۴ 217	۱۵ 233	۱۶ 249
A	1010	۱۰ 138	۱۱ 154	۱۲ 170	۱۳ 186	۱۴ 202	۱۵ 218	۱۶ 234	۱۷ 250
B	1011	۱۱ 139	۱۲ 155	۱۳ 171	۱۴ 187	۱۵ 203	۱۶ 219	۱۷ 235	۱۸ 251
C	1100	۱۲ 140	۱۳ 156	۱۴ 172	۱۵ 188	۱۶ 204	۱۷ 220	۱۸ 236	۱۹ 252
D	1101	۱۳ 141	۱۴ 157	۱۵ 173	۱۶ 189	۱۷ 205	۱۸ 221	۱۹ 237	۲۰ 253
E	1110	۱۴ 142	۱۵ 158	۱۶ 174	۱۷ 190	۱۸ 206	۱۹ 222	۲۰ 238	۲۱ 254
F	1111	۱۵ 143	۱۶ 159	۱۷ 175	۱۸ 191	۱۹ 207	۲۰ 223	۲۱ 239	۲۲ 255










A.18 Page 28 (WPC1251 : Russian)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ғ 128	Һ 144	NBSP 160	° 176	А 192	Р 208	а 224	р 240
1	0001	Ґ 129	‘ 145	Ү 161	± 177	Б 193	С 209	б 225	с 241
2	0010	, 130	, 146	Ү 162	І 178	В 194	Т 210	в 226	т 242
3	0011	ґ 131	“ 147	Ј 163	і 179	Г 195	У 211	г 227	у 243
4	0100	” 132	” 148	Ѡ 164	г 180	Д 196	Ф 212	д 228	ф 244
5	0101	… 133	• 149	Ґ 165	μ 181	Е 197	Х 213	е 229	х 245
6	0110	† 134	— 150	і 166	¶ 182	Ж 198	Ц 214	ж 230	ц 246
7	0111	‡ 135	— 151	§ 167	· 183	З 199	Ч 215	з 231	ч 247
8	1000	€ 136		Ё 168	ё 184	И 200	Ш 216	и 232	ш 248
9	1001	‰ 137	™ 153	© 169	№ 185	Й 201	Щ 217	й 233	щ 249
A	1010	Љ 138	Љ 154	Є 170	є 186	К 202	Ъ 218	к 234	ъ 250
B	1011	‹ 139	› 155	« 171	» 187	Л 203	Ы 219	л 235	ы 251
C	1100	Ў 140	Ў 156	ґ 172	ј 188	М 204	Ь 220	м 236	ь 252
D	1101	Ѓ 141	ѓ 157	- 173	Ѕ 189	Н 205	Э 221	н 237	э 253
E	1110	Ғ 142	Һ 158	® 174	ѕ 190	О 206	Ю 222	о 238	ю 254
F	1111	Ї 143	Ї 159	Ї 175	ї 191	П 207	Я 223	п 239	я 255

A.19 Page 29 (PC737 : Greek)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Α 128	Ρ 144	ι 160	 176	Λ 192	⊥ 208	ω 224	Ϟ 240
1	0001	Β 129	Σ 145	κ 161	 177	⊥ 193	⊥ 209	ά 225	± 241
2	0010	Γ 130	Τ 146	λ 162	 178	⊥ 194	⊥ 210	έ 226	≥ 242
3	0011	Δ 131	Υ 147	μ 163	| 179	⊥ 195	⊥ 211	ή 227	≤ 243
4	0100	Ε 132	Φ 148	ν 164	⊥ 180	— 196	⊥ 212	ϊ 228	Ï 244
5	0101	Ζ 133	Χ 149	ξ 165	⊥ 181	⊥ 197	⊥ 213	ί 229	ÿ 245
6	0110	Η 134	Ψ 150	ο 166	⊥ 182	⊥ 198	⊥ 214	ό 230	÷ 246
7	0111	Θ 135	Ω 151	π 167	⊥ 183	⊥ 199	⊥ 215	ύ 231	≈ 247
8	1000	Ι 136	α 152	ρ 168	⊥ 184	⊥ 200	⊥ 216	ϋ 232	° 248
9	1001	Κ 137	β 153	σ 169	⊥ 185	⊥ 201	⊥ 217	ώ 233	· 249
A	1010	Λ 138	γ 154	ς 170	⊥ 186	⊥ 202	⊥ 218	À 234	· 250
B	1011	Μ 139	δ 155	τ 171	⊥ 187	⊥ 203	■ 219	Ε 235	√ 251
C	1100	Ν 140	ε 156	υ 172	⊥ 188	⊥ 204	■ 220	Η 236	ⁿ 252
D	1101	Ξ 141	ζ 157	φ 173	⊥ 189	⊥ 205	■ 221	Ι 237	² 253
E	1110	Ο 142	η 158	χ 174	⊥ 190	⊥ 206	■ 222	Ό 238	■ 254
F	1111	Π 143	θ 159	ψ 175	⊥ 191	⊥ 207	■ 223	Υ 239	NBSP 255

A.20 Page 30 (PC775 : Baltic)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ć 128	É 144	Ā 160	 176	Ł 192	ą 208	Ó 224	- 240
1	0001	ü 129	æ 145	Ī 161	 177	Ł 193	č 209	ß 225	± 241
2	0010	é 130	Æ 146	ó 162	 178	Ł 194	ę 210	Ō 226	“ 242
3	0011	ā 131	ō 147	Ž 163	| 179	Ł 195	è 211	Ń 227	¾ 243
4	0100	ä 132	ö 148	ž 164	Ł 180	— 196	ì 212	õ 228	¶ 244
5	0101	ǵ 133	Ǧ 149	ž 165	Ł 181	+ 197	š 213	Ŏ 229	§ 245
6	0110	ǻ 134	ǿ 150	” 166	Č 182	Ū 198	ų 214	μ 230	÷ 246
7	0111	ć 135	ś 151	| 167	Ę 183	Ū 199	ū 215	ń 231	” 247
8	1000	ł 136	ś 152	© 168	Ē 184	Ł 200	ż 216	ķ 232	° 248
9	1001	ē 137	Ö 153	® 169	Ł 185	Ł 201	ł 217	ķ 233	· 249
A	1010	Ŕ 138	Ü 154	Ł 170	|| 186	Ł 202	Ł 218	Ł 234	· 250
B	1011	ŗ 139	ø 155	½ 171	Ł 187	Ł 203	 219	Į 235	¹ 251
C	1100	ī 140	£ 156	¼ 172	Ł 188	Ł 204	 220	Ų 236	³ 252
D	1101	Ž 141	Ø 157	ł 173	ł 189	= 205	 221	Ē 237	² 253
E	1110	Ä 142	× 158	« 174	Š 190	Ł 206	 222	Ņ 238	 254
F	1111	Å 143	α 159	» 175	Ł 191	Ž 207	 223	, 239	NBSP 255

A.21 Page 31 (Thai character code 16)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	┌ 128	└ 144	┌ 160	└ 176	┌ 192	└ 208	┌ 224	└ 240
1	0001	┐ 129	┘ 145	┐ 161	┘ 177	┐ 193	┘ 209	┐ 225	┘ 241
2	0010	└┐ 130	┘└ 146	└┐ 162	┘└ 178	└┐ 194	┘└ 210	└┐ 226	┘└ 242
3	0011	┐└ 131	┘┘ 147	┐└ 163	┘┘ 179	┐└ 195	┘┘ 211	┐└ 227	┘┘ 243
4	0100	┌┐ 132	┘└ 148	┌┐ 164	┘└ 180	┌┐ 196	┘└ 212	┌┐ 228	┘└ 244
5	0101	┐└┐ 133	┘┘└ 149	┐└┐ 165	┘┘└ 181	┐└┐ 197	┘┘└ 213	┐└┐ 229	┘┘└ 245
6	0110	└┐└ 134	┘└┘ 150	└┐└ 166	┘└┘ 182	└┐└ 198	┘└┘ 214	└┐└ 230	┘└┘ 246
7	0111	┐└┐└ 135	┘┘└┘ 151	┐└┐└ 167	┘┘└┘ 183	┐└┐└ 199	┘┘└┘ 215	┐└┐└ 231	┘┘└┘ 247
8	1000	└┐└┐ 136	┘└┘└ 152	└┐└┐ 168	┘└┘└ 184	└┐└┐ 200	┘└┘└ 216	└┐└┐ 232	┘└┘└ 248
9	1001	┐└┐└┐ 137	┘┘└┘└ 153	┐└┐└┐ 169	┘┘└┘└ 185	┐└┐└┐ 201	┘┘└┘└ 217	┐└┐└┐ 233	┘┘└┘└ 249
A	1010	└┐└┐└ 138	┘└┘└┘ 154	└┐└┐└ 170	┘└┘└┘ 186	└┐└┐└ 202	┘└┘└┘ 218	└┐└┐└ 234	┘└┘└┘ 250
B	1011	┐└┐└┐└ 139	┘┘└┘└┘ 155	┐└┐└┐└ 171	┘┘└┘└┘ 187	┐└┐└┐└ 203	┘┘└┘└┘ 219	┐└┐└┐└ 235	┘┘└┘└┘ 251
C	1100	└┐└┐└┐ 140	┘└┘└┘└ 156	└┐└┐└┐ 172	┘└┘└┘└ 188	└┐└┐└┐ 204	┘└┘└┘└ 220	└┐└┐└┐ 236	┘└┘└┘└ 252
D	1101	┐└┐└┐└┐ 141	┘┘└┘└┘└ 157	┐└┐└┐└┐ 173	┘┘└┘└┘└ 189	┐└┐└┐└┐ 205	┘┘└┘└┘└ 221	┐└┐└┐└┐ 237	┘┘└┘└┘└ 253
E	1110	└┐└┐└┐└ 142	┘└┘└┘└┘ 158	└┐└┐└┐└ 174	┘└┘└┘└┘ 190	└┐└┐└┐└ 206	┘└┘└┘└┘ 222	└┐└┐└┐└ 238	┘└┘└┘└┘ 254
F	1111	┐└┐└┐└┐└ 143	┘┘└┘└┘└┘ 159	┐└┐└┐└┐└ 175	┘┘└┘└┘└┘ 191	┐└┐└┐└┐└ 207	┘┘└┘└┘└┘ 223	┐└┐└┐└┐└ 239	┘┘└┘└┘└┘ 255

Code tables

A.22 Page 32 (OldCode : Israel)

	HEX	0	1	2	3	4	5	6	7
HEX	BIN	0000	0001	0010	0011	0100	0101	0110	0111
0	0000	00	16	32	48	@	P	א	נ
1	0001	01	17	33	49	A	Q	ב	ס
2	0010	02	18	34	50	B	R	ג	ע
3	0011	03	19	35	51	C	S	ד	ף
4	0100	04	20	36	52	D	T	ה	פ
5	0101	05	21	37	53	E	U	ו	ץ
6	0110	06	22	38	54	F	V	ז	צ
7	0111	07	23	39	55	G	W	ח	ק
8	1000	08	24	40	56	H	X	ט	ך
9	1001	09	25	41	57	I	Y	י	ש
A	1010	10	26	42	58	J	Z	ך	ת
B	1011	11	27	43	59	K	[	כ	{
C	1100	12	28	44	60	L	\	ל	|
D	1101	13	29	45	61	M	]	ם	}
E	1110	14	30	46	62	N	^	נ	~
F	1111	15	31	47	63	O	-	ן	

A.23 Page 33 (WPC1255 : Israel)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	€ 128		NBSP 160	° 176	· 192	| 208	א 224	נ 240
1	0001		‘ 145	ı 161	± 177	” 193	· 209	ב 225	ס 241
2	0010	, 130	, 146	¢ 162	² 178	” 194	· 210	ג 226	ע 242
3	0011	f 131	“ 147	£ 163	³ 179	” 195	: 211	ד 227	ף 243
4	0100	” 132	” 148	⌘ 164	’ 180	· 196	ן 212	ה 228	פ 244
5	0101	… 133	• 149	¥ 165	μ 181	· 197	ן 213	ו 229	ץ 245
6	0110	† 134	— 150	| 166	¶ 182	· 198	” 214	ז 230	צ 246
7	0111	‡ 135	— 151	§ 167	· 183	· 199	’ 215	ח 231	ק 247
8	1000	^ 136	~ 152	· 168	³ 184	· 200	” 216	ט 232	ך 248
9	1001	% 137	™ 153	© 169	¹ 185	· 201	· 217	י 233	ש 249
A	1010			× 170	÷ 186	· 202	· 218	ך 234	ת 250
B	1011	< 139	> 155	« 171	» 187	· 203	· 219	כ 235	
C	1100			¬ 172	¼ 188	· 204	· 220	ל 236	
D	1101			- 173	½ 189	· 205	· 221	ם 237	LTR 253
E	1110			® 174	¾ 190	· 206	· 222	נ 238	RTL 254
F	1111			— 175	¿ 191	· 207	· 223	ן 239	

A.24 Page 34 (Thai character code 11)

HEX	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	๐	๑	๒	๓	๔	๕	๖	๗
		128	144	160	176	192	208	224	240
1	0001	๘	๙	๐	๑	๒	๓	๔	๕
		129	145	161	177	193	209	225	241
2	0010	๖	๗	๘	๙	๐	๑	๒	๓
		130	146	162	178	194	210	226	242
3	0011	๔	๕	๖	๗	๘	๙	๐	๑
		131	147	163	179	195	211	227	243
4	0100	๒	๓	๔	๕	๖	๗	๘	๙
		132	148	164	180	196	212	228	244
5	0101	๐	๑	๒	๓	๔	๕	๖	๗
		133	149	165	181	197	213	229	245
6	0110	๘	๙	๐	๑	๒	๓	๔	๕
		134	150	166	182	198	214	230	246
7	0111	๖	๗	๘	๙	๐	๑	๒	๓
		135	151	167	183	199	215	231	247
8	1000	๔	๕	๖	๗	๘	๙	๐	๑
		136	152	168	184	200	216	232	248
9	1001	๒	๓	๔	๕	๖	๗	๘	๙
		137	153	169	185	201	217	233	249
A	1010	๐	๑	๒	๓	๔	๕	๖	๗
		138	154	170	186	202	218	234	250
B	1011	๘	๙	๐	๑	๒	๓	๔	๕
		139	155	171	187	203	219	235	251
C	1100	๖	๗	๘	๙	๐	๑	๒	๓
		140	156	172	188	204	220	236	252
D	1101	๔	๕	๖	๗	๘	๙	๐	๑
		141	157	173	189	205	221	237	253
E	1110	๒	๓	๔	๕	๖	๗	๘	๙
		142	158	174	190	206	222	238	254
F	1111	๐	๑	๒	๓	๔	๕	๖	๗
		143	159	175	191	207	223	239	255

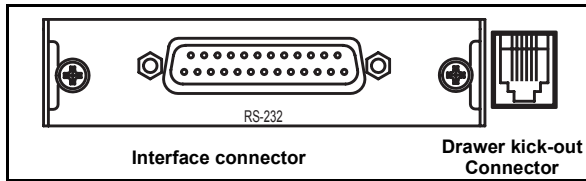
A.25 Page 35 (Thai character code 18)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	┌ 128	└ 144	┌ 160	└ 176	┌ 192	└ 208	┌ 224	└ 240
1	0001	┐ 129	┘ 145	┐ 161	┘ 177	┐ 193	┘ 209	┐ 225	┘ 241
2	0010	└┐ 130	┘└ 146	└┐ 162	┘└ 178	└┐ 194	┘└ 210	└┐ 226	┘└ 242
3	0011	┐└ 131	┘┘ 147	┐└ 163	┘┘ 179	┐└ 195	┘┘ 211	┐└ 227	┘┘ 243
4	0100	┌┐ 132	┘└ 148	┌┐ 164	┘└ 180	┌┐ 196	┘└ 212	┌┐ 228	┘└ 244
5	0101	┐└┐ 133	┘┘└ 149	┐└┐ 165	┘┘└ 181	┐└┐ 197	┘┘└ 213	┐└┐ 229	┘┘└ 245
6	0110	└┐└ 134	┘┘┘ 150	└┐└ 166	┘┘┘ 182	└┐└ 198	┘┘┘ 214	└┐└ 230	┘┘┘ 246
7	0111	┐└┐└ 135	┘┘┘└ 151	┐└┐└ 167	┘┘┘└ 183	┐└┐└ 199	┘┘┘└ 215	┐└┐└ 231	┘┘┘└ 247
8	1000	└┐└┐ 136	┘┘┘┘ 152	└┐└┐ 168	┘┘┘┘ 184	└┐└┐ 200	┘┘┘┘ 216	└┐└┐ 232	┘┘┘┘ 248
9	1001	┐└┐└┐ 137	┘┘┘┘└ 153	┐└┐└┐ 169	┘┘┘┘└ 185	┐└┐└┐ 201	┘┘┘┘└ 217	┐└┐└┐ 233	┘┘┘┘└ 249
A	1010	└┐└┐└ 138	┘┘┘┘┘ 154	└┐└┐└ 170	┘┘┘┘┘ 186	└┐└┐└ 202	┘┘┘┘┘ 218	└┐└┐└ 234	┘┘┘┘┘ 250
B	1011	┐└┐└┐└ 139	┘┘┘┘┘└ 155	┐└┐└┐└ 171	┘┘┘┘┘└ 187	┐└┐└┐└ 203	┘┘┘┘┘└ 219	┐└┐└┐└ 235	┘┘┘┘┘└ 251
C	1100	└┐└┐└┐ 140	┘┘┘┘┘┘ 156	└┐└┐└┐ 172	┘┘┘┘┘┘ 188	└┐└┐└┐ 204	┘┘┘┘┘┘ 220	└┐└┐└┐ 236	┘┘┘┘┘┘ 252
D	1101	┐└┐└┐└┐ 141	┘┘┘┘┘┘└ 157	┐└┐└┐└┐ 173	┘┘┘┘┘┘└ 189	┐└┐└┐└┐ 205	┘┘┘┘┘┘└ 221	┐└┐└┐└┐ 237	┘┘┘┘┘┘└ 253
E	1110	└┐└┐└┐└ 142	┘┘┘┘┘┘┘ 158	└┐└┐└┐└ 174	┘┘┘┘┘┘┘ 190	└┐└┐└┐└ 206	┘┘┘┘┘┘┘ 222	└┐└┐└┐└ 238	┘┘┘┘┘┘┘ 254
F	1111	┐└┐└┐└┐└ 143	┘┘┘┘┘┘┘└ 159	┐└┐└┐└┐└ 175	┘┘┘┘┘┘┘└ 191	┐└┐└┐└┐└ 207	┘┘┘┘┘┘┘└ 223	┐└┐└┐└┐└ 239	┘┘┘┘┘┘┘└ 255

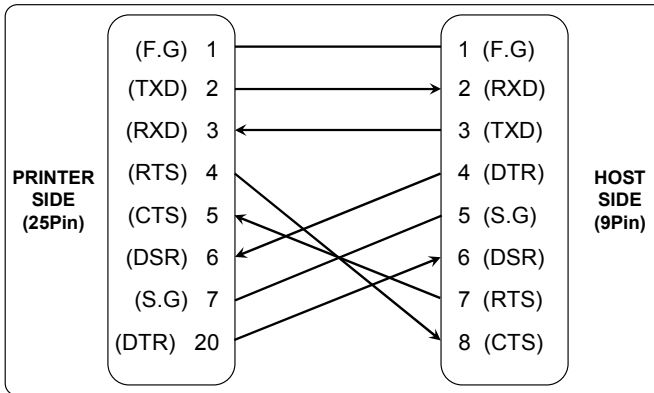
A.26 International character code table

	Country	ASCII code (hexadecimal number)											
		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	β
3	U.K.	£	\$	@	[	\	\]	^	'	{	|	}	~
4	Denmark I	#	\$	@	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	i
7	Spain	Pt	\$	@	ı	Ñ	¿	^	'	¨	ñ	}	~
8	Japan	#	\$	@	[	¥	]	^	'	{	|	}	~
9	Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
10	Denmark II	#	\$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü

B.1 RS-232C Serial I/F

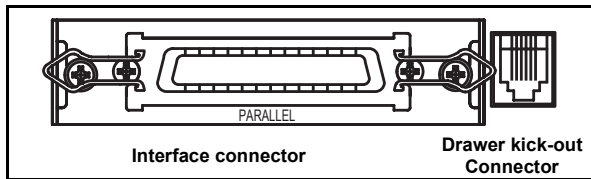


B.1.1 RS-232C Serial I/F cable connection



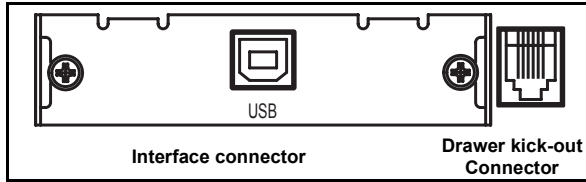
B.1.2 RS-232C Serial I/F signal descriptions

Pin No.	Signal name	Signal direction	Function
Body	Frame GND	-	Frame ground
2	TXD	Output	Transmit data
3	RXD	Input	Receive data
6	DSR	Input	This signal indicates whether the host computer can receive data. (H/W flow control) ① MARK(Logic 1) : The host can not receive a data. ② SPACE(Logic 0) : The host can receive a data. ③ The printer transmits a data to the host, after confirming this signal. ④ When XON/XOFF flow control is selected, the printer does not check this signal.
7	Signal GND	-	Signal ground
20	DTR	Output	This signal indicates whether the printer is busy. (H/W flow control) ① MARK(Logic 1) : The printer is busy. ② SPACE(Logic 0) : The printer is not busy. ③ The host transmits a data to the printer, after confirming this signal. ④ When XON/XOFF flow control is selected, the host does not check this signal.

B.2 IEEE1284 Parallel I/F**B.2.1 IEEE 1284 Parallel I/F signal specifications (Compatibility / Nibble / Byte mode)**

Pin no.	Source	Compatibility 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 / Data3,7	PtrBusy
12	Printer	Perror	AckDataReq / Data2,6	AckDataReq
13	Printer	Select	Xflag / Data1,5	Xflag
14	Host	nAutoFd	HostBusy	HostBusy
15	-	NC	ND	ND
16	-	GND	GND	GND
17	-	GND	FG	FG
18	Printer	Logic-H	Logic-H	Logic-H
19~30	-	GND	GND	GND
31	Host	nInIt	nInIt	nInIt
32	Printer	nFault	nDataAbail /	nDataAvail
33	-	NC	ND	ND
34	Printer	NC	ND	ND
35	Printer	NC	ND	ND
36	Host	nSelectIn	1284-Active	1284-Active

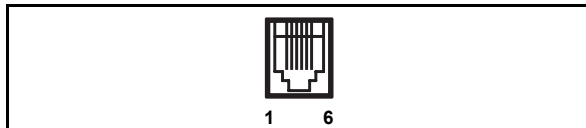
B.3 USB I/F



B.3.1 USB I/F signal descriptions

Pin No.	Signal name	Assignment (Color)	Function
Shell	Shield	Drain wire	Frame ground
1	VBUS	Red	NC
2	D-	White	Differential data line
3	D+	Green	Differential data line
4	GND	Black	Signal ground

B.4 Drawer kick-out



B.4.1 Drawer kick-out cable connection

Pin No.	Description	Direction
1	Signal GND	-
2	Drawer kick-out driver signal #1	Output
3	Drawer Open / Close signal	Input
4	+24V	-
5	Drawer kick-out driver signal #2	Output
6	Signal GND	-

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