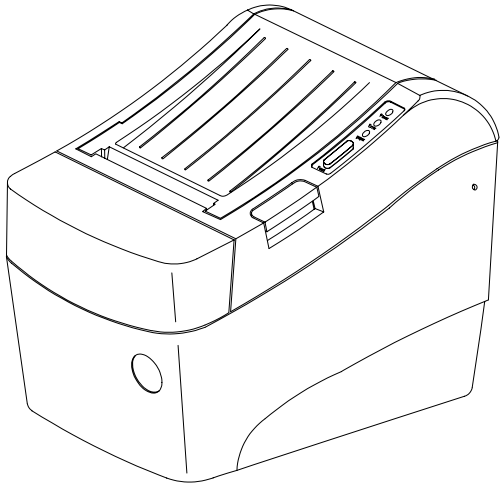
BIXOLON®
SAMSUNG mini printers

SAMSUNG ELECTRO-MECHANICS

USER'S MANUAL
SRP-370/372

THERMAL RECEIPT PRINTER



All specifications are subjected to change without notice
http://www.samsungminiprinters.com

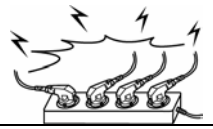
Safety Precautions

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.

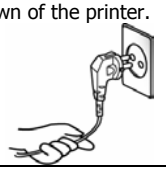
PROHIBITED



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.

PROHIBITED



Keep the plastic bag out of children's reach.
- If not, a child may put the bag on his head.

PROHIBITED

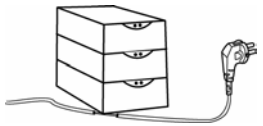
Do not plug in or unplug with your hands wet.
- You can be electrocuted.

PROHIBITED

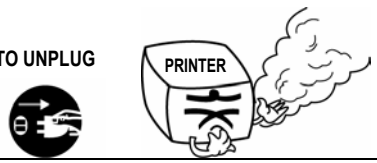
If you observe a strange smoke, odor or noise from the printer, unplug it before taking following measures.
- Switch off the printer and unplug the set from the mains.
- After the disappearance of the smoke, call your dealer to repair it.

Do not bend the cable by force or leave it under any heavy object.
- A damaged cable can cause a fire.

PROHIBITED



TO UNPLUG



WARNING

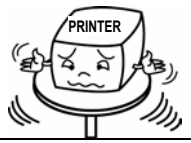
Violating following instructions can cause slight wound or damage the appliance.

Keep the desiccant out of children's reach.
- If not, they may eat it.

PROHIBITED

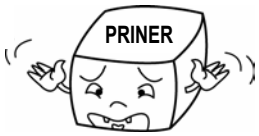
Install the printer on the stable surface.
- If the printer falls down, it can be broken and you can hurt yourself.

PROHIBITED

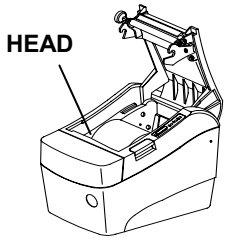


Use only approved accessories and do not try to disassemble, repair or remodel it for yourself.
- Call your dealer when you need these services.

DISASSEMBLING PROHIBITED



Do not touch the HEAD of printer with your hand.
- This can burn your hand or deteriorate printing quality.



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.

PROHIBITED

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

Warning - U.S.

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Notice - Canada

This Apparatus complies with class "A" limits for radio interference as specified in the Canadian department of communications radio interference regulations.

Get appareil est conforme aux normes class "A" d'interference radio tel que specifier par ministre canadien des communications dans les reglements d'interference radio.

Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer "OFF", before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer "OFF".

INTRODUCTION

The SRP-370/372 Roll Printer are designed for use with electronic instruments such as system ECR, POS, banking equipment, computer peripheral equipment, etc.

The main features of the printer are as follows:

1. High speed printing : 47(1/6" Feed) lines per second.
2. Low noise thermal printing.
3. RS-232, Parallel, USB
4. The data buffer allows the unit to receive print data even during printing.
5. Peripheral units drive circuit enables control of external devices such as cash drawer.
6. Characters can be scaled up to 64 times compared to it's original size.
7. Bar code printing is possible by using a bar code command.
8. Different print densities can be selected by DIP switches.

Please be sure to read the instruction in this manual carefully before using your new SRP-370/372.

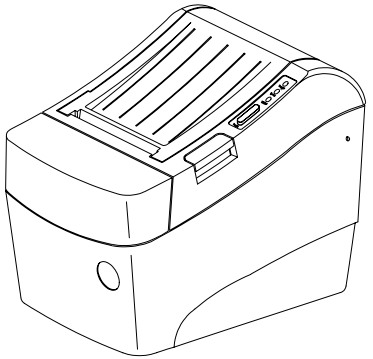
NOTE : The socket-outlet shall be near the equipment and it shall be easy accessible.

Table of Contents

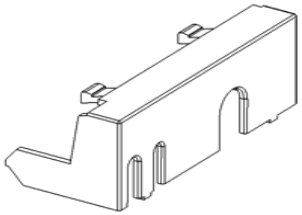
Chapter 1. Setting Up the Printer

1-1. Unpacking

Your printer box should include these items. If any items are damaged or missing, please contact your dealer for assistance.



SRP-370/372



Cover Cable

Roll Paper

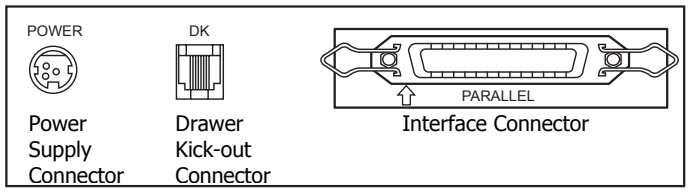
Operator's manual

AC Adapter

Power Code

1-2. Connecting the Cables

You can connect up the three cables to the printer. They all connect to the connector panel on the back of the printer, which is shown below:

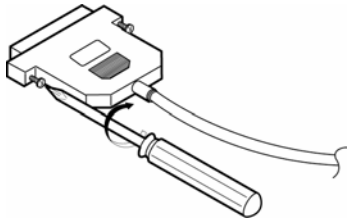


Notes : Before connecting any of the cables, make sure that both the printer and the host are turned off.

1-3. Connecting the computer

You need an appropriate interface cable.

1. Plug the cable connector securely into the printer's interface connector.
2. Tighten the screws on both sides of the cable connector.



3. Attach the other end of the cable to the computer.

1-4. Connecting the Drawer

WARNING:

Use a drawer that matches the printer specification. Using an improper drawer may damage the drawer as well as the printer.

CAUTION:

Do not connect a telephone line to the drawer kick-out connector; otherwise the printer and the telephone line may be damaged.

Plug the drawer cable into the drawer kick-out connector on the back of the printer next to the power supply connector.

1-5. Connecting the Power Supply

CAUTIONS:

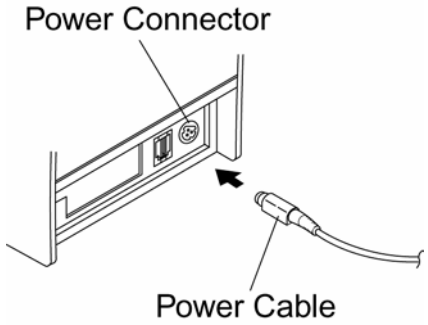
When connecting or disconnecting the power supply from the printer, make sure that the power supply is not plugged into an electrical outlet. Otherwise you may damage the power supply or the printer.

If the power supply's rated voltage and your outlet's voltage do not match, contact your dealer for assistance. Do not plug in the power cord. Otherwise, you may damage the power supply or the printer.

1. Make sure that the printer's power switch is turned off, and the power supply's power
cord is unplugged from the electrical outlet.

2. Check the label on the power supply to make sure that the voltage required by the power supply matches that of your electrical outlet.

3. Plug in the power supply's cable as shown below. Notice that the flat side of the plug faces down.



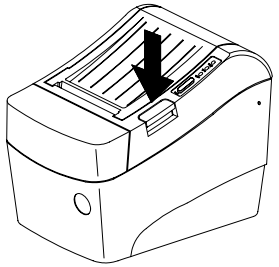
Notes : To remove the DC cable connector, make sure that the power supply's power cord is unplugged; then grasp the connector at the arrow and pull it straight out.

1-6. Installing or Replacing the Paper Roll

Notes : Be sure to use paper rolls that meet the specifications. Do not use paper rolls that have the paper glued to the core because the printer cannot detect the paper end correctly.

1. Make sure that the printer is not receiving data; otherwise, data may be lost.

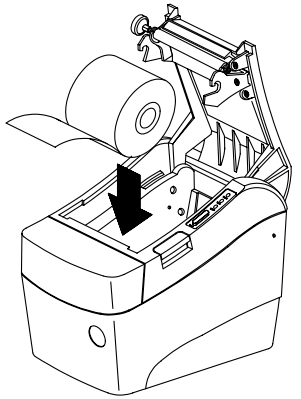
2. Open the paper roll cover by pressing the cover-open button.



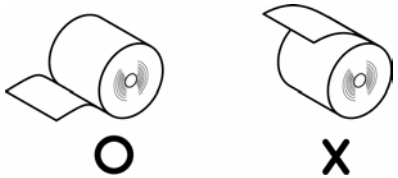
Notes : Do not open the print cover while the printer is operating.
This may damage the printer.

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

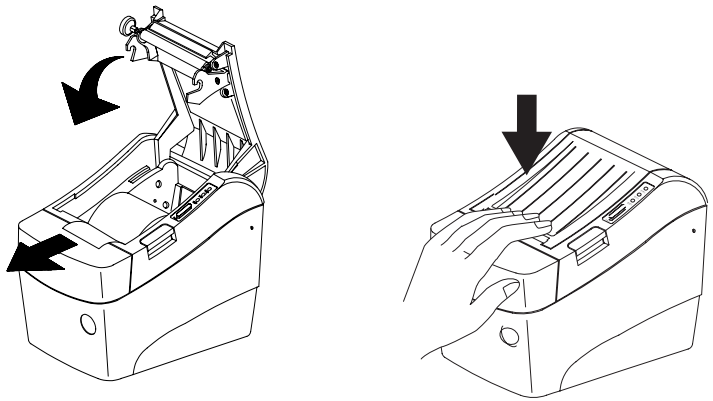
4. Insert the paper roll as shown.



5. Be sure to note the correct direction that the paper comes off the roll.

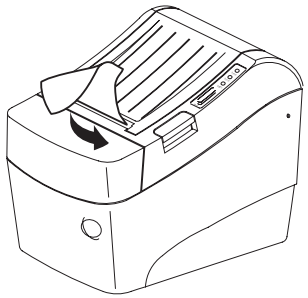


6. Pull out a small amount of paper, as shown. Then close the cover.

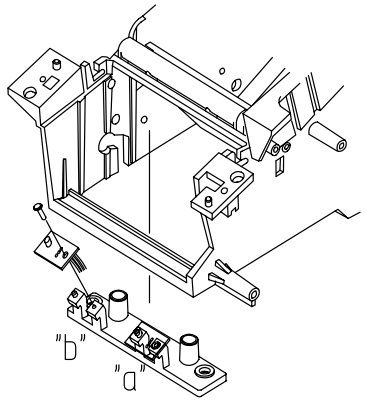


Notes : When closing the cover, press the center of printer cover firmly to prevent paper miss-loading

7. Tear off the paper as shown.



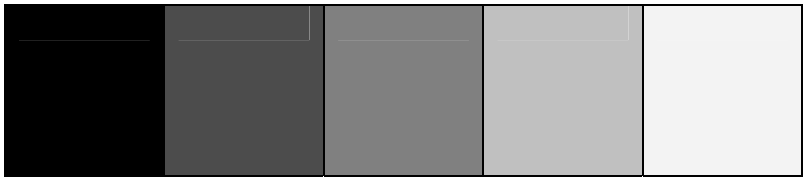
1-7. Adjustments and Settings



1)It has 2 features ; Paper end and Black mark. For detecting Paper End,
it must be positioned at "a" Position in drawing and it is a factory default setting.
For detecting Black mark printed on the paper, it must be moved to "b" position.

2) Optical density (O.D) must be higher than 0.6 in density to secure a standard working condition.
Make sure if the density of paper black mark is lesser it might be a cause of normality.

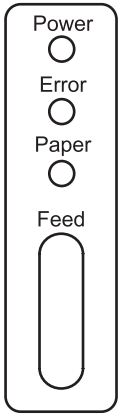
3) Table of O.D value (Reference)



1.4	0.9	0.6	0.3	0.2

1-8. Using the Printer

Control Panel



Button

The button can be disabled by the ESC c 5 command.

Press the FEED button once to advance paper one line. You can also hold down the FEED button to feed paper continuously.

Panel lights

POWER
The POWER light is on whenever the printer is on.

ERROR
This indicates an error.

PAPER OUT
This light indicates the near end of the paper roll. Install a new paper roll and the printer Will continue printing.

When the light blinks, it indicates the self-test printing standby state or macro execution Standby state when the macro execution command is used.

1-9. Setting the DIP Switches

Serial Interface(RS-232C, RS-485) Specification

DIP Switch Set 1 Functions

Switch No.	Function	ON	OFF	Default
SW1-1	Baud Rate Selection	Refer to below Table		OFF
SW1-2				OFF
SW1-3	Handshaking	Hardware (DTR/DSR)	Software (Xon/Xoff)	OFF
SW1-4	Reserved	--		OFF
SW1-5	Cutter Function	Disable	Enable	OFF
SW1-6	Paper	2 Color	Mono	OFF
SW1-7	Reserved	--		OFF
SW1-8	Reserved	--		ON

Baud rate selection

SW1-1	SW1-2	Trans- Speed	Remark
OFF	OFF	9600 Baud	
ON	OFF	19200 Baud	
OFF	ON	38400 Baud	
ON	ON	115200 Baud	Default

Dip Switch Set 2 Functions

Switch No.	Function	ON	OFF	Default
SW2-1	Select Print Density	Refer to below Table		OFF
SW2-2				OFF
SW2-3				OFF
SW2-4	Historical Control	Enable	Disable	OFF
SW2-5	Reserved	--		OFF
SW2-6	Interface Condition Selection	by Memory Switch	by DIP Switch	OFF
SW2-7	Reserved	--		OFF
SW2-8	Printing width	2” Printing	3” Printing	OFF

SW 2-1	SW 2-2	SW 2-3	Print Density	Remark
ON	ON	ON	130%	
OFF	ON	ON	120%	
ON	OFF	ON	110%	
OFF	OFF	ON	105%	
OFF	OFF	OFF	100%	Default
ON	OFF	OFF	95%	
OFF	ON	OFF	90%	
ON	ON	OFF	80%	

Print Density

Parallel/USB Interface Specification

Switch No.	Function	ON	OFF	Default
SW2-1	Select Print Density	Refer to below Table		OFF
SW2-2				OFF
SW2-3				OFF
SW2-4	Historical Control	Enable	Disable	OFF
SW2-5	Reserved	--		OFF
SW2-6	Interface Condition Selection	by Memory Switch	by DIP Switch	OFF
SW2-7	Reserved	--		OFF
SW2-8	Printing width	2" Printing	3" Printing	OFF

SW 2-1	SW 2-2	SW 2-3	Print Density	Remark
ON	ON	ON	130%	
OFF	ON	ON	120%	
ON	OFF	ON	110%	
OFF	OFF	ON	105%	
ON	OFF	OFF	100%	Default
OFF	OFF	OFF	95%	
OFF	ON	OFF	90%	
ON	ON	OFF	80%	

Print Density

Dip Switch Set 1		
SW 5	ON	Auto Cutter Disabled
Application	Ignores Auto Cutter error for continuous printing.	

※ Auto Cutter Enable / Disable selection

1-10. Setting the Memory Switches

This printer has "Memory Switch" set which is software switches. Memory Switch set has "MSW1", "MSW2", "MSW8", "MSW9" "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.
- Control from ESC/POS command.

Settings of the Memory Switch are stored in the NV memory : therefore, even if the printer is turned off, the settings are maintained.

MSW1

Switch	Function	ON	OFF
1~4	Reserved	--	Fixed to OFF
5	Auto Line Feed	Enable	Disable
6~8	Reserved	--	Fixed to OFF

MSW2

Switch	Function	ON	OFF
1~2	Reserved	--	Fixed to OFF
3	Auto Cutter Function	Full Cutting	Partial Cutting
4~8	Code Page Selection	Refer to following Table	

MSW2-8	MSW2-7	MSW2-6	MSW2-5	MSW2-4	Character Table
OFF	OFF	OFF	OFF	OFF	Page 0 437
OFF	OFF	OFF	OFF	ON	Page 1 Katakana
OFF	OFF	OFF	ON	OFF	Page 2 850
OFF	OFF	OFF	ON	ON	Page 3 860
OFF	OFF	ON	OFF	OFF	Page 4 863
OFF	OFF	ON	OFF	ON	Page 5 865
OFF	OFF	ON	ON	OFF	Page 16 1252
OFF	OFF	ON	ON	ON	Page 17 866
OFF	ON	OFF	OFF	OFF	Page 18 852
OFF	ON	OFF	OFF	ON	Page 19 858
OFF	ON	OFF	ON	OFF	Reserved
OFF	ON	OFF	ON	ON	Page 22 864
OFF	ON	ON	OFF	OFF	Page 23 Thai42
OFF	ON	ON	OFF	ON	Page 24 1253
OFF	ON	ON	ON	OFF	Reserved
OFF	ON	ON	ON	ON	
ON	OFF	OFF	OFF	OFF	
ON	OFF	OFF	OFF	ON	Page 28 1251
ON	OFF	OFF	ON	OFF	Page 29 737
ON	OFF	OFF	ON	ON	Reserved
ON	OFF	ON	OFF	OFF	Page 31 Thai16
ON	OFF	ON	OFF	ON	Reserved
ON	OFF	ON	ON	OFF	Page 33 1255
ON	OFF	ON	ON	ON	Reserved
ON	ON	OFF	OFF	OFF	
ON	ON	OFF	OFF	ON	Page 36 855
ON	ON	OFF	ON	OFF	Page 37 857

MSW8

Switch	Function	ON	OFF
1~8	Reserved	--	Fixed to OFF

MSW9

Switch	Function	ON	OFF
1	Reserved	--	Fixed to OFF
2	Data Length	7 Bits	8 Bits
3	Parity Selection	Even	Odd
4	Parity Check	Enable	Disable
5	Flow Control	DTR/DSR	XON/XOFF
6~8	Baud Rate Selection	Refer to following Table	

MSW9-8	MSW9-7	MSW9-6	Baud Rate
OFF	OFF	OFF	9600
OFF	OFF	ON	19200
OFF	ON	OFF	38400
OFF	ON	ON	57600
ON	OFF	OFF	115200

Chapter 2. Hexadecimal Dumping

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 data in hexadecimal format along with a guide section to help you find specific commands.

To use the hexadecimal dump function, follow these steps:

1. After you make sure that the printer is off, open the cover.
2. Turn on the printer, while holding down the FEED button.
3. Close the cover, then the printer enters the hexadecimal dump mode.
4. Run any software program that sends data to the printer. The printer will print all the codes it receives in a two-column format. The first column contains the hexadecimal codes and the second column gives the ASCII characters that corresponds to the codes.

```
0000: 1B 21 00 1B - 26 02 40 40 ¦    . ! . . & . @ @
0008: 40 40 02 0D - 1B 44 0A 14 ¦    @ @ . . . D . .
0010: 1E 28 28 28 - 00 01 0A 41 ¦    . ( ( ( . . . A
```

   - A period (.) is printed for each code that has no ASCII equivalent.
   - During the hex dump, all commands except **DLE EOT** and **DLE ENQ** are disabled.

5. When the printing finishes, turn off the printer.
6. Turn on the printer and then the hexadecimal mode is off.

Chapter 3. The self test

The self-test checks whether the printer has any problems. If the printer does not function properly, contact your dealer. The self-test checks the following;

1. Make sure paper roll has been installed properly.
2. Turn on the power while holding down the FEED button. The self-test begins.
3. The self-test prints the current printer status, which provides the control ROM version and the DIP switch setting.
4. After printing the current printer status, self-test printing will print the following, and pause (The PAPER LED light blinks).

Self-test printing.
Please press the FEED button

5. Press the FEED button to continue printing. The printer prints a pattern using the built-in character set.
6. The self-test automatically ends and cuts the paper after printing the following.

***** COMPLETED *****

The printer is ready to receive data as soon as it completes the self-test.

Chapter 4. Code Table

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 for the right digit. For example, 4A = J.

	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 00	DLE 16	SP 32	0 48	@ 64	P 80	` 96	p 112	Ç 128	É 144	á 160	■ 176	└ 192	╨ 208	α 224	≡ 240
1	0001	01	XON 17	! 33	1 49	A 65	Q 81	a 97	q 113	ü 129	æ 145	í 161	▒ 177	┴ 193	╤ 209	β 225	± 241
2	0010	02	18	" 34	2 50	B 66	R 82	b 98	r 114	é 130	Æ 146	ó 162	▓ 178	┬ 194	╥ 210	Γ 226	≤ 242
3	0010	03	XOFF 19	% 35	3 51	C 67	S 83	c 99	s 115	â 131	ô 147	ú 163	│ 179	├ 195	╙ 211	π 227	≥ 243
4	0100	EQT 04	20	$ 36	4 52	D 68	T 84	d 100	t 116	ä 132	ö 148	ñ 164	┤ 180	─ 196	╘ 212	Σ 228	⌠ 244
5	0101	ENQ 05	21	% 37	5 53	E 69	U 85	e 101	u 117	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245
6	0110	06	22	& 38	6 54	F 70	V 86	f 102	v 118	å 134	ù 150	ª 166	╢ 182	╞ 198	╓ 214	μ 230	÷ 246
7	0111	07	23	' 39	7 55	G 71	W 87	g 103	w 119	ç 135	ù 151	º 167	╖ 183	╟ 199	╫ 215	τ 231	≈ 247
8	1000	BS 08	CAN 24	(40	8 56	H 72	X 88	h 104	x 120	ê 136	ÿ 152	¿ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 248
9	1001	HT 09	25	) 41	9 57	I 73	Y 89	i 105	y 121	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	θ 233	• 249
A	1010	LF 10	26	* 42	: 58	J 74	Z 90	j 106	z 122	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	· 250
B	1011	11	ESC 27	+ 43	; 59	K 75	[91	k 107	{ 123	ï 139	¢ 155	1/2 171	╗ 187	╦ 203	█ 219	δ 235	√ 251
C	1100	FF 12	FS 28	, 44	< 60	L 76	\ 92	l 108	¦ 124	î 140	£ 156	1/4 172	╝ 188	╠ 204	▄ 220	∞ 236	n 252
D	1101	CR 13	GS 29	− 45	= 61	M 77	] 93	m 109	} 125	ì 141	¥ 157	¡ 173	╜ 189	═ 205	▌ 221	ϕ 237	2 253
E	1110	14	30	. 46	> 62	N 78	‾ 94	n 110	~ 126	Ä 142	Pt 158	« 174	╛ 190	╬ 206	▐ 222	∈ 238	▪ 254
F	1111	15	31	/ 47	? 63	O 79	_ 95	o 111	SP 127	Å 143	ƒ 159	» 175	┐ 191	╧ 207	▀ 223	∩ 239	SP 255

Page 0 (PC437 : USA, Standard Europe)
(International Character Set : USA)

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

Page 1 (Katakana)

HEX	BIN	8	9	A	B	C	D	E	F
		1000	1001	1010	1011	1100	1101	1110	1111
0	0000	Ç 128	É 144	á 160	▒ 176	└ 192	ð 208	Ó 224	¯ 240
1	0001	ü 129	æ 145	í 161	▓ 177	┴ 193	Ð 209	ß 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	õ 228	244
5	0101	à 133	ò 149	Ñ 165	Á 181	┼ 197	i 213	Õ 229	§ 245
6	0110	å 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	¸ 247
8	1000	ê 136	ÿ 152	¿ 168	© 184	╚ 200	Ï 216	p 232	° 249
9	1001	ë 137	ö 153	® 169	╣ 185	╔ 201	┘ 217	Ú 233	¨ 249
A	1010	è 138	Ü 154	¬ 170	‖ 186	╩ 202	┌ 218	Û 234	• 250
B	1011	ï 139	ø 155	1/2 171	╗ 187	╦ 203	▌ 219	Ù 235	¹ 251
C	1100	î 140	£ 156	1/4 172	╝ 188	╠ 204	▄ 220	ý 236	³ 252
D	1101	ì 141	Ø 157	¡ 173	¢ 189	═ 205	¦ 221	Ý 237	² 253
E	1110	Ä 142	X 158	« 174	¥ 190	╬ 206	Ì 222	― 238	■ 254
F	1111	Å 143	ƒ 159	» 175	┐ 191	¤ 207	▀ 223	´ 239	SP 255

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	╨ 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	õ 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	¢ 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	¡ 173	╜ 189	═ 205	▌ 221	ϕ 237	² 253
E	1110	Ã 142	Pt 158	« 174	╛ 190	╬ 206	▐ 222	238	■ 254
F	1111	Â 143	Ó 159	» 175	┐ 191	╧ 207	▀ 223	239	SP 255

Page 3 (PC860 : Portuguese)

	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	¦ 160	▩ 176	└ 192	╨ 208	α 224	240
1	0001	ü 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	⌠ 244
5	0101	à 133	Ï 149	˚ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 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	Î 168	╕ 184	╚ 200	╪ 216	Φ 232	° 249
9	1001	ë 137	Ô 153	⌐ 169	╣ 185	╔ 201	┘ 217	θ 233	• 249
A	1010	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Ω 234	· 250
B	1011	Ï 139	¢ 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	Ù 157	3/4 173	╜ 189	═ 205	▌ 221	ϕ 237	² 253
E	1110	À 142	Û 158	« 174	╛ 190	╬ 206	▐ 222	238	■ 254
F	1111	§ 143	ƒ 159	» 175	┐ 191	╧ 207	▀ 223	239	SP 255

Page 4 (PC 863 : 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	á 160	▒ 176	└ 192	╨ 208	α 224	240
1	0001	ü 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	⌠ 244
5	0101	à 133	ò 149	Ñ 165	╡ 181	┼ 197	╒ 213	σ 229	⌡ 245
6	0110	å 134	û 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	ÿ 152	¿ 168	╕ 184	╚ 200	╪ 216	Φ 232	° 249
9	1001	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	θ 233	• 249
A	1010	è 138	Ü 154	¬ 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	¡ 173	╜ 189	═ 205	▌ 221	ϕ 237	² 253
E	1110	Ä 142	Pt 158	« 174	╛ 190	╬ 206	▐ 222	238	■ 254
F	1111	Å 143	ƒ 159	¤ 175	┐ 191	╧ 207	▀ 223	239	SP 255

Page 5 (PC 865 : Nordic)

	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	À 192	Đ 208	à 224	đ 240
1	0001	129	‘ 145	¡ 161	± 177	Á 193	Ñ 209	á 225	ñ 241
2	0010	‚ 130	’ 146	¢ 162	2 178	Â 194	Ò 210	â 226	ò 242
3	0011	ƒ 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	õ 245
6	0110	† 134	- 150	¦ 166	¶ 182	Æ 198	Ö 214	æ 230	ö 246
7	0111	‡ 135	– 151	§ 167	· 183	Ç 199	x 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	ª 170	º 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	141	157	173	½ 189	Í 205	Ý 221	í 237	ý 253
E	1110	Ž 142	ž 158	® 174	¾ 190	Î 206	p 222	î 238	p 254
F	1111	Ÿ 143	159	¯ 175	¿ 191	Ï 207	B 223	ï 239	ÿ 255

Page 16 (WPC1252 : Latin 1)

	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	└ 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	Є 242
3	0011	Г 131	У 147	г 163	│ 179	├ 195	╙ 211	у 227	є 243
4	0100	Д 132	Ф 148	д 164	┤ 180	─ 196	╘ 212	ф 228	Ї 244
5	0101	Е 133	Х 149	е 165	╡ 181	┼ 197	╒ 213	х 229	ї 245
6	0110	Ж 134	Ц 150	ж 166	╢ 182	╞ 198	╓ 214	ц 230	Ў 246
7	0111	З 135	Ч 151	з 167	╖ 183	╟ 199	╫ 215	ч 231	ў 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

Page 17 (PC866 : Cyrillic #2)

	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	đ 208	Ó 224	- 240
1	0001	ü 129	Ĺ 145	í 161	▒ 177	┴ 193	Đ 209	ß 225	˝ 241
2	0010	é 130	Í 146	ó 162	▒ 178	┬ 194	Ď 210	Ô 226	˛ 242
3	0011	â 131	Ô 147	ú 163	│ 179	├ 195	Ë 211	Ń 227	ˇ 243
4	0100	ů 132	Ö 148	Ą 164	┤ 180	─ 196	ď 212	ń 228	˘ 244
5	0101	ć 133	Ľ 149	ą 165	Á 181	┼ 197	Ň 213	ň 229	§ 245
6	0110	Ç 134	ľ 150	Ž 166	Â 182	Ă 198	Í 214	Š 230	÷ 246
7	0111	ł 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	╔ 201	┘ 217	Ú 233	¨ 249
A	1010	Ő 138	Ü 154	¬ 170	‖ 186	╩ 202	┌ 218	ŕ 234	· 250
B	1011	ő 139	Ť 155	Ź 171	╗ 187	╦ 203	▌ 219	Ű 235	ű 251
C	1100	î 140	ť 156	Č 172	╝ 188	╠ 204	■ 220	ý 236	Ř 252
D	1101	Ź 141	Ł 157	ş 173	Ź 189	= 205	J 221	Ý 237	ř 253
E	1110	Ä 142	x 158	« 174	ź 190	╬ 206	Ů 222	ţ 238	■ 254
F	1111	Ć 143	č 159	» 175	┐ 191	¤ 207	■ 223	´ 239	255

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	└ 192	ð 208	Ó 224	¯ 240
1	0001	ü 129	æ 145	az 161	■ 177	┴ 193	Ð 209	ß 225	± 241
2	0010	é 130	Æ 146	ó 162	■ 178	┬ 194	Ê 210	Ô 226	= 242
3	0011	â 131	ô 147	ú 163	│ 179	├ 195	Ë 211	Ò 227	3/4 243
4	0100	ä 132	ö 148	˙ 164	┤ 180	─ 196	È 212	Õ 228	¶ 244
5	0101	à 133	ò 149	˙ 165	Á 181	┼ 197	€ 213	σ 229	§ 245
6	0110	å 134	û 150	³ 166	Â 182	ã 198	Í 214	µ 230	÷ 246
7	0111	ç 135	ù 151	— 167	À 183	Ã 199	Î 215	þ 231	¸ 247
8	1000	ê 136	ÿ 152	Î 168	© 184	╚ 200	Ï 216	Þ 232	° 248
9	1001	ë 137	Ö 153	⌐ 169	╣ 185	╔ 201	┘ 217	Ú 233	¨ 249
A	1010	è 138	Ü 154	¬ 170	║ 186	╩ 202	┌ 218	Û 234	° 250
B	1011	Ï 139	ø 155	1/2 171	╗ 187	╦ 203	▉ 219	Ù 235	1 251
C	1100	î 140	£ 156	1/4 172	╝ 188	╠ 204	▀ 220	ý 236	3 252
D	1101	Ì 141	ø 157	3/4 173	¢ 189	═ 205	¦ 221	Ý 237	2 253
E	1110	Ä 142	x 158	« 174	¥ 190	╬ 206	Ì 222	¯ 238	▪ 254
F	1111	Å 143	ƒ 159	» 175	┐ 191	¤ 207	■ 223	´ 239	SP 255

Page 19 (PC858 : Euro)

	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	٠ 176	¢ 192	ذ 208	ـ 224	ً 240
1	0001	٠ 129	∞ 145	─ 161	١ 177	ء 193	ر 209	ف 225	ٌ 241
2	0010	٠ 130	ф 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	ه 243
4	0100	▒ 132	½ 148	¤ 164	٤ 180	ؤ 196	ش 212	ل 228	ﻫ 244
5	0101	— 133	¼ 149	أ 165	٥ 181	ر 197	ص 213	م 229	ى 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	ه 231	غ 247
8	1000	┤ 136	» 152	ا 168	٨ 184	ب 200	ظ 216	و 232	ق 248
9	1001	┬ 137	ﻷ 153	ب 169	٩ 185	ة 201	ع 217	ى 233	ﻵ 249
A	1010	├ 138	ﻹ 154	ت 170	ف 186	ت 202	غ 218	ي 234	ﻻ 250
B	1011	┴ 139	155	ث 171	؛ 187	ث 203	ـ 219	ض 235	ل 251
C	1100	┐ 140	156	، 172	س 188	ج 204	ق 220	ع 236	ك 252
D	1101	┌ 141	ﻵ 157	ج 173	ش 189	ح 205	÷ 221	غ 237	ي 253
E	1110	└ 142	ﻻ 158	ح 174	ص 190	خ 206	× 222	غ 238	■ 254
F	1111	┘ 143	ا 159	خ 175	؟ 191	د 207	ع 223	م 239	255

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	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

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	NBSP 160	° 176	ΐ 192	Π 208	ΰ 224	π 240
1	0001	129	‘ 145	΅ 161	± 177	Α 193	Ρ 209	α 225	ρ 241
2	0010	’ 130	’ 146	Ά 162	² 178	Β 194	210	β 226	ς 242
3	0011	ƒ 131	“ 147	£ 163	³ 179	Γ 195	Σ 211	γ 227	σ 243
4	0100	” 132	” 148	¤ 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	136	152	¨ 168	Έ 184	Θ 200	Ψ 216	θ 232	ψ 248
9	1001	‰ 137	™ 153	© 169	Ή 185	Ι 201	Ω 217	ι 233	ω 249
A	1010	138	154	170	Ί 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	140	156	¬ 172	Ό 188	Μ 204	ά 220	μ 236	ό 252
D	1101	141	157	- 173	½ 189	Ν 205	έ 221	ν 237	ύ 253
E	1110	142	158	® 174	Ύ 190	Ξ 206	ή 222	ξ 238	ώ 254
F	1111	143	159	― 175	Ώ 191	Ο 207	ί 223	ο 239	255

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	Ђ 128	Ђ 144	NBSP 160	° 176	А 192	Р 208	а 224	р 240
1	0001	Ѓ 129	‘ 145	Ў 161	± 177	Б 193	С 209	б 225	с 241
2	0010	’ 130	’ 146	ў 162	І 178	В 194	Т 210	в 226	т 242
3	0011	ѓ 131	“ 147	Ј 163	і 179	Г 195	У 211	г 227	у 243
4	0100	” 132	” 148	¤ 164	ґ 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	¦ 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	152	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	Њ 140	њ 156	¬ 172	j 188	М 204	Ь 220	м 236	ь 252
D	1101	Ќ 141	ќ 157	- 173	S 189	Н 205	Э 221	н 237	э 253
E	1110	Ћ 142	ћ 158	® 174	s 190	О 206	Ю 222	о 238	ю 254
F	1111	Џ 143	џ 159	Ї 175	ї 191	П 207	Я 223	п 239	я 255

Page 28 (WPC1251 : Cyrillic)

	HEX	8	9	A	B	C	D	E	F
HEX	BIN	1000	1001	1010	1011	1100	1101	1110	1111
0	0000	A 128	Ρ 144	ι 160	▒ 176	└ 192	╨ 208	ω 224	Ω 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	ΐ 244
5	0101	Ζ 133	Χ 149	ξ 165	╡ 181	┼ 197	╒ 213	ί 229	Ϋ 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	Ά 234	· 250
B	1011	Μ 139	δ 155	τ 171	╗ 187	╦ 203	■ 219	Έ 235	√ 251
C	1100	Ν 140	ε 156	υ 172	╝ 188	╠ 204	▄ 220	Ή 236	n 252
D	1101	Ξ 141	ζ 157	φ 173	╜ 189	═ 205	▌ 221	Ί 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	Ύ 239	NBSP 255

Page 29 (PC737 : Greek)

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

Page 255 (Space Page)

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

International Character Set

Chapter 5. Control Commands List

Command	Name
HT	Horizontal tab
LF	Print and line feed
FF	Print and return to standard mode (in page mode)
CR	Print and carriage return
CAN	Cancel print data in page mode
DLE EOT	Real-time status transmission
DLE ENQ	Real-time request to printer
DLE DC4	Generate pulse in real-time
	Execute power-off sequence
	Clear buffer(s)
ESC FF	Print data in page mode
ESC SP	Set right-side character spacing
ESC !	Select print mode(s)
ESC $	Set absolute print position
ESC %	Select/cancel user-defined character set
ESC &	Define user-defined characters
ESC *	Select bit-image mode
ESC -	Turn underline mode on/off
ESC 2	Select default line spacing
ESC 3	Set line spacing
ESC =	Select peripheral device
ESC ?	Cancel user-defined characters
ESC @	Initialize printer
ESC D	Set horizontal tab positions
ESC E	Turn emphasized mode on/off
ESC G	Turn double-strike mode on/off
ESC J	Print and feed paper
ESC L	Select page mode
ESC M	Select character font
ESC R	Select an international character set
ESC S	Select standard mode
ESC T	Select print direction in page mode
ESC V	Turn 90° clockwise rotation mode on/off
ESC W	Set printing area in page mode
**ESC **	Set relative print position
ESC a	Select justification
ESC c 3	Select paper sensor(s) to output paper-end signals
ESC c 4	Select paper sensor(s) to stop printing
ESC c 5	Enable/disable panel buttons

Command	Name
ESC d	Print and feed n lines
ESC p	General pulse
ESC t	Select character code table
ESC {	Turn upside-down printing mode on/off
FS p	print NV bit image
FS q	Define NV bit image
GS !	Select character size
GS $	Set absolute vertical print position in page mode
GS (A	Execute test print
GS (D	Enable/disable real-time command
GS (E	User setup commands
GS 8 L **GS (L**	Set graphics data
GS (M	Customize printer control value(s)
GS (N	Select character style(s)
GS *	Define downloaded bit image
GS /	Print downloaded bit image
GS :	Start/end macro definition
GS B	Turn white/black reverse printing mode on/off
GS H	Select printing position of HRI characters
GS I	Transmit printer IE
GS L	Set left margin
GS P	Set horizontal and vertical motion units
GS T	Set print position to the beginning of print line
GS V	Select cut mode and cut paper
GS W	Set printing area width
**GS **	Set relative vertical print position in page mode
GS ^	Execute macro
GS a	Enable/disable Automatic Status Back (ASB)
GS b	Turn smoothing mode on/off
GS f	Select font for HIR characters
GS h	Set bar code height
GS k	Print bar code
GS r	Transmit status
GS v 0	Print raster bit image
GS w	Set bar code width

Command Notation

[Name] The name of the command.
[Format] The code sequence. 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.
[Range] Gives the allowable ranges for the arguments.
[Description] Describes the function of the command.

Explanation of Terms

LSB Least Significant Bit

HT

[Name] Horizontal tab.
[Format] ASCII HT
Hex 09
Decimal 9
[Description] ▪ Moves the print position to the next horizontal tab position.

LF

[Name] Print and line feed.
[Format] ASCII LF
Hex 0A
Decimal 10
[Description] ▪ In standard mode, prints the data in the print buffer and feeds one line based on the current line spacing.
▪ In page mode, modes the print position in memory to feed one line based on the current line spacing.

FF

[Name] Print and return to standard mode in page mode.
[Format] ASCII FF
Hex 0C
Decimal 12
[Description] ▪ In page mode, prints the data in the print buffer collectively and returns to standard mode.

CR

[Name] Print and carriage return.
[Format] ASCII CR
Hex 0D
Decimal 13
[Description] ▪ When automatic line feed is enabled, this command functions the same as **LF**.
[Notes] ▪ When automatic line feed is disabled, this command is ignored **CR**.
▪ The automatic line feed is ignored with a serial interface model.
▪ With a parallel interface model, the automatic line feed is set with memory switch 1-5 when the printer power is turned on or reset.

CAN

[Name] Cancel print data in page mode.
[Format] ASCII CAN
Hex 18
Decimal 24
[Description] ▪ In page mode, deletes all the print data in the current printable area.

DLE EOT n

[Name] Transmission real-time status.
[Format] ASCII DLE EOT n
Hex 10 04 n
Decimal 16 4 n
[Range] $1 \le n \le 4$
[Description] ▪ Transmits the status specified by n in real-time as follows:

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

▪ This printer transmits the following status in real time.

n=1 : Printer status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Fixed.
1	On	02	2	Fixed.
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	Fixed.
5	Off	00	0	Not in on-line waiting status.
	On	20	32	During on lines waiting status.
6	Off	00	0	Paper FEED button is turned Off.
	On	40	64	Paper FEED button is turned On.
7	Off	00	0	Fixed.

n=2 : Off-line status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Fixed.
1	On	02	2	Fixed.
2	Off	00	0	Cover is closed.
	On	04	4	Cover is open.
3	Off	00	0	Paper is not being fed by using the paper FEED button.
	On	08	8	Paper is being fed by the paper FEED button.
4	On	10	16	Fixed.
5	Off	00	0	No paper-end stop.
	On	20	32	Printing is being stopped.
6	Off	00	0	No error.
	On	40	64	Error has occurred.
7	Off	00	0	Fixed.

n=3 : Error status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Fixed.
1	On	02	2	Fixed.
2	Off	00	0	No mechanical error.
	On	04	4	Mechanical error has occurred.
3	Off	00	0	No auto-cutter error.
	On	08	8	Auto-cutter error occurred.
4	On	10	16	Fixed.
5	Off	00	0	No unrecoverable error.
	On	20	32	Unrecoverable error has occurred.
6	Off	00	0	No automatically recoverable error.
	On	40	64	Automatically recoverable error has occurred.
7	Off	00	0	Fixed.

n=4 : Continuous paper sensor status

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Fixed.
1	On	02	2	Fixed.
2	Off	00	0	Paper roll near-end sensor : paper adequate.
	On	04	4	Paper roll near-end sensor : paper near end.
3	Off	00	0	Paper roll near-end sensor : paper adequate.
	On	08	8	Paper roll near-end sensor : paper near end.
4	On	10	16	Fixed.
5	Off	00	0	Paper roll near-end sensor : paper present.
	On	20	32	Paper roll near-end sensor : paper not present.
6	Off	00	0	Paper roll near-end sensor : paper present.
	On	40	64	Paper roll near-end sensor : paper not present.
7	Off	00	0	Fixed.

[Notes]
- If print data includes a character string with this command, the printer performs this command. User must consider this.
  - For example : Bit image data accidentally might include a data string with this command.
- Do not embed this command within another command.
  - For example : Bit image data might include this command.
- This command is ignored block data is transmitted.

DLE ENQ n

[Name] Real-time request to printer.

[Format]

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

[Range] $0 \le n \le 2$

[Description]
- Responds to a request from the host computer.
- n specifies the requests as follows :

n	Request
0	Works the same as when the paper FEED button is pressed once during waiting status during the operation of the **GS ^** command.
1	Recovers from an error and restarts printing from the line where the error occurred.
2	Recovers from an error after clearing the receive and print buffers.

[Notes]
- Specify n=1 or 2 after removing the cause of the error.
- If print data includes a character string with this command, the printer performs the command. User must consider this.
  - For example : Bit image data accidentally might include a data string with this command.
- Do not embed this command within another command.
  - For example : Bit image data might include this command.
- This command is ignored block data is transmitted.
- This command is ignored block data is transmitted.

DLE DC4 fn m t (fn=1)

[Name] Generate pulse in real-time.

[Format]

ASCII	DLE	DC4	fn	m	t
Hex	10	14	1	m	t
Decimal	16	20	1	m	t

[Range] fn=1
0 ≤ m ≤ 8
1 ≤ t ≤ 8

[Description] ▪ Outputs the pulse specified by t in real-time to the connector pin specified by m as follows :

n	Connector pin
0	Drawer kick-out connector pin 2.
1	Drawer kick-out connector pin 5.

- The pulse ON time or OFF time is set to [t x 100 ms].

▪ Specify n=1 or 2 after removing the cause of the error.

▪ If print data includes a character string with this command, the printer performs the command. User must consider this.
- For example : Bit image data accidentally might include a data string with this command.

▪ Do not embed this command within another command.
- For example : Bit image data might include this command.

▪ This command is ignored in the following states :
- During transmission of block data.
- During driving of drawer kick-out.
- When an error has occurred.

DLE DC4 fn a b (fn=2)

[Name] Execute power-off sequence.

[Format]

ASCII	DLE	DC4	fn	a	b
Hex	10	14	fn	a	b
Decimal	16	20	fn	a	b

[Range] fn=2
a=1
b=8

[Description] ▪ Executes the printer power-off sequence.
- Stores the values of the maintenance counter.
- Transmits the following power-off status (Header + Status + NUL).

Power off status	Hex	Decimal	Amount of data
Header	3B H	59	1 byte
Status	30 H	48	1 byte
NUL	00 H	0	1 byte

[Notes] - Executes the printer power off.

▪ If this command is encountered, the printer will not continue to process anything. To recover the printer to print again, it is necessary to turn the power on again or execute a hardware reset.

▪ If print data includes a character string with this command, the printer performs the command. User must consider this.
- For example : Bit image data accidentally might include a data string with this command.

▪ Do not embed this command within another command.
- For example : Bit image data might include this command.

▪ This command is ignored block data is transmitted.

DLE DC4 fn d1...d7 (fn=8)

[Name] Clear buffer(s).

[Format]

ASCII	DLE	DC4	fn	d1...d7	
Hex	10	14	8	d1...d7	
Decimal	16	20	8	d1...d7	

[Range] fn=8
d1=1, d2=3, d3=20, d4=1, d5=6, d6=2, d7=8

[Description] ▪ Clear all data stored in the receive buffer and the print buffer.

▪ Transmits the following three bytes data.

	Hex	Decimal	Amount of data
Header	37 H	55	1 byte
Flag	25 H	37	1 byte
NUL	00 H	0	1 byte

[Notes] ▪ Enters standard mode.

▪ The command must be inhibited for use in a system using this printer and the EPSON OPOS.

▪ If print data includes a character string with this command, the printer performs the command. User must consider this.
- For example : Bit image data accidentally might include a data string with this command.

▪ Do not embed this command within another command.
- For example : Bit image data might include this command.

▪ This command is ignored block data is transmitted.

ESC FF

[Name] Print data in page mode.

[Format]

ASCII	ESC	FF
Hex	1B	0C
Decimal	27	12

[Description] ▪ In page mode, prints all buffered data in the printing area collectively.

ESC SP n

[Name] Set right-side character spacing.

[Format]

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

[Range] 0 ≤ n ≤ 255

[Default] n=0

[Description]
- Sets the character spacing for the right side of the character to [n ×horizontal or vertical motion units].
- The maximum right-side character spacing is :
  - For ANK/Multilingual model, 35.955mm {255/180"}.
  - For Japanese Kanji model, 31.875mm {255/203"}.

ESC ! n

[Name] Select print mode(s).

[Format]

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

[Range] 0 ≤ n ≤ 255

[Default] n=0

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

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Character font A (12 × 24) selected.
	On	01	1	Character font B (9 x 24) selected.
1,2	Off	00	0	Reserved.
3	Off	00	0	Emphasized mode not selected.
	On	08	8	Emphasized mode selected.
4	Off	00	0	Double-height mode not selected.
	On	10	16	Double-height mode selected.
5	Off	00	0	Double-width mode not selected.
	On	20	32	Double-width mode selected.
6	Off	00	0	Reserved.
7	Off	00	0	Underline mode not selected.
	On	80	128	Underline mode selected.

ESC $ nL nH

[Name] Set absolute print position.

[Format]

ASCII	ESC	$	nL	nH
Hex	1B	24	nL	nH
Decimal	27	36	nL	nH

[Range] 0 ≤ (nL + nH x 256) ≤ 65535 (0 ≤ nH ≤ 255, 0 ≤ nL ≤ 255)

[Description]
- Sets the next print starting position, and the absolute print position, in reference to the left margin. The distance from the beginning of the line to the left margin is [(nL + nH x 256) x (vertical or horizontal motion units)].

ESC % n

[Name] Select/cancel user-defined character set.

[Format]

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

[Range] 0 ≤ n ≤ 255

[Default] n=0

[Description]
- Select or cancels the user-defined character set.
  - When the LSB of n is 0, the user-defined character set is canceled.
  - When the LSB of n is 1, the user-defined character set is selected.

ESC & y c1 c2 [x1 d1...d(y x 1)]...[xk d1...d(y x xk)]

[Name] Define user-defined characters.

[Format]

ASCII	ESC	&	y	c1	c2	[x1 d1...d(y x 1)]...[xk d1...d(y x xk)]
Hex	1B	26	y	c1	c2	[x1 d1...d(y x 1)]...[xk d1...d(y x xk)]
Decimal	27	38	y	c1	c2	[x1 d1...d(y x 1)]...[xk d1...d(y x xk)]

[Range] For SRP-370

[Default]
- y=3
- 32 ≤ c1 ≤ c2 ≤ 126
- 0 ≤ x ≤ 12 (when font A (12 x 24) is selected)
- 0 ≤ x ≤ 9 (when font B (9 x 24) is selected)
- 0 ≤ d ≤ 255
- k=c2-c1+1

For SRP-372
- y=3 (when font A (12 x 24) is selected.
- y=3 (when font C (8 x 16) selected)
- 32 ≤ c1 ≤ c2 ≤ 126
- 0 ≤ x ≤ 12 (when font A (12 x 24) is selected)
- 0 ≤ x ≤ 9 (when font B (9 x 24) is selected)
- 0 ≤ d ≤ 255
- k=c2-c1+1

[Description]
- Assigns the user-defined character pattern for the specified character codes.
  - y specifies the number of bytes in the vertical direction.
  - c1 specifies the beginning character code for the definition, and c2 specifies the final code.
  - x specifies the number of dots in the horizontal direction.
  - d specifies the definition data.

ESC * m nL nH d1...dk

[Name] Select bit image mode.

[Format]

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

[Range] m=0, 1, 32, 33
1 ≤ (nL + nH x 256) ≤ 1023 (0 ≤ nL ≤ 255, 0 ≤ nH ≤ 3)
0 ≤ d ≤ 255

[Description] ▪ Specifies the bit image in m mode for the number of dots specified by nL and nH.

* dpi : dots per 25.4mm {1″}

- For SRP-370

m	Mode	Number of dots in vertical direction	Vertical dot density	Horizontal dot density	Number of bytes (k)
0	8-dot single-density	8	60 dpi	90 dpi	nL + nH x 256
1	8-dot double-density	8	60 dpi	180 dpi	nL + nH x 256
32	24-dot single-density	24	180 dpi	90 dpi	(nL + nH x 256) x 3
33	24-dot double-density	24	180 dpi	180 dpi	(nL + nH x 256) x 3

* dpi : dots per 25.4mm {1″}

- For SRP-372

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

ESC - n

[Name] Turn underline mode on/off.

[Format]

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

[Range] 0 ≤ n ≤ 2, 48 ≤ n ≤ 50

[Default] n=0

[Description] ▪ Turn underline mode on or off, based on the following values of n :

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

ESC 2

[Name] Select default line spacing.

[Format]

ASCII	ESC	2
Hex	1B	32
Decimal	27	50

[Description] ▪ For SRP-370
- Sets the current line spacing to approximately 4.23mm {1/6″}.

▪ For SRP-372
- Sets the current line spacing to approximately 3.75mm {30/203″}.

ESC 3 n

[Name] Set line spacing

[Format]

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

[Range] 0 ≤ n ≤ 255

[Default] ▪ For SRP-370
- Equivalent to approximately 4.23mm {1/6″}.

▪ For SRP-372
- Equivalent to approximately 3.75mm {30/203″}.

[Description] ▪ Sets the current line spacing to [n x vertical motion units] inches.

[Notes] ▪ For SRP-370
- The maximum settable line spacing is 1016mm {40″}.

▪ For SRP-372
- The maximum settable line spacing is 900mm {35.5″}.

ESC = n

[Name] Select peripheral device.

[Format]

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

[Range] 0 ≤ n ≤ 3

[Default] ▪ Serial interface specification :
- When turning on the printer : n=1
- When executing **ESC @** :

Setting before executing **ESC @**	n		
	1	2	3
After **ESC @** processing	1	2	1

[Description] ▪ Selects device to which host computer sends data, using n as follows :

n	Function
1	Specifies printer only.
2	Specifies customer display only.
3	Specifies printer and customer display.

ESC ? n

[Name] Cancel user-defined characters.

[Format]

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

[Range] 32 ≤ n ≤ 126

[Description] ▪ Cancels user-defined characters, specified with character codes on a selected sheet.

ESC @

[Name] Initialize printer.

[Format]

ASCII	ESC	@
Hex	1B	40
Decimal	27	64

[Range] 32 ≤ n ≤ 126

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

ESC D n1... nk NUL

[Name] Set horizontal tab positions.

[Format]

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

[Range] 1 ≤ n ≤ 255
0 ≤ k ≤ 32

[Default] n=8, 16, 24, 32, 40,....., 232, 240, 248
(for font A in a standard character size width)

[Description] ▪ Sets horizontal tab positions.
- n specifies the number of digits from the setting position to the left margin or the beginning of the line.
- k specifies the number of bytes set for the horizontal tab position.

ESC E n

[Name] Turn emphasized mode on / off.

[Format]

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

[Range] 0 ≤ n ≤ 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 n

[Name] Turn double-strike mode on/off.

[Format]

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

[Range] 0 ≤ n ≤ 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.

ESC J n

[Name] Print and feed paper.

[Format]

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

[Range] 0 ≤ n ≤ 255

[Description] ▪ Prints the data in the print buffer and feeds the paper [n X vertical motion unit].
▪ For SRP-370
- The maximum paper feed amount is approximately 1016mm{40"} if [n X vertical motion unit] exceeds 1016mm{40"}.

▪ For SRP-372
- The maximum paper feed amount is approximately 900mm {35.5”} if [n X vertical motion unit] exceeds 900mm {35.5”}.

ESC L

[Name] Select page mode.

[Format]

ASCII	ESC	L
Hex	1B	4C
Decimal	27	76

[Description] ▪ Switches from standard mode to page mode.

ESC M n

[Name] Select character font.

[Format]

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

[Range] For SRP-370 : n = 0, 1, 48, 49
For SRP-372 : 0 ≤ n 2, 48 ≤ n ≤ 50

[Default] n=0

[Description] ▪ Selects only-byte character fonts.

- For SRP-370 model :

n	Function
0, 48	Character font A (12 × 24) selected.
1, 49	Character font B (9 × 24) selected.

- For SRP-372 model :

n	Function
0, 48	Character font A (12 × 24) selected.
1, 49	Character font B (9 × 24) selected.

ESC R n

[Name] Select an international character set.

[Format]

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

[Range] 0 ≤ n ≤ 13

[Default] n=0

[Description] ▪ Selects international character set in from the following table :

n	Character set	n	Character set
0	U.S.A	7	Spain I
1	France	9	Norway
2	Germany	10	Denmark II
3	U.K	11	Spain II
4	Denmark I	12	Latin America
5	Sweden	13	Korea
6	Italy		

ESC S

[Name] Select standard mode.

[Format]

ASCII	ESC	S
Hex	1B	53
Decimal	27	83

[Description] ▪ Switches from page mode to standard mode. Any data stored in the printer for printing in page mode is cleared.

ESC T n

[Name] Select print direction in page mode.

[Format]

ASCII	ESC	T	n
Hex	1B	54	n
Decimal	27	84	n

[Range] 0 ≤ n ≤ 3, 48 ≤ n ≤ 51

[Default] n=o

[Description] ▪ Selects the print direction and starting position in page mode.

n	Print Direction	Starting Position
0,48	Left right	Upper left
1,49	Bottom to top	Lower left
1,50	Right left	Lower right
3,51	Top bottom	Upper right

ESC V n

[Name] Turn 90°clockwise rotation mode on/off.

[Format]

ASCII	ESC	V	n
Hex	1B	56	n
Decimal	27	86	n

[Range] 0 ≤ n ≤ 2, 48 ≤ n ≤ 50

[Default] n=o

[Description] ▪ Turn 90° clockwise rotation mode on/off in standard mode.

- When the paper roll is selected :

n	Function
0, 48	Turn off 90°clockwise rotation mode.
1, 49 2, 50	Turn on 90°clockwise rotation mode.

ESC W xL xH yL yH dxL dxH dyL dyH

[Name] Set relative print position.

[Format]

ASCII	ESC	W	xL	xH	yL	yH	dxL	dxH	dyL	dyH
Hex	1B	57	xL	xH	yL	yH	dxL	dxH	dyL	dyH
Decimal	27	87	xL	xH	yL	yH	dxL	dxH	dyL	dyH

[Range] 0 ≤ (xL + xH x 256) ≤ 65535 (0 ≤ xL ≤ 255, 0 ≤ xH ≤ 255)
0 ≤ (yL + yH x 256) ≤ 65535 (0 ≤ yL ≤ 255, 0 ≤ yH ≤ 255)
1 ≤ (dxL + dxH x 256) ≤ 65535 (0 ≤ dxL ≤ 255, 0 ≤ dxH ≤ 255)
1 ≤ (dyL + dyH x 256) ≤ 65535 (0 ≤ dyL ≤ 255, 0 ≤ dyH ≤ 255)

[Default] ▪ For SRP-370 :

- When a paper width of 80mm{3.15"} is selected :
  (xL + xH x 256) = 0 (xL=0, xH=0)
  (yL + yH x 256) = 0 (yL=0, yH=0)
  (dxL + dxH x 256) = 512 (dxL=0, dxH=2)
  (dyL + dyH x 256) = 1662 (dyL=126, dyH=6)
- When a paper width of 60mm{2.36"} is selected :
  (xL + xH x 256) = 0 (xL=0, xH=0)
  (yL + yH x 256) = 0 (yL=0, yH=0)
  (dxL + dxH x 256) = 360 (dxL=104, dxH=1)
  (dyL + dyH x 256) = 1662 (dyL=126, dyH=6)

▪ For SRP-372 :
- When a paper width of 80mm{3.15"} is selected :
  (xL + xH x 256) = 0 (xL=0, xH=0)
  (yL + yH x 256) = 0 (yL=0, yH=0)
  (dxL + dxH x 256) = 576 (dxL=64, dxH=2)
  (dyL + dyH x 256) = 1476 (dyL=196, dyH=5)
- When a paper width of 60mm{2.36"} is selected :
  (xL + xH x 256) = 0 (xL=0, xH=0)
  (yL + yH x 256) = 0 (yL=0, yH=0)
  (dxL + dxH x 256) = 380 (dxL=128, dxH=1)
  (dyL + dyH x 256) = 1476 (dyL=196, dyH=5)

[Description] ▪ Set the position and the size of the printing area.
- Horizontal starting position = [(xL + xH x 256) x (horizontal motion unites)].
- Vertical starting position = [(yL + yH x 256) x (vertical motion unites)].
- Horizontal printing area width = [(dxL + dxH x 256) x (horizontal motion unites)].
- Vertical printing area width = [(dyL + dyH x 256) x (vertical motion unites)].

▪ The maximum printable area is 117.263mm {1662/360"} maximum.

ESC \ nL nH

[Name] Set relative print position.

[Format]

ASCII	ESC	\	nL	nH
Hex	1B	5C	nL	nH
Decimal	27	92	nL	nH

[Range] 0 ≤ (nL + nH x 256) ≤ 65535 (0 ≤ nL 255, 0 ≤ nH ≤ 255)

[Description] ▪ Set the print starting position based on the current position to [(nL + nH × 256) × horizontal or vertical motion unit]
- When (nL + nH × 256) is positive number, the print starting position is specified to the right based on the current position.
- When (nL + nH × 256) is negative number, the print starting position is specified to the left based on the current position.

ESC a n

[Name] Select justification.

[Format]

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

[Range] 0 ≤ n ≤2, 48 ≤ n ≤50

[Default] n=0

[Description] ▪ In standard mode, aligns all the data in one line to the position specified by n as follows :

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

ESC c 3 n

[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 ≤ n ≤ 255

[Default] n=0

[Description] ▪ Selects the paper sensor(s) to output paper end signals when a paper end is detected.

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Paper roll near-end sensor disable.
	On	01	1	Paper roll near-end sensor enable.
1	Off	00	0	Paper roll near-end sensor disable.
	On	02	2	Paper roll near-end sensor enable.
2	Off	00	0	Paper roll end sensor disable.
	On	04	4	Paper roll end sensor enable.
3	Off	00	0	Paper roll end sensor disable.
	On	08	8	Paper roll end sensor enable.
4~7	-	-	-	Reserved.

[Note] ▪ This command is available only with a parallel interface and is ignored with a serial interface.

ESC c 4 n

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

[Format]

ASCII	ESC	c	4	n
Hex	1B	63	34	n
Decimal	27	99	52	n

[Range] 0 ≤ n ≤ 255

[Default] n=0

[Description] ▪ Selects the paper sensor(s) to use to stop printing when a paper end is detected.

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Paper roll end sensor disable.
	On	01	1	Paper roll end sensor enable.
1	Off	00	0	Paper roll end sensor disable.
	On	02	2	Paper roll end sensor enable.
2~7	-	-	-	Reserved.

ESC c 5 n

[Name] Enable / Disable panel button.

[Format]

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

[Range] 0 ≤ n ≤ 255

[Default] n=0

[Description]
- Enables or disables the panel buttons.
  - When the LSB of n is 0, the panel buttons are enabled.
  - When the LSB of n is 1, the panel buttons are disabled.

[Notes]
- When the printer cover is open, the panel buttons are always ignored regardless of the setting with this command.

ESC d n

[Name] Print and feed n lines.

[Format]

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

[Range] 0 ≤ n ≤ 255

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

ESC p m t1 t2

[Name] Generate pulse.

[Format]

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

[Range] m = 0, 1, 48, 49
0 ≤ t1 ≤ 255, 0 ≤ t2 ≤ 255

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

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

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

ESC t n

[Name] Select character code table.

[Format]

ASCII	ESC	t	n
Hex	1B	74	n
Decimal	27	116	n

[Range] 0 ≤ n ≤ 5, 16 ≤ n ≤ 24, 27 ≤ n ≤ 30, n=255

[Default] For model without Thai character support : n=0
For model with Thai character support : n = 20

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

n	Page
0	PC437 (USA, standard Europe)
1	Katakana
2	PC850 (Multilingual)
3	PC860 (Portuguese)
4	PC863 (Canadian-French)
5	PC865 (Nordic)
7	855 (Cyrillic)
8	857 (Turkish)
16	WPC1252
17	PC866 (Cyrillic #2)
18	PC852 (Latin 2)
19	PC858 (Euro)
22	864 (Arabic)
23	Thai character code 42
24	1253 (Greek)
28	1251 (Cyrillic)
29	737 (Greek)
31	Thai character code 16
33	1255 (Hebrew)
255	User-defined page

ESC { n

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

[Format]

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

[Range] 0 ≤ n ≤ 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.

FS p n m

[Name] Print NV bit image.

[Format]

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

[Range] 1 ≤ n ≤ 255
0 ≤ m ≤ 3, 48 ≤ m ≤ 51

[Description] ▪ Prints an NV bit image n in m mode.

dpi : dots per 25.4mm {1"}

- For SRP-370 :

m	Mode	Vertical Dot Density (DPI)	Horizontal Dot Density (DPI)
0, 48	Normal	180 dpi	180 dpi
1, 49	Double-width	180 dpi	90 dpi
2, 50	Double-height	90 dpi	180 dpi
3, 51	Quadruple	90 dpi	90 dpi

- For SRP-372 :

m	Mode	Vertical Dot Density (DPI)	Horizontal Dot Density (DPI)
0, 48	Normal	203 dpi	203 dpi
1, 49	Double-width	203 dpi	203/2 dpi
2, 50	Double-height	203/2 dpi	203 dpi
3, 51	Quadruple	203/2 dpi	203/2 dpi

FS q n [xL xH yL yH d1…dk]1…[xL xH yL yH d1…dk]n

[Name] Defined NV bit image.

[Format]

ASCII	FS	q	n	[xL	xH	yL d1…dk]1…	[xL	xH	yL d1…dk]n
Hex	1C	71	n	[xL	xH	yL d1…dk]1…	[xL	xH	yL d1…dk]n
Decimal	28	113	n	[xL	xH	yL d1…dk]1…	[xL	xH	yL d1…dk]n

[Range] 1 ≤ n ≤ 255
1 ≤ (xL + xH ×256) ≤ 1023 (0 ≤ xL ≤ 255, 0 ≤ xH ≤ 3)
1 ≤ (yL + yH ×256) ≤ 288 (0 ≤ yL ≤ 255, yH=0,1)
0 ≤ d ≤ 255
k = (xL + xH × 256) × (yL + yH × 256) × 8
Either one of the total capacity data [0, 64k, 128k, 192k, 256k, 320k, 384k] bytes can be selected by **GS (E**. The default value is 384 KB.

[Description] ▪ Defines the specified NV bit image.
- n specifies the number of the NV bit image you are defining.
- xL, xH specify the number of dots in the horizontal direction for the NV bit image with [(xL + xH × 256) x 8].
- yL, yH specify the number of dots in the vertical direction for the NV bit image with [(yL + yH × 256) x 8].

▪ If this command is processed when the NV graphics is defined with **GS (L** or **GS 8 L**, delete all NV graphics data, then define the bit image data with this command.

[Notes] ▪ Frequent write command executions by this command may damage to the NV memory. Therefore, it is recommended to write to the NV memory 10 times or less a day.

▪ During processing of this command, the printer is BUSY while writing the data to the NV bit image memory and stops receiving data. Therefore, it is prohibited to transmit data, including real-time commands, during the execution of this command.

GS ! n

[Name] Select character size.

[Format]

ASCII	GS	!	n	
Hex	1D	21	n	
Decimal	29	33	n	

[Range] 0 ≤ n ≤ 255
(where 1 ≤ Enlargement in vertical direction ≤ 8, 1 ≤ Enlargement in horizontal direction ≤ 8)

[Default] n=0

[Description] ▪ Selects character size (enlargement in vertical and horizontal directions).

Bit	Function	Setting
0	Specifies the number of times enlarged in the vertical direction	Refer to Table 2 [Enlarged in vertical direction]
1		
2		
3		
4	Specifies the number of times enlarged in the horizontal direction	Refer to Table 1 [Enlarged in horizontal direction]
5		
6		
7		

- Table 1 [Enlarged in horizontal direction]

Hex	Decimal	Enlargement
00	0	1 time (standard)
10	16	2 times
20	32	3 times
30	48	4 times
40	64	5 times
50	80	6 times
60	96	7 times
70	112	8 times

- Table 1 [Enlarged in vertical direction]

Hex	Decimal	Enlargement
00	0	1 time (standard)
01	1	2 times
02	2	3 times
03	3	4 times
04	4	5 times
05	5	6 times
06	6	7 times
07	7	8 times

GS $ nL nH

[Name] Set absolute vertical print position in page mode.

[Format]

ASCII	GS	$	nL	nH
Hex	1D	24	nL	nH
Decimal	29	36	nL	nH

[Range] 0 ≤ (nL + nH x 256) ≤ 65535 (0 ≤ nL ≤ 255, 0 ≤ nH ≤ 255)

[Description] ▪ Sets the absolute vertical print starting position to [(nL + nH × 256) × (vertical or horizontal motion units)].

GS (A pL pH n m

[Name] Execute test print.

[Format]

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

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
0 ≤ n ≤ 2, 48 ≤ n ≤ 50
1 ≤ m ≤ 3, 49 ≤ m ≤ 51

[Description] ▪ Executes a test print with a specified test pattern on a specified paper type (roll paper).

- n specifies the paper type as listed below to be tested :

m	Paper type
0, 48 1, 49 2, 50	Paper roll

- m specifies a test pattern as listed below :

m	Test pattern
1, 49	Hexadecimal dump
2, 50	Self Test Printing

[Notes] ▪ The printer executes a hardware reset after the procedure to place the image into the non-volatile memory. The printer clear the receive and print butters, and resets all settings (user-defined characters, macros, and the character styles) to the mode that was in effect at power on.

GS (D pL pH m [a1 b1]...[ak bk]

[Name] Enable/disable real-time command.

[Format]

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

[Range] 3 ≤ (pL + pH x 256) ≤ 65535
m=20
a=1, 2

[Default] b=0, 1, 48, 49

a	Type(s) of real-time commands	Default
1	**DLE DC4 fn m t** (fn=1) : Generate pulse in real-time	Enable (b=1)
2	**DLE DC4 fn a b** (fn=2) : Execute power-off sequence	disable (b=0)

[Description] ▪ Enable or disables the following real-time commands.

a	b	Function
1	0, 48	**DLE DC4 fn m t** (fn=1) : Not processed (disabled)
	1, 49	**DLE DC4 fn m t** (fn=1) : Processed (enabled)
2	0, 48	**DLE DC4 fn a b** (fn=2) : Not processed (disabled)
	1, 49	**DLE DC4 fn a b** (fn=2) : Processed (enabled)

- pL, pH specifies (pL + pH x 256) as the number of bytes after pH (m and [a1 b1]...[ak bk]).
- a specifies the type of real-time command.
- b specifies enable or disable.

[Notes] ▪ If bit image data accidentally includes a character string with this command, it is recommended to use this command in advance to disable the real-time command.

GS (E pL pH fn [parameter]

[Name] Customize NV memory area.

[Description] ▪ Customize the NV user memory area. The table below explains the functions available in this command. Executes commands related to the user setting mode by specifying the function code fn.

fn	Format	No.	Function
1	GS (E pL pH fn d1 d2	1	Changes into the user setting mode.
2	GS (E pL pH fn d1 d2 d3	2	Ends the user setting mode session. (Performs a soft reset.)
3	GS (E pL pH fn [a1 b18...b11]... [ak bk8...bk1]	3	Sets value(s) for the memory switch.
4	GS (E pL pH fn a	4	Transmits the settings of the memory switch to the host.
11	GS (E pL pH fn a d1...dk	11	Sets the communication conditions for the serial interface.
12	GS (E pL pH fn a	12	Transmits the communication conditions for the serial interface.

▪ pL, pH specifies (pL + pH x 256) as the number of bytes after pH (fn and [parameter]).
▪ The user setting mode is a special mode to change the values in the NV user memory with this command.
▪ In Function 2, the printer performs software reset. Therefore, the printer clears the receive and print buffers, and resets all settings (user-defined characters, macros, and the character style) to the mode in effect at power on.

[Notes] ▪ Frequent write commands by this command, may damage the NV memory. Therefore, it is recommended to write to NV memory no more than 10 times a day.
▪ While processing this command, the printer is BUSY while writing data to the user NV memory and stops receiving data. Therefore it is prohibited to transmit data including the real-time commands during the execution of this command.

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

[Format]

ASCII	GS	(	E	pL	pH	fn	d1	d2
Hex	1D	28	45	pL	pH	fn	d1	d2
Decimal	29	40	69	pL	pH	fn	d1	d2

[Range] (pL + pH x 256) = 3 (pL=3, pH=0)
fn=1
d1=73, d2=78

[Description] ▪ Enter the user setting mode and notifies that the mode has changed.

	Hexadecimal	Decimal	Number of Data
Header	37H	55	1 byte
Flag	20H	32	1 byte
NUL	00H	0	1 byte

▪ The following commands are enabled in the user setting mode.
<Function 2> through <Function 12> of **GS (E**, **GS I**.

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

[Format]

ASCII	GS	(	E	pL	pH	fn	d1	d2	d3
Hex	1D	28	45	pL	pH	fn	d1	d2	d3
Decimal	29	40	69	pL	pH	fn	d1	d2	d3

[Range] (pL + pH x 256) = 4 (pL=4, pH=0)
fn=2
d1=79, d2=85, d3=84

[Description] ▪ Ends the user setting mode and performs a software reset. Therefore, the printer clears the receive and print buffers, and resets all settings (user-defined character, downloaded bit images, macros, and the print mode) to the mode that was in effect at power on.
▪ This function code (fn=2) is enabled only in the user setting mode.

<Function 3> **GS (E pL pH fn [a1 b18…b11]…[ak bk8…bk1]** (fn=3)

[Format]

ASCII	GS	(	E	pL	pH	fn	[a1 b18…b11]… [ak bk8…bk1]
Hex	1D	28	45	pL	pH	fn	[a1 b18…b11]… [ak bk8…bk1]
Decimal	29	40	69	pL	pH	fn	[a1 b18…b11]… [ak bk8…bk1]

[Range] (pL + pH x 256) = 10, 37
fn=3
a=1, 2, 8, 9
b=48, 49, 50

[Default] ▪ Msw2-1, Msw2-2, and Msw-8-8 are set to On (b=49), and all other switches are set to Off (b=48).

[Description] ▪ Change the memory switch specified by a to the values specified by b.
- When b=48, the applicable bit is turned to Off.
- When b=49, the applicable bit is turned to On.
- When b=50, the applicable bit is not changed.

▪ When a=1, the memory switch 1 is set as follows :

Bit	Setting value	Function
1~4		Reserved
5	48	Automatic line feed : Disabled
	49	Automatic line feed : Enabled
6~8		Reserved

▪ When a=2, the memory switch 2 is set as follows :

Bit	Setting value	Function
1~2		Reserved.
3	48	Autocutter : Partial Cutting.
	49	Autocutter : Full Cutting.
4~8	Code Page selection.	

MSW2-8	MSW2-7	MSW2-6	MSW2-5	MSW2-4	Character Table
48	48	48	48	48	Page 0 437
48	48	48	48	49	Page 1 Katakana
48	48	48	49	48	Page 2 850
48	48	48	49	49	Page 3 860
48	48	49	48	48	Page 4 863
48	48	49	48	49	Page 5 865
48	48	49	49	48	Page 16 1252
48	48	49	49	49	Page 17 866
48	49	48	48	48	Page 18 852
48	49	48	48	49	Page 19 858
48	49	48	49	48	Reserved
48	49	48	49	49	Page 22 864
48	49	49	48	48	Page 23 Thai42
48	49	49	48	49	Page 24 1253
48	49	49	49	48	Reserved
48	49	49	49	49	
49	48	48	48	48	
49	48	48	48	49	Page 28 1251
49	48	48	49	48	Page 29 737
49	48	48	49	49	Reserved
49	48	49	48	48	Page 31 Thai16
49	48	49	48	49	Reserved
49	48	49	49	48	Page 33 1255
49	48	49	49	49	Reserved
49	49	48	48	48	
49	49	48	48	49	Page 36 855
49	49	48	49	48	Page 37 857

▪ When a=8, the memory switch 8 is set as follows :

Bit	Setting value	Function
1~8		Reserved.

▪ When a=9, the memory switch 9 is set as follows :

Bit	Setting value	Function
2	48	Data Length : 8 Bits
	49	Data Length : 7 Bits
3	48	Parity : odd
	49	Parity : even
4	48	Parity Check : Disable
	49	Parity Check : Enable
5	48	Flow Control : DTR/DSR
	49	Flow Control : XON/XOFF
6~8	Baud Rate Selection.	

MSW9-8	MSW9-7	MSW9-6	Baud Rate
48	48	48	9600
48	48	49	19200
48	49	48	38400
48	49	49	57600
49	48	48	115200

<Function 4> **GS (E pL pH fn a** (fn=4)

[Format]

ASCII	GS	(	E	pL	pH	fn	a
Hex	1D	28	45	pL	pH	fn	a
Decimal	29	40	69	pL	pH	fn	a

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
fn=4
a=1, 2, 8

[Description] ▪ Transmits the setting value(s) of the memory switch specified by a.

	Hexadecimal	Decimal	Amount of Data
Header	37H	55	1 byte
Flag	21H	33	1 byte
Data	30H or 31H	48 or 49	8 bytes
NUL	00H	0	1 byte

▪ Data for the setting is transmitted as 8 bytes or a data string in the order from bit 8 to bit 1, as follows :
- Off : Hexadecimal = 30H / Decimal = 48
- On : Hexadecimal = 31H / Decimal = 49

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

[Format]

ASCII	GS	(	E	pL	pH	fn	a	d1...dk
Hex	1D	28	45	pL	pH	fn	a	d1...dk
Decimal	29	40	69	pL	pH	fn	a	d1...dk

[Range] 3 ≤ (pL + pH x 256) ≤ 65535 (0 ≤ pL ≤ 255, 0 ≤ pH 255)
fn=11
1 ≤ a ≤ 4
48 ≤ d ≤ 57
1 ≤ k ≤ 6

[Default] ▪ When a=1 : (d1...dk)="19200"
▪ When a=2 : d=48
▪ When a=3 : d=48
▪ When a=4 : d=56

[Description] ▪ Sets the communication conditions of the serial interface specified by a according to value d.

a	Communication Condition	d
1	Baud rate	k bytes of (d1...dk)
2	Parity	1 byte of (d1)
3	Flow control	1 byte of (d1)
4	Data length	1 byte of (d1)

- Baud rate setting (d1...dk)

Baud rate (bps)	d1	d2	d3	d4	d5	d6
2400	50	52	48	48	--	--
4800	52	56	48	48	--	--
9600	57	54	48	48	--	--
19200	49	57	50	48	48	--
38400	51	56	52	48	48	--
57600	53	55	54	48	48	--
115200	49	49	53	50	48	48

- Parity setting (d1)

d1	Parity
48	No parity
49	Odd parity
50	Even parity

- Flow control setting (d1)

d1	Flow control
48	DTR / DSR
49	XON / XOFF

- Data length setting (d1)

d1	Data length
55	7 bits
56	8 bits

[Notes] ▪ If the value specified with a, d1 is out of range, this command is ignored. (The setting is not changed)
▪ This function code fn=11 is enabled only in the user setting mode.

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

[Format]

ASCII	GS	(	E	pL	pH	fn	a
Hex	1D	28	45	pL	pH	fn	a
Decimal	29	40	69	pL	pH	fn	a

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
fn=12
1 ≤ a ≤ 4

[Description] ▪ Transmits the communication conditions of the serial interface specified by a.

a	Communication Condition
1	Baud rate
2	Parity
3	Flow control
4	Data length

	Hexadecimal	Decimal	Amount of Data
Header	37H	55	1 byte
Flag	33H	39	1 byte
Type of the communication condition	31H - 34H	49 - 52	1 byte
Separator	1FH	31	1 byte
Setting value	30H - 39H	48 - 57	1 - 6 bytes
NUL	00H	0	1 byte

▪ Configuration of the setting value
- When the baud rate (a=1) is specified :

Baud rate (bps)	d1	d2	d3	d4	d5	d6
9600	57	54	48	48	--	--
19200	49	57	50	48	48	--
38400	51	56	52	48	48	--
57600	53	55	54	48	48	--
115200	49	49	53	50	48	48

- When the parity setting (a=2) is specified :

d1	Parity
48	No parity
49	Odd parity
50	Even parity

- When the flow control setting (a=3) is specified :

d1	Flow control
48	DTR / DSR
49	XON / XOFF

- When the data length setting (a=4) is specified :

d1	Data length
55	7 bits
56	8 bits

▪ If a is out of range, this command ignores the value which is specified with a.

GS (L pL pH m fn [parameter]
GS 8 L p1 p2 p3 p4 m fn [parameter]

[Name] Select graphics data.

[Format]

ASCII	GS	(	L	pL	pH	m	fn	[parameter]	
Hex	1D	28	4C	pL	pH	m	fn	[parameter]	
Decimal	29	40	76	pL	pH	m	fn	[parameter]	

ASCII	GS	(	L	p1	p2	p3	p4	m	fn	[parameter]
Hex	1D	28	4C	p1	p2	p3	p4	m	fn	[parameter]
Decimal	29	40	76	p1	p2	p3	p4	m	fn	[parameter]

* In the description below **GS (L** is used for the explanation.
- Note that **GS (L** and **GS 8 L** have the same Function.
- If the [parameter] of each format exceeds 65533 bytes use **GS 8 L**.

[Description] ▪ Processes graphics data according to the function code fn.

fn	Format	Function No.	Function
0, 48	GS (L pL pH m fn	Function 48	Transmits the NV graphics memory capacity.
2, 50	GS (L pL pH m fn	Function 50	Prints the graphics data in the print buffer.
3, 51	GS (L pL pH m fn	Function 51	Transmits the remaining capacity of the NV graphics memory.
64	GS (L pL pH m fn d1 d2	Function 64	Transmits the defined NV graphics key code list.
65	GS (L pL pH m fn d1 d2 d3	Function 65	Deletes all NV graphics data.
66	GS (L pL pH m fn kc1 kc2	Function 66	Deletes the specified NV graphics data.
67	GS (L pL pH m fn a kc1 kc2 b xL xH yL yH [c d1...dk]1...[c d1 dk]b	Function 67	Defines the raster graphics data in the non-volatile memory.
69	GS (L pL pH m fn kc1 kc2 x y	Function 69	Prints the specified NV graphics data.
112	GS (L pL pH m fn a bx by c xL xH yL yH d1...dk	Function 112	Stores the raster graphics data in the print buffer memory.

▪ pL, pH specifies (pL + pH x 256) as the number of bytes after pH(m, fn, and [parameter]).
▪ Frequent write command executions by this command may damage the NV memory. Therefore, it is recommended to write to the NV memory no more than 10times a day.
▪ While processing this command, the printer is BUSY while writing data to the NV graphics memory and stops receiving data. Therefore it is prohibited to transmit data including the real-time commands during the execution of this command.

<Function 48> **GS (L pL pH m fn** (fn=0, 48)

[Format]

ASCII	GS	(	L	pL	pH	fn	m
Hex	1D	28	4C	pL	pH	fn	m
Decimal	29	40	76	pL	pH	fn	m

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
m=48
fn=0, 48

[Description] ▪ Transmits the total capacity of the NV bit-image memory (number of bytes in the memory area).

	Hexadecimal	Decimal	Amount of Data
Header	37H	55	1 byte
Flag	30H	48	1 byte
Data	30H - 39H	48 - 57	1 - 8 bytes
NUL	00H	0	1 byte

▪ The total capacity data is converted to character codes corresponding to decimal data, then transmitted from the MSB.
▪ The data length is variable.
▪ The total capacity of the UV user memory is selectable as any one of [0, 64K, 128K, 192K, 256K, 320K, 384K] bytes with **GS (E**. The default value is 384 KB.

<Function 50> **GS (L pL pH m fn** (fn=2, 50)

[Format]

ASCII	GS	(	L	pL	pH	m	fn
Hex	1D	28	4C	pL	pH	m	fn
Decimal	29	40	76	pL	pH	m	fn

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
m=48
fn=2, 50

[Description] ▪ Prints the buffered graphics which is stored by the process of Function 112.
▪ Feeds paper by the amount corresponding to the number of dots in the y direction of the buffered graphics.

<Function 51> **GS (L pL pH m fn** (fn=3, 51)

[Format]

ASCII	GS	(	L	pL	pH	m	fn
Hex	1D	28	4C	pL	pH	m	fn
Decimal	29	40	76	pL	pH	m	fn

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
m=48
fn=3, 51

[Description] ▪ Transmits the number of bytes of remaining memory (unused area) in the NV user memory.

	Hexadecimal	Decimal	Amount of Data
Header	37H	55	1 byte
Flag	31H	49	1 byte
Data	30H - 39H	48 - 57	1 - 8 bytes
NUL	00H	0	1 byte

▪ The number of bytes of remaining memory is converted to character codes corresponding to decimal data, then transmitted from the MSB.
▪ The data length is variable.

<Function 64> **GS (L pL pH m fn d1 d2** (fn=64)

[Format]

ASCII	GS	(	L	pL	pH	m	fn	d1	d2
Hex	1D	28	4C	pL	pH	m	fn	d1	d2
Decimal	29	40	76	pL	pH	m	fn	d1	d2

[Range] (pL + pH x 256) = 4 (pL=4, pH=0)
m=48
fn=64
d1=75, d2=67

[Description] ▪ Transmits the defined NV graphics key code list.
- When the key code is present :

	Hexadecimal	Decimal	Amount of Data
Header	37H	55	1 byte
Flag	72H	114	1 byte
Status	40H or 41H	64 or 65	1 byte
Data	30H - 39H	48 - 57	2 - 80 bytes
NUL	00H	0	1 byte

- When the key code is not present :

	Hexadecimal	Decimal	Amount of Data
Header	37H	55	1 byte
Flag	72H	114	1 byte
Status	40H	64	1 byte
NUL	00H	0	1 byte

▪ If the number of the key code exceed 40, the key code is transmitted dividing up to 40.
- The status if the continuous transmission data block is present is 41H.
- The status if the continuous transmission data block is not present is 40H.

▪ After the [Header-NULL] is transmitted, the printer receives a response from the host; then it performs the process defined by the response. (See the tables below.)
- When the status (existence of the next data block) is Hexadecimal = 41H / Decimal = 65

Response		Process performed
ASCII	Decimal	
ACK	6	Transmits the next data.
NAK	21	Transmits the previous data again.
CAN	24	Ends the process.

- When the status (for the last data block) is Hexadecimal = 40H / Decimal = 64

Response		Process performed
ASCII	Decimal	
ACK	6	Ends the process.
NAK	21	Transmits the previous data again.
CAN	24	Cancels the process.

<Function 65> **GS (L pL pH m fn d1 d2 d3** (fn=65)

[Format]

ASCII	GS	(	L	pL	pH	m	fn	d1	d2	d3
Hex	1D	28	4C	pL	pH	m	fn	d1	d2	d3
Decimal	29	40	76	pL	pH	m	fn	d1	d2	d3

[Range] (pL + pH x 256) = 5 (pL=5, pH=0)
m=48
fn=65
d1=67, d2=76, d3=82

[Description] ▪ Deletes all defined NV graphics data.

<Function 66> **GS (L pL pH m fn kc1 kc2** (fn=66)

[Format]

ASCII	GS	(	L	pL	pH	m	fn	kc1	kc2
Hex	1D	28	4C	pL	pH	m	fn	kc1	kc2
Decimal	29	40	76	pL	pH	m	fn	kc1	kc2

[Range] (pL + pH x 256) = 4 (pL=4, pH=0)
m=48
fn=66
32 ≤ kc1 ≤ 126
32 ≤ kc2 ≤ 126

[Description] ▪ Deletes the NV graphics data defined by the key codes kc1 and kc2.

<Function 67> **GS (L pL pH m fn a kc1 kc2 b xL xH yL yH [c d1...dk]1...[c d1...dk]b** (fn=67)

[Format]

ASCII	GS	(	L	pL pH m fn a kc1 kc2 b xL xH yL yH [c d1...dk]1...[c d1...dk]b
Hex	1D	28	4C	pL pH m fn a kc1 kc2 b xL xH yL yH [c d1...dk]1...[c d1...dk]b
Decimal	29	40	76	pL pH m fn a kc1 kc2 b xL xH yL yH [c d1...dk]1...[c d1...dk]b

[Range]
▪ **GS (L** parameter
3 ≤ (pL + pH x 256) ≤ 65535 (0 ≤ pL ≤ 255, 0 ≤ pH ≤ 255)
▪ **GS 8 L** parameter
3 ≤ (p1 + p2 x 256 + p3 x 65535 + p4 x 16777216) ≤ 4294967295
(0 ≤ p1 ≤ 255, 0 ≤ p2 ≤ 255, 0 ≤ p3 ≤ 255, 0 ≤ p4 ≤ 255)
▪ Common parameter for **GS 8 L** / **GS (L**
m=48
fn=67
a=48
32 ≤ kc1 ≤ 126
32 ≤ kc2 ≤ 126
b=1, 2
1 ≤ (xL + xH x 256) ≤ 8192
1 ≤ (yL + yH x 256) ≤ 2304
c=49 (when the monochrome paper is selected)
c=50 (when the two-color paper is selected)
0 ≤ d ≤ 255
k = (int ((xL + xH x 256) + 7) / 8) x (yL + yH x 256)

[Description] ▪ The total capacity of the UV user memory is selectable as any one of [0, 64K, 128K, 192K, 256K, 320K, 384K] bytes with **GS (E**. The default value is 384KB.
▪ Defines the raster graphics data in the NV graphics area.
- b specifies the number of the color of the defined data.
- xL, xH specifies the defined data in the horizontal direction to (xL + xH x 256) dots.
- xL, xH specifies the defined data in the vertical direction to (yL + yH x 256) dots.
- c specifies the color of the defined data.

c	Defined data color
49	Color 1
50	Color 2

- Color 1 means black (high level of energy) in the specified tow-color thermal paper.
- Color 2 means red (low level of energy) in the specified tow-color thermal paper.

[Notes] ▪ If the color is specified with b and a single color also is specified with c, the printer stops processing the command, and regards the defined data as effective up to the time when the printer stops processing, then disregards the remaining data after it.
▪ When this command is processed while NV bit image data is defined with **FS q**, the printer deletes all NV bit image data, then defines data with this command.

<Function 69> **GS (L pL pH m fn kc1 kc2 b x y** (fn=69)

[Format]

ASCII	GS	(	L	pL	pH	m	fn	kc1	kc2	x	y
Hex	1D	28	4C	pL	pH	m	fn	kc1	kc2	x	y
Decimal	29	40	76	pL	pH	m	fn	kc1	kc2	x	y

[Range] (pL + pH x 256) = 6 (pL=6, pH=0)
m=48, fn=69
32 ≤ kc1 ≤ 126
32 ≤ kc2 ≤ 126
x=1, 2
y=1, 2

[Description] ▪ Prints the NV graphics data defined by the key codes kc1 and kc2. The graphics data is enlarged by x and y in the horizontal and vertical directions.

<Function 112> **GS (L pL pH m fn a bx by c xL xH yL yH d1...dk** (fn=112)

[Format]

ASCII	GS	(	L	pL pH m fn a bx by c xL xH yL yH d1...dk
Hex	1D	28	4C	pL pH m fn a bx by c xL xH yL yH d1...dk
Decimal	29	40	76	pL pH m fn a bx by c xL xH yL yH d1...dk

[Range]

▪ **GS (L** parameter

11 ≤ (pL + pH x 256) ≤ 65535 (0 ≤ pL ≤ 255, 0 ≤ pH ≤ 255)

▪ **GS 8 L** parameter

11 ≤ (p1 + p2 x 256 + p3 x 65535 + p4 x 16777216) ≤ 4294967295

(0 ≤ p1 ≤ 255, 0 ≤ p2 ≤ 255, 0 ≤ p3 ≤ 255, 0 ≤ p4 ≤ 255)

▪ Common parameter for **GS 8 L** / **GS (L**

m=48, fn=112, a=48

bx=1, 2

by=1, 2

c=49 (when the monochrome paper is selected)

c=50 (when the two-color paper is selected)

- When single-color paper is specified :

1 ≤ (yL + yH x 256) ≤ 1662 (when by = 1)

1 ≤ (yL + yH x 256) ≤ 831 (when by = 2)

- When two-color paper is specified :

1 ≤ (yL + yH x 256) ≤ 831 (when by = 1)

1 ≤ (yL + yH x 256) ≤ 415 (when by = 2)

0 ≤ d ≤ 255

k = (int ((xL + xH x 256) + 7) / 8) x (yL + yH x 256)

[Description]

▪ Stores the raster graphics data, enlarged by bx and by in the horizontal and vertical directions to the print buffer.

- xL, xH specifies the raster graphics data in the horizontal direction as (xL + xH x 256) dots.
- xL, xH specifies the raster graphics data in the vertical direction to (yL + yH x 256) dots.
- c specifies the color of the defined data.

c	Printing color
49	Color 1
50	Color 2

- Color 1 means black (high level of energy) in the specified tow-color thermal paper.
- Color 2 means red (low level of energy) in the specified tow-color thermal paper.

[Notes]

▪ In standard mode, each color can be defined only once.

GS (M pL pH fn m

[Name] Customize printer.

[Description]

▪ Protects or recovers values or data set or defined in the active area by commands.

fn	Function No.	Descriptions
1, 49	Function 1	Copies the settings stored in the active area to the storage area (save settings).
2, 50	Function 2	Copies the settings stored in the storage area to the storage area (load settings).
3, 51	Function 3	Enables or disables automatic loading of the settings upon initialization.

- Active area : Volatile memory (RAM)
- Storage area : Hon-volatile memory (Flash ROM)

▪ List of commands

Setting value	Command
Status	**ESC c 3, GS a**
Defined data	**GS :**
Character Kind of character	**ESC M, ESC R, ESC t**
style	**ESC !, ESC -, ESC E, ESC G, ESC V, ESC {, GS !, GS B, GS b, GS (N**
etc	**ESC SP, ESC 2, ESC 3**
Bar code	**GS H, GS f, GS h, GS w**
2-dimension code	<Function 065> through <Function 070> of **GS (k**
Print position	**ESC D, ESC T, ESC a, GS L, GS W**
etc	**ESC c 4, ESC c 5, GS (D, GS P**

<Function 1> **GS (M pL pH fn m** (fn=1, 49)

[Format]

ASCII	GS	(	M	pL	pH	fn	m
Hex	1D	28	4D	pL	pH	fn	m
Decimal	29	40	77	pL	pH	fn	m

[Range]

(pL + pH x 256) = 2 (pL=2, pH=0)

fn=1, 49

m=1, 49

[Description]

▪ Copies the setting stored in the active area to the mth storage area.

[Notes]

▪ Frequent write command executions by this command may damage the NV memory. Therefore, it is recommended to write to the NV memory no more than 10 times a day.

▪ While processing this command, the printer is BUSY while writing data to the NV user memory and stops receiving data. Therefore it is prohibited to transmit data including the real-time commands during the execution of this command.

<Function 2> **GS (M pL pH fn m** (fn=2, 50)

[Format]

ASCII	GS	(	M	pL	pH	fn	m
Hex	1D	28	4D	pL	pH	fn	m
Decimal	29	40	77	pL	pH	fn	m

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
fn=2, 50
m=0, 1, 48, 49

[Description] ▪ When (m=0,48), initializes all settings in the active area, as described in these specifications.
▪ When (m=1,49), copies the setting stored in the mth storage area to the active area. If no data in the storage area is protected, all settings in the active area are initialized as described in these specifications.

<Function 3> **GS (M pL pH fn m** (fn=3, 51)

[Format]

ASCII	GS	(	M	pL	pH	fn	m
Hex	1D	28	4D	pL	pH	fn	m
Decimal	29	40	77	pL	pH	fn	m

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
fn=3, 51
m=0, 1, 48, 49

[Description] ▪ When m=0,48, does not load data in the storage area to the active area upon initialization.
▪ When m=1,49, loads data in the storage area to the active area upon initialization.

GS (N pL pH fn [parameter]

[Name] Select character style.

[Description] ▪ Executes commands for the character style as specified by the function code fn.

fn	Format	Function No.	Description
48	GS (N pL pH fn m	Function 48	Selects character color.

<Function 48> **GS (N pL pH fn m** (fn=48)

[Format]

ASCII	GS	(	N	pL	pH	fn	m
Hex	1D	28	4E	pL	pH	fn	m
Decimal	29	40	78	pL	pH	fn	m

[Range] (pL + pH x 256) = 2 (pL=2, pH=0)
fn=48
m=49 (when the monochrome paper is selected)
m=49,50 (when the two-color paper is selected)

[Default] m=49

[Description] ▪ Prints characters in the color specified by m.

m	Color
49	Color 1
50	Color 2

- Color 1 means black (high level of energy) in the specified two-color thermal paper.
- Color 2 means red (low level of energy) in the specified two-color thermal paper.

GS * x y [d1…d(x x **y** x **8)]**

[Name] Define downloaded bit image.

[Format]

ASCII	GS	*	x	y	[d1...d(x x y x 8)]
Hex	1D	2A	x	y	[d1...d(x x y x 8)]
Decimal	29	42	x	y	[d1...d(x x y x 8)]

[Range] 1 ≤ x ≤ 255
1 ≤ y ≤ 48 (where x x y ≤ 1536)
0 ≤ d ≤ 255

[Description] ▪ Defines the downloaded bit image using the number of dots specified by x and y.
- x specifies the number of dots in the horizontal direction.
- y specifies the number of dots in the vertical direction.

▪ When the memory switch 8-7 is On, the user-defined character and the downloaded bit image cannot be defined simultaneously. The downloaded bit image data is cleared with this command.

GS / m

[Name] Print downloaded bit image.

[Format]

ASCII	GS	/	m
Hex	1D	2F	m
Decimal	29	47	m

[Range] 0 ≤ m ≤ 3, 48 ≤ m ≤ 51

[Description] ▪ Prints the defined downloaded bit image in m mode.
- For SRP-370

m	Mode	Vertical dot density	Horizontal dot density
0, 48	Normal	180 dpi	180 dpi
1, 49	Double-width	180 dpi	90 dpi
2, 50	Double-height	90 dpi	180 dpi
3, 51	Quadruple	90 dpi	90 dpi

- For SRP-372

m	Mode	Vertical dot density	Horizontal dot density
0, 48	Normal	203 dpi	203 dpi
1, 49	Double-width	203 dpi	203/2 dpi
2, 50	Double-height	203/2 dpi	203 dpi
3, 51	Quadruple	203/2 dpi	203/2 dpi

dpi : dots per 25.4mm {1"}

GS :

[Name] Start/end macro definition.

[Format]

ASCII	GS	:
Hex	1D	3A
Decimal	29	58

[Description] ▪ Starts or ends macro definition.
- The contents of the macro can be defined up to 2048 bytes.

GS B n

[Name] Turns white/black reverse printing mode on / off.

[Format]

ASCII	GS	B	n
Hex	1D	42	n
Decimal	29	66	n

[Range] 0 ≤ n ≤ 255

[Default] n=0

[Description]
- Turns white/black reverse printing mode on or off.
  - When the LSB of n is 0, white/black reverse mode is turned off.
  - When the LSB of n is 1, white/black reverse mode is turned on.

GS H n

[Name] Selects the printing position of HRI characters.

[Format]

ASCII	GS	H	n
Hex	1D	48	n
Decimal	29	72	n

[Range] 0 ≤ n ≤ 3, 48 ≤ n ≤ 51

[Default] n=0

[Description]
- Selects the printing position of HRI characters when printing a bar code.
  - n selects the execution of printing and the printing position as follows :

n	Printing position
0, 48	Not printed.
1, 49	Above the bar code.
2, 50	Below the bar code.
3, 51	Both above and below the bar code.

GS I n

[Name] Transmits printer ID.

[Format]

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

[Range] 1 ≤ n ≤ 3, 49 ≤ n ≤ 51, 65 ≤ n ≤ 69, n=112

[Description] 1 ≤ n ≤ 3, 49 ≤ n ≤ 51, 65 ≤ n ≤ 69, (when TM-T88II compatible mode is selected.)
- Transmits the printer ID specified.
  - n specifies the types of the printer ID.

n	Printer ID type	ID
1, 49	Printer model ID	Hexadecimal : 2EH Decimal : 46
2, 50	Type ID	See table below.
3, 51	Firmware version ID	Depends on firmware version.

  - n specifies the printer information.

n	Printer ID type	ID
65	Firmware version	Depends on firmware version
66	Manufacturer	BIXOLON
67	Printer name	SRP-370/372

GS L nL nH

[Name] Set left margin.

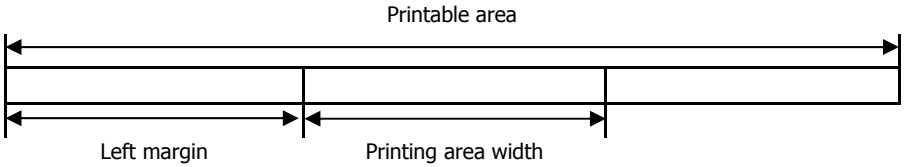
[Format]

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

[Range] 0 ≤ nL ≤ 255
0 ≤ nH ≤ 255

[Default] (nL + nH x 256)=0 (nL=0, nH=0)

[Description]
- Sets the left margin specified by nL and nH.
  - The left margin is [(nL + nH x 256) x (horizontal motion units)].



GS P x y

[Name] Set horizontal and vertical motion units.

[Format]

ASCII	GS	P	x	y
Hex	1D	50	x	y
Decimal	29	80	x	y

[Range] 0 ≤ x ≤ 255
0 ≤ y ≤ 255

[Default] For ANK/Multilingual model : x=180, y=360
For Japanese Kanji model : x=203, y=406

[Description]
- Turns white/black reverse printing mode on or off.
  - For SRP-370
    When x=0, the default setting of the horizontal motion unit is used.
    When 1 ≤ x ≤ 255, the horizontal motion unit is set to 25.4/x mm {(1/x)"}.
    When y=0, the default setting of the vertical motion unit is used.
    When 1 ≤ y ≤ 255, the vertical motion unit is set to 25.4/y mm {(1/y)"}.
  - For SRP-372
    When x=0, the default setting of the horizontal motion unit is used.
    When 1 ≤ x ≤ 255, the horizontal motion unit is set to 25.4/x mm {(1/x)"}.
    When y=0, the default setting of the vertical motion unit is used.
    When 1 ≤ y ≤ 255, the vertical motion unit is set to 25.4/y mm {(1/y)"}.

GS T n

[Name] Set print position to the beginning of print line.

[Format]

ASCII	GS	T	n
Hex	1D	54	n
Decimal	29	84	n

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

[Description] ▪ Sets the print position to the beginning of the print line.

- n specifies how data in the print buffer is processed when this command is executed.

n	Function
0, 48	Sets the print position after the data in the print buffer is deleted.
1, 49	Sets the print position after the data in the print buffer is printed.

- When printing is specified (n=1,49), the printer prints the data in the print buffer and executes a line feed, based on the line feed amount to be set.

- When deleting is specified (n=0,48), the printer executes the cancel process for the print data in the print buffer, and keeps other data or setting values except for the print data.

① GS V m
② GS V m n

[Name] Select cut mode and cut paper.

[Format]

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

[Range] ① m=0, 1, 48, 49

② m=65, 66, 0 ≤ n ≤ 255

[Description] ▪ Cuts paper in the specified mode.

m	Function
0, 48 1, 49	Cuts paper (one point left uncut, full cut).
65, 66	Feeds and cuts paper (one point left uncut, full cut).

- n specifies how data in the print buffer is processed when this command is executed.

▪ Full cut or one point left uncut cannot be changed by software.

GS W nL nH

[Name] Set printing area width.

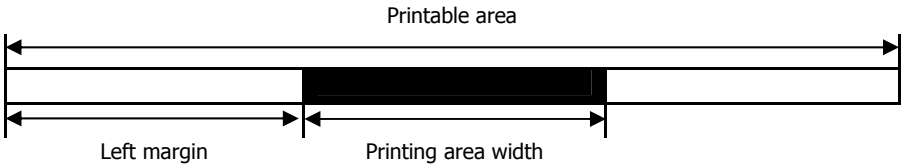
[Format]

ASCII	GS	W	nL	nH
Hex	1D	57	nL	nH
Decimal	29	87	nL	nH

[Range] 0 ≤ nL ≤ 255
0 ≤ nH ≤ 255

[Default] ▪ For SRP-370
(nL + nH x 256)=512 (nL=0, nH=2) (for 80mm of the paper width)
(nL + nH x 256)=384 (nL=128, nH=1) (for 60mm of the paper width)
(nL + nH x 256)=360 (nL=104, nH=1) (for 58mm of the paper width)
▪ For SRP-372
(nL + nH x 256)=576 (nL=64, nH=2) (for 80mm of the paper width)
(nL + nH x 256)=436 (nL=180, nH=1) (for 60mm of the paper width)
(nL + nH x 256)=420 (nL=164, nH=1) (for 58mm of the paper width)

[Description] ▪ Sets the printing area width specified with nL and nH.
- The printing area width is [(nL + nH x 256) x (horizontal motion units)].



GS ＼ nL nH

[Name] Set relative vertical print position in page mode.

[Format]

ASCII	GS	＼	nL	nH
Hex	1D	5C	nL	nH
Decimal	29	92	nL	nH

[Range] 0 ≤ nL ≤ 255
0 ≤ nH ≤ 255

[Description] ▪ Sets the relative vertical print starting position from the current position in page mode. The distance from the current position to the starting position is [(nL + nH x 256) x (vertical or horizontal motion units)].

GS ^ r t m

[Name] Execute macro.

[Format]

ASCII	GS	^	r	t	m
Hex	1D	5E	r	t	m
Decimal	29	94	r	t	m

[Range] 0 ≤ r ≤ 255
0 ≤ t ≤ 255
m=0, 1

[Description] ▪ Executes a macro.
- r specifies the number of times to execute the macro.
- t specifies the waiting time for executing the macro.
- m specifies macro executing mode from the table below.

m	Function
0	Executes the macro r times at the interval specified by t.
1	After waiting for the time specified by t, the PAPER OUT LED flashes to indicate that the FEED button must be pressed. After the button is pressed, the macro is executed once. This operation is then repeated r times.

GS a n

[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] n=0 when memory switch 1-3 is Off.
n=2 when memory switch 1-3 is On.

[Description] ▪ Specifies the status items for ASB (Automatic Status Back).

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Drawer kick-out connector pin 3 disable.
	On	01	1	Drawer kick-out connector pin 3 enable.
1	Off	00	0	Online/Offline status disabled.
	On	02	2	Online/Offline status enabled.
2	Off	00	0	Error status disabled.
	On	04	4	Error status enabled.
3	Off	00	0	Paper roll sensor status disabled.
	On	08	8	Paper roll sensor status enabled.
4	Off	00	0	Reserved.
5	Off	00	0	Reserved.
6	Off	00	0	Panel button status disabled.
	On	40	64	Panel button status enabled.
7	Off	00	0	Reserved.

▪ The status to be transmitted is the four bytes that follows.
- First byte (printer information)

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Fixed.
1	Off	00	0	Fixed.
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	Online.
	On	08	8	Offline.
4	Off	10	16	Fixed.
5	Off	00	0	Cover is closed.
	On	20	32	Cover is opened.
6	Off	00	0	Paper is not being fed by using the paper FEED button.
	On	40	64	Paper is being fed by using the paper FEED button.
7	Off	00	0	Fixed.

▪ When the cover is open while the printing is stopped, the printer becomes offline.
- Second byte (printer information)

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Not on online waiting status.
	On	01	1	During online waiting status.
1	Off	00	0	Panel button OFF.
	On	02	2	Panel button ON.
2	Off	00	0	No mechanical error.
	On	04	4	Mechanical error has occurred.
3	Off	00	0	No Auto Cutter error.
	On	08	8	Auto Cutter error occurred.
4	Off	00	0	Fixed.
5	Off	00	0	No unrecoverable error.
	On	20	32	Unrecoverable error has occurred.
6	Off	00	0	No automatically recoverable error.
	On	40	64	Automatically recoverable error has occurred.
7	Off	00	0	Fixed.

- Third byte (paper sensor information)

Bit	Off/On	Hex	Decimal	Function
0	Off	00	0	Paper roll near-end sensor : paper adequate.
	On	01	1	Paper roll near-end sensor : paper near end.
1	Off	00	0	Paper roll near-end sensor : paper present.
	On	02	2	Paper roll near-end sensor : paper not present.
2	Off	00	0	Paper roll end sensor : paper present.
	On	04	4	Paper roll end sensor : paper near end.
3	Off	00	0	Paper roll end sensor : paper present.
	On	08	8	Paper roll end sensor : paper not present.
4	Off	00	0	Fixed.
5	Off	00	0	Reserved.
6	Off	00	0	Reserved.
7	Off	00	0	Fixed.

▪ The paper roll end sensor is unstable when the cover is open.
- Fourth byte (paper sensor information)

Bit	Off/On	Hex	Decimal	Function
0	On	01	1	Reserved.
1	On	02	2	Reserved.
2	On	04	4	Reserved.
3	On	08	8	Reserved.
4	Off	00	0	Fixed.
5	Off	00	0	Reserved.
6	Off	00	0	Reserved.
7	Off	00	0	Fixed.

[Notes] ▪ When the memory switch Msw 8-7 is On, the printer transmits the ASB data to the host whether the host can receive or not.
▪ When the memory switch Msw 8-7 is On, the printer transmits the ASB data with the panel button status always being ignored.

[Reference] APPENDIX J

GS b n

[Name] Turns smoothing mode on/off.

[Format]

ASCII	GS	b	n
Hex	1D	62	n
Decimal	29	98	n

[Range] 0 ≤ nL ≤ 255

[Default] n=0

[Description] ▪ Turns smoothing mode on or off.
- When the LSB of n is 0, smoothing mode is turned off.
- When the LSB of n is 1, smoothing mode is turned on.

GS f n

[Name] Select font for HRI characters.

[Format]

ASCII	GS	f	n
Hex	1D	66	n
Decimal	29	102	n

[Range] For ANK/Multilingual model : n=0, 1, 48, 49
For Japanese Kanji model : 0 ≤ n ≤ 2, 48 ≤ n ≤ 50

[Default] n=0

[Description] ▪ Selects a font for the HRI characters used when printing a bar code.
- n specifies the font of the HRI characters as follows :

n	Font
0, 48	Font A (12 x 24)
1, 49	Font B (9 x 17)

GS h n

[Name] Selects bar code height.

[Format]

ASCII	GS	h	n
Hex	1D	68	n
Decimal	29	104	n

[Range] 1 ≤ nL ≤ 255

[Default] n=162

[Description] ▪ Selects the height of the bar code as n dots.

① GS k m d1...dk NUL
② GS k m n d1...dn

[Name] Print bar code.

[Format]

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

[Range] ① 0 ≤ m ≤ 6 (k and d depend on the bar code system used)
② 65 ≤ m ≤ 73 (n and d depend on the bar code system used)

[Description] ▪ Selects a bar code system and prints the bar code.

For ①

m	Bar Code System	Range of k	Range of d
0	UPC-A	11 ≤ k ≤ 12	48 ≤ d ≤ 57
1	UPC-E	11 ≤ k ≤ 12	48 ≤ d ≤ 57
2	JAN13(EAN)	12 ≤ k ≤ 13	48 ≤ d ≤ 57
3	JAN8(EAN)	7 ≤ k ≤ 8	48 ≤ d ≤ 57
4	CODE39	1 ≤ k	48 ≤ d ≤ 57, 65 ≤ d ≤ 90, d=32,36,37,43,45,46,47
5	ITF	1 ≤ k (even number)	48 ≤ d ≤ 57
6	CODABAR	1 ≤ k	48 ≤ d ≤ 57, 65 ≤ d ≤ 68, d=36,43,45,46,47,58

For ②

m	Bar Code System	Range of k	Range of d
65	UPC-A	11 ≤ n ≤ 12	48 ≤ d ≤ 57
66	UPC-E	11 ≤ n ≤ 12	48 ≤ d ≤ 57
67	JAN13(EAN)	12 ≤ n ≤ 13	48 ≤ d ≤ 57
68	JAN8(EAN)	7 ≤ n ≤ 8	48 ≤ d ≤ 57
69	CODE39	1 ≤ n ≤ 255	48 ≤ d ≤ 57, 65 ≤ d ≤ 90, d=32,36,37,43,45,46,47
70	ITF	1 ≤ n ≤ 255 (even number)	48 ≤ d ≤ 57
71	CODABAR	1 ≤ n ≤ 255	48 ≤ d ≤ 57, 65 ≤ d ≤ 68, d=36,43,45,46,47,58
72	CODE93	1 ≤ n ≤ 255	0 ≤ d ≤ 127
73	CODE128	2 ≤ n ≤ 255	0 ≤ d ≤ 127

[Notes] ▪ User most consider the quiet zone of the bar code (left and right spaces of the bar code).

GS r n

[Name] Transmit status.

[Format]

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

[Range] n=1, 2, 49, 50

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

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

▪ Paper sensor status (n=1, 49) :

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

- Bits 2 and 3 : This command cannot be executed since the printer becomes offline when the paper roll end sensor detects the paper not present. Therefore, the status of bit 2 (1) and bit 3 (1) is not transmitted.

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

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

GS v 0 m xL xH yL yH d1...dk

[Name] Print raster bit image.

[Format]

ASCII	GS	v	0	m	xL	xH	yL	yH	d1...dk
Hex	1D	76	30	m	xL	xH	yL	yH	d1...dk
Decimal	29	118	48	m	xL	xH	yL	yH	d1...dk

[Range] 0 ≤ m ≤ 3, 48 ≤ m ≤ 51
1 ≤ (xL + xH x 256) ≤ 128 (0 ≤ xL ≤ 128, xh=0)
1 ≤ (yL + yH x 256) ≤ 4095 (0 ≤ yL ≤ 255, 0 ≤ yH ≤ 15)
0 ≤ d ≤ 255
k = (xL + xH x 256) x (yL + yH x 256)

[Description] ▪ Prints a raster bit image in m mode.
- m specifies the bit image mode.

<For SRP-370>

m	Mode	Vertical dot density	Horizontal dot density
0, 48	Normal	180 dpi	180 dpi
1, 49	Double-width	180 dpi	90 dpi
2, 50	Double-height	90 dpi	180 dpi
3, 51	Quadruple	90 dpi	90 dpi

<For SRP-372>

m	Mode	Vertical dot density	Horizontal dot density
0, 48	Normal	203 dpi	203 dpi
1, 49	Double-width	203 dpi	203/2 dpi
2, 50	Double-height	203/2 dpi	203 dpi
3, 51	Quadruple	203/2 dpi	203/2 dpi

dpi : dots per 25.4mm {1"}

- xL, xH specifies (xL + xH x 256) byte(s) in the horizontal direction for the bit image.
- yL, yH specifies (yL + yH x 256) dot(s) in the vertical direction for the bit image.
- d specifies the definition data of the bit image data.

GS w n

[Name] Set bar code width.

[Format]

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

[Range] 2 ≤ n ≤ 6
n=3

[Description] ▪ Set the horizontal size of the bar code, using n as follows :

<For SRP-370>

n	Multi-level Bar Code Module Width (mm)	Binary-level Bar Code	
		Thin element width (mm)	Thick element width (mm)
2	0.282	0.282	0.706
3	0.423	0.423	1.129
4	0.564	0.564	1.411
5	0.706	0.706	1.834
6	0.847	0.847	2.258

<For SRP-372>

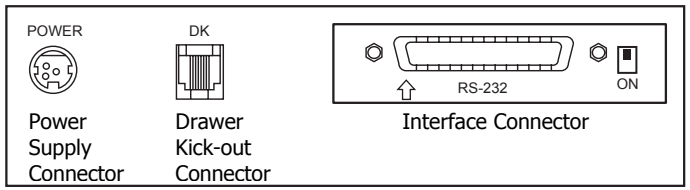
n	Multi-level Bar Code Module Width (mm)	Binary-level Bar Code	
		Thin element width (mm)	Thick element width (mm)
2	0.250	0.250	0.626
3	0.375	0.375	1.001
4	0.500	0.500	1.251
5	0.626	0.626	1.627
6	0.751	0.751	2.002

[Notes] ▪ Multi-level bar codes are as follows :
- UPC-A, UPC-E, JAN13, HAN8, CODE93, CODE128

▪ Binary-level bar codes are as follows :
- CODE39, ITF, CODABAR

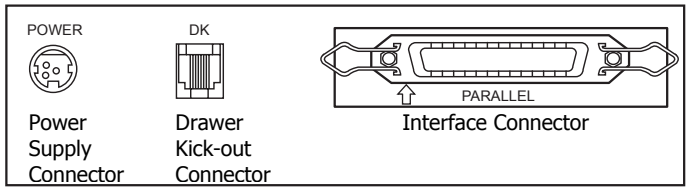
APPENDIX

A. Connectors

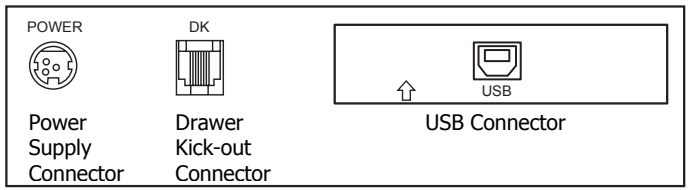


※ When the Dip Switch is "ON" on the Serial Interface Board, DTR and RTS are connected each other.

SRP-370/372 Connector
(Serial Interface)

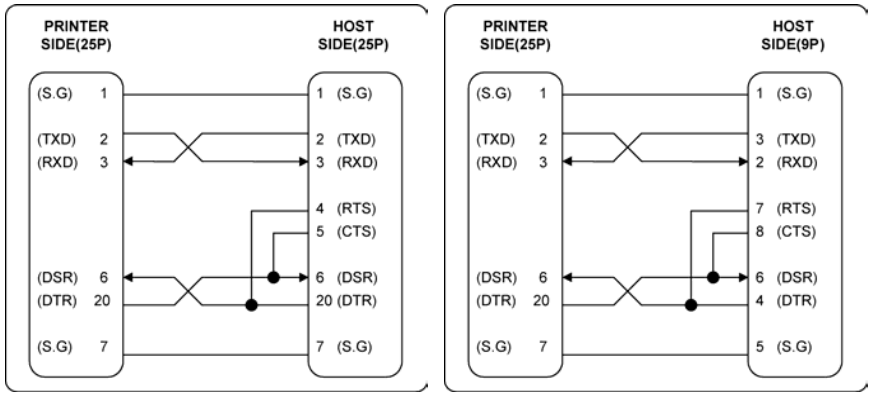


SRP-370P/372P Connector
(Parallel Interface)



SRP-370U/372U Connector
(USB Interface)

RS-232C Cable Connection



Interface Connector

Serial Interface (RS-232)

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

Parallel Interface (IEEE-1284)

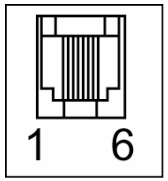
Pin No.	Source	Compatibility Mode	Nibble Mode	Byte Mode
1	Host	nStrobe	HostClk	HostClk
2	Host / Printer	Data 0 (LSB)	-	Data 0 (LSB)
3	Host / Printer	Data 1	-	Data 1
4	Host / Printer	Data 2	-	Data 2
5	Host / Printer	Data 3	-	Data 3
6	Host / Printer	Data 4	-	Data 4
7	Host / Printer	Data 5	-	Data 5
8	Host / 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	NC	NC
16		GND	GND	GND
17		FG	FG	FG
18	Printer	Logic-H	Logic-H	Logic-H
19~30		GND	GND	GND
31	Host	nInit	nInit	nInit
32	Printer	nFault	nDataAvail /Data0,4	nDataAvail
33		GND	ND	ND
34	Printer	DK_Status	ND	ND
35	Printer	+5V	ND	ND
36	Host	nSelectIn	1284-Active	1284-Active

USB Interface

Pin No.	Signal Name	Assignment (Color)	Function
Shell	Shield	Drain Wire	Frame Ground
1	VBUS	Red	Host Power
2	D-	White	Data Line(D-)
3	D+	Green	Data Line(D+)
4	GND	Black	Signal Ground

Drawer Connector

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



B. Notes

Paper dust inside the printer may lower the print quality. In this case clean the printer as follows.

1) Open the printer cover and remove the paper if exists.
2) Clean the print head with a cotton swab moistened with alcohol solvent.
3) Clean the platen roller and paper end sensor with cotton swab moistened with water.
4) Insert a paper roll and close the printer cover.

The remained amount of paper detected by paper near end sensor varies with the diameter of the paper core.
To adjust the remained amount, contact your dealer.

C. Specification

Printing method		Thermal line printing	
Dot density		180 X 180 dpi (7dots/mm)	203 X 203 dpi (8dots/mm)
Printing width		57.5mm, 72.192 ± 0.2mm	
Paper width		58mm,80mm,82.5 mm	
Characters per line (default)		**180 DPI** 42 (Font A) 56 (Font B)	**203 DPI** 48 (Font A) 64 (Font B)
Printing speed	**180 DPI**	Mono : 47 lines/sec(1/6" Feed) 200mm/sec Color : 23.6 Line/ Sec(1/6inch feed) 100mm/sec	
	203 DPI	Mono : 42 lines/sec(1/6" Feed) 180mm/sec Color : 21 Line/ Sec(1/6inch feed) 90mm/sec	
Receive Buffer Size		4K Bytes	
NOTE : Printing speed may be slower, depending on the data transmission speed and the combination of control commands.			
Supply voltage	Input voltage	100~240 VAC	
	Frequency	50/60 Hz	
	Output voltage	+24 VDC	
Environmental Conditions	Temperature	0 ~ 45 ℃ (Operating) -10 ~ 50 ℃ (Storage)	
	Humidity	30 ~ 80 % RH (Operating) 10 ~ 90 % RH (Storage) ; Except for paper	
MCBF *	Mechanism	Monochrome :70,000,000Lines 2Color :35,000,000Lines	
Auto cutter life *		1,200,000 Cut	

* These values are calculated under printing level 2 with recommended paper at normal temperature.

* These values may vary with environment temperature, printing level, etc.

KD04-00046E
Rev. 1.00

BIXOLON®
SAMSUNG mini printers