TOSHIBA

TOSHIBA Portable Printer

B-FP2D Series

Key Operation Specification

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TOSHIBA TEC CORPORATION

Modification History

KEY OPERATION SPECIFICATION

Date	Modified Pages	Description
16DEC2019	–	Newly published.

TABLE OF CONTENTS

1 SCOPE

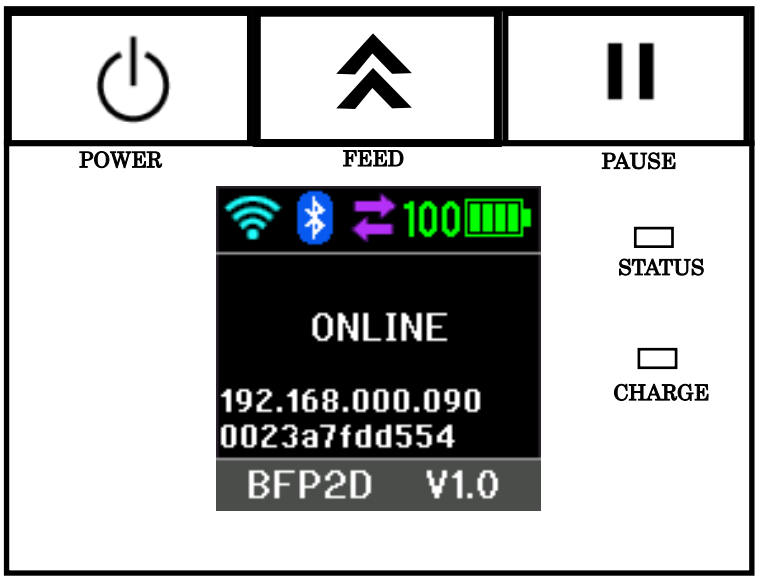
This specification describes key operations of the B-FP2D series portable printers using their keys and the LCD display.

2 OUTLINE

The key operations are performed roughly in two modes: online mode and system mode. In online mode, where the printer is connected to a host device such as a personal computer, the key operations are performed mainly to pause or restart the printer and to display printer status messages and error messages on the LCD. In system mode, the key operations are performed mainly to conduct a self-test and to make various parameter settings. This specification describes the key operations in these two modes.

For explanation purposes, this specification uses English key names and LCD messages of the B-FP, although other languages are available for key names and LCD messages.

3 OPERATION PANEL



4 GENERAL VIEW OF KEY OPERATION

[Power OFF]

Press and hold down the [POWER] key until the message, “Initiallizing…” appears, then 3 sec. or more elapses.

IP address print (B-FP2D-GH50)
BD address print (B-FP2D-GH30/50)

Press the [POWER] key

Online mode

Data registration, label print, etc.

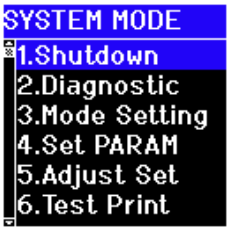
After [STATUS] LED blinks, it brights.

While holding down the [FEED] key, press the [POWER] key for 1 sec. or more.

System mode for service persons and system administrators

Printer self-test, various parameter settings, etc.

After [STATUS] LED blinks, it brights.

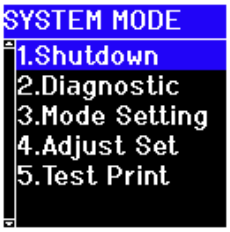


While holding down the [PAUSE] key, press the [POWER] key for 1 sec. or more.

SYSTEM MODE FOR USERS

Printer self-test, various parameter settings, etc

After [STATUS] LED blinks, it brights.



While holding down the [FEED] and [PAUSE] keys, press the [POWER] key.

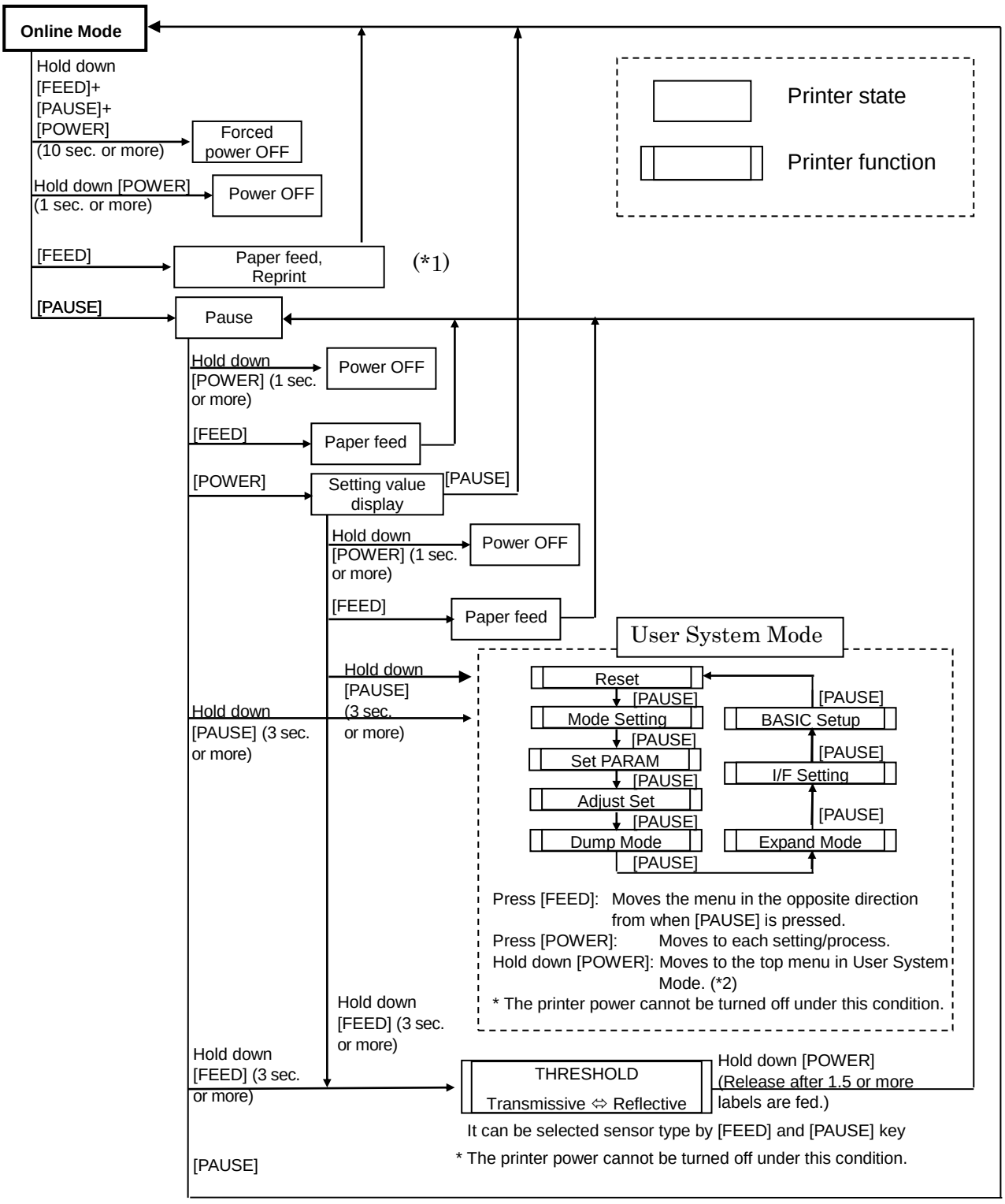
Download mode

Update of program and data
For details, refer to the Program Download Operation Specification.

After [STATUS] LED blinks, it brights.

5 ONLINE MODE

5.1 GENERAL VIEW OF KEY OPERATION



(*1) In TPCL1 mode, [FEED] key in Online state moves as reprint.
But when it is after power on or emulation changed, it moves as paper feed.
The other mode, it moves as paper feed.
(2) If it is in top menu, cursor moves to 1.Reset.

5.2 KEY FUNCTIONS

[POWER] key
(1) Turns the printer power on from a power off state and initializes the printer.
(2) Performs various parameter settings.

[FEED] key:
(1) Feeds or ejects 1 label. This key is also used to adjust a label to a proper position. When the label is not properly positioned, feed 1 or 2 blank labels using this key before printing so that the printer can start printing at the proper position.
(2) Prints data in the image buffer on one label (depending on TPCL1 mode, LABEL mode).
NOTE: *During printing initiated by the [FEED] key, a Clear command or a drawing command should not be sent from the host device, otherwise the resulting printout will not be satisfactory showing an incorrect layout. The same may happen if the [FEED] key is pressed to start printing while data is being drawn in the image buffer.*
(3) Performs a forced strip issue in strip wait state.
(4) Programs a threshold value.

[PAUSE] key:
(1) Stops printing temporarily and resumes printing.
(2) Resumes printing after clearing an error.

Key operations while the printer is in online state

- In pause state

Press [PAUSE]:	Exits from a pause state.
Hold down [PAUSE]:	Moves to the reset menu.
Press [FEED]:	Feeds a paper.
Hold down [FEED]:	Moves to the threshold setting menu.

- In error state

Press [PAUSE]:	Recovers from an error.
Hold down [PAUSE]:	Moves to the reset menu.
Press [FEED]:	No operation

5.3 LED FUNCTIONS

[STATUS] LED: (red/purple/blue)

Indicates the following statuses:
- Printer power, ON or OFF
- Communication status of printer
- Printer error
- Battery level
- Strip wait state

LED lighting patterns

- Power OFF: ..... OFF
- Charging in power OFF state..... OFF
- Power ON
  1) Battery level 3 or more
     - In idle state ..... Blue/ON
     - Strip wait state ..... Blue/Blink
     - Error..... Red/Blink
  2) Battery level 2 (near-low battery state)
     - In idle state ..... Purple/ON
     - Strip wait state ..... Blue/Blink
     - Error..... Red/Blink
  3) Battery level 1 (low battery state)
     - In idle state ..... Red/ON
     - Strip wait state ..... Blue/Blink
     - Error..... Red/Blink

[CHARGE] LED: (orange)

Indicates the following statuses:
- Connection status of the AC adapter
- Battery charge

LED lighting patterns

- Power OFF
  1) AC adapter not connected OFF
  2) AC adapter connected
     - Charging..... Orange/ON
     - Full charge..... OFF
     - Temperature error ..... Orange/Blink
       - Ambient temperature below 0 or higher than 45°C
       - Battery temperature below 0 or higher than 45°C

- Power ON
  1) AC adapter not connected OFF
  2) AC adapter connected
     - Charging..... Orange/ON
     - Full charge..... OFF
     - Printing ..... OFF
     - Temperature error ..... Orange/Blink
       - Ambient temperature below 0 or higher than 45°C
       - Battery temperature below 0 or higher than 45°C

5.4 LCD FUNCTIONS

The LCD displays printer status messages.

LCD	Type	Graphics LCD
	Size	128 dots (W) X 128 dots (H)
	Display structure	12 digits x 7 lines *1

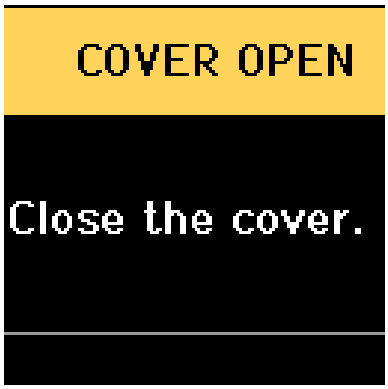
*1 Maximam digit change because of using proposional font.

5.5 ONLINE MODE LCD DISPLAY

5.5.1 Online Mode LCD Display Example

Printer condition	LCD Display	Display contents
Online		← Icon ← Message (*3) ← Model name, Firmware version (*1)
Pause		← Icon ← Message ← The number of remaining labels to print (*2)
Cover open (Error)		← Error icon ← Error message ← Message ← The number of remaining labels to print (*2)

Cover open
（ON LINE）



←Message

← Message

Setting
mode

← Icon

← Message (*3)

← Model name, Firmware version (*1)

*About image in User System Mode, Refer to [6 DISPLAY PATTERN AND KEY OPERATION FOR SYS TEM MODE AND USER MODE]
*About icon, Refer to [5.5.2 Icon]

(*1)The model name description

BFP 2 D
- D: Print method — D: Direct thermal
- 2: Print width — 2” width
- BFP: Series model

V 1 . 0 x
- x: revision up: SP, A-Z, a-z (Modify problem)
- 0: minor version 0-9 (Spec change)
- 1: Major version 1-9 (Spec change about hardware difference)
- V: Firmware version: V

(*2) The remaining label description

TO DO: 0005
- 0005: The number of remaining labels to print

[The number of remaining labels to print] = [Specified number of labels to print] – [The number of normally printed labels before occurrence of an error or placing the printer in pause]
When the number of remaining labels to print is zero, it is not displayed.

(*3) For B-FP2D-GH50 only, the following additional message is displayed.

IP address	The active IP address of the printer. When the IP address is invalid, 000.000.000.000 is displayed.
Host name	The host name used for name resolution is displayed. (For dynamic IP address) If the IP address is static, nothing is displayed.

5.5.2 Icon

Five kinds of icon are displayed in the top line of the online mode display.
These icons are displayed in the online mode/error display.
Each mark are updated every 5 seconds.

Icon	**Explanation**
Wireless LAN icon	Displayed and used when the wireless LAN module is mounted. The graph shows the strength of radio wave.
	 Graph 0: Outside the communication range
	 Graph 1: Strength of radio wave is weak.
	 Graph 2: Strength of radio wave is middle
	 Graph 3: Strength of radio wave is strong Graph 4: Strength of radio wave is very strong
Bluetooth icon	Displayed and used when the wireless Bluetooth module is mounted.
	 OFF: Bluetooth connection invalid
	 ON: Bluetooth connection valid
Data transmission icon	Appears when a print job is present.
	 No connection
	 Data receiving
	 Data sending
	 Data receiving and sending
Battery level mark (*1)	Indicates a remaining battery power level (10 increments)
	 (Level1) Inoperative (low battery): (0%)
	 (Level2) Low (near-low battery): (10, 20%)
	 (Level3) Medium: (30, 40, 50, 60%)
	 (Level4) High: (70, 80%)
	 (Level5) Full (full charge): (90, 100%)
	 Charging
Error mark	Indicates a printer error status
	OFF Not in error state
	 In error state
Parts alert icon (*2)	Displays parts life warning status
	 Platen Roller Alert
	 Platen Roller Near Alert
	 Thermal Head Alert

		Thermal Head Near Alert
Battery check result Icon (*2)	Displays battery life warning status	
		No battery life problem
		Battery replacement required
		Temperature error occurred during battery check
		Timeout error occurred during battery check

(*1) Battery icon list

 0%	 10%	 20%	 30%
 40%	 50%	 60%	 70%
 80%	 90%	 100%	

- Corresponding table about Batery Level and Battery Voltage

* Depending on temperature, threthold of Battery Level is changed.

		Battery Level				
	Ambient temp	1	2	3	4	5
High-rate battery	Over -5 degree C | Under -11 degree C	<= 6.8V | <= 6.8V	<= 7.0V | <= 7.0V	<= 7.6V | <= 7.6V	<= 7.9V | <= 7.9V	<= 8.2V | <= 8.2V
Battery icon		0%	10%, 20%	30%, 40%, 50%, 60%	70%, 80%	90%, 100%

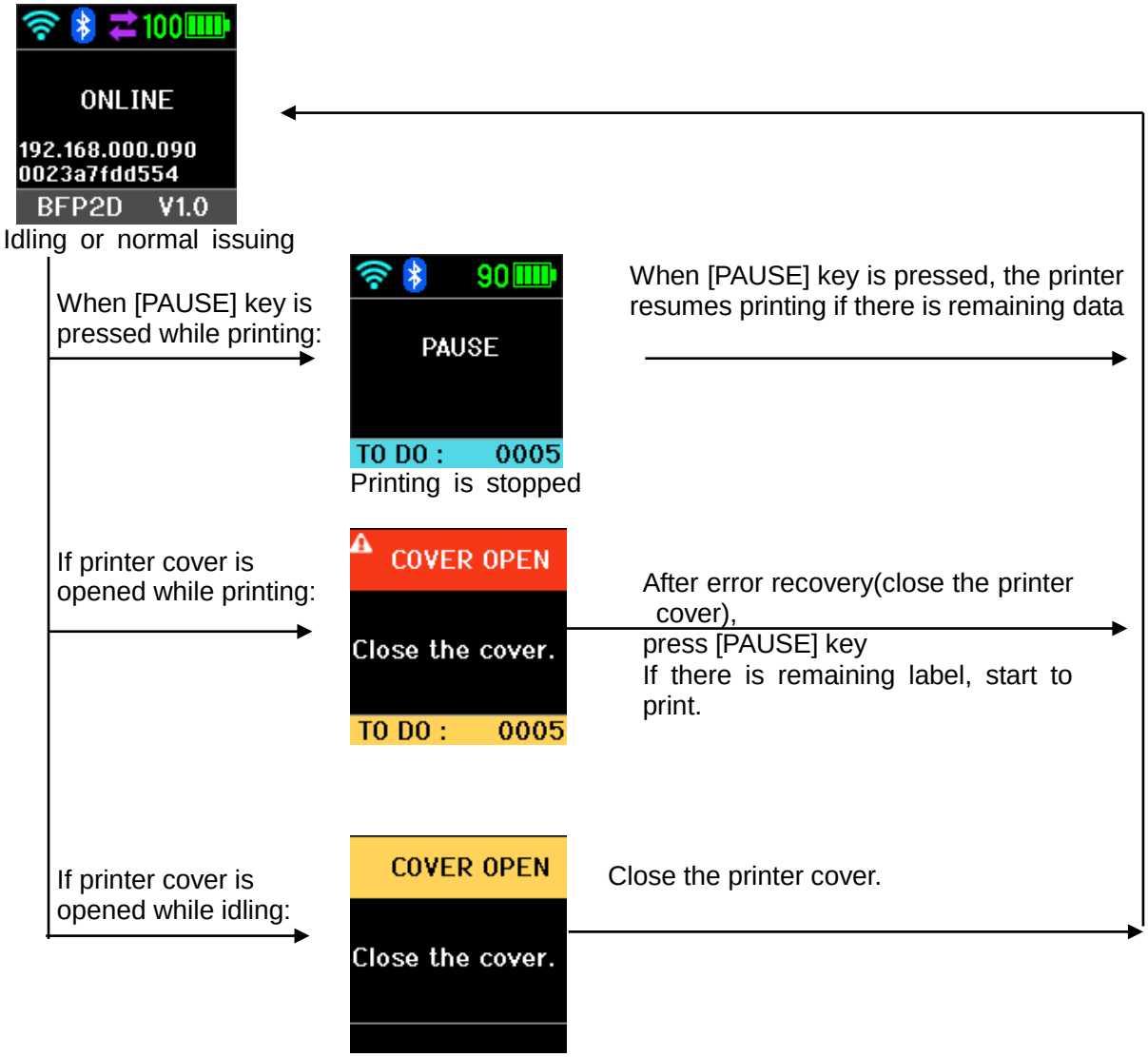
(*2) The battery percentage icon, the Parts Alert icon, and the Battery Check icon are displayed in the same position.
If they occur simultaneously, the display priority is as follows:

1st Priority Battery Check Icon
- No battery life problem
- Battery replacement required
- Temperature error occurred during battery check
- Timeout error occurred during battery check

2nd Priority Parts Alert Icon
- Thermal Head Alert
- Platen Roller Alert
- Thermal Head Near Alert
- Platen Roller Near Alert

3rd Priority Battery Percent Icon
- 0% to 100%

5.5.3 ONLINE MODE LCD DISPLAY



5.6 Parameter print

5.6.1 Outline of Parameter Print

The B-FP with the Bluetooth module or the wireless LAN module performs a parameter print when the [POWER] key is pressed for 3 seconds or more after the printer power is turned on and a “Initiallizing…” message is displayed on the LCD.
An example of parameter print for each module is given in the subsequent section.

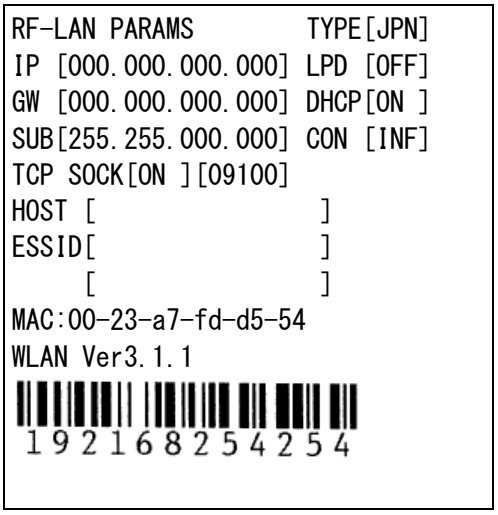
5.6.2 Parameter Print Examples

(1) With Bluetooth module (B-FP2D-GH30/GH50)

Print contents:

- Code128 Barcode (print BD address)

(2) With Wireless LAN module (B-FP2D-GH50)



Print contents:

- IP address (IP)
- Default Gateway (GW)
- Subnet Mask (SUB)
- Socket connection, Port number (TCP SOCK)
- Country Code (TYPE)
- LPR server (LPD)
- DHCP
- WLAN connection mode (CON)
- Host name
- ESSID(*1)
- MAC address
- Version information
- Code128 bardcode (print IP address)

(*1) ESSID prints in case of established connection. But it can be checked at Setting value display.

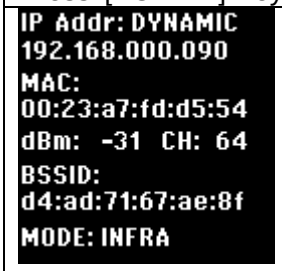
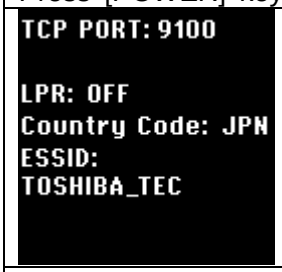
5.7 SETTING VALUE DISPLAY

Display information about mounted I/F

(1) With Bluetooth module（B-FP2D-GH30/GH50）

From Online state	Press [PAUSE] key at online state. -> PAUSE state
Press [POWER] key	
	[Case] Bluetooth setting is enable, and module is a vailable [Display information] - QR code: Data is BD address
Press [POWER] key	
	[Case] Bluetooth setting is enable, and module is a vailable [Display information] - BD address - Device nickname

(2) With Wireless LAN module（B-FP2D-GH50）

From Online state	Press [PAUSE] key at online state. -> PAUSE state
Press [POWER] key	
	[Case] Bluetooth setting is enable, and module is a vailable [Display information] - QR code: Data is BD address
Press [POWER] key	
	[Case] Wireless LAN setting is enable, and module is available [Display information] - IP address - Allocate IP address (DYNAMIC/STATIC) - MAC address - dBm - Channel - BSSID - Connection mode (AP MODE/ INFRA)
Press [POWER] key	
	[Case] Wireless LAN setting is enable, and module is available [Display information] - Socket port (TCP PORT) - LPR server (LPR) - Country code (Country Code) - ESSID
Press [POWER] key	Goto Bluetooth Information state
	[Case] Bluetooth setting is enable, and module is a vailable [Display information] - BD address - Device nickname

About setting, Refer to Network specification

5.8 THRESHOLD SETTING

5.8.1 Outline of Threshold Setting

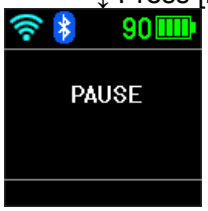
When a label is printed, the printer detects the gap between the labels using the transmissive sensor, and corrects the print position automatically to obtain a constant print position.
However, when a preprinted label is used, some inks may prevent proper positioning correction.
In this case, determine the transmissive sensor threshold manually by key operation and store the value in the non-volatile memory.
A constant print position can also be obtained when printing on a preprinted label since the print position is always corrected using the threshold stored in the non-volatile memory by selecting “3: Transmissive Sensor Transmissive sensor (when using manual threshold value)” for the sensor type of the Issue Command.
When a label is positioned by detecting the black mark on the back of the label, the reflective rate variation of an area of the label other than the black mark may prevent the proper positioning correction.
In this case, determine the reflective sensor threshold manually by key operation and store the value in the non-volatile memory.
A constant print position can also be obtained when printing on a tag since the print position is always corrected using the threshold stored in the non-volatile memory by selecting “4: Reflective Sensor (when using a manual threshold value)” for the sensor type of the Issue Command.

5.8.2 Threshold Setting Operation Example

[Online mode]
1. Normal state

↓ Press [PAUSE] key

[Online mode]
2. Pause state



↓ Hold down [FEED] key for 3 seconds

[Threshold setting]
3. Media sensor selection

Select the sensor with the [FEED] or [PAUSE] key

↓ Press [POWER] key

[Threshold setting]
4. Calibration

Hold down the [POWER] key to keep feeding the media

↓ Release [POWER] key.

[Online mode]
5. Pause state

Return Pause state

<Supplementary Explanations>

(1) To program the threshold, 1.5 labels or more should be fed. (If the label is not fed by the above amount, the threshold may not be properly programmed. In this case, reprogramming is required.)

(2) While the printer is feeding a label to program the threshold, an error detection including the paper end or cutter error is not performed.

(3) When the proper print position is not obtained after threshold programming, the sensor may be improperly adjusted. In this case, readjust the sensor in system mode, and program the threshold.
When the backing paper of the label is too thick, the transmissive sensor should be readjusted. In addition, make sure that “3: Transmissive sensor (when using a manual threshold value)” or “4: Reflective sensor (when using a manual threshold value)” is selected for sensor type of the Feed Command and the Issue Command.

5.9 LCD MESSAGES AND LED indications

No	LCD Message (English)	LEDIndication STATUS	Printer Status	Recoverable by the [PAUSE] key Yes/No	Acceptance of Status Request and Reset Commands Yes/No
1	ONLINE	○	Online mode	-	Yes
2	COVER OPEN	○	The cover was opened in online state.	-	Yes
3	PAUSE ****	●	Pause state	Yes	Yes
4	PAPER JAM ****	△	A paper jam occurred during paper feed.	Yes	Yes
5	NO PAPER ****	△	The label has run out.	Yes	Yes
6	NO PAPER	△	The label has run out after issuing the label successfully.	Yes	Yes
7	COVER OPEN ****	△	A feed or an issue was attempted with the cover opened. (except when the [PAUSE] key is pressed)	Yes	Yes
8	HEAD ERROR	△	A broken dots error occurred in the thermal head.	Yes	Yes
9	EXCESS HEAD TEMPERATURE	△	The thermal head temperature is extremely high (71°C or more).	No	Yes
10	SAVING #### KB &&&& KB	○	In writable character or PC command save mode	-	Yes(*1)
11	FORMAT ERROR	△	An error occurred in formatting the flash ROM on the CPU board.	No	Yes
12	FLASH WRITE ERROR	△	An error occurred in writing data into the flash ROM on the CPU board.	No	Yes
13	FLASH MEMORY FULL	△	Saving failed due to insufficient memory capacity of the flash ROM on the CPU board.	No	Yes
14	LOW BATTERY	△	The battery voltage under 7.2V	No	Yes
15	AMBIENT TEMP ERROR	△	An ambient temperature is below -20°C or over 60°C.	Yes	Yes
16	BATTERY TEMP ERROR	△	The battery is in a dangerous condition. Care must be taken not to get burned.	No	Yes
17	HIGH VOLT. ERROR	△	The battery is in a dangerous condition.	No	Yes
18	SYSTEM ERROR --	△	System error occurs:	No	No
19	WAITING (BATTERY)	⊙	The battery protection function is in operation. (Battery voltage is under 7.2V)	-	Yes
20	WAITING (HEAD)	⊙	The head protection function is in operation. (Head temperature is over 65°C)	-	Yes
21	WAITING (MOTOR) (*2)	⊙	The motor protection function is in operation. (Motor temperature is over 63°C)	-	Yes
22	BT INIT ERROR	△	Initialization of Bluetooth failed.	No	Yes
23	BT SETTING ERROR	△	There is/are error(s) in the Bluetooth setting.	No	Yes
24	CHARGE ERROR $	△	An error occurred during battery charge.	No	Yes

No	LCD Message (English)	LEDIndication STATUS	Printer Status	Recoverable by the [PAUSE] key Yes/No	Acceptance of Status Request and Reset Commands Yes/No
25	SYNTAX ERROR (Command error)(*3)	△	A command error has occurred while analyzing the command.	Yes	Yes
26	LABEL PRESENT	⊙	Wait for Peel-off label	-	Yes
27	SSP AUTH FAILED	○	Bluetooth pairing failed. (This message is displayed when SSP authentication is rejected by the host.)	Yes	Yes
28	WLAN FIRMWARE UPDATING	○	Updating WLAN module firmware	No	No
29	SETTING MODE…	○	Setting mode.	No	No
30	NOW LOADING…	○	Downloading.	No	No

Explanation of symbols

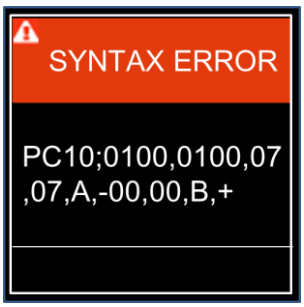
Symbol	Explanation	Range
○:	ON	―
△:	Blinking(red)	―
⊙:	Blinking	―
●:	OFF	―
xxxx	Remaining issue	0 to 9999 (in units of 1 label/tag)
####	Remaining memory capacity of PC save area in the flash memory on the CPU (*4)	0 to 3200 (in units of 1 Kbyte)
&&&&	Remaining memory capacity of writable character/BASIC file/form/graphic storage area in the flash memory on the CPU (*4)	0 to 3200 (in units of 1 Kbyte)
- -	System error No.	00 to 21
$	Charge error No.	1 to 5

(*1) About version request and reset command, return version/reset after finishing SAVE

(*2) WAITING (MOTOR)

Motor protection control is a function to prevent motor failure arising from accumulated heat due to continuous operations. This function monitors the motor operation ratio, and displays an error message on the LCD and temporarily stops the motor if the ratio exceeds the specified threshold.

(*3) If there is a command error in the sent command, the command with the error is displayed on the 3rd to 4th lines of the LCD.
At this time, the maximum number of bytes varies depending on the character.
(However, [LF] and [NUL] are not displayed.)
When a command error is displayed, it is displayed as “?” (3FH) in codes other than 20H to 7FH and A0H to DFH.



(*4) Each remaining memory capacity shows in TPCL, TPCL1, LABEL mode.
Other mode don’t show remaining one.

5.10 LCD Message

No	English
1	ON LINE
2	COVER OPEN
3	PAUSE
4	PAPER JAM
5	NO PAPER
6	HEAD ERROR
7	EXCESS HEAD TEMPERATURE
8	SAVING #### &&&&
9	FORMAT ERROR
10	FLASH WRITE ERROR
11	FLASH MEMORY FULL
12	LOW BATTERY
13	AMBIENT TEMP ERROR
14	BATTERY TEMP ERROR
15	HIGH VOLT. ERROR
16	SYSTEM ERROR --
17	WAITING (BATTERY)
18	WAITING (HEAD)
19	WAITING (MOTOR)
20	BT INIT ERROR
21	BT SETTING ERROR
22	CHARGE ERROR $
23	SYNTAX ERROR
24	LABEL PRESENT
25	SSP AUTH FAILED
26	WLAN FIRMWARE UPDATING
27	SETTING MODE
28	NOW LOADING…
29	TO DO :
30	THRESHOLD MODE

No	German
1	ONLINE
2	DECKEL OFFEN
3	PAUSE
4	PAPIERSTAU
5	KEIN PAPIER
6	KOPF DEFEKT
7	DRUCKKOPF ÜBERHITZT
8	SPEICHERN #### &&&&
9	FORMATFEHLER
10	FLASH FEHLER
11	SPEICHER VOLL
12	Batterie. SCHWACH
13	TEMPERATUR FEHLER
14	BATTERIE ZU WARM
15	HIGH VOLTAGE FEHLER
16	SYSTEM FEHLER --
17	WARTEN (BATTERIE)
18	WARTEN (DRUCKKOPF)
19	WARTEN (MOTOR)
20	BLUETOOTH INI. FEHLER
21	BLUETOOTH SETTING FEH.
22	LADEFEHLER $
23	SYNTAX FEHLER
24	ETIKETT ANEHMEN
26	SSP AUTH FEHLER
26	WLAN FIRMWARE UPDATING
27	SETTING MODE
28	NOW LOADING…
29	REST:
30	THRESHOLD MODE

No	French
1	EN LIGNE
2	CAPOTOUVERT
3	PAUSE
4	BOURRAGE PAPIER
5	PAS DE PAPIER
6	ERREUR TÊTE D'IMPRESSION
7	SURCHAUFFE TÊTE
8	SAUVEGARDE #### &&&&
9	ERREUR DE FORMAT
10	ERREUR D'ECRITURE
11	MÉMOIRE SATURÉE
12	BATTERIE FAIBLE
13	ERREUR TEMPERATURE
14	ERREUR TEMP BATTERIE
15	ERREUR HAUTE TENSION
16	ERREUR SYSTÈME --
17	ATTENDRE (BATTERIE)
18	ATTENDRE (TETE)
19	ATTENDRE (MOTEUR)
20	ERREUR INIT BLUETOOTH
21	ERREUR REGLAGE BT
22	ERREUR DE CHARGE $
23	ERREUR SYNTAXE
24	ETIQUETTE DISPONIBLE
25	ERREUR SSP AUTH
26	REACTUALISER WLAN FIRMWARE
27	SETTING MODE
28	NOW LOADING…
29	TO DO :
30	THRESHOLD MODE

31	REFLECTIVE
32	TRANSMISSIVE
33	PAIRING…
34	REJECTING…
35	PIN :
36	YES
37	NO

31	REFLECTIVE
32	TRANSMISSIVE
33	PAIRING***
34	ABGELEHNT
35	PIN:
36	JA
37	NEIN

31	REFLECTIVE
32	TRANSMISSIVE
33	COUPLAGE
34	REJETÉ
35	PIN:
36	OUI
37	NON

No	Dutch
1	IN LIJN
2	KOP OPEN
3	PAUZE
4	PAPIER VAST
5	PAPIER OP
6	PRINTKOP FOUT
7	PRINTKOP OVERVERHIT
8	WEGSCHRIJVEN #### &&&&
9	FORMAAT FOUT
10	FLASH SCHRIJFFOUT
11	FLASH GEHEUGEN VOL
12	LAGE BATTERIJ
13	FOUT TEMPERATUUR
14	BATTERIJ TEMP. FOUT
15	FOUT TE HOGE VOLT.
16	SYSTEEM FOUT --
17	WACHTEN (BATTERIJ)
18	WACHTEN (PRINTKOP)
19	WACHTEN (MOTOR)
20	BLUETOOTH INIT. FOUT
21	BLUETOOTH SETTING FOUT
22	BATTERIJ LAADT FOUT $
23	SYNTAX FOUT
24	LABEL AANWEZIG
25	SSP AUTH FOUT
26	WLAN FIRMWARE AANPASSEN
27	SETTING MODE
28	NOW LOADING…
29	TO DO :
30	THRESHOLD MODE
31	REFLECTIVE

No	Spanish
1	PREPARADA
2	TAPA ABIERTA
3	PAUSA
4	ATASCO DE PAPEL
5	SIN PAPEL
6	ERROR DE CABEZAL
7	EXCESO TEMP. DEL CABEZAL
8	SALVANDO #### &&&&
9	ERROR DE FORMATO
10	ERROR DE ESCRITURA
11	MEMORIA LLENA
12	BATERIA BAJA
13	TEMP.AMBIEN. ALTA
14	ERR.TEMP. BATERIA
15	ERR.VOLT. BATERIA
16	ERROR DE SISTEMA --
17	ESPERA: BATERIA
18	ESPERA: CABEZAL
19	ESPERA: MOTOR
20	ERR.INICIAL. BLUETOOTH
21	ERR.CONFIG. BLUETOOTH
22	ERROR DE CARGA $
23	ERROR DE SINTAXIS
24	ETIQUETA PRESENTE
25	ERR.AUTENT. SSP
26	ACTUALIZANDO WLAN FIRMWARE
27	SETTING MODE
28	NOW LOADING…
29	PASOS
30	THRESHOLD MODE
31	REFLECTIVE

No	Italian
1	PRONTA
2	TESTATA APERTA
3	PAUSA
4	CARTA INCEPPATA
5	FINE CARTA
6	ERRORE TESTINA
7	TEMP. TESTA TROPPO ALTA
8	SALVATAGGIO #### &&&&
9	ERRORE FORMATTAZ.
10	ERRORE SCRIT TURA FLASH
11	MEM. FLASH PIENA
12	BATTERIA BASSA
13	ERRORE TEMP. AMBIENTE
14	ERRORE TEMP. BATTERIA
15	ERRORE ALTO VOLTAGGIO
16	ERRORE DI SISTEMA --
17	ATTENDERE (BATTERIA)
18	ATTENDERE (TESTINA)
19	ATTENZIONE (MOTORE)
20	ERRORE INIZIAL.. BT
21	ERRORE CONFIG.. BT
22	ERRORE CARICATORE $
23	ERRORE DI SINTASSI
24	ETICHETTA PRESENTE
25	SSP AUTH FALLITO
26	AGGIONAMENTO FIRMWARE WLAN
27	SETTING MODE
28	NOW LOADING…
29	NON USATO
30	THRESHOLD MODE
31	REFLECTIVE

32	TRANSMISSIVE
33	PAIRING
34	VERWORP
35	PIN:
36	JA
37	NEE

32	TRANSMISSIVE
33	EMPAREJANDO
34	RECHAZANDO
35	PIN:
36	SI
37	NO

32	TRANSMISSIVE
33	PAIRING
34	RIFIUTATO
35	PIN
36	SI
37	NO

No	Portuguese
1	PREPARADA
2	TAMPA ABERTA
3	PAUSA
4	PAPEL ENCRAVADO
5	SEM PAPEL
6	ERRO DE CABECA
7	EXCES.TEMP. NA CABECA
8	SALVAR #### &&&&
9	ERRO DE FORMATO
10	ERRO DE ESCRITA
11	MEMORIA CHEIA
12	BAT. BAIXA
13	TEMP.AMBIEN. ALTA
14	ERR.TEMP. BATERIA
15	ERR.VOLT. BATERIA
16	ERRO DE SISTEMA
17	ESPERA: BATERIA
18	ESPERA: CABECA
19	ESPERA: MOTOR
20	ERR.INICIAL. BLUETOOTH
21	ERR.CONFIG. BLUETOOTH
22	ERROR DE CARGA $
23	ERRO DE SINTAXE
24	ETIQUETA PRESENTE
25	ERR.AUTENT. SSP
26	ACTUALIZANDO WLAN FIRMWARE
27	SETTING MODE
28	NOW LOADING…
29	PASOS
30	MODO LIMITE

No	Polish
1	ONLINE
2	POKRYWA OTW
3	PAUZA
4	ZACIĘCIE PAP.
5	BRAK PAPIERU
6	BŁĄD GŁOWICY
7	PRZEKR TEMP GŁOWICY
8	ZAPIS #### &&&&
9	BŁĄD FORMATU
10	BŁĄD ZAPISU FLASH
11	PAMIĘĆ FLASH PEŁNA
12	NISKI POZIOM BATERII
13	BŁĄD TEMP OTOCZENIA
14	BŁĄD TEMP BATERII
15	BŁĄD WYSOK NAPIĘCIA
16	BŁĄD SYSTEM
17	OCZEKIWANIE (BATERIA)
18	OCZEKIWANIE (GŁOWICA)
19	OCZEKIWANIE (SILNIK)
20	BŁĄD INICJAL BLUETOOTH
21	BŁĄD USTAW BLUETOOTH
22	BŁĄD ŁADOWAN $
23	BŁĄD SKŁADNI
24	OBECNA ETYK
25	BŁĄD AUTORYZ SPP
26	AKTUALIZACJA FIRMWARE WLAN
27	SETTING MODE
28	NOW LOADING…
29	DO ZROB
30	TRYB THRESHOLD

No	Chinese
1	ONLINE
2	盖板打开
3	暂停
4	卡纸
5	缺纸
6	打印头错误
7	打印头温度过高
8	保存中 #### &&&&
9	格式化错误
10	闪存写入错误
11	闪存满
12	电量低
13	环境温度错误
14	电池温度错误
15	高电压错误
16	系统错误
17	待机中（电池）
18	待机中（打印头）
19	待机中（电机）
20	蓝牙初始化错误
21	蓝牙设置错误
22	充电错误 $
23	语法错误
24	当前标签
25	SSP 验证失败
26	无线局域网固件更新中
27	SETTING MODE
28	NOW LOADING…
29	剩余
30	阀值模式

31	REFLECTIVO
32	TRANSMISIVO
33	A EMPARELHAR
34	RECUZAR
35	PIN:
36	SIM
37	NAO

31	ODBLASKOWY
32	PRZEPUSZCZ
33	PAROWANIE
34	ODRZUCANIE
35	PIN :
36	TAK
37	NIE

31	反射式
32	传送式
33	配对中
34	断开中
35	PIN:
36	是
37	否

No	Korean
1	온라인
2	커버 열기
3	멈춤
4	페이퍼 잼
5	용지 부족
6	헤드 에러
7	헤드 온도 과열
8	절약 #### &&&&
9	포맷 에러
10	플래쉬 메모리 쓰기 에러
11	플래쉬 메모리 오버
12	배터리 저전압
13	주변 온도 에러
14	배터리 온도 에러
15	고전압 에러
16	시스템 에러 --
17	대기 (배터리)
18	대기 (헤드)
19	대기 (모터)
20	블루투스 초기화 에러
21	블루투스 셋팅 에러
22	충전 에러 $
23	명령어 에러
24	제거 대기
25	SSP 인증 실패
26	무선랜 펌웨어 업데이트
27	SETTING MODE
28	NOW LOADING…
29	(남은 매수)
30	쓰레쉬홀드 모드

No	JAPANESE
1	オンライン
2	カバーオープン
3	ポーズ
4	紙送りエラー
5	紙が ありません
6	ヘッドエラー
7	ヘッド 異常加熱
8	登録中 #### &&&&
9	初期化エラー
10	書込みエラー
11	メモリーフル
12	バッテリー 残量低下
13	外気温エラー
14	バッテリー 温度エラー
15	バッテリー 異常
16	システム エラー
17	待機中 (バッテリー)
18	待機中 (ヘッド)
19	待機中 (モータ)
20	Bluetooth 初期化エラー
21	Bluetooth 設定エラー
22	充電エラー $
23	コマンド エラー
24	剥離待ち
25	SSP 認証 エラー
26	無線 LAN の FW 更新中
27	SETTING MODE
28	NOW LOADING…
29	残枚数:
30	スレッショルド 設定

31	반사
32	전송
33	연결…
34	거부…
35	핀
36	YES
37	NO

31	反射センサー
32	透過センサー
33	ペアリング
34	リジェクト
35	PIN
36	はい
37	いいえ

5.11 CHARGE ERROR NUMBER LIST

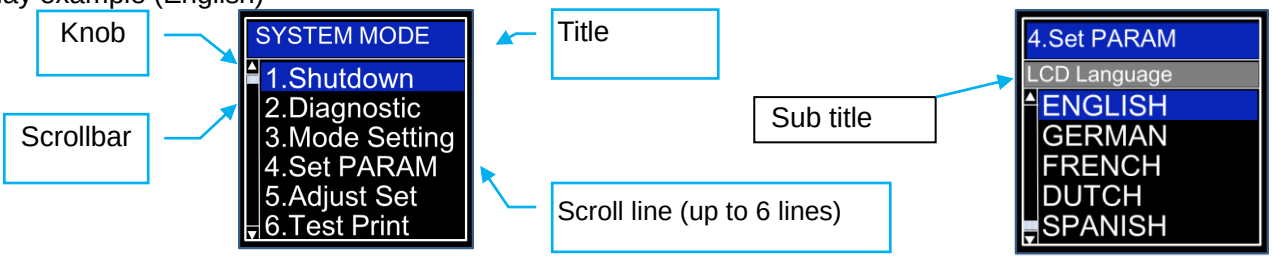
No.	Details of Error	Cause
1	Battery ID error	Battery is not loaded or an unspecified battery is detected.
2	Abnormal battery voltage	8.7V or more Less than 4.6V
3	Abnormal charge current (in tricle charge)	0.5A or more
4	Trickle charge timeout	After a 90-min. trickle charge, a normal charge did not start.
5	Abnormal charge current (in normal charge)	AC charge: 1.5A or more

6 DISPLAY PATTERN AND KEY OPERATION FOR SYSTEM MODE AND USER MODE

6.1 LIST BOX WITH SCROLLBAR

The list box is used for displaying the menus or items to be selected. It is comprised of the following parts.

Display example (English)



The knob appears on the scrollbar when the number of scroll lines is over 6 lines
(If there is sub title, scroll line is over 5 lines)
Sub title appears when the menu is under top menu.
In this time, subtitle is setting item, and title is corresponding top menu.

Key function (Menu display)

Key	Function
[FEED] + [PAUSE]	Returns to the upper hierarchy without saving changes.
[POWER]	Displays a next screen.
[FEED]	Moves the cursor upward. The cursor move bottom when the selected option is listed at the top.
[PAUSE]	Moves the cursor downward. The cursor move top when the selected option is listed at the top.

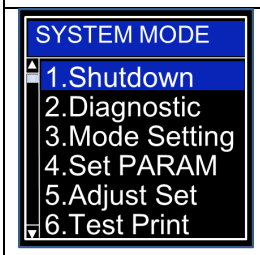
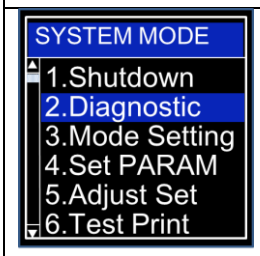
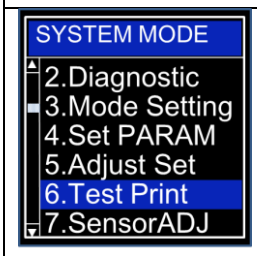
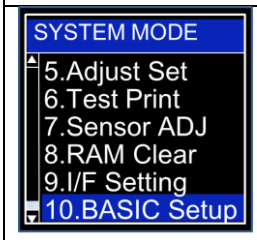
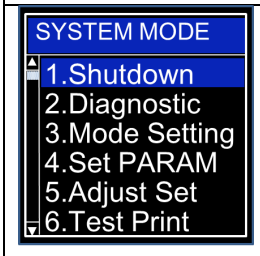
Key function (value setting display)

Key	Function
[FEED] + [PAUSE]	Returns to the upper hierarchy without saving changes.
[POWER]	Saves the changes and returns to the upper hierarchy.
[FEED]	Moves the cursor upward. The cursor move bottom when the selected option is listed at the top.
[PAUSE]	Moves the cursor downward. The cursor move top when the selected option is listed at the top.

When multiple keys other than specified above ([FEED] + [PAUSE]) are pressed at the same time, the printer behavior is not guaranteed.

6.2 Movement of the cursor when scrolled

The cursor moves in the following way with a depression of the [FEED] or [PAUSE] key. The following table shows the example of depression of the [PAUSE] key. The [FEED] key functions in the same way.

	Key Operation	
		
	Press [PAUSE] key	The position of the displayed menus remains unchanged and only the cursor moves to one line below.
↓		
	Press [PAUSE] key	The entire menu moves up by one line and the cursor moves to the next item.
↓		
	Press [PAUSE] key	The entire menu moves up by one line and the cursor moves to the next item.
↓		
	Press [PAUSE] key	The position of the displayed menus change and the cursor moves to top.

The cursor position when shifting from upper menu to its sub menu
When shifting from upper menu to its sub menu, the cursor is positioned at the topmost item

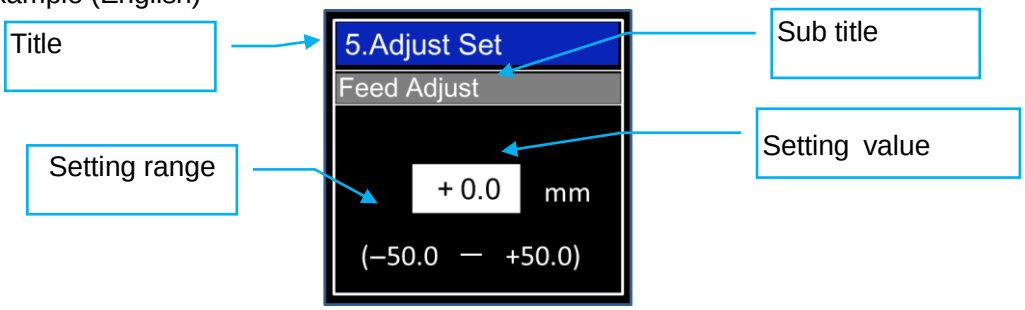
The cursor position when shifting from upper menu to its subordinate value setting display
When shifting from upper menu to its subordinate value setting display, the cursor is positioned at the currently selected item.

The cursor position when shifting from sub menu or value setting display to its upper menu
When shifting from lower menu or value setting display to its upper menu, the cursor is positioned at the previously selected item.

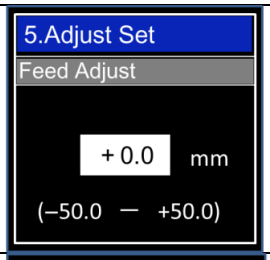
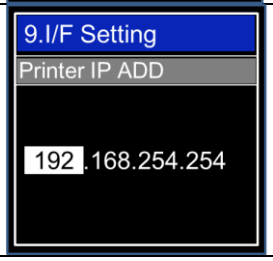
6.3 VALUE SETTING DISPLAY

The value setting display is used for setting a value by increasing or decreasing it.
It is comprised of the following parts.

Display example (English)



The currently programmable item is reverseed. The display of the symbols like “+” and “-“, and the unit of measure like “mm” and “step” differs depending on the item to be set.

Setting display with one field	
Setting display with multiple fields (placed horizontally)	

Key function (Setting display with one field)

Key	Function
[FEED] + [PAUSE]	Returns to the upper hierarchy without saving changes.
[POWER]	Saves the changes and returns to the upper hierarchy.
[FEED]	Increases the setting value by specified step. When the setting value reaches the maximum, it goes to minimum.
[PAUSE]	Decreases the setting value by specified step. When the setting value reaches the minimum, it goes to maximum.

Key operation (Setting display with multiple fields (horizontal))

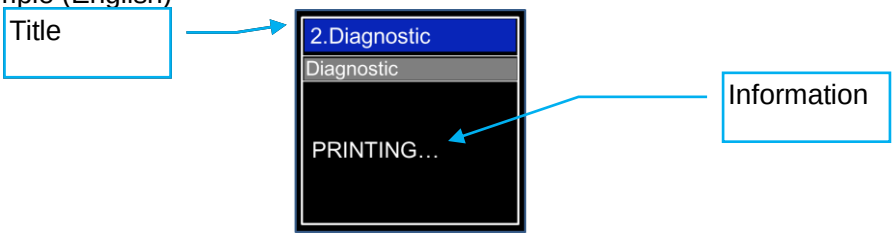
Key	Function
[FEED] + [PAUSE]	Returns to the upper hierarchy without saving changes.
[POWER]	Proceed to the next set value, and after setting the last set value, save the change and returns to the upper hierarchy.
[FEED]	Increases the setting value by specified step. When the setting value reaches the maximum, it goes to minimum.

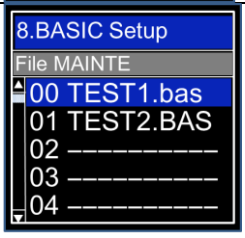
[PAUSE]	Decreases the setting value by specified step. When the setting value reaches the minimum, it goes to maximum

6.4 INFORMATION DISPLAY

The information display is used when no input or setting is performed.
It is consists of the following parts.

Display example (English)



Running	
Scroll	

Key function (Running)

Key	Function
[FEED] + [PAUSE]	Displays the top menu.
[PAUSE]	Displays the upper hierarchy.
[FEED]	No function
[PAUSE]	No function

Key function (Scroll)

Key	Function
[FEED] + [PAUSE]	Displays the top menu.
[PAUSE]	Displays the upper hierarchy.
[FEED]	Moves the cursor upward. The cursor moves to bottom when it is positioned at the top.
[PAUSE]	Moves the cursor downward. The cursor moves to top when it is positioned at the bottom.

7 SYSTEM MODE FOR SERVICE PERSONS AND SYSTEM ADMINISTRATORS (ALL MENU ITEMS ARE AVAILABLE.)

7.1 OUTLINE OF SYSTEM MODE

The printer enters the system mode when the following operation is performed when the printer power is off.

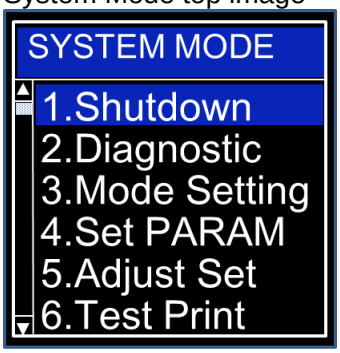
- Turn on the printer while holding down the [FEED] and [POWER] keys at the same time.

The system mode is intended for performing self-test, parameter setting, and other settings.

When a language other than Japanese is selected in the language setting (7.4.4 LCD language setting), the language displayed on the panel is English.

The key operations for the system mode are described below.
Key operations follow Section 6.1 LIST BOX WITH SCROLLBAR.
.

System Mode top image



Top menu

1.Shutdown
2.Diagnostic
3.Mode Setting
4.Set PARAM
5.Adjust Set
6.Test Print
7.Sensor ADJ
8.RAM Clear
9.I/F Setting
10.BASIC Setup

1.Shutdown	Used to shutdown the printer.
2.Diagnostic	Used to perform self diagnosis, print out the result, check for the print head broken elements.
3.Mode Setting	Used to set the parameters for each printer movement.
4.Set PARAM	Used to set the parameters for each printer function.
5.Adjust Set	Used to fine adjust the printer mechanism position and sensor.
6.Test Print	Used to conduct test print by printing slant lines, characters and barcodes.
7.Sensor ADJ	Used to display the ambient temaprature and print head temparature, and adjust each level of the media sensor.
8.RAM Clear	Used to clear the maintenance counter and parameters.
9.I/F Setting	Used to set the parameters of the interface such as WLAN, USB, Bluetooth .
10.BASIC Setup	Used to set the function of the BASIC program when it is loaded printer.

7.2 Diagnostic

Contents of Diagnostic menu

MENU ITEM		
SYSTEM MODE		
	2.Diagnostic	
		MAINTE CNT
		Diagnostic
		Head Check
		LED Check
		LCD Check
		Beep Check

7.2.1 MAINTE CNT

This section describes how to print out the maintenance counter data.
The following table shows the menu structure from the top menu of the system mode to MAINTE CNT.

MENU ITEM		
SYSTEM MODE		
	2.Diagnostic	
		MAINTE CNT
		CHECKING & PRINT

When an error occurs while printing, the error message is displayed, the STATUS LED blink red.
Though the error can be cleared by presing [PAUSE] key, the printer does not print the erroneous label.

7.2.1.1 COUNTER PARAMETER PRINT CONTENTS

(1) B-FP2D-GH30

```
TOTAL FEED        0.0m[QM]
TOTAL PRINT       0.0m
FEED              0.0m
FEED1             0.0m
FEED2             0.0m
FEED3             0.0m
FEED4             0.0m
PRINT             0.0m
PRINT1            0.0m
PRINT2            0.0m
PRINT3            0.0m
PRINT4            0.0m
SYSTEM ERR 0

<< PARTS ALERT >>
PLATEN ROLLER
NEAR ALERT   20000.0m
     ALERT   25000.0m
THERMAL HEAD
NEAR ALERT   20000.0m
     ALERT   25000.0m

 [PC]
FEED      +0.0mm
TONE      +0step
PEEL      +0.0mm
 [KEY]
FEED      +0.0mm
TONE      +0step
PEEL      +0.0mm
X ADJ.    +3.0mm
THRESHOLD(R) 1.0V
THRESHOLD(T) 1.4V
CMD SETTING      [TPCL]
PRINTER ID       [00001]
PRINT TYPE       [AUTO]
FONT          [0][PC-850]
LCD LANGUAGE     [ENGLISH]
CONTROL CODE     [AUTO]
EURO CODE        [B0]
AUTO HEAD CHK    [OFF]
MAXI CODE SPEC.  [TYPE1]
HEAD DIVISION    [AUTO1]
HEAD DIV CMD     [ON]
HEAD ERROR CHK   [OFF]
HEAD ERROR PRT   [OFF]
FEED CHECK       [OFF]
BEEP             [ON]
B-EP MODE        [ON]
LINERLESS        [OFF]
STOP POSITION    [CUT]
BACKFEED LIMIT   [ON]
PEEL BACKFEED    [OFF]
XML              [OFF]
AUTO OFF         [120min]
ERR POWER OFF    [ON]
SLEEP            [  3sec]
LCD LIGHT OFF    [  3sec]
CHARGE MODE      [LOW2]
BATTERY CHECK    [OFF]
EXT CHR AREA     [ 640KB]
BASIC AREA       [ 192KB]
PC SAVE AREA     [1984KB]
FORM AREA        [ 256KB]
GRAPHIC AREA     [ 128KB]
FORM VER.    [0000000000]
             [0000000000]
BASIC            [OFF]
BASIC TRACE      [OFF]
TTF/OTF AREA     [ 3552KB]
<< USB >>
SERIAL NUMBER    [DISABLE]
                 [           ]
<< BLUETOOTH >>
DEVICE NICKNAME
         [TOSHIBA TEC BT  ]
         [                ]
ADDRESS [A8:B2:DA:7C:57:A6]
MODE               [ON]
TEST MODE          [OFF]
SEARCH SETTING     [EVERY]
SECURITY LEVEL [SSP]
SSP AUTH TYPE  [JUST WORKS]
               [         ]
AUTO CONNECTION    [OFF]
SCAN INTERVAL      [2048]
SCAN WINDOW        [  36]
```

(2) B-FP2D-GH50

```
TOTAL FEED        0.0m[QM]
TOTAL PRINT       0.0m
FEED              0.0m
FEED1             0.0m
FEED2             0.0m
FEED3             0.0m
FEED4             0.0m
PRINT             0.0m
PRINT1            0.0m
PRINT2            0.0m
PRINT3            0.0m
PRINT4            0.0m
SYSTEM ERR 0

<< PARTS ALERT >>
PLATEN ROLLER
NEAR ALERT   20000.0m
     ALERT   25000.0m
THERMAL HEAD
NEAR ALERT   20000.0m
     ALERT   25000.0m

 [PC]
FEED     +0.0mm
TONE     +0step
PEEL     +0.0mm
 [KEY]
FEED     +0.0mm
TONE     +0step
PEEL     +0.0mm
X ADJ.   +3.0mm
THRESHOLD(R) 1.0V
THRESHOLD(T) 1.4V
CMD SETTING     [TPCL]
PRINTER ID      [00001]
PRINT TYPE      [AUTO]
FONT         [0][PC-850]
LCD LANGUAGE    [ENGLISH]
CONTROL CODE    [AUTO]
EURO CODE       [B0]
AUTO HEAD CHK   [OFF]
MAXI CODE SPEC. [TYPE1]
HEAD DIVISION   [AUTO1]
HEAD DIV CMD    [ON]
```

```
HEAD ERROR CHK  [OFF]
HEAD ERROR PRT  [OFF]
FEED CHECK      [OFF]
BEEP            [ON]
B-EP MODE       [ON]
LINERLESS       [OFF]
STOP POSITION   [CUT]
BACKFEED LIMIT  [ON]
PEEL BACKFEED   [OFF]
XML             [OFF]
AUTO OFF        [120min]
ERR POWER OFF   [ON]
SLEEP           [  3sec]
LCD LIGHT OFF   [  3sec]
CHARGE MODE     [LOW2]
BATTERY CHECK   [OFF]
EXT CHR AREA    [ 640KB]
BASIC AREA      [ 192KB]
PC SAVE AREA    [1984KB]
FORM AREA       [ 256KB]
GRAPHIC AREA    [ 128KB]
FORM VER.   [0000000000]
            [0000000000]
BASIC           [OFF]
BASIC TRACE     [OFF]
TTF/OTF AREA    [ 3552KB]
<< USB >>
SERIAL NUMBER   [DISABLE]
                [           ]
<< BLUETOOTH >>
DEVICE NICKNAME
        [TOSHIBA TEC BT  ]
        [                ]
ADDRESS [A8:B2:DA:7C:57:A6]
MODE              [ON]
TEST MODE         [OFF]
SEARCH SETTING    [EVERY]
SECURITY LEVEL [SSP]
SSP AUTH TYPE  [JUST WORKS]
               [         ]
AUTO CONNECTION   [OFF]
SCAN INTERVAL     [2048]
SCAN WINDOW       [  36]
```

```
 << WIRELESS LAN >>
WLAN            [ON]
BAND SELECTION  [DUAL BAND]
COUNTRY CODE    [JPN]
CHANNEL         [001]
IP MODE         [DYNAMIC]
PRTR IP [192.168.254.254]
GATE IP [000.000.000.000]
SUBNET  [255.255.000.000]
MAC   [00-23-a7-fd-d5-54]
SOCKET PORT  [ON][09100]
HOST NAME [                ]
USER CLASS[                ]
          [                ]
ESS ID    [TOSHIBA_TEC     ]
          [                ]
LPR SERVER      [OFF]
SNMP AGENT      [ON]
POWER SAVE      [ON]
```

Print condition:

Label length	325mm to 390mm
Sensor type	None
Print count	1

(1) Maintenance counter values

Item	Description	Range
TOTAL FEED	Total label distance covered (cannot be cleared)	0.0 to 320000.0 m in units of 10 cm
TOTAL PRINT	Total label print distance covered (cannot be cleared)	0.0 to 320000.0 m in units of 10 cm
FEED	Current label distance covered	0.0 to 320000.0 m in units of 10 cm
FEED(1 to 4)	Previous label distance covered 1 to 4	0.0 to 320000.0 m in units of 10 cm
PRINT	Current label print distance	0.0 to 320000.0 m in units of 10 cm
PRINT(1 to 4)	Previous label print distance 1 to 4	0.0 to 320000.0 m in units of 10 cm
SYSTEM ERR	System error count	0 to 15

*About detail, refer to 7.8.3 Maintenance Counter Clear .

Maintenance Counter	Count Conditions
Total label distance covered Label distance covered	Counts whenever the paper feed motor is driven, for example, to feed, print, or exit a label. (Also counts during a reverse feed operation.) When the label distance covered reaches the maximum value, the maintenance counter must be cleared. Otherwise, the total label distance covered cannot be updated.
Label print distance	Counts while printing. (Counting is not performed during a paper exit or reverse feed operation.)
System error count	Counts when a No.18 system error described in the section, “5.9 LCD MESSAGES AND LED INDICATIONS”, occurs (Only system error 13 is counted up)

(2) Various parameter values

Item	Description	Value
<< PARTS ALERT >>		
PLATEN ROLLER		
NEAR ALERT	Platen roller near alert setting	0.0m to 320000.0m
ALERT	Platen roller alert setting	0.0m to 320000.0m
THERMAL HEAD		
NEAR ALERT	Thermal head near alert setting	0.0m to 320000.0m
ALERT	Thermal head alert setting	0.0m to 320000.0m
[PC]		
FEED	Feed amount fine adjustment	-50.0mm to +50.0mm (*1)
TONE	Print tone fine adjustment	-30step to +30step
PEEL	Strip position fine adjustment	-2.0mm to +3.0mm
[KEY]		
FEED	Feed amount fine adjustment	-50.0mm to +50.0mm
TONE	Print tone fine adjustment	-30step ～ +30step
PEEL	Strip position fine adjustment	-2.0mm to +3.0mm
X ADJ.	X-coordinate fine adjustment	-99.9mm to +99.9mm
THRESHOLD<R>	Reflective sensor manual threshold fine adjustment	0.0V to 4.0V
THRESHOLD<T>	Transmissive sensor manual threshold fine adjustment	0.0V to 4.0V
CMD SETTING	Print command language	[B-EP MODE OFF] TPCL TPCL1 C Mode ESC/POS Z Mode S Mode [B-EP MODE ON] TPCL TPCL1 LABEL RECEIPT RECEIPT1 ESC/POS
PRINTER ID	Printer ID	00000 to 65535
PRINT TYPE	Print type (BATCH/STRIP)	AUTO: Print depending on the sensor used BATCH: Fixed to batch issue STRIP: Fixed to strip issue
FONT	Zero Font	0: Without slash Ø: With slash

	Code Page	PC-850 :PC-850 PC-852 :PC-852 PC-857 :PC-857 PC-8 :PC-8 PC-851 :PC-851 PC-855 :PC-855 PC-1250 :PC-1250 PC-1251 :PC-1251 PC-1252 :PC-1252 PC-1253 :PC-1253 PC-1254 :PC-1254 PC-1257 :PC-1257 LATIN9 :LATIN9 Arabic :Arabic PC-866 :PC-866 UTF-8 :UTF-8
LCD LANGUAGE	LCD language	ENGLISH :English GERMAN :German FRENCH :French DUTCH :Dutch SPANISH :Spanish ITALIAN :Italian PORTUGUESE :Portuguese SIMP.CHINESE :SIMP.Chinese KOREAN :Korean POLISH :Polish JAPANESE :Japanese
CONTROL CODE	Control code	AUTO: Automatic selection { | }: ESC LF NUL: ESC LF NUL method
EURO CODE	EURO font code	Any code
AUTO HEAD CHK	Automatic print head check for broken dots	OFF: An automatic print head check for broken dots is not performed. ON: An automatic print head check for broken dots is performed.
MAXI CODE SPEC.	MaxiCode specification	TYPE1: Compatible with existing versions TYPE2: Special specification
HEAD DIVISION	Head division	AUTO AUTO1 AUTO2
HEAD DIV CMD	Head output division parameter of AY command	OFF: The parameter is not processed. ON: The parameter is processed.
HEAD ERROR CHK	Print head check for broken dots after cover close	OFF: A print head check for broken dots is not performed after the cover is closed. ON: A print head check for broken dots is performed after the cover is closed.
HEAD ERROR PRT	Resume printing after broken dots error	OFF: The printer does not resume printing after a broken dots error occurs. ON: The printer resumes printing after a broken dots error occurs.
FEED CHECK	Feed to top of feed after cover close	OFF: No feed is performed after the cover is closed. ON: A feed is performed after the cover is closed.

BEEP	Beep	OFF: Beep is disabled. ON: Beep is enabled.
B-EP MODE	B-EP compatible mode	OFF: B-EP compatible mode OFF. ON: B-EP compatible mode ON
LINERLESS	Linerless	OFF: Linerless setting is disabled. ON: Linerless setting is enabled.
STOP POSITION	Post-print stop position setting	CUT: Stop at the cut position HEAD: Stop at the head position
BACKFEED LIMIT	Back feed restriction setting	ON: Back feed restricted OFF: No back feed restricted
PEEL BACKFEED	Strip issue back feed setting	OFF: Back feed allowed ON: No back feed allowed
XML	XML	OFF: XLM setting is disabled. ON: XLM setting is enabled.
AUTO OFF	Auto power-off timing	OFF 1 to 300 min.
ERR POWER OFF	Auto power off after an occurrence of an error	OFF: Power off is disabled ON: Power off is enabled
SLEEP	Power save mode timing	OFF. 1 to 30 sec.
LCD LIGHT OFF	LCD backlight off timing	OFF 1 to 30 sec.
CHARGE MODE	Battery charge mode	NORMAL: Normal mode LOW: Battery protection mode LOW2: Battery protection mode
BATTERY CHECK	Battery deterioration check	OFF:Battery deterioration check OFF ON: Battery deterioration check ON
EXT CHR AREA	Writable character storage area size	0 to 3200 KB (in units of 64 KB)
BASIC AREA	BASIC file storage area size	0 to 896 KB (in units of 64 KB)
PC SAVE AREA	PC save area size	0 to 896 KB (in units of 64 KB)
FORM AREA	Form storage area size	0 to 896 KB (in units of 64 KB)
GRAPHIC AREA	Graphic storage area size	0 to 192 KB (in units of 64 KB)
FORM VER.	LABEL form version number display	0000000000～9999999999 0000000000～9999999999
BASIC	BASIC interpreter	OFF:BASIC interpreter function is disabled. ON:BASIC interpreter function is enabled.
BASIC TRACE	BASIC trace	OFF:BASIC trace function is disabled. ON:BASIC trace function is enabled.
TTF/OTF AREA	TTF/OTF area size	0 to 20480 KB (in units of 64 KB)

≪USB≫		
SERIAL NUMBER	Enable/disable of USB serial number	DISABLE ENABLE
	USB serial number	**********

* USB serial number differs depending on the date of setting and a PC used for setting at the factory.

≪BLUETOOTH≫ * When the Bluetooth module is installed.		
DEVICE NICKNAME	Bluetooth device nickname	
ADDRESS	Bluetooth device address	Fixed module address
MODE	Bluetooth mode	AUTO SPP OFF
TEST MODE	Bluetooth mode for process inspection	OFF ON
SEARCH SETTING	Inquiry scan time	OFF EVERY 60sec
SECURITY LEVEL	Security level	OFF LINK SSP
SSP AUTH TYPE	SSP authentication type	JUST WORKS NUMERIC CMP (NO IN/OUT) NUMERIC CMP (DISPLAY ONLY) NUMERIC CMP (DISPLAY Y/N)
AUTO CONNECTION	Auto Connection Setting	OFF ON
SCAN INTERVAL	Inquiry/page scan interval	18 to 4096
SCAN WINDOW	Inquiry/page scan window	18 to 4096

≪WIRELESS LAN≫ * When the wireless LAN module is installed.		
WLAN	Wireless LAN enable/disable	OFF: Disable ON: Enable CONFIG: Config Mode
BAND SELECTION	Band Selection	2.4GHz: Using only 2.4GHz 5GHz: Using only 5GHz DUAL BAND: Using dual band
COUNTRY CODE	Selected country code	"---" :INIT Other :Please refer to country code table.
CHANNEL	Conenction channel at AP Mode	1 to 14, 36, 40, 44, 48, 149, 153, 157, 161, 165
IP MODE	Address set	STATIC: DHCP function is disabled DYNAMIC: DHCP function is enabled
PRTR IP	Printer IP address	***.***.***.***
GATE IP	Printer gateway IP address	***.***.***.***
SUBNET	Printer subnet mask	***.***.***.***
MAC	Printer MAC address	Fixed module address
SOCKET PORT	- Socket communication function - Port number	OFF: Socket communication function is disabled. ON: Socket communication function is enabled. Port No.: 0 to 65535 (1 and 2)
HOST NAME	DHCP ID16 byte/ASCII in hexadecimal)	xxxxxxxxxxxxxxxx
USER CLASS	User Class ID (32 byte/ASCII in hexadecimal)	xxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxx
ESS ID	ESS ID (32 byte/ASCII in hexadecimal)	xxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxx
LPR SERVER	LPR	OFF: LPR setting is disabled. ON: LPR setting is enabled.
SNMP AGENT	SNMP agent	OFF: SNMP agent is disabled. ON : SNMP agent is enabled.
POWER SAVE	Wireless LAN power save	OFF ON

(*1)For 203 dpi, the head density is 8 dots/mm. The operation to be performed is the same for both cases: when the value is set to "x.2 mm" and when the value is set to "x.3 mm". Therefore, "x.3 mm" is printed in the self-test result, even if "x.2 mm" is set.
Similarly, if "x.7 mm" is set, "x.8 mm" is printed in the self-test result

7.2.2 Diagnostic

The procedure for printing the self-diagnosis result is the same as that for the maintenance counter data. The following table shows the menu structure from top menu of the system mode to Diagnostic.

MENU ITEM			
SYSTEM MODE			
	2.Diagnostic		
		Diagnostic	
			CHECKING & PRINT

When an error occurs while printing, the error message is displayed, the STATUS LED blink red.
Though the error can be cleared by presing [PAUSE] key, the printer does not print the erroneous label.

7.2.2.1 AUTO SELF-DIAGNOSIS PRINTOUT

(1) B-FP2D-GH30

```
B-FP2D-GH
    MAIN        09JUN2016 V1.0 :5800
    BOOT        09JUN2016 V1.0 :1700
    SBCS1       09JUN2016 V1.0 :8100
    SBCS2       09JUN2016 V1.0 :5300
    SBCS3       09JUN2016 V1.0 :0E00
    SBCS4       09JUN2016 V1.0 :5800
    SBCS5       09JUN2016 V1.0 :5800
    DBCS1       09JUN2016 V1.0 :4A00
    DBCS2       09JUN2016 V1.0 :D000
    DBCS3       NONE
    DBCS4       09JUN2016 V1.0 :D000
    CONST       09JUN2016 V1.0 :FC00
    WLAN        12FEB2019 V0.4 :9600
SDRAM          32MB
SENSOR1 00000000,00000010
SENSOR2 [H]+30°C [A]+30°C
                [R]4.0V [T]1.6V
PE LV.          [R]1.2V [T]4.7V
M THRE.         [R]5.0V [T]0.6V]
BATTERY          7.4V [3]
I/F             USB/BT
LOOPBACK
 BLUETOOTH      OK  sppi_v2.12
 MFi            OK
 iAP Serial      11223344551
 WIRELESS LAN   -
```

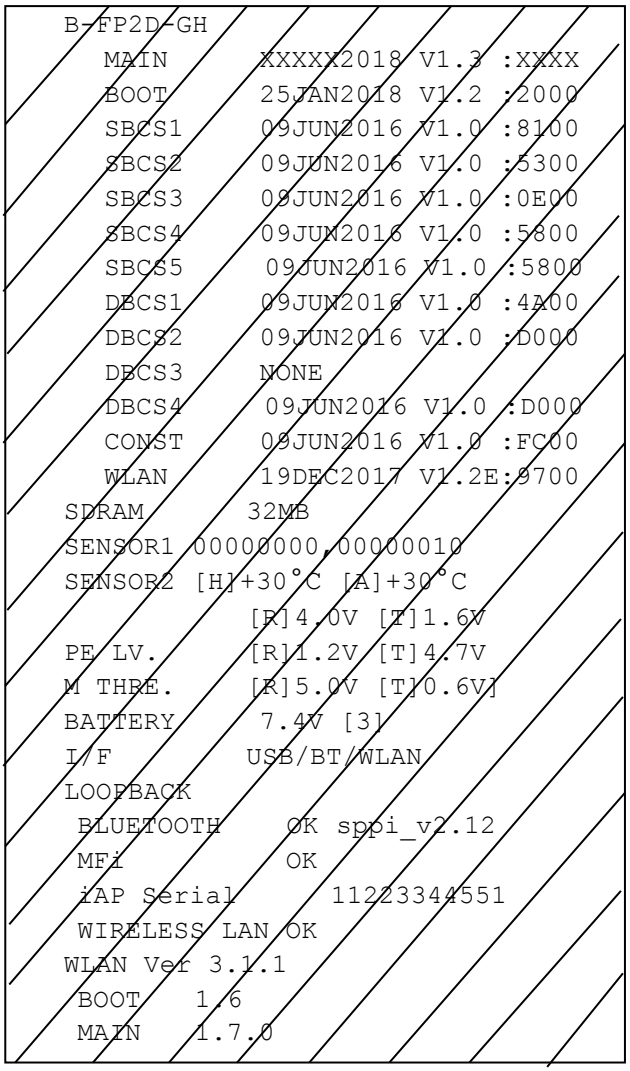
(Notes)The character "°" used for "°C" may not be printed correctly, depending on the type of the character code selected.

(2) B-FP2D-GH50

```
B-FP2D-GH
    MAIN        09JUN2016 V1.0 :5800
    BOOT        09JUN2016 V1.0 :1700
    SBCS1       09JUN2016 V1.0 :8100
    SBCS2       09JUN2016 V1.0 :5300
    SBCS3       09JUN2016 V1.0 :0E00
    SBCS4       09JUN2016 V1.0 :5800
    SBCS5       09JUN2016 V1.0 :5800
    DBCS1       09JUN2016 V1.0 :4A00
    DBCS2       09JUN2016 V1.0 :D000
    DBCS3       NONE
    DBCS4       09JUN2016 V1.0 :D000
    CONST       09JUN2016 V1.0 :FC00
    WLAN        12FEB2019 V0.4 :9600
SDRAM          32MB
SENSOR1 00000000,00000010
SENSOR2 [H]+30°C [A]+30°C
                [R]4.0V [T]1.6V
PE LV.         [R]1.2V [T]4.7V
M THRE.        [R]5.0V [T]0.6V]
BATTERY         7.4V [3]
I/F            USB/BT/WLAN
LOOPBACK
 BLUETOOTH     OK  sppi_v2.12
 MFi           OK
 iAP Serial    11223344551
 WIRELESS LAN OK
WLAN Ver 3.1.1
 BOOT      1.6
 MAIN      1.7.0
```

(Notes)The character “°” used for “°C” may not be printed correctly, depending on the type of the character code selected.

(3) Automatic self-test (when there is an invalid setting)



When there is an invalid setting, the slant line pattern is printed.

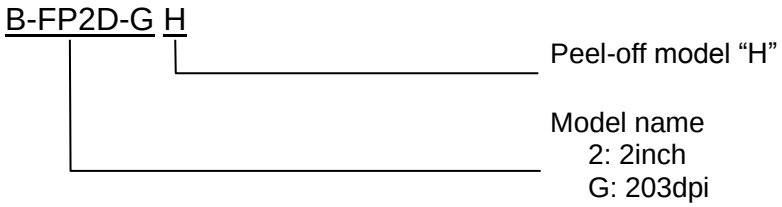
Conditions to print slant line pattern:

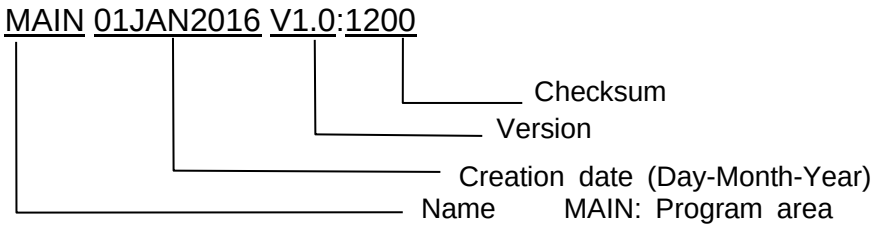
- Battery voltage per cell is less than 2.3 V or 4.25V or more.
- Head temperature is -25°C or less or 65°C or more.
- Ambient temperature is -25°C or less or 65°C or more.
- Transmissive sensor input voltage is 0V or 5V.
- Reflective sensor input voltage is 0V or 5V.
- Transmissive sensor: When the D/A value is 0, the A/D value read again is 3V or more. (*1)
- Reflective sensor: When the D/A value is 0, the A/D value read again is 3V or more. (*2)
- Loopback test error

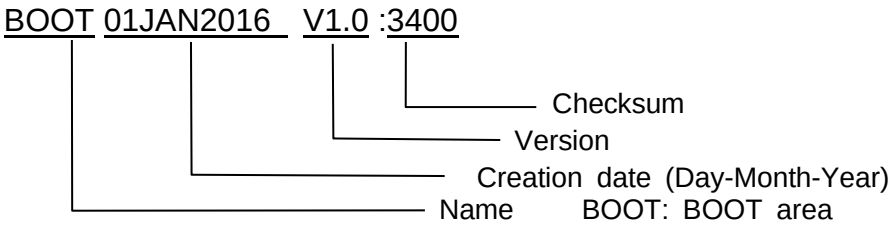
(*1): When the transmissive sensor is attached upside down, the A/D value sometimes becomes 3V or more when the D/A value is set to 0.

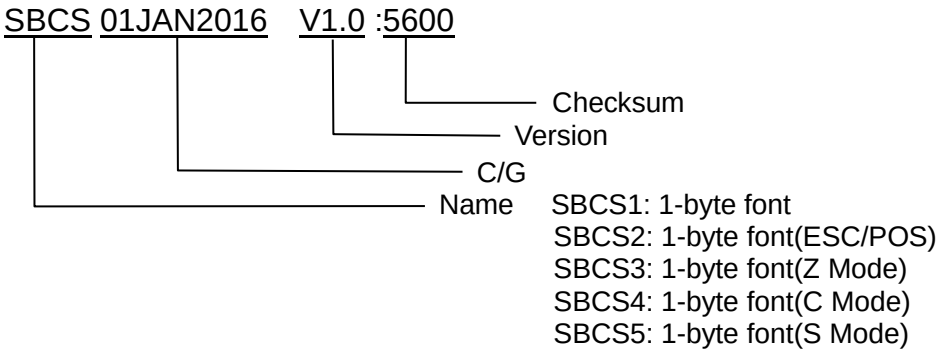
(*2): When the reflective sensor is attached upside down, the A/D value sometimes becomes 3V or more when the D/A value is set to 0.

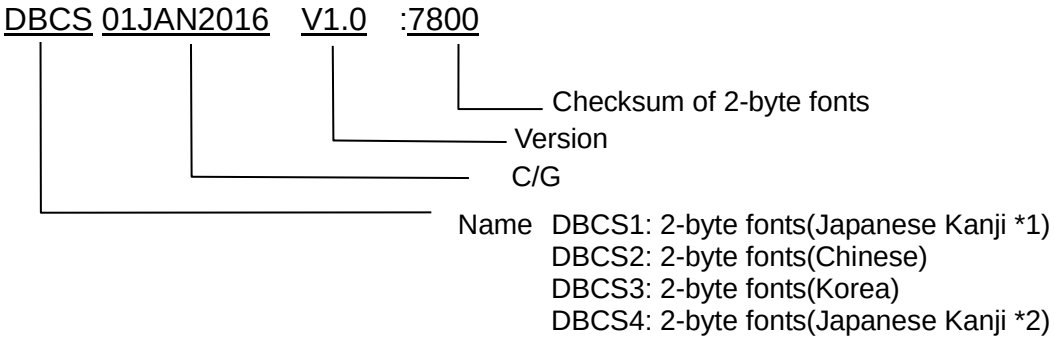
(4) Details of self-test print





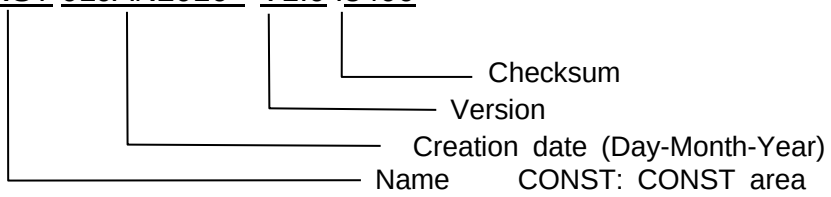




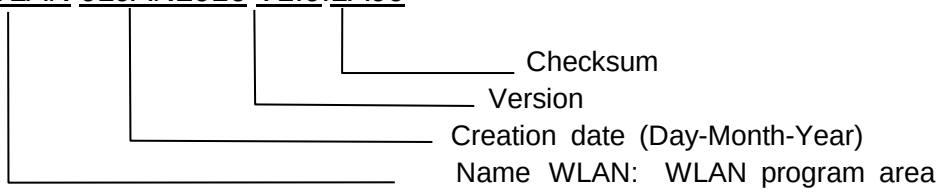


*1 16*16 and 32*32 is made by HITACHI, 24*24 is by RICOH.
*2 JIS X 0213

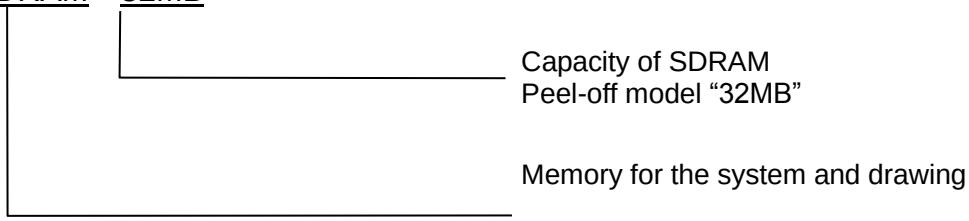
CONST 01JAN2016 V1.0 :3400



WLAN 01JAN2016 V1.0:1A00



SDRAM 32MB



<Supplemental Explanation>

- Normally, the last two digits of the checksum of the program area are 0.
- If the first byte of the Kanji ROM is not legitimate, checksum is not calculated and “0000” is printed.
- Version and checksum vary depending on the software version.

(6) Sensor check

SENSOR1 0 0 0 0 0 0 0 0 , 0 0 0 0 0 0 1 0

- Blank (Fixed to 0)
- Cover open sensor
  1: The cover is closed.
  (Printing is not performed when the cover is open.)
- Blank (Fixed to 0)
- Blank (Fixed to 0)

SENSOR2 [H]+20 ° C [A]+22 ° C

- Ambient thermistor status
  (-15 °C to 99°C, --°C: if the temperature cannot be detected)
- Thermal head thermistor status (-15 °C to +70 °C)

[R]4.2V [T]2.5V

- Transmissive sensor status (0.0V to 5.0V)
- Reflective sensor status (0.0V to 5.0V)

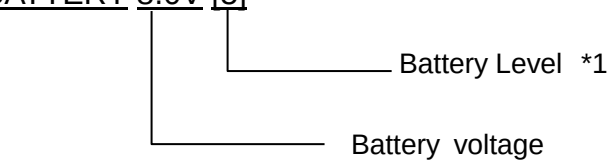
PE LV. [R]1.8V [T]2.5V

- Transmissive sensor for no paper level (0.0V to 5.0 V)
- Reflective sensor for no paper level (0.0V to 5.0 V)
- No paper level

M THRE. [R]1.8V [T]2.5V

- Transmissive sensor for no paper level (0.0V to 5.0 V)
- Reflective sensor for no paper level (0.0V to 5.0 V)
- Threshold value

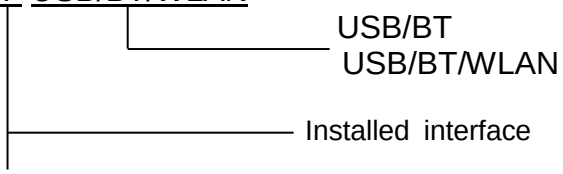
BATTERY 8.0V [5]



*1 It changes by ambient temperature (refer to 5.5.2 Icon)

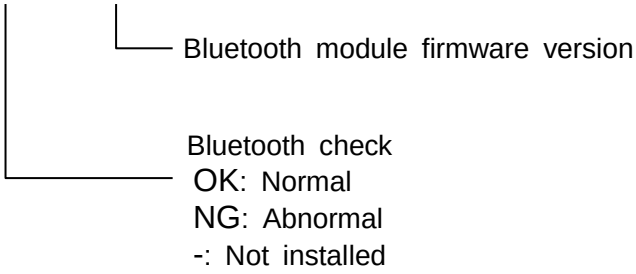
(7) Installed interface

I/F USB/BT/WLAN

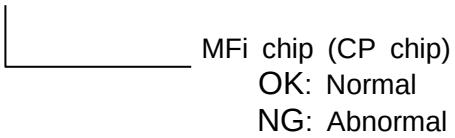


(8) Loopback test result

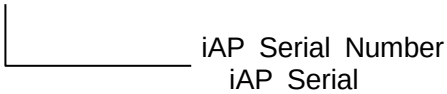
LOOPBACK
BLUETOOTH OK sppi v2.12



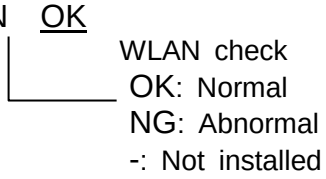
MFi OK



iAP Serial 2318T120023



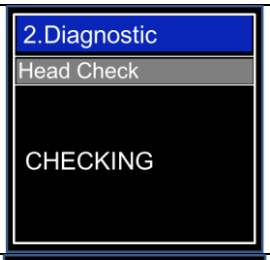
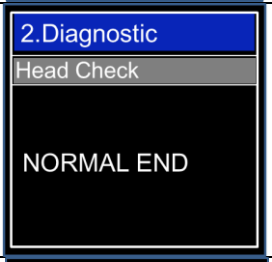
WIRELESS LAN OK



7.2.3 Head Check

The print head check procedure is the same as that for the maintenance counter data. 8.2.1 MAINTE CNT..
The following table shows the menu structure from the top menu of the system mode to Head Check.

MENU ITEM
SYSTEM MODE
2.Diagnostic
Head Check

Head check image	
While checking Displays “CHECKING”.	
In the case of normal end Displays “NORMAL END”	
When broken dots are detected. *1 The STATUS LED blink red and the CHARGE LED turns off.	

*1 It can be recovered by PAUSE button.

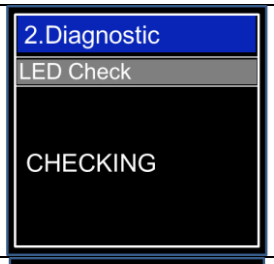
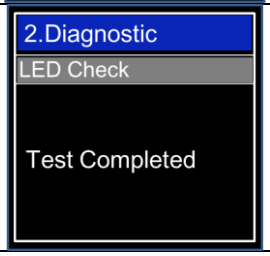
7.2.4 LED Check

The following table shows the menu structure from the top menu of the system mode to LED Check.

MENU ITEM		
SYSTEM MODE		
	2.Diagnostic	
		LED Check

LED lighting pattern

STATUS LED: Turns on for 3 sec. (blue)
↓
STATUS LED: Turns off
↓
STATUS LED: Turns on for 3 sec. (red)
↓
STATUS LED: Turns off
↓
STATUS LED: Turns on for 3 sec. (purple)
↓
STATUS LED: Turns off
↓
CHARGE LED: Turns on for 3 sec. (orange)
↓
CHARGE LED: Turns off

LED check image	
While checking Displays “CHECKING”.	
In the case of test complete Displays “Test Completed”	

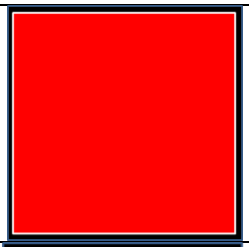
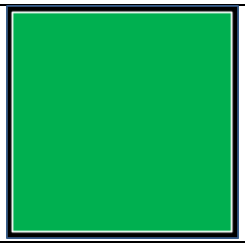
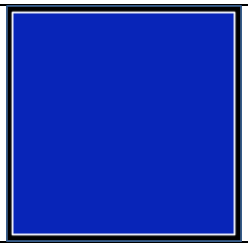
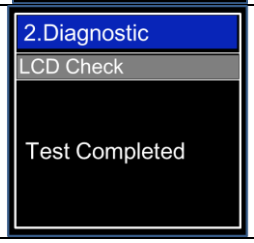
7.2.5 LCD Check

The following table shows the menu structure from the top menu of the system mode to LED Check.

MENU ITEM		
SYSTEM MODE		
	2.Diagnostic	
		LCD Check

LCD pattern
Red -> Green -> Blue

*When the [PAUSE] key is pressed with all LCD dots turned on, the printer stops under such condition. Pressing the [PAUSE] key again continues test.

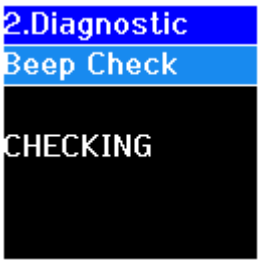
LCD check image			
While checking Red -> Green -> Blue			
In the case of test complete Displays “Test Completed”			

7.2.6 Beep Check

The following table shows the menu structure from the top menu of the system mode to Beep Check.

MENU ITEM		
SYSTEM MODE		
	2.Diagnostic	
		Beep Check

Push [Beep Check」



Beep Check start
Sounds BEEP for 3seconds

Beep Check end

7.3 Mode Setting

Set the parameters for each printer movement.

Contents of Diagnostic menu

MENU ITEM		
SYSTEM MODE		
	3.Mode Setting	
		CMD Setting
		Head DIV
		Head DIV CMD
		B-EP Mode
		Linerless
		Print Type
		Stop Position
		Backfeed Limit
		Peel Backfeed

<Supplemental Explanations>

- When the [FEED] key is pressed, the menu moves in the opposite direction from when the [PAUSE] key is pressed.
- When the [FEED] and [PAUSE] keys are simultaneously pressed, the display returns to the system mode menu.
- When the [FEED] key or [PAUSE] key is pressed for 0.5 seconds or more during this parameter setting, repeat mode is enabled and the key pressed is repeatedly entered.
- The change in the parameter setting becomes effective when the [POWER] key is pressed after setting, then stored in the backup memory.

7.3.1 CMD Setting

This setting selects print mode.

B-EP Mode OFF:

- TPCL
- TPCL1
- C Mode
- ESC/POS
- Z Mode
- S Mode

B-EP Mode ON:

- TPCL
- TPCL1
- LABEL
- REPEIPT
- REPEIPT1
- ESC/POS

Default value: TPCL

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.3.2 Head Division Setting (HEAD DIV)

When a printing ratio per line is high, the value of this setting is changed to prevent print tone from becoming lighter.

- AUTO1 Automatic selection from none, 2 division
- AUTO Automatic selection from 2 division (Print quality oriented)
- AUTO2 Automatic selection from none, 2 division (Print speed oriented)

Default value: AUTO1 (none, 2 division)

<Commentary>

If it uses normal battery, available conditions of AUTO2 is:

- Ambient temperature is over 10 degree.
- Battery level is over 4.
- Label pitch is less than 63mm.

And the movement is: after every 10 continuous prints, it stops 3 sec.

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.3.3 Head Output Division Command Parameter Setting (Head DIV CMD)

This setting enables or disables the head output division parameter of AY command.

- OFF Head output division parameter of AY command is disabled.
- ON Head output division parameter of AY command is enabled.

Default value: ON (Head output division parameter of AY command is enabled).

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	x	x	x	x

7.3.4 B-EP Mode

This setting changes print mode.

- OFF B-EP Mode is disabled.
- ON B-EP Mode is Enabled.

Default value: OFF

<Commentary>

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.3.5 Linerless Setting (LINERLESS)

This setting is for using a linerless label.

- OFF Linerless setting is disabled.
- ON Linerless setting is enabled.

Default value: OFF (Linerless setting is disabled.)

<Commentary>

- When linerless setting is enabled, the printer operates with the AUTO setting although AUTO1 is selected in head division setting.
- When linerless setting is enabled, the printer operates without back feed.

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.3.6 Print Type Setting (Print Type)

- AUTO Print depending on the sensor used (Automatic selection from Batch or STRIP)
- BATCH Fixed to batch issue
- STRIP Fixed to strip issue

Default value: AUTO (automatic selection from BATCH or STRIP)

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	x	x

7.3.7 Post-print Stop Position Setting (Stop Position)

When back feed restriction is enabled (ON), printing is disabled on a label located between the head and the cutter during next printing after an issue (of one or more labels) since no back feed is performed. To prevent such waste, stop position setting is performed.

* For details, refer to the External Equipment Interface Specification

- CUT Stop at the cut position
- HEAD Stop at the head position

Default value: CUT (Stop at the cut position)

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.3.8 Back Feed Restriction Setting (Backfeed Limit)

- OFF Back feed not restricted (Performs a back feed.)
- ON Back feed restricted (Performs no back feed.)

Default value: ON (Back feed restricted)

<Commentary>

- During label issue with sensor type specified (transmissive/reflective sensor) under the following conditions, this setting determines whether or not to perform a back feed.

  However, when linerless setting is enabled, the following conditions are ignored and whether or not to perform a back feed is determined according to this setting.

  - The label pitch is 20.0 mm or more and less than 24.0 mm and the effective print length is less than 15.0 mm.
  - The label pitch is less than 20.0 mm.
- During label issue without sensor type specified, whether or not to perform a back feed is determined according this setting.
- When a feed is performed by using the [FEED] key or the Feed command, no back feed is performed. However, when the label pitch is less than a distance between the head and the sensor (14.0 mm), a back feed is performed regardless of this setting.

<Notes>

- If the setting is OFF, it stops at cut position in case 7.3.7 Post-print Stop Position Setting (Stop Position) is HEAD.

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.3.9 Strip Issue Back Feed Setting (Peel Backfeed)

When strip position fine adjustment is set to – (negative) by using a command or in system mode, the strip position is finely adjusted and the printing is misaligned simultaneously. This setting is used to perform a back feed and thus correct the print position for the purpose of printing on the normal position.

- OFF Performs no back feed.
- ON Performs a back feed.

Default value: OFF (No back feed performed)

<Commentary>

- When the gap length is 5 mm or more, printing is not misaligned on the label, although the strip position fine adjustment is set to - (negative). Therefore, no back feed is performed when ON (back feed performed) is selected in this setting.

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4 Set PARAM

Contents of Set PARAM menu

MENU ITEM		
SYSTEM MODE		
	4. Set PARAM	
		LCD Contrast
		Code Page
		Zero Font
		LCD Language
		Control Code
		EURO Code
		Maxicode Spec
		Auto Off
		Error Power Off
		Sleep
		LCD Off
		Charge Mode
		Battery CHK
		Auto Head CHK
		Head Error CHK
		Head Error PRT
		Feed Check
		Beep
		XML
		Parts Alert
		Password

<Supplemental Explanations>

- When the [FEED] key is pressed, the menu moves in the opposite direction from when the [PAUSE] key is pressed.
- When the [FEED] and [PAUSE] keys are simultaneously pressed, the display returns to the system mode menu.
- When the [FEED] key or [PAUSE] key is pressed for 0.5 seconds or more during this parameter setting, repeat mode is enabled and the key pressed is repeatedly entered.
- The change in the parameter setting becomes effective when the [POWER] key is pressed after setting, then stored in the backup memory.

7.4.1 LCD Contrast Setting (LCD Contrast)

This setting is to adjust the LCD display contrast.

- NORMAL
- LOW

Default value: NORMAL

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.2 Code Page Setting (Code Page)

- PC-850
- PC-852
- PC-857
- PC-8
- PC-851
- PC-855
- PC-1250
- PC-1251
- PC-1252
- PC-1253
- PC-1254
- PC-1257
- LATIN9
- Arabic
- PC-866
- UTF-8

Default value: PC-850

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	x	x	x	x

7.4.3 Zero Font

This setting determines how zero should be displayed/printed, “Ø” (with slash) or “0” (without slash).

- 0 without slash 0
- 0 with slash Ø:

Default value: 0 (Without slash)

*Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	x	x	x	x

7.4.4 LCD Language Setting (LCD Language)

This setting selects a language to be used for displaying messages on the LCD.

- ENGLISH
- GERMAN
- FRENCH
- DUTCH
- SPANISH
- ITALIAN
- PORTUGUESE
- SIMP. CHINESE
- KOREAN
- POLISH
- JAPANESE

Default value: ENGLISH (QM Type, QQ Typel)

JAPANESE (JA Type)

SIMP. CHINESE (CN Type)

<Supplemental Explanations>
In system mode, “Japanese” is displayed when Japanese is set. For other languages, “English” is displayed.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.5 Control Code Setting (Control Code)

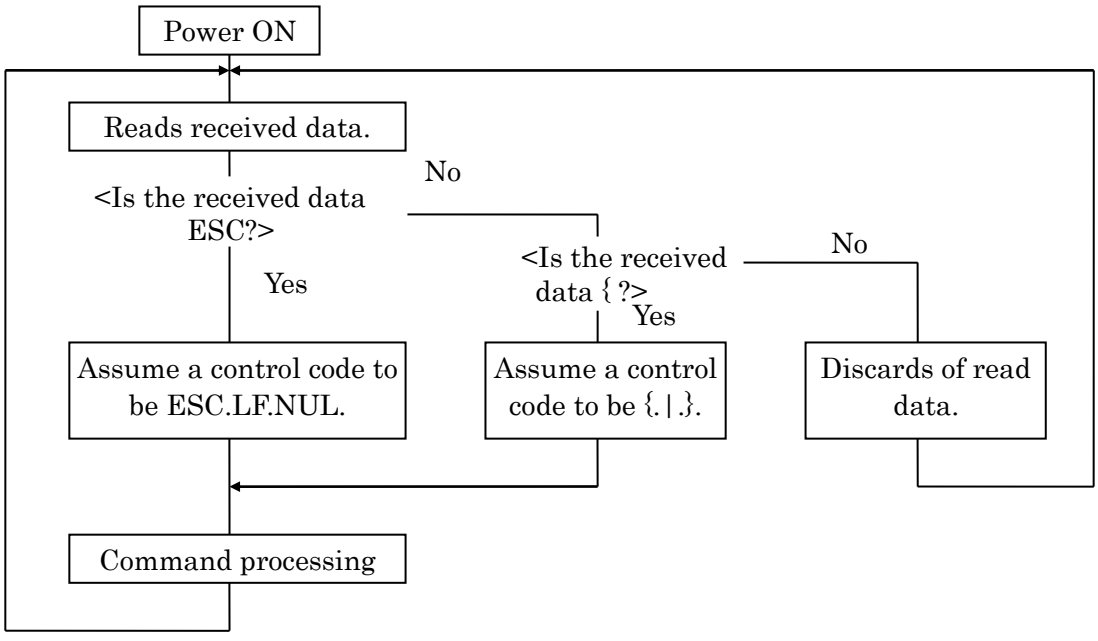
This setting selects a control code to be used in TPCL mode.

- AUTO Automatic selection between {.|.} method and ESC.LF.NUL method
- {,|,} / {,|,} {.|.} method
- ESC,LF,NUL / ESC,LF,NUL ESC.LF.NUL method

Default value: AUTO (Automatic selection)

(1) AUTO

As an interface command control code, [ESC](1BH),[LF](0AH),[NUL](00H) or {(7BH),|(7CH),}(7DH) is automatically selected. After the power is turned on, the data from the host is checked for [ESC] and {, and the data sent first is assumed to be a control code.
For example, if [ESC] is sent first, [ESC].[LF].[NUL] is a control code, and if { is sent first, {.|.} is a control code. The control code is selected for each command.
If the first command ends with [ESC]~ [LF][NUL] and is followed by [ESC], the control code is [ESC].[LF].[NUL]. If { is sent first, the control code for the next command is {.|.}.
When the control code is {.|.}, the data of 00H to 1FH in { ~ | } is ignored.
However, the data of 00H to 1FH becomes valid while processing the graphic command or writable character command in hexadecimal mode. When {.|.} is a control code, {.|.} cannot be used in the data of the Data command or Display command.



(2) Manual Selection ({.|.})

The control code of the command is {(7BH),|(7CH),}(7DH), and the control code selection is not performed. Data of 00H to 1FH is ignored and discarded of in this mode. However, data of 00H to 1FH becomes valid while processing the Graphic command or Writable Character command in hexadecimal mode.
{.|.} cannot be used in the data of the Data command or Display command.

(3) Manual Selection (ESC.LF.NUL)

The control code of the command is [ESC](1BH),[LF](0AH),[NUL](00H), and the control code selection is not performed.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	x	x	x	x

7.4.6 EURO Font Code Setting (EURO Code)

This setting determines to which code the EURO font code is to be assigned.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
0xFF	0x20	1	Hex decimal	None	2	0	None	h

Default value: B0

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	x	x	x	x

7.4.7 MaxiCode Specification Setting (Maxicode Spec)

This setting selects a MaxiCode specification.

- TYPE1 Compatible with the current version
- TYPE2 Special specification

Default value: TYPE1

<Supplemental Explanations>

The mode specified by the command in accordance with the status of this parameter is different from the actual mode. Also, the data transmission method differs partly. For details, refer to the B-FP Series External Equipment Interface Specification.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.8 Auto Power-off Timing Setting (Auto Off)

This setting selects a time for the printer power to turn off automatically.

- OFF The power is not automatically turned off.
- ON It turns off the power following setting time.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
300	1	1	Decimal	None	3	0	None	min

Default value: 120 min.

<Supplemental Explanations>

When the AC adapter is connected, the printer power does not turn off even when an auto power-off time elapses.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.9 Auto Power off after Error (Error Power Off)

This setting enables selecting whether or not to turn off the power in 5 minutes after an occurrence of an error.

- OFF The power does not turn off even if an error occurs.
- ON The power is turned off in 5 min. after an occurrence of an error.

Default value: ON

<Supplemental Explanations>

- Even if this parameter is set to ON, the power is not turned off as long as the printer is connected to the AC/USB power source.
- If the "Error Power Off" setting value is ON and the "Auto Off" setting value is 5 minutes or less, the "Auto Off" setting takes precedence.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.10 Power Save Mode Timing Setting (Sleep)

This setting selects a time for the printer to enter power save mode.

- OFF The printer does not enter the power save mode.
- ON It enters power save mode after following setting time

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
30	1	1	Decimal	None	2	0	None	sec

Default value: 3sec

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.11 LCD Backlight Off Timing Setting (LCD Off)

This setting selects a time to turn off the LCD backlight.

- OFF The LCD backlight does not turn off.
- ON The LCD backlight turns off after following setting time

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
30	1	1	Decimal	None	2	0	None	sec

Default value: 3sec

<Supplemental Explanations>

- If the setting value is bigger than power save setting, LCD turns off at power save timing.
- When the LCD OFF setting is OFF, the LCD does not turn off even when the printer enters power save mode.
- The setting is not valid at PAUSE state (Always LCD backlight is ON).

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.12 Battery Charge Mode Setting (Charge Mode)

This setting enables selecting the battery charge mode.

- NORMAL Normal mode
- LOW Battery protection mode (Low charge voltage)
- LOW2 NRcan Support

Default value: NORMAL (JA Type, CN Type)
LOW2 (QM Type, QQ Type)

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.13 Battery deterioration check(Battery CHK)

Set whether or not to check battery deterioration detection
Set to check for battery deterioration detection and display the result with an icon after charging is complete.
Displayed at the next start-up for offline charging.
If the outside temperature, battery temperature is 46 ° C or higher, or the charging time is less than 30 minutes during charging, battery deterioration is not detected.
For the icons to be displayed, see 5.5.2 Icon.

- OFF Check the battery when charging
- ON Do not check battery when charging

Default value: OFF

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.14 Automatic Print Head Check for Broken Dots At Power On Setting (Auto Head CHK)

This setting selects whether or not an automatic print head check for broken dots is to be automatically performed when the power is turned on.

- OFF An automatic print head check for broken dots is not performed when the power is turned on.
- ON An automatic print head check for broken dots is performed when the power is turned on.

Default value: OFF

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.15 Print Head Check For Broken Dots After Cover Close Setting (Head Error CHK)

This setting selects whether or not a print head check for broken dots is to be performed after the cover is closed.

- OFF A print head check for broken dots is not performed after the cover is closed.
- ON A print head check for broken dots is performed after the cover is closed

Default value: OFF

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.16 Resume Printing After Broken Dots Error Setting (Head Error PRT)

This setting selects whether or not the printer resumes printing after a broken dots error occurs.

- OFF The printer does not resume printing after a broken dots error occurs.
- ON The printer resumes printing after a broken dots error occurs.

Default value: OFF

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.17 Feed To Top Of Feed After Cover Close Setting (Feed Check)

This setting selects whether or not the printer feeds the paper to the top of feed after the cover is closed.

- OFF The printer does not feed the paper to the top of feed.
- ON The printer feeds the paper to the top of feed.

Default value: OFF (The printer does not feed the paper to the top of feed.)

<Supplemental Explanations>

The printer feeds the paper to the top of feed when the print mode is TPCL, TPCL1, or LABEL and a sensor, transmissive or reflective is used.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	x	x	x	x

7.4.18 Beep check (Beep)

This setting selects BEEP sounds or not at turn ON, turn OFF, and error ocuured.

- OFF Beep is disabled.
- ON Beep is disabled.

Default value: ON

<Supplemental Explanations>

· When [FEED] and [PAUSE] key are input at the same time, it returns to the system mode menu display.
· When parameter is set if pressing [FEED] key or [PAUSE] key for more than 0.5 seconds, repeat mode is entered, and that key is continuously input.
· Parameter change becomes valid by entering the [POWER] key after setting and memory is backed up.
· It can not adjust the volume.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.4.19 XML Setting (XML)

- OFF XML setting is disabled.
- STD Standard XML setting is enabled.
- ORACLE Oracle XML setting is enabled

Default value: OFF

<Supplemental Explanations>

If the XML setting is STD or ORACLE, issue mode is automatically changed to TPCL.

However, even when this setting is changed to OFF (disabled), the issue mode does not change, i.e.

TPCL is still selected.

* To use the re-issue function, the issue mode must be changed to TPCL1.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	x	x	x	x

7.4.20 Parts Alert (Parts Alert)

MENU ITEM
SYSTEM MODE
4. Set PARAM
Parts Alert
Platen Roller
Near Alert
Alert
Thermal Head
Near Alert
Alert

7.4.20.1 Platen Roller

Set the value of the life of the platen roller parts.
When the specified distance is reached, an icon is displayed.
If the value is set to 0, the component life is not checked.

- Near Alert (0.0 - 320.0 km)
- Alert (0.0 - 320.0 km)

Default value: Near Alert 20.0km
Alert 25.0km

<Supplemental Explanations>

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
O	O	o	o	o

7.4.20.2 Thermal Head

Set the value of the thermal head component life.
When the specified distance is reached, an icon is displayed.
If the value is set to 0, the component life is not checked.

- Near Alert (0.0 - 320.0 km)
- Alert (0.0 - 320.0 km)

Default value: Near Alert 20.0km
Alert 25.0km

<Supplemental Explanations>

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	O	o	o	o

7.4.21 System Mode Password Setting (Password)

This setting selects whether or not a new password, which is required to enter system mode for service persons and system administrators, is to be programmed.

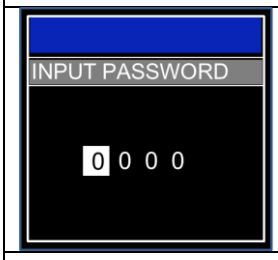
- OFF Password is not set.
- ON Password is set.

Default value: OFF Password: 0000

7.4.21.1 System mode start screen when password is enabled

When the password is enabled, the password input screen is displayed at the time the system mode is started.

Password input for system mode

	Procedure
	Turn on the printer while holding down the [FEED] and [POWER] keys at the same time. The password input screen is displayed.
	Input the password.
	The printer enters the system mode.
When a wrong password is input	
	Password invalid message is displayed.
A wrong password was entered consecutively for 3 times.	
	The power is automatically turned off.

7.5 Adjust Set

Contents of Adjust Set menu

MENU ITEM		
SYSTEM MODE		
	5. Adjust Set	
		Feed Adjust
		X Adjust
		Tone Adjust
		REFL Sensor
		TRANS Sensor
		Peel Adjust
		ESC/POS Width

<Supplemental Explanations>

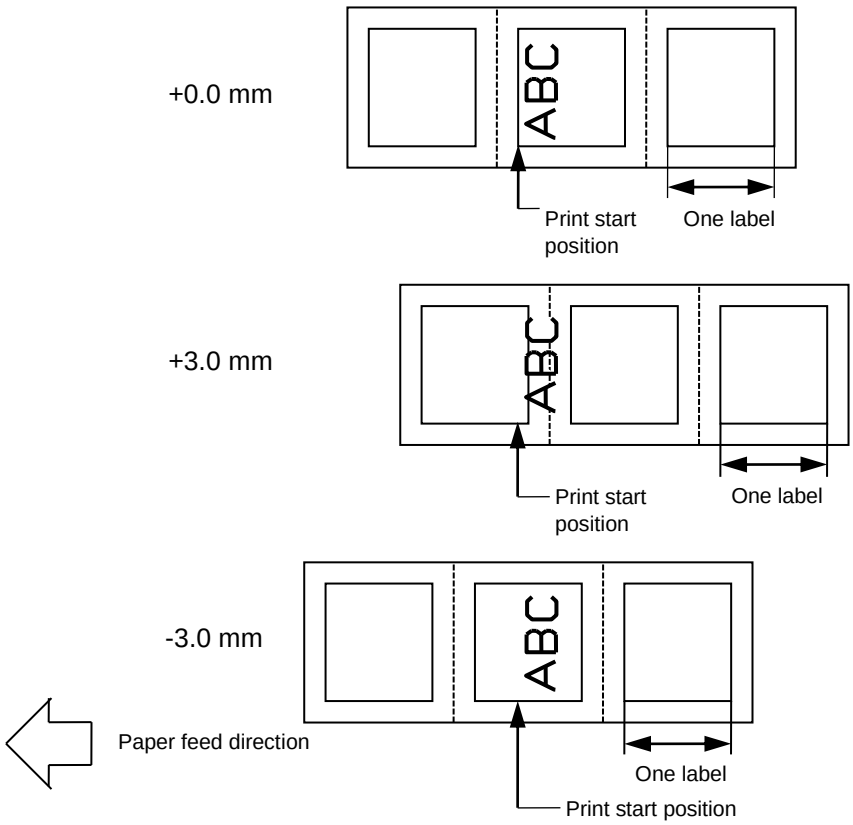
- When the [FEED] key is pressed, the menu moves in the opposite direction from when the [PAUSE] key is pressed.
- When the [FEED] and [PAUSE] keys are simultaneously pressed, the display returns to the system mode menu.
- When the [FEED] key or [PAUSE] key is pressed for 0.5 seconds or more during this parameter setting, repeat mode is enabled and the key pressed is repeatedly entered.
- The change in the parameter setting becomes effective when the [POWER] key is pressed after setting, then stored in the backup memory.

7.5.1 Feed Amount Fine Adjustment (FEED ADJ.)

This setting sets a feed amount so that the label is shifted forward or backward from the print start position which has been automatically determined.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+50.0	-50.0	0.1	Decimal	Exist	2	1	None	mm

Default value: 0.0mm



<Supplemental Explanations>

(1) The printer is controlled by the total amount determined by this command and the Position Fine Adjustment command sent from the PC. However, the maximum value is ±50.0 mm.

(2) When the feed amount fine adjustment value for the positive (+) direction is set to more than +14.0 mm (the distance between the print head and the sensor is –2 mm), the actual print position is corrected by +14.0 mm.

Support mode (o:valid、x:invalid)

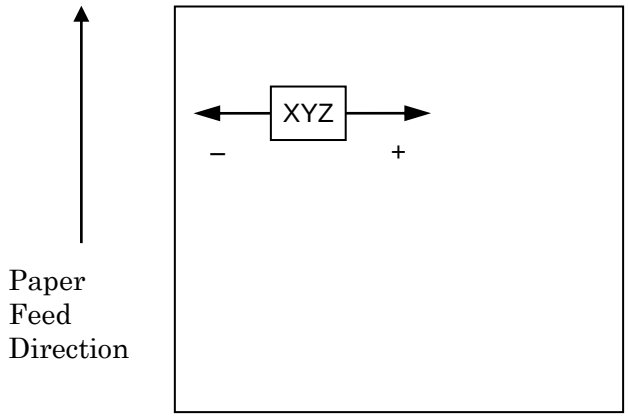
TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.5.2 X-coordinate Fine Adjustment (X Adjust)

This setting sets an amount by which the X-coordinate is shifted to the left or right.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+99.9	-99.9	0.1	Decimal	Exist	2	1	None	mm

Default value: 0.0mm



<Supplemental Explanations>

(1) The X-coordinate fine adjustment setting is performed to finely shift the x-coordinate of graphic data to the right or left. This fine adjustment is performed within the effective print width range. (When the X-coordinate is shifted in the minus direction and reaches its origin (0), it cannot be further shifted and stays at the origin.)

(2) This fine adjustment is disabled for self-test print (maintenance counter values, various parameter values, and automatic self-test) and test print.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	x	x	x	x

7.5.3 Print Tone Fine Adjustment (Tone Adjust)

This setting finely adjusts the print tone against the value automatically set.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+30	-30	1	Decimal	Exist	2	0	None	step

Default value: 0step

<Supplemental Explanations>

・Tone "+" means Darker,"-" means lighter.

+30 <- Darker <- 0(standard) -> Lighter -> -30

・The printer is controlled by the total amount determined by this command and the Position Fine Adjustment command sent from the PC. However, the maximum value is ±30 step.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	x	x

7.5.4 Reflective Sensor Manual Threshold Fine Adjustment (REFL Sensor)

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
4.0	0.0	0.1	Decimal	None	1	1	None	V

Default value: 1.0V

<Supplemental Explanations>

・This setting is effective only in the TPCL and TPCL1 modes.

7.5.5 Transmissive Sensor Manual Threshold Fine Adjustment (TRANS Sensor)

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
4.0	0.0	0.1	Decimal	None	1	1	None	V

Default value: 1.4V

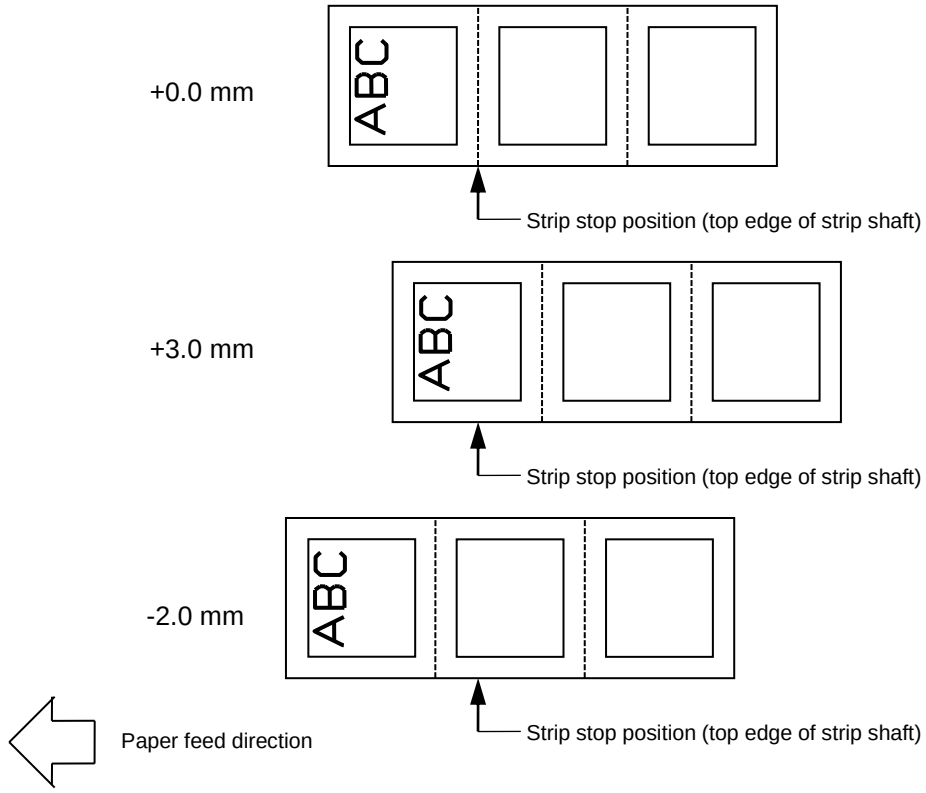
<Supplemental Explanations>

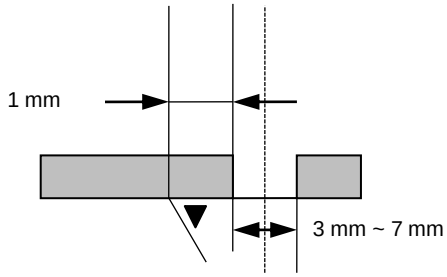
- This setting is effective only in the TPCL and TPCL1 modes.

7.5.6 Strip Position Fine AdjustmentPeel Adjust

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+3.0	-2.0	0.1	Decimal	Exist	1	1	None	mm

Default value: 0.0mm





Regardless of gap length, the stop position in strip issue mode is designed in a manner so that printing stops when the distance from the top edge of the strip shaft to the trailing edge of the label is 1 mm, if print position fine adjustment value is not set.
If the above-mentioned stop position is not proper, the stop position should be adjusted using the stop position fine adjust function for the strip issue.

<Supplemental Explanations>

- The printer is controlled by the total amount determined by this command and the Position Fine Adjustment command sent from the PC (strip position fine adjustment value). However, the maximum value is –2.0 mm to +3.0 mm.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
o	o	o	o	o

7.5.7 Paper Size for ESC/POS Setting (ESC/POS Width)

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
58	25	1	Decimal	None	2	0	None	mm

Default value: 80mm

<Supplemental Explanations>

This setting is effective only in the ESC/POS mode. There is no command to set paper width in the ESC/POS mode. If a paper of which width is short for the print width, the print start position may be outside of the paper. To prevent this problem, the width of paper to be loaded in the printer must be specified.

Support mode (o:valid、x:invalid)

TPCL, TPCL1, LABEL	C Mode	ESC/POS RECEIPT,RECEIPT1	Z Mode	S Mode
x	x	o	x	x

7.6 Test Print

Contents of TEST PRINT menu

MENU ITEM
6.Test Print
Print Condition
Slant Line 1dot
Slant Line 3dot
Characters
Barcode
Non Printing
Factory Test
Auto Print(T)
Auto Print(R)
Process Print

<Supplemental Explanations>

- When the [FEED] key is pressed, the menu moves in the opposite direction from when the [PAUSE] key is pressed.
- When the [FEED] and [PAUSE] keys are simultaneously pressed, the display returns to the system mode menu.
- When the [FEED] key or [PAUSE] key is pressed for 0.5 seconds or more during this parameter setting, repeat mode is enabled and the key pressed is repeatedly entered.
- The change in the parameter setting becomes effective when the [POWER] key is pressed after setting, then stored in the backup memory.

7.6.1 Print Condition

This menu enables setting print conditions for test print.

Contents of TEST PRINT menu

MENU ITEM		
6.Test Print		
	Print Condition	
		Issue Count
		Sensor
		Print Type
		Label Length
		Paper Feed

<Supplemental Explanations>

- Default value at power on is:
  - Issue count 1
  - Sensor NONE
  - Label Length 63mm
  - Paper Feed NO FEED
- Each fine adjustment parameter is effective for test print. However, the X-coordinate fine adjustment is excluded.
- When an error occurs during a test print, the error message is displayed and printing is stopped. The STATUS LED blinks and the CHARGE LED turns off.
- The error is cleared by a depression of the [PAUSE] key, and the display returns to the test print menu. The STATUS LED turns on and the CHARGE LED turns off. Printing is not automatically resumed after the error is cleared.
- When the transmissive sensor is selected, the gap between labels shall be 3 mm.

7.6.1.1 Issue Count Setting (Issue Count)

This setting sets the number of labels to be printed for test print.

- 1
- 3
- 5
- 10
- 50
- 100
- 500
- 1000
- 5000

Default value: 1

7.6.1.2 Sensor Setting (Sensor)

・ NONE	No sensors used, i.e. position is not detected (when using receipt paper)
・ REFLECTIVE	Transmissive sensor (when using tag paper with black mark)
・ TRANSMISSIVE	Reflective paper (when using label paper)

Default value: NONE

7.6.1.3 Print Type Setting (Print Type)

This setting selects a print type, auto mode using the strip sensor or fixed mode (BATCH or STRIP) regardless of a sensor status.

・ AUTO	Print depending on the sensor used
・ BATCH	Fixed to batch issue
・ STRIP	Fixed to strip issue

Default value: AUTO

7.6.1.4 Label Length Setting (Label Length)

This setting selects a label length for test print.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
999	5	1	Decimal	None	3	0	None	mm

Default value: 63mm

<Supplemental Explanations>

- The label length, which is larger than the image buffer length, cannot be specified. If specified, the printer prints the data of image buffer length, then stops.

7.6.2 Paper Feed Mode Setting (Paper Feed)

This setting is used to feed a paper without performing printing in system mode where the [FEED] key is invalid to feed a paper.

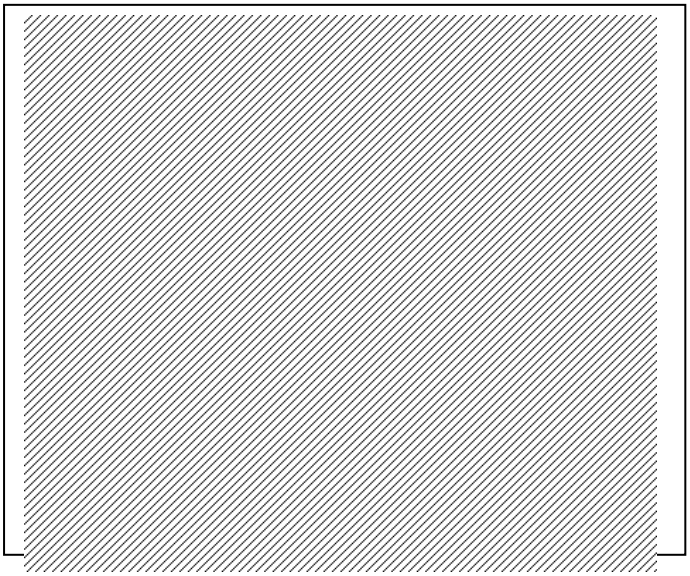
- NO FEED Paper is not fed.
- FEED Paper is fed.

Default value: NO FEED

<Supplemental Explanations>

By selecting an option using the [FEED] key and determining it using the [POWER] key feeds the paper by an amount specified by LABEL LEN. (See the previous section.). If the label length is not specified, the paper is fed by 63 mm.

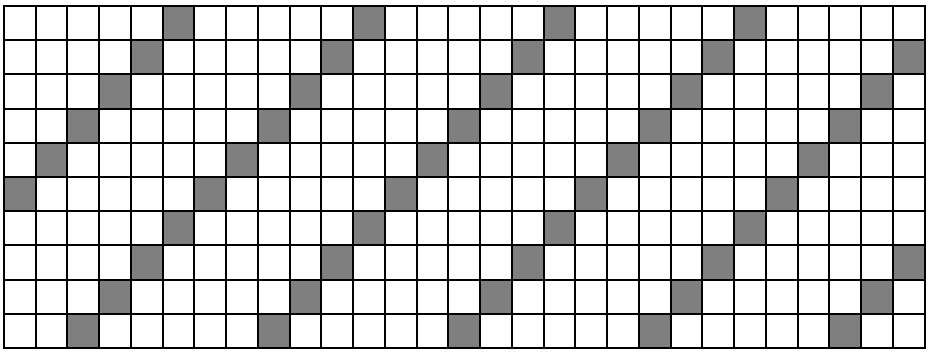
7.6.3 Slant Line 1dot



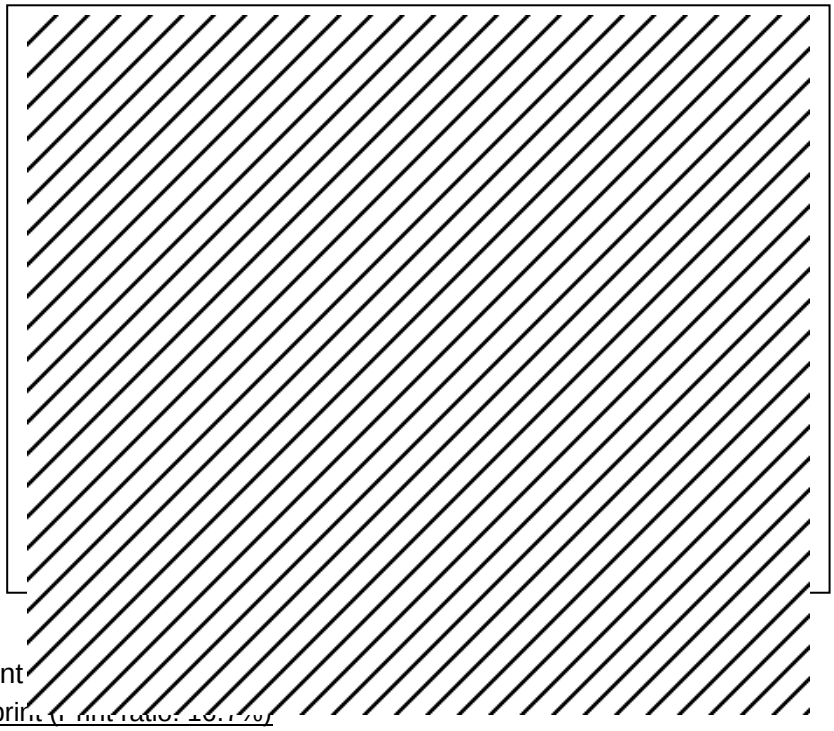
1-dot slant line

Enlarged view of slant lines

1-dot slant line print (Print ratio: 16.7%)

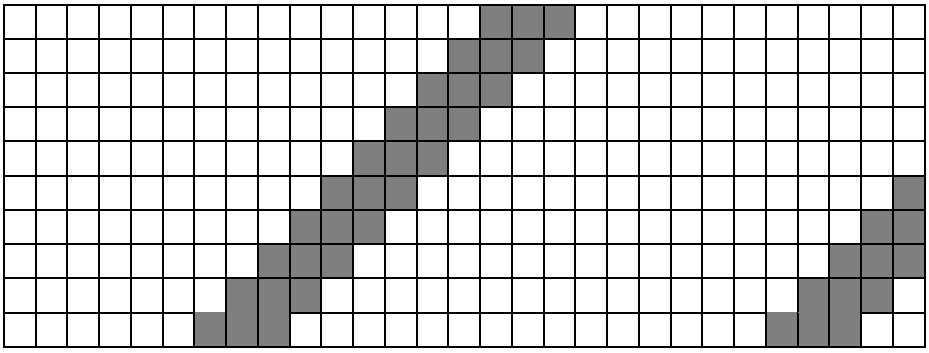


7.6.4 Slant Line 3dot

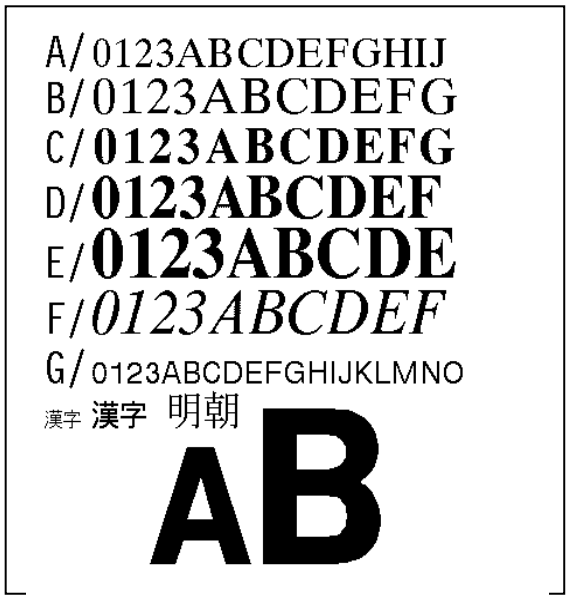


Enlarged view of slant

3-dot slant line print (Print ratio: 18.7%)



7.6.5 Characters

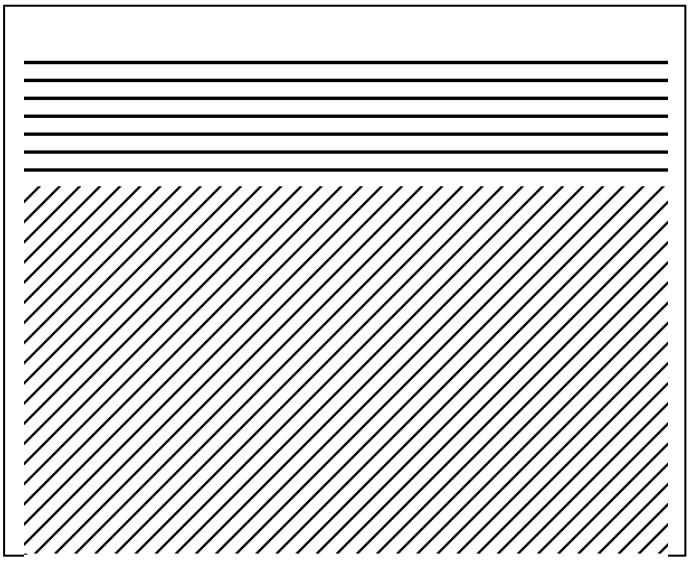


7.6.6 Barcode

7.6.7 Non Printing

The printer feeds blank label.

7.6.8 Factory Test



7.6.9 Auto Print(T)

The factory test print is performed on the following conditions. The parameter settings and the print density fine adjustment value are ignored.

- After each test pattern is printed, the factory test print is performed when the [POWER] key is pressed.
- When the [PAUSE] and [FEED] key is pressed at the same time, the display returns to the menu.
- Other keys are invalid.

Print test pattern	Feeding 1 label
	Printing 3-dot slant lines
	Printing barcode
	Printing characters
Issue count	5 labels each
Sensor type	Transmissive sensor
Issue mode	Continuous issue
Label pitch	63 mm
Print density fine adjustment value	±0

7.6.10 Auto Print(R)

The factory test print is performed on the following conditions. The parameter settings and the print density fine adjustment value are ignored.

- After each test pattern is printed, the factory test print is performed when the [POWER] key is pressed.
- When the [PAUSE] and [FEED] key is pressed at the same time, the display returns to the menu.
- Other keys are invalid.

Print test pattern	Feeding 1 label
	Printing 3-dot slant lines
	Printing barcode
	Printing characters
Issue count	5 labels each
Sensor type	Reflective sensor
Issue mode	Continuous issue
Label pitch	63 mm
Print density fine adjustment value	±0

7.6.11 Process Print

7.7 Sensor Display/Adjustment (Sensor ADJ)

Contents of SENSOR ADJUST menu

MENU ITEM	
7.Sensor ADJ	
	Temperature
	Reflective
	Transmissive
	Paper End
	Battery VOLT
	Backlash1
	Backlash2

<Supplemental Explanations>

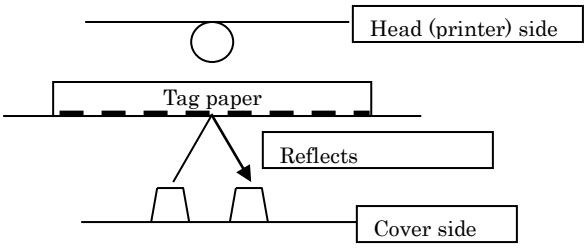
- When the [FEED] key is pressed, the menu moves in the opposite direction from when the [PAUSE] key is pressed.
- When the [FEED] and [PAUSE] keys are simultaneously pressed, the display returns to the system mode menu.
- When the [FEED] key or [PAUSE] key is pressed for 0.5 seconds or more during this parameter setting, repeat mode is enabled and the key pressed is repeatedly entered.
- The change in the parameter setting becomes effective when the [POWER] key is pressed after setting, then stored in the backup memory.

7.7.1 Temperature

The ambient temperature and print head temperature are displayed.
Only when the temperature is below zero, the symbol of minus (-) is displayed.
The display is updated every 200 msec.
The range of each temperature is below.

Ambient temperature	-21 to 71
Print head temperature	-21 to 80

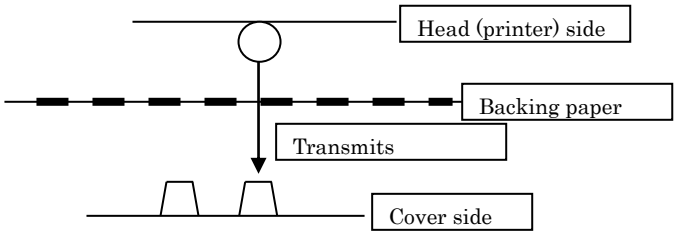
7.7.2 Reflective



The sensor level of the reflective sensor is registered.
Place the tag paper to be used on the reflective sensor so that the sensor can detect a print area.
The display of the currently detected value is updated every 200 msec.
Hold down the [FEED] key for 3 seconds or more.
When the registration of the “print area level” is completed, “Adjustment Complete” is displayed and an asterisk (*) is shown on the right side of the voltage.
If the adjustment failed due to sensor failure, “SENSOR ERROR” is displayed and the ERROR LED turns on.
The ERROR LED turns off when the upper hierarchy menu is displayed.
The setting range is as below.

Reflective sensor	0.0V to 5.0 V

7.7.3 Transmissive

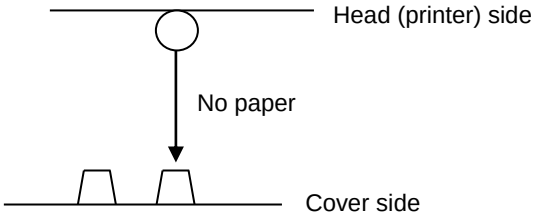


The sensor level of the transmissive sensor is registered.
Remove some labels and place the backing paper so that the Transmissive sensor can detect it.
The display of the currently detected value is updated every 200 msec.
Hold down the [FEED] key for 3 seconds or more.
When the registration of the “label gap level” is completed, “Adjustment Complete” is displayed and an asterisk (*) is shown on the right side of the voltage.
If the adjustment failed due to sensor failure, “SENSOR ERROR” is displayed and the ERROR LED turns on.
The ERROR LED turns off when the upper hierarchy menu is displayed.
The setting range is as below.

Transmissive sensor	0.0V to 5.0 V

7.7.4 Paper End

Paper end level of the transmissive sensor and the reflective sensor is registered.
Remove any media from the media sensor.
The display of the currently detected value is updated every 200 msec.
Hold down the [FEED] key for 3 seconds or more.
When the registration of the “paper end level” is completed, “Adjust Complete” is displayed and an asterisk (*) is shown on the right side of the voltage.
If the adjustment failed due to sensor failure, “SENSOR ERROR” is displayed and the STATUS LED blink. The CHARGE LED turns off when the upper hierarchy menu is displayed.
The setting range is as below.



Reflective sensor	0.0V to 5.0 V
Transmissive sensor	0.0V to 5.0 V

7.7.5 Battery Voltage (Battery VOLT)

The battery voltage is displayed.

7.7.6 Backlash Step Count Adjustment 1 (Backlash1)

This setting selects a backlash step count for a feed in forward direction.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
99	00	1	Decimal	None	2	0	None	None

Default value: 6

7.7.7 Backlash Step Count Adjustment 2 / Backlash2

This setting selects a backlash step count for a feed in reverse direction.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
99	00	1	Decimal	None	2	0	None	None

Default value: 6

7.8 RAM Clear

Contents of RAM CLEAR menu

MENU ITEM
8. RAM Clear
No RAM Clear
Parameter
MAINTE Count

<Supplemental Explanations>

- When the [FEED] key is pressed, the menu moves in the opposite direction from when the [PAUSE] key is pressed.
- When the [FEED] and [PAUSE] keys are simultaneously pressed, the display returns to the system mode menu.

7.8.1 No RAM Clear

This option is provided for users who access this menu by mistake, and intended to exit from the RAM clear menu without performing any RAM clear.

7.8.2 Parameter Clear (Parameter)

The parameters settings are cleared.
Destination is selectable for parameter clear. The destination code printed on the top right corner of the maintenance counter printout shows which destination was selected for the parameter clear.

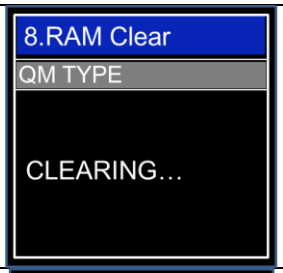
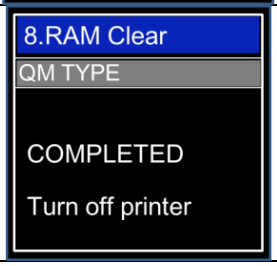
- QM TYPE RAM clear for Global model
- JA TYPE RAM clear for Japan model
- CN TYPE RAM clear for Chinese model
- QQ TYPE RAM clear for North America model

<Supplemental Explanations>

1. To comfirm which destination after parameter clear, it can be checked sight top of maintenance counter

<Maintenance counter image>

2. LCD image at parameter clear

Clearing	
After clear	

3. When the parameter is cleared with QQ Type, the setting change via WLAN from BCP Setting Tool is invalid.

Values after parameter clear

Parameter	Value
Feed amount fine adjustment (PC)	+0.0 ㎜
Print tone fine adjustment (PC)	+0step
Strip position fine adjustment (PC)	+0.0 ㎜
Feed amount fine adjustment (Key)	+0.0 ㎜
Print tone fine adjustment (Key)	+0step
Strip position fine adjustment (Key)	+0.0 ㎜
X-coordinate fine adjustment (Key)	+0.0 ㎜
Transmissive sensor manual threshold fine adjustment value	1.4V
Reflective sensor manual threshold fine adjustment value	1.0V
Print command language	TPCL
Print type (BATCH/STRIP)	AUTO
Font zero	“0” (without slash)
Character code	PC-850
LCD language	ENGLISH(QM/QQ) JAPANESE(JA) SIMP.CHINESE(CN)
Control code	AUTO
EURO font code	B0H
Automatic print head check for broken dots	OFF
MaxiCode specification	TYPE1
Head division	AUTO1
Head output division command parameter setting	ON
Print head check for broken dots after cover close	OFF
Resume printing after broken dots error	OFF
Feed to top of feed after cover close	OFF
Beep	ON
B-EP Mode	OFF
Linerless	OFF
Post-print stop position setting	CUT
Back feed restriction setting	ON
Strip issue back feed setting	OFF
XML	OFF
Parts Alert/Platen Roller/Near Alert	20.0km
Parts Alert/Platen Roller/Alert	25.0km
Parts Alert/Thermal Head/Near Alert	20.0km
Parts Alert/Thermal Head/Alert	25.0km
Auto power-off timing	120min
Auto power off after error	ON
Power save mode timing	3sec
LCD backlight off timing	3sec
Battery charge mode setting	LOW2(QM/QQ) NORMAL(JA/CN)
Battery deterioration check	OFF
BASIC interpreter setting	OFF
BASIC trace setting	OFF
Backlash Step Count Adjustment 1	6

Backlash Step Count Adjustment 2	6
Label pitch	63.0 ㎜
Effective print length	60.0 ㎜
Effective print width	54.0 ㎜
Sensor	Transmissive sensor
PC-save automatic call	ON

Bluetooth	
Bluetooth device nickname	TOSHIBA TEC BT
MODE	ON
TEST MODE	OFF
Bluetooth device address	Fixed module address
Inquiry scan time	EVERY
Security level	SSP
Auto Connection	OFF
Inquiry/page scan interval	2048
Inquiry/page scan window	36

WLAN	
Wireless LAN enable/disable	CONFIG MODE
BAND SELECT	DUAL BAND
COUNTRY CODE	--- (It is not subject to parameter clear.)
CHANNEL	1
IP MODE	DYNAMIC
Printer IP address	192.168.254.254
Printer gateway IP address	000.000.000.000
Printer subnet mask	255.255.000.000
Printer MAC address	Fixed module address
Socket communication port number	ON:9100
DHCP host name	Blank
User Class ID	Blank
ESS ID	TOSHIBATEC
LPR SERVER	OFF
SNMP AGENT	ON(QM/JA/CN) OFF(QQ)
Wireless LAN power save	ON

7.8.3 Maintenance Counter Clear (MAINTE Count)

The maintenance counter, including label distance covered, is cleared.

- FEED
- PRINT
- ALL

<Supplemental Explanations>

Item of counter clear and default value after clear.

Item of counter clear	default value after clear	Clear item		
		All counter	FEED counter	Print counter
1. FEED	0km	o	o	
2. PRINT	0km	o		o
3. SYSTEM ERROR	0	o		

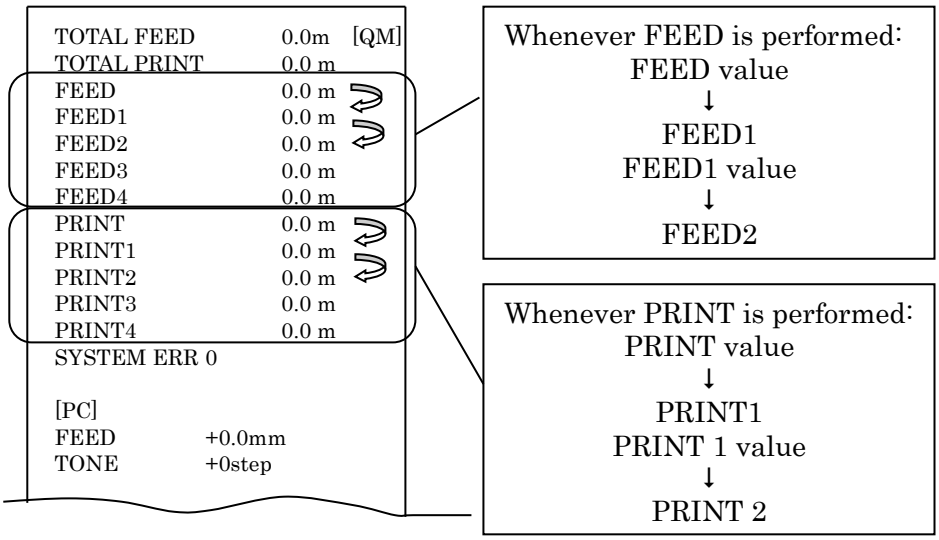
<Ex. Contents of maintenance counter>

```
<< COUNTER >>
TOTAL FEED          4.8km
            [QM]
FEED          0.0km        1. FEED
FEED1         4.8km
FEED2         0.0km
FEED3         0.0km
FEED4         0.0km
PRINT         0.0km        2. PRINT
PRINT1        4.5km
PRINT2        0.0km
PRINT3        0.0km
PRINT4        0.0km
SYSTEM ERR 0               3. SYSTEM ERROR
```

Print Result of Maintenance Counter Values and Various Parameter Values After Each Type of Clear

- Clear when replacing the platen (FEED)
  The total feed up to the last feed moves to FEED1 and the FEED1 value moves to FEED2. (The FEED 4 value is cleared.)
- Clear when replacing the print head (PRINT)
  The total print length up to the last print moves to PRINT1 and the PRINT1 value moves to PRINT2. (The PRINT 4 value is cleared.)
- When clearing every thing (ALL)
  Both the FEED and PRINT values move.

Maintenance counter value and various parameter value print

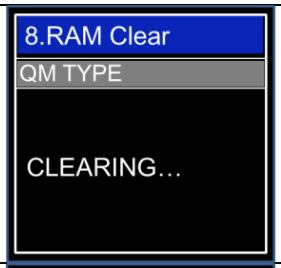
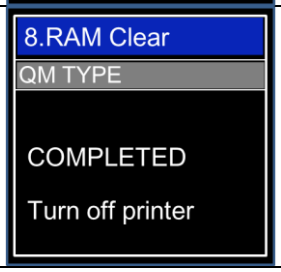


Values after maintenance counter clear

Item	Value
Label distance covered 1-4	Operation as described above
Print distance 1-4	Operation as described above
System error count	0 times

<Supplemental Explanations>

1. LCD image at counter clear

Clearing	
After clear	

2. Turn off the printer when “COMPLETED. Turn off the printer” is displayed after the RAM clear is completed.

7.9 Interface Setting (I/F Setting)

Contents of INTERFACE menu

MENU ITEM	
9. I/F Setting	
	USB
	WLAN
	Bluetooth

<Supplemental Explanations>

- When the [FEED] key is pressed, the menu moves in the opposite direction from when the [PAUSE] key is pressed.
- When the [FEED] and [PAUSE] keys are simultaneously pressed, the display returns to the system mode menu.
- When the [FEED] key or [PAUSE] key is pressed for 0.5 seconds or more during this parameter setting, repeat mode is enabled and the key pressed is repeatedly entered.
- The change in the parameter setting becomes effective when the [POWER] key is pressed after setting, then stored in the backup memory.

7.9.1 USB Serial Number Setting (USB)

Set USB serial ID

Range: 000000000000～Z00000000000

* Characters that can be used for setting: Space, 0 to 9, A to Z

7.9.2 Wireless LAN Enable/Disable Setting (WLAN)

Contents of WLAN menu

MENU ITEM		
9.I/F Setting		
	WLAN	
		Mode
		Band Select
		TCP/IP
		Protocols
		Powersave

7.9.2.1 WLAN Mode (MODE)

- OFF
- ON
- CONFIG MODE

Default value: CONFIG MODE

*About mode setting and authentication , refer to Network specification

7.9.2.2 Band Select (BAND SELECT)

- DUAL BAND
- 2.4GHz
- 5GHz

Default value:

DUAL BAND

7.9.2.3 TCP/IP / TCP/IP

Contents of WLAN menu

MENU ITEM	
TCP/IP	
	IP Mode
	Printer IP ADD
	Gateway ADD
	Subnet Mask

7.9.2.3.1 IP Mode

- STATIC DHCP disable
- DYNAMIC DHCP enable

Default value: DYNAMIC

<Supplemental Explanations>

If it sets DYNAMIC, printer can get IPaddress from DHCP server automatically.

7.9.2.3.2 Printer IP Address Setting (Printer IP ADD)

IP address is displayed and set.

7.9.2.3.3 GATEWAY ADDRESS (Gateway ADD)

Gateway address is displayed and set.

7.9.2.3.4 Subnet Mask

Subnet mask is displayed and set.

7.9.2.4 Protocols

Contents of Protocols menu
About setting detail information, refer to Network specification

MENU ITEM	
Protocols	
	Socket Port
	Port Number
	LPR Server
	SNMP Agent

7.9.2.4.1 Socket Communication Setting (Socket Port)

- OFF
- ON

Default value: ON

7.9.2.4.2 Port Number

Socket port number is displayed and set.
range: 00000～65535

Default value: 9100

7.9.2.4.3 LPR Server

- OFF
- ON

Default value: OFF

7.9.2.4.4 SNMP Agent

- OFF
- ON

Default value: ON

7.9.2.5 Wireless LAN Power Saving Setting (Powersave)

- OFF
- ON

Default value: ON

7.9.3 Bluetooth

Contents of Bluetooth menu

ITEM NAME		
9. I/F Setting		
	Bluetooth	
		Mode
		Test Mode
		Search Setting
		Security Level
		Auto Connect
		Scan Interval
		Scan Window

7.9.3.1 Mode

- OFF
- ON

Default value: OFF

7.9.3.2 Test Mode

- This setting is to identify the device nicknames.
  - OFF Device nickname for assembly process test is not used.
  - ON Device nickname for assembly process test is used.

Default value: OFF

<Supplemental Explanations>

- When set to “ON”, the device nickname is “FACTORY TEST”.
- When set to “OFF”, the device nickname is “TOSHIBA TEC BT”.

7.9.3.3 Search Setting

OFF Inquiry is disabled.
- EVERY Inquiry is enabled.
- 60 sec Inquiry is enabled only for 60 sec. after the start of the printer.

Default value: EVERY

7.9.3.4 Security Level

- OFF No security feature
- LINK Link level security
- SSP AUTH Type Secure simple pairing

Default value: SSP AUTH Type

7.9.3.4.1 SSP AUTH type

- JUST WORKS
- NUMERIC CMP

Default value: NUMERIC CMP

7.9.3.4.1.1 NUMERIC CMP

- NO IN/OUT — No authentication key displayed
- DISPLAY ONLY — Display authentication key only
- DISPLAY Y/N — Display authentication key and select “Yes” or “No”

Default value: DISPLAY Y/N

7.9.3.5 Auto Connect

- OFF — Invalid
- ON — valid

Default value: OFF

7.9.3.6 Inquiry/Page Scan Interval Setting (Scan Interval)

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
4096	18	1	Decimal	None	4	0	None	msec

Default value: 2048
* Cannot be set to a smaller value than Inquiry / Page Scan Window Setting.
* If an invalid value is specified, it will be corrected to the default value at the next startup.
* If the value is odd, it will be corrected to an even number at the next startup.

7.9.3.7 Inquiry/Page Scan Window Setting (Scan Window)

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
4096	18	1	Decimal	None	4	0	None	

Default value: 36

7.10 BASIC Setup

Contents of ASIC Setup menu

ITEM NAME	
10. BASIC Setup	
	BASIC
	File MAINTE
	Trace
	Expand Mode

7.10.1 BASIC Interpreter Setting (BASIC)

- This setting selects whether the BASIC interpreter setting is enabled or disabled.
  - OFF Disabled
  - ON Enabled

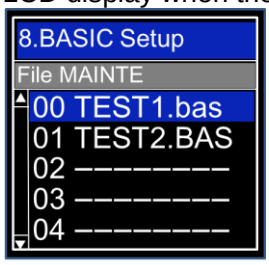
Default value: OFF

7.10.2 BASIC File Browser (File MAINTE)

This function displays data stored in the BASIC file storage area (00 to 13).
The number of data that can be displayed differs depending on the BASIC file storage area allocated.

* The above shows the LCD display when there is no data stored. For the LCD display when there is data stored,.

LCD display when there is stored data:



It displays Registration No and Name of data stored (Max. 9 characters)
(IF there is no data, it displays '-').

* If BASIC area is not allocated, LCD shows blank.

7.10.3 BASIC Trace Setting (Trace)

This setting selects whether the BASIC trace setting is enabled or disabled.

- OFF Disabled
- ON Enabled

Default value: OFF

7.10.4 BASIC Expansion Mode (Expand Mode)

The BASIC expansion mode program runs under the following conditions:

- The BASIC expansion mode program has already been loaded.
- The BASIC interpreter setting is set to ON (enabled).

After the BASIC expansion mode is started, LCD display and operations depend on the BASIC expansion mode program.

NOTE:

- The BASIC expansion mode ends when the BASIC expansion program is exited.
- When the [POWER] key is pressed without the BASIC expansion mode program loaded, the display does not change from “10.BASIC Setup” which indicates the BASIC expansion mode menu.

* For details of the BASIC expansion mode, refer to the section, “Startup of System Mode Program” in “the BASIC Interpreter Specification”.

8 SYSTEM MODE FOR USERS（AVAILABLE MENU ITEMS ARE LIMITED.）

8.1 OUTLINE OF SYSTEM MODE FOR USERS

The printer enters the system mode for users when the following operation is performed when the printer power is off.

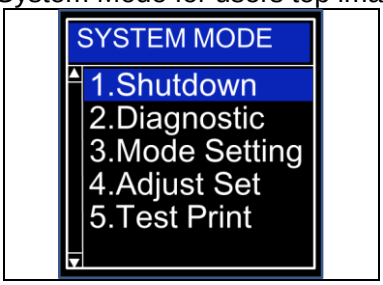
- Turn on the printer while holding down the [PAUSE] and [POWER] keys at the same time.

The system mode is intended for performing self-test, parameter setting, and other settings.

When a language other than Japanese is selected in the language setting (7.4.4 LCD language setting), the language displayed on the panel is English.

The key operations for the system mode are described below.
Key operations follow Section 6.1 LIST BOX WITH SCROLLBAR.

System Mode for users top image



Top menu

1. Shutdown
2. Diagnostic
3. Mode Setting
4. Adjust Set
5. Test Print

8.2 Shutdown

The printer is reset.

8.3 Diagnostic

Same as 7.2 Diagnostic of the system mode.

8.4 Mode Setting

Same as 7.3 Mode Setting of the system mode.

8.5 Adjust Set

Same as 7.5 Adjust Set of the system mode.

8.6 Test Print

Same as 7.6 Test Print of the system mode.

9 USER SYSTEM MODE

9.1 OUTLINE OF SYSTEM MODE FOR USERS

When the printer status is paused, the user's system mode is entered when the following operations are executed.

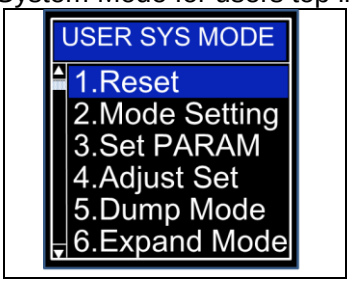
- Hold down the [PAUSE] key for 3 seconds or longer.

The system mode is intended for performing parameter setting, and other settings.

When a language other than Japanese is selected in the language setting (7.4.4 LCD language setting), the language displayed on the panel is English.

The key operations for the system mode are described below.
Key operations follow Section 6.1 LIST BOX WITH SCROLLBAR.

System Mode for users top image



Top menu

1.Reset
2.Mode Setting
3.Set PARAM
4.Adjust Set
5.Dump Mode
6.Expand Mode
7.I/F Setting
8.BASIC Setup

1.Reset	Used to reset the printer.
2.Mode Setting	Same as 7.3 Mode Setting of the system mode.
3.Set PARAM	Same as 7.4 Set PARAM of the system mode.
4.Adjust Set	Same as 7.5 Adjust Set of the system mode.
5.Dump Mode	Used to print the data sent from the host
6.Expand Mode	The printer switches the mode to execute the BASIC program.
7.I/F Setting	Same as 7.9 Interface setting of the system mode.
8.BASIC Setup	Used to set the function of the BASIC program when it is loaded printer.

9.1 Reset

The printer is reset.

9.2 Mode Setting

Same as 7.3 Mode Setting of the system mode.

9.3 Set PARAM

Same as 7.4 Set PARAM of the system mode.

9.4 Adjust Set

Same as 7.5 Adjust Set of the system mode.

9.5 Dump Mode

Print the data sent from the host.

- On-Demand Prints 166 lines of data (approx. 50 cm), then stops while displaying “Printing…”.
  Pressing the [FEED] + [PAUSE] key simulataneously causes the printing to stop and the display to return to the upper hierarchy menu.
  Pressing the [POWER], [PAUSE], [FEED] key, restarts printing.
- Print All Prints all data in the receive buffer page by page

```
                        :
00 00 00 00 00 00 00 00     ........
00 00 00 00 00 00 00 00     ........
00 00 00 00 00 00 00 00     ........
00 00 00 00 00 00 00 00     ........
7B 41 58 3B 2B 30 30 30     {AX;+000
2C 2B 30 30 30 7C 7D 7B     ,+000|}{
44 30 37 37 30 2C 31 31     D0760,11
37 34 30 7C 7D 7B 43 7C     740|}{C|
7D 7B 4C 43 30 2C 30 30     }{LC0,00
32 30 2C 30 30 33 30 2C     20,0030,
2C 30 2C 32 7C 7D 7B 4C     ,0,2|}{L
43 3B 30 30 30 32 30 2C     C;00020,
30 30 37 30 2C 30 36 36     0070,066
39 7C 7D 7B 4C 43 3B 30     9|}{LC;0
                        :
                        :
                        :
                        :
44 45 46 47 48 49 4A 7C     DEFGHIJ|
7D 7B 50 43 33 35 30 2C     }{PC350,
30 34 30 30 2C 31 2C 31     0400,1,1
30 2C 42 3D 41 42 43 44     0,B=ABCD
                        :
                        :
3B 30 39 30 30 2C 30 31     ;0900,01
38 30 2C 54 35 2C 41 2C     80,T5,A,
30 3D 31 32 33 34 35 36     0=123456
41 42 43 44 45 7C 7D 00     ABCDE|}..
```

Print direction

8-byte data is printed on one line.
Data is printed, starting from the newest data to the older data.

Data pointed by the receive buffer write pointer is printed in bold type.

NOTE:
If an error occurs when printing the receive buffer dump, the printer displays an error message, and stops. The error is cleared by pressing the [PAUSE] key, and the display is returned to the PRINT menu. After the error is cleared, data is not automatically reprinted

9.6 Expand Mode

Same as 7.10.4 Expand Mode of the system mode.

9.7 I/F Setting

Same as 7.9 I/F Setting of the system mode.

9.8 BASIC Setup

Same as 7.10 BASIC Setup of the system mode.

10 Operation during battery charge by AC/USB power supply

This chapter describes the printer operations when the battery is charged through the AC adapter or USB cable.

10.1 In Printer Power Off State

(1) When the AC adapter or USB cable is being connected with the battery installed:

LCD

No display (Same as power off)

LED

[STATUS] LED (blue) .....OFF

[CHARGE] LED (Orange) Charging.....ON

Full charge .....OFF

- If a USB cable is connected to the printer and the printer power is turned on under the above condition, the USB interface may not work.
  (This symptom occurs only when the USB cable is connected to the printer anytime between a connection of the AC adapter in the printer power off state and a power on under the above condition.) This problem can be solved by turning off the printer after disconnection of the AC adapter or removing and inserting the battery again.

(2) When the USB cable is connected without the battery installed:

LCD

No display (Same as power off)

LED

[STATUS] LED (Red) ..... ON (Blink)

[CHARGE] LED ..... OFF

- If the printer power is turned on under the above condition, a charge error will result.
  (For details about the charge error, refer to “5.11 Charge Error Number List” of this specification and Chapter 8. Error Processing of the External Equipment Interface Specification.)

(3) When the AC adapter is connected without the battery installed:

LCD

No display (Same as power off)

LED

[STATUS] LED ..... OFF

[CHARGE] LED ..... OFF

- In the above case, the printer cannot be turned on.

10.2 In Printer Power On State

(1) When the AC adapter is being connected:

LCD

The battery level mark (Charging) turns on.

When the battery is fully charged, it displays battery level mark.

Charging

Chanrge finished or non- charging state

LED

[STATUS] LED (blue)	In normal state ..... ON
[CHARGE] LED (orange)	Charging ..... ON
	Full charge ..... OFF

- If the printer power is turned on under the above condition, a charge error will result. (For details about the charge error, refer to “5.11 Charge Error Number List” of this specification and Chapter 8. Error Processing of the External Equipment Interface Specification .)
- In charging, it doesn’t display battery percentage.

* Sometimes it doesn’t display 100 % at full charge because of battery deterioration or environment.

11 POWER SAVE MODE

This section describes printer operations in power save mode.

11.1 Shifting To Power Save Mode

When communication, key operations and cover open/close operations are not performed in a certain period of time to shift to power save mode, the printer enters power save mode.

11.2 When A Wireless LAN Module Is Connected

When a wireless LAN module is connected, “Power Save Mode Setting” inside the module is switched from “No Power Save” to “Auto Power Save” after the printer enters power save mode*.
*: Only when the wireless LAN power save setting is enabled.

11.3 Precausions

The printer does not enter power save mode under any of the following conditions.

- When any error is displayed.
- When the “BASIC interpreter” runs.
- When the printer is in system mode.
- When the printer pauses.
- When the printer is setting mode

12 POWER OFF OPERATION

This section describes printer operations when the power is turned off.

12.1 TIME REQUIRED FOR POWER OFF

When the printer is in online mode, holding down the [POWER] key for 1 second or more causes the printer to turn off. At this time, the printer saves the parameter information required for a next start-up. When the printer is in the system mode, the parameter information is saved after the shutdown menu is selected.
In both modes, the printer power is turned off after saving is completed. It may take approx. 4 seconds at the maximum to save the information.

12.2 PRECAUTIONS

Before removing the battery for replacement or other purposes, it is required to confirm that the LCD and LED turned off. If the battery is removed while the printer is saving the parameter information, saving cannot be performed properly and proper operations cannot be guaranteed.