

TOSHIBA

TOSHIBA Barcode Printer

B-EX4T1/4T2/4D2/6T1/6T3

Key Operation Specification

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Toshiba Tec Corporation

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1 SCOPE

This specification describes key operations using both the keys and the LCD of the B-EX series high-end industrial general-purpose barcode printers.

Supported model: B-EX6T1/T3, B-EX4T1-QM/CN, B-EX4T2, B-EX4T2-H, B-EX4D2

B-EX4T1-QM/CN, B-EX4T2, B-EX4T2-H, B-EX4D2 are applicable from the following firmware version.

B-EX4T1-QM/CN	C3.0 or later
B-EX4T2	C2.0 or later
B-EX4T2-H	C2.0 or later
B-EX4D2	D2.0 or later

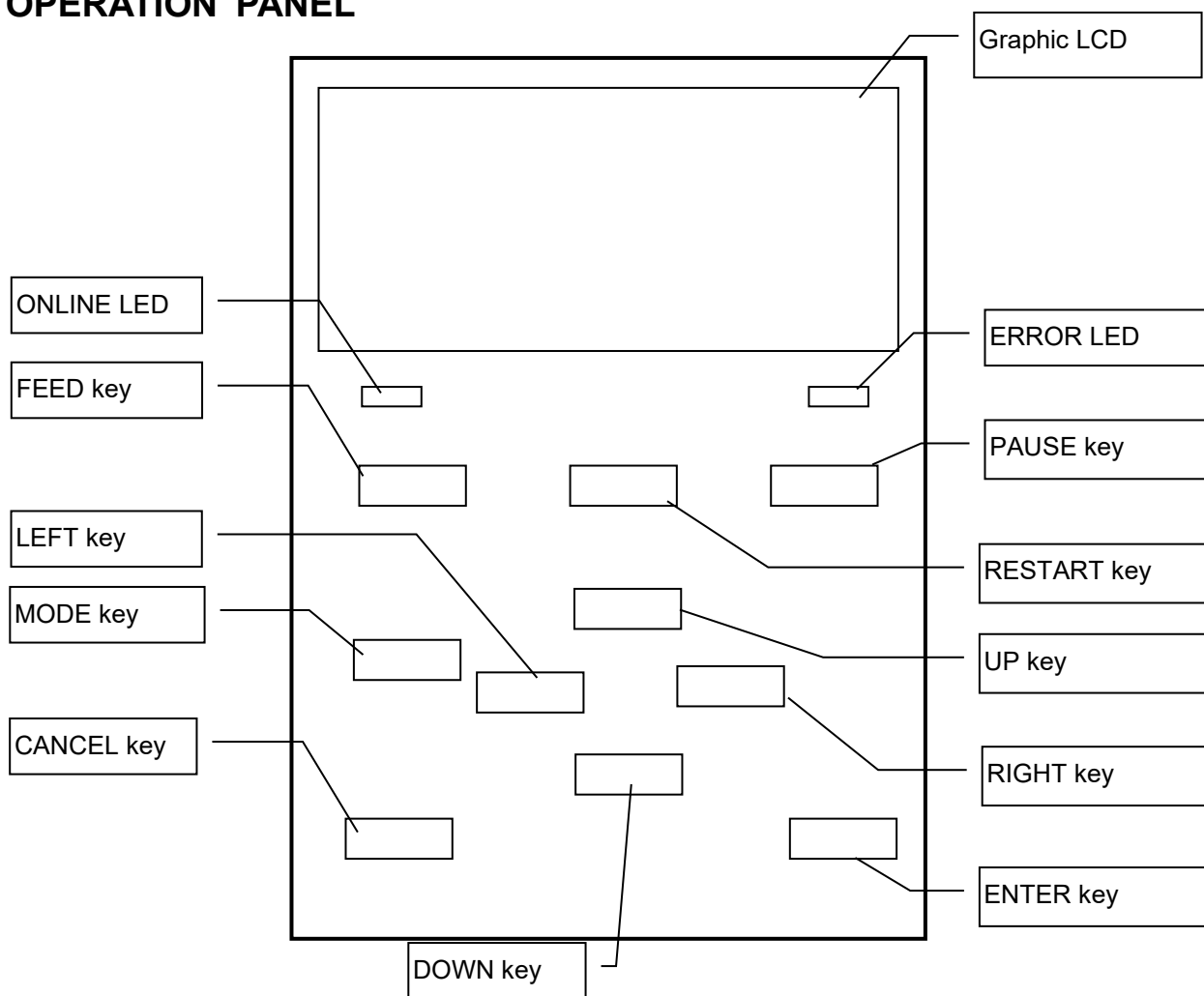
2 OUTLINE

Key operations are different depending on the printer mode: The online mode in which operations are carried out through the keys and error messages are displayed while the printer is connected to the host such as a PC, and the system mode in which self-diagnosis and setting of various parameters are performed.

This specification describes the key operation procedures with the printer keys and the LCD.

The names of the keys and LCD messages used in this specification are written in English.

3 OPERATION PANEL



4 OUTLINE OF EACH MODE

This chapter describes the outline of each mode supported by the printer. Refer to each chapter for detailed information.

4.1 ONLINE MODE

This mode is mainly used by users (operators).

The label or tag can be issued in the online mode. When an error occurs, the help function shows its cause, troubleshooting, and the recovery method. The threshold setting, described below, is also a part of the online mode.

4.1.1 Threshold setting mode

The threshold setting mode is provided to correct a print failure with pre-printed media.

When using pre-printed media, the print start positions may not be detected correctly with the usual media sensor threshold, depending on the ink type. Such errors can be prevented by setting the threshold just for the pre-printed media to be used. Since the threshold setting value is stored in the non-volatile memory, it is unnecessary to set the threshold again as long as the same pre-printed media is used.

4.1.2 RFID calibration mode

In the RFID calibration mode, the distance to the optimum tag write/read position and AGC value required for properly writing/reading data on/from RFID tags are obtained through a calibration, the obtained values are set on the printer automatically, and they are reflected in the printer operation.

To write/read data on/from RFID tags with the barcode printer, it was necessary manually to set a distance to the write/read position and an AGC value, used for detecting the target tag, with @003 command and in the system mode. However, these are automatically done in the RFID calibration mode.

4.1.3 Information mode

In the information mode, the total feed amount counted during the feeding and printing operations is displayed on the LCD or printed in units of centimeters and inches.

Printing of the feed amount is performed on request.

4.2 USER SYSTEM MODE

The user system mode is accessible from the online mode. This mode contains the menus which might be frequently changed mainly by users (administrators) or service technicians.

In addition to the menus such as parameter setting and fine adjustment common to those in the system mode, issue condition display function, manual threshold setting, and system tools menu in which the printer dumps received data are provided.

The values set in this mode are stored in the non-volatile memory.

4.3 SYSTEM MODE

The system mode is mainly used by service technicians or the production department staff for adjustment of the printer before shipment. This mode contains the menus which might not be changed so frequently. In addition to the parameter setting and fine adjustment menus common to the user system mode, there are sensor adjustment, interface, RFID, RTC and BASIC setting menus.

Furthermore, self-diagnosis, test printing, RAM clearing to initialize the printer settings, pre-shipment adjustment for factory use, and the menu which enables saving parameter settings, external characters, TPCL commands to the external USB memory or copying the data from the USB memory to the printer are provided. The values set in this mode are stored in the non-volatile memory.

4.4 DOWNLOAD MODE

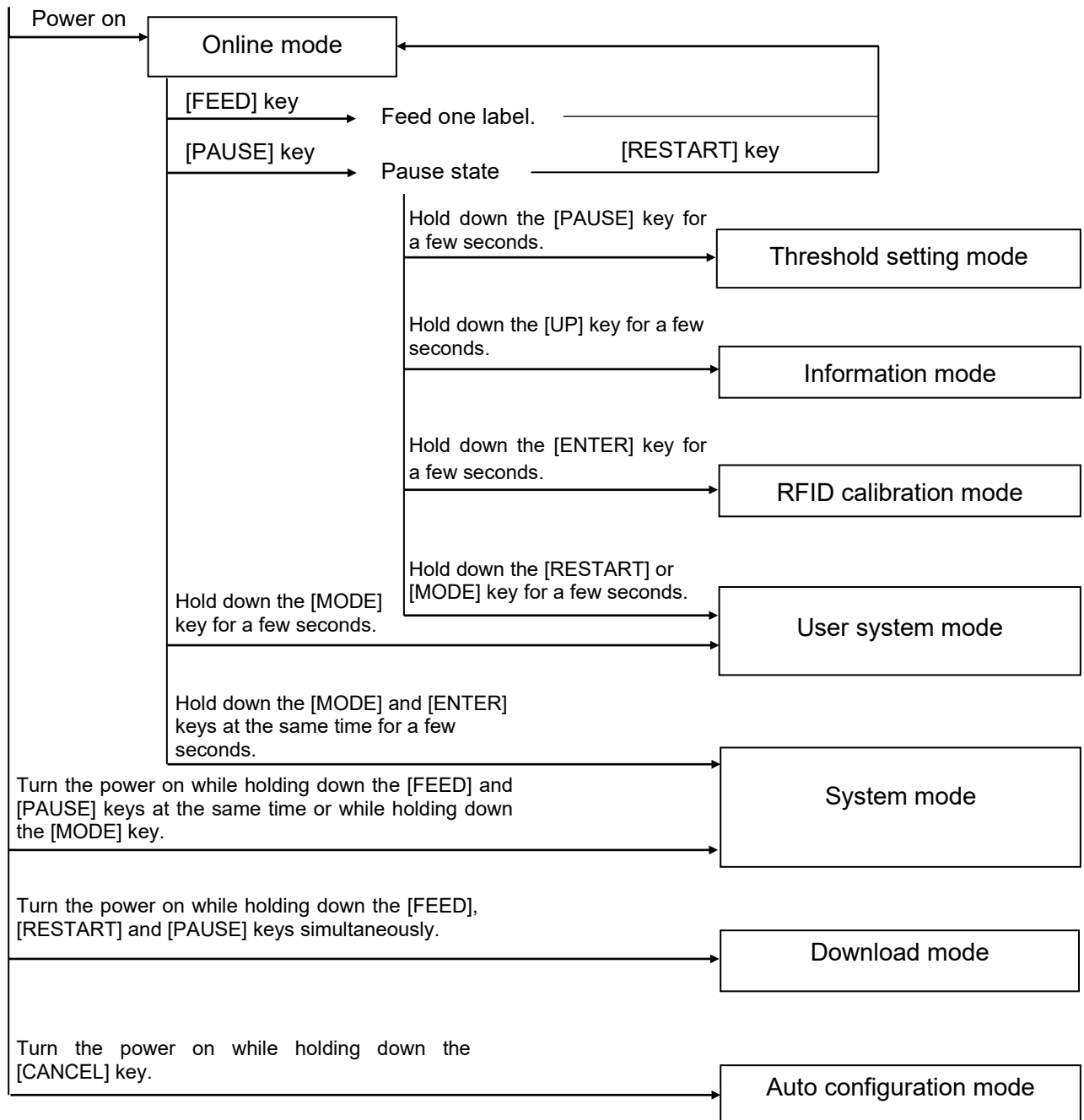
This mode is used to download boot and main program firmware.

4.5 AUTO CONFIGURATION MODE

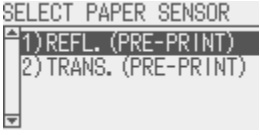
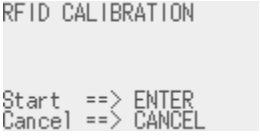
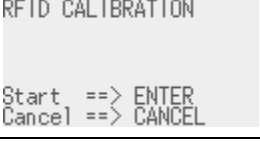
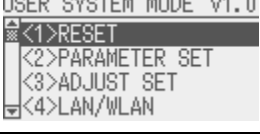
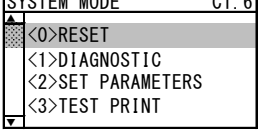
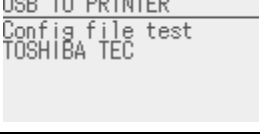
In this mode, the printer firmware is automatically updated with the program stored in a USB memory.

5 GENERAL VIEW OF KEY OPERATION

[Power OFF]



<Example of the LCD display>

Pause state	
Threshold setting mode	
RFID calibration mode	
Information mode	
User system mode	
System mode	
Download mode	
Auto configuration mode	

Tip:

1. To enter the download mode, system mode or auto configuration mode, keep holding down the specified key until each menu is shown.
2. Power off
When the power of the printer is turned off (the Power SW key is pressed), the ONLINE and ERROR LEDs synchronously flash (ON: 250ms, OFF: 250ms). When the LEDs are unlit, the printer power is turned off.
The printer power shall not be turned on again while these LEDs are flashing. Otherwise, "SYSTEM ERROR 02 POWER FAILURE" will be displayed, and the LCD message may be corrupted before the error message is displayed.
3. For the conditions to enter the auto configuration mode, refer to Section 12.2 Preparation for USB Memory.

6 ONLINE MODE

6.1 KEY FUNCTION

The printer behavior is not guaranteed when a undefined key is operated.

6.1.1 Online Mode Screen

Key	Function
[FEED]	(1) Feeds and ejects one piece of the media. This is also used to adjust the print start position of the media. If printing is attempted with the media improperly positioned, print data is not printed at the correct position. One or two pieces of the media need to be fed to adjust the print start position before printing. (2) Prints the data in the image buffer on one piece of the media according to the system mode setting. Note: Do not send a clear command or a drawing command to the printer from the host during printing by pressing the [FEED] key. Otherwise, the layout will be destroyed. Also, if printing is performed by pressing the [FEED] key while the data is being drawn in the image buffer, the layout may be destroyed. * For details of the following cases, refer to the parameter setting section. • How to issue the label stock having a label pitch of 25.4 mm or less in the cut issue mode when the disc cutter is used • How to issue the label stock having the minimum label pitch or less for each print speed in the cut issue mode when the rotary cutter is used * In the strip mode, the printer feeds labels even when the peel-off sensor is detecting a label. * When the Media Load parameter is enabled, media feeding is performed to find the print start position depending on the conditions. For details, refer to Section 9.5.1 MEDIA LOAD.
[RESTART]	(1) Resumes printing after a temporary stop of printing or after an error. (2) Places the printer in the initial state after startup. (3) Places the printer in the user system mode.
[PAUSE]	(1) Stops label printing temporarily. (2) Sets the threshold value.
[MODE]	(1) Places the printer in the user system mode.
[CANCEL]	(1) Clears the job.
[ENTER]	(1) Displays help messages. (2) Places the printer in the RFID calibration mode.
[UP]	(1) Places the printer in the information mode.
[DOWN]	(1) No function.
[LEFT]	(1) No function.
[RIGHT]	(1) Displays help messages.

6.1.2 Help Screen

Key	Function
[FEED]	(1) Ends the help message screen.
[RESTART]	(1) Ends the help message screen.
[PAUSE]	(1) Ends the help message screen.
[MODE]	(1) Ends the help message screen.
[CANCEL]	(1) Ends the help message screen. (2) Returns to the previous help page. (3) Ends the help message screen.
[ENTER]	(1) Ends the help message screen. (2) Goes to the next help page. (3) Ends the help message screen.
[UP]	(1) Moves the cursor upward.
[DOWN]	(1) Moves the cursor downward.
[LEFT]	(1) Returns to the previous help page. (2) Ends the help message screen.
[RIGHT]	(1) Goes to the next help page. (2) Ends the help message screen.

6.1.3 Manual Threshold Setting Screen

Key	Function
[FEED]	(1) Moves the cursor upward. (2) Re-sets.
[RESTART]	(1) Moves the cursor downward.
[PAUSE]	(1) Sets the threshold. (2) Fixes the selection.
[MODE]	No function.
[CANCEL]	Ends the manual threshold setting if it has not been performed yet.
[ENTER]	(1) Fixes the selection. (2) Ends the manual threshold setting.
[UP]	(1) Moves the cursor upward.
[DOWN]	(1) Moves the cursor downward.
[LEFT]	(1) Goes to the judgment result page. (2) Goes to the fine adjustment setting page.
[RIGHT]	(1) Goes to the detail page. (2) Goes to the fine adjustment setting page.

6.2 LED FUNCTION

[ONLINE] LED	Indicates that the printer is in the online state.
	Flashes when the printer is communicating with the host.
	Flashes (ON: 250 ms, OFF: 250 ms) in synchronization with the [ERROR] LED when the printer is turned off.
	Flashes in the power saving mode (ON: 1 sec., OFF: 1 sec.) (Note)
[ERROR] LED	Indicates that the printer is in error state.
	Flashes when a ribbon nearly end condition is detected (at a 1-second interval (ON: 500 ms, OFF: 500 ms).
	Flashes when a system error occurs (ON: 500 ms, OFF: 500 ms)
	Flashes (ON: 250 ms, OFF: 250 ms) in synchronization with the [ONLINE] LED when the printer is turned off.

Note: If the wireless LAN is being linked when the printer is off, both the [ONLINE] and [ERROR] LEDs are just turned on, not flash. (This operation is out of specification when the installed wireless LAN module is B-EX700-WLAN3-QM-S.)

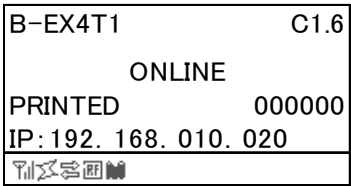
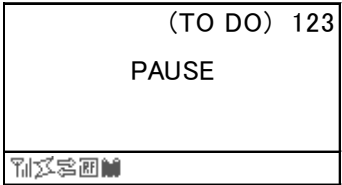
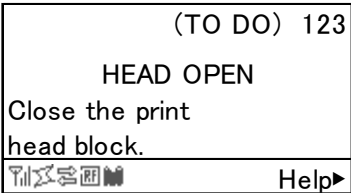
6.3 LCD FUNCTION

The LCD displays the messages which indicate the printer status.

LCD	Type	Graphics LCD
	Size	128 dots (W) x 64 dots (H)
	Display structure	Maximum of 21 digits x 5 lines

6.4 ONLINE MODE SCREEN

6.4.1 Online Mode Screen Example

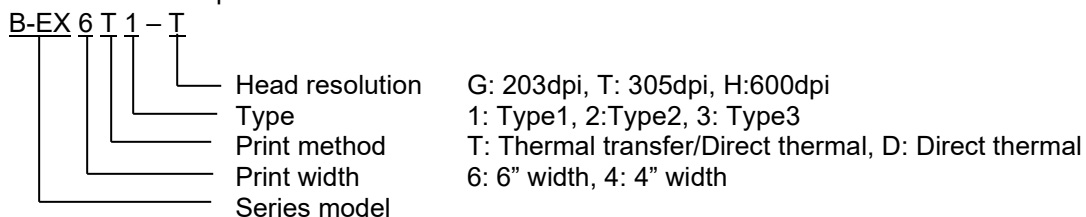
Printer condition	LCD	Description of each line
Online		← Model name, Firmware version (*5) ← Message ← Number of printed labels (*1) ← IP address etc. (*4) ← Icon
Pause		← Number of remaining labels to print (*2) ← Message ← 1 st line of the error message ← 2 nd line of the error message (*6) ← Icon
Head open		← Number of remaining labels to print (*2) ← Message ← 1 st line of the error message ← 2 nd line of the error message ← Icon, Help guide (*3)

Tip:

1. Whether to display or hide the 1st, 3rd and 4th lines of the online mode screen can be selected in the system mode.
2. Refer to Section 6.4.2 Icon Display for details.

Note:

1. The number of labels printed is the cumulative number of labels printed after the power of a printer is turned on. The number of labels printed is reset to zero when the printer is turned on. During an issue with the cut interval specified, the number of labels is updated when the labels are cut normally.
2. [The number of remaining labels to print] = [Specified number of labels to print] - [The number of normally printed labels before an error occurs or placing the printer in pause]
When the number of remaining labels to print is zero, it is not displayed. During an issue with the cut interval specified, the number of remaining labels is updated when the labels are cut normally.
3. The help guide is displayed only when an applicable help message exists.
4. The message displayed here is an IP address or supplemental information such as a ribbon nearly ending message.
 - When the LAN or WLAN setting is disabled, the IP address is not displayed even if this function is enabled in the system mode.
 - The ribbon nearly ending message is displayed when the corresponding situation is detected, regardless of whether this displaying has been enabled in the system mode.
A ribbon nearly ending situation is detected according to the diameter of the unused ribbon. The diameter of 38 mm is equivalent to a 30-meter ribbon and the diameter of 43 mm is equivalent to a 70-meter ribbon, respectively.
5. The model name description is as shown below.



6. While the printer is in the pause state, a ribbon nearly ending message may be displayed on this line. The condition of the display is the same as Note 4.

6.4.2 Icon

Five kinds of icons are displayed in the bottom line of the online mode screen.

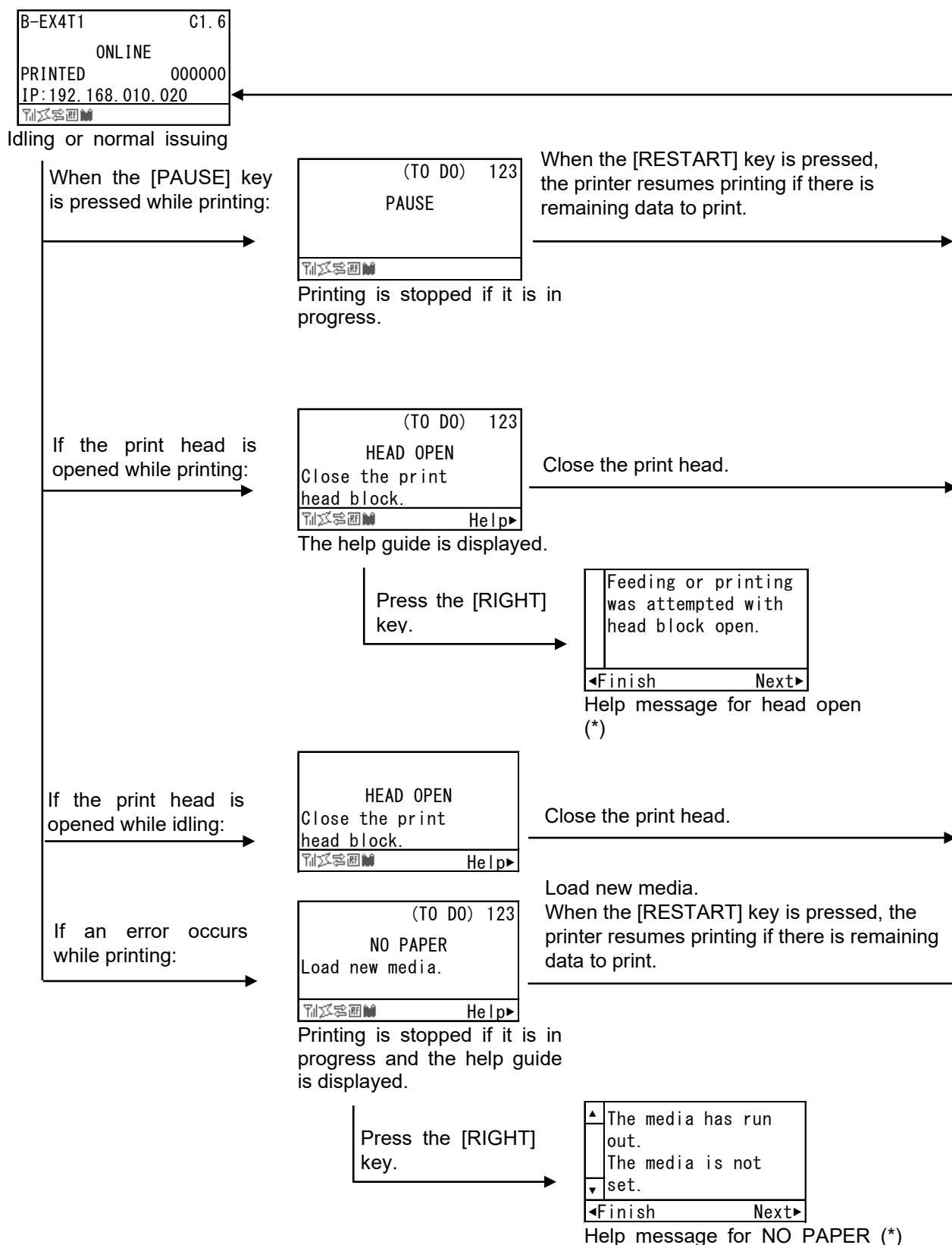
These icons are displayed only in the online mode screen.

Icon	Explanation
Wireless LAN icon	- Displayed and used when the wireless LAN module is installed. - The graph shows the radio field strength.  Graph 0: Outside the communication range  Graph 1: Radio field strength: Weak  Graph 2: Radio field strength: Middle  Graph 3: Radio field strength: Strong
Link icon	- Displayed and used when the wireless LAN module is installed. - Displayed while the printer is communicating by the wireless LAN. - Flashes while roaming.  OFF: No connection  ON: Connecting to an access point  Flashing: Roaming (*)
Data transmission icon	Appears when a print job is present.  ON: Print job is present.
RFID icon	- Displayed and used when the RFID module is installed. - Appears when the RFID module type has been set and a communication between the printer and the RFID module is enabled. - Flashes while communications and the operating sequence are made with the RFID module. - Communications without a radio wave output are included. - After the radio wave output has been applied to the module, this icon flashes even when there is no radio wave output. (Flashes while the module stops outputting radio waves under the influence of other carriers or while changing the channel.)  ON: Module type has been set and the printer is ready to communicate with the RFID module.  Flashing: Communicating
Ribbon near end icon	- A ribbon nearly ending situation is detected. - Flashes when the ribbon is close to its end. - A ribbon nearly ending situation is detected according to the diameter of unused ribbon. Ø38 mm is equivalent to a 30-meter ribbon and Ø43 mm is equivalent to a 70-meter ribbon.  Flashing: Ribbon nearly ending state (*)

Note:

- The icon flashes at 1-second intervals (ON: 500 msec, OFF: 500 msec).

6.4.3 Online Mode Screen Transition and Operation Example



Note:

1. The icon flashes at 1-second intervals (ON: 500 msec, OFF: 500 msec).

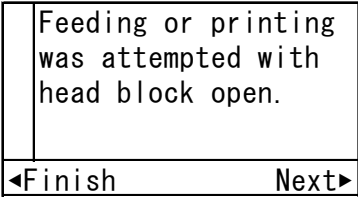
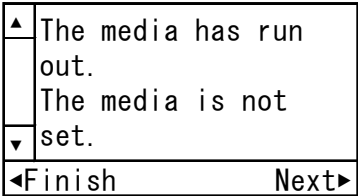
6.5 HELP SCREEN

6.5.1 Explanation of Help Screen

When "Help" is displayed at the lower right of the online mode screen, pressing the [RIGHT] or [ENTER] key causes a help message to be shown.

The help message is displayed on the upper four lines. When the message exceeds four lines, the up and down arrows are shown on the scrollbar on the left, and the hidden lines can be displayed by scrolling down.

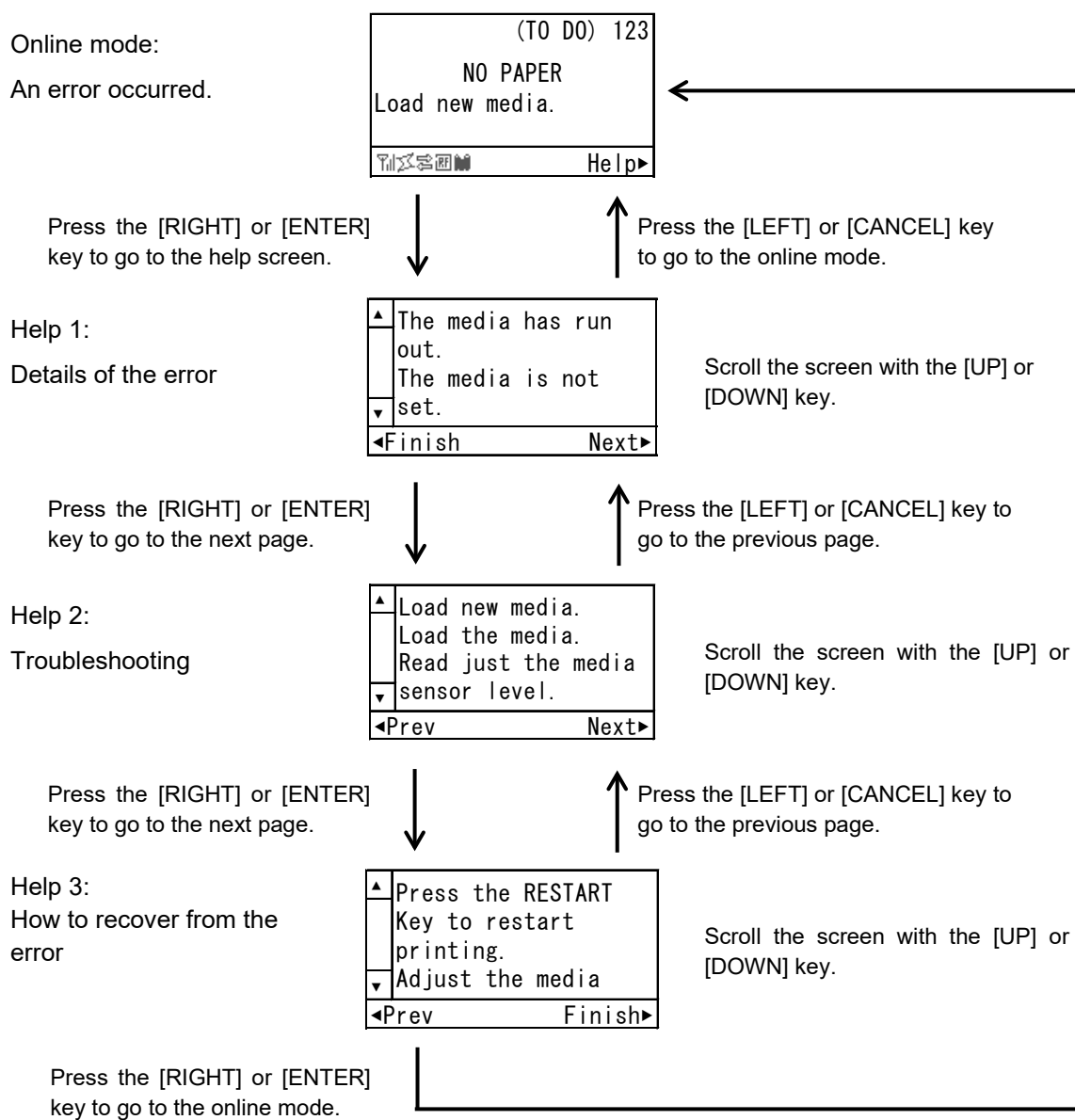
Example of the help message

Status	Display example		
Up to 4 lines			← 1 st line of help message ← 2 nd line of help message ← 3 rd line of help message ← 4 th line of help message ← Help guide
	Since the help message is within three lines, the scrollbar arrows are not shown.		
5 lines or more			← 1 st line of help message ← 2 nd line of help message ← 3 rd line of help message ← 4 th line of help message ← Help guide
	Since the help message exceeds four lines, the scrollbar arrows are shown.		

6.5.2 Help Screen Transition and Operation Example

The help screen consists of three pages, which are Help 1, Help 2 and Help 3.

Help 1 shows the details of the error, Help 2 shows the troubleshooting, and Help 3 shows how to recover from the error.



Note:

1. When a key other than above is pressed while Help 1 or Help 2 is displayed, the help screen is ended and returned to the online mode screen.

6.6 MANUAL THRESHOLD SETTING

6.6.1 Outline of Threshold Setting

When a label stock is printed, the printer automatically corrects the print position by detecting gaps between the labels by using a transmissive sensor to maintain a constant print position. However, when pre-printed media stock is used, print positions may not be detected correctly depending on the ink type used for preprints. In this case, it is required to set the transmissive sensor threshold manually through key operations and store the value in the non-volatile memory.

This threshold stored is used for printing by selecting “3: Transmissive Sensor (when using the pre-printed media)” for the sensor type of the issue command, and data is printed at a constant print position correctly since the print positions are detected based on this threshold.

When the media with black marks printed on the back side is used, the printer automatically corrects the print position by detecting those marks by using a reflective sensor. However, if there is a reflective rate variation on the media other than the black marks, the print position cannot be corrected properly. In this case, it is required to set the reflective sensor threshold manually through key operations and store the value in the non-volatile memory.

This threshold stored is used for printing by selecting “4: Reflective Sensor (when using the manual threshold value)” for the sensor type of the issue command, and data is printed at a constant print position correctly since the print positions are detected based on this threshold.

6.6.2 Threshold Setting Operation Example

1. Online mode:
Online state

B-EX4T1	C1. 6
ONLINE	
PRINTED	000000
IP: 192.168.010.020	

↓ Press the [PAUSE] key.

2. Online mode:
Pause state

PAUSE	

↓ Hold down the [PAUSE] key for 3 seconds.

3. Threshold setting:
Media sensor selection

SELECT MEDIA SENSOR	
▲	1) REFL. (PRE-PRINT)
	2) TRANS. (PRE-PRINT)
▼	

Move the cursor with the [UP] or [DOWN] key.

[CANCEL] key → “2. Pause state” (Threshold setting ends.)
“[FEED] + [RESTART]” keys are invalid in this state.

↓ Press the [ENTER] key.

4. Threshold setting:
Waiting for the media to be loaded

1) REFL. (PRE-PRINT)	
THRESHOLD MODE	
▲	Load the media.
	Press the PAUSE Key
▼	to start the

Scroll the screen with the [UP] or [DOWN] key.

[CANCEL] key → “2. Pause state” (Threshold setting ends.)
“[FEED] + [RESTART]” keys are invalid in this state.

↓ Press the [PAUSE] key.

5. Threshold setting:
Calibration

1) REFL. (PRE-PRINT)	
THRESHOLD MODE	
Calibrating	

Hold down the [PAUSE] key to keep feeding the media.

↓ Release the [PAUSE] key. (Media feeding stops.)

When the judgment result is OK, go to “6. Threshold setting”.

When the judgment result is NG, go to “7. Threshold setting”.

6. Threshold setting:
6a. Judgment result: OK
(After threshold setting)

1) REFL. (PRE-PRINT)	
Result: OK (Mid.)	
Threshold	
Baseline	
Retry FEED	Detail▶

[FEED] key → “3. Media sensor selection” (Threshold is set again.)

[ENTER] key → “2. Pause state” (Threshold setting is completed.)

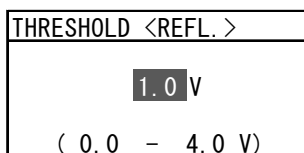
[RIGHT] key → “6b. Details of the result” (Result and the threshold value are displayed.)

- 6b. Details of the result

1) REFL. (PRE-PRINT)	
Peak	: 3.7V
Threshold	: 2.7V
Baseline	: 1.3V
◀Result	Adjust▶

↓ Press the [RIGHT] key.

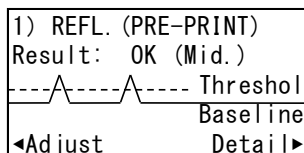
6c. Threshold fine adjustment



Operation is same as 9.7.4 THRESHOLD LEVEL.

Press any of the [PAUSE], [ENTER], or [CANCEL] key.

6d. Judgment result (After the fine adjustment)



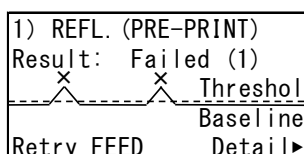
[LEFT] key → "6c. Threshold fine adjustment" (The threshold value is finely adjusted again.)

[ENTER] key → "2. Pause state" (Threshold setting is completed.)

[RIGHT] key → "6b. Details of the result" (Result and the threshold value are displayed.)

7. Threshold setting:

7a. Judgment result (NG)

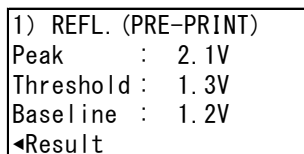


[FEED] key → "3. Media sensor selection." (Threshold is set again.)

[ENTER] key → "2. Pause state." (Threshold setting is completed.)

[RIGHT] key → "7b. Details of the result." (Result and the threshold value are displayed.)

7b. Details of the result



[LEFT] key: Go to "7a. Judgment".

The threshold setting judgment result is indicated with one of the following icon types.

No.	Display example	Icon name	Explanation
1		OK (Mid.)	The print position is detectable with the media sensor. The threshold is at the midpoint between the peak and the baseline.
2		OK (High)	The threshold is near the peak voltage, so the detection of a gap or black marks may fail if the difference between the threshold and the peak voltage is very small. (Adjusting the threshold to the midpoint between the peak and the baseline enables a more accurate detection.)
3		OK (Low)	The threshold is near the baseline voltage, so the detection of a gap or black marks may fail if the difference between the threshold and the base voltage is very small. (Adjusting the threshold to the midpoint between the peak and the baseline enables a more accurate detection.)
4		NG (1)	The print position is not detectable with the media sensor. Fine adjustment is necessary.
5		NG (1)	The print position is not detectable with the media sensor because the threshold ≤ Baseline. Fine adjustment is necessary.
6		NG (2)	The print position is not detectable with the media sensor. (Calibration may enable print position detection, but it is very difficult.)

Details of the result

Display example	Displayed item	Explanation
<pre> 1) REFL. (PRE-PRINT) Peak : 3.7V Threshold : 2.7V Baseline : 1.3V ◀Result Adjust▶ </pre>	• Sensor type • Peak value • Threshold voltage • Baseline voltage • Key operation guide	The calibration result and the threshold voltage are displayed. Pressing the [RIGHT] key enables setting a threshold fine adjustment value. Pressing the [LEFT] key returns the screen to the calibration result.

Tip:

1. The [PAUSE] key is invalid when it is released within 3 seconds while the printer is paused.
2. To set the threshold, 1.5 pieces or more label shall be fed. (If the label feed amount is insufficient, the threshold may not be properly set. In this case, the threshold setting needs to be retried.)
3. While the print head is lifted, the [PAUSE] key is invalid even if it is held down for 3 seconds or more.
4. When the print position is not corrected even after the threshold is set, the sensor adjustment may be insufficient. In this case, readjust the sensor in the system mode, and set the threshold.
(When the backing paper of the label is too thick, the transmissive sensor needs to be readjusted.)
In addition, make sure that “3: Transmissive sensor (when using the pre-printed media)” or “4: Reflective sensor (when using the manual threshold value)” is selected for sensor type of the feed command and the issue command.
5. Paper end and ribbon end are not detected during the threshold setting. (The setting continues as long as the [PAUSE] key is held down even if the printer runs short of media or ribbon.)
6. The detailed result of the calibration is shown when the [RIGHT] key is pressed while the judgment result is displayed. The measured sensor level and the currently programmed threshold fine adjustment value can be checked.
Fine adjustment value = Peak voltage – Threshold voltage
7. Pressing the [LEFT] key returns the detailed result to the judgment result display. Pressing the [RIGHT] key causes the screen to go to the threshold fine adjustment screen. This is the same menu with the threshold fine adjustment menu in section 9.7.4.1 REFLECT (Reflective sensor) or 9.7.4.2 TRANS. (Transmissive sensor).
8. After the threshold fine adjustment value is set, the screen returns to the result display.
9. While the result of the fine adjusted threshold setting is shown, pressing the [LEFT] key returns the screen to the threshold fine adjustment screen and pressing the [RIGHT] key shows the details of the result.
10. During the threshold setting, the media is fed at the same speed with that for the previous issue.
11. Whether the threshold setting succeeded or not can be checked with the following methods.

■ Media feeding with the [FEED] key

- 1) While the judgment result is displayed, press the [FEED] key to terminate the threshold setting.
→ The printer is placed in the pause state.
- 2) Press the [RESTART] key to clear the pause state.
→ The printer is placed in the online state.
- 3) Hold down the [MODE] key
→ The printer enters the system mode.
- 4) Select “<4>SENSOR” and “THRESHOLD SELECT”.
- 5) Select the applicable media sensor type (“REFLECT” or “TRANS.”) and press the [ENTER] key.
→ The selected sensor type menu is shown.
- 6) Select “MANUAL THRESHOLD”, press the [ENTER] key and then the [MODE] key.
→ The system mode menu is displayed.
- 7) Turn off the power and then back to on.
→ The printer is placed in the online state.

- 8) Press the [FEED] key to feed the media.
→ If a media jam occurs or the media does not stop at the print start position, retry the threshold setting.

■ Issue command sending

- 1) While the judgment result is displayed, press the [FEED] key to terminate the threshold setting.
→ The printer is placed in the pause state.
- 2) Press the [RESTART] key to clear the pause state.
→ The printer is placed in the online state.
- 3) Hold down the [MODE] key.
→ The printer enters the system mode.
- 4) Select "<4>SENSOR" and "THRESHOLD SELECT".
- 5) Select the same media sensor type with that specified by the issue command which is sent to the printer.

Sensor type in the issue command	Setting
0: No sensor	Whether the threshold setting succeeded or not cannot be checked.
1: Reflective sensor	Select "<4>SENSOR", "THRESHOLD SELECT" with the [UP] or [DOWN] key and press the [ENTER] key. Select "REFLECT". When the selected sensor type display is shown, select "MANUAL THRESHOLD" and press the [ENTER] key. * Select the media sensor type to the one for which the threshold was set.
2: Transmissive sensor (when using normal labels)	Select "TRANS". When the selected sensor type display is shown, select "MANUAL THRESHOLD" and press the [ENTER] key. * Select the media sensor type to the one for which the threshold was set.
3: Transmissive sensor (when using pre-printed media)	No setting is necessary.
4: Reflective sensor (when using a manual threshold value)	No setting is necessary.

- 6) Press the [MODE] key.
→ The system mode menu is displayed.
- 7) Turn off the power and then back to on.
→ The printer is placed in the online state.
- 8) Send the issue command to make the printer print.
→ If a media jam occurs or the media does not stop at the print start position, retry the threshold setting.

6.7 RFID CALIBRATION (Supported only for B-EX6T and B-EX4T1-QM)

The supported RFID modules and RFID tag types are as follows:

Module: B-EX6T1: B-EX706-RFID-U4-R

B-EX706-RFID-U4-EU/UA/AU-R

B-EX4T1: B-EX700-RFID-U4-EU/US/AU-R

Tag: Following tag type only (The others are unusable.)

- TSE Web (Supplier: SMARTRAC, Chip: NXP U-Code G2iL)



Tag name	Label pitch (mm)	Label length (mm)	Label width (mm)		Remarks
			Left	Right	
TSE Web	60	54	34		The dimensions on the left are actual measurement values.

6.7.1 Outline of the RFID Calibration

The RFID calibration is a function to determine automatically the distance to the optimum write/read position and the AGC value required for properly writing/reading data on/from RFID tags.

When the result of the RFID calibration is saved (by pressing the [ENTER] key) while the detected values are shown on the screen, the value obtained through the RFID calibration is set for the CALIB. AGC and CALIB. POSITION parameters in the system mode. In addition, the following parameters are automatically set.

CALIB. MODE: ON
POWER LEVEL: 4
Q VALUE: 4

Tip:

1. Note that the optimum write/read positions and AGC value obtained through the RFID calibration do not guarantee a perfect write/read, so they should be used as a guide.
2. Prior to the RFID calibration, be sure to perform the automatic calibration (User system mode → <2>SET PARAMETERS → CALIBRATE) to place the media at the print start position. In other words, the automatic calibration must be performed each time before performing the RFID calibration.
3. If the RFID calibration is performed without placing the media at the print start position, an improper value may be set, which may cause the error message "RFID WRITE ERROR" to be shown during writing/reading data or data to be written on/read with a wrong tag.
4. Be sure to select a usable antenna position in the system mode before performing the RFID calibration. Failure to do this may cause an improper value to be set, which may cause the error message "RFID WRITE ERROR" to be shown during writing/reading data or data to be written on/read with a wrong tag.

Antenna position set in the system mode	Actual RF antenna position		Application
	RF antenna rotation	Wave director position	
FRONT	0°	FRONT	Usable
CENTER			Unusable
REAR			Unusable

5. While the RFID calibration is performed, EPC data is written on a tag.

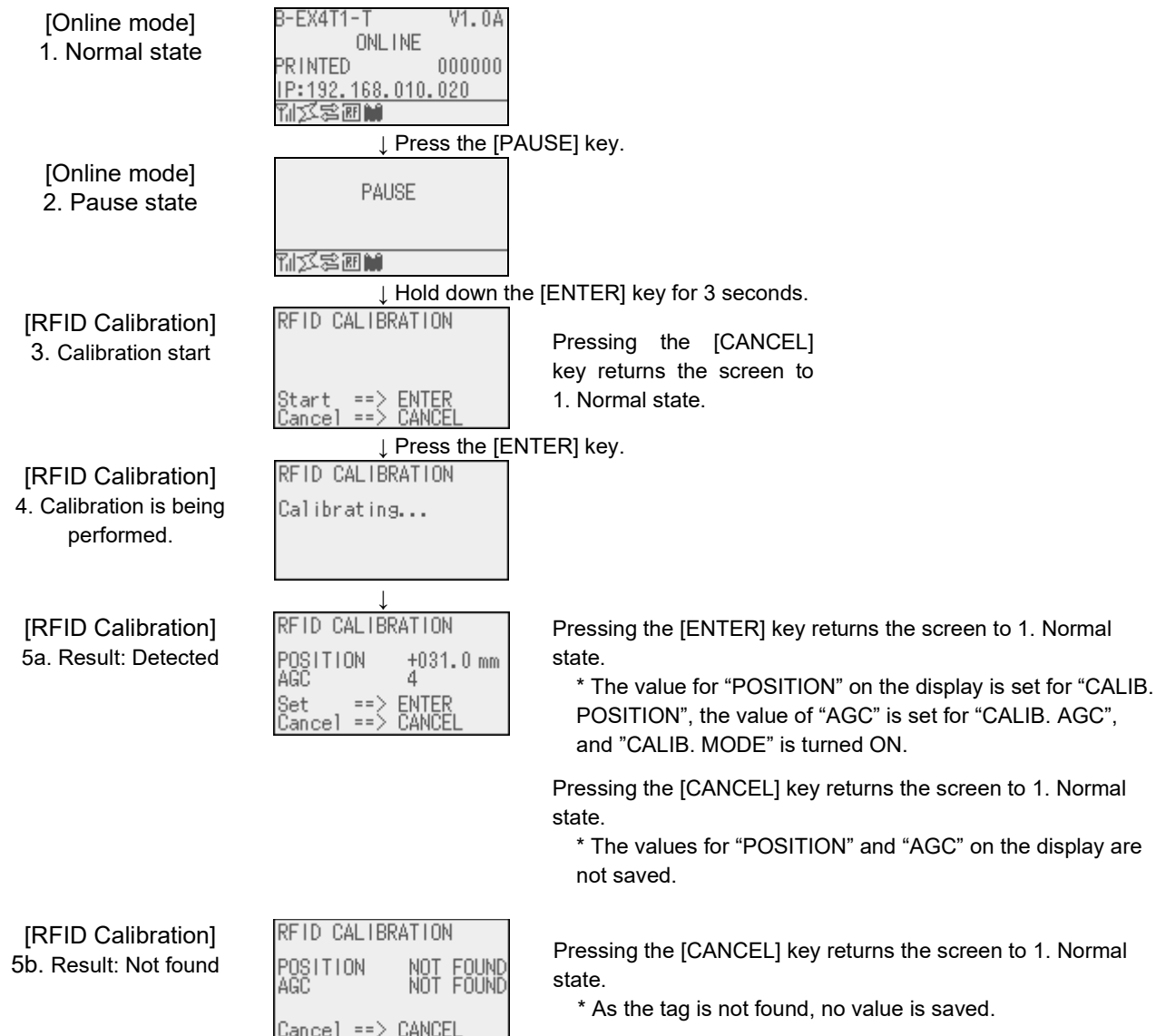
The data to be written is 5555AAAA5555AAAA5555AAAA (12 bytes).

If this data has already been written on a tag, the proper operation of the RFID calibration is not guaranteed. Therefore, once a tag undergoes the RFID calibration, this tag cannot be used for the RFID calibration again.

6.7.2 RFID Calibration Operation Example

Note: Be sure to complete the following items before performing the RFID calibration.

1. Select a usable antenna position in the system mode. (Refer to Section 6.7.1 Outline of the RFID Calibration.)
2. Place the RFID media at the print start position in advance by performing the automatic calibration.



Tip:

1. The position and AGC value obtained through the RFID calibration are the optimum read/write position and the optimum AGC value for the media at the print start position.
2. The [ENTER] key is invalid when it is released within 3 seconds in the pause state.
3. After performing the RFID calibration, the printer returns the RFID media to the print start position.
4. When the MOVE TO TEAROFF parameter is set to ON, the RFID calibration can be performed. In this case, the printer feeds the RFID media to the print start position temporarily, performs the RFID calibration and then returns the media to the former position.
5. If an engine-related error (such as print head open, media end, ribbon end, and ribbon nearly end) occurs during the RFID calibration, the printer stops at the position where the error occurs. Therefore, the media does not return to the print start position (or the forwarded position in the case the MOVE TO TEAROFF parameter is ON). In this case, the "5b. Result Not found" screen is displayed.
6. The RFID calibration is inoperable in the strip issue mode.
7. Do not send a command to the printer while the RFID calibration is being performed. Otherwise, the printer operation is not guaranteed.

6.8 INFORMATION MODE

6.8.1 Outline of the Information Mode

In the information mode, the total feed amount counted during feeding and printing operations is displayed on the LCD in units of centimeters and inches, and printed on request.

The feed amount is counted at the end of feeding or printing, and saved in the non-volatile memory.

Remarks:

1. The effective range of the feed amount^(*) is as follows. When the feed amount exceeds the effective range, the maximum value will be saved.
In unit of centimeters: 0 to 320000000
In unit of inches: 0.0 to 125984251.9
2. In the following cases, feeding or printing is not counted in this feed amount^(*).
Reverse feeding, forward feeding to the strip position, pre-strip feeding, auto forward feeding, void printing on RFID media, RFID tag position adjustment command (@003 command), pre-reverse feeding when an expansion I/O device is connected, printing in the offline mode (such as diagnosis test printing, maintenance counter printing, test printing, and dump printing), printing in the information mode, feeding for manual threshold setting, automatic calibration, RFID calibration
3. Since the feed amount^(*) is counted based on the label pitch specified by the command, a large margin of error may be generated if the command-specified label pitch differs from the actually-measured label pitch.
4. Since the counted feed amount is saved in the non-volatile memory (EEPROM), its replacement is prohibited. (Except for the case when the main PC board is replaced with a service part.)

(*) : Feed amount counted in the information mode

6.8.2 Information Mode Operation Example

[Online mode]
1. Normal state

B-EX4T1	C1. 6
ONLINE	
PRINTED	000000
IP: 192. 168. 010. 020	
	

↓ Press the [PAUSE] key.

[Online mode]
2. Pause state

PAUSE	
	

↓ Hold down the [UP] key for 3 seconds.

[Information mode]
3. Feed amount
displayed

BCP_COUNTER	
477984cm	
188182. 5inch	
PUSH ENTER OR CANCEL	

Pressing the [CANCEL] key returns
the screen to 1. Normal state.

↓ Press the [ENTER] key.

[Online mode]
4. Printing is
performed.

B-EX4T1	C1. 6
ONLINE	
PRINTED	000000
IP: 192. 168. 010. 020	
	

After printing is finished, the screen
returns to 1. Normal state.

Tip:

1. When printing is performed in this mode, a quick reset is performed.

Performing a quick reset causes the print count (number of labels issued) to be reset to zero and the image buffer to be cleared. When the automatic calibration is enabled, it is performed after the quick reset. When the automatic call at the power on parameter is enabled in the saved data call command, saved data will be called after a quick reset.

2. Previous print conditions are applied to the printing performed in this mode, except:

Print orientation

When the mirror printing has been specified, only this is not performed. Therefore, the bottom first mirror printing and top first mirror printing will be changed to bottom first printing and top first printing, respectively.

Effective print width and X-coordinate fine adjustment

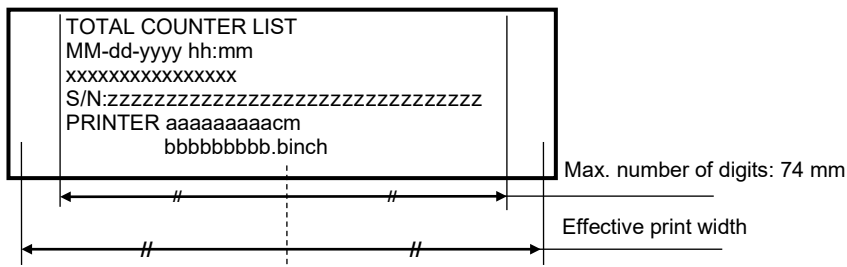
When the feed amount to be printed reaches the maximum number of digits (74 mm), the print position will be center-aligned.

3. Before shifting to the information mode, make sure that the printer has not received any commands related to feeding or drawing. If the printer has received such commands, printing will not be performed and the printer will return to the normal state. At this time, a quick reset will not be performed.
4. Do not send a command to the printer in the information mode.

6.8.3 Information Mode Print Sample

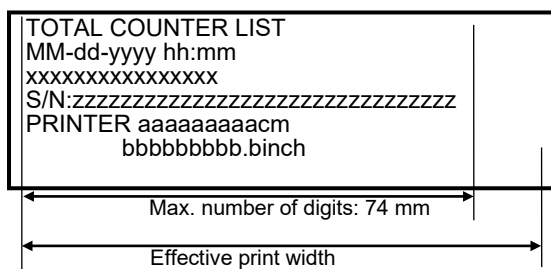
<<Print sample>>

B-EX6T1/T3, B-EX4T1-QM/CN: Max. number of digits: 74 mm, Center-aligned



B-EX4T2/4D2 : Max. number of digits : 74 mm, Left-aligned

<Supported models> B-EX4T2、B-EX4T2-H、B-EX4D2



<Print data>

Item	Information		Range
1st line	Title		TOTAL COUNTER LIST
2nd line	Date and time (*1)	MM: Month	01 to 12
		dd: Day	01 to 31
		yyyy: Year	2000 to 2099
		hh: Hour	00 to 23
		mm: Minute	00 to 59
3rd line	Model	B-EX6T1-QM/CN 203 dpi	B-EX6T1-G
		B-EX6T1-QM/CN 305 dpi	B-EX6T1-T
		B-EX6T3-QM/CN 203 dpi	B-EX6T3-G
		B-EX6T3-QM/CN 305 dpi	B-EX6T3-T
		B-EX4T1-QM/CN 203 dpi	B-EX4T1-G
		B-EX4T1-QM/CN 305 dpi	B-EX4T1-T
		B-EX4T2 203dpi	B-EX4T2-G
		B-EX4T2 300dpi	B-EX4T2-T
		B-EX4T2-H 600dpi	B-EX4T2-H
		B-EX4D2 203dpi	B-EX4D2-G
4th line	Serial number (*2)		11 to 32-digit alphanumeric characters (A to Z, a to z, 0 to 9, space, hyphen)
5th line	Feed amount in the information mode (unit: cm)		0 to 320000000
6th line	Feed amount in the information mode (unit: inch)		0 to 125984251.9

Tip:

1. When an optional real time clock is not installed, data areas in this line will be blank.
(E.g: “ - - : “.)
2. In the case a serial number has never been registered to the printer, the MAC address of a wired LAN is printed without delimiters. If the MAC address of a wired LAN cannot be obtained, this line will be blank.

6.9 JOB CANCELLATION

6.9.1 Outline of the Job Cancellation

The [CANCEL] key enables cancellation of subsequent print jobs.

Holding down the [CANCEL] key for 3 seconds while the printer is in an error* or pause state causes the printer to start a quick reset and shift to the online mode.

As long as the [CANCEL] key is held down, the data in the receive buffer is all discarded.

Job cancellation is finished when the [CANCEL] key is released, and the printer is restored to the normal state.

Tip:

1. Errors which can be recovered by pressing the [RESTART] key
For details, refer to Section 6.10 LCD MESSAGES AND LED INDICATIONS.
2. A command error may occur if the [CANCEL] key is released before all the received data has been discarded.

6.9.2 Job Cancellation Operation Example

[Online mode]
1. Normal state

B-EX4T1-T	C1. 6
ONLINE	
PRINTED	000000
IP:192.168.010.020	

↓ Occurrence of an error or press the [PAUSE] key.

[Online mode]
2-1. Error state

(TO DO)	3
PAPER JAM	
A media feed error occurred.	
Help▶	

Error state

2-2. Pause state

(TO DO)	3
PAUSE	

Pause state

↓ Hold down the [CANCEL] key for 3 seconds.

[Online mode]
3. Job cancellation
after a quick reset

PAUSE	
-------	--

While the [CANCEL] key is held down, received data is discarded.

↓ Release the [CANCEL] key.

[Online mode]
4. Normal state

B-EX4T1-T	C1. 6
ONLINE	
PRINTED	000007
IP:192.168.010.020	

The printer restores to the normal state in the online mode.

6.10 LCD MESSAGES AND LED INDICATIONS

No	LCD Message 2 nd line	LED indications		Printer status	Restoration by the [RESTART] key Yes/No	Acceptance of status request and reset command Yes/No
		ON LINE	ERROR			
1	ONLINE	○	●	In the online mode	---	Yes
		⊙	●	In the online mode (Communicating)	---	Yes
		○	⊙	In the online mode with a ribbon nearly end detected (Note 1)	---	Yes
2	HEAD OPEN	●	●	Feeding or issuing was attempted with the head opened.	---	Yes
		●	⊙	Feeding or issuing was attempted with the head opened in the ribbon nearly end state. (Note 1)	---	Yes
3	PAUSE	●	●	In the pause state	Yes	Yes
		●	⊙	In the pause state with the ribbon nearly end detected (Note 3)	Yes	Yes
4	COMMS ERROR	●	○	A parity error or framing error has occurred during communication by RS-232C.	Yes	Yes
5	PAPER JAM	●	○	▪ A media jam occurred during feeding. ▪ The media is not set properly. ▪ The media actually used and the selected media sensor type do not match. ▪ The media sensor position does not align with the black mark position. ▪ The actual media size and the specified media length do not match. ▪ The media sensor level is not suitable for the actual media. ▪ The gap of the pre-printed media cannot be detected.	Yes	Yes
6	CUTTER ERROR	●	○	▪ A media jam occurred in the cutter. ▪ The cutter did not move from the home position. ▪ The cutter cover was open.	Yes	Yes
7	NO PAPER	●	○	▪ The media has run out. ▪ The media has not been set. ▪ The media sensor level is not suitable for the media used.	Yes	Yes
8	NO RIBBON	●	○	The ribbon has run out.	Yes	Yes
9	HEAD OPEN	●	○	Feeding or issuing was attempted with the head opened. (Except media feeding caused by the [FEED] key or Expansion I/O)	Yes	Yes
10	HEAD ERROR	●	○	▪ A broken dot error has occurred in the thermal head. ▪ An error has occurred in the head driver.	Yes	Yes
11	EXCESS HEAD TEMP	●	○	The thermal head temperature has become excessively high.	No	Yes

12	RIBBON ERROR	●	○	- An abnormal condition occurred with the sensor for determining the torque of the ribbon motor. - A ribbon jam occurred. - The ribbon has been torn. - The ribbon has not been set.	Yes	Yes
13	REWIND FULL	●	○	An overflow error has occurred in the rewinder unit.	Yes	Yes
14	SAVING #####KB/####KB or SAVING %,%%%,.%%%,KB	○	●	External characters or PC command saving mode	---	Yes
15	FORMAT #####KB/####KB or FORMAT %,%%%,.%%%,KB	○	●	Initializing the storage area	---	Yes
16	NOW LOADING...	○	●	Downloading TrueType font or BASIC program	---	Yes
17	SETTING MODE	○	●	In the setting mode	-	No
18	MEMORY WRITE ERR.	●	○	An error has occurred while writing data into the memory for a storage. (USB memory or flash ROM on the CPU board)	No	Yes
19	FORMAT ERROR	●	○	An erase error has occurred while formatting the memory for a storage. (USB memory or flash Rom on the CPU board)	No	Yes
20	MEMORY FULL	●	○	Saving failed because of the insufficient capacity of the memory for a storage. (USB memory or flash ROM on the CPU board)	No	Yes
21	SYNTAX ERROR Command error (Refer to Notes 1 and 2)	●	○	A command error has occurred while analyzing the command.	Yes	Yes
22	POWER FAILURE	●	○	A momentary power interruption has occurred. (The LCD message may corrupt before the error message is displayed.)	No	No
23	EEPROM ERROR	●	○	A backup EEPROM cannot be read/write properly.	No	No
24	SYSTEM ERROR	●	○	When any abnormal operations as below are performed (a) Command fetch from an odd address (b) Access to the word data from a place other than the boundary of the word data (c) Access to the long word data from a place other than the boundary of the long word data (d) Access to the area of 80000000H to FFFFFFFFH in the logic space in the user system mode (e) Undefined command placed in other than the delay slot has been decoded. (f) Undefined command in the delay slot has been decoded. (g) Command to rewrite the delay slot has been decoded.	No	No

25	DHCP CLIENT INIT...	●	●	Initializing DHCP CLIENT * Only when DHCP is enabled	---	---
26	RFID WRITE ERROR	●	○	The printer failed in writing data onto the RFID tag after having retried for the specified times.	Yes	Yes
27	RFID ERROR	●	○	The printer cannot communicate with the RFID module.	No	Yes
28	INPUT PASSWORD	●	●	The printer is waiting for an entry of a password.	No	No
29	PASSWORD INVALID	●	●	A wrong password was entered consecutively for three times.	No	No
30	RFID CONFIG ERR	●	○	B-EX700-RFID-U2-EU/US-R, B-EX700-RFID-U4-EU/US-R, U4 module preinstall model only The destination code of the RFID module is not specified.	No	No
31	LOW BATTERY (Refer to Notes 4 and 5)	●	○	The RTC battery is low.	No	Yes
32	INTERNAL COM ERR	●	●	A hardware error has occurred in the internal serial interface.	No	No

Explanation of symbols

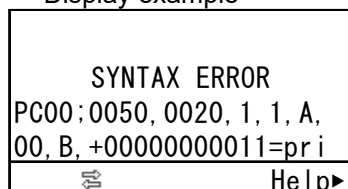
Symbol	Explanation	Range
○:	ON	---
⊙:	Blinking	---
●:	OFF	---
%%,%%%,%%%:	Remaining memory size of the external USB memory	0 to 09,999,999 (Kbyte)
####:	Remaining memory size for the PC command storage area in the internal memory	0 to 3072 (Kbyte)
&&&&:	Remaining memory size for the writable character storage area	0 to 3147 (Kbyte)

Note:

1. When the ribbon nearly ending detection is enabled, the error LED blinks at 1-second intervals (ON for 500 msec, OFF for 500 msec) while the printer is in the ribbon nearly ending state.
2. When there is a command error in received commands, up to 42 bytes of error command, starting from the command code, are shown on the 3rd and 4th lines of the LCD.

(However, [LF] and [NUL] are not displayed. Also, 43 bytes and later are not displayed.)

Display example

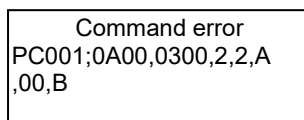


(Example 1)

[ESC] PC001;0A00,0300,2,2,A,00,B [LF][NUL]

Command error

LCD

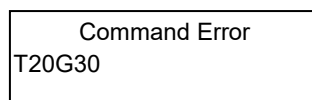


(Example 2)

[ESC] T20G30 [LF][NUL]

Command error

LCD

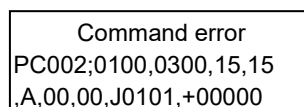


(Example 3)

[ESC] PC002;0100,0300,15,15,A,00,00,J0101,+000000000A,Z10,P1 [LF][NUL]

Command error

LCD



3. When a command error is displayed, codes other than 20H through 7FH and A0H through DFH are displayed as "?" (3FH).
4. The battery check does not work when the printer is being reset and the RTC is not installed.
5. It is necessary to follow the procedure below to use the RTC function under a low battery condition:
Turn off the power of the printer while it is in an error state. Turn on the power of the printer in the system mode, set the date and time for the RTC again, then reset the printer to place the printer in the online state.
* The printer can print the programmed date and time until it is turned off.

LCD message (2nd line)

No	English
1	ONLINE
2	HEAD OPEN
3	PAUSE
4	COMMS ERROR
5	PAPER JAM
6	CUTTER ERROR
7	NO PAPER
8	NO RIBBON
9	HEAD OPEN
10	HEAD ERROR
11	EXCESS HEAD TEMP
12	RIBBON ERROR
13	REWIND FULL
14	SAVING #####KB/####KB
	SAVING %,%%%,%%%,%%KB
15	FORMAT #####KB/####KB
	FORMAT %,%%%,%%%,%%KB
16	NOW LOADING...
17	SETTING MODE
18	MEMORY WRITE ERR.
19	FORMAT ERROR
20	MEMORY FULL
21	SYNTAX ERROR
22	POWER FAILURE
23	EEPROM ERROR
24	SYSTEM ERROR
25	DHCP CLIENT INIT...
26	RFID WRITE ERROR
27	RFID ERROR
28	INPUT PASSWORD
29	PASSWORD INVALID
30	RFID CONFIG ERR
31	LOW BATTERY
32	INTERNAL COM ERR

No	German
1	ONLINE
2	Kopf offen.
3	PAUSE
4	Kommunikations-Fehler
5	PAPIERSTAU
6	Messer Fehler
7	Kein Papier.
8	KEIN FARBBAND
9	Kopf offen.
10	Kopf Fehler
11	Kopftemp. zu hoch
12	FARBBAND FEHLER
13	AUFWICKLER VOLL
14	SAVING #####KB/####KB
	SAVING %,%%%,%%%,%%KB
15	FORMAT #####KB/####KB
	FORMAT %,%%%,%%%,%%KB
16	NOW LOADING...
17	SETTING MODE
18	MEMORY WRITE ERROR
19	FORMAT ERROR
20	Speicher voll
21	SYNTAX ERROR
22	POWER FAILURE
23	EEPROM Fehler
24	SYSTEM ERROR
25	DHCP CLIENT INIT...
26	RFID WRITE ERROR
27	RFID FEHLER
28	INPUT PASSWORD
29	PASSWORT ungültig
30	RFID CONFIG Error
31	Batterie schwach
32	INTERNAL COMM ERROR

No	French
1	PRETE
2	TÊTE OUVERTE
3	PAUSE
4	ERREURS DE COMMUNICAT
5	BOURRAGE PAPIER
6	ERREUR MASSICOT
7	PAS DE PAPIER
8	PAS DE RUBAN
9	TÊTE OUVERTE
10	ERREUR DE TÊTE
11	TETE TROP CHAUDE
12	ERREUR RUBAN
13	REENROULEUR PLEIN
14	SAUVE #####KB/####KB
	SAUVE %,%%%,%%%,%%KB
15	FORMAT #####KB/####KB
	FORMAT %,%%%,%%%,%%KB
16	CHARGEMENT ...
17	MODE REGLAGES
18	ERR. ECRITURE MÉMOIRE
19	ERREUR DE FORMAT
20	MÉMOIRE PLEINE
21	ERREUR DE SYNTAXE
22	ERREUR D'ALIMENTATION
23	ERREUR EEPROM
24	ERREUR SYSTÈME
25	INIT CLIENT DHCP ...
26	ERREUR ECRITURE RFID
27	ERREUR RFID
28	INPUT PASSWORD
29	MOT DE PASSE INVALIDE
30	ERREUR CONFIG. RFID
31	BATTERIE FAIBLE
32	ERREUR COMM. INT.

No	Dutch	No	Spanish
1	IN LIJN	1	PREPARADA
2	PRINTKOP OPEN.	2	CABEZAL ABIERTO
3	PAUZE	3	PAUSA
4	COMMUNICATIE FOUT	4	ERROR DE COMUNICACION
5	PAPIER STORING.	5	ATASCO DE PAPEL
6	FOUT SNIJMES	6	ERROR DE CORTADOR
7	GEEN PAPIER	7	SIN PAPEL
8	GEEN LINT	8	SIN CINTA
9	PRINTKOP OPEN.	9	CABEZAL ABIERTO
10	FOUT PRINTKOP	10	ERROR DE CABEZAL
11	PRINTKOP OVERHIT.	11	EXCESO TEMP. CABEZAL
12	LINT FOUT	12	ERROR DE CINTA
13	OPROLEENHEID VOL	13	REBOBINADOR LLENO
14	OPSLAAN #####KB/####KB	14	SALVAR #####KB/####KB
	OPSLAAN %,%%%,%%%,%%%,%%KB		SALVAR %,%%%,%%%,%%%,%%KB
15	FORMAT #####KB/####KB	15	FORMATO #####KB/####KB
	FORMAT %,%%%,%%%,%%%,%%KB		FORMATO %,%%%,%%%,%%%,%%KB
16	LADEN . . .	16	CARGANDO...
17	INSTEELMODUS	17	MODO CONFIG.
18	MEM SCHRIJF FOUT	18	ERROR DE ESCRITURA
19	FORMAT FOUT	19	ERROR DE FORMATO
20	GEHEUGEN VOL	20	MEMORIA LLENA
21	SYNTAX FOUT	21	ERROR DE SINTAXIS
22	VOEDING FOUT	22	FALLO DE ALIMENTACION
23	FOUT EEPROM	23	ERROR EN LA EEPROM
24	SYSTEEM FOUT.	24	ERROR DE SISTEMA
25	INIT CLIENT DHCP	25	INIC. CLIENTE DHCP...
26	SCHRIJFFOUT RFID	26	ERROR ESCRITURA RFID
27	RFID FOUT	27	ERROR EN RFID
28	INPUT PASSWORD	28	INPUT PASSWORD
29	ONGELDIG PASWOORD	29	CONTRASEÑA NO VALIDA
30	RFID CONFIG. FOUT	30	ERROR DE CONFIG. RFID
31	LAGE BATTERIJ.	31	BATERIA BAJA
32	INTERNE COMM. FOUT	32	ERR INTERNO COMUNIC.

No	Italian
1	On Line
2	Testina Aperta
3	PAUSA
4	Errore Seriale
5	Carta inceppata
6	Errore Taglierina
7	Manca Carta
8	Manca Nastro
9	Testina Aperta
10	ERRORE TESTINA
11	Temp. testa alta
12	ERRORE NASTRO
13	REWINDER PIENO
14	SALVA #####KB/#####KB
	SALVA %%,%%%,%%%,%%%,%%KB
15	FORMAT #####KB/#####KB
	FORMAT %%,%%%,%%%,%%%,%%KB
16	CARICAMENT
17	Configurazione
18	Err. Scritt. memoria
19	ERRORE FORMATTAZIONE
20	Memoria piena
21	SYNTAX ERROR
22	ERRORE ALIMENT.
23	Errore EEPROM
24	SYSTEM ERROR
25	DHCP CLIENT INIT...
26	RFID WRITE ERROR
27	RFID ERROR
28	INPUT PASSWORD
29	PASSWORD ERRATA
30	RFID CONFIG ERR
31	BATTERIA BASSA
32	Errore Comm Interna

No	Portuguese
1	PREPARADA
2	CABECA ABERTA
3	PAUSA
4	ERRO DE COMUNICACAO
5	PAPEL ENCRAVADO
6	ERRO DE CORTADOR
7	SEM PAPEL
8	SEM FITA
9	CABECA ABERTA
10	ERRO DE CABECA
11	EXCESSO TEMP. CABECA
12	ERRO DE FITA
13	REBOBINADOR CHEIO
14	SALVAR #####KB/#####KB
	SALVAR %%,%%%,%%%,%%%,%%KB
15	FORMATO #####KB/#####KB
	FORMATO %%,%%%,%%%,%%%,%%KB
16	A CARREGAR...
17	MODO CONFIG.
18	ERRO DE ESCRITA
19	ERRO DE FORMATO
20	MEMORIA CHEIA
21	ERRO DE SINTAXE
22	FALHA DE ALIMENTACAO
23	ERRO NA EEPROM
24	ERRO DE SISTEMA
25	INIC. CLIENTE DHCP...
26	ERRO ESCRITA RFID
27	ERRO EM RFID
28	INPUT PASSWORD
29	SENHA INVALIDA
30	ERRO DE CONFIG. RFID
31	POUCA BATERIA
32	ERR INTERNO COMUNIC.

No	Chinese
1	ONLINE
2	打印头打开
3	暂停
4	通讯错误
5	卡纸
6	切刀错误
7	缺纸
8	无碳带
9	打印头打开
10	打印头错误
11	过高打印头温度。
12	碳带错误
13	回卷器满
14	保存 #####KB/#####KB
	保存 %%,%%%,%%%,%%%,%%KB
15	格式化 #####KB/#####KB
	格式化 %%,%%%,%%%,%%%,%%KB
16	正在加载...
17	设置模式
18	内存写入错误
19	格式化错误
20	内存满
21	语法错误
22	电源故障
23	EEPROM 错误
24	系统错误。
25	DHCP 客户端初始化...
26	RFID 写入错误
27	RFID 错误
28	INPUT PASSWORD
29	密码无效
30	RFID 配置错误
31	电量低
32	内部通讯错误

No	Korean
1	온라인
2	헤드 열림
3	PAUSE
4	통신 에러.
5	용지 잼
6	커터 에러
7	종이가 없습니다.
8	리본이 없습니다.
9	헤드 열림
10	써멀헤드 에러.
11	헤드 이상 과열.
12	리본 에러
13	리와인더에 가득 참
14	등록 #####KB/#####KB
	등록 %%,%%%%%%%%KB
15	초기화 #####KB/#####KB
	초기화 %%,%%%%%%%%KB
16	등록중
17	설정 모드 중
18	메모리 쓰기 에러.
19	초기화 에러
20	메모리 오버
21	커맨드 에러
22	전원 이상
23	EEPROM 에러
24	시스템 에러
25	DHCP CLIENT 초기화중
26	RFID 쓰기 에러
27	RFID 에러
28	INPUT PASSWORD
29	패스워드 에러
30	RFID 설정 에러
31	배터리 저전압
32	내부 시리얼 에러

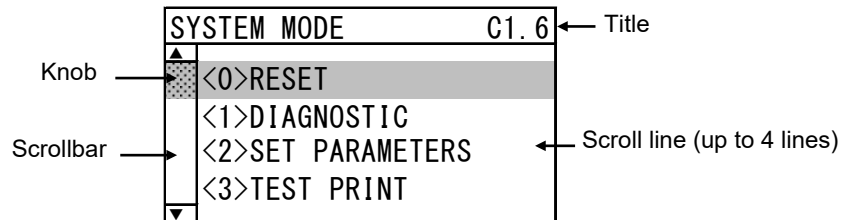
No	Turkish
1	ONLINE
2	Kafa açık
3	PAUSE
4	İLETİŞİM HATASI
5	Kağıt sıkışması
6	KESİCİ HATASI
7	Kağıt yok
8	Ribbon yok
9	Kafa açık
10	Kafa hatası
11	Kafada aşırı ısınma
12	RIBBON HATASI
13	SARICI DOLU
14	KAYIT #####KB/#####KB
	KAYIT %%,%%%%%%%%KB
15	FORMAT #####KB/#####KB
	FORMAT %%,%%%%%%%%KB
16	YÜKLÜYOR...
17	AYAR MODU
18	Hafızaya yazma hatası
19	FORMAT hatası
20	Hafıza dolu
21	SYNTAX HATASI
22	GÜÇ HATASI
23	EEPROM hatası
24	SISTEM HATASI
25	DHCP istemci başlıyor
26	RFID YAZMA HATASI
27	RFID HATASI
28	INPUT PASSWORD
29	GEÇERSİZ ŞİFRE
30	RFID AYAR HATASI
31	DÜŞÜK PİL
32	İç iletişim hatası

No	Polish
1	ONLINE
2	OTWARTA GŁOWICA.
3	PAUZA
4	BŁĄD COMMS
5	ZACIĘCIE PAPIERU
6	BŁĄD NOŻA
7	BRAK PAPIERU
8	BRAK TAŚMY
9	OTWARTA GŁOWICA.
10	BŁĄD GŁOWICY
11	PRZEKR TEMP GŁOWICY
12	BŁĄD TAŚMY
13	NAWIJAK PEŁEN
14	ZAPIS #####KB/#####KB
	ZAPIS %%,%%%%%%%%KB
15	FORMAT #####KB/#####KB
	FORMAT %%,%%%%%%%%KB
16	ŁADOWANIE...
17	TRYB USTAWIEŃ
18	BŁĄD ZAPISU PAMIĘCI
19	BŁĄD FORMATOWANIA
20	PAMIĘĆ PEŁNA
21	BŁĄD SKŁADNI
22	BŁĄD ZASILANIA
23	BŁĄD EEPROM
24	BŁĄD SYSTEMU
25	INICJ KLIENTA DHCP...
26	BŁĄD ZAPISU RFID
27	BŁĄD RFID
28	INPUT PASSWORD
29	BŁĘDNE HASŁO
30	BŁĄD KONFIG RFID
31	SŁABA BATERIA
32	WEWN. BŁĄD COMM

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

7.1 LIST BOX WITH SCROLLBAR

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



Tip:

The knob appears on the scrollbar when the number of scroll lines is over 4 lines.

Type of the list boxes with a scrollbar

	Display
Menu screen (without the setting value)	
Menu screen (with the setting value)	
Setting value selection screen	

Key function (menu screen)

Key	Substitute key	Function
[MODE]	None	Returns to the top menu without saving changes.
[CANCEL]	[FEED] + [RESTART]	Returns to the upper-level menu without saving changes.
[ENTER]	[PAUSE]	Displays the next screen.
[UP]	[RESTART]	Moves the cursor upward. When the cursor is positioned at the top of the list, it scrolls from the top to the bottom.
[DOWN]	[FEED]	Moves the cursor downward. When the cursor is positioned at the bottom of the list, it scrolls from the bottom to the top.
[LEFT]	None	No function
[RIGHT]	None	No function

Key function (value setting screen)

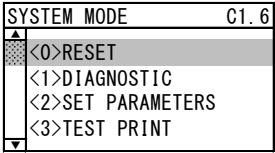
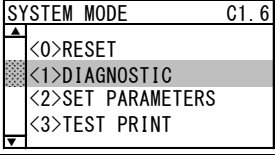
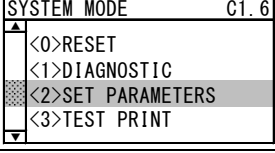
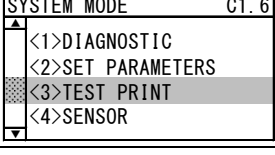
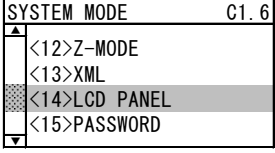
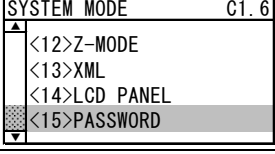
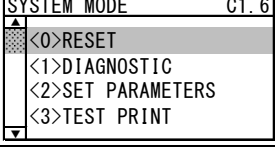
Key	Substitute key	Function
[MODE]	None	Returns to the top menu without saving changes.
[CANCEL]	[FEED] + [RESTART]	Returns to the upper-level menu without saving changes.
[ENTER]	[PAUSE]	Saves the changes and returns to the upper-level menu.
[UP]	[RESTART]	Moves the cursor upward. When the cursor is positioned at the top of the list, it scrolls from the top to the bottom.
[DOWN]	[FEED]	Moves the cursor downward. When the cursor is positioned at the bottom of the list, it scrolls from the bottom to the top.
[LEFT]	None	No function
[RIGHT]	None	No function

Note:

The printer operation is not guaranteed when multiple keys are pressed simultaneously except for those mentioned above ([FEED]+[RESTART]).

Movement of the cursor in the screen scrolling

The cursor moves in the following way by means of pressing the [UP] or [DOWN] key. The following table shows the example of pressing the [DOWN] key. The [UP] key functions in the same way.

Display	Key operation	Explanation
		
	Press the [DOWN] key.	The position of the displayed menus remains unchanged and only the cursor moves down to the next item.
	Press the [DOWN] key.	The position of the displayed menus remains unchanged and only the cursor moves down to the next item.
	Press the [DOWN] key.	The entire menu list moves up by one line and the cursor moves down to the next item.
: :	: :	
	Press the [DOWN] key.	The entire menu list moves up by one line and the cursor moves down to the next item.
	Press the [DOWN] key.	The position of the menu list remains unchanged and only the cursor moves down to the next item.
	Press the [DOWN] key.	When the cursor is positioned at the bottom of the list, the menu and the cursor scroll from the bottom to the top.

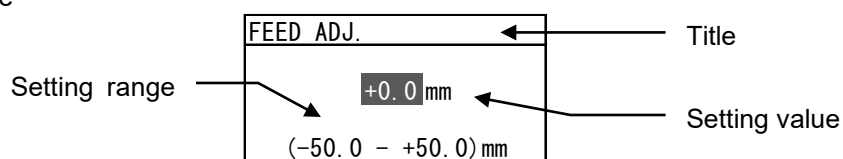
Note:

1. Cursor position when shifting from the upper-level menu to its sub menu
When shifting from the upper-level menu to its sub menu, the cursor is positioned at the topmost item except for the RFID setting menu (because the RFID menu items show the setting value).
2. Cursor position when shifting from the upper-level menu to its subordinate value setting screen
When shifting from the upper-level menu to its subordinate value setting screen, the cursor is positioned at the currently selected item.
3. Cursor position when shifting from the sub menu or value setting screen to its upper-level menu
When shifting from the sub menu or value setting screen to its upper-level menu, the cursor is positioned at the previously selected item.
4. When the [MODE] key is pressed while the main menu is displayed
When the [MODE] key is pressed while the main menu of the system mode or user system mode is displayed, the cursor is positioned at the topmost item.
5. When the [CANCEL] key is pressed while the main menu is displayed
When the [CANCEL] key is pressed while the main menu of the system mode or user system mode is displayed, the cursor does not move from the current position.

7.2 VALUE SETTING SCREEN

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

Display example



Note:

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

Type of the value setting screens

	Display
Setting screen with one field	FEED ADJ. +0.0 mm (-50.0 - +50.0) mm
Setting screen with multiple fields (placed horizontally)	IP ADDRESS 192.168.010.002
Setting screen with multiple fields (placed vertically)	READ RETRY 5 times (0 - 255) times 4.0 sec (0.0 - 9.9) sec

Key function (setting screen with one field)

Key	Substitute key	Function
[MODE]	None	Returns to the top menu without saving changes.
[CANCEL]	[FEED] + [RESTART]	Returns to the upper-level menu without saving changes.
[ENTER]	[PAUSE]	Saves the changes and returns to the upper-level menu.
[UP]	[RESTART]	Increases the setting value by the specified step. When the setting value reaches the maximum, it returns to the minimum value and increases.
[DOWN]	[FEED]	Decreases the setting value by the specified step. When the setting value reaches the minimum, it returns to the maximum value and decreases.
[LEFT]	None	No function
[RIGHT]	None	No function

Key operation (setting screen with multiple fields (horizontal))

Key	Substitute key	Function
[MODE]	None	Returns to the top menu without saving changes.
[CANCEL]	[FEED] + [RESTART]	Returns to the upper-level menu without saving changes.
[ENTER]	[PAUSE]	Saves the changes and returns to the upper-level menu.
[UP]	[RESTART]	Increases the setting value by the specified step. When the setting value reaches the maximum, it returns to the minimum value and increases.
[DOWN]	[FEED]	Decreases the setting value by the specified step. When the setting value reaches the minimum, it returns to the maximum value and decreases.
[LEFT]	None	Moves the cursor to the left field. The cursor does not move any further when the left-most field is selected.
[RIGHT]	None	Moves the cursor to the right field. The cursor does not move any further when the right-most field is selected.

Key function (setting screen with multiple fields (vertical))

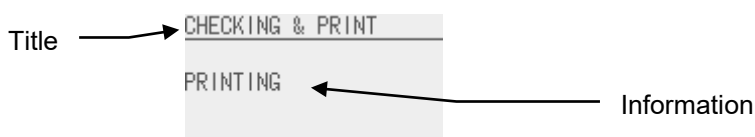
Key	Substitute key	Function
[MODE]	None	Returns to the top menu without saving changes.
[CANCEL]	[FEED] + [RESTART]	Returns to the upper-level menu without saving changes.
[ENTER]	[PAUSE]	Saves the changes and returns to the upper-level menu.
[UP]	[RESTART]	Increases the setting value by the specified step. When the setting value reaches the maximum, it returns to the minimum value and increases.
[DOWN]	[FEED]	Decreases the setting value by the specified step. When the setting value reaches the minimum, it returns to the maximum value and decreases.
[LEFT]	None	Moves the cursor to the upper field. The cursor does not move any further when the topmost field is selected.
[RIGHT]	None	Moves the cursor to the lower field. The cursor does not move any further when the bottom field is selected.

7.3 INFORMATION SCREEN

The information screen is used when there is no settings are configured.

It is comprised of the following:

Display example



Type of the information screens

	Display
	CHECKING & PRINT PRINTING
Scroll	FILE MAINTENANCE 00 ZEBRASTMSX5. 01 ----- 02 SHORT. BAS 03 -----
RFID tag read	ID READ TAG 1/1 00010203 04050607 08090A0B 0C0D0E0F

Key function

Key	Substitute key	Function
[MODE]	None	Displays the top menu.
[CANCEL]	[FEED] + [RESTART]	Displays the upper-level menu.
[ENTER]	[PAUSE]	Displays the upper-level menu.
[UP]	[RESTART]	No function
[DOWN]	[FEED]	No function
[LEFT]	None	No function
[RIGHT]	None	No function

Key function (scroll)

Key	Substitute key	Function
[MODE]	None	Displays the top menu.
[CANCEL]	[FEED] + [RESTART]	Displays the next screen or upper-level menu.
[ENTER]	[PAUSE]	Displays the next screen or upper-level menu.
[UP]	[RESTART]	Moves the cursor upward. When the cursor is positioned at the top of the list, it scrolls from the top to the bottom.
[DOWN]	[FEED]	Moves the cursor downward. When the cursor is positioned at the bottom of the list, it scrolls from the bottom to the top
[LEFT]	None	No function
[RIGHT]	None	No function

Key function (RFID tag read)

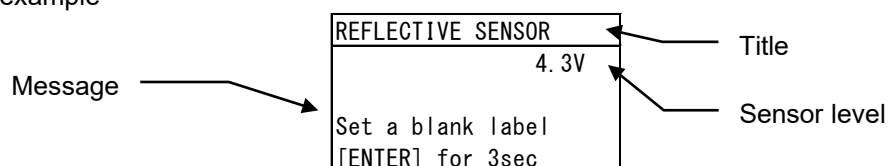
Key	Substitute key	Function
[MODE]	None	Displays the top menu without saving changes.
[CANCEL]	[FEED] + [RESTART]	Displays the upper-level menu without saving changes.
[ENTER]	[PAUSE]	Reads the RFID tag again.
[UP]	[RESTART]	Displays the data of the previous tag. The display does not change when the first tag data is being shown.
[DOWN]	[FEED]	Displays the data of the next tag. The display does not change when the last tag data is being shown.
[LEFT]	None	No function
[RIGHT]	None	No function

7.4 SENSOR ADJUSTMENT SCREEN

The sensor adjustment screen is used only when the level of the media sensors on the printer is required to be adjusted.

It is comprised of the following.

Display example



Type of the sensor adjustment screens

	Display
Before adjustment	REFLECTIVE SENSOR 4.3V Set a blank label [ENTER] for 3sec
After adjustment	REFLECTIVE SENSOR 4.5V * Adjust Complete

Key function (before adjustment)

Key	Substitute key	Function
[MODE]	None	Displays the top menu.
[CANCEL]	None	Displays the upper-level menu.
[ENTER]	None	When holding down for 3 seconds or more: Performs the sensor adjustment. When releasing within 3 seconds: Returns to the upper-level menu.
[UP]	None	No function
[DOWN]	None	No function
[LEFT]	None	No function
[RIGHT]	None	No function

Key function (after adjustment)

Key	Substitute key	Function
[MODE]	None	Displays the top menu.
[CANCEL]	None	Displays re-adjustment menu.
[ENTER]	None	Displays the upper-level menu.
[UP]	None	No function
[DOWN]	None	No function
[LEFT]	None	No function
[RIGHT]	None	No function

Note:

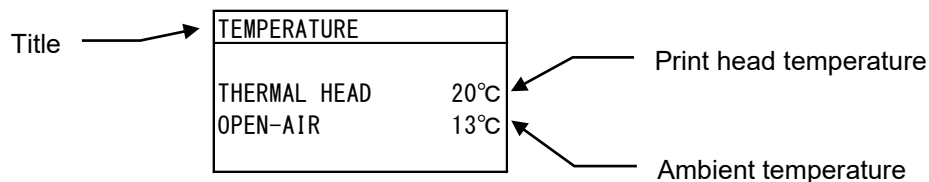
1. The symbol “*” shown on the right side of the adjustment value indicates the completion of adjustment.
2. The voltage value being selected is updated approximately every 200 msec. intervals.

7.5 TEMPERATURE DISPLAY SCREEN

The temperature display screen is used only for displaying the print head temperature and ambient temperature.

It is comprised of the following.

Display example



Type of the temperature display screen

	Display
	TEMPERATURE THERMAL HEAD20°C OPEN-AIR13°C

Key function

Key	Substitute key	Function
[MODE]	None	Displays the top menu.
[CANCEL]	None	Displays the upper-level menu.
[ENTER]	None	Displays the upper-level menu.
[UP]	None	No function
[DOWN]	None	No function
[LEFT]	None	No function
[RIGHT]	None	No function

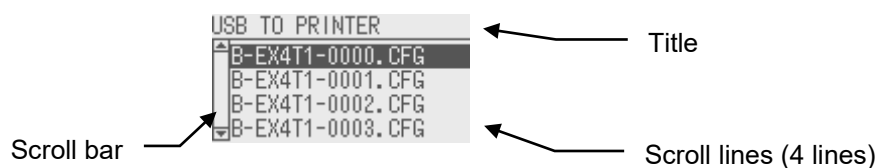
Note:

Each temperature is updated approximately every 200 msec. intervals.

7.6 FILE SELECTION SCREEN

The file selection screen is used for selecting a file when copying data from a USB memory to the printer. It is comprised of the following.

Display example



Note:

1. The scrollbar knob on the file selection screen is not displayed regardless of the number of files.

Type of the file selection screens

Copy data selection screen	USB TO PRINTER B-EX4T1-0000.DAT B-EX4T1-0001.DAT B-EX4T1-0002.DAT B-EX4T1-0003.DAT
CFG file selection screen	USB TO PRINTER B-EX4T1-0000.CFG B-EX4T1-0001.CFG B-EX4T1-0002.CFG B-EX4T1-0003.CFG

Key function

Key	Substitute key	Function
[MODE]	None	Displays the top menu without selecting a file.
[CANCEL]	[FEED]+[RESTART]	Displays the upper-level menu without selecting a file.
[ENTER]	[PAUSE]	Displays the next page.
[UP]	[RESTART]	Moves the cursor upward. The cursor does not move any further when it is positioned at the top.
[DOWN]	[FEED]	Moves the cursor downward. The cursor does not move any further when it is positioned at the bottom.
[LEFT]	None	No function
[RIGHT]	None	No function

Note:

The printer operation is not guaranteed when multiple keys are pressed simultaneously except for those mentioned above ([FEED]+[RESTART]).

8 INITIAL SETTING WIZARD

Only when the printer is started for the first time after a parameter is cleared, the initial setting wizard is started. This wizard enables setting the basic parameters, such as the LCD language and print mode, required for various printer settings. The values set with this wizard can be modified in the system mode and by commands.

Example of the initial setting wizard operation

	RAM clearing with QM type selected	
1. Clears a parameter.	QM TYPE CLEAR. . .	
	↓	
	QM TYPE COMPLETED Turn off the printer	
	↓ Power OFF/ON	
	B-EX Series Initializing...	
2. The initial setting wizard is started.	↓	
	STARTUP SETTINGS PRESS ENTER	
	↓ [ENTER] key	
3. Select the language.	LANGUAGE ENGLISH ▲ ENGLISH GERMAN FRENCH ▼ Select ENTER: Set	Choose an option with the [UP] or [DOWN] key.
	↓ [ENTER] key	
4. Select the print mode.	PRINT MODE w/ RIBBON ▲ With RIBBON Without RIBBON ▼ Select ENTER: Set	Choose an option with the [UP] or [DOWN] key.
	↓ [ENTER] key	
5. Select the calibration type.	CALIBRATE OFF ▲ OFF LABEL/GAP BLACK MARK ▼ Select ENTER: Set	Choose an option with the [UP] or [DOWN] key.
6-1. When an option other than “OFF” is selected for CALIBRATE		

6-1-1. Finish	INITIAL CONFIGURATION FINISH ? ◀Prev ENTER: Finish ↓ [ENTER] key 7. The settings are saved.	
6-2. When “OFF” is selected for CALIBRATE		
6-2-1. Media detection	PAPER DETECT FEED/GAP ▲ CONTINUOUS ▼ LABEL/GAP BLACK MARK ◀Select ENTER: Set ↓ [ENTER] key	Choose an option with the [UP] or [DOWN] key.
6-2-2. Media length	PAPER LENGTH 76mm 76 mm (10 - 1500mm) ◀Select ENTER: Set ↓ [ENTER] key	Set a value with the [UP] or [DOWN] key.
6-2-3. Finish	INITIAL CONFIGURATION FINISH ? ◀Prev ENTER: Finish ↓ [ENTER] key. 7. The settings are saved.	
7. The settings are saved.	SAVING SETTING... ↓	
8. The DHCP client is initialized.	DHCP CLIENT INIT... ↓	
9. Online mode	B-EX4T1-G C1.6 ONLINE PRINTED 000000 IP: 192. 168. 010. 020	

Key functions (wizard screen)

Key	Substitute key	Function
[MODE]	None	Displays the top page without saving the changes.
[CANCEL]	[FEED] + [RESTART]	Displays the upper level menu without saving the changes.
[ENTER]	[PAUSE]	In the case of the option selection screen, saves the changes and displays the next screen.
[UP]	[RESTART]	Moves the cursor upward. When the cursor is positioned at the top of the list, it scrolls from the top to the bottom.
[DOWN]	[FEED]	Moves the cursor downward. When the cursor is positioned at the bottom of the list, it scrolls from the bottom to the top.
[LEFT]	None	Displays the next screen without saving the changes.
[RIGHT]	None	Displays the upper-level screen without saving the changes.

Note:

The printer operation is not guaranteed when multiple keys are pressed simultaneously except for those mentioned above ([FEED]+[RESTART]).

9 SYSTEM MODE

9.1 OUTLINE OF THE SYSTEM MODE

1. The printer enters the system mode with the following operations.
 - While the printer power is off, perform either of the following operations:
 - Turn on the printer while holding down the [FEED] and [PAUSE] keys simultaneously.
 - Turn on the printer while holding down the [MODE] key.
 - While the printer is online, perform the following operation:
 - Hold down the [MODE] and [ENTER] keys simultaneously for more than 3 seconds.
2. The system mode is intended for performing self-testing and various parameter settings.
3. When the top menu is displayed, the main firmware version is shown on the right side of the title.
4. The language displayed on the LCD is Japanese when “Japanese” is selected for the LCD language parameter, and English when a language other than “Japanese” is selected. (See <14>LCD PANEL.)
5. The key operations for the system mode are described below.

For the key functions and the display configuration, refer to Section 7. DISPLAY PATTERN AND KEY OPERATION FOR SYSTEM MODE AND USER SYSTEM MODE.

Top menu of the system mode

Display	
SYSTEM MODE	C1.6
▲	<0>RESET
	<1>DIAGNOSTIC
	<2>SET PARAMETERS
	<3>TEST PRINT
▼	

Top menu list

<0>RESET
<1>DIAGNOSTIC
<2>SET PARAMETER
<3>TEST PRINT
<4>SENSOR
<5>RAM CLEAR
<6>INTERFACE
<7>RFID
<8>RTC
<9>USB MEMORY
<10>FACTORY TEST
<11>BASIC
<12>EMULATION MODE
<13>XML
<14>LCD PANEL
<15>PASSWORD

Outline of the top menu

RESET	Restarts the printer.
DIAGNOSTIC	Performs self diagnosis, prints out the result, checks the print head broken elements.
SET PARAMETERS	Sets the parameters for the printer functions.
TEST PRINT	Tests the print quality by printing slant lines, characters and barcodes.
SENSOR	Displays the ambient temperature and print head temperature, and adjusts each level of the media sensors.
RAM CLEAR	Clears the maintenance counter and parameter settings.
INTERFACE	Sets the interface parameters such as network, USB, RS232C and parallel. (*)
RFID	Sets the RFID-related parameters.
RTC	Sets the date & time of the real time clock and chooses a real time renewal timing.
USB MEMORY	Copies data (including firmware) to/from a USB memory.
FACTORY TEST	Adjusts the printer before shipment.
BASIC	Sets the functions of the BASIC program to be downloaded to the printer.
EMULATION MODE	Same as the BASIC function.
XML	Sets the XML functions.
LCD PANEL	Selects a language for the display, chooses the items to be displayed, and adjusts the contrast.

Note:

The setting items displayed vary depending on whether the wireless LAN module is installed or not, and the installed wireless LAN module. (Reference: 9.9 INTERFACE)

9.2 REFLECTING THE SYSTEM MODE SETTINGS TO THE PRINTER

The settings configured in the system mode or user system mode is saved in the printer at the following timings.

- Periodic saving at 20-msec. intervals
- When the RESET menu in the system mode or user system mode is performed

The changes in the settings, with a partial exception, take effect at a power on time or after a reset.

9.3 RESET

Reset the printer.

Contents of the RESET menu

Menu item
<0>RESET

9.4 DIAGNOSTIC

Contents of the DIAGNOSTIC menu

Menu item
<1>DIAGNOSTIC
MAINTENANCE COUNTER
AUTO DIAGNOSTIC
HEAD CHECK

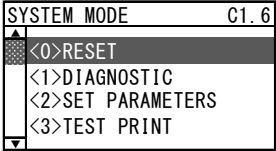
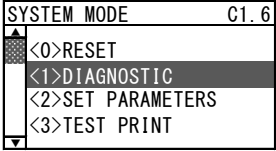
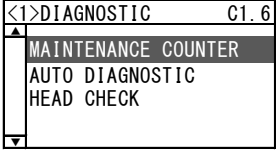
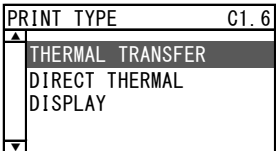
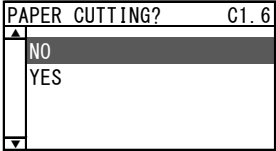
9.4.1 MAINTENANCE COUNTER

The following table shows the menu structure from the top menu of the system mode to [MAINTENANCE COUNTER].

Menu item
<1>DIAGNOSTIC
MAINTENANCE COUNTER
THERMAL TRANSFER
NO
YES
DIRECT THERMAL
NO
YES
DISPLAY

Tip:

- [MAINTENANCE COUNTER] enables selecting whether to print or display the self-diagnosis test result (maintenance counter data and parameter settings). When [THERMAL TRANSFER] or [DIRECT THERMAL] is selected, the test result is printed. When [DISPLAY] is selected, the test result is displayed on the LCD.
- When an error occurs during printing, the corresponding error message is displayed, the ERROR LED is turned on, and the ONLINE LED is turned off. Though the error can be cleared by pressing the [ENTER], [CANCEL] or [MODE] key, the printer does not reprint the label automatically.
- Menu operation example

	Display	Procedure
1		- Turn off the printer. - Turn on the printer while holding down the [FEED] and [PAUSE] keys simultaneously. - The top menu of SYSTEM MODE is displayed.
2		- Select [<1>DIAGNOSTIC]. - Press the [ENTER] key. - The submenus of [<1>DIAGNOSTIC] are displayed.
3		- Select [MAINTENANCE COUNTER]. - Press the [ENTER] key. - The PRINT TYPE menu is displayed.
4	When [THERMAL TRANSFER] or [DIRECT THERMAL] is selected: Note: When [DISPLAY] is selected, go to step 5.	
4-1		- Select either [THERMAL TRANSFER] or [DIRECT THERMAL]. - Press the [ENTER] key. - The PAPER CUTTING? menu is displayed.
4-2	 (Printing...)	- Select [YES] or [NO]. - Press the [ENTER] key. The maintenance counter data and parameter settings are printed. "PRINTING" is displayed.

	CHECKING & PRINT PRINTING	Note: A print sample is provided in Section 9.4.1.1 Maintenance Counter/Parameter Settings Print Contents.
4-3	When the printing is completed. (Normal end)	
	PRINT TYPE C1.6 THERMAL TRANSFER DIRECT THERMAL DISPLAY	1. When printing is completed, the PRINT TYPE menu is displayed again.
4-4	When an error occurred during printing	
	CHECKING & PRINT RIBBON ERROR	The printer displays the error message, and then stops. The ERROR LED turns on and the ONLINE LED turns off. 1. Press the [ENTER] or [CANCEL] key. 2. The PRINT TYPE menu is displayed. Note: When the [MODE] key is pressed, the top menu of SYSTEM MODE is displayed
	PRINT TYPE C1.6 THERMAL TRANSFER DIRECT THERMAL DISPLAY	The printer recovers from the error, the ERROR LED turns off and the ONLINE LED turns on. Note that the printer does not reprint the label automatically.
5	In the case [DISPLAY] is selected:	
5-1	PRINT TYPE C1.6 THERMAL TRANSFER DIRECT THERMAL DISPLAY	1. Select [DISPLAY]. 2. Press the [ENTER] key. 3. The DISPLAY menu is displayed.
5-2	DISPLAY COUNTER ADJUSTMENT (PC) STORAGE AREA USB SERIAL NUMBER	1. Select an item to be displayed. 2. Press the [ENTER] key. 3. The data of the selected item is displayed.
5-3	COUNTER TOTAL FEED 4.8km FEED 0.0km FEED1 4.8km FEED2 0.0km	For details of the Maintenance counter data, refer to Section 9.4.1.1 Maintenance Counter/Parameter Settings Print Contents.

9.4.1.1 Maintenance Counter/Parameter Settings Print Contents

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<< COUNTER >>				EXT CHR AREA	[0KB]
TOTAL FEED	3.7km	[QM]		BASIC AREA	[0KB]
FEED	2.4km			PC SAVE AREA	[0KB]
FEED1	1.3km			OTF SAVE AREA	[0KB]
FEED2	0.0km			<< USB >>	
FEED3	0.0km			SERIAL NUMBER	[DISABLE]
FEED4	0.0km				[XXXXXXXXXXXX]
PRINT	2.4km			<< RS-232C >>	
PRINT1	1.3km			BAUD RATE	[9600]
PRINT2	0.0km			DATA LENGTH	[8]
PRINT3	0.0km			STOP BIT	[1]
PRINT4	0.0km			PARITY	[EVEN]
CUT	0			CONTROL	[XON+READY AUTO]
HEAD U/D	0			<< CENTRO >>	
RIBBON	0h			ACK/BUSY	[Rising edge]
SOLENOID	0h			INPUT PRIME	[ON]
232C ERR	0			PLUG & PLAY	[OFF]
SYSTEM ERR	0			<< LAN/WLAN >>	
POWER FAIL	0			LAN/WLAN	[AUTO]
<< ADJUST >>				SNMP	[ON]
[PC]		[KEY]		IP ADDRESS	[192.168.010.020]
FEED	+0.0mm	FEED	+0.0mm	v6L[fe80::280:91ff:fe88:ea8	]
CUT	+0.0mm	CUT	+0.0mm	v6G[	
BACK	+0.0mm	BACK	+0.0mm	SUBNET MASK	[000.000.000.000]
TONE(T)	+0step	TONE(T)	+0step	GATEWAY ADDRESS	[255.255.255.000]
TONE(D)	+0step	TONE(D)	+0step	SOCKET PORT	[OFF] [08000]
(RIBBON TORQU NORM)				DHCP	[OFF]
RBN(FW)	+0	RBN(FW)	+0	DHCP CLIENT ID	[FFFFFFFFFFFFFFFFFFFFF]
RBN(BK)	+0	RBN(BK)	+0		[FFFFFFFFFFFFFFFFFFFFF]
(RIBBON TORQU LOW)					[FFFFFFFFFFFFFFFFFFFFF]
RBN(FW)	+0	RBN(FW)	+0		[FFFFFFFFFFFFFFFFFFFFF]
RBN(BK)	+0	RBN(BK)	+0		[FFFFFFFFFFFFFFFFFFFFF]
(RIBBON TORQU RSV1)					[FFFFFFFFFFFFFFFFFFFFF]
RBN(FW)	+0	RBN(FW)	+0		[FFFFFFFFF]
RBN(BK)	+0	RBN(BK)	+0	DHCP HOST NAME	[ABCDEFGHJKLMNQRST]
X ADJ.	+0.0mm				[UVWXYZ123456]
THRESHOLD(R) 1.0V				CONNECTION MODE	[AP MODE]
THRESHOLD(T) 1.4V				ESS ID	[TOSHIBATEC]
<< PARAMETER SETTINGS >>					
MEDIA LOAD	[STD]			ENCRYPTION	[OFF]
MOVE TO TEAROFF	[ON] +0.0mm	[MODE1]		WPA MODE	[OFF]
HEAD UP CUT/RWD.	[OFF]			AUTHENTICATION	[OPEN]
RIBBON SAVE	[POSITION1]			802.1X SUPPLICANT	[OFF]
PRE PEEL OFF	[OFF]			DEFAULT KEY	[1]
BACK FEED SPEED	[STD]			802.11bgn CHANNEL	[1ch]
CALIBRATION	[OFF]			WINS	[OFF]
CODE PAGE	[PC-850] [0]			WINS IP ADDRESS	[000.000.000.000]
CTRL CODE	[AUTO]			LPR	[OFF]
PEEL OFF STATUS	[ON]			<< RFID >>	
USB I/F STATUS	[OFF]			MODULE TYPE	[NONE]
FEED KEY	[FEED]			TAG TYPE	[NONE]
KANJI CODE	[TYPE1:Windows]			RF CHANNEL	[AUTO]
EURO CODE	[B0]			RETRY POSITION	[+00mm]
AUTO HEAD CHK	[OFF]			RETRY LABELS	[3labels]
WEB PRINTER	[OFF]			READ RETRY	[5times] [4.0sec]
RIBBON NEAR END	[OFF]			WRITE RETRY	[5times] [4.0sec]
EX.I/O MODE	[TTEC Standard]			POWER LEVEL	[0]
PAPER/RBN END	[Stop immediately]			Q VALUE	[0]
MAXI CODE SPEC.	[TYPE1: Compatible]			AGC THRESHOLD	[0]
XML	[STD]			WRITE AGC	[0]
THRESHOLD SEL(R)	[MANUAL SET]			RETRY MIN AGC	[0]
THRESHOLD SEL(T)	[MANUAL SET]			TAG CHECK	[PASSWORD] [ON] [ON]
ENERGY TYPE(T)	[Generic] *1			MULTI WRITE	[OFF]
ENERGY TYPE(D)	[NORM:Normal] *1			CALIB. MODE	[OFF]
POWER SAVE TIME	[15min]			CALIB. AGC	[0]
RIBBON TORQUE	[Normal]			CALIB. POSITION	[+000.0mm]
BASIC	[OFF]			ANTENNA POSITION	[FRONT]
BASIC TRACE	[OFF]			SUCCEEDED TAGS	9999999
MULTI LABEL	[OFF]			VOID PRINT TAGS	9999999
CUT MODE	[ON]			<< RTC >>	
<< PANEL >>				BATTERY CHECK	[ON]
LANGUAGE	[ENGLISH]			RENEWAL	[start of JOB]
MODEL NAME	[ON]				
PRINTED COUNTER	[ON]				
IP ADDRESS	[ON]				
CONTRAST	[40]				
SYSTEM PASSWORD	[OFF]				
<< STORAGE AREA >>					
TTF AREA	[0KB]				

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<< COUNTER >>				BASIC AREA	[0KB]
TOTAL FEED	3.7km	[QM]		PC SAVE AREA	[0KB]
FEED	2.4km			OTF SAVE AREA	[0KB]
FEED1	1.3km			<< USB >>	
FEED2	0.0km			SERIAL NUMBER	[DISABLE]
FEED3	0.0km				[XXXXXXXXXXXXX]
FEED4	0.0km			<< RS-232C >>	
PRINT	2.4km			BAUD RATE	[9600]
PRINT1	1.3km			DATA LENGTH	[8]
PRINT2	0.0km			STOP BIT	[1]
PRINT3	0.0km			PARITY	[EVEN]
PRINT4	0.0km			CONTROL	[XON+READY AUTO]
CUT	0			<< CENTRO >>	
HEAD U/D	0			ACK/BUSY	[Rising edge]
RIBBON	0h			INPUT PRIME	[ON]
SOLENOID	0h			PLUG & PLAY	[OFF]
232C ERR	0			<< LAN/WLAN >> (Note 2)	
SYSTEM ERR	0			LAN/WLAN	[OFF]
POWER FAIL	0			SNMP	[OFF]
<< ADJUST >>				IP ADDRESS	[192.168.010.020]
[PC]		[KEY]		v6L[fe80::280:91ff:fe88:ea8	]
FEED	+0.0mm	FEED	+0.0mm	v6G]	
CUT	+0.0mm	CUT	+0.0mm	SUBNET MASK	[000.000.000.000]
BACK	+0.0mm	BACK	+0.0mm	GATEWAY ADDRESS	[255.255.255.000]
TONE(T)	+0step	TONE(T)	+0step	SOCKET PORT	[OFF] [08000]
TONE(D)	+0step	TONE(D)	+0step	DHCP	[OFF]
(RIBBON TORQU NORM)				DHCP CLIENT ID	[FFFFFFFFFFFFFFFFFFFFF]
RBN(FW)	+0	RBN(FW)	+0		[FFFFFFFFFFFFFFFFFFFFF]
RBN(BK)	+0	RBN(BK)	+0		[FFFFFFFFFFFFFFFFFFFFF]
(RIBBON TORQU LOW)					[FFFFFFFFFFFFFFFFFFFFF]
RBN(FW)	+0	RBN(FW)	+0		[FFFFFFFFFFFFFFFFFFFFF]
RBN(BK)	+0	RBN(BK)	+0		[FFFFFFFFFFFFFFFFFFFFF]
X ADJ.	+0.0mm				[FFFFFFFFFFFF]
THRESHOLD(R) 0.0V				DHCP HOST NAME	[ABCDEFGHGIJKLMNOPQRST]
THRESHOLD(T) 0.0V					[UVWXYZ123456]
<< PARAMETER SETTINGS >>				WLAN STANDARD	[11b/g]
MEDIA LOAD	[STD]			BAND SELECT	[DUAL BAND]
MOVE TO TEAROFF	[ON] +0.0mm	[MODE1]		CONNECTION MODE	[ADHOC]
HEAD UP CUT/RWD.	[OFF]			ESS ID	]
RIBBON SAVE	[ON:TAG]				
PRE PEEL OFF	[OFF]			ENCRYPTION	[OFF]
BACK FEED SPEED	[STD]			WPA MODE	[OFF]
CALIBRATION	[OFF]			AUTHENTICATION	[OPEN SYSTEM]
CODE PAGE	[PC-850] [0]			802.1X SUPPLICANT	[OFF]
CTRL CODE	[AUTO]			DEFAULT KEY	[1]
PEEL OFF STATUS	[ON]			802.11b CHANNEL	[01]
USB I/F STATUS	[OFF]			802.11b BAUD RATE	[11M]
FEED KEY	[FEED]			802.11g CHANNEL	[01]
KANJI CODE	[TYPE1:Windows]			802.11g BAUD RATE	[54M]
EURO CODE	[B0]			AP MODE CHANNEL	[1ch]
AUTO HEAD CHK	[OFF]			WINS	[OFF]
WEB PRINTER	[OFF]			WINS IP ADDRESS	[000.000.000.000]
RIBBON NEAR END	[OFF]			LPR	[OFF]
EX.I/O MODE	[TTEC Standard]			<< RFID >>	
PAPER/RBN END	[Stop immediately]			MODULE TYPE	[NONE]
MAXI CODE SPEC.	[TYPE1: Compatible]			TAG TYPE	[NONE]
XML	[STD]			RF CHANNEL	[AUTO]
THRESHOLD SEL(R)	[MANUAL SET]			RETRY POSITION	[+00mm]
THRESHOLD SEL(T)	[MANUAL SET]			RETRY LABELS	[3labels]
ENERGY TYPE(T)	[SR1:AG2,AG4,AG6E] *1			READ RETRY	[5times] [4.0sec]
ENERGY TYPE(D)	[NORM:Normal] *1			WRITE RETRY	[5times] [4.0sec]
POWER SAVE TIME	[15min]			POWER LEVEL	[0]
RIBBON TORQUE	[Normal]			Q VALUE	[0]
BASIC	[OFF]			AGC THRESHOLD	[0]
BASIC TRACE	[OFF]			WRITE AGC	[0]
CUT MODE	[ON]			RETRY MIN AGC	[0]
<< PANEL >>				TAG CHECK	[PASSWORD] [ON] [ON]
LANGUAGE	[ENGLISH]			MULTI WRITE	[OFF]
MODEL NAME	[ON]			CALIB. MODE	[OFF]
PRINTED COUNTER	[ON]			CALIB. AGC	[0]
IP ADDRESS	[ON]			CALIB. POSITION	[+000.0mm]
CONTRAST	[40]			ANTENNA POSITION	[FRONT]
SYSTEM PASSWORD	[OFF]			SUCCEEDED TAGS	9999999
<< STORAGE AREA >>				VOID PRINT TAGS	9999999
TTF AREA	[0KB]			<< RTC >>	
EXT CHR AREA	[0KB]			BATTERY CHECK	[ON]
				RENEWAL	[start of JOB]

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<< COUNTER >>				[QM]	EXT CHR AREA	[0KB]
TOTAL FEED	3.7km				BASIC AREA	[0KB]
FEED	2.4km				PC SAVE AREA	[0KB]
FEED1	1.3km				<< USB >>	
FEED2	0.0km				SERIAL NUMBER	[DISABLE]
FEED3	0.0km					[XXXXXXXXXXXXX]
FEED4	0.0km				<< RS-232C >>	
PRINT	2.4km				BAUD RATE	[9600]
PRINT1	1.3km				DATA LENGTH	[8]
PRINT2	0.0km				STOP BIT	[1]
PRINT3	0.0km				PARITY	[EVEN]
PRINT4	0.0km				CONTROL	[XON+READY AUTO]
CUT	0				<< CENTRO >>	
HEAD U/D	0				ACK/BUSY	[Rising edge]
RIBBON	0h				INPUT PRIME	[ON]
SOLENOID	0h				PLUG & PLAY	[OFF]
232C ERR	0				<< LAN/WLAN >> *2	
SYSTEM ERR	0				LAN/WLAN	[OFF]
POWER FAIL	0				SNMP	[OFF]
<< ADJUST >>					IP ADDRESS	[192.168.010.020]
[PC]		[KEY]			v6L[fe80::280:91ff:fe88:ea8	]
FEED	+0.0mm	FEED	+0.0mm		v6G[	]
CUT	+0.0mm	CUT	+0.0mm		SUBNET MASK	[255.255.255.000]
BACK	+0.0mm	BACK	+0.0mm		GATEWAY ADDRESS	[000.000.000.000]
TONE(T)	+0step	TONE(T)	+0step		SOCKET PORT	[OFF] [08000]
TONE(D)	+0step	TONE(D)	+0step	DHCP	[OFF]	
(RIBBON TORQU NORM)				DHCP CLIENT ID	[FFFFFFFFFFFFFFFFFFFFF]	
RBN(FW)	+0	RBN(FW)	+0		[FFFFFFFFFFFFFFFFFFFFF]	
RBN(BK)	+0	RBN(BK)	+5		[FFFFFFFFFFFFFFFFFFFFF]	
(RIBBON TORQU LOW)					[FFFFFFFFFFFFFFFFFFFFF]	
RBN(FW)	+0	RBN(FW)	+0		[FFFFFFFFFFFFFFFFFFFFF]	
RBN(BK)	+0	RBN(BK)	+5		[FFFFFFFFFFFFFFFFFFFFF]	
X ADJ.	+0.0mm				[FFFFFFFFFFFFFFFFFFFFF]	
THRESHOLD(R)	1.0V				[FFFFFFFFF]	
THRESHOLD(T)	1.4V			DHCP HOST NAME	[ABCDEFGHGIJKLMNOPQRST]	
<< PARAMETER SETTINGS >>					[UVWXYZ123456]	
MEDIA LOAD	[STD]			WLAN STANDARD	[11b/g]	
MOVE TO TEAROFF	[ON] +0.0mm	[MODE1]		BAND SELECT	[DUAL BAND]	
HEAD UP CUT/RWD	[OFF]			CONNECTION MODE	[ADHOC]	
RIBBON SAVE	[OFF]			ESS ID	[]	
PRE PEEL OFF	[OFF]			ENCRYPTION	[OFF]	
BACK FEED SPEED	[STD]			WPA MODE	[OFF]	
CALIBRATION	[OFF]			AUTHENTICATION	[OPEN SYSTEM]	
CODE PAGE	[PC-850]	[0]		802.1X SUPPLICANT	[OFF]	
CTRL CODE	[AUTO]			DEFAULT KEY	[1]	
PEEL OFF STATUS	[ON]			802.11b CHANNEL	[01]	
USB I/F STATUS	[OFF]			802.11b BAUD RATE	[11M]	
FEED KEY	[FEED]			802.11g CHANNEL	[01]	
KANJI CODE	[TYPE1:Windows]			802.11g BAUD RATE	[54M]	
EURO CODE	[B0]			AP MODE CHANNEL	[1ch]	
AUTO HEAD CHK	[OFF]			WINS	[OFF]	
WEB PRINTER	[OFF]			WINS IP ADDRESS	[000.000.000.000]	
RIBBON NEAR END	[OFF]			LPR	[OFF]	
EX.I/O MODE	[TTEC Standard]			<< RFID >>		
PAPER/RBN END	[Stop immediately]			MODULE TYPE	[NONE]	
MAXICODE SPEC.	[TYPE1: Compatible]			TAG TYPE	[NONE]	
XML	[STD]			RF CHANNEL	[AUTO]	
THRESHOLD SEL(R)	[MANUAL SET]			RETRY POSITION	[+00mm]	
THRESHOLD SEL(T)	[MANUAL SET]			RETRY LABELS	[3labels]	
ENERGY TYPE(T)	[W1: AW3/5/6F/7F,SW1]*1			READ RETRY	[5times] [4.0sec]	
ENERGY TYPE(D)	[NORM:Normal]*1			WRITE RETRY	[5times] [4.0sec]	
POWER SAVE TIME	[15min]			POWER LEVEL	[0]	
RIBBON TORQUE	[Normal]			Q VALUE	[0]	
TYPE OF RIBBON	[CSO]			AGC THRESHOLD	[0]	
BASIC	[OFF]			WRITE AGC	[0]	
BASIC TRACE	[OFF]			RETRY MIN AGC	[0]	
CUT MODE	[ON]			TAG CHECK	[PASSWORD] [ON] [ON]	
<< PANEL >>				MULTI WRITE	[OFF]	
LANGUAGE	[ENGLISH]			SUCCEEDED TAGS	9999999	
MODEL NAME	[ON]			VOID PRINT TAGS	9999999	
PRINTED COUNTER	[ON]			<< RTC >>		
IP ADDRESS	[ON]			BATTERY CHECK	[ON]	
CONTRAST	[40]			RENEWAL	[start of JOB]	
SYSTEM PASSWORD	[OFF]					
<< STORAGE AREA >>						
TTF AREA	[0KB]					

B-EX4T2-HS

<< COUNTER >>				[QM]	TTF AREA	[0KB]
TOTAL FEED 3.7km					EXT CHR AREA	[0KB]
FEED 2.4km					BASIC AREA	[0KB]
FEED1 1.3km					PC SAVE AREA	[0KB]
FEED2 0.0km					<< USB >>	
FEED3 0.0km					SERIAL NUMBER	[DISABLE]
FEED4 0.0km						[XXXXXXXXXXXXX]
PRINT 2.4km					<< RS-232C >>	
PRINT1 1.3km					BAUD RATE	[9600]
PRINT2 0.0km					DATA LENGTH	[8]
PRINT3 0.0km					STOP BIT	[1]
PRINT4 0.0km					PARITY	[EVEN]
CUT 0					CONTROL	[XON+READY AUTO]
HEAD U/D 0					<< CENTRO >>	
RIBBON 0h					ACK/BUSY	[Rising edge]
SOLENOID 0h					INPUT PRIME	[ON]
232C ERR 0					PLUG & PLAY	[OFF]
SYSTEM ERR 0					<< LAN/WLAN >> *2	
POWER FAIL 0					LAN/WLAN	[OFF]
<< ADJUST >>					SNMP	[OFF]
[PC]		[KEY]			IP ADDRESS	[192.168.010.020]
FEED	+0.0mm	FEED	+0.0mm		v6L[fe80::280:91ff:fe88:ea8	]
CUT	+0.0mm	CUT	+0.0mm		v6G[	]
BACK	+0.0mm	BACK	+0.0mm		SUBNET MASK	[255.255.255.000]
TONE(T)	+0step	TONE(T)	+0step		GATEWAY ADDRESS	[000.000.000.000]
TONE(D)	+0step	TONE(D)	+0step		SOCKET PORT	[OFF] [08000]
(RIBBON TORQU NORM)				DHCP	[OFF]	
RBN(FW)	+0	RBN(FW)	+0	DHCP CLIENT ID	[FFFFFFFFFFFFFFFFFFFFF]	
RBN(BK)	+0	RBN(BK)	+0		[FFFFFFFFFFFFFFFFFFFFF]	
(RIBBON TORQU LOW)					[FFFFFFFFFFFFFFFFFFFFF]	
RBN(FW)	+0	RBN(FW)	+0		[FFFFFFFFFFFFFFFFFFFFF]	
RBN(BK)	+0	RBN(BK)	+0		[FFFFFFFFFFFFFFFFFFFFF]	
X ADJ.	+0.0mm				[FFFFFFFFFFFFFFFFFFFFF]	
THRESHOLD(R)	0.0V				[FFFFFFFFF]	
THRESHOLD(T)	0.0V			DHCP HOST NAME	[ABCDEFGHGIJKLMNOPQRST] [UVWXYZ123456]	
<< PARAMETER SETTINGS >>				WLAN STANDARD	[11b/g]	
MEDIA LOAD	[STD]			BAND SELECT	[DUAL BAND]	
MOVE TO TEAROFF	[ON] +0.0mm	[MODE1]		CONNECTION MODE	[ADHOC]	
HEAD UP CUT/RWD	[OFF]			ESS ID	[]	
RIBBON SAVE	[OFF]			ENCRYPTION	[OFF]	
PRE PEEL OFF	[OFF]			WPA MODE	[OFF]	
BACK FEED SPEED	[STD]			AUTHENTICATION	[OPEN SYSTEM]	
CALIBRATION	[OFF]			802.1X SUPPLICANT	[OFF]	
CODE PAGE	[PC-850]	[0]		DEFAULT KEY	[1]	
CTRL CODE	[AUTO]			802.11b CHANNEL	[01]	
PEEL OFF STATUS	[ON]			802.11b BAUD RATE	[11M]	
USB I/F STATUS	[OFF]			802.11g CHANNEL	[01]	
FEED KEY	[FEED]			802.11g BAUD RATE	[54M]	
KANJI CODE	[TYPE1:Windows]			AP MODE CHANNEL	[1ch]	
EURO CODE	[B0]			WINS	[OFF]	
AUTO HEAD CHK	[OFF]			WINS IP ADDRESS	[000.000.000.000]	
WEB PRINTER	[OFF]			LPR	[OFF]	
RIBBON NEAR END	[OFF]			<< RFID >>		
EX.I/O MODE	[TTEC Standard]			MODULE TYPE	[NONE]	
PAPER/RBN END	[Stop immediately]			TAG TYPE	[NONE]	
MAXICODE SPEC.	[TYPE1: Compatible]			RF CHANNEL	[AUTO]	
XML	[STD]			RETRY POSITION	[+00mm]	
THRESHOLD SEL(R)	[MANUAL SET]			RETRY LABELS	[3labels]	
THRESHOLD SEL(T)	[MANUAL SET]			READ RETRY	[5times] [4.0sec]	
ENERGY TYPE(T)	[R1: AS1/2,RS1,SS2/3]*1			WRITE RETRY	[5times] [4.0sec]	
ENERGY TYPE(D)	[NORM:Normal]*1			POWER LEVEL	[0]	
POWER SAVE TIME	[15min]			Q VALUE	[0]	
RIBBON TORQUE	[Normal]			AGC THRESHOLD	[0]	
TYPE OF RIBBON	[CSO]			WRITE AGC	[0]	
BASIC	[OFF]			RETRY MIN AGC	[0]	
BASIC TRACE	[OFF]			TAG CHECK	[PASSWORD] [ON] [ON]	
CUT MODE	[ON]			MULTI WRITE	[OFF]	
<< PANEL >>				SUCCEEDED TAGS	9999999	
LANGUAGE	[ENGLISH]			VOID PRINT TAGS	9999999	
MODEL NAME	[ON]			<< RTC >>		
PRINTED COUNTER	[ON]			BATTERY CHECK	[ON]	
IP ADDRESS	[ON]			RENEWAL	[start of JOB]	
CONTRAST	[40]					
SYSTEM PASSWORD	[OFF]					
<< STORAGE AREA >>						

Note: In B-EX4T2-H, when you press and hold the [MODE] and [ENTER] keys to go to the system mode, the parameters are printed only up to 500 mm. Therefore, you cannot check the part beyond that.

B-EX4D2

<< COUNTER >>				[QM]	EXT CHR AREA	[0KB]	
TOTAL FEED	3.7km				BASIC AREA	[0KB]	
FEED	2.4km				PC SAVE AREA	[0KB]	
FEED1	1.3km				<< USB >>		
FEED2	0.0km				SERIAL NUMBER	[DISABLE]	
FEED3	0.0km					[XXXXXXXXXXXXX]	
FEED4	0.0km				<< RS-232C >>		
PRINT	2.4km				BAUD RATE	[9600]	
PRINT1	1.3km				DATA LENGTH	[8]	
PRINT2	0.0km				STOP BIT	[1]	
PRINT3	0.0km				PARITY	[EVEN]	
PRINT4	0.0km				CONTROL	[XON+READY AUTO]	
CUT	0				<< CENTRO >>		
HEAD U/D	0				ACK/BUSY	[Rising edge]	
RIBBON	0h				INPUT PRIME	[ON]	
SOLENOID	0h				PLUG & PLAY	[OFF]	
232C ERR	0				<< LAN/WLAN >> *2		
SYSTEM ERR	0				LAN/WLAN	[OFF]	
POWER FAIL	0				SNMP	[OFF]	
<< ADJUST >>					IP ADDRESS	[192.168.010.020]	
[PC]		[KEY]			v6L[fe80::280:91ff:fe88:ea8	]]	
FEED	+0.0mm	FEED	+0.0mm		v6G[		
CUT	+0.0mm	CUT	+0.0mm		SUBNET MASK	[255.255.255.000]	
BACK	+0.0mm	BACK	+0.0mm		GATEWAY ADDRESS	[000.000.000.000]	
TONE(T)	+0step	TONE(T)	+0step		SOCKET PORT	[OFF] [08000]	
TONE(D)	+0step	TONE(D)	+0step		DHCP	[OFF]	
(RIBBON TORQU NORM)					DHCP CLIENT ID	[FFFFFFFFFFFFFFFFFFFFF]	
RBN(FW)	+0	RBN(FW)	+0			[FFFFFFFFFFFFFFFFFFFFF]	
RBN(BK)	+0	RBN(BK)	+0			[FFFFFFFFFFFFFFFFFFFFF]	
(RIBBON TORQU LOW)						[FFFFFFFFFFFFFFFFFFFFF]	
RBN(FW)	+0	RBN(FW)	+0			[FFFFFFFFFFFFFFFFFFFFF]	
RBN(BK)	+0	RBN(BK)	+0			[FFFFFFFFFFFFFFFFFFFFF]	
X ADJ.	+0.0mm					[FFFFFFFFFFFFFFFFFFFFF]	
THRESHOLD(R)	0.0V					[FFFFFFFFF]	
THRESHOLD(T)	0.0V				DHCP HOST NAME	[ABCDEFGHGIJKLMNOPQRST]	
<< PARAMETER SETTINGS >>						[UVWXYZ123456]	
MEDIA LOAD	[STD]				WLAN STANDARD	[11b/g]	
MOVE TO TEAROFF	[ON] +0.0mm	[MODE1]			BAND SELECT	[DUAL BAND]	
HEAD UP CUT/RWD	[OFF]				CONNECTION MODE	[ADHOC]	
RIBBON SAVE	[OFF]				ESS ID	[]]	
PRE PEEL OFF	[OFF]				ENCRYPTION	[OFF]	
BACK FEED SPEED	[STD]				WPA MODE	[OFF]	
CALIBRATION	[OFF]				AUTHENTICATION	[OPEN SYSTEM]	
CODE PAGE	[PC-850]	[0]			802.1X SUPPLICANT	[OFF]	
CTRL CODE	[AUTO]				DEFAULT KEY	[1]	
PEEL OFF STATUS	[ON]				802.11b CHANNEL	[01]	
USB I/F STATUS	[OFF]				802.11b BAUD RATE	[11M]	
FEED KEY	[FEED]				802.11g CHANNEL	[01]	
KANJI CODE	[TYPE1:Windows]				802.11g BAUD RATE	[54M]	
EURO CODE	[B0]				AP MODE CHANNEL	[1ch]	
AUTO HEAD CHK	[OFF]				WINS	[OFF]	
WEB PRINTER	[OFF]				WINS IP ADDRESS	[000.000.000.000]	
RIBBON NEAR END	[OFF]				LPR	[OFF]	
EX.I/O MODE	[TTEC Standard]			<< RFID >>			
PAPER/RBN END	[Stop immediately]			MODULE TYPE	[NONE]		
MAXICODE SPEC.	[TYPE1: Compatible]			TAG TYPE	[NONE]		
XML	[STD]			RF CHANNEL	[AUTO]		
THRESHOLD SEL(R)	[MANUAL SET]			RETRY POSITION	[+00mm]		
THRESHOLD SEL(T)	[MANUAL SET]			RETRY LABELS	[3labels]		
ENERGY TYPE(T)	[W1: AW3/5/6F/7F,SW1]*1			READ RETRY	[5times] [4.0sec]		
ENERGY TYPE(D)	[NORM:Normal] *1			WRITE RETRY	[5times] [4.0sec]		
POWER SAVE TIME	[15min]			POWER LEVEL	[0]		
RIBBON TORQUE	[Normal]			Q VALUE	[0]		
TYPE OF RIBBON	[CSO]			AGC THRESHOLD	[0]		
BASIC	[OFF]			WRITE AGC	[0]		
BASIC TRACE	[OFF]			RETRY MIN AGC	[0]		
CUT MODE	[ON]			TAG CHECK	[PASSWORD] [ON] [ON]		
<< PANEL >>				MULTI WRITE	[OFF]		
LANGUAGE	[ENGLISH]			SUCCEEDED TAGS	9999999		
MODEL NAME	[ON]			VOID PRINT TAGS	9999999		
PRINTED COUNTER	[ON]			<< RTC >>			
IP ADDRESS	[ON]			BATTERY CHECK	[ON]		
CONTRAST	[40]			RENEWAL	[start of JOB]		
SYSTEM PASSWORD	[OFF]						
<< STORAGE AREA >>							
TTF AREA	[0KB]						

Note:

1. If "CN" is selected for the parameter clear destination, the ENERGY TYPE parameter is not displayed on the menu and is unable to be set in the system mode and user system mode. However, the default value (See Section 9.8.3 PARAMETER CLEAR) will be set after a parameter clear, so it is printed on the maintenance counter/parameter settings print label.
2. The content to be printed differs depending on whether the wireless LAN module is installed or not and the type of module installed. (B-EX4 series only)

The table below shows the status. Only the supported items are printed. When the wireless LAN module is not installed, all of the following items are not printed.

○: Supported

- : Not supported

Parameter	WLAN module		
	B-EX700-WLAN-QM-R	B-EX700-WLAN3-QM-S	Not installed
WLAN STANDARD	○	-	-
BAND SELECT	-	○	-
CONNECTION MODE	○	○	-
ESS ID	○	○	-
ENCRYPTION	○	○	-
WPA MODE	○	○	-
AUTHENTICATION	○	○	-
802.1X SUPPLICANT	○	○	-
DEFAULT KEY	○	○	-
802.11b CHANNEL	○	-	-
802.11b BAUD RATE	○	-	-
802.11g CHANNEL	○	-	-
802.11g BAUD RATE	○	-	-
AP MODE CHANNEL	-	○	-

Print condition:

Label length		490 mm to 530 mm (length varies depending on the model)
Print method		User setting
Sensor type		None
Speed	203 dpi: B-EX6T1/T3-G	5 ips
	305 dpi: B-EX6T1/T3-T	5 ips
	203 dpi: B-EX4T1-G	6 ips
	305 dpi: B-EX4T1-T	5 ips
	203 dpi: B-EX4T2-G	6 ips
	300 dpi: B-EX4T2-T	5 ips
	600 dpi: B-EX4T2-H	3 ips
	203 dpi: B-EX4D2-G	6 ips
Print count		1
Issue mode		User setting
Others		No rewinder motor activated

<< COUNTER >>

TOTAL FEED	[Description] Total label distance covered (cannot be cleared)
	[Range] 0.0 to 3200.0 km
	[Counting condition] Counted when the media feed motor is driven to feed or print the media. (The reverse feed is also counted.) When the power is turned off, the media distance of 50.0 cm or less may be rounded down when backed up.
FEED	[Description] Label distance covered
	[Range] 0.0 to 3200.0 km
	[Counting condition] Counted when the media feed motor is driven to feed or print the media. (The reverse feed is also counted.) When the power is turned off, the media distance of 50.0 cm or less may be rounded down when backed up.
FEED1 to FEED4	[Description] History of last 4 label distances
	[Range] 0.0 to 3200.0 km
	[Counting condition] When the maintenance counter is RAM-cleared, the label distance covered is saved as FEED 1. At this time, data which were saved in FEED 1, FEED 2 and FEED 3 are re-saved as FEED 2, FEED 3, and FEED 4, respectively.
PRINT	[Description] Print distance
	[Range] 0.0 to 200.0 km
	[Counting condition] Counted while printing. (The reverse feed is not counted.) B-EX6T1/T3-G, B-EX4T1-G, B-EX4T2-G, B-EX4D2-G: When the power is turned off, the print distance of 8.2 m or less is rounded down when backed up. B-EX6T1/T3-T, B-EX4T1-T, B-EX4T2-T: When the power is turned off, the print distance of 5.6 m or less is rounded down when backed up. B-EX4T2-H: When the power is turned off, the print distance of 2.8 m or less is rounded down when backed up.
PRINT1 to PRINT4	[Description] History of the last 4 print distances
	[Range] 0.0 to 3200.0 km
	[Counting condition] When the maintenance counter is RAM-cleared, the print distance is saved as PRINT 1. At this time, data which were saved in PRINT 1, PRINT 2 and PRINT 3 are re-saved as PRINT 2, PRINT 3, and PRINT 4, respectively.
CUT	[Description] Number of cut times
	[Range] 0 to 1000000

	[Counting condition] Every cut operation is counted. The count is saved every 4 cut operations.
HEAD U/D	[Description] Head up/down count
	[Range] 0 to 2000000
	[Counting condition] The number of times the print head moves up and down with the solenoid for ribbon saving is counted. (A set of up and down is counted as one.) The count is saved every 4 head up/down operations.
RIBBON	[Description] Ribbon motor drive time
	[Range] 0 to 2000 hours
	[Counting condition] Counted when the ribbon motor is driven while media feeding or printing. (The reverse feed is also counted.) When the power is turned off, drive time of 10 seconds or less is rounded down when backed up.
SOLENOID	[Description] Head-up solenoid drive time
	[Range] 0 to 1000 hours
	[Counting condition] Counted when the ribbon saving operation is performed. When the power is turned off, the driving time of 10 seconds or less is rounded down when backed up.
232C ERR	[Description] Number of times an RS-232C hardware error occurred
	[Range] 0 to 255
	[Counting condition] Counted when a parity error, overrun error or framing error occurs.
SYSTEM ERR	[Description] Number of times a system error occurred
	[Range] 0 to 15
	[Counting condition] Counted when a system error occurs.
POWER FAIL	[Description] Number of times a momentary power interruption occurred
	[Range] 0 to 15
	[Counting condition] Counted when a momentary power interruption occurs.

<< ADJUST >>

Item	Description	Remarks
[PC]/[KEY]		
FEED	Feed amount fine adjustment	-50.0 mm to +50.0 mm
CUT	Cut position (or strip position) fine adjustment	-50.0 mm to +50.0 mm
BACK	Reverse feed amount fine adjustment	-9.9 mm to +9.9 mm
TONE (T)	Print density fine adjustment (Thermal transfer print mode)	B-EX6T1/T3: -20 to +20 step B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2: -10 to +10 step
TONE (D)	Print density fine adjustment (Direct thermal print mode)	B-EX6T1/T3: -20 to +20 step B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2: -10 to +10 step
RIBBON TORQUE NORM		
RBN (FW)	Ribbon motor drive voltage fine adjustment (Ribbon take-up side)	-15 to +10 step
RBN (BK)	Ribbon motor drive voltage fine adjustment (Ribbon supply side)	-15 to +10 step
RIBBON TORQUE LOW		
RBN (FW)	Ribbon motor drive voltage fine adjustment (Ribbon take-up side)	-15 to +10 step
RBN (BK)	Ribbon motor drive voltage fine adjustment (Ribbon supply side)	-15 to +10 step
RIBBON TORQUE RSV1 (B-EX6T1/T3 only)		
RBN (FW)	Ribbon motor drive voltage fine adjustment (Ribbon take-up side)	-15 to +10 step

RBN (BK)	Ribbon motor drive voltage fine adjustment (Ribbon supply side)	-15 to +10 step
X ADJ.	X-coordinate fine adjustment	-99.5 mm to +99.5 mm
THRESHOLD<R>	Threshold fine adjustment for the reflective sensor	0.0 V to 4.0 V
THRESHOLD<T>	Threshold fine adjustment for the transmissive sensor	0.0 V to 4.0 V

<< PARAMETER SETTINGS >>

MEDIA LOAD []		
[Description] Media feeding to the print start position		
[Values to be printed]		
OFF: Disabled.		
STD: Feeds the detected gap/mark to the print start position.		
ECO: Feeds a gap/mark positioned between the print head and the media sensor, if any, to the print start position.		
ECO+Backfeed: Backfeed follows the above ECO printer behavior.		
MOVE TO TEAROFF [1] [2] [3]		
[Description 1] Auto feed to the cut/strip position after printing		
[Value to be printed 1]		
OFF: Disabled.		
ON: Enabled. The following media stop position fine adjustment value is also printed.		
[Description 2] Media stop position fine adjustment value		
Note: Printed only when the “Auto feed to the cut/strip position after printing” is set to ON.		
[Value to be printed 2]		
-5.0 mm to+5.0 mm		
[Description 3] Feed mode		
[Value to be printed 3]		
MODE1: Feeds the media for the fixed length.		
B-EX6T1/T3: 16.5 mm		
B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2: 13.7 mm		
MODE2: Feeds the media backward for 6 mm, then feeds it forward for 3 mm. (Only when the cut mode, thermal transfer, and feed gap sensor are selected.) In other conditions, the printer feeds the media for the fixed length.		
B-EX6T1/T3: 16.5 mm		
B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2: 13.7 mm		
MODE3: Feeds the media for the fixed length. This is an exclusive specification for issuing the RFID media. (For B-EX4T1 and B-EX6T1 only)		
B-EX6T1/T3: 34.0 mm		
B-EX4T1: 31.2 mm		
HEAD UP CUT/RWD []		
[Description] Whether to enable the head-up function during cut issue or use the rewinder		
[Values to be printed]		
OFF: The head-up function is disabled during cut issue or the rewinder is not used.		
ON: The head-up function is enabled during cut issue or the rewinder is used.		
Note: In B-EX4T2, B-EX4T2-H, B-EX4D2 and B-EX6T3, since there is no head-up mechanism, this setting is a specification for “switching to use the rewinder”. The head-up cut is fixed to “OFF”.		
RIBBON SAVE []		
[Description] Whether to use the ribbon saving module		
[Values to be printed] B-EX6T1/T3		
OFF: Not used		

ON:POSITION1: The ribbon saving module is used. (Head lever position: Position1) ON:POSITION2: The ribbon saving module is used. (Head lever position: Position2) * Currently, only Position1 is available to use since there is no distinguish between position1 and position2. * Even if "ON:POSITION1" or "ON:POSITION2" is set, the setting will be "OFF" and the operation.	
[Values to be printed] B-EX4T1, B-EX4T2,B-EX4T2-H,B-EX4D2 OFF: Not used ON:TAG: The ribbon saving module is used. (Head lever position: TAG) ON:LABEL: The ribbon saving module is used. (Head lever position: LABEL) * Even if "ON:TAG" or "ON:LBL" is set, the setting will be "OFF" and the operation.	
PRE PEEL OFF []	
[Description] Whether to enable the pre-peel-off function	
[Values to be printed] OFF: Enabled ON: Disabled	
BACK FEED SPEED []	
[Description] Reverse feed speed	
[Values to be printed] STD: 3 ips LOW: 2 ips	
TYPE OF RIBBON [] (for B-EX4T2 and B-EX4D2 only)	
[Description] Ribbon type	
[Values to be printed] CSO: Outside wound ribbon CSI: Inside wound ribbon * This parameter is invalid for B-EX4D2.	
CALIBRATION []	
[Description] Automatic calibration	
[Values to be printed] OFF: Disabled ON TRANS.: Auto calibration is performed with the transmissive sensor. ON REFL.: Auto calibration is performed with the reflective sensor. ON ALL: Auto calibration is performed with both sensors. ON TRAS+BF: Auto calibration is performed with the transmissive sensor, then the media is reversely fed. ON REFL+BF: Auto calibration is performed with the reflective sensor, then the media is reversely fed. ON ALL+BF: Auto calibration is performed with both sensors, then the media is reversely fed. * In B-EX4T2, B-EX4T2-H, and B-EX4D2, the following settings and operations are performed when "ON TRANS. + Bfeed", "ON REFLECT + Bfeed" or "ON ALL + Bfeed" is set. ON TRANS. + Bfeed ⇒ ON TRANS ON REFLECT + Bfeed ⇒ ON REFLECT ON ALL + Bfeed ⇒ ON ALL	
CODE PAGE [1] [2]	
[Description 1] Character code selection	
[Value to be printed 1] 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
	[Description 2] Character “0” selection
	[Values to be printed] 0: With slash Ø: Without slash
CTRL CODE []	
	[Description] Control code type
	[Values to be printed] AUTO: Automatic selection {, ,}: {, ,} method ESC,LF,NL: ESC,LF,NL method MANUAL: Any code (described in a hex. code)
PEEL OFF STATUS []	
	[Description] Whether to send a peel-off wait status to the host
	[Values to be printed] OFF: Not sent ON: Sent
USB I/F STATUS []	
	[Description] Whether to send a response to the host via a USB
	[Values to be printed] OFF: Not sent ON: Sent
FEED KEY []	
	[Description] Function of the [FEED] key
	[Values to be printed] FEED: The printer feeds one label. PRINT: The printer prints data in the image buffer on one label.
KANJI CODE []	
	[Description] Kanji code type
	[Values to be printed] TYPE1: Windows: WINDOWS codes TYPE2: Original: Original codes
EURO CODE []	
	[Description] Euro code setting
	[Values to be printed] 20 to FF (Hex. code)
AUTO HEAD CHK []	
	[Description] Whether to perform automatic print head check
	[Values to be printed] OFF: Not performed ON: Performed
WEB PRINTER []	
	[Description] Whether to use the printer as a web printer
	[Values to be printed] OFF: Not used ON INTERNAL: Used (Internal memory used) ON EXTERNAL: Used (External memory used)
RIBBON NEAR END []	

	[Description] Ribbon nearly end detection
	[Values to be printed] OFF: Disabled. 30m: Ribbon nearly end status is detected when the remaining ribbon length is approx. 30 m. 70m: Ribbon nearly end status is detected when the remaining ribbon length is approx. 70 m.
EX. I/O MODE []	
	[Description] Expansion I/O operation mode
	[Values to be printed] TTEC Standard: Standard mode Inline: In-line mode
PAPER/RBN END []	
	[Description] Printer behavior at label/ribbon end
	[Values to be printed] Stop immediately: When a label/ribbon end status is detected, the printer stops immediately. Complete current: When a label/ribbon end status is detected, the printer prints the current label as far as possible, and then stops.
MAXICODE SPEC. []	
	[Description] MaxiCode specification
	[Values to be printed] TYPE1: Compatible: Compatible with the current version TYPE2: Special Spec: Special specification
XML []	
	[Description] XML data printing
	[Values to be printed] OFF: Disabled STD: Standard specification ORACLE: Specification for Oracle SAP: Specification for SAP STD EXTERNAL: Standard specification (External memory used) ORACLE EXTERNAL: Specification for Oracle (External memory used) SAP EXTERNAL: Specification for SAP (External memory used)
THRESHOLD SEL(R) []	
	[Description] Threshold value for the reflective sensor
	[Values to be printed] MANUAL SET: A value manually set is used. COMMAND SET: A command specified value is used.
THRESHOLD SEL(T) []	
	[Description] Threshold value for the transmissive sensor
	[Values to be printed] MANUAL SET: A value manually set is used. COMMAND SET: A command specified value is used.
ENERGY TYPE (T) []	
	[Description] Energy level applied to the print head in the thermal transfer mode
	[Values to be printed] B-EX6T1/T3 Generic: General-purpose rsv1: (Reserved1): Reserved rsv2: (Reserved2): Reserved rsv3: (Reserved3): Reserved rsv4: (Reserved4): Reserved rsv5: (Reserved5): Reserved rsv6: (Reserved6): Reserved rsv7: (Reserved7): Reserved rsv8: (Reserved8): Reserved rsv9: (Reserved9): Reserved

[Values to be printed] B-EX4T1	
SR1:AG2,AG4,AG6E:	Semi-resin1
SR2:RG2,FG2,SG2:	Semi-resin2
R1:AS1:	Resin1
R2:RS1:	Resin2
R3: (Resin3):	Resin3
Generic:	Generic
rsv1: (Reserved1):	Reserved
rsv2: (Reserved2):	Reserved
rsv3: (Reserved3):	Reserved
rsv4: (Reserved4):	Reserved
Note: "R3: (Resin3)" is not usable for B-EX4T1-T.	
[Values to be printed] B-EX4T2, B-EX4D2	
W1: AW3/5/6F/7F,SW1:	Wax1
W2: (Wax2):	Wax2
SR1: AG3:	Semi-resin1
SR2: AG4,RG2,SG3/4/5:	Semi-resin2
R1: AS1/2, RS1, SS2/3:	Resin1
W3: (Wax3):	Wax3
SR3: (SemiResin3):	Semi-resin3
R2: (Resin2):	Resin2
Generic:	Generic (Multiple type)
Reserve1:	Reserved1
* This parameter is not used for B-EX4D2.	
[Values to be printed] B-EX4T2-H	
R1:AS1/2,RS1,SS2/3:	Resin1
R2: (Resin2):	Resin2
R3: (Resin3):	Resin3
rsv1: (Reserved1)	
to rsv7: (Reserved7):	Reserved 1 to Reserved 7
ENERGY TYPE (D) []	
[Description] Energy level applied to the print head in the thermal direct mode	
[Values to be printed]	
NORM: Normal:	Standard
rsv1: (Reserved1):	Reserved
rsv2: (Reserved2):	Reserved
rsv3: (Reserved3):	Reserved
rsv4: (Reserved4):	Reserved
rsv5: (Reserved5):	Reserved
rsv6: (Reserved6):	Reserved
rsv7: (Reserved7):	Reserved
rsv8: (Reserved8):	Reserved
rsv9: (Reserved9):	Reserved
Note: In B-EX4T1 and B-EX4T2, if "CN" is selected for the parameter clear destination, the ENERGY TYPE parameter is not displayed on the menu and is unable to be set in the system mode and user system mode. However, the initial value will be set after a RAM clearing, so it is printed on the maintenance counter/parameter settings print label.	
POWER SAVE TIME []	
[Description] Length of time until the printer enters the sleep mode	
[Values to be printed]	
1 min. to 240 min.	
RIBBON TORQUE []	
[Description] Ribbon take-up torque	
[Values to be printed]	
Normal:	Standard
Low:	Low
BASIC []	

	[Description] Basic interpreter setting
	[Values to be printed] OFF: Basic interpreter is disabled. ON: Basic interpreter is enabled.
BASIC TRACE []	
	[Description] Basic interpreter trace setting
	[Values to be printed] OFF: Trace is disabled. ON: Trace is enabled.
CUT MODE []	
	[Description] Cut mode setting
	[Values to be printed] TYPE1: Standard (speed-up function available) TYPE2: Conventional

<< PANEL >>

LANGUAGE []	
	[Description] Selection of a language for displaying LCD messages
	[Values to be printed] ENGLISH: English GERMAN: German FRENCH: French DUTCH: Dutch SPANISH: Spanish JAPANESE: Japanese ITALIAN: Italian PORTUGUESE: Portuguese Si.CHINESE: Simplified Chinese KOREAN: Korean TURKISH: Turkish POLISH: Polish
MODEL NAME []	
	[Description] Whether to display the model name
	[Values to be printed] OFF: Hidden ON: Displayed
PRINTED COUNTER []	
	[Description] Whether to display the number of labels printed
	[Values to be printed] OFF: Hidden ON: Displayed
IP ADDRESS []	
	[Description] Whether to display the IP address
	[Values to be printed] OFF: Hidden ON: Displayed
CONTRAST []	
	[Description] LCD contrast
	[Values to be printed] 24 to 50

SYSTEM PASSWORD []	
[Description]	System mode password setting
[Values to be printed]	OFF: Disabled ON Enabled

<< STORAGE AREA >>

TTF AREA []	
[Description]	TrueType Font storage area size
[Values to be printed]	0 KB to 3072 KB
EXT CHR AREA []	
[Description]	External character storage area size
[Values to be printed]	0 KB to 3072 KB
BASIC AREA []	
[Description]	Basic file storage area size
[Values to be printed]	0 KB to 3072 KB
PC SAVE AREA []	
[Description]	PC command storage area size
[Values to be printed]	0 KB to 3072 KB
OTF SAVE AREA [] (B-EX6T1/T3 and B-EX4T1-QM)	
[Description]	OTF storage area size
[Values to be printed]	0 KB to 17408 KB * However, when shipped from the factory, OTF CJK is already installed, and the rest is 1360 KB.

<< USB >>

SERIAL NUMBER [1] [2]	
[Description 1]	Whether to enable a USB serial number
[Values to be printed]	DISABLE: Disabled ENABLE: Enabled
[Description 2]	USB serial number

<< RS-232C >>

BAUD RATE []	
[Description]	Baud rate
[Values to be printed]	2400: 2400 bps 4800: 4800 bps 9600: 9600 bps 19200: 19200 bps 38400: 38400 bps 115200: 115200 bps
DATA LENGTH []	

	[Description] Data length
	[Values to be printed]
	8: 8 bits 7: 7 bits
STOP BIT []	
	[Description] Stop bit length
	[Values to be printed]
	1: 1 bit 2: 2 bits
PARITY []	
	[Description] Parity
	[Values to be printed]
	NONE: None EVEN: Even ODD: Odd
CONTROL []	
	[Description] Transmission control method
	[Values to be printed]
	XON+READY AUTO: XON/XOFF+ READY/BUSY(DTR) mode (XON output when the power is on, XOFF output when the power is off) XON/XOFF AUTO: XON/XOFF mode (XON output when the power is on, XOFF output when the power is off) READY/BUSY RTS: RTS mode (No XON output when the power is on, no XOFF output when the power is off) XON/XOFF: XON/XOFF mode (No XON output when the power is on, no XOFF output when the power is off) READY/BUSY: READY/BUSY(DTR) (No XON output when the power is on, no XOFF output when the power is off)

<< CENTRO >>

ACK/BUSY []	
	[Description] Centronics ACK/BUSY timing
	[Values to be printed]
	Rising edge: A rise of the ACK signal and a release of BUSY occur at the same time. Trailing edge: A fall of the ACK signal and a release of BUSY occur at the same time.
INPUT PRIME []	
	[Description] Reset process when the nInIt signal is ON
	[Values to be printed]
	OFF: Not performed ON: Performed
PLUG & PLAY []	
	[Description] Plug-and-play operation
	[Values to be printed]
	OFF: Disabled ON: Enabled

<< LAN/WLAN >>

LAN/WLAN []	
[Description]	LAN type
[Values to be printed]	OFF: Disabled AUTO: Automatically selected (If a wireless LAN is installed, a wired LAN is not available.) LAN: Wired LAN WLAN: Wireless LAN
SNMP []	
[Description]	Whether to enable SNMP
[Values to be printed]	OFF: Disabled ON: Enabled
IP ADDRESS []	
[Description]	Printer IP address
[Values to be printed]	xxx.xxx.xxx.xxx
v6 L []	
[Description]	IPv6 link local address
[Values to be printed]	xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx
v6 G []	
[Description]	IPv6 global address
[Values to be printed]	xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx
SUBNET MASK []	
[Description]	Subnet mask
[Values to be printed]	xxx.xxx.xxx.xxx
GATEWAY ADDRESS []	
[Description]	Gateway IP address
[Values to be printed]	xxx.xxx.xxx.xxx
SOCKET PORT [1] [2]	
[Description 1]	Socket communication
[Values to be printed 1]	OFF: Disabled ON: Enabled
[Description 2]	Socket communication port number
[Values to be printed 2]	00000 to 65535
DHCP []	
[Description]	DHCP setting
[Values to be printed]	OFF: Disabled ON: Enabled
DHCP CLIENT ID []	

	[Description] DHCP client ID setting (Hex.)
	[Values to be printed] Max. 64 characters
DHCP HOST NAME []	
	[Description] DHCP host name (ASCII)
	[Values to be printed] Max. 32 characters
WLAN STANDARD [] (for B-EX4 series only)	
	[Description] Wireless LAN: Standard
	[Values to be printed] 11b/g: 802.11b/g 11b: 802.11b 11g: 802.11g
BAND SELECT []	
	[Description] Wireless LAN: Band setting
	[Values to be printed] DUAL BAND: 2.4GHz/5GHz 2.4GHz: 2.4GHz 5.0GHz: 5GHz
CONNECTION MODE []	
	[Description] Wireless LAN: Connection setting
	[Values to be printed] B-EX6T1/T3 AP MODE INFRASTRUCTURE
	[Values to be printed] B-EX4 series (The setting parameters are different depending on the installed module.) ADHOC (B-EX700-WLAN-QM-R) AP Mode (B-EX700-WLAN3-QM-S) INFRASTRUCTURE (B-EX700-WLAN-QM-R, B-EX700-WLAN3-QM-S)
ESS ID []	
	[Description] Wireless LAN: ESS ID
	[Values to be printed] Max. 32 characters (The available character type is different depending on the installed module. Reference: 9.9.1 Wired Lan, Wireless LAN)
ENCRYPTION []	
	[Description] Wireless LAN: Encryption key setting
	[Values to be printed] B-EX6T1/T3 OFF WEP40 Note: This parameter is set by using the Printer Setting Tool.
	[Values to be printed] B-EX4T series (The setting parameters are different depending on the installed module. Reference: Chapter of 9.7 in "Network Specification") OFF WEP40 WEP104 AES TKIP Note: This parameter is set by using the Printer Setting Tool.

WPA MODE []	
[Description] Wireless LAN: WPA setting	
[Values to be printed] B-EX6T1/T3	
OFF	Note: This parameter is set by using the Printer Setting Tool.
WPA-Personal	
WPA2-Personal	
WPA-Enterprise	
WPA2-Enterprise	
[Values to be printed] B-EX4 series	
OFF	Note: This parameter is set by using the Printer Setting Tool.
WPA	
WPA-PSK	
WPA2	
WPA2-PSK	
AUTHENTICATION []	
[Description] Wireless LAN: Authentication method	
[Values to be printed] B-EX6T1/T3	
OPEN	Note: This parameter is set by using the Printer Setting Tool.
SHARED	
[Values to be printed] B-EX4 series	
(The setting parameters are different depending on the mounting module. Reference: Chapter of 9.7 in "Network Specification")	
OPEN	Note: This parameter is set by using the Printer Setting Tool.
SHARED	
NETWORK EAP	
802.1X SUPPLICANT []	
[Description] Wireless LAN: Authentication method	
[Values to be printed] B-EX6T1/T3	
OFF	Note: This parameter is set by using the Printer Setting Tool.
EAP-TLS	
EAP-TTLS	
EAP-FAST MSCHAPV2	
EAP-FAST GTC	
PEAP MSCHAPV2	
PEAP MSCHAPV2(w/o Cert)	
PEAP GTC	
PEAP GTC(w/o Cert)	
[Values to be printed] B-EX4 series	
(The setting parameters are different depending on the mounting module. Reference: Chapter of 9.7 in "Network Specification")	
OFF	Note: This parameter is set by using the Printer Setting Tool.
EAP-TLS	
PEAP	
PEAP OUT	
EAP-TTLS	
EAP-FAST	
EAP-MD5	
LEAP	
DEFAULT KEY []	

1

1

	[Description] Wireless LAN: Encryption key for sending
	[Values to be printed] 1 to 4
802.11bgn CHANNEL [] (for B-EX6T1/T3 only)	
	[Description] Wireless LAN: AP MODE connection channel setting
	[Values to be printed] 1 to 14
802.11b CHANNEL [] (for the B-EX4 series only)	
	[Description] Wireless LAN: 11b connection channel setting
	[Values to be printed] 1 to 14
802.11b BAUD RATE [] (for the B-EX4 series only)	
	[Description] Wireless LAN: 11b baud rate setting
	[Values to be printed] 11M 5.5M 2M 1M
802.11g CHANNEL [] (for the B-EX4 series only)	
	[Description] Wireless LAN: 11g connection channel setting
	[Values to be printed] 1 to 13
802.11g BAUD RATE [] (for the B-EX4 series only)	
	[Description] Wireless LAN: 11g baud rate setting
	[Values to be printed] 54M 48M 36M 24M 18M 12M 9M 6M 11M 5.5M 2M 1M
AP MODE CHANNEL []	
	[Description] Wireless LAN: setting of AP mode channel
	[Values to be printed] Note: This parameter is set by using the Printer Setting Tool. 1 ch, 2 ch, 3 ch, 4 ch, 5 ch, 6 ch, 7 ch, 8 ch, 9 ch, 10 ch, 11 ch, 12 ch, 13 ch, 36 ch, 40 ch, 44 ch, 48 ch, 52 ch, 56 ch, 60 ch, 64 ch, 100 ch, 104 ch, 112 ch, 116 ch, 120 ch, 124 ch, 128 ch, 132 ch, 136 ch, 140 ch, 149 ch, 153 ch, 157 ch, 161 ch, 165 ch
WINS []	
	[Description] Whether to enable WINS
	[Values to be printed] OFF: Disabled

	ON: Enabled
WINS IP ADDRESS []	
	[Description] WINS IP ADDRESS
	[Values to be printed] xxx.xxx.xxx.xxx
LPR []	
	[Description] Whether to enable LPR
	[Values to be printed] OFF: Disabled ON: Enabled

<< RFID >>

MODULE TYPE []	
	[Description] RFID module type
	[Values to be printed] B-EX6T1/T3 NONE: No RFID kit installed H1: HF band(H1) H2: HF band(H2) U2: UHF band(U2/U4) B-EX706-RFID-U4-EU/US/AU-R, B-EX706-RFID-U4-R
	[Values to be printed] B-EX4T1, B-EX4T2 NONE: No RFID kit installed H1: HF band(H1) B-EX700-RFID-H1-QM-R H2: HF band(H2) B-EX700-RFID-H2-R, B-EX700-RFID-H3-QM-R U2: UHF band(U2/U4) B-EX700-RFID-U2-EU/US-R, B-EX700-RFID-U4-R, B-EX700-RFID-U4-EU/US/AU-R, U4 module preinstall models
TAG TYPE []	
	[Description] RFID tag type
	[Values to be printed] NONE I-Code Tag-it C220 ISO15693 C210 C240 C320 EPC C1 Gen2
RF CHANNEL []	
	[Description] RFID channel setting
	[Values to be printed] AUTO 2CH 3CH 4CH 5CH 6CH

	7CH 8CH
RETRY POSITION []	
	[Description] Feed amount to retry data write
	[Values to be printed] -99 mm to +99 mm
RETRY LABELS []	
	[Description] Retry number of RFID labels to be issued
	[Values to be printed] 0 to 255 labels
READ RETRY []	
	[Description 1] Retry number of tag read times
	[Values to be printed 1] 0 to 255 times
	[Description 2] Timeout for tag read retry
	[Values to be printed 2] 0 to 9.9 sec.
WRITE RETRY []	
	[Description 1] Retry number of tag write times
	[Values to be printed 1] 0 to 255 times
	[Description 2] Timeout for tag write retry
	[Values to be printed 2] 0 to 9.9 sec.
POWER LEVEL []	
	[Description] Radio output level
	[Values to be printed] B-EX6T1/T3 0 to 18: B-EX706-RFID-U4-EU/US/AU-R, B-EX706-RFID-U4-R
	[Values to be printed] B-EX4T1, B-EX4T2 9 to 18: B-EX700-RFID-U2-US/EU-R 0 to 18: B-EX700-RFID-U4-EU/US/AU-R, B-EX700-RFID-U4-R, U4 module preinstall models
Q VALUE []	
	[Description] RFID module Q value
	[Values to be printed] 0 to 15
AGC THRESHOLD []	
	[Description] AGC threshold setting
	[Values to be printed] 0 to 15
WRITE AGC []	
	[Description] AGC threshold for data write
	[Values to be printed] 0 to 15
RETRY MIN AGC []	
	[Description] AGC threshold lower limit for retry
	[Values to be printed] 0 to 15
TAG CHECK [1] [2] [3]	

	[Description 1] Error tag detection
	[Values to be printed 1] OFF: Error tag detection is not performed. EPCCODE: Error tag detection is performed. The ID area data is read before data write to check for an error. PASSWORD: Error tag detection is performed. The access password area is read before data write to check for an error. Note: This value is valid only for GEN2 tags.
	[Description 2] Password setting to protect error tag detection Note: Only when "ON (ACCESS PASSWORD)" is selected for TAG CHECK
	[Values to be printed 2] OFF: Disabled ON: Enabled
	[Description 3] Auto unlock function Note: Only when "ON (ACCESS PASSWORD)" is selected for TAG CHECK
	[Values to be printed 3] OFF: Disabled ON: Enabled
MULTI WRITE []	
	[Description] Multi-word write * This setting is valid if the RFID module Z is #20A or later
	[Values to be printed] OFF: Disabled ON: Enabled
CALIB. MODE []	
	[Description] RFID calibration function (for B-EX6T and B-EX4T1 only)
	[Values to be printed] OFF: Disabled ON: Enabled
CALIB. AGC [] (for B-EX6T and B-EX4T1 only)	
	[Description] Optimum AGC value obtained through RFID calibration
	[Values to be printed] 0 to 15
CALIB. POSITION [] (for B-EX6T and B-EX4T1 only)	
	[Description] Distance to the optimum read/write position obtained through the RFID calibration
	[Values to be printed] -999.9 mm to +999.9 mm
ANTENNA POSITION [] (for B-EX6T and B-EX4T1 only)	
	[Description] Combinational position of the RF antenna and the wave director
	[Values to be printed] FRONT: Front CENTER: Center REAR: Rear
SUCCEEDED TAGS	
	[Description] Number of times data write succeeded
	[Values to be printed] 0 to 9999999
VOID PRINT TAGS	
	[Description] Number of times data write failed

	[Values to be printed] 0 to 99999999
--	---

<< RTC >>

BATTERY CHECK []	
	[Description] Battery check
	[Values to be printed] OFF: Disabled ON: Enabled
RENEWAL []	
	[Description] Time update timing
	[Values to be printed] start of JOB: Every batch every PAGE: Every page 1min BATCH: Every 1 minute (B-EX6T not supported)

9.4.2 AUTO DIAGNOSTIC

The procedure for printing the self-diagnosis result is the same as that for the maintenance counter/parameter setting data described in 9.4.1 MAINTENANCE COUNTER.

The following table shows the menu structure from the top menu of the system mode to AUTO DIAGNOSTIC.

Menu structure of AUTO DIAGNOSTIC

Menu item
<1>DIAGNOSTIC
AUTO DIAGNOSTIC
THERMAL TRANSFER
NO
YES
DIRECT THERMAL
NO
YES
DISPLAY

Note:

When an error occurs during printing, the corresponding error message is displayed, the ERROR LED is turned on, and the ONLINE LED is turned off. Though the error can be cleared by pressing the [ENTER], [CANCEL] or [MODE] key, the printer does not reprint the label automatically.

In B-EX4D2, even if you select the thermal transfer by the [ENTER] key pressing as a printing method, it is set to DIRECT THERMAL.

9.4.2.1 AUTO SELF-DIAGNOSIS PRINTOUT

B-EX6T1/T3

```

PROGRAM B-EX6T1-T
MODEL B-EX6T1-TS18-CN-R
PRINTER S/N 2317A232688
MAIN XXXXXXXXXX V1.0 :F100
BOOT XXXXXXXXXX V1.0B :0000
XML XXXXXXXXXX V1.0 :6700
WLAN XXXXXXXXXX V1.0A :4300
FONT ANKCG :AE00
      ZFONT :7600
      KANJI :C300
      CHINESE :F700
EEPROM 256B
SDRAM 32MB
SENSOR1 00000000,00000111
SENSOR2 [H]23° C [A]22° C
          [R]4.2V [T]2.5V [E]0.6V
PE LV. [R]1.8V [T]2.5V
M THRE. [R]1.8V [T]2.5V
HEAD [RANK]7 305DPI
LAN MAC 11-22-33-44-55-66
EXP.I/O NG
EX.232C NG
SIO NG(0111)
RFID OK #00RV972 (EU0) R01
WLAN OK Ver1.1.3
MAC 00-11-22-33-44-55
RTC NG
USB MEMORY NG
BASIC M Z-EX4T1—M13 V1.3:02DC
BASIC S Z-EX4T1—S11 V1.1:BF1E

```

Note:

“°” (degree) of “xx°C” may not be printed correctly, depend on the type of code page.

B-EX4T1-QM/CN

```

PROGRAM B-EX4T1-G
MODEL B-EX4T1-TS12-QM-R
PRINTER S/N 2317A232688
MAIN XXXXXXXXXX C3.0 :F100
BOOT XXXXXXXXXX V1.0B :0000
WMON XXXXXXXXXX V1.0 :6100
FONT      ANKCG      :AE00
           KANJI      :C300
           CHINESE    :F700
EEPROM     256B
SDRAM      32MB
SENSOR1    00000000,00000111
SENSOR2    [H]23° C [A]22° C
           [R]4.2V [T]2.5V [E]0.6V
PE LV.     [R]1.8V [T]2.5V
M THE.     [R]1.8V [T]2.5V
HEAD       [RANK]7      203DPI
LAN MAC    11-22-33-44-55-66
EXP.I/O    NG
EX.232C    NG
SIO        NG(0111)
RFID       OK #00RV972 (EU0) R01
WLAN       NG (*)
RTC        NG
USB MEMORY NG
BASIC M Z-EX4T1—M13 V1.3:02DC
BASIC S Z-EX4T1—S11 V1.1:BF1E

```

Note:

“°” (degree) of “xx°C” may not be printed correctly, depend on the type of code page.

B-EX4T2,B-EX4T2-HS

```

PROGRAM B-EX4T2-G
MODEL B-EX4T2-GS12-QM-R
PRINTER S/N 2317A232688
MAIN XXXXXXXXXX C3.0 :F100
BOOT XXXXXXXXXX V1.0B:0000
WMON XXXXXXXXXX V1.0 :6100
FONT      AE00
KANJI     GOTHIC :C300
           CHINESE :F700
EEPROM     256B
SDRAM      32MB
SENSOR1    00000000,00000111
SENSOR2    [H]23° C [A]22° C
           [R]4.2V [T]2.5V [E]0.6V
PE LV.     [R]1.8V [T]2.5V
M THRE.    [R]1.8V [T]2.5V
HEAD       [RANK]7      203DPI
LAN MAC    11-22-33-44-55-66
EXP.I/O    NG
EX.232C    NG
SIO        NG(0111)
RFID       NG
WLAN       NG (*)
RTC        NG
USB MEMORY NG
BASIC M Z-EX4T2--M13 V1.3:02DC
BASIC S Z-EX4T2--S11 V1.1:BF1E

```

Note:

“°” (degree) of “xx°C” may not be printed correctly, depend on the type of code page.

B-EX4D2

```

PROGRAM B-EX4D2-G
MODEL B-EX4D2-GS12-QM-R
PRINTER S/N 2317A232688
MAIN XXXXXXXXXX C3.0 :F100
BOOT XXXXXXXXXX V1.0B:0000
WMON XXXXXXXXXX V1.0 :6100
FONT    AE00
KANJI   GOTHIC :C300
        CHINESE :F700
EEPROM  256B
SDRAM   32MB
SENSOR1 00000000,00000111
SENSOR2 [H]23° C [A]22° C
        [R]4.2V [T]2.5V [E]0.6V
PE LV.  [R]1.8V [T]2.5V
M THRE. [R]1.8V [T]2.5V
HEAD    [RANK]7      203DPI
LAN MAC 11-22-33-44-55-66
EXP.I/O NG
EX.232C NG
SIO     NG(0111)
RFID    NG
WLAN    NG (*)
RTC     NG
USB MEMORY NG
BASIC M Z-EX4D2--M13 V1.3:02DC
BASIC S Z-EX4D2--S11 V1.1:BF1E

```

Note:

“°” (degree) of “xx°C” may not be printed correctly, depend on the type of code page.

Note:

Depending on the installed WLAN module, the notation is different. In addition, if a WLAN module is installed, the MAC address is displayed in the lower row of WLAN.

B-EX700-WLAN-QM-R: WLAN Ver1.1.3

B-EX700-WLAN3-QM-S: BB3-1.30

Print condition

Label length		140 mm
Print method		User setting
Sensor type		None
Speed	(203 dpi) B-EX6T1/T3-G	5 ips
	(305 dpi) B-EX6T1/T3-T	5 ips
	(203 dpi) B-EX4T1-G	6 ips
	(305 dpi) B-EX4T1-T	5 ips
	(203 dpi) B-EX4T2-G	6ips
	(300 dpi) B-EX4T2-T	5ips
	(600 dpi) B-EX4T2-H	3ips
	(203 dpi) B-EX4D2-G	6ips
Issuing number		1
Issuing mode		User setting
Others		Rewinder motor not activated.

9.4.3 HEAD CHECK

The print head check procedure is the same as that for the maintenance counter data described in 9.4.1 MAINTENANCE COUNTER.

The following table shows the menu structure from the top menu of the system mode to HEAD CHECK.

Menu structure of HEAD CHECK

Menu item
<1>DIAGNOSTIC
HEAD CHECK

Type of messages during the head check

While checking	<table><tr><td>HEAD CHECK</td></tr><tr><td>CHECKING</td></tr></table>	HEAD CHECK	CHECKING
HEAD CHECK			
CHECKING			
Normal end	<table><tr><td>HEAD CHECK</td></tr><tr><td>NORMAL END</td></tr></table>	HEAD CHECK	NORMAL END
HEAD CHECK			
NORMAL END			
When broken dots are detected At this time, the ONLINE LED turns off and the ERROR LED turns on.	<table><tr><td>HEAD CHECK</td></tr><tr><td>HEAD ERROR 16 /832 dots</td></tr></table>	HEAD CHECK	HEAD ERROR 16 /832 dots
HEAD CHECK			
HEAD ERROR 16 /832 dots			

9.5 SET PARAMETERS

Contents of the SET PARAMETERS menu

Menu item
<2>SET PARAMETERS
MEDIA LOAD
FEED KEY
MOVE TO TEAROFF
FW/BK ACT.
RIBBON SAVE
HEAD UP CUT/RWD
PRE PEEL OFF
BACK FEED SPEED
AUTO HEAD CHECK
RIBBON NEAR END
PAPER/RBN END
CALIBRATE
POWER SAVE TIME
CODE PAGE
ZERO FONT
CTRL CODE
PEEL OFF STATUS
KANJI CODE
EURO CODE
MAXICODE SPEC
CUT MODE
FEED ADJ.
CUT ADJ.
BACK ADJ.
X ADJUST
HEAT ENERGY TYPE
TONE ADJ.<T>
TONE ADJ.<D>
RIBBON TORQUE
FRONT RIBBON MOTOR
REAR RIBBON MOTOR
TYPE OF RIBBON

9.5.1 MEDIA LOAD

- OFF The media loading function is disabled. (Same as feeding by pressing the [FEED] key)
- STD When the [FEED] key is pressed after the printer is turned on, or is reset by a batch reset command or the print head is closed, the printer feeds the media to detect the next gap/black mark. When the gap/black mark is detected, the printer feeds the media for the distance from the sensor to the print start position.
- ECO When the [FEED] key is pressed after the printer is reset by a batch reset command or the print head is closed, the printer feeds the media to detect the next gap/black mark. When the gap/black mark is detected, the printer feeds the media, which is positioned nearest from the print head, to the print start position. At this time, the feed length is calculated based on the stored media pitch.
- ECO+Backfeed After performing above-mentioned ECO, the printer feeds the media backward for the label pitch length while raising the print head if the following conditions are satisfied.

Note:

1. This function is enabled only when the sensor type is set to other than "None".
2. Conditions for enabling ECO + Backfeed

Hardware	An optional ribbon saving module (solenoid) is installed.
Parameter	The RIBBON SAVE parameter is set to TAG or LABEL.
Operation	The media pitch falls between 20 mm and 100 mm. The previous issue mode was Batch. (The issue mode is not reset by a power off or a printer reset.)
Caution	Even if the hardware requirement is not satisfied (i.e. the optional ribbon saving module is not installed), the printer feeds the media backward when the other requirements are satisfied. However, this operation is not guaranteed as it is outside of the specifications. Therefore, when this setting is specified, it is saved in the "ECO + Backfeed" setting.

3. In the case the printer cannot detect a gap/black mark while feeding the media, an error occurs on the following condition. Regarding an error during feeding, refer to the External Equipment Interface Specification for the B-EX series, Section 7 Error Processing.

OFF	When the relation between the stored media pitch (A) and the media pitch detected by the sensor (B) does not satisfy the following formula, it will be an error: $(A) \times 50\% \leq (B) \leq (A) \times 150\%$
STD ECO ECO + Backfeed	When a gap/black mark is not detected while feeding 1500-mm media, it will be an error.

9.5.2 FEED KEY

- FEED Feeds one label.
- PRINT Prints data in the image buffer on one label.

9.5.3 MOVE TO TEAROFF

- OFF Disables the auto feed to the cut/strip position after printing.
- ON Enables the auto feed to the cut/strip position after printing.

9.5.3.1 MOVE TO TEAROFF POS.

When the "MOVE TO TEAROFF" parameter is set to ON, the feed amount can be finely adjusted.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+5.0	-5.0	0.1	Decimal	Exist	1	1	None	mm

Remarks for feed amount setting:

- + (Plus) Increases the forward feed amount.
- - (Minus) Decreases the forward feed amount.

Note:

1. If the pitch of the media used for the previous issue was less than 20 mm, the auto feed to the cut/strip position after printing will not be activated regardless of the parameter setting.
* In the case labels with the different pitch (less than 20 mm and 20 mm or longer) are alternately placed in one label roll, the forward feed is not activated for the labels with the pitch of less than 20 mm. Therefore it stays at the print stop position without being fed backward. Before the next label with the pitch of 20 mm or larger is printed; however, it is automatically fed backward along with the previously printed label. This may cause the print data to be printed on the previous label.
2. The media will stay at the forwarded position even if the power is turned off/on, the printer is reset, or the print head is opened/closed.

9.5.4 FW/BK ACT.

- MODE1: Normal: The printer waits for the next issue after the media is forwarded by the fixed length.
B-EX6T1/T3: 16.5 mm
B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2: 13.7 mm
- MODE2: SHORT CUT LAB: When the thermal transfer method and cut issue are selected, the printer feeds the media backward by 6 mm, then waits for next issue with media forwarded by 3 mm.
- MODE3: for RFID: The printer waits for the next issue after the media is forwarded by the fixed length (to prevent an RFID media jam.) (B-EX6T and B-EX4T1 only)
B-EX6T1/T3: 31.2 mm
B-EX4T1: 13.7 mm

Note:

1. When MODE2 is selected and the printer starts printing (feeding) from the forwarded position, it feeds the media by 3 mm from this position and temporarily stops. The feed speed for this 3-mm distance to the home position is the maximum speed that can be accelerated from the previous speed (see below). After the temporary stop, the printer prints or feeds the media at the specified speed.
B-EX6T1/T3 203 dpi model: 5 ips
B-EX6T1/T3 305 dpi model: 5 ips
B-EX4T1, B-EX4T2, B-EX4D2 203/600 dpi model: 6 ips
B-EX4T1, B-EX4T2 305 dpi model: 5 ips
* Except for the multi-step acceleration area for short-pitch labels, the print speed will be accelerated up to the specified speed when the media has not been forwarded.
2. When MODE3 is selected and the RBN SAVE parameter is set to "LABEL"(POSITION2) or "TAG"(POSITION1), the printer will raise the print head while the auto feeding to the cut/strip position is performed.
If labels with a pitch of 57.2 mm or less are used, they may be removed from the backing paper. Therefore, it is required to select "LABEL"(POSITION2) or "TAG"(POSITION1) for the RBN SAVE parameter. The speed of the auto feed is fixed to 3 ips.

9.5.5 RIBBON SAVE

B-EX6T1/T3

- OFF The ribbon saving module is not used.
 - POSITION1 The ribbon saving module is used. (Head lever position: Position1)
 - POSITION2 The ribbon saving module is used. (Head lever position: Position2)
- * Since there is no head-up mechanism in B-EX6T3, the setting will be "OFF" and the operation when this is set.

B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2

- OFF The ribbon saving module is not used.
 - TAG POSITION The ribbon saving module is used.(Head lever position: TAG)
 - LABEL POSITION The ribbon saving module is used.(Head lever position: LABEL)
- * Since there is no head-up mechanism in B-EX4T2, B-EX4T2-H, B-EX4D2, the setting will be "OFF" and the operation when this is set.

Note:

1. If this parameter is set to "POSITION1(TAG POSITION)" or "POSITION2(LABEL POSITION)" without the ribbon saving module installed, the ribbon becomes slack and a print failure occurs. Caution required when setting this parameter.
2. For B-EX6T1, only Position1 is available to use since there is no distinguish between TAG and LABEL.
3. If the actual lock position of the head opening/closing lever and the setting contents of this parameter do not match, the ribbon saving function may not operate normally.

9.5.6 HEAD UP CUT/RWD.

- OFF The head-up function is disabled during cut issue or the rewinder is not used.
- ON The head-up function is enabled during cut issue or the rewinder is used.

Note:

1. Whether or not to activate the head-up action in the cut issue or to use the rewinder in the batch or strip issue is selected.
2. When this parameter is set to ON, the head-up function is enabled in the cut issue mode and the built-in rewinder is usable in the batch issue mode, respectively. However, since there is no built-in rewinder option in B-EX6T, it is effective only when a cut is issued.
3. The head-up cut is effective only when a ribbon saving mechanism is equipped. For example, since B-EX6T3 does not have a ribbon saving mechanism, even if it is set with head-up, the head-up is not performed.

9.5.7 PRE PEEL OFF

- OFF Disabled
- ON Enabled

Note:

1. The pre-peel off operation is automatically enabled when the print speed is set to 10 ips or faster for the strip issue. (For the print speed of less than 10 ips, the pr-peel off operation is enabled only when this parameter is set to ON.) However, the print speed may be corrected depending on the EX I/O parameter setting as follows.
 - EX I/O: TYPE 1 (Standard)
 - 203 dpi model: 10 ips
 - 305 dpi model: 8 ips
 - EX I/O: TYPE 2 (Inline)
 - Specified speed
2. The pre-peel off speed is the minimum forward feed speed.
 - <min. forward feed speed>
 - B-EX6T, B-EX4T1, B-EX4T2: 3 ips
 - B-EX4T2-H: 2 ips

9.5.8 BACK FEED SPEED

- STD 3 ips
- LOW 2 ips

9.5.9 AUTO HEAD CHECK

- OFF Disabled
- ON Enabled

9.5.10 RIBBON NEAR END

- OFF Ribbon nearly end is not detected.
- 30m Ribbon nearly end is detected when the remaining ribbon is 30-m long. (Equivalent to the ribbon diameter of 38 mm)
- 70m Ribbon nearly end is detected when the remaining ribbon is 70-m long. (Equivalent to the ribbon diameter of 43 mm)

Note:

Since a detected remaining ribbon length has some margin of an error, use the specified length as a guide.

9.5.11 PAPER/RBN END

- Stop immediately When a label end or ribbon end status is detected, the printer stops immediately.
- Complete current When a label end or ribbon end status is detected, the printer prints the current label as far as possible, then stops.

Note:

1. Stop immediately:

When a label end or ribbon end is detected in the middle of printing, it is immediately stopped. When printing is restarted, first the initial feed is performed, then the printer starts printing from the unfinished label.

2. Complete current:

This is valid only when the ribbon saving function is set to OFF. Even when the ribbon saving function is enabled, the behavior of this parameter will automatically be performed regardless of the setting. The printer behavior of this parameter at the detection of label end and ribbon end is as follows.

(1) Label end detection

- Printer behavior

When a label end is detected in the middle of printing, the printer completes printing on the half-finished label and stops when the next label is at the home position, displaying the error message.

* Printing of the half-finished label is completed.

- LCD message

"NO PAPER"

- Remaining number of labels

[Specified number of labels] - [Number of finished labels at the time of printing stop (including the half-finished label)]

If a label end is detected while the last one of the specified number of labels is printed, the remaining number of labels on the LCD will be blank.

- Printer behavior at restart

When printing is restarted, first the initial feed is performed, then the printer starts printing from the next label. In case the label end was detected while the last one of the specified number of labels was printed, only the initial feed is performed, and if the status response has been set to ON, an issue end status is sent after a feed end status.

<Example>

The specified number of labels is 5 and a label end is detected while the 3rd label is printed

Printing: 1st label: Finished (*)

Printing: 2nd label: Finished (*)

Printing: 3rd label: After an error is detected, printing of this label is completed. Finished (*)

Stop with error: "NO PAPER" is displayed on the LCD.

Initial feed: Restart

Printing: 4th label: Finished (*)

Printing: 5th label: Finished (*)

(*) Completely printed labels: 1st to 5th labels

(2) Ribbon end detection: In the case the length of the unfinished label is 30 mm or more

- Printer behavior

The printer prints for 20 mm and stops printing with an error.

* Printing of the half-finished label is not completed.

- LCD message

"NO RIBBON"

- Remaining number of labels

[Specified number of labels] - [The number of finished labels at the time of printing stop] - 1

If a ribbon end is detected while the last one of the specified number of labels is printed, the remaining number of labels on the LCD will be blank.

- Printer behavior at restart

When printing is restarted, first the initial feed is performed, then the printer starts printing from the next label. In case the ribbon end was detected while the last one of the specified number of labels was printed, only the initial feed is performed.

<Example>

The specified number of labels is 5 and a ribbon end is detected while the 3rd label is printed.

The length of the Unfinished label is 30 mm or more.

Printing: 1st label: Finished (*)

Printing: 2nd label: Finished (*)

Printing: 3rd label: After an error is detected, the 3rd label is printed for the length of 20 mm and the printing stops.

Stop with error: "NO RIBBON" is displayed on the LCD.

Initial feed: Restart

Printing: 4th label: Finished (*)

Printing: 5th label: Finished (*)

(*) Completely printed labels: 1st, 2nd, 4th and 5th labels

(3) Ribbon end detection: In the case the length of the unfinished label is less than 30 mm

- Printer behavior

When a label end is detected in the middle of printing, the printer completes the half-finished printing label and stops when the next label is at the home position, displaying the error message.

* Printing of the half-finished label is completed.

- LCD message

"NO RIBBON"

- Remaining number labels

[Specified number of labels] - [The number of finished labels at the time of printing stop (including the half-finished label)]

If a ribbon end is detected while the last one of the specified number of labels is printed, the remaining number of labels on the LCD will be blank.

- Printer behavior at restart

When printing is restarted, first the initial feed is performed, then the printer starts printing from

the next label. In case the label end was detected while the last one of the specified number of labels was printed, only the initial feed is performed, and if the status response has been set to ON, an issue end status is sent after a feed end status.

<Example>

The specified number of labels is 5 and a ribbon end is detected while the 3rd label is printed.

The length of the unfinished label is less than 30 mm.

Printing: 1st label: Finished (*)

Printing: 2nd label: Finished (*)

Printing: 3rd label: After an error is detected, printing is completed. Finished (*)

Stop with error: "NO RIBBON" is displayed on the LCD.

Initial feed: Restart

Printing: 4th label: Finished (*)

Printing: 5th label: Finished (*)

(*) Completely printed labels: 1st to 5th labels

9.5.12 CALIBRATE

- OFF: The auto calibration is not performed.
- ON TRANSMISSIVE: The auto calibration is performed with the transmissive sensor.
- ON REFLECTIVE: The auto calibration is performed with the reflective sensor.
- ON ALL: The auto calibration is performed with both sensors.
- ON TRANS+BackFeed: The auto calibration is performed with the transmissive sensor, then the media is fed backward.
- ON REFL+BackFeed: The auto calibration is performed with the reflective sensor, then the media is fed backward.
- ON ALL+BackFeed: The auto calibration is performed with both sensors, then the media is fed backward.

Note:

1. When this parameter is enabled, the auto calibration starts at an open/close of the print head and when the power is on.
2. When this parameter is enabled, the media length, effective print length, sensor type and whether the ribbon is used or not, will be specified with commands, as handled as follows.

		Printer behavior after the automatic calibration is performed
Whether the ribbon is used or not		The values obtained through the calibration will take effect until the next calibration is performed or the printer power is turned off. (Settings specified by commands are ignored.)
Sensor type		The values obtained through the calibration will take effect after the calibration is completed. Afterward, the sensor specified by a command is ignored.
Media	Pitch	The values obtained through the calibration will take effect until the next calibration is performed or the printer power is turned off. (Settings specified by commands are ignored.)
	Effective print length	
	Gap length	

3. When the auto calibration with the reflective sensor is selected, the lowest voltage detected by the reflective sensor is considered as a black mark level. And, the sum of this voltage and the threshold fine adjustment value will be stored as a threshold.
4. When the auto calibration with the transmissive sensor is selected, the highest voltage detected by the transmissive sensor is considered as a gap level. After subtracting the threshold fine adjustment value from this voltage, the result will be stored as a threshold.
5. When "ON ALL" is selected, the highest voltage detected by the transmissive sensor or the lowest voltage detected by the reflective sensor is considered as a gap level. After subtracting the threshold fine adjustment value for each sensor from this voltage, the result will be stored as a threshold.

6. The printer feeds about 160 mm long media to detect a black mark/gap and determine the threshold. When the printer has detected more than one black marks/gaps during this 160-mm media feeding, the printer measures the media pitch and stops the automatic calibration 1 mm short of the bottom of a black mark or gap.
7. If the second black mark/gap is not found under the above conditions, the printer continues media feeding for up to 500.0 mm to find the second black mark/gap. If it still cannot be detected, the printer will stop, as a media jam.
8. This function supports the media pitch of 10.0 mm to 150.0 mm.
9. When the cutter is installed and the previous issue mode was the cut mode, the media is cut and ejected after the automatic calibration completes.
10. While the automatic calibration is in operation, labels do not stop at the strip position even in the strip or special strip mode.
11. When a label end occurs during the automatic calibration, the printer stops, resulting in an error. Closing the print head after loading a new label can clear the error and resume the automatic calibration.
12. During the automatic calibration, the ribbon motors are rotated. Even if the ribbon is not loaded, no ribbon error occurs. However, the print condition will automatically be changed to "No ribbon" after the calibration ends.
13. When "ON TRANS+BackFeed", "ON REFL+BackFeed" or "ON ALL+BackFeed" is selected and if the following conditions are satisfied, the printer feeds the media backward for the media pitch length while lifting the print head.

Hardware	An optional ribbon saving module (solenoid) is installed.
Parameter setting	The RIBBON SAVE parameter is set to TAG or LABEL.
Operating condition	The media pitch falls between 20 mm and 100 mm. This is available if the previous issue mode was Batch without cut. (The issue mode and the cut interval are not reset by a power off or a printer reset.)
Note	Even if the hardware requirement is not satisfied (i.e. the optional ribbon saving module is not installed), the printer feeds the media backward when the other requirements are satisfied. However, this operation is not guaranteed as it is outside of the specifications.

14. The feed speed during the automatic calibration is the minimum speed at normal rotation.
B-EX6T1/T3-G/T, B-EX4T1-G/T: 3ips
15. The print head must not be opened during the automatic calibration as the subsequent printer operation is not guaranteed. If the print head is opened, turn off the power and back to on.
16. During the automatic calibration, the ribbon saving is not performed even if the setting is enabled.

9.5.13 POWER SAVE TIME

- B-EX4T1-QM less than C3.3, B-EX4T2 less than C2.1, B-EX4D2 less than D2.1
B-EX6T1/T3 less than V1.5, B-EX4T2-HS less than C2.1 has the following value.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
240	1	1	Decimal	None	3	0	None	Min.

- B-EX4T1-QM C3.3 or later, B-EX4T2 C2.1 or later, B-EX4D2 D2.1 or later
B-EX6T1/T3 V1.5 or later has the following value.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
120	1	1	Decimal	None	3	0	None	Min.

- B-EX4T2-HS C2.1 or later has the following value

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
60	1	1	Decimal	None	2	0	None	Min.

9.5.14 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

9.5.15 ZERO FONT

- 0 Without slash
- Ø With slash

Note:

The following fonts do not support Ø (With slash). Therefore, even if it is selected, 0 (Without slash) is used.

[Bit map fonts]

OCR-A, OCR-B, GOTHIC725 Black, Japanese Kanji, Chinese

[Outline fonts]

Price fonts 1, 2, and 3, DUTCH801 Bold, BRUSH738 Regular, GOTHIC725 Black, TrueTypeFont

9.5.16 CTRL CODE

- AUTO
- {,|,}
- ESC,LF,NUL
- MANUAL

9.5.16.1 MANUAL

- CODE1
- CODE2
- CODE3

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
0xFF	0x00	1	Hex	None	2	0	None	h

9.5.17 PEEL OFF STATUS

- OFF Disabled
- ON Enabled

9.5.18 KANJI CODE

- TYPE1:Windows: Windows code
- TYPE2:Original: Original code

9.5.19 EURO CODE

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

9.5.20 MAXICODE SPEC

- TYPE1:Compatible: Compatible with the current version
- TYPE2:Special Spec Special specification

Note:

The mode specified by the command may be different from the actual one, depending on the status of this parameter. Also, the data transmission method differs partly.

For details, refer to the B-EX Series External Equipment Interface Specification.

9.5.21 CUT MODE

- TYPE1: Standard (speed-up function available)
- TYPE2: Conventional

* This parameter is available from B-EX4T3 V3.0.

Note:

When "TYPE1" (Standard (speed-up function available)) is set, the printer will perform at a higher speed while overlapping the timing of the cutting and media feeding operation or feeding the label backward with 5 ips after cutting.

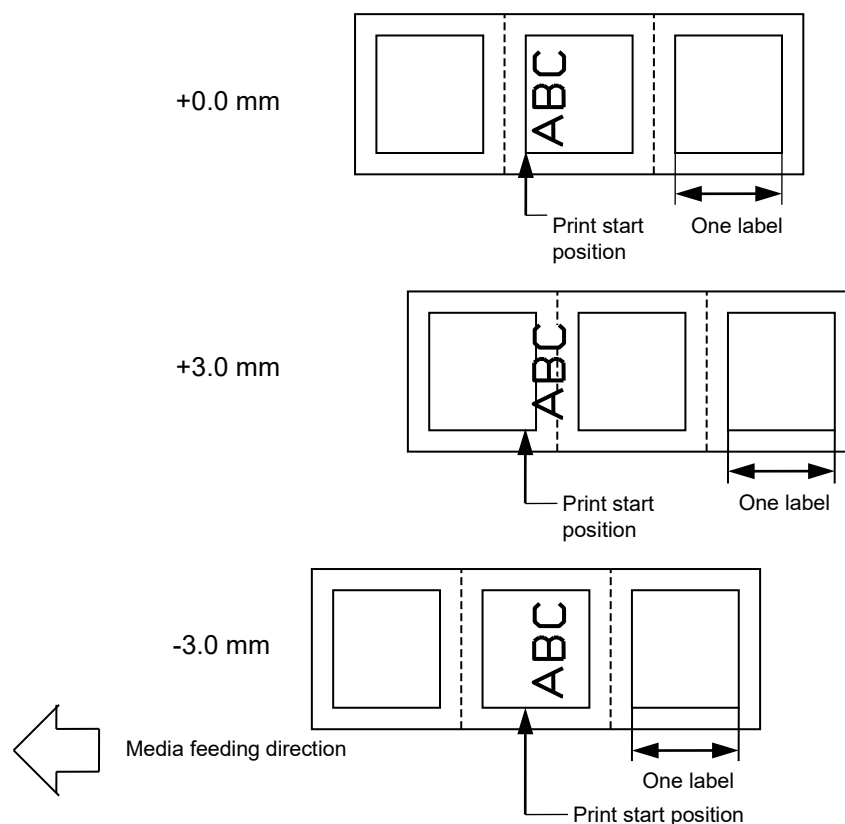
The table below shows the printer behavior according to the combination of the cut mode and backfeed speed settings.

Speed settings:

System mode setting		Backfeed speed				
		Cut issue		Strip issue	Reverse command	Forward feed
Backfeed speed	Cut mode	Backfeed speed	Behavior timing			
2ips	Standard	5ips	Speed-up	2ips		
3ips				3ips		
2ips	Conventional	2ips	Conventional	2ips		
3ips		3ips		3ips		

9.5.22 FEED ADJ.

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



Tip:

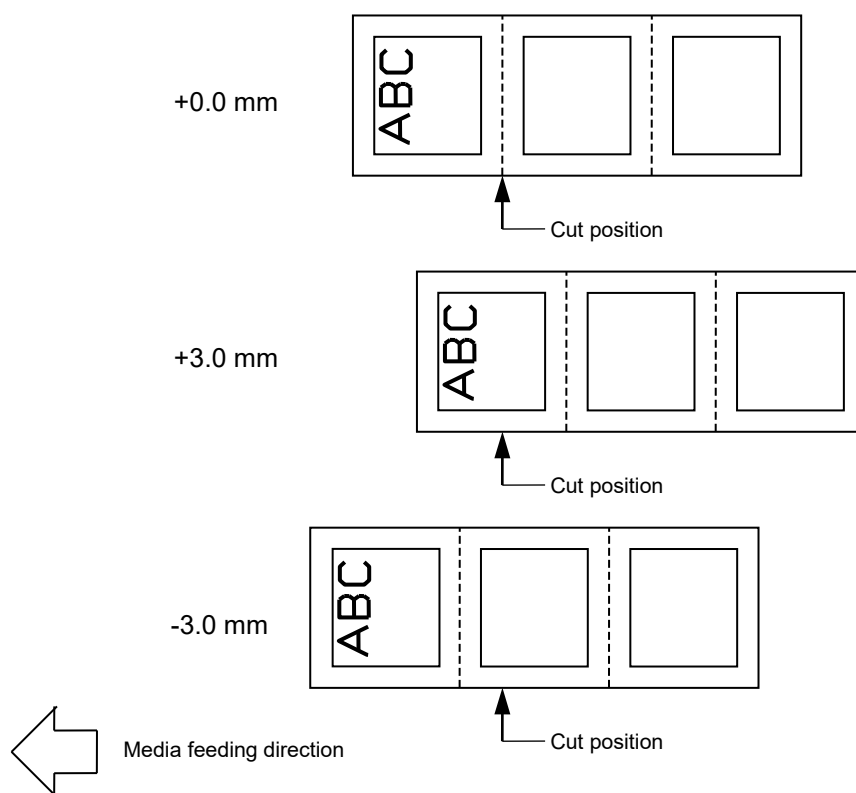
The feed amount fine adjustment value is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is ± 50.0 mm.

Note:

A value which is equal to or larger than the media pitch ($\text{FEED ADJ.} \geq \text{Media pitch}$) must not be set. If the set fine adjustment value causes the printer to feed the media backward from the print stop position to the next print start position, the printer operation is not guaranteed.

9.5.23 CUT ADJ

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



Tip:

1. The cut position fine adjustment value is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is ± 50.0 mm.
2. Solution for the problem of labels having a label pitch of less than 25.4 mm when the disc cutter is used

The minimum label pitch of a label which can be cut in normal use is 25.4 mm. When a label having a label pitch of less than 25.4 mm is used (although it is out of the specifications), its edge is caught by the edge of the thermal head during backward feeding to the home position after cutting a label gap. Therefore, the label may not be fed back to the proper home position. The problem will be solved by performing either method below.

[Method 1] Lift the head up.

When the following conditions are all met, the cut operation is performed as follows.

Head lifted → Forward feed to the cut position → Head lowered → Cut → Head lifted → Backward feed to the home position → Head lowered

Conditions:

Issue Command, Feed Command and Eject Command are received.

Label pitch of 25.4 mm, cut performed, transmissive sensor designated, cut position fine adjustment of ± 10.0 mm or less, and issue mode "C"

* The print head can be lifted/lowered only when the optional ribbon saving module is installed and the ribbon saving function is set to ON with the parameter setting menu.

* When the ribbon saving module is not installed, use Method 2 since the print head is not lifted/lowered.

* If the bottom edge of the last label advances past the feed roller while the print head is lifted during label feeding to cut, the sensor may not be able to detect an error even if the label cannot be fed any more.

* If the head-up solenoid temperature is high, the print head may not be lifted.

[Method 2] Adjust the cut position fine adjustment value.

The cut position fine adjustment value can be calculated using the following method. If a calculated value does not work to enable the feeding backward to the proper home position, the cut position needs to be readjusted with another value.

Note:

When this procedure is used, one or more printed labels are left between the print head and the cutter. Therefore, these labels need to be removed.

(1) Cut position fine adjustment value calculation

$$\text{Cut position fine adjustment value} = \left(\frac{\text{Number of labels left between the head and cutter}}{\text{Label pitch}} \right) \times (\text{Label pitch})$$

$$= \left(\frac{32.8 \text{ mm}}{\text{Label pitch}} \right) \times (\text{Label pitch})$$

↑ * Any decimal remainders are rounded off.

Ex) Label pitch: 30.0 mm

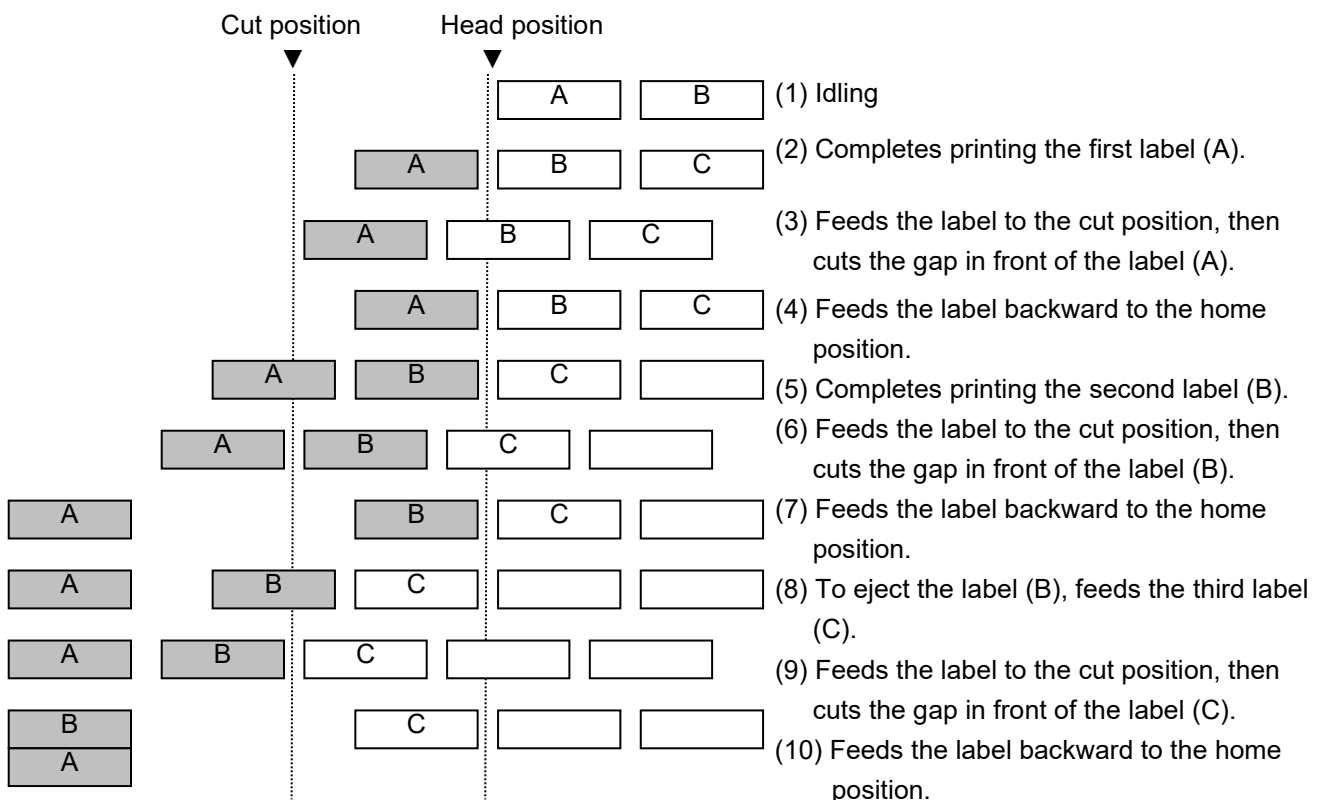
$$\text{Cut position fine adjustment value} = \left(\frac{32.8 \text{ mm}}{30.0 \text{ mm}} \right) \times (30.0 \text{ mm})$$

$$= 1 \times 30.0 \text{ mm}$$

$$= +30.0 \text{ mm}$$

(2) Operation example

Issue count: 2, Cut interval: 1



3. Procedure for label having less than the minimum label pitch for each issue speed when the rotary cutter is used

When the following conditions are all met, the cut operation for the last label to be cut is performed as follows.

Forward feed to the cut position → Cut while feeding → Feed stops → Head lifted → Reverse feed to the home position → Head lowered

Conditions:

Issue Command, Feed Command and Eject Command are received.

Label pitch: Less than the minimum label pitch for each issue speed, cut performed, transmissive sensor designated, cut position fine adjustment of ± 10.0 mm or less, and issue mode "C"

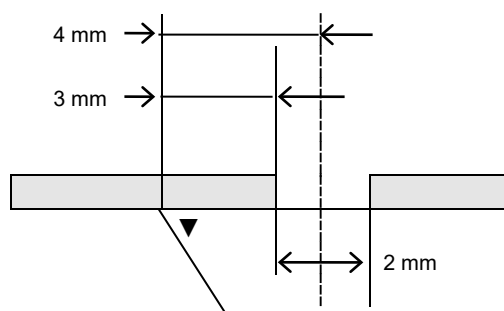
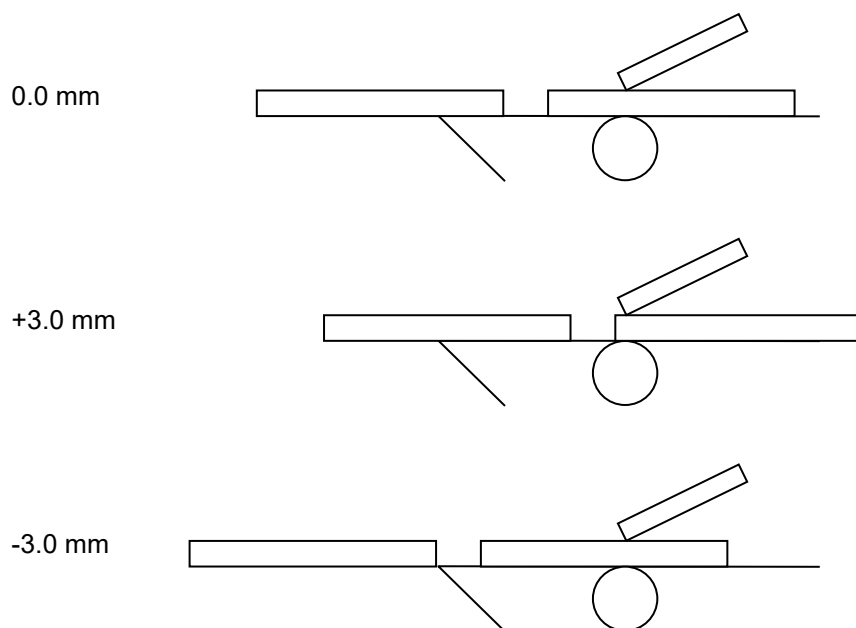
* For the issue command, this procedure is effective only when the next issue command is not received at the last label to be cut.

* The print head can be lifted/lowered only when the optional ribbon saving module is mounted and the ribbon saving function is set to ON with the parameter setting menu. When the ribbon saving module is not installed, the print head is not lifted or lowered.

* If the bottom edge of the last label advances past the feed roller while the print head is lifted during label feeding to cut, the sensor may not be able to detect an error even if the label cannot be fed any more.

* If the head-up solenoid temperature is high, the print head may not be lifted.

4. Strip position fine adjustment



Printing in the strip issue mode is stopped at the position where the distance from the middle point of the gap between the labels to the end of the strip shaft is 4 mm, since the gap between the labels is assumed to be 2 mm. When the print stop position is not proper due to a greater gap, the position should be adjusted using the strip position fine adjustment function.

9.5.24 BACK ADJ.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+9.9	-9.9	0.1	Decimal	Exist	1	1	None	mm

+0.0 mm

Print start position
(Home position after back-feeding)

+3.0 mm

Print start position
(Home position after back-feeding)

-3.0 mm

Print start position
(Home position after back-feeding)

Tip:

The backward feeding amount fine adjustment value is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is ± 9.9 mm.

Note:

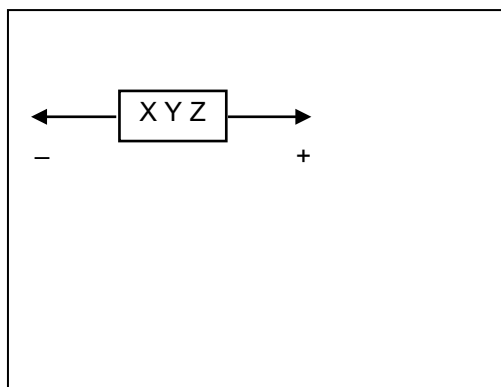
There may be cases where a label is not returned to the home position depending on the print conditions, even if the media is fed backward for the same amount as the forward feeding. For issuing media with the media sensor, if the label pitch is almost the same as the distance between the print head and the media sensor (75.5 mm), the media may not be returned to the home position when operations including reverse feeding (such as cut issuing, strip issuing, automatic forward-feeding) are performed. It may result in an error. To prevent this error from occurring, increase the reverse feed amount by performing the reverse feed amount fine adjustment in the positive (+) direction.

9.5.25 X ADJUST

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+99.5	-99.5	0.1	Decimal	Exist	2	1	None	mm

Tip:

1. The X ADJUST parameter can finely adjust the print position in X-coordinate (horizontal direction). The fine adjustment shall be performed so that the print position falls within the effective print width. (The X coordinate fine adjustment in the negative (-) direction is effective until the print field reaches coordinate 0. The coordinate does not change any further even if the fine adjustment is continued in the negative direction.)



2. The X-coordinate fine adjustment value is not applied to self-diagnosis result printing (maintenance counter and parameter settings, and auto diagnosis).
3. The X-coordinate fine adjustment value is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is ± 99.5 mm.

9.5.26 HEAT ENERGY TYPE

- TRANS.(RIBBON)
- DIRECT THERMAL

Tip:

The HEAT ENERGY TYPE parameter is intended to make the printer perform appropriate printing for the supplies (media such as label and tag, and ribbon) to be used. Use of a different supply from the setting may cause poor printing. For details, refer to the Supply Specification for the B-EX6T1 series.

Note:

If "CN" is selected for the parameter clear destination, this parameter is not displayed on the menu. Therefore, the initial value of this parameter cannot be changed. (The initial value is fixed. See Section 9.8.3 PARAMETER CLEAR.)

9.5.26.1 TRANS. (RIBBON)

B-EX6T1/T3

- Generic
- rsv1: (Reserved1)
- rsv2: (Reserved2)
- rsv3: (Reserved3)
- rsv4: (Reserved4)
- rsv5: (Reserved5)
- rsv6: (Reserved6)
- rsv7: (Reserved7)
- rsv8: (Reserved8)
- rsv9: (Reserved9)

Note:

1. "Generic" is a setting for securing the print quality equivalent to that of the B-SX series, but it is not effective at the print speed of 10 ips or faster. If 10 ips or a faster print speed is specified, the printer operation is not guaranteed. For details, refer to the Supply Specification for the B-EX6T1 series.

B-EX4T1

- SR1:AG2,AG4,AG6E
- SR2:RG2,FG2,SG2
- R1: AS1
- R2: RS1
- R3: (Resin3)
- Generic
- rsv1: (Reserved1)
- rsv2: (Reserved2)
- rsv3: (Reserved3)
- rsv4: (Reserved4)

Note:

1. "Resin3" in B-EX4T1-T-QM/CN cannot be used.
2. "Generic" is a setting for securing the print quality equivalent to that of the B-SX series, but it is not effective at the print speed of 10 ips or faster. If 10 ips or a faster print speed is specified, the printer operation is not guaranteed. For details, refer to the Supply Specification for the B-EX4T1 series.

B-EX4T2, B-EX4D2

- W1: (Wax2)
- W2: (Wax2)
- SR1: (SemiResin2)
- SR2: (SemiResin2)
- R1: (Resin3)
- W3: (Wax3)
- SR3: (SemiResin3)
- R2: (Resin2)
- Generic:
- Rsv1: (Reserved1)

Note:

In B-EX4D2, the setting value is invalid.

B-EX4T2-H

- R1: (Resin 1)
- R2: (Resin 2)
- R3: (Resin 3)
- rsv1: (Reserved1)
- rsv2: (Reserved2)
- rsv3: (Reserved3)
- rsv4: (Reserved4)
- rsv5: (Reserved5)
- rsv6: (Reserved6)
- rsv7: (Reserved7)

9.5.26.2 DIRECT THERMAL

- NORM: Normal
- rsv1: (Reserved1)
- rsv2: (Reserved2)
- rsv3: (Reserved3)
- rsv4: (Reserved4)
- rsv5: (Reserved5)
- rsv6: (Reserved6)
- rsv7: (Reserved7)
- rsv8: (Reserved8)
- rsv9: (Reserved9)

Note:

If "CN" is selected for the parameter clear destination, the ENERGY TYPE parameter is not displayed on the menu and is unable to be set in the system mode and user system mode. However, the initial value will be set after a RAM clearing, so it is printed on the maintenance counter/parameter settings print label.

9.5.27 TONE ADJ. <T>

B-EX6T1/T3

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+20	-20	1	Decimal	Exist	2	0	None	Step

Tip:

1. Setting a value in the positive (+) direction, the print tone becomes darker. And, setting a value in the negative (-) direction, the print tone becomes lighter.
+20 ← (Darker) ← 0 → (Lighter) → -20
2. The print tone fine adjustment value (thermal transfer) is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is from -20 to +20. If the value exceeds the print head rating, it is automatically corrected.
3. The factory default is +0 step.

B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+10	-20	1	Decimal	Exist	2	0	None	Step

Tip:

1. Setting a value in the positive (+) direction, the print tone becomes darker. And, setting a value in the negative (-) direction, the print tone becomes lighter.
+10 ← (Darker) ← 0 → (Lighter) → -20
2. The print tone fine adjustment value (thermal transfer) is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is from -20 to +10. If the value exceeds the print head rating, it is automatically corrected.
3. The factory default is +0step.
4. In B-EX4D2, this setting value is invalid.

9.5.28 TONE ADJ. <D>

B-EX6T1/T3

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+20	-20	1	Decimal	Exist	2	0	None	Step

Tip:

1. Setting a value in the positive (+) direction, the print tone becomes darker. And, setting a value in the negative (-) direction, the print tone becomes lighter.
+20 ← (Darker) ← 0 → (Lighter) → -20
2. The print tone fine adjustment value (direct thermal) is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is from -20 to +20. If the value exceeds the print head rating, it is automatically corrected.
3. The factory default is +0.

B-EX4T1, B-Ex4T2, B-EX4T2-H, B-EX4D2

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+10	-20	1	Decimal	Exist	2	0	None	Step

Tip:

1. Setting a value in the positive (+) direction, the print tone becomes darker. And, setting a value in the negative (-) direction, the print tone becomes lighter.
+10 ← (Darker) ← 0 → (Lighter) → -20
2. The print tone fine adjustment value (direct thermal) is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is -20 ~ +10. If the value exceeds the print head rating, it is automatically corrected.
3. The factory default is +0.

9.5.29 RIBBON TORQUE

- Normal
- Low
- Reserved1 (only B-EX6T1/T3)

Note:

In B-EX4D2, the setting value is invalid.

9.5.30 FRONT RIBBON MOTOR

Menu structure of FRONT RIBBON MOTOR

Menu item
<2>SET PARAMETERS
FRONT RIBBON MOTOR
Normal Torque
Low Torque
Reserved1 (* for B-EX6T1/T3 only)

Note:

In B-EX4D2, the setting value is invalid.

9.5.30.1 Normal Torque

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+10	-15	1	Decimal	Exist	2	0	None	Step

Tip:

1. The fine adjustment value is not effective for the reverse rotation.
2. The fine adjustment value for the ribbon take-up motor is limited depending on the print speed.

Print speed	5 ips or slower(B-EX6T) 6 ips or slower (B-EX4T1, B-EX4T2, B-EX4T2-H)	8 ips or slower	All speed
Fine adjustment value	+10 to +6	+5 to +1	-0 to -15

3. The ribbon motor torque fine adjustment value is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is from -15 to +10.

9.5.30.2 Low Torque

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+10	-15	1	Decimal	Exist	2	0	None	Step

Tip:

1. The fine adjustment value is not effective for the reverse rotation.
2. The fine adjustment value for the ribbon take-up motor is limited depending on the print speed.

Print speed	5 ips or slower(B-EX6T) 6 ips or slower (B-EX4T1, B-EX4T2, B-EX4T2-H)	8 ips or slower	All speed
Fine adjustment value	+10 to +6	+5 to +1	0 to -15

3. The ribbon motor torque fine adjustment value is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is from -15 to +10.

9.5.30.3 Reserved1 (for B-EX6T1/T3 only)

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+10	-15	1	Decimal	Exist	2	0	None	Step

9.5.31 REAR RIBBON MOTOR

Menu structure of REAR RIBBON MOTOR

Menu item
<2>SET PARAMETERS
REAR RIBBON MOTOR
Normal Torque
Low Torque
Reserved1 (only B-EX6T1/T3)

Note:

In B-EX4D2, the setting value is invalid.

9.5.31.1 Normal Torque

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+10	-15	1	Decimal	Exist	2	0	None	Step

Tip:

1. The fine adjustment value is not effective for the reverse rotation.
2. The fine adjustment value for the ribbon supply motor is applicable to every print speed.

Print speed	All print speeds
Fine adjustment value	-15 to +10

3. The ribbon motor torque fine adjustment value is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is from -15 to +10.

9.5.31.2 Low Torque

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+10	-15	1	Decimal	Exist	2	0	None	Step

Tip:

1. The fine adjustment value is not effective for the reverse rotation.
2. The fine adjustment value for the ribbon supply motor is applicable to every print speed.

Print speed	All print speeds
Fine adjustment value	-15 to +10

3. The ribbon motor torque fine adjustment value is the sum of the fine adjustment values set in the system mode (by the key operation) and set by the command (from the PC). The maximum value is from -15 to +10.

9.5.31.3 Reserved1 (for B-EX6T1/T3 only)

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+10	-15	1	Decimal	Exist	2	0	None	Step

9.5.32 TYPE OF RIBBON (for B-EX4T2, B-EX4T2-H, B-EX4D2 only)

- CSO: Outside wound ribbon
- CSI: Inside wound ribbon

Note:

In B-EX4D2, the setting value is invalid.

9.6 TEST PRINT

Contents of the TEST PRINT menu

Menu item
<3>TEST PRINT
PRINT CONDITION
SLANT LINE(1DOT) (for B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2)
SLANT LINE(3DOT)
CHARACTERS
BARCODE
NON-PRINTING
FACTORY TEST
AUTO PRINT(TRANS.)
AUTO PRINT(REFL.)

9.6.1 PRINT CONDITION

Print conditions for a test printing of a printer can be set.

Menu structure of PRINT CONDITION

Menu item
<3>TEST PRINT
PRINT CONDITION
ISSUE COUNT
PRINT SPEED
SENSOR
PRINT TYPE
ISSUE TYPE
LABEL PITCH
PAPER FEED

Tip:

- Initial value for each parameter at a power on
 ISSUE COUNT: 1
 PRINT SPEED: B-EX6T1/T3 5 ips
 B-EX4T1 6 ips(203dpi), 5 ips(305dpi)
 B-EX4T2 6 ips(203dpi), 5 ips(300dpi)
 B-EX4T2-H 3 ips
 B-EX4D2 6 ips
 SENSOR: TRANSMISSIVE
 PRINT TYPE: THERMAL TRANSFER (For B-EX4D2: DIRECT THERMAL)
 ISSUE TYPE: NO CUT
 LABEL PITCH: 76 mm
 PAPER FEED: FEED
- Each fine adjustment value is effective for a test printing. However, the X-coordinate fine adjustment is excluded.
- When an error occurs during a test printing, an error message is displayed and printing is stopped. At this time, the error LED is turned on and the online LED is turned off.
- The error is cleared by pressing the [CANCEL] key and [ENTER] key. Then the display returns to the TEST PRINT menu. At this time, the error LED turns off and the online LED turns on. Printing is not automatically resumed after the error is cleared.

5. The label size greater than the image buffer length cannot be designated. If it is designated, the printer prints data equivalent to the image buffer length then stops. Alternatively, the printer stops because of an error.
6. When the transmissive sensor is selected, the gap between labels shall be 3 mm.

Note:

1. B-EX4T1 does not support the use of rotary cutters at 10 ips or more. So, if the rotary cutter is attached (with or without cutting), specifying 10 ips or more will correct the operation to 8 ips.
2. In the case of B-EX4T1-G, no cut will be issued if a label pitch of less than 15.0 mm is specified by 3 ips or a label pitch of less than 30.0 mm is specified by 6 ips.
3. For B-EX4T1-T, no cut will be issued if a label pitch less than 15.0 mm by 3 ips, a label pitch less than 25.0 mm by 5 ips, or a label pitch less than 38.0 mm is specified by 8 ips.
4. In B-EX4D2, even if Thermal Transfer is selected in the printing method, it is set to Direct Transfer.

9.6.1.1 ISSUE COUNT

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

9.6.1.2 PRINT SPEED

A selectable print speed differs depending on the resolution.

B-EX6T		B-EX4T1		B-EX4T2			B-EX4D2
203dpi	305dpi	203dpi	305dpi	203dpi	300dpi	600dpi	203dpi
3 ips	3 ips	3 ips	3 ips	3 ips	3 ips	2 ips	3 ips
5 ips	5 ips	6 ips	5 ips	6 ips	5 ips	3 ips	6 ips
8 ips	8 ips	10 ips	8 ips	10 ips	8 ips	4 ips	10 ips
10 ips	10 ips	12 ips	10 ips	12 ips	10 ips	5 ips	12 ips
12 ips	12 ips	14 ips	12 ips		12 ips	6 ips	
			14 ips				

Note:

When PEEL OFF is selected for ISSUE TYPE, the maximum speed is limited to 10 ips.

9.6.1.3 SENSOR

- NONE
- TRANSMISSIVE
- REFLECTIVE
- MANUAL TRANS.
- MANUAL REFL.

9.6.1.4 PRINT TYPE

- THERMAL TRANSFER
- DIRECT THERMAL

9.6.1.5 ISSUE TYPE

- NO CUT
- WITH CUT
- PEEL OFF

9.6.1.6 LABEL PITCH

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
999 (*1) 498 (*2)	5	1	Decimal	None	3	0	None	mm

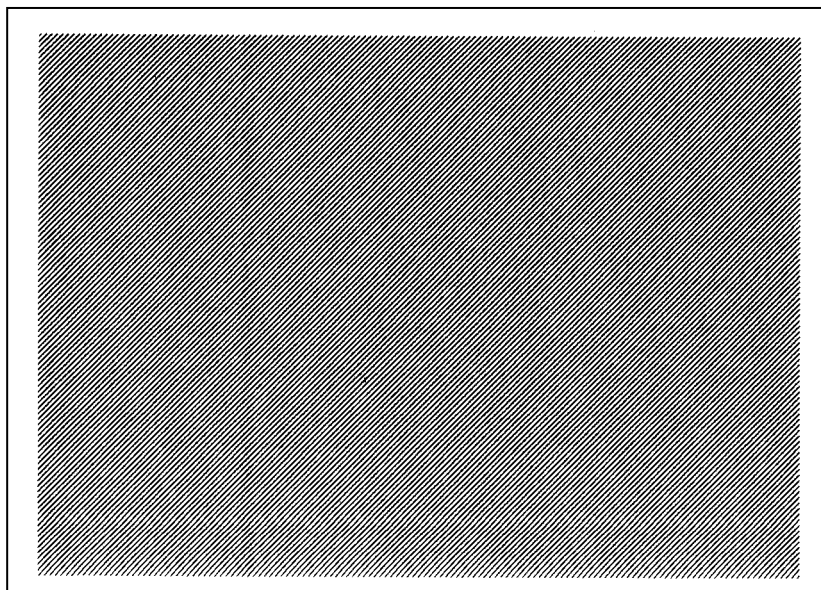
*1: Supported model: B-EX6T, B-EX4T1, B-EX4T2, B-EX4D2

*2: Supported model: B-EX4T2-H

9.6.1.7 PAPER FEED

- NO FEED
- FEED

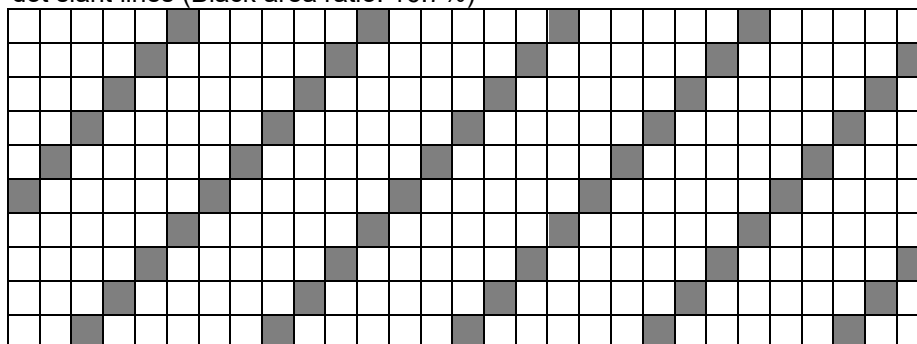
9.6.2 SLANT LINE (1DOT) (B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2)



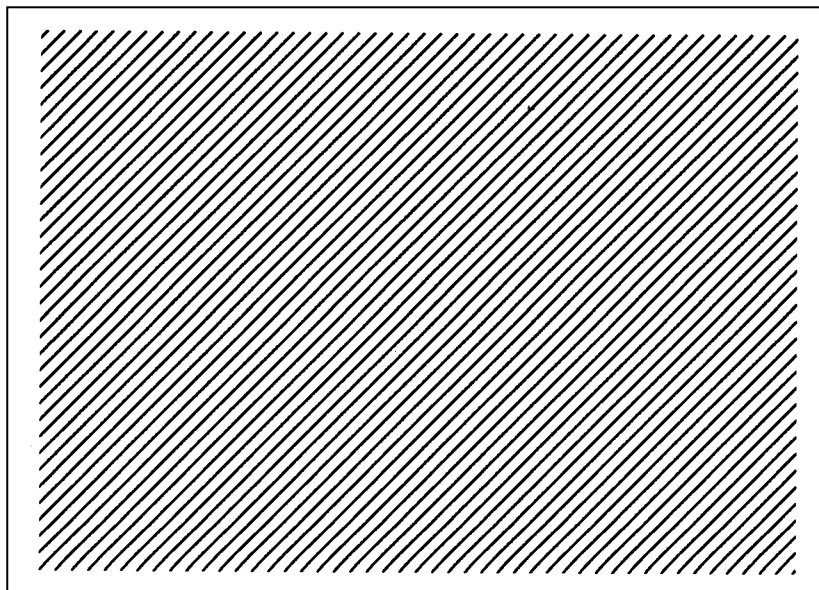
1-dot slant lines

Magnification of slant lines

1-dot slant lines (Black area ratio: 16.7%)



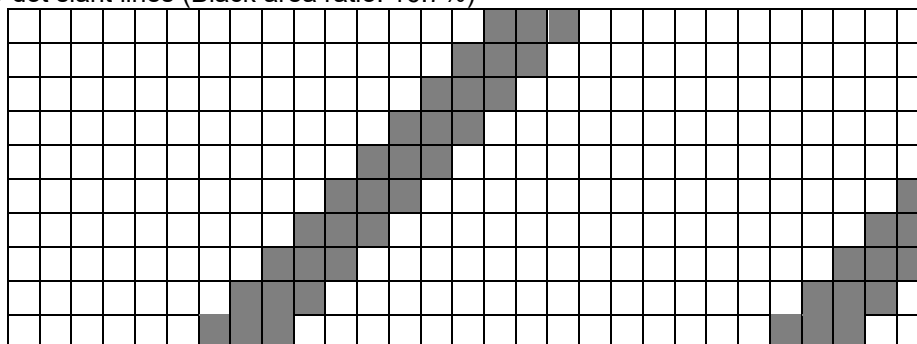
9.6.3 SLANT LINE (3DOT)



3-dot slant lines

Magnification of slant lines

3-dot slant lines (Black area ratio: 16.7%)



9.6.4 CHARACTERS

Gothic + Mincho



Gothic + Chinese



9.6.5 BARCODE

For 203 dpi



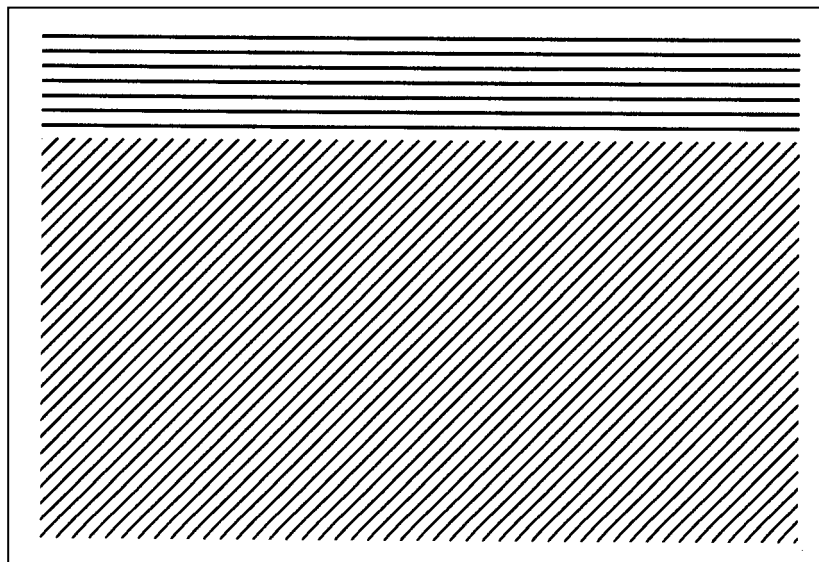
For 300 dpi and 305 dpi



9.6.6 NON-PRINTING

The printer feeds a blank label.

9.6.7 FACTORY TEST



9.6.8 AUTO PRINT (TRANS.)

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

Key functions after printing of each test pattern are as follows.

- [ENTER] key (or its substitute key): Performs next printing.
- [CANCEL] key (or its substitute key): Returns to the menu.
- Other keys: Invalid

<Factory test printing patterns and conditions>

Print test pattern		1 blank label feeding
		3-dot slant lines
		Barcode
		Characters
Number of prints		5 labels each
Print speed	B-EX6T1/T3 203 dpi	5 ips
	B-EX6T1/T3 305 dpi	5 ips
	B-EX4T1 203 dpi	6 ips
	B-EX4T1 300 dpi	5 ips
	B-EX4T2 203 dpi	6 ips
	B-EX4T2 305 dpi	5 ips
	B-EX4T2 600 dpi	3 ips
	B-EX4D2 203 dpi	6 ips
Sensor type		Transmissive sensor
Print method		Thermal transfer (For B-EX4D2: Direct Thermal)
Issue mode		Batch
Label pitch		76 mm
Print density fine adjustment value		±0

9.6.9 AUTO PRINT (REFL.)

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

Key functions after printing of each test pattern are as follows.

- [ENTER] key (or its substitute key): Performs next printing.
- [CANCEL] key (or its substitute key): Returns to the menu.
- Other keys: Invalid

<Factory test printing patterns and conditions>

Print test pattern		1 blank label feeding
		3-dot slant lines
		Barcode
		Characters
Number of prints		5 labels each
Print speed	B-EX6T1/T3 203 dpi	5 ips
	B-EX6T1/T3 305 dpi	5 ips
	B-EX4T1 203 dpi	6 ips
	B-EX4T1 300 dpi	5 ips
	B-EX4T2 203 dpi	6 ips
	B-EX4T2 305 dpi	5 ips
	B-EX4T2 600 dpi	3 ips
	B-EX4D2 203 dpi	6 ips
Sensor type		Reflective sensor
Print method		Thermal transfer (For B-EX4D2: Direct Thermal)
Issue mode		Batch
Label pitch		76 mm
Print density fine adjustment value		±0

9.7 SENSOR

Contents of the SENSOR menu

Menu item
<4>SENSOR
TEMPERATURE
ADJUSTMENT
THRESHOLD SELECT
THRESHOLD LEVEL

9.7.1 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 shown below.

Ambient temperature	-20 to 100
Print head temperature	-20 to 100

9.7.2 ADJUSTMENT

Menu structure of ADJUSTMENT

Menu item
<2>SET PARAMETERS
SENSOR
ADJUSTMENT
REFLECTIVE SENSOR
TRANSMISSIVE SENSOR
PEPER END LEVEL
RIBBON SENSOR

9.7.2.1 REFLECTIVE SENSOR

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 (blank) area.

The display of the currently detected value is updated every 200 msec.

Hold down the [ENTER] key for 3 seconds or more.

When the registration of "print area level" is completed, "Adjust Complete" is displayed and an asterisk (*) is shown on the right side of the voltage.

If the registration failed due to a sensor failure, "SENSOR ERROR" is displayed and the ERROR LED is turned on. The ERROR LED is turned off when the upper-level menu is displayed.

The setting range is as below.

Reflective sensor	0.0 V to 5.0 V
-------------------	----------------

Note:

In B-EX4D2, 0.0V is always displayed.

9.7.2.2 TRANSMISSIVE SENSOR

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 [ENTER] key for 3 seconds or more.

When the registration of "label gap level" is completed, "Adjust Complete" is displayed and an asterisk (*) is shown on the right side of the voltage.

If the registration failed due to a sensor failure, "SENSOR ERROR" is displayed and the ERROR LED is turned on. The ERROR LED is turned off when the upper-level menu is displayed.

The setting range is as below.

Transmissive sensor	0.0 V to 5.0 V
---------------------	----------------

9.7.2.3 PAPER END LEVEL

The paper end level of the transmissive sensor and the reflective sensor is registered.

Remove any media from the printer.

The display of the currently detected value is updated every 200 msec.

Hold down the [ENTER] key for 3 seconds or more.

When the registration of "paper end level" is completed, "Adjustment Complete" is displayed and an asterisk (*) is shown on the right side of the voltage.

If the registration failed due to sensor failure, "SENSOR ERROR" is displayed and the ERROR LED turns on. The ERROR LED turns off when the upper-level menu is displayed.

The setting range is as below.

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

9.7.2.4 RIBBON SENSOR

The ribbon level is registered.

Set the ribbon so that the ribbon end sensor can detect a ribbon area.

The display of the currently detected value is updated every 200 msec.

Hold down the [ENTER] key for 3 seconds or more.

When the registration of "ribbon level" is completed, "Adjust Complete" is displayed and an asterisk (*) is shown on the right side of the voltage.

If the registration failed due to sensor failure, "SENSOR ERROR" is displayed and the ERROR LED turns on. The ERROR LED turns off when the upper-level menu is displayed.

The setting range is as below.

Ribbon end sensor	0.0V to 5.0 V
-------------------	---------------

9.7.3 THRESHOLD SELECT

- REFLECT The threshold value for the reflective sensor is selected.
- TRANS. The threshold value for the transmissive sensor is selected.

9.7.3.1 REFLECT

- MANUAL THRESHOLD The value set in the manual threshold setting mode is used.
- By COMMAND The value set by the command is used.

9.7.3.2 TRANS.

- MANUAL THRESHOLD The value set in the manual threshold setting mode is used.
- By COMMAND The value set by command is used.

9.7.4 THRESHOLD LEVEL

Menu structure of THRESHOLD LEVEL

Menu item	
<2>SET PARAMETERS	
THRESHOLD LEVEL	
REFLECT	
TRANS.	

9.7.4.1 REFLECT

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

Note:

If "0.0 V" is set, it is automatically corrected to the initial value "1.0 V".

9.7.4.2 TRANS.

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

Note:

If "0.0 V" is set, it is automatically corrected to the initial value "1.4 V".

9.8 RAM CLEAR

Contents of the RAM CLEAR menu

Menu item
<8>RAM CLEAR
NO RAM CLEAR
MAINTE.CNT CLEAR
PARAMETER CLEAR

9.8.1 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 clearing.

9.8.2 MAINTE.CNT CLEAR

The following maintenance counter data is cleared.

- ALL COUNTER
- FEED
- PRINT
- CUT
- OTHER

Tip:

- Maintenance counter data to be cleared and initial values after maintenance counter clear

Maintenance counter item	Initial value	Parameter and cleared items				
		ALL COUNTER	FEED	PRINT	CUT	OTHER
① Label distance covered	0 km	Cleared	Cleared			
② Print distance	0 km	Cleared		Cleared		
③ Cut count	0	Cleared			Cleared	
④ Head up/down count	0	Cleared				Cleared
⑤ Ribbon motor drive time	0 hours	Cleared				Cleared
⑥ Head-up solenoid driver time	0 hours	Cleared				Cleared
⑦ RS-232C hardware error count	0	Cleared				Cleared
⑧ System error count	0	Cleared				Cleared
⑨ Momentary power interruption count	0	Cleared				Cleared

<Reference: Maintenance counter printout>

<< COUNTER >>		
TOTAL FEED	4.8km	[QM]
FEED	0.0km...	①Label distance covered
FEED1	4.8km	
FEED2	0.0km	
FEED3	0.0km	
FEED4	0.0km	
PRINT	0.0km...	②Print distance
PRINT1	4.5km	
PRINT2	0.0km	
PRINT3	0.0km	
PRINT4	0.0km	
CUT	0	③Cut count
HEAD U/D	0	④Head up/down count
RIBBON	0h	⑤Ribbon motor drive time
SOLENOID	0h	⑥Head-up solenoid driver time
232C ERR	0	⑦RS-232C hardware error count
SYSTEM ERR	0	⑧System error count
POWER FAIL	0	⑨Momentary power interruption count

2. LCD message while a maintenance counter clear is performed

	Display		
While clearing	<table><tr><td>ALL COUNTER</td></tr><tr><td>CLEAR...</td></tr></table>	ALL COUNTER	CLEAR...
ALL COUNTER			
CLEAR...			
After the maintenance counter clear is completed	<table><tr><td>ALL COUNTER</td></tr><tr><td>COMPLETED Turn off the printer</td></tr></table>	ALL COUNTER	COMPLETED Turn off the printer
ALL COUNTER			
COMPLETED Turn off the printer			

- After the maintenance counter clear is completed, turn off the printer when "COMPLETED. Turn off the printer" is displayed.

9.8.3 PARAMETER CLEAR

The parameter settings are cleared and reset to the initial values for each destination.

All assigned items are cleared regardless of the installation of the module.

When the printer is started for the first time after a parameter clear, the initial setting wizard is started. This wizard enables setting the basic parameters (LCD language, use of the ribbon, media type, etc.) required for various settings.

9.8.3.1 Parameters to be cleared

After the parameter settings are cleared, the initial values for a selected destination are set.

B-EX6T, B-EX4T1, B-EX4T2, B-EX4T2-H

- QM TYPE
- JA TYPE
- CN TYPE
- QQ TYPE

B-EX4D2

- QM TYPE
- QQ TYPE
- CN TYPE
- Q2 TYPE

Tip:

- The destination code printed on the upper right corner of the maintenance counter printout shows which destination has been selected for the parameter clear.

<Reference: Maintenance counter printout>

<< COUNTER >>	
TOTAL FEED	4.8km
FEED	0.0km
FEED1	4.8km



2. LCD message while a maintenance counter clear is performed

	Display
While clearing	QM TYPE CLEAR...
After the parameter clear is completed	QM TYPE COMPLETED Turn off the printer

3. Parameter settings to be cleared the initial values set after parameter clear

■ Settings printed on the maintenance counter/parameter setting data printout

<<ADJUST>>

Item	Description	Initial value
[PC] / [KEY]		
FEED	Feed amount fine adjustment value	[PC] +0.0 mm [KEY] +0.0 mm
CUT	Cut position/Strip position fine adjustment value	[PC] +0.0 mm [KEY] +0.0 mm
BACK	Reverse feed amount fine adjustment value	[PC] +0.0 mm [KEY] +0.0 mm
TONE(T)	Print tone fine adjustment value (Thermal transfer)	[PC] +0 step [KEY] +0 step
TONE(D)	Print tone fine adjustment value (Direct thermal)	[PC] +0 step [KEY] +0 step
RIBBON TORQUE NORM		
RBN(FW)	Ribbon motor drive voltage fine adjustment (Take-up side)	[PC] +0 step [KEY] +0 step
RBN(BK)	Ribbon motor drive voltage fine adjustment (Supply side)	[PC] +0 step [KEY] +5 step
RIBBON TORQUE LOW		
RBN(FW)	Ribbon motor drive voltage fine adjustment (Take-up side)	[PC] +0 step [KEY] +0 step
RBN(BK)	Ribbon motor drive voltage fine adjustment (Supply side)	[PC] +0 step [KEY] +5 step
X ADJ.	X-coordinate fine adjustment value	+0.0 mm
THRESHOLD(R)	Manual threshold fine adjustment for the reflective sensor	1.0 V
THRESHOLD(T)	Manual threshold fine adjustment for the transmissive sensor	1.4 V

<< PARAMETER SETTINGS>>

Item	Description			Initial value
MEDIA LOAD	Media feeding to the print start position	B-EX6T1/T3		OFF
		B-EX4T1 B-EX4T2 B-EX4T2H B-EX4D2		STD
MOVE TO TEAROFF	Auto feeding to the cut/strip position after printing	QM TYPE CN TYPE QQ, Q2TYPE		OFF
		JA TYPE		When the cutter installed: ON When cutter not installed: OFF
	Media stop position fine adjustment value			+0.0 mm
	Feed mode	QM TYPE CN TYPE QQ, Q2TYPE		MODE1
HEAD UP CUT/RWD	Whether to enable the head-up function during cut issue or use the rewinder			OFF
RIBBON SAVE	Whether to enable the ribbon saving function	B-EX6T1/T3	QM TYPE CN TYPE QQ TYPE	POSITION1
		B-EX4T1 B-EX4T2 B-EX4T2H B-EX4D2	QM TYPE CN TYPE QQ, Q2TYPE	OFF
PRE PEEL OFF	Whether to enable the pre-peel-off function			OFF
BACK FEED SPEED	Reverse feed speed			STD
CALIBRATION (Note)	Auto calibration			OFF
CODE PAGE	Character code selection			PC-850
	Character "0" selection			0 (without slash)
CTRL CODE	Control code type			AUTO
PEEL OFF STATUS	Whether to send a peel-off wait status to the host			OFF
USB I/F STATUS	Whether to return a response to the host via a USB			OFF
FEED KEY	[FEED] key function			FEED
KANJI CODE	Kanji code type			TYPE1: Windows
EURO CODE	EURO code setting			B0 (0xb0)
AUTO HEAD CHK	Auto print head check			OFF
WEB PRINTER	Web printer function	B-EX6T1/T3 B-EX4T1	QM TYPE CN TYPE QQ TYPE	ON (INT)
		B-EX4T2 B-EX4T2H B-EX4D2	QM TYPE CN TYPE QQ, Q2TYPE	ON(INT)
RIBBON NEAR END	Ribbon nearly ending detection			OFF
EX. I/O MODE	Expansion I/O operating mode			TTEC Standard
PAPER/RBN END	Printer behavior at label/ribbon end			Stop immediately

MAXICODE SPEC.	MaxiCode specification			TYPE1: Compatible
CUT MODE	Cut mode			TYPE1
XML	XML data type to be printed			STD
THRESHOLD SEL (R)	Threshold value for the reflective sensor			COMMAND SET
THRESHOLD SEL (T)	Threshold value for the transmissive sensor			COMMAND SET
ENERGY TYPE (T)	Energy level applied to the print head in the thermal transfer mode	B-EX6T1/3	QM TYPE CN TYPE QQ TYPE	Generic
		B-EX4T1	QM TYPE QQ TYPE	SR1
			CN TYPE	Generic (SX compatible)
		B-EX4T2	QM TYPE QQ TYPE	W1
			CN TYPE	Generic (Multiple)
		B-EX4T2-H	QM TYPE QQ TYPE CN TYPE	R1
		B-EX4D2	QM TYPE CN TYPE QQ, Q2TYPE	W1
ENERGY TYPE (D)	Energy level applied to the print head in thermal direct mode			NORM: Normal
POWER SAVE TIME	Length of time until the printer enters sleep mode			15min
RIBBON TORQUE	Ribbon torque			Normal
TYPE OF RIBBON (for B-EX4T2,D2 only)	Ribbon type			CSO
BASIC	BASIC interpreter setting			OFF
BASIC TRACE	BASIC interpreter trace setting			OFF

Note:

Though the setting value is reset to the initial value by clearing a parameter, the first online operation after clearing a parameter is based on the value set with the initial setting wizard.

<< PANEL >>

Item	Description		Initial value
LANGUAGE	LCD message language	QM TYPE	ENGLISH
		QQ, Q2TYPE	ENGLISH
		CN TYPE	Simplified CHINESE
MODEL NAME	Whether to display the model name		ON
PRINTED COUNTER	Whether to display the number of labels printed		ON
IP ADDRESS	Whether to display the IP address		ON
CONTRAST	LCD contrast		40
SYSTEM PASSWORD	System mode password		Not cleared. * The password is not cleared, either.

<< STORAGE AREA >>

Item	Description	Initial value
TTF AREA	TrueTypeFont storage area size	Not cleared
EXT CHR AREA	External characters storage area size	Not cleared
BASIC AREA	BASIC file storage area size	Not cleared
PC SAVE AREA	PC command storage area size	Not cleared
OTF SAVE AREA	OTF storage area size (for B-EX6T1/T3)	Not cleared

<< USB >>

Item	Description	Initial value
SERIAL NUMBER	USB serial number	DISABLE

<< RS-232C >>

Item	Description		Initial value
BAUD RATE	Baud rate		9600bps
DATA LENGTH	Data length		8bits
STOP BIT	Stop bit length		1bit
PARITY	Parity	QM TYPE QQ, Q2TYPE CN TYPE	NONE
		JA TYPE	EVEN
CONTROL	Transmission control method		XON+READY AUTO

<< CENTRO >>

Item	Description	Initial value
ACK/BUSY	ACK/BUSY timing	Rising edge
INPUT PRIME	Whether to reset the printer when the INIT signal is ON	ON
PLUG & PLAY	Plug and play	OFF

<< LAN/WLAN >>

B-EX6T1/T3

Item	Description	Initial value
LAN/WLAN	Selection of LAN type	AUTO
SNMP	SNMP	ON
IP ADDRESS	Printer IP address	Not cleared
SUBNET MASK	Subnet mask	Not cleared
GATEWAY ADDRESS	Gateway address	Not cleared
SOCKET PORT	Whether to enable socket communication	QM TYPE QQ TYPE CN TYPE
		JA TYPE
DHCP	DHCP	ON
DHCP CLIENT ID	DHCP ID	Not cleared
DHCP HOST NAME	DHCP host name	Not cleared
CONNECTION MODE	WLAN: Communication mode	INFRASTRUCTURE
ESS ID	WLAN: ESS ID	TOSHIBATEC
ENCRYPTION	WLAN: Encryption	OFF
WPA MODE	WLAN: WPA	OFF
AUTHENTICATION	WLAN: Authentication method	OPEN
802.1X SUPPLICANT	WLAN: Authentication method	OFF
DEFAULT KEY	WLAN: Encryption key	1
802.11bgn CHANNEL	WLAN: AP Mode channel	1
LPR	Whether to enable LPR	ON

B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2

Item	Description	Initial value
LAN/WLAN	Selection of LAN type	AUTO
SNMP	SNMP	QM TYPE JA TYPE CN TYPE
		QQ TYPE Q2 TYPE
IP ADDRESS	Printer IP address	Not cleared
SUBNET MASK	Subnet mask	Not cleared
GATEWAY ADDRESS	Gateway address	Not cleared
SOCKET PORT	Whether to enable socket communication	Not cleared
DHCP	DHCP	ON
DHCP CLIENT ID	DHCP ID	Not cleared
DHCP HOST NAME	DHCP host name	Not cleared

WLAN STANDARD	WLAN: Standard	802.11b/g
BAND SELECT	WLAN: Frequency setting	DUAL BAND
CONNECTION MODE	WLAN: Communication mode	INFRASTRUCTURE
ESS ID	WLAN: ESS ID	TOSHIBATEC
ENCRYPTION	WLAN: Encryption	OFF
WPA MODE	WLAN: WPA	OFF
AUTHENTICATION	WLAN: Authentication method	OPEN
802.1X SUPPLICANT	WLAN: Authentication method	OFF
DEFAULT KEY	WLAN: Encryption key	1
802.11b CHANNEL	WLAN: 11b channel setting	1
802.11b BAUD RATE	WLAN: 11b baud rate setting	11M
802.11g CHANNEL	WLAN: 11g channel setting	1
802.11g BAUD RATE	WLAN: 11g baud rate setting	54M
AP MODE CHANNEL	WLAN: AP mode channel	1
WINS	Whether to enable WINS	OFF
WINS IP ADDRESS	WINS IP address	000.000.000.000
LPR	Whether to enable LPR	ON

<< RFID >>

Item	Description	Initial value
MODULE TYPE	RFID module type	NONE
TAG TYPE	RFID tag type	NONE
RF CHANNEL	RFID channel setting	AUTO
RETRY POSITION	RFID adjustment for retry	+00 mm
RETRY LABELS	Max. number of RFID issue retries	3 labels
READ RETRY	Max. number of RFID read retries	5 times
	RFID read retry timeout	4.0 sec.
WRITE RETRY	Max. number of RFID write retries	5 times
	RFID write retry timeout	2.0 sec.
POWER LEVEL	Radio intensity level	251
Q VALUE	RFID module Q value	0
AGC THRESHOLD	RFID AGC threshold setting	0
WRITE AGC	AGC threshold for data write	0
RETRY MIN AGC	AGC threshold lower limit for retry	0
TAG CHECK	RFID error tag detection	Not cleared
MULTI WRITE	Multi-word write	OFF
CALIB. MODE	RFID calibration mode (B-EX6T and B-EX4T1-QM only)	OFF
CALIB. AGC	Optimum AGC value obtained through RFID calibration (B-EX6T and B-EX4T1-QM only)	0
CALIB. POSITION	Distance to the optimum read/write position obtained through RFID calibration (B-EX6T and B-EX4T1-QM only)	+000.0 mm
ANTENNA POSITION	Position of the RF antenna and the wave director (B-EX6T and B-EX4T1-QM only)	Not cleared
SUCCEEDED TAGS	Number of times data write succeeded	Not cleared
VOID PRINT TAGS	Number of times data write failed	Not cleared

<< RTC >>

Item	Description	Initial value
BATTERY CHECK	Battery check	Not cleared
RENEWAL	Time update timing	Not cleared

■ Settings not printed on the maintenance counter/parameter setting data printout

System mode:

<12>Z-MODE

Item	Initial value
Z-MODE	OFF

User system mode:

<5>SHOW ISSUE COND.

B-EX6T1/T3

Item	Initial value
Sensor ^(Note)	TRANSMISSIVE
Mode	BATCH
Print Speed	203 dpi: 5 ips 305 dpi: 5 ips
Ribbon ^(Note)	RBN w/o save
Direction	BOTTOM
Media pitch ^(Note)	203 dpi: 76.0 mm 305 dpi: 76.0 mm
Print length	203 dpi: 74.1 mm 305 dpi: 74.2 mm
Print width	203 dpi: 160.0 mm 305 dpi: 160.0 mm
Media width	Not cleared

B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2

Item	Initial value
Sensor ^(Note)	TRANSMISSIVE
Mode	BATCH
Print Speed	203 dpi: 6 ips 300/305 dpi: 5 ips 600 dpi: 3ips
Ribbon ^(Note)	RBN w/o save
Direction	BOTTOM
Media pitch ^(Note)	203 dpi: 76.0 mm 300/305 dpi: 76.0 mm 600dpi:76.0 mm
Print length	203 dpi: 74.1 mm 300/305 dpi: 74.2 mm 600 dpi: 74.2 mm
Print width	203 dpi: 104.0 mm

	300 dpi: 108.5 mm 305 dpi: 106.7 mm 600 dpi: 106.7 mm
Media width	Not cleared

Note:

Though the setting value is reset to the initial value by a parameter clear, the first online operation after a parameter clear is performed based on the value set with the initial setting wizard.

9.9 INTERFACE

Contents of the INTERFACE menu

Menu item
<6>INTERFACE
LAN/WLAN
USB
RS-232C
CENTRONICS
EXP.I/O

9.9.1 LAN/WLAN

Menu structure of LAN/WLAN

Menu item
<6>INTERFACE
LAN/WLAN
LAN/WLAN
BASIC INFORMATION
IP ADDRESS
SUBNET MASK
GATEWAY ADDRESS
DHCP
DHCP CLIENT ID
DHCP HOST NAME
WINS
WINS ADDRESS
SOCKET PORT
PORT NUMBER
LPR
WLAN (Note)
SNMP
WEB PRINTER

Note:

This is displayed only when the wireless LAN module is installed (B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2).

9.9.1.1 LAN/WLAN

- OFF
- ON (AUTO)
- ON (LAN)
- ON (WLAN)

9.9.1.2 BASIC INFORMATION

The following network-related information is displayed.

- IP address
- Subnet mask
- Gateway address
- Socket port status
- Socket port number

9.9.1.3 IP ADDRESS

An IP address is displayed and set.

9.9.1.4 SUBNET MASK

A subnet mask is displayed and set.

9.9.1.5 GATEWAY ADDRESS

A gateway address is displayed and set.

9.9.1.6 DHCP

Select whether to enable DHCP.

- OFF
- ON

9.9.1.7 DHCP CLIENT ID

A DHCP client ID is entered with Hex. code.

Setting range: 00 to 63 (64 bytes)

9.9.1.8 DHCP HOST NAME

A DHCP host name is entered with ASCII code.

Setting range: 00 to 31 (32 bytes)

9.9.1.9 WINS

Select whether to enable WINS.

- OFF
- ON(STATIC)
- ON(DHCP)

9.9.1.10 WINS ADDRESS

A WINS address is displayed and set.

9.9.1.11 SOCKET PORT

Select whether to enable the socket communication.

- OFF
- ON

9.9.1.12 PORT NUMBER

A socket port number is displayed and set.

Setting range: 00000 to 65535

9.9.1.13 LPR

Select whether to enable the LPR.

- OFF
- ON

9.9.1.14 WLAN

B-EX6T1/T3

Menu structure of WLAN

Menu item	
<6>INTERFACE	
LAN/WLAN	
WLAN	
CONNECTION MODE	
ESSID	
WEP DEFAULT KEY	
802.11bgn CHANNEL	

9.9.1.14.1 CONNECTION MODE

- AP MODE
- INFRASTRUCTURE

Tip:

For the combinations of the WLAN connection mode and authentication, refer to the Network Specification, Section 9.7 Parameter Setting.

9.9.1.14.2 ESSID

Enter an ESSID with ASCII code.

Setting range: 00 to 31 characters

9.9.1.14.3 WEP DEFAULT KEY

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

9.9.1.14.4 802.11bgn CHANNEL

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
14	1	1	Decimal	None	2	0	None	None

Menu structure of WLAN

Menu item	
<6>INTERFACE	
LAN/WLAN	
WLAN	
WLAN STANDARD	
CONNECTION MODE	
ESSID	
WEP DEFAULT KEY	
802.11b CHANNEL	
802.11b BAUD	
802.11g CHANNEL	
802.11g BAUD	

9.9.1.14.5 WLAN STANDARD

- 802.11b/g
- 802.11b
- 802.11g

9.9.1.14.6 CONNECTION MODE

- ADHOC
- INFRASTRUCTURE

Note:

For the combinations of WLAN connection mode and authentication, refer to the Network Specification, Section 9.7 Parameter Setting.

9.9.1.14.7 ESSID

Enter an ESSID with ASCII code.

Setting range: 00 to 32 characters

9.9.1.14.8 WEP DEFAULT KEY

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

9.9.1.14.9 802.11b CHANNEL

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
14	1	1	Decimal	None	2	0	None	None

9.9.1.14.10 802.11b BAUD

- 11 Mbps
- 5.5 Mbps
- 2 Mbps
- 1 Mbps

9.9.1.14.11 802.11g CHANNEL

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
13	1	1	Decimal	None	2	0	None	None

9.9.1.14.12 802.11g BAUD

- 54 Mbps
- 48 Mbps
- 36 Mbps
- 24 Mbps
- 18 Mbps
- 12 Mbps
- 9 Mbps
- 6 Mbps
- 11 Mbps
- 5.5 Mbps
- 2 Mbps
- 1 Mbps

9.9.1.15 WLAN (B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2 with B-EX700-WLAN3-QM-S)

Menu structure of WLAN

Menu item	
<6>INTERFACE	
LAN/WLAN	
WLAN	
BAND SELECT	
CONNECTION MODE	
ESSID	

9.9.1.15.1 BAND SELECT

- Dual Band
- 2.4GHz
- 5GHz

9.9.1.15.2 CONNECTION MODE

- AP MODE
- INFRASTRUCTURE

9.9.1.15.3 ESSID

Enter the ESSID in ASCII.

Setting range: 0 to 32 characters

Character types that can be entered: Alphanumeric characters, "-", "_"

B-EX700-WLAN3-QM-S ESSID input able characters								
Upper 3bit → ↓lower 4 bit	0	1	2	3	4	5	6	7
0	NUL※	DLE	SP	0	@	P	`	p
1	SOH	DC1	!	1	A	Q	a	q
2	STX	DC2	"	2	B	R	b	r
3	ETX	DC3	#	3	C	S	c	s
4	EOT	DC4	\$	4	D	T	d	t
5	ENQ	NAC	%	5	E	U	e	u
6	ACK	SYN	&	6	F	V	f	v
7	BEL	ETB	'	7	G	W	g	w
8	BS	CAN	(	8	H	X	h	x
9	HT	EM	)	9	I	Y	i	y
A	LF/NL	SUB	*	:	J	Z	j	z
B	VT	ESC	+	;	K	[	k	{
C	FF	FS	,	<	L	¥ (¥)	l	
D	CR	GS	-	=	M	]	m	}
E	SO	RS	.	>	N	^	n	~
F	SI	US	/	?	O	_	o	DEL

Note:

The grayed-out parts are not supported

9.9.1.16 SNMP

- OFF
- ON

9.9.1.17 WEB PRINTER

- OFF: Disables web printer function.
- ON(Internal Memory): Enables web printer function (using an internal memory).
- ON(External Memory): Enables web printer function (using an external memory).

9.9.2 USB

Menu structure of USB

Menu item	
<6>INTERFACE	
USB	
USB SERIAL ID	
USB I/F STATUS	

9.9.2.1 USB SERIAL ID

- OFF
- ON

9.9.2.2 USB I/F STATUS

- OFF: No response is returned.
- ON: Returns a response to the host via a USB.

Tip:

- Regardless of the setting of this parameter, the status indicating the end of issue is automatically returned.
 - Transmission of the commands related to the status is performed as follows.
 - WS, WB, or WN command
 - In the case the USB and other interface cables are connected to the printer:
Whether a status is returned or not depends on the setting of this parameter.
Example) When this parameter is set to ON and a WS or WB command is sent to the printer via LAN, the printer returns the status via both LAN and a USB.
 - In the case only the USB cable is connected to the printer:
A status will be returned regardless of the setting of this parameter.
 - Status-related commands other than WS, WB and WN
Whether a status is returned or not depends on the setting of this parameter.
Example 1) When a command is sent via the interface other than a USB, a status will not be returned regardless of the setting of this parameter.
Example 2) When a command is sent via a USB, whether a status is returned or not depends on the setting of this parameter.
- * When this parameter is set to OFF, no status is returned via a USB even if the USB cable is connected.

9.9.3 RS-232C

Menu structure of RS-232C

Menu item	
<6>INTERFACE	
RS-232C	
BAUD RATE	
DATA LENGTH	
STOP BIT	
PARITY	
CONTROL	

9.9.3.1 BAUD RATE

- 2400 bps
- 4800 bps
- 9600 bps
- 19200 bps
- 38400 bps
- 115200 bps

9.9.3.2 DATA LENGTH

- 8 bits
- 7 bits

9.9.3.3 STOP BIT

- 1 bit
- 2 bits

9.9.3.4 PARITY

- NONE
- EVEN
- ODD

9.9.3.5 CONTROL

- XON+READY AUTO (Outputs XON at power on, XOFF at power off)
- XON+XOFF AUTO (Outputs XON at power on, XOFF at power off)
- READY/BUSY RTS (Outputs no XON/OFF at power on/off)
- XON+XOFF (Outputs no XON/OFF at power on/off)
- READY/BUSY (Outputs no XON/OFF at power on/off)

9.9.4 CENTRONICS

Menu structure of CENTRO.

Menu item	
<6>INTERFACE	
	CENTRONICS
	ACK/BUSY
	INPUT PRIME
	PLUG & PLAY

9.9.4.1 ACK/BUSY

- Rising edge
- Trailing edge

9.9.4.2 INPUT PRIME

- OFF
- ON

9.9.4.3 PLUG & PLAY

- OFF
- ON

Note:

The Plug & play function of a USB is always enabled regardless of this setting.

9.9.5 EXP.I/O

- TTEC Standard
- Inline

9.10 RFID

Contents of the RFID menu

Menu item
<7>RFID
TEST
MODULE
RETRY
UHF SETTING
OTHER
CARRIER SENSE

9.10.1 TEST

RFID tag data related to the test is read.

Menu item
<7>RFID
TEST
ID READ

9.10.1.1 ID READ

The printer enters the read test mode, and a read test is performed each time the [ENTER] key is pressed. When the data of a tag can be read, it is displayed on the LCD.

When the read test failed, the following message is displayed on the LCD.

Error message	Error description
MODULE TYPE ERROR	The RFID module type has been set to NONE or a communication cannot be established.
COUNTRY CONFIG ERROR	A country code has not been set.
READ ERROR Confirm Setting or set other Tag.	The type of the tag to be read and one selected by the RFID tag type selection do not match.
NOT AVAILABLE	Not supported
NO RESPONSE	No response from the tag
READ TIMEOUT Set a RF-Tag on Ant.	Timeout
UNKNOWN ERROR	Other errors

Tip:

Only the tags selected for the RFID tag type can be read.

If the type of the tag to be read and one selected by the RFID tag type selection do not match, the read test results in an error. Therefore, the RFID tag type shall be selected before the read test is started.

<Display example>

Display	
ID READ	
TAG	1/16 (1)
AGC	0 (2)
00010203 04050607	} (3)
08090A0B 0C0D0E0F	

- Explanation of “1/16” on the 1st line

1: Number of tag being read

16: Total number of tags read

* Mostly, only 1 tag is read.

- For the UHF module, an AGC value of the read tag is displayed on the 2nd line with decimal number.
- Data displayed on the 3rd and 4th lines are expressed with hex. code. (16 digits x 2 lines = 32 digits)

The displayed data differs depending on the module type.

B-EX6T1/T3

RFID module	Displayed data
B-EX706-RFID-U4-R B-EX706-RFID-U4-EU/US/AU-R	EPC code of EPC area

B-EX4T1, B-EX4T2

RFID module	Displayed data
B-EX700-RFID-H1-QM-R	Tag ID
B-EX700-U2-EU/US-R B-EX700-RFID-U4-R B-EX700-RFID-U4-EU/US/AU-R U4 module preinstall model (B-EX4T1/EX4T2-GS18/TS18-CN-R)	EPC code of EPC area

- In the case of 16 bytes or more data, only the first 16 bytes are displayed. When data is less than 16 bytes, the vacant digits will be filled with spaces.
- If more than one tag is read at one time, especially when short-pitch tags are used, pressing the [UP] or [DOWN] key shows the other tags' data.

9.10.2 MODULE

The information related to the module setting is displayed.

Menu structure of MODULE

Menu item	
<7>RFID	
MODULE	
MODULE TYPE	
COUNTRY	
TAG	
RF CHANNEL	

9.10.2.1 MODULE TYPE

B-EX6T1/T3

- NONE No RFID module is installed.
- HF band(H1) Not supported
- HF band(H2) Not supported
- UHF band (U2/U4) B-EX706-RFID-U4-R (Japan)
B-EX706-RFID-U4-EU-R (Europe)
B-EX706-RFID-U4-US-R (U.S.A)
B-EX706-RFID-U4-AU-R (Australia)

B-EX4T1, B-EX4T2

- NONE No RFID module is installed.
- HF band(H1) B-EX700-RFID-H1-QM-R
- HF band(H2) B-EX700-RFID-H2-R
B-EX700-RFID-H3-QM-R
- UHF band (U2/U4) B-EX700-RFID-U2-EU-R (Europe, India)
B-EX700-RFID-U2-US-R (U.S.A, Australia, Taiwan, Korea)
B-EX700-RFID-U4-R (Japan)
B-EX700-RFID-U4-EU-R (Europe)
B-EX700-RFID-U4-US-R (Korea)
B-EX700-RFID-U4-AU-R (Australia)
U4 module preinstall model
(B-EX4T1/T2-GS18/TS18-CN-R) (China)

Note: This setting will become effective after the printer power is turned off, and back to on.

9.10.2.2 COUNTRY

When the module type is set to “U4”, the country code of the currently installed module is displayed.

If the module type is set to other than “U4”, “INVALID” is displayed.

It is possible to change the country setting only when the module type is set to “U4” and the actually installed module is US or EU or AU. However, this menu is password-protected because changing the country setting causes the output frequency to change.

The following message is displayed depending on the module type setting, the mounted module type, and the module mount condition.

B-EX6T1/T3

Module Type parameter	Module type and status		Message
NONE	No module installed		NONE
U2/U4	No module installed		No RFID Module
	B-EX706-RFID-U4-R B-EX706-RFID-U4-EU-R B-EX706-RFID-U4-US-R B-EX706-RFID-U4-AU-R	No country setting	Need Setting for use [ENTER] for Setting

B-EX4T1, B-EX4T2

Module Type parameter	Module type and status		Message
NONE	No module installed		NONE
H1 H2	B-EX700-RFID-H1-QM-R B-EX700-RFID-H2-R B-EX700-RFID-H3-QM-R		INVALID
U2/U4	No module installed		No RFID Module
	B-EX700-RFID-U2-EU-R B-EX700-RFID-U2-US-R B-EX700-RFID-U4-R B-EX700-RFID-U4-EU-R B-EX700-RFID-U4-US-R B-EX700-RFID-U4-AU-R U4 module preinstall model	Set the country	[ENTER] for Setting
		No country setting	Need Setting for use [ENTER] for Setting

Note:

Selectable country codes differ depending on the RFID module type. Multiple country codes may be displayed when setting a country code, but be sure to select the country where the RFID module is used. Setting a different country code is prohibited.

For the selectable country codes, refer to Section 9.4.2.1 Module version and LCD message.

9.10.2.3 TAG

Selectable tag types vary according to the module setting.

The number in the table indicates the scroll line number.

	NONE	H1	H2	U2/U4
NONE	1	1	1	1
I-Code	2	2		
Tag-It	3	3		
C220	4	4		
ISO15693	5	5	2	
C210	6	6		
C240	7	7		
C320	8	8		
EPC C1 Gen2	9			2

9.10.2.4 RF CHANNEL

A channel used for RFID tag write is set.

- AUTO
- 2CH
- 3CH
- 4CH
- 5CH
- 6CH
- 7CH
- 8CH

Tip:

1. When a channel is chosen from 2CH to 8CH, that channel will be continuously used.

- When the channel is set to AUTO, an available channel is searched in the following order:
(2CH → 8CH → 6CH → 4CH → 3CH → 7CH → 5CH → 2CH)
- The channel setting works effectively only for the B-EX706-RFID-U4-R(*).

* The frequencies used for the B-EX706-RFID-U4-R and B-EX700-RFID-U4-R are as follows.

Channel	2CH	3CH	4CH	5CH	6CH	7CH	8CH
Frequency (MHz)	921.0	921.2	921.4	921.6	921.8	922.0	922.2

9.10.3 RETRY

The parameters related to retry are set.

Menu structure of RETRY

Menu item
<7>RFID
RETRY
RETRY POSITION
RETRY LABELS
READ RETRY
WRITE RETRY

9.10.3.1 RETRY POSITION

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

If writing data on a tag failed, the printer feeds the RFID tag forward or backward for specified length, in order to retry data writing. When "0" is set for this parameter, retrying is not performed.

Only the value of -3 mm or less or +3 mm or more is effective.

9.10.3.2 RETRY LABELS

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
255	0	1	Decimal	None	3	0	None	Labels

When issuing an RFID tag failed, the printer prints the error (Void) pattern, and retries to issue a tag for up to the specified number of times. If the printer does not succeed even after having retried for the specified number of times, the printer stops, resulting in an RFID WRITE error.

9.10.3.3 READ RETRY

The number of times tag read is retried and the timeout for read retry are set.

(1) Number of times tag read is retried

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
255	0	1	Decimal	None	3	0	None	Times

The printer retries to read the data in an RFID tag for up to the specified number of times. If the data read retry period expired before the specified number of retries, the printer stops the retries at the time. Whenever the printer writes data onto an RFID tag, the tag will be read first. The maximum number of retries set by this parameter is also used for this pre-read.

(2) Timeout for RFID tag read retry

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
9.9	0.0	0.1	Decimal	None	1	1	None	Second

The printer retries to read the data in an RFID tag for the specified length of time. If the printer has retried for the specified number of times within the RFID read retry period, the printer stops the retries at the time. Whenever the printer writes data onto an RFID tag, the tag is read first. The read retry timeout set by this parameter is also used for this pre-read.

9.10.3.4 WRITE RETRY

The number of times tag write is retried and the timeout for write retry are set.

(1) Number of times tag write is retried

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
255	0	1	Decimal	None	3	0	None	Times

The printer retries to write data onto an RFID tag for up to the specified number of times. If the data write period expired before the specified number of retries, the printer stops the retries at the time.

(2) Timeout for RFID tag write retry

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
9.9	0.0	0.1	Decimal	None	1	1	None	Second

The printer retries to write data on an RFID tag for the specified length of time.

If the printer has retried for the specified number of times within the RFID write retry timeout, the printer stops the retries at the time.

9.10.4 UHF SETTING

The parameters related to UHF setting are set.

Menu structure of UHF SETTING

Menu item
<7>RFID
UHF SETTING
POWER LEVEL
Q VALUE
AGC THRESHOLD
WRITE AGC THRESHOLD
WRITE RETRY MIN AGC
CALIB. MODE (B-EX6T, B-EX4T1)
CALIB. AGC (B-EX6T, B-EX4T1)
CALIB. POSITION (B-EX6T, B-EX4T1)
ANTENNA POSITION (B-EX6T, B-EX4T1)

9.10.4.1 POWER LEVEL

The radio output level of an UHF is set.

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

Tip:

B-EX6T1/T3

1. The maximum and minimum values vary depending on the module type.

	Max. value	Min. value	Initial value
B-EX706-RFID-U4-R B-EX706-RFID-U4-EU/US/AU-R	18	0	18

2. The range of the output level is 18 (approx. 100 mW) to 0 (approx. 1 mW).

B-EX4T1, B-EX4T2

1. The maximum and minimum values vary depending on the module type.

	Max. value	Min. value	Initial value
B-EX700-RFID-U2-EU/US-R	18	9	18
B-EX700-RFID-U4-R B-EX700-RFID-U4-EU/US/AU-R U4 module preinstall model (B-EX4T1/T2-GS18/TS-18-CN-R)	18	0	18

2. The range of the output level is 18 (approx. 100 mW) to 0 (approx. 1 mW).
3. The setting range of B-EX700-RFID-U2-EU/US-R is 9 to 18, but the LCD displays 0 to 18.
4. If a value from 0 to 8 which is out of the setting range is set for B-EX700-RFID-U2-EU/S-R, the operation is not guaranteed.

9.10.4.2 Q VALUE

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
15	0	1	Decimal	None	2	0	None	None

In the case multiple RFID tags are read at the same time, this menu is useful to focus on a target tag. Set the Q value to "1" or above (2 is recommended). Q value "0" causes the tags to interfere with each other and disables proper data writing.

When the Q value is set, set an AGC threshold for data writing and an AGC threshold lower limit for retrying, too. Setting all these values enables writing data to a tag placed just above the antenna.

Actually, the problem of reading multiple tags at the same time does not occur with most RFID tag types. It is not necessary to change the default setting of "0".

Tip: This is effective only for the following modules:

B-EX6T1/T3

- B-EX706-RFID-U4-R
- B-EX706-RFID-U4-EU/US/AU-R

B-EX4T1, B-EX4T2

- B-EX700-RFID-U2-EU/US-R
- B-EX700-RFID-U4-R
- B-EX700-RFID-U4-EU/US/AU-R
- U4 module preinstall model (B-EX4T1/T2-GS18/TS18-CN-R)

9.10.4.3 AGC THRESHOLD

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
15	0	1	Decimal	None	2	0	None	None

When the obtained gain of an RFID tag is lower than the AGC threshold, the tag is considered as an error one even if data writing has succeeded.

When the AGC threshold is set to “0”, all tags are writable.

When this parameter is set to “8”, for example, tags with the AGC threshold level of 7 or less are considered as error ones.

The optimum value is different depending on the tag types.

Tip: This is effective only for the following modules:

B-EX6T1/T3

- B-EX706-RFID-U4-R
- B-EX706-RFID-U4-EU/US/AU-R

B-EX4T1, B-EX4T2

- B-EX700-RFID-U2-EU/US-R
- B-EX700-RFID-U4-R
- B-EX700-RFID-U4-EU/US/AU-R
- U4 module preinstall model (B-EX4T1/T2-GS18/TS18-CN-R)

9.10.4.4 WRITE AGC THRESHOLD

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
15	0	1	Decimal	None	2	0	None	None

When the Q value is set to “1” or greater, the AGC threshold for data writing becomes effective.

When the obtained gain of an RFID tag is lower than the AGC threshold for data writing, no data writing operation is performed. In other words, setting an AGC threshold for data writing enables writing data only to a tag placed just above the antenna.

Supposing that the gain of a tag just above the antenna is 14 and that of a tag off the antenna is 7, setting the threshold to “11” (a value between “8” and “14”) enables the printer to write data only to the tag just above the antenna.

When the threshold is set to “0”, a data writing operation is performed regardless of the gain of a tag.

Both of the AGC threshold and the AGC threshold for data writing are used to determine whether a tag is defective or not, but the timing of a gain measurement is different. In the case of the AGC threshold, this is performed after data is written to a tag. On the contrary, when the AGC threshold for data writing is effective a measurement is performed before the data is written. And if a gain value is lower than the threshold, no data writing operation is performed.

The optimum value differs depending on the tag type.

Actually, the problem of reading multiple tags at the same time does not occur with most RFID tag types. It is not necessary to change the default setting of “0”.

Tip: This is effective only for the following modules:

B-EX6T1/T3

- B-EX706-RFID-U4-R
- B-EX706-RFID-U4-EU/US/AU-R

B-EX4T1, B-EX4T2

- B-EX700-RFID-U2-EU/US-R
- B-EX700-RFID-U4-R
- B-EX700-RFID-U4-EU/US/AU-R
- U4 module preinstall model (B-EX4T1/T2-GS18/TS18-CN-R)

9.10.4.5 WRITE RETRY MIN AGC

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
15	0	1	Decimal	None	2	0	None	None

When the Q value is set to “1” or greater, the AGC threshold lower limit for retrying becomes effective.

In the case the printer could not find any tag whose gain is over the AGC threshold for data writing, the AGC threshold is lowered to the highest gain of the detected tags whose gains are over the AGC threshold lower limit for retrying specified with this parameter.

Example 1

AGC threshold for data writing: 11

Lower limit for retrying: 9

Detected tag's gain: 10

As the gain of the tag is lower than the threshold, no data writing operation is performed for this tag at the first try. However, the gain is greater than the lower limit.

Then the printer retries to write data to this tag according to a new AGC threshold of 10.

In this case, a data writing retry will mostly succeed because the detected tag's gain is greater than the new threshold. (However, the success rate is not 100% because the gain of the tag is not always the same.)

Example 2

AGC threshold for data writing: 11

Lower limit for retrying: 9

Detected tag's gain: 8

As the gain of the tag is lower than the threshold, no data writing operation is performed for this tag at the first try. Also, the gain is lower than the lower limit.

Then the printer retries to write data to this tag according to a new AGC threshold of 9.

In this case, a data writing retry will mostly fail because the detected tag's gain is lower than the new threshold. (However, the error rate is not 100% because the gain of the tag is not always the same.)

When the same value is set for the AGC threshold for data writing and the AGC threshold lower limit for retrying, respectively, the threshold will not be changed for a retry.

The optimum value differs depending on the tag type.

Actually, the problem of reading multiple tags at the same time does not occur with most RFID tag types. It is not necessary to change the default setting of “0”.

Tip: This is effective only for the following modules:

B-EX6T1/T3

- B-EX706-RFID-U4-R
- B-EX706-RFID-U4-EU/US/AU-R

B-EX4T1, B-EX4T2

- B-EX700-RFID-U2-EU/US-R
- B-EX700-RFID-U4-R
- B-EX700-RFID-U4-EU/US/AU-R
- U4 module preinstall model (B-EX4T1/T2-GS18/TS18-CN-R)

9.10.4.6 CALIB. MODE (B-EX6T, B-EX4T1)

This parameter is to select whether the RFID calibration function is enabled or not.

- OFF
- ON

Tip:

1. When this setting is enabled (ON), the AGC value (CALIB. AGC) and the distance to the read/write position (CALIB. POSITION) obtained through the RFID calibration become effective.
2. When this setting is enabled (ON), the printer will automatically feed RFID media forward/backward for the distance specified by the CALIB. POSITION parameter before writing/reading RFID tag. Therefore, @003 command's parameters "a" and "bbbb" become invalid. (For details of the @003 command, refer to the External Equipment Interface Specification for the B-EX Series.)
3. When the values obtained by an RFID calibration are set, this parameter will automatically turn ON.
4. For details of the RFID calibration, refer to Section 6.7 RFID CALIBRATION.

9.10.4.7 CALIB. AGC (B-EX6T, B-EX4T1)

By performing the RFID calibration, an AGC (response wave intensity from an RFID tag) value is automatically obtained and set.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
15	0	1	Decimal	None	2	0	None	None

Tip:

1. This parameter is effective only when the CALIB. MODE parameter is set to ON.
2. Data writing/reading is performed only for the tags having the AGC value equal to or larger than the AGC value set for this parameter. When the AGC value is less than the one set for this parameter, RFID WRITE ERROR occurs.
3. For details of the RFID calibration, refer to Section 6.7 RFID CALIBRATION.

9.10.4.8 CALIB. POSITION (B-EX6T, B-EX4T1)

By performing the RFID calibration, an optimum data read/write position (distance from the home position) is automatically obtained and set.

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
+999.9	-999.9	0.1	Decimal	None	3	1	None	mm

Tip:

1. This parameter is effective only when the CALIB. MODE parameter is set to ON.
2. The printer will automatically feed an RFID media forward/backward for the distance specified by the CALIB. POSITION parameter before writing/reading and RFID tag, which is normally performed with the @003 command.
3. The feeding direction is indicated by "+" (backward) and "-" (forward).
4. Setting values ranging from -2.9 mm to +2.9 mm do not reflect the read/write position fine adjustment.
5. For details of the RFID calibration, refer to Section 6.7 RFID CALIBRATION.

9.10.4.9 ANTENNA POSITION (B-EX6T, B-EX4T1)

This parameter, used for an RFID calibration, is to select the combinational position of the RF antenna and the wave director.

- FRONT
- CENTER
- REAR

<Combination of the RF antenna and the wave director>

Antenna position	Antenna rotation	Wave director position	Application
FRONT	0°	0 mm	Usable
CENTER			Unusable
REAR			Unusable

Tip:

1. A “usable” antenna position must be selected for this parameter.
2. If the RFID calibration is performed with “Unusable” antenna position selected, the printer operation is not guaranteed. (Refer to Section 6.7.1 Outline of the RFID Calibration.)
3. For details of the RFID calibration, refer to Section 6.7 RFID CALIBRATION.

9.10.5 OTHER

Menu structure of OTHER

Menu item	
<7>RFID	
OTHER	
TAG CHECK	
MULTI WRITE	

9.10.5.1 TAG CHECK

- OFF: Error tag detection is not performed.
- ON (ID): Error tag detection is performed.
- ON (ACCESS PASSWORD): Error tag detection is performed.

Tip:

1. Description of the options

- OFF: Error tag detection is disabled.

Though a tag is read before writing data on it, data is always written on the tag whatever data is set as the header data.

- ON (ID): Error tag detection is enabled.

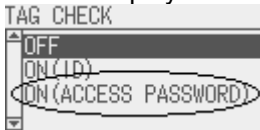
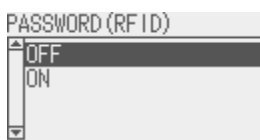
A tag (EPC area for GEN2 tags) is read before writing data on it, and data is written on the tag only when the header data is “A5A5”.

- ON (ACCESS PASSWORD): Error tag detection is enabled.

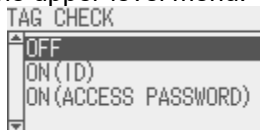
Error tag detection is enabled only for GEN2 tags. The access password area of a tag is read before writing data on it. Only when the data read matches the access password setting data, the data is written on the tag.

2. To prevent unauthorized changes of the setting, a password can be set to protect the error tag detection setting. (For the password setting procedure, see the next paragraph.)

3. Example of operation when "ON (ACCESS PASSWORD)" is selected

1. TAG CHECK screen	Display  ↓ [ENTER] key	Operation Select "ON (ACCESS PASSWORD)".
2. Access password entry screen	 ↓ [ENTER] key	Enter an 8-digit access password.
3. Auto unlock setting screen	 ↓ [ENTER] key	Choose whether or not to enable the auto unlock function. When "ON" is selected, locked tags are automatically unlocked by the access password and data write is enabled.
4. Tag check setting protection password setting screen	 ↓ [ENTER] key	Choose whether or not to set the password to protect the error tag detection setting. When "OFF" is selected, this menu is ended and the upper-level menu is displayed. When "ON" is selected, the password entry screen is displayed.
5. Tag check setting protection password setting screen	(When "ON" is selected)  ↓ [ENTER] key This menu is ended, and the upper-level menu is displayed.	Enter a 4-digit protection password.

4. Example of operation when the tag check setting protection password has been set (when "ON" is set on the tag check setting protection password setting screen)

1. SYSTEM MODE ⇒ <7>RFID ⇒ OTHER ⇒ TAG CHECK	Display	Operation
2. Tag check setting protection password entry screen	 ↓ [ENTER] key * When the password matched: The TAG CHECK screen is displayed. * When the password unmatched: Error message is displayed. Press the [ENTER] key to exit this menu and return to the upper-level menu.	Enter the 4-digit protection password.
3. TAG CHECK screen		
When "OFF" or "ON(ID)" is selected, the tag check setting protection password will automatically be set to "OFF". (After this, the tag check setting protection password entry screen will not appear when opening the TAG CHECK menu.)		

9.10.5.2 MULTI WRITE

This command is available as an RFID chip function to reduce the time to write data.

This command can be enabled by means of this setting if the firmware version of the U4 module is #20A or later.

- OFF
- ON

9.10.6 CARRIER SENSE

The printer enters the carrier sense mode, and performs a carrier sense. Environmental radio wave of each channel is picked up for about 30 times during 5 seconds.

menu structure of CARRIER SENSE

Menu item	
<7>RFID	
CARRIER SENSE	

Display example

Display		
CARRIER SENSE		
CH	Available	MAX
1	0%	0000
2	0%	0000
3	0%	0000

Tip:

1. The following modules support this function.
B-EX6T1/T3
 - B-EX706-RFID-U4-R.B-EX4T1, B-EX4T2
 - B-EX700-RFID-U4-R.
2. The left-most number indicates a channel number. The percentage means the availability of the channel, which is determined by performing approx. 30 carrier senses. Thus, "100%" means that any other devices do not use this channel.
3. The MAX column shows the value of the maximum radio wave picked up. The larger the value is, the stronger radio wave source exists nearby.
4. The display can be scrolled up or down, from Channel 1 (1CH) to channel 9 (9CH), by using the [UP] or [DOWN] key.
5. Pressing the [ENTER] key causes the printer to perform a carrier sense again. To exit a carrier sense, press the [CANCEL] key.
6. When the RFID module type is set to "NONE" or a communication cannot be established, "NO RFID MODULE" is displayed.
7. When the RFID module type is set to other than U2, "NOT AVAILABLE" is displayed.
8. When the RFID module type is set to U2 but effective data cannot be obtained, "NO RESPONSE" is displayed.
9. If the RFID module's country setting is not specified (user-inaccessible setting), "RFID CONFIG ERR" is displayed.

9.11 RTC

Contents of the RTC menu

Menu item	
<8>RTC	
DATA/TIME	
BATTERY CHECK	
RENEWAL	

9.11.1 DATE TIME

This setting is effective only when the optional RTC module is installed.

Date and time are set.

9.11.2 BATTERY CHECK

- OFF
- ON

9.11.3 RENEWAL

- Start of JOB As the real time clock data is read only for the first media in a batch, the same time is printed on all the media.
- Every PAGE As the real time clock data is read at the start of printing each media, a real time can be printed on each media.
- 1 min BATCH As the real time clock data is read at the start of printing each minute, a real time can be printed on each minute. (B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2)

9.12 USB MEMORY

Contents of the USB MEMORY menu

Menu item
<9>USB MEMORY
USB TO PRINTER
PRINTER TO USB

Tip:

1. The following table shows the error messages and descriptions which may be displayed while a USB memory is used:

After the error message is displayed, the operation is not retried.

Message	Description
FORMAT ERROR Check the settings.	Format error or no memory installed
MEMORY WRITE ERR. Check the data and the settings.	Write error
MEMORY READ ERR. Check the data and the settings.	Read error
MEMORY FULL Free some memory space.	Insufficient memory
FILE NOT FOUND Check the data and the settings.	No applicable file found
UNKNOWN ERROR	Other errors

2. Depending on the remaining memory size or the USB memory status, a write error may occur even in the case of insufficient free space.
3. Usable USB memory's file system is as follows. To use other file system in a USB memory, they need to be formatted to either of the following on the PC in advance.

File system	Max. size
FAT (FAT16)	2 GB
FAT32	8 GB

9.12.1 USB TO PRINTER

- COPIED DATA
- CONFIG FILE

Tip:

1. The data store in a USB memory is copied to the printer.
 - COPIED DATA File (*.DAT) containing firmware (BOOT/MAIN/CG/KANJI/HTML), storage area data, and parameter settings
The file is created in binary format when "PRINTER TO USB" is executed.
 - CONFIG FILE File (*.CFG) in which the path of the firmware (BOOT/MAIN/CG/KANJI/HTML) is saved
The file is created in a text format when the master media is made. The format of the file is described in Section 12.Auto Configuration Mode.
2. When an item to be saved is selected, the file selection screen is shown.
3. For the file selection screen, see Section 7.6 FILE SELECTION .
 - * The scrollbar on the file selection screen is not provided with the knob regardless of the number of files.
4. The confirmation screen appears when a file is selected from the file selection screen.

- * When CFG files is selected, the message included in the CFG file is shown prior to the confirmation screen.
- 5. After confirming the data copy, the printer reads data from a USB memory.
- 6. It takes about 3 to 5 minutes to read all data.
- 7. Copy data

When saving other model's data is attempted, only the parameter settings are read. In this case, parameters not supported by the destination printer are inapplicable. It takes about 3 seconds to copy data.

 - * B-EX6T1/T and B-EX6T1-G, B-EX6T3-T and B-EX6T3-G are regarded as the same model.
 - * B-EX4T1-T and B-EX4T1-G, B-EX4T2-T and B-EX4T2-G are regarded as the same model.
- 8. Parameters of copy data

Parameters not supported by the destination printer are read, but not applied. Also, even if the destination printer has the same parameters with the source printer, options may be different.
- 9. When an error occurs during an access to the USB memory, the error message described in Section 9.12 USB MEMORY is displayed. The printer does not retry the operation.

9.12.2 PRINTER TO USB

- ALL

Tip:

1. The firmware (BOOT/MAIN/CG/KANJI/HTML), storage area data, and parameter settings are copied to a USB memory.
2. When an item to be saved is selected, the confirmation screen is shown and the data is stored in the USB memory. It takes about 40 seconds to copy all data.
3. A file is automatically created in the USB memory and named in the following format based on the printer model and the date of creation.
 /ATA0/SYSTEM/B-EX6T1-T1105.DAT (e.g. B-EX6T Type1 305dpi model, Nov. 5)
 If a file with the same name already exists in the USB memory, it will be overwritten.
4. When an error occurs during an access to the USB memory, the error message described in Section 9.12 USB MEMORY is displayed. The printer does not retry the operation.

9.13 FACTORY TEST

Contents of the FACTORY TEST menu

Menu item
<10>FACTORY TEST
HEAD UP ADJUST
PANEL TEST
KEY TEST

9.13.1 HEAD UP ADJUST

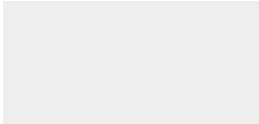
The head-up solenoid is turned on for 10 seconds.

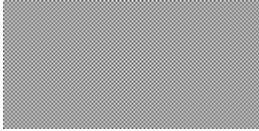
9.13.2 PANEL TEST

The LCD test is performed in the following order.

(Start) ⇒ Backlight test ⇒ Missing dot test ⇒ Character display test ⇒ Contrast test ⇒ (End)

The display language is English regardless of the language selected for LCD Language parameter.

	LCD	Operation and LCD/LED status
Backlight test		ONLINE LED turns on. ERROR LED turns on. Backlight turns on.
		Press any key.
		ONLINE LED turns on. ERROR LED turns on. Backlight turns off.
		Press any key.
Missing dot test		ONLINE LED turns on. ERROR LED turns on. Backlight turns on. A 1-dot line is displayed along the edges of the LCD.
		Press any key.
		ONLINE LED turns on. ERROR LED turns on. Backlight turns on. All LCD dots are on.
		Press any key.
		ONLINE LED turns on. ERROR LED turns on. Backlight turns on. All LCD dots are off.
		Press any key.
		ONLINE LED turns on. ERROR LED turns on. Backlight turns on. A 1-dot check pattern is displayed. The upper left corner dot is black.
		Press any key.

		ONLINE LED turns on. ERROR LED turns on. Backlight turns on. A 1-dot check pattern is displayed. The upper left corner dot is white.
		Press any key.
Character display test	ABCDEFGHIJKLMNOPQRSTU 123456789012345678901 abcdefghijklmnopqustu 098765432109876543210 ZYXWVUTSRQPONMLKJIHGF	ONLINE LED turns on. ERROR LED turns on. Backlight turns on. Characters are displayed.
		Press any key.
Contrast test	CONTRAST TEST 24	ONLINE LED turns on. ERROR LED turns on. Backlight turns on. Displays with the minimum contrast.
		Press any key.
	CONTRAST TEST 40	ONLINE LED turns on. ERROR LED turns on. Backlight turns on. Displays with the default contrast.
		Press any key.
	CONTRAST TEST 50	ONLINE LED turns on. ERROR LED turns on. Backlight turns on. Displays with the maximum contrast.
		Press any key.
End display	LCD/LED TEST COMPLETE PRESS ENTER KEY	ONLINE LED turns on. ERROR LED turns off. Backlight turns on.
		Press the [ENTER] or [CANCEL] key to return to the upper-level menu.

9.13.3 KEY TEST

The test is performed in the following order.

(Start) ⇒ FEED key test ⇒ RESTART key test ⇒ PAUSE key test ⇒ UP key test ⇒ RIGHT key test ⇒ DOWN key test ⇒ LEFT key test ⇒ MODE key test ⇒ CANCEL key test ⇒ ENTER key test ⇒ (End)

The display language is English regardless of the LCD Language parameter setting.

	LCD	Operation and LCD/LED status
FEED KEY TEST	PRESS FEED KEY	
		Press the [FEED] key.
RESTART KEY TEST	PRESS RESTART KEY	
		Press the [RESTART] key.

PAUSE KEY TEST	PRESS PAUSE KEY	
		Press the [PAUSE] key.
UP KEY TEST	PRESS UP KEY	
		Press the [UP] key.
RIGHT KEY TEST	PRESS RIGHT KEY	
		Press the [RIGHT] key.
DOWN KEY TEST	PRESS DOWN KEY	
		Press the [DOWN] key.
LEFT KEY TEST	PRESS LEFT KEY	
		Press the [LEFT] key.
MODE KEY TEST	PRESS MODE KEY	
		Press the [MODE] key.
CANCEL KEY TEST	PRESS CANCEL KEY	
		Press the [CANCEL] key.
ENTER KEY TEST	PRESS ENTER KEY	
		Press the [ENTER] key.
END DISPLAY	KEY TEST COMPLETE	
	PRESS ENTER KEY	
		Press the [ENTER] or [CANCEL] key to return to the upper-level menu.

Note:

1. If a key other than designated is pressed, the printer waits until the designated key is pressed. (The test does not proceed to the next.)
2. If the key test does not proceed to the next test even after the designated key is pressed, the key may be broken. In this case, turn off the printer.

9.14 BASIC

Contents of the BASIC menu

Menu item
<11>BASIC
BASIC
FILE MAINTENANCE
TRACE
SYSTEM PROGRAM

9.14.1 BASIC

- OFF
- ON

9.14.2 FILE MAINTENANCE

The block numbers and BASIC program file names (up to 12 characters) stored in the BASIC program storage area are displayed. If the file name exceeds 12 characters, the overflowing characters are not displayed.

When no file is stored, a hyphen (-) is displayed in place of the file name.

9.14.3 TRACE

- OFF
- ON

9.14.4 SYSTEM PROGRAM

The printer changes the mode to execute the BASIC program.

9.15 EMULATION MODE

Contents of the EMULATION MODE menu

Menu item
<12>EMULATION MODE

- | | |
|----------------------|--|
| • OFF | Disabled. |
| • AUTO DETECT ON | Enable automatic determination of Z Mode/D Mode and do not display the BASIC system mode program screen immediately after. |
| • AUTO DETECT ON SET | Enables the automatic determination of Z Mode/D Mode and displays the BASIC system mode program screen immediately after. |
| • Z MODE ON | Enable Z Mode and do not display the BASIC system mode program screen immediately after. |
| • Z MODE ON SET | Enable Z Mode and displays the BASIC system mode program screen immediately after. |
| • D MODE ON | Enable D Mode and do not display the BASIC system mode program screen immediately after |

* Since B-EX4T2-H is effective only in Z Mode, the selection is as follows

- | | |
|------------------|---|
| • OFF | Disabled. |
| • ON SETTING OFF | Enable: Do not display the BASIC system mode program screen immediately afterwards. |

- **ON SETTING ON** Enable: The BASIC system mode program screen is displayed immediately afterwards.

Tip:

When EMULATION mode is changed from OFF to other than OFF, the MEDIA LOAD parameter is automatically set as follows. This can be changed by setting the MEDIA LOAD parameter again after the Z-MODE is enabled.

Model	MEDIA LOAD parameter setting
B-EX6T1/T3 QM	ECO
B-EX4T1 QM	ECO
B-EX4T2	STD
B-EX4T2-H	STD
Others	Unchanged

When AUTO DETECT or AUTO DETECT ON SET is selected, the printer is activated in the Z Mode and D Mode automatic discrimination mode, and "EMULATION MODE" is displayed on the LCD. When activated in the automatic discrimination mode, the mode discrimination of Z Mode or D Mode is performed according to the control character type received first. As a result of the mode determination, if it is determined that either Z Mode or D Mode is set, mode determination is not performed until the printer power is reset thereafter.

The result of mode determination for each control character is as follows.

Control character	Hex	Result
SOH	0x01	D Mode
STX	0x02	D Mode
%01	0x25, 0x30, 0x31	D Mode
%02	0x25, 0x30, 0x32	D Mode
^ (Other than ^01/^02)	0x5E	Z Mode
^01	0x5E, 0x30, 0x31	D Mode
^02	0x5E, 0x30, 0x32	D Mode
ESC *c	0x1B, 0x2A, 0x63	D Mode
~	0x7E	Z Mode

Tip:

1. The automatic determination results of Z Mode and D Mode follow the above table regardless of the setting of "Alternate Control Code Modes" of D Mode. For details on "Alternate Control Code Modes", refer to "5.1 Control Code Command Functions" in "D Mode Command Specification".
2. In the automatic determination mode, there may be a case where data specified by a part of download commands (~ DG / ~ DU / ~ DY in Z Mode) cannot be received normally. In that case, set to the mode fixed to Z Mode (Z MODE ON or Z MODE ON SET).

9.16 XML

Contents of the XML menu

Menu item
<13>XML

- OFF Disables XML function.
- STD Standard specification
- ORACLE Specification for Oracle
- SAP Specification for SAP
- STD (EXT memory) Standard specification (external memory is used)
- ORACLE (EXT memory) Specification for Oracle (external memory is used)

- SAP (EXT memory) Specification for SAP (external memory is used)

Tip:

When the XML feature is enabled, the user system mode functions are not guaranteed. It is required to terminate the user system mode with reset. For the functions covered by the system mode, settings configured in the system mode must be used.

9.17 LCD PANEL

Contents of the LCD PANEL menu

Menu item
<14>LCD PANEL
LANGUAGE
DISPLAY
CONTRAST

9.17.1 LCD LANGUAGE

- ENGLISH
- GERMAN
- FRENCH
- DUTCH
- SPANISH
- JAPANESE
- ITALIAN
- PORTUGUESE
- Simplified CHINESE
- KOREAN
- TURKISH
- POLISH

Tip:

In the printer modes other than online, the language displayed on the LCD panel is JAPANESE when JAPANESE is selected, and ENGLISH when ENGLISH, GERMAN, FRENCH, DUTCH, SPANISH, ITALIAN, PORTUGUESE, Simplified CHINESE, KOREAN, TURKISH, or POLISH is selected.

9.17.2 DISPLAY

Menu structure of DISPLAY

Menu item
<14>LCD PANEL
DISPLAY
MODEL NAME
PRINTED COUNTER
IP ADDRESS

9.17.2.1 MODEL NAME

- OFF Model name is hidden.
- ON Model name is displayed.

9.17.2.2 PRINTED COUNTER

- OFF The number of labels printed is hidden.
- ON The number of labels printed is displayed.

9.17.2.3 IP ADDRESS

- OFF IP address is hidden.
- ON IP address is displayed.

9.17.3 CONTRAST

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
50	24	2	Decimal	None	2	0	Enabled	None

Tip: Contrast setting

- + (Plus) Higher contrast
- - (Minus) Lower contrast

9.18 PASSWORD

Contents of the PASSWORD menu

Menu item
<15>PASSWORD

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

9.18.1 PASSWORD

Max. value	Min. value	Step	Display	Sign	Integer digit	Decimal place	0-padding	Unit of measure
F	0	1	Hex.	None	1	0	None	None

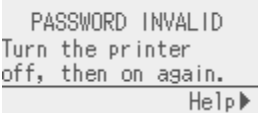
9.18.1.1 System mode and user system mode start screen when password is enabled

When the password is enabled, the password entry screen is displayed at the time the system mode or user system mode is started.

Password entry for the system mode

Display	Procedure
	Turn on the printer while holding down the [FEED] and [RESTART] keys simultaneously. The password entry screen is displayed.
	Enter the password.
	The printer enters the system mode.
When a wrong password is entered or the [CANCEL] key or [MODE] key is pressed	
	A password invalid message is displayed.
A wrong password was entered for 3 times consecutively.	
	The printer starts in the online mode.

Password entry for the user system mode

Display	Procedure
	Turn on the printer, press the [PAUSE] key to place the printer in the pause state. Then hold down the [MODE] key for 3 seconds. The password entry screen is displayed.
	Enter the password.
	The printer enters the user system mode.
When a wrong password is entered or the [CANCEL] key or [MODE] key is pressed	
	A password invalid message is displayed.
A wrong password was entered for 3 times consecutively.	
	The printer locks. Turn off printer and back to on.

Tip:

If you forgot the system mode password, disable it with @010 command.

10 USER SYSTEM MODE

10.1 OUTLINE OF USER SYSTEM MODE

1. The printer enters the user system mode with the following operations.
 - While the printer is in pause state, perform either of the following operations:
 - Hold down the [RESTART] key for 3 sec. or more.
 - Hold down the [MODE] key for 3 sec. or more.
 - While the printer is online, perform the following operation:
 - Hold down the [MODE] key for 3 sec. or more.
2. The user system mode is intended for performing various parameter settings.
3. The key operations for the user system mode are described below.

For the key functions and display, see Section 7. DISPLAY PATTERN AND KEY OPERATION FOR SYSTEM MODE AND USER SYSTEM MODE.

Top screen of the user system mode

Display	
USER SYSTEM MODE	C1.6
<1>EXIT	
<2>SET PARAMETERS	
<3>DETECTION LEVEL	
<4>SYSTEM TOOLS	

Top menu list

English
<1>EXIT
<2>SET PARAMETERS
<3>DETECTION LEVEL
<4>SYSTEM TOOLS
<5>SHOW ISSUE CONDITION
<6>RESET

Outline of the top menu

<1>EXIT	Used to return the printer to online state. (The printer is not reset.)
<2>SET PARAMETERS	Used to set the parameters for each printer function.
<3>DETECTION LEVEL	Used to set the threshold value.
<4>SYSTEM TOOLS	Used to print data sent from the host or store it in USB memory.
<5>SHOW ISSUE CONDITION	Used to display the print conditions (such as sensor type, print speed and orientation).
<6>RESET	Used to reset the printer.

10.2 EXIT

The printer state is returned from the user system mode to the online mode. (No reset is performed.)
Some parameter settings are reset when the Exit is performed. The parameters to be reset are indicated with "Reset Req.". Other parameters are not reset

Contents of the EXIT menu

Menu item
<1>EXIT

10.3 SET PARAMETERS

Same as 9.5 SET PARAMETERS of the system mode.

10.4 DETECTION LEVEL

Contents of the DETECTION LEVEL menu

Menu item
<3>DETECTION LEVEL
1)REFL.(PRE-PRINT)
2)TRANS.(PRE-PRINT)

Same as 6.6 MANUAL THRESHOLD SETTING.

10.5 SYSTEM TOOLS

Menu item
<4>SYSTEM TOOLS
DUMP
RS-232C
USB
PRINT
ON DEMAND
ALL
CENTRONICS ⇒ The subsequent menus are same as *1.
LAN/WLAN ⇒ The subsequent menus are same as *1.
BASIC1 ⇒ The subsequent menus are same as *1.
BASIC2 ⇒ The subsequent menus are same as *1.
USB ⇒ The subsequent menus are same as *1.
RFID ⇒ The subsequent menus are same as *1.
LOG
PRINTER TO USB
CANCEL
OK

10.6 SHOW ISSUE CONDITION

Contents of the SHOW ISSUE CONDITION menu

Menu item
<5>SHOW ISSUE CONDITION
Sensor (*1)
Mode (*1)
Print speed (*1)
Ribbon (*1)
Direction (*1)
Media pitch (*1)
Print length (*1)
Print width (*1)
Media width (*1)

Tip:

The current setting value for each parameter is shown in the position of (*1). The options for the parameters are as follows.

1. Sensor

- NO
- REFLECTIVE
- TRANSMISSIVE
- TR.Threshold
- RE.Threshold

2. Mode

- BATCH
- CUT (yyy) * yyy: Cut interval (1 to 100)
- PEEL OFF
- PEEL OFF (Appl)

3. Print speed

* Selectable print speed differs depending on the model.

B-EX6T1/T3

- 3ips B-EX6T1/T3-G/T
- 5ips B-EX6T1/T3-G/T
- 8ips B-EX6T1/T3-G/T
- 10ips B-EX6T1/T3-G/T
- 12ips B-EX6T1/T3-G/T

B-EX4T1, B-EX4T2, B-EX4D2

- 3ips B-EX4T1-G/T, B-EX4T2-G/T, B-EX4D2
- 5ips B-EX4T1-T, B-EX4T2-T
- 6ips B-EX4T1-G/T, B-EX4T2-G/T, B-EX4D2
- 8ips B-EX4T1-T, B-EX4T2-T
- 10ips B-EX4T1-G/T, B-EX4T2-G/T, B-EX4D2
- 12ips B-EX4T1-G/T, B-EX4T2-G/T, B-EX4D2
- 14ips B-EX4T1-G/T

B-EX4T2-H

- 2ips B-EX4T2-H
- 3ips B-EX4T2-H
- 4ips B-EX4T2-H
- 5ips B-EX4T2-H
- 6ips B-EX4T2-H

4. Ribbon

- NO (Direct)
- RBN w/ save
- RBN w/o save
- NO w/ headup

5. Direction

- BOTTOM
- TOP
- BOTM/Mir
- TOP/Mir

6. Media pitch

- (10.0 - 1500.0) mm

NOTE: B-EX4T2-H (10.0 - 500.0) mm

7. Print length

- (6.0 - 1498.0) mm

NOTE: B-EX4T2-H (6.0 - 498.0) mm

8. Print width

B-EX6T1/T3

- (10.0 - 160.0) mm

B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2

- (10.0 - 104.0) mm

9. Media width

B-EX6T1/T3

- (50.0 - 165.0) mm

B-EX4T1, B-EX4T2, B-EX4T2-H, B-EX4D2

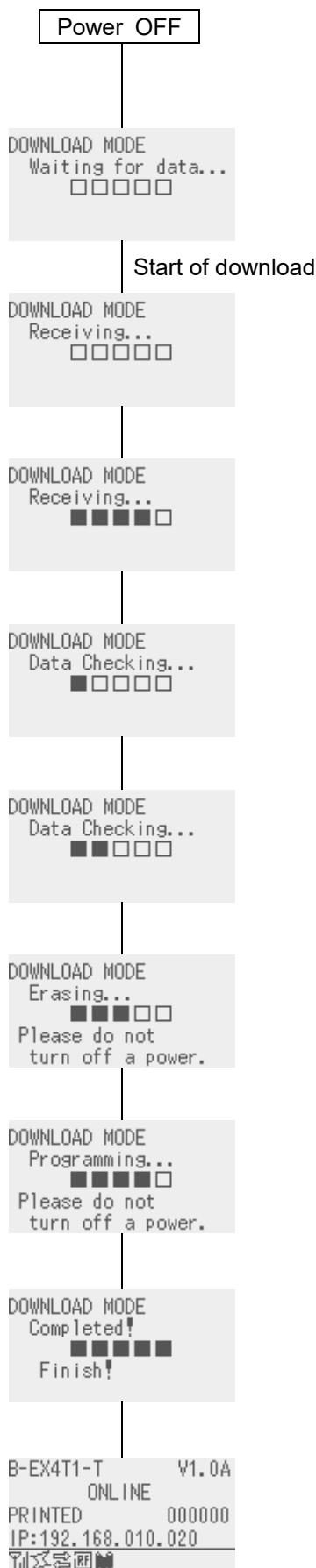
- (30.0 - 106.7) mm

10.7 RESET

Contents of the RESET menu

Menu item
<6>RESET

11 DOWNLOAD



(1) Power off state

(2) Turn the power on while holding down the [FEED], [RESTART] and [PAUSE] keys simultaneously.

(3) Download mode display

(4) Send a download command.

(5) The printer starts receiving the data.

(6) The printer is receiving the data.

(7) Data is being checked.

(8) Data is being checked.

(9) The flash ROM is being erased.

(10) Downloaded data is being written.

(11) Downloading is completed.

(12) After downloading is completed, the printer will automatically be restarted, and placed in the online state.

* DOWNLOAD MODE2 is unused. There is no difference in downloading procedure from DOWNLOAD MODE.

When error occurs while downloading data with download mode, the following error message will be displayed:

Error message	Description
DOWNLOAD MODE Syntax Error Please retry after checking the data	Communication error (Command error)
DOWNLOAD MODE Check SUM Error Please retry after checking the data	The checksum of the boot program does not end with "00".
DOWNLOAD MODE PCB ID Conflict Please retry after checking the data	Downloading the boot program for a wrong PCB was attempted.
DOWNLOAD MODE Model Type Conflict Please retry after checking the data	Downloading the boot program for a wrong printer model was attempted.
DOWNLOAD MODE Data Size Over Please retry after checking the data	The data size is too large.
DOWNLOAD MODE fail! Format Error Call a service person.	Format error
DOWNLOAD MODE fail! Write Error Call a service person.	Write error

Note:

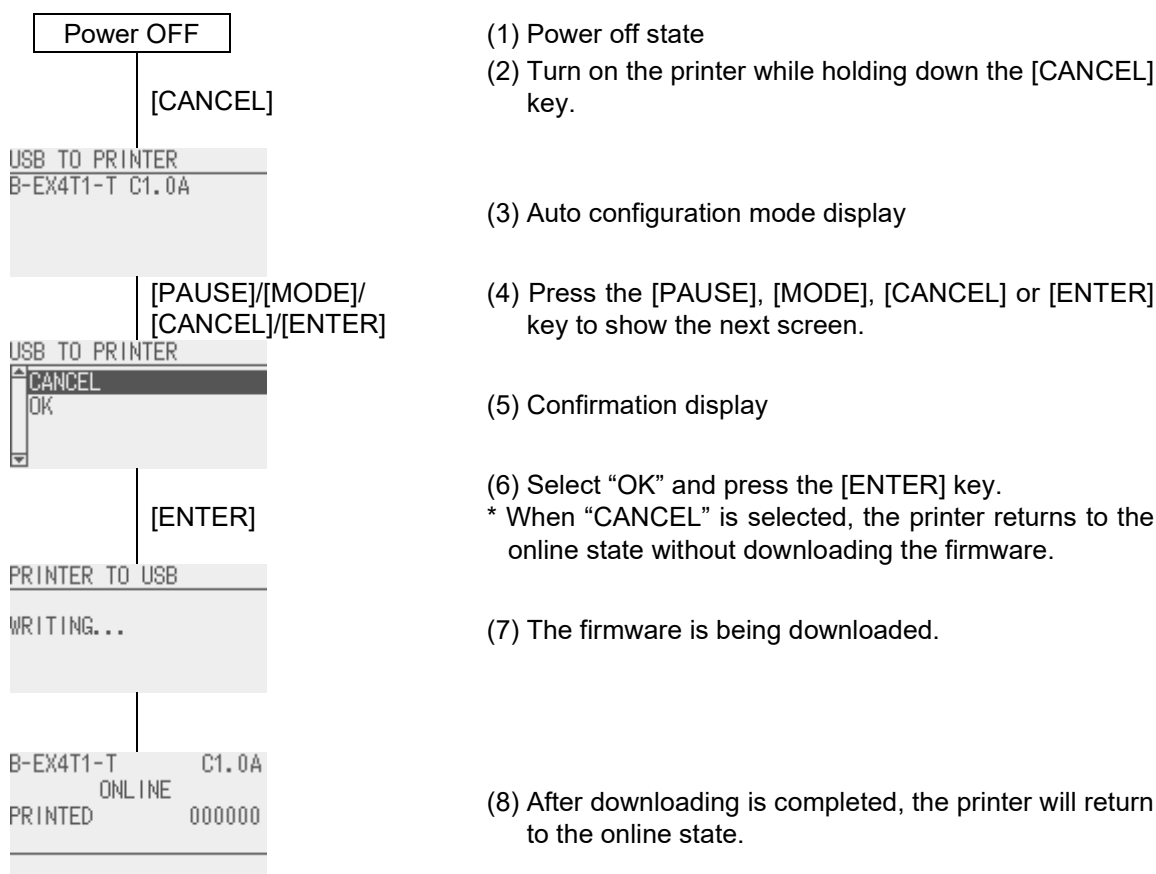
1. When an error occurs, the printer stops and never recovers unless the power is turned off and on.
2. After a write error occurs, turn the printer off and back on. "DOWNLOAD MODE" is displayed and the printer enters the loading mode. The program needs to be loaded again.
3. While "DOWNLOAD MODE" is displayed, the expansion I/O output status becomes indefinite.
4. When there is a difference in the model name between the boot program and the actual printer, "MODEL TYPE ERROR" is displayed and the printer stops with error.
5. When the checksum for the boot program does not end with "00H", "CHECKSUM ERROR" is displayed and the printer stops with error.
6. After receiving all data of the boot program, the printer compares it with the currently installed boot program, and erases the flash memory for writing data if there is a difference.
When there is no difference, the downloading normally ends without erasing the memory or writing data.
7. The LCD may show the message "Initializing..." when the printer is turned off in the download mode. This does not affect the printer operation.
8. When the [FEED]+[RESTART]+[PAUSE] keys are held down at the timing of printer reset in the system mode or user system mode, the forced download mode screen appears on the LCD. This menu is not executable. The printer must be turned off and back to on while the [FEED]+[RESTART]+[PAUSE] keys are held down.

12 Auto Configuration Mode

12.1 Outline of the Auto Configuration Mode

When turning on the printer while holding down the [CANCEL] key, the printer starts the auto configuration mode.

The auto configuration mode allows for automatically downloading the master firmware and restarting the printer.



12.2 Preparation for USB Memory

To execute the auto configuration mode, the firmware file (*.bin) should be downloaded and the dedicated CFG file need to be created in the USB memory in advance. To enter the auto configuration mode, the RTCUSB host, USB memory, correct CFG file need to be all prepared. Lack of any one of these disables shifting to the auto configuration mode, but starts normally.

Each file is saved in the SYSTEM directory created in the root directory in the USB memory.

Example: When BOOT/MAIN/CG programs are downloaded:

```
/ATA0/SYSTEM/B-EX-BOOT-Vx.x-xx.bin
/ATA0/SYSTEM/B-EX-MAIN-Vx.x-xx.bin
/ATA0/SYSTEM/B-EX-CG-Vx.x-xx.bin
/ATA0/SYSTEM/AUTOCONFIG.CFG
```

12.3 Auto Configuration File

To execute the auto configuration mode, it is required to create the auto configuration file, which is an exclusive CFG file, in the USB memory in advance.

The auto configuration file is stored in the following path under the name of "AUTO CONFIG.CFG".

/ATA0/SYSTEM/AUTOCONFIG.CFG

12.3.1 Format

Auto configuration file has the following formats.

Example	Description
B-EX6T1-G,0020	Model information
B-EX6T1-T C1.0A	Display message
/ATA0/SYSTEM/B-EX-BOOT-Vx.x-xx.bin	Firmware file to be downloaded
/ATA0/SYSTEM/B-EX-MAIN-Vx.x-xx.bin	Firmware file to be downloaded
/ATA0/SYSTEM/B-EX-CG-Vx.x-xx.bin	Firmware file to be downloaded

12.3.2 Model Information

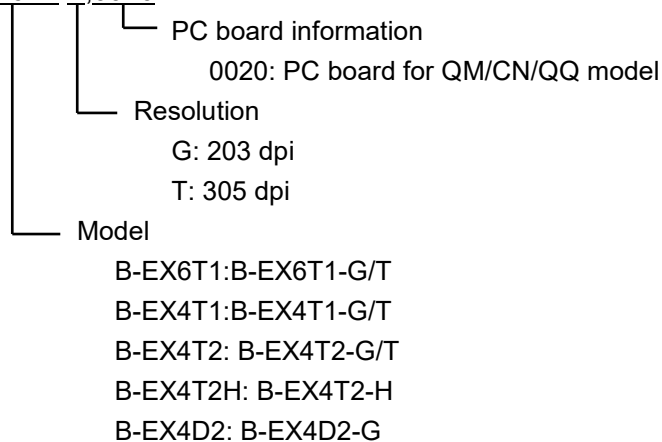
Information for applicable models is stored.

The information is comma separated. The first half is the model name (the above example indicates B-EX6T Type 1 203-dpi model) and the second half is the PC board information.

If the actual printer and this model information do not match, the auto configuration mode will not start.

Description of the model information:

B-EX6T1-T,0020



12.3.3 Display Message

A message displayed on the LCD while the printer is in the auto configuration mode.

The word-wrap feature is enabled.

Only characters that can be expressed with ASCII are allowed to be input.

12.3.4 Firmware File to be downloaded

Name of the file to be downloaded

13 POWER SAVING FUNCTION

1. Printer status allowing shift to the power saving mode

When the following status continues for a specified length of time, the printer will enter the power saving mode and show the power saving mode message. (Refer to 5. Power saving mode display described below.)

- ONLINE (Idle, communicating)
- Pause
- Error
- Waiting for removal of a label from the media outlet
- System mode (except for the menus that use the 27V line, such as self-diagnosis, test printing and sensor adjustment.)
- User system mode (except for the menus that use the 27V line, such as dumping.)
- Pause of the expansion I/O

2. Conditions for exiting the power saving mode

The power saving mode is terminated when:

- Printing is performed.
- Printing operation with the [RESTART] key.
- Feed/Reprint operation with the [FEED] key
- The status of the expansion I/O pause signal or active signal changes (because the message indicating a pause state is displayed on the LCD.)
- Printing or paper feeding is initiated through the expansion I/O, or printing is caused by a release of the printer from the pause state instructed through the expansion I/O
- The printer receives U1/U2 command (Forward feed/reverse feed command).
- The printer receives T command (Feed command).
- The printer receives XS command (Issue command).
- The printer receives IB command (Eject command).
- The printer receives RFID-related command accompanied by printer action
- The head lever is locked/unlocked (because the message notifying the head lever unlock state is displayed on the LCD.)
- Automatic calibration is performed with the head lever locked.
- Up and down of the solenoid is tested during the Factory Test menu in the system mode.
- Sensor adjustment is performed in the system mode.

3. Display and key operations during the power saving mode

When the printer enters the power saving mode, it shows "POWER SAVING MODE" on the LCD and turns off the LCD backlight. However, the operations mentioned in 6 enable the printer to display usual messages and turn on the LCD backlight even in the power saving mode. If the printer status remains unchanged for 30 seconds, "POWER SAVING MODE" is displayed and the LCD backlight turns off again.

4. LED during the power saving mode

While the printer is in the power saving mode, the state of the LEDs is as follows.

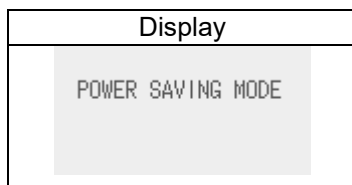
- ONLINE LED: Flashes (ON: 1000 msec., OFF: 1000 msec.)
- ERROR LED: OFF

5. Message in the power saving mode

The language differs depending on the printer status before the printer enters the power saving mode.

Printer status before power save	Supported language
Online mode (except for the manual threshold setting)	Multi-language
System mode, User system mode and manual threshold setting in the online mode	Japanese/English

Power save moding display



When the printer is placed in the power saving mode by above-mentioned printer status allowing shift to the power saving mode, "POWER SAVING MODE" is displayed.

6. Conditions for displaying usual messages in the power saving mode

When the following occurs in the power saving mode, the power saving mode is terminated.

- A key is pressed.
- The head lever is unlocked or locked in the power saving mode. (This is because there is a message indicating the head lever unlock.)
- There is a change in the pause signal line or active signal line of the expansion I/O. (This is because there is a message indicating a pause state.)

7. Conditions for displaying "POWER SAVING MODE"

When there is no key operations or head lever status change and the power saving mode is continued for 30 seconds, "POWER SAVING MODE" is displayed on the LCD.

When data is saving in the storage area, "POWER SAVING MODE" is displayed in 30 seconds after the completion of the data save if no printer operation is done.