



TOSHIBA TEC Bar Code Printer

## **B-850 Series**

### **Key Operation Specification**

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**TOSHIBA TEC CORPORATION**

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## 1. SCOPE

This specification applies to the key operations for the keys and the LCD panel of the B-850 Series General-purpose Thermal Label/Tag Printer.

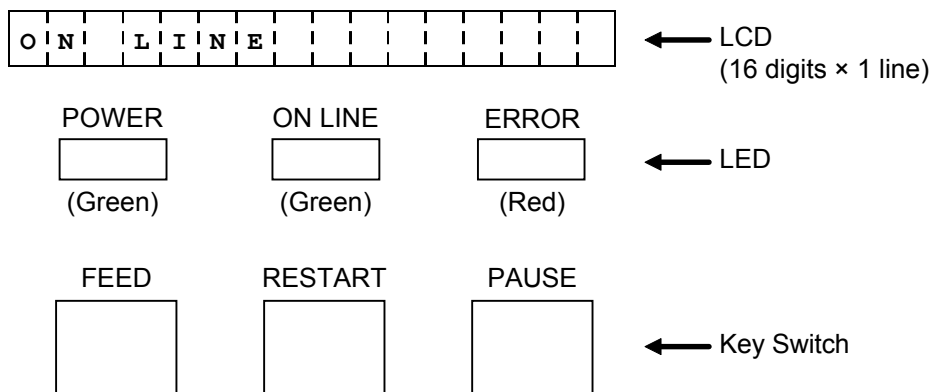
## 2. OUTLINE

Keyboard operations are roughly classified as the online mode, in which a pause/restart is carried out and error messages are displayed when the printer is connected to the host such as a PC, and the system mode, in which the self-test and setting of various parameters are performed.

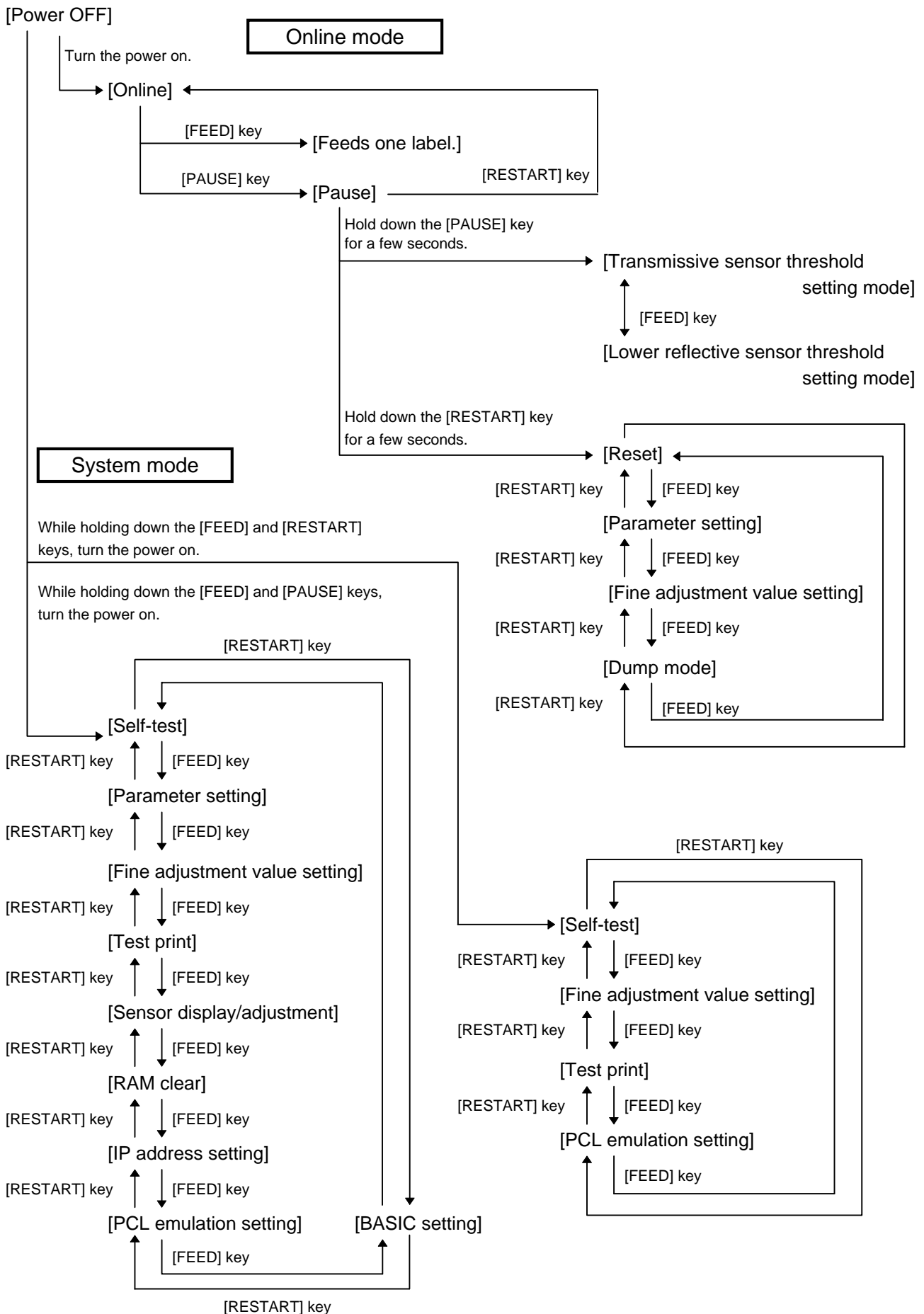
This specification describes the key operation procedures for the printer keys and the LCD panel.

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

## 3. OPERATION PANEL



## 4. GENERAL VIEW OF KEY OPERATION



## 5. ONLINE MODE

### 5.1 KEY FUNCTION

- [FEED] key:
- (1) Feeds one sheet of paper. This key can be used to eject one sheet of paper. This key can also be used to adjust the paper to the proper position when the paper is not properly positioned. If printing is attempted when the paper is not properly positioned, printing is not performed at the proper position. One or two sheets of paper should be fed to adjust the paper position before printing.
  - (2) Prints the data in the image buffer on one label according to the system mode setting.

**NOTE:** *A clear command or a command for drawing should not be sent during printing by the [FEED] key. If it is sent, the correct layout will be lost, and the label will not be printed properly. If an issue is performed by the [FEED] key while the data is being drawn in the image buffer, the correct layout may be lost.*

- [RESTART] key:
- (1) Resumes printing after a temporary stop of label printing or after an error.
  - (2) Places the printer in the usual initial state which is obtained when the power is turned on.
  - (3) Programs various parameters.
- [PAUSE] key:
- (1) Stops label printing temporarily.
  - (2) Programs the threshold values.

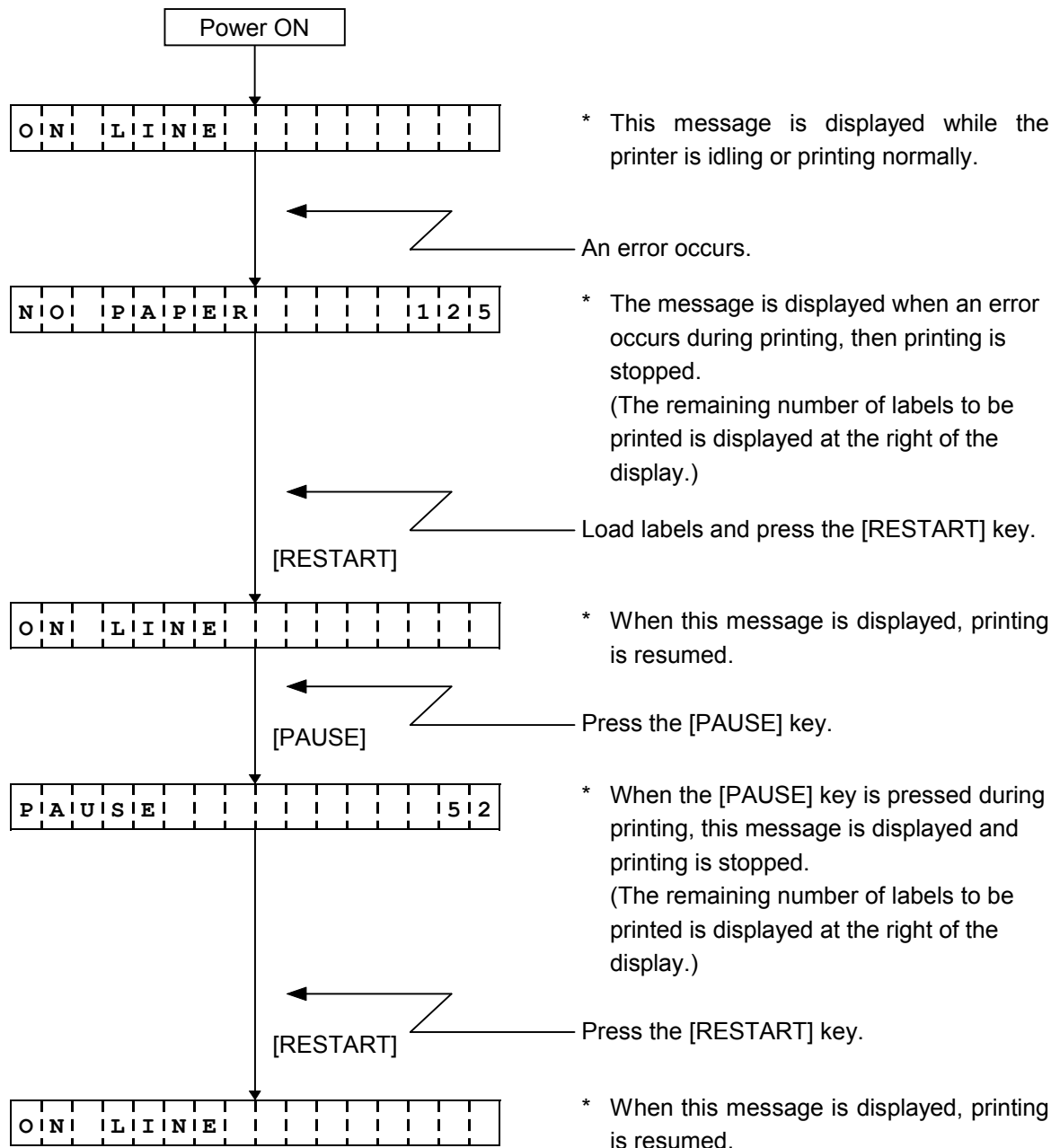
### 5.2 LED FUNCTION

- [POWER] LED: Indicates that the printer power is ON or OFF.
- [ON LINE] LED: Indicates that the printer is ready for communication.
- [ERROR] LED: Indicates that the printer is in an error state.

### 5.3 LCD FUNCTION

The LCD displays the message which indicates the printer status.  
LCD Size: 16 digits × 1 line

## 5.4 ONLINE MODE OPERATION EXAMPLE



**NOTE:** [Remaining number of labels to be printed] = [Designated number of labels] -  
[Number of labels/tags normally printed before an error occurs or the printer stops temporarily]

## 5.5 THRESHOLD SETTING

### 5.5.1 Outline of Threshold Setting

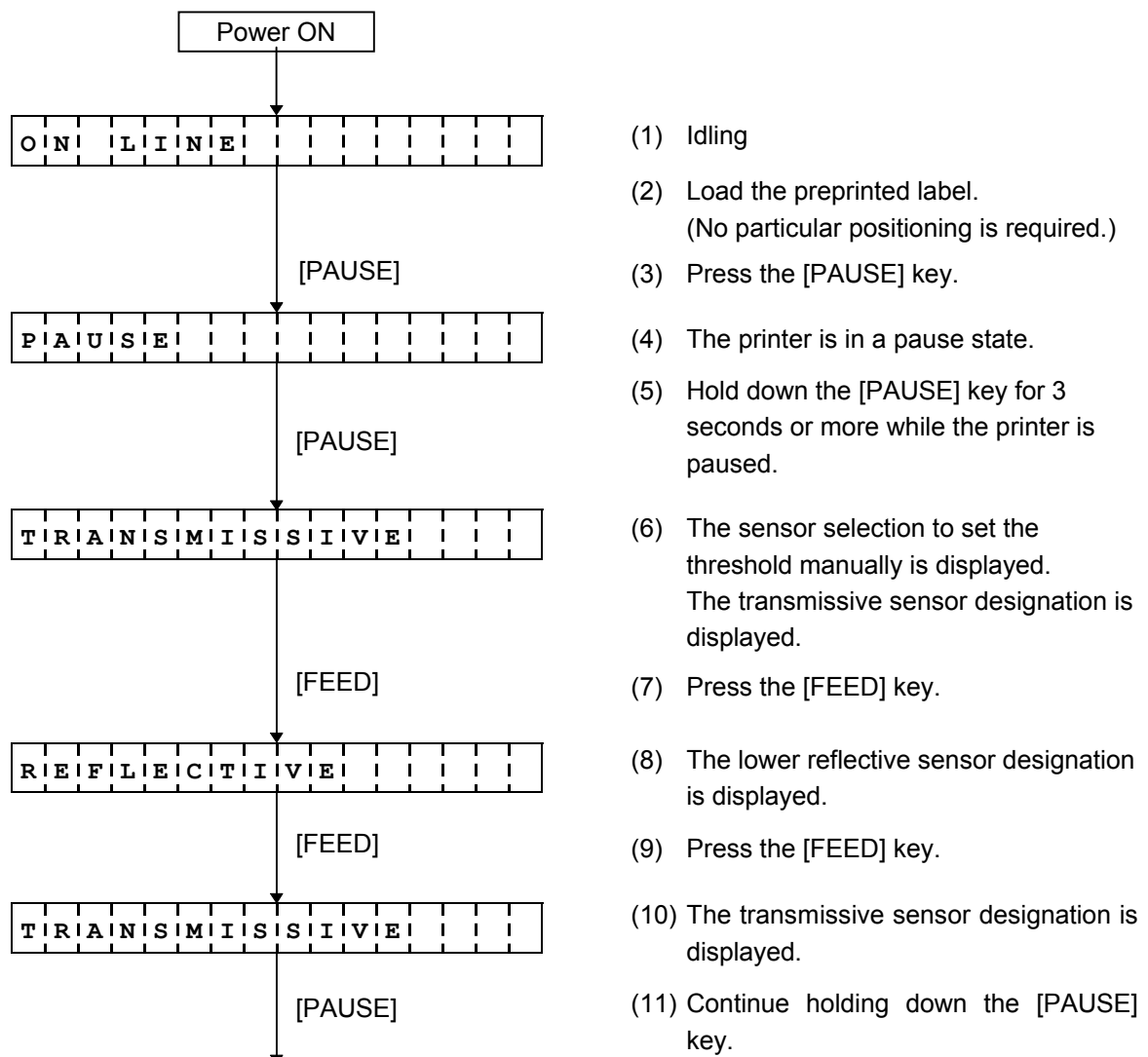
When a label is printed, the printer detects the gap between the labels using the transmissive sensor, and corrects the print position automatically to obtain a constant print position. However, when a preprinted label is used, however, some inks may prevent proper positioning correction. In this case, determine the transmissive sensor threshold manually by key operation and store the value in the non-volatile memory (EEPROM).

A constant print position can also be obtained when printing on a preprinted label since the print position is always corrected using the threshold stored in the non-volatile memory (EEPROM) by selecting "3: Transmissive sensor (when using the preprinted label)" for the sensor type of the Issue Command.

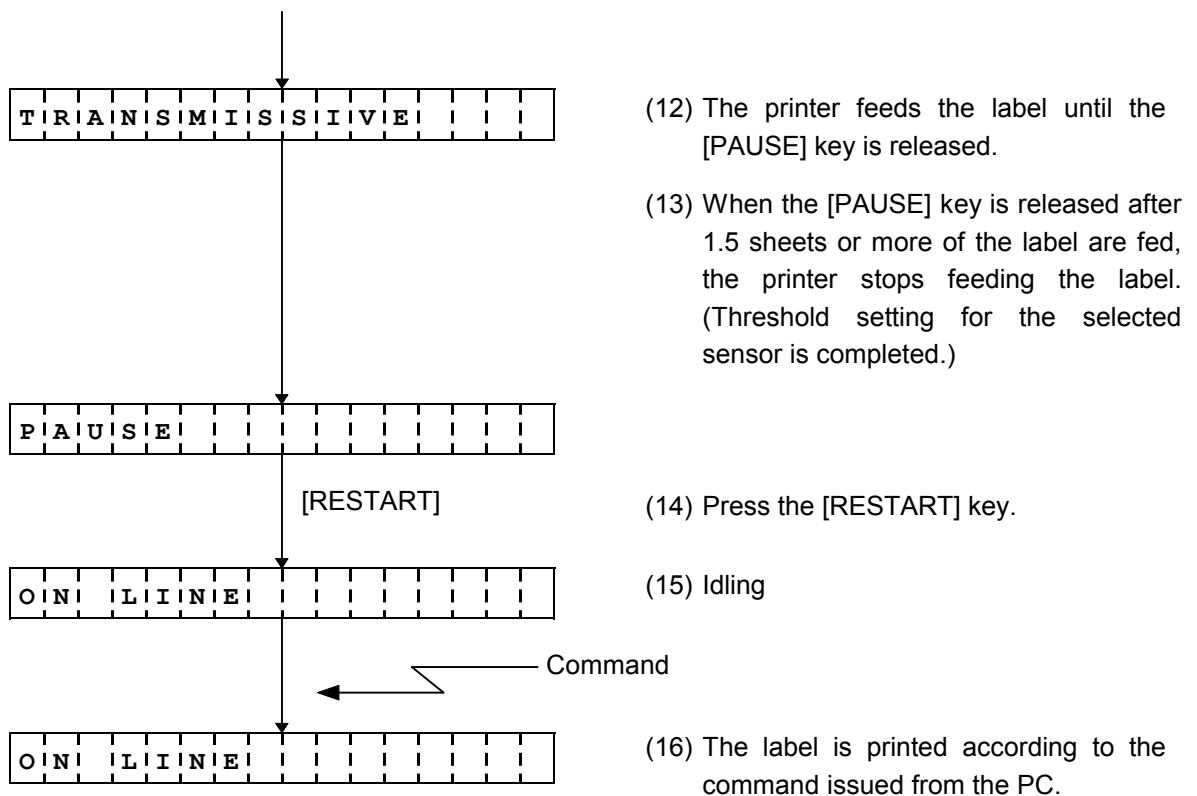
When a label is printed by detecting the black mark on the back of the label, the reflective rate variation of a place other than the black mark may prevent the proper positioning correction. In this case, determine the reflective sensor threshold manually by key operation and store the value in the non-volatile memory (EEPROM).

A constant print position can also be obtained when printing on a tag since the print position is always corrected using the threshold stored in the non-volatile memory (EEPROM) by selecting "4: Lower reflective sensor (when using a manual threshold value)" for the sensor type of the Issue Command.

### 5.5.2 Threshold Setting Operation Example



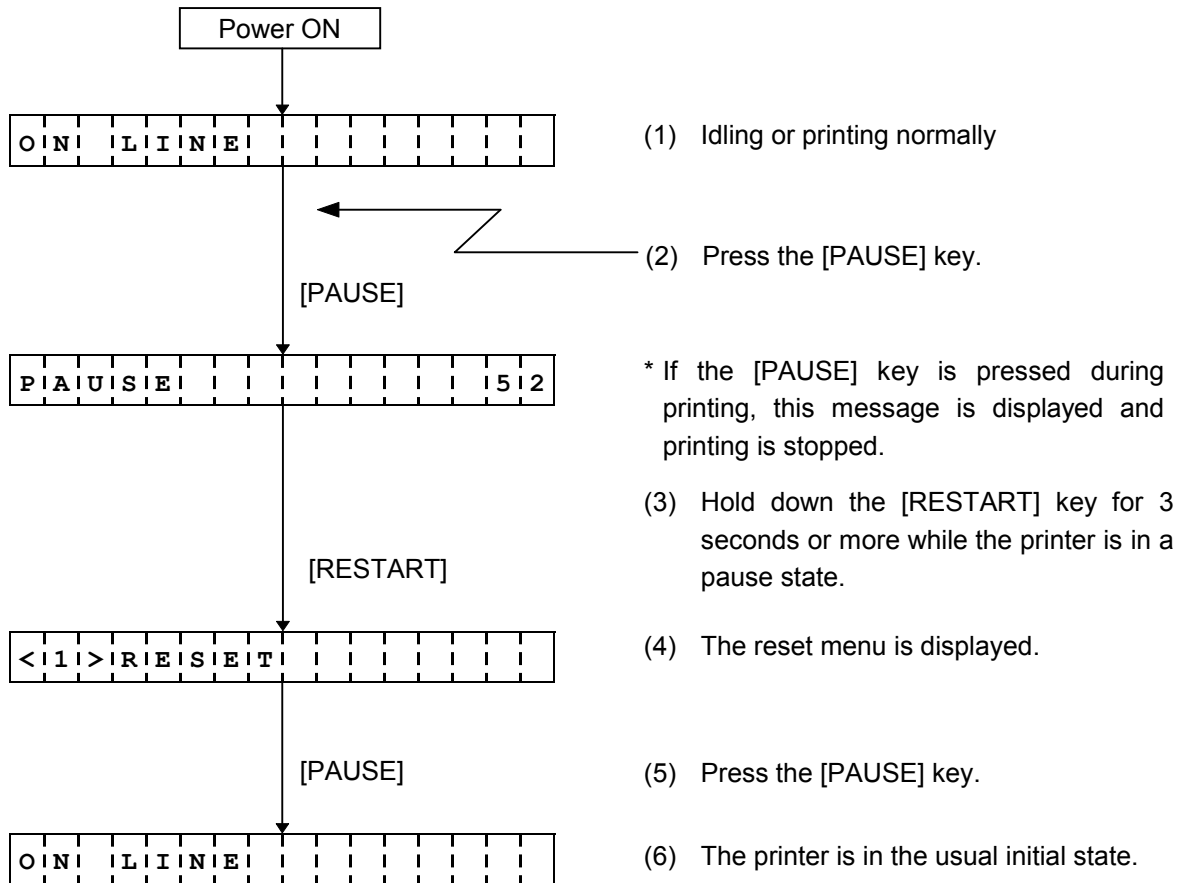




#### <Supplementary Explanation>

- (1) When the [PAUSE] key is released within 3 seconds while the printer is paused, the [PAUSE] key is invalid.
- (2) To program the threshold, 1.5 sheets or more of the label should be fed. (If the label is not fed by the above amount, the threshold may not be properly programmed. In this case, reprogramming is required.)
- (3) Even if the [PAUSE] key is held down for 3 seconds or more when the head is lifted, the [PAUSE] key is invalid.
- (4) While the printer is feeding a label to program the threshold, an error detection including the paper end or cutter error is not performed
- (5) When the proper print position is not obtained after threshold programming, the transmissive sensor may be improperly adjusted. In this case, readjust the transmissive sensor in the system mode, and program the threshold.  
When the backing paper of the label is too thick, the transmissive sensor should be readjusted.  
In addition, make sure that "3: Transmissive sensor (when using the preprinted label)" or "4: Lower reflective sensor (when using a manual threshold value)" is selected for sensor type of the Feed Command and the Issue Command.

## 5.6 RESET

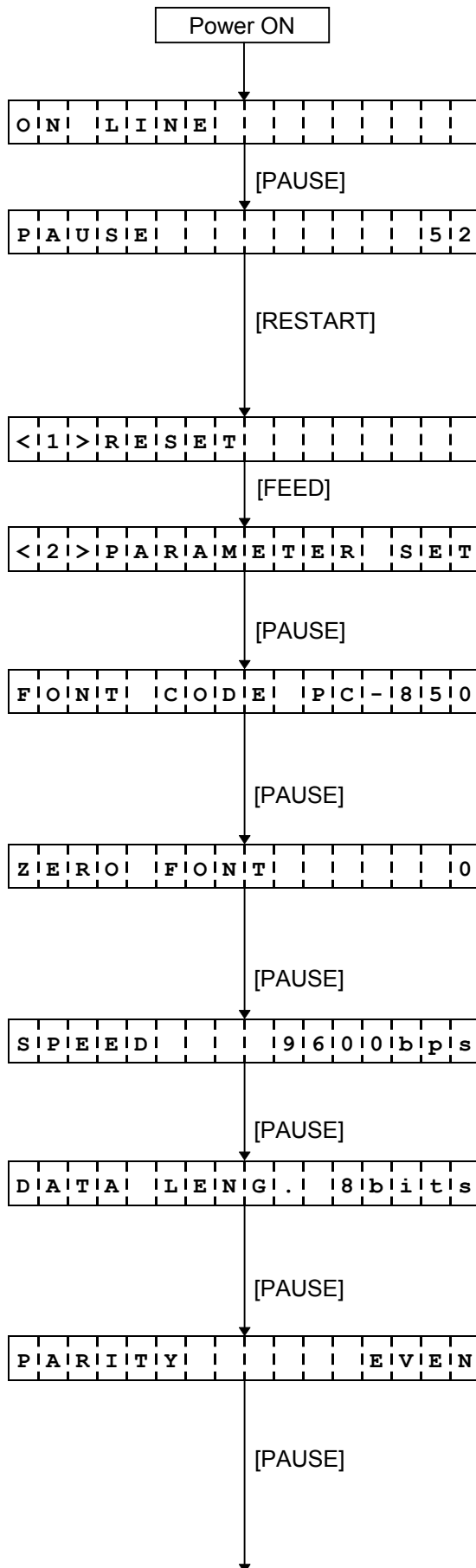


### <Supplementary Explanation>

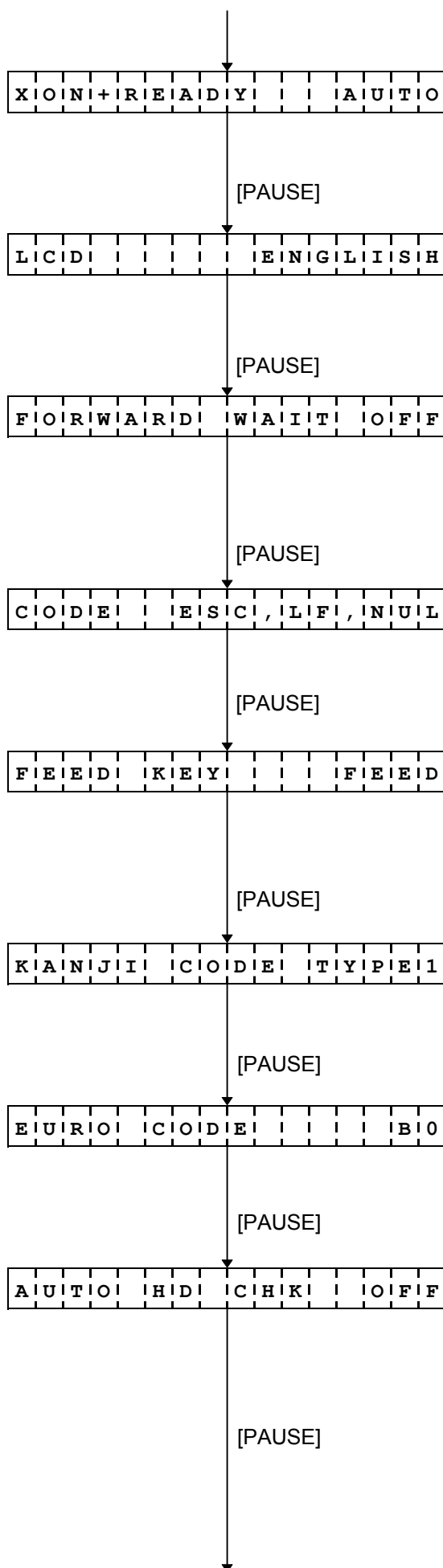
- (1) If the [RESTART] key is held down for 3 seconds or more when the printer is in an error state from which it can resume printing (the state of "Restoration by [RESTART] key"), the reset menu is displayed.
- (2) If the [RESTART] key is released within 3 seconds when the [RESTART] key is held down during an error or a pause, the printer resumes printing a label. (The reset menu is not displayed.) However, if a communication error or command error has occurred, the printer enters the usual initial state when the [RESTART] key is pressed. (Even if the [RESTART] key is released within 3 seconds, the printer is reset.)

## 5.7 PARAMETER SETTING

### 5.7.1 Parameter Setting Operation Example



- (1) Idling or printing normally
- (2) Press the [PAUSE] key.
  - \* If the [PAUSE] key is pressed during printing, this message is displayed and printing is stopped.
- (3) Hold down the [RESTART] key for 3 seconds or more while the printer is in a pause state.
- (4) The reset menu is displayed.
- (5) Press the [FEED] key.
- (6) The parameter setting menu is displayed.
- (7) Press the [PAUSE] key.
- (8) Character code selection:  
Select the character code using the [FEED] and [RESTART] keys.
- (9) Press the [PAUSE] key.
- (10) Font 0 selection:  
Select the font using the [FEED] and [RESTART] keys.
- (11) Press the [PAUSE] key.
- (12) Communication speed selection:  
Select the communication speed using the [FEED] and [RESTART] keys.
- (13) Press the [PAUSE] key.
- (14) Data length selection:  
Select the data length using the [FEED] and [RESTART] keys.
- (15) Press the [PAUSE] key.
- (16) Parity selection:  
Select the parity using the [FEED] and [RESTART] keys.
- (17) Press the [PAUSE] key.



(18) Transmission control method selection:  
Select the transmission control method using the [FEED] and [RESTART] keys.

(19) Press the [PAUSE] key.

(20) Language selection for LCD messages:  
Select the language for LCD messages using the [FEED] and [RESTART] keys.

(21) Press the [PAUSE] key.

(22) Setting for forward feed standby:  
Make the forward feed standby setting using the [FEED] and [RESTART] keys.

(23) Press the [PAUSE] key.

(24) Control code selection:  
Select the control code using the [FEED] and [RESTART] keys.

(25) Press the [PAUSE] key.

(26) [FEED] key function setting:  
Make the setting for the function of the [FEED] key using the [FEED] and [RESTART] keys.

(27) Press the [PAUSE] key.

(28) Kanji code selection:  
Select the Kanji code using the [FEED] and [RESTART] keys.

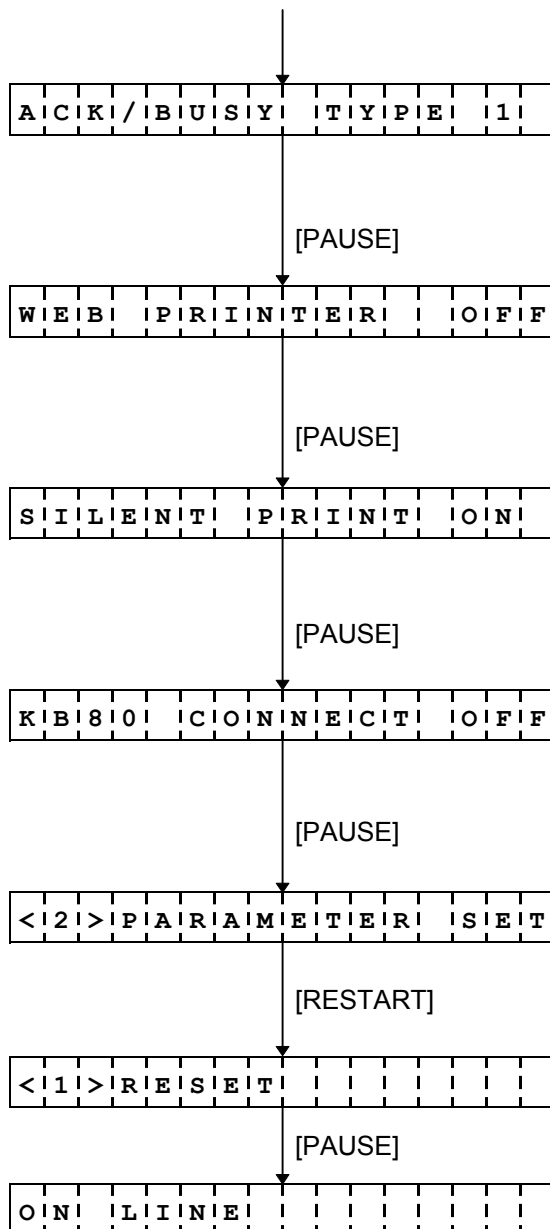
(29) Press the [PAUSE] key.

(30) Euro code setting:  
Set the Euro code using the [FEED] and [RESTART] keys.

(31) Press the [PAUSE] key.

(32) Automatic head broken dots check setting:  
Set the automatic head broken dots check using the [FEED] and [RESTART] keys.

(33) Press the [PAUSE] key.



(34) Centronics ACK/BUSY timing setting:  
Set the ACK/BUSY timing using the [FEED] and [RESTART] keys.

(35) Press the [PAUSE] key.

(36) Web printer function setting:  
Set the function for a web printer using the [FEED] and [RESTART] keys.

(37) Press the [PAUSE] key.

(38) Silent printing function setting:  
Set the silent printing function using the [FEED] and [RESTART] keys.

(39) Press the [PAUSE] key.

(40) Keyboard (KB-80) connection setting:  
Displays the setting menu for the connection to the KB-80.

(41) Press the [PAUSE] key.

(42) The parameter setting menu is displayed.

(43) Press the [RESTART] key.

(44) The reset menu is displayed.

(45) Press the [PAUSE] key.

(46) The printer is in the usual initial state.

### 5.7.2 Setting Contents

For details, refer to “7.3 Various Parameters Setting” in the system mode section.

(1) Character code selection (FONT CODE)

- 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

(2) Font 0 selection (ZERO FONT)

- 0 (No slash used)
- 0 (Slash used)

(3) RS-232C communication speed selection (SPEED)

- 2400 bps
- 4800 bps
- 9600 bps
- 19200 bps

(4) RS-232C data length selection (DATA LENG.)

- 7 bits
- 8 bits

(5) RS-232C parity selection (PARITY)

- NONE
- EVEN
- ODD

(6) RS-232C transmission control method selection (XON/XOFF, READY/BUSY)

- XON/XOFF protocol  
(An XON is not output when the power is on and an XOFF is not output when the power is off.)
- READY/BUSY (DTR) protocol  
(An XON is not output when the power is on and an XOFF is not output when the power is off.)
- XON/XOFF + READY/BUSY (DTR) protocol  
(An XON is output when the power is on and an XOFF is output when the power is off.)
- XON/XOFF protocol  
(An XON is output when the power is on and an XOFF is output when the power is off.)
- RTS protocol  
(An XON is not output when the power is on and an XOFF is not output when the power is off.)

(7) Language selection for LCD messages (LCD)

- ENGLISH
- GERMAN
- FRENCH
- DUTCH
- SPANISH
- JAPANESE
- ITALIAN

**NOTE:** When Japanese is selected, one part of the character codes is different. For details, refer to the External Equipment Interface Specification.

(8) Setting for forward feed standby after an issue (FORWARD WAIT)

- ON (with automatic feed standby)
  - POSITION (Fine adjustment of the stop position after forward feed)
- OFF (without automatic feed standby)

**NOTE:** If the printer is in the idle state for 1 second or more after an issue is performed, when ON is selected, the printer automatically performs a 19-mm forward feed, then stops. This setting is used to prevent curled labels from being entangled with the cutter or the platen, or to cut labels manually.

(9) Control code selection (CODE)

- Automatic selection (ESC, LF, NUL/{, |, })
- Manual selection (ESC, LF, NUL method)
- Manual selection ({, |, } method)
- Any set code

(10) [FEED] key function setting (FEED KEY)

- FEED: One label is fed.
- PRINT: Data in the image buffer is printed on one label.

(11) Kanji code selection (KANJI CODE)

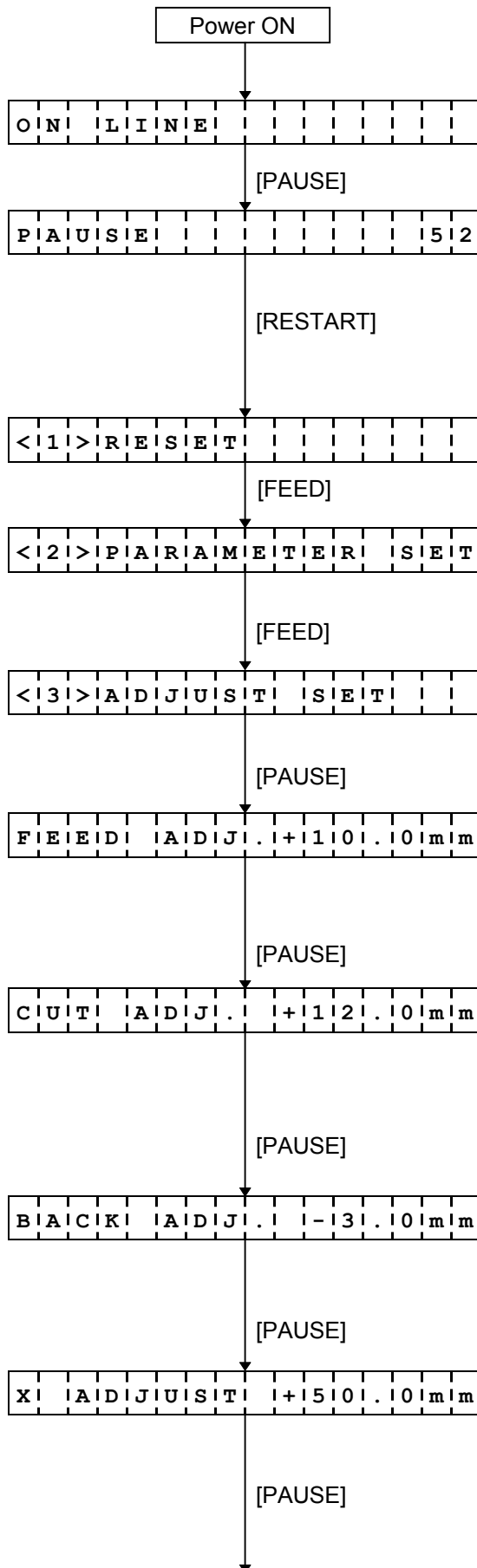
- TYPE 1
- TYPE 2

- (12) Euro code setting (EURO CODE)  
20H to FFH
- (13) Automatic head broken dots check setting (AUTO HD CHK)
- ON (Head broken dots check is automatically performed when the power is turned on.)
  - OFF (Head broken dots check is not automatically performed if the power is turned on.)
- (14) Centronics ACK/BUSY timing setting (ACK/BUSY)
- TYPE 1
  - TYPE 2
- (15) Web printer function setting (WEB PRINTER)
- ON (Web printer function is enabled.)
  - OFF (Web printer function is disabled.)
- (16) Silent printing function setting (SILENT PRINT)
- ON (Silent printing function is enabled.)
- NOTE:** *The silent printing function is fixed as "ON". "OFF" cannot be selected.*
- (17) Keyboard (KB-80) connection setting (KB80 CONNECT)
- ON (The keyboard (KB-80) is connected.)
  - OFF (The keyboard (KB-80) is not connected.)

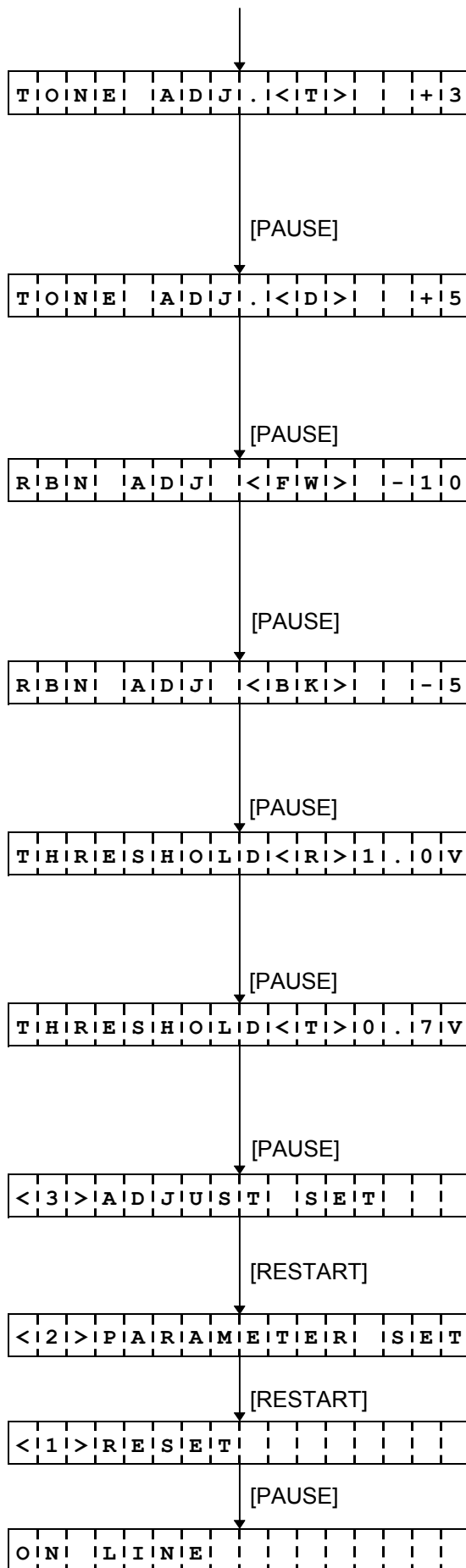


## 5.8 FINE ADJUSTMENT VALUE SETTING

### 5.8.1 Fine Adjustment Value Setting Operation Example



- (1) Idling or printing normally
- (2) Press the [PAUSE] key.
  - \* If the [PAUSE] key is pressed during printing, this message is displayed and printing is stopped.
- (3) Hold down the [RESTART] key for 3 seconds or more while the printer is in a pause state.
- (4) The reset menu is displayed.
- (5) Press the [FEED] key.
- (6) The parameter setting menu is displayed.
- (7) Press the [FEED] key.
- (8) The fine adjustment value setting menu is displayed.
- (9) Press the [PAUSE] key.
- (10) Feed fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (11) Press the [PAUSE] key.
- (12) Cut position (or stop position of the strip issue) fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (13) Press the [PAUSE] key.
- (14) Back feed fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (15) Press the [PAUSE] key.
- (16) X-coordinate fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (17) Press the [PAUSE] key.



- (18) Print density fine adjustment (Thermal transfer print mode):  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (19) Press the [PAUSE] key.
- (20) Print density fine adjustment (Direct thermal print mode):  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (21) Press the [PAUSE] key.
- (22) Ribbon motor drive voltage fine adjustment (Rewind):  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (23) Press the [PAUSE] key.
- (24) Ribbon motor drive voltage fine adjustment (Back tension):  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (25) Press the [PAUSE] key.
- (26) Lower reflective sensor manual threshold fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (27) Press the [PAUSE] key.
- (28) Transmissive sensor manual threshold fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (29) Press the [PAUSE] key.
- (30) The fine adjustment value setting menu is displayed.
- (31) Press the [RESTART] key.
- (32) The parameter setting menu is displayed.
- (33) Press the [RESTART] key.
- (34) The reset menu is displayed.
- (35) Press the [PAUSE] key.
- (36) The printer is in the usual initial state.

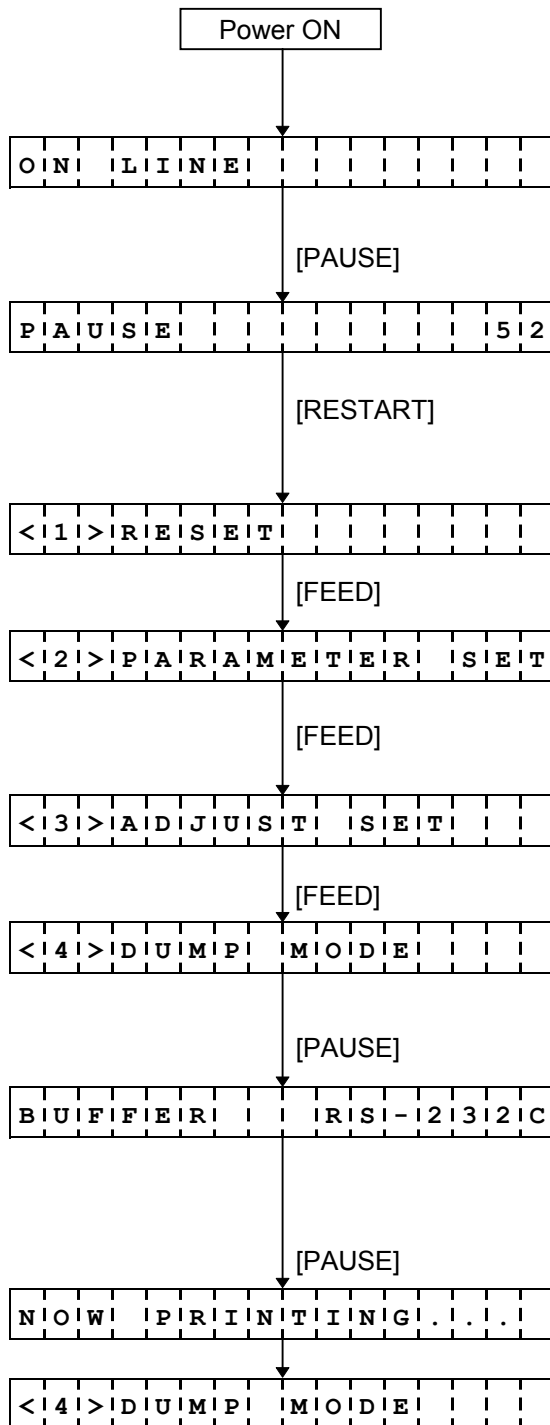
### 5.8.2 Setting Contents

For details, refer to “7.4 Various Fine Adjustment Values Setting” in the system mode section.

- (1) Feed fine adjustment (FEED ADJ.)  
-50.0 mm to +50.0 mm (in 0.5 mm units)
- (2) Cut position (or stop position of the strip issue) fine adjustment (CUT ADJ.)  
-50.0 mm to +50.0 mm (in 0.5 mm units)
- (3) Back feed fine adjustment (BACK ADJ.)  
-9.5 mm to +9.5 mm (in 0.5 mm units)
- (4) X-coordinate fine adjustment (X ADJUST)  
-99.5 mm to +99.5 mm (in 0.5 mm units)
- (5) Print density fine adjustment (Thermal transfer print mode) (TONE ADJ.<T>)  
-10 step to +10 step (in units of step)
- (6) Print density fine adjustment (Direct thermal print mode) (TONE ADJ.<D>)  
-10 step to +10 step (in units of step)
- (7) Ribbon motor drive voltage fine adjustment (Rewind) (RBN ADJ <FW>)  
-15 step to +6 step (in units of step)
- (8) Ribbon motor drive voltage fine adjustment (Back tension) (RBN ADJ <BK>)  
-15 step to +10 step (in units of step)
- (9) Lower reflective sensor manual threshold fine adjustment (THRESHOLD <R>)  
0.0 V to 4.0 V
- (10) Transmissive sensor manual threshold fine adjustment (THRESHOLD <T>)  
0.0 V to 4.0 V

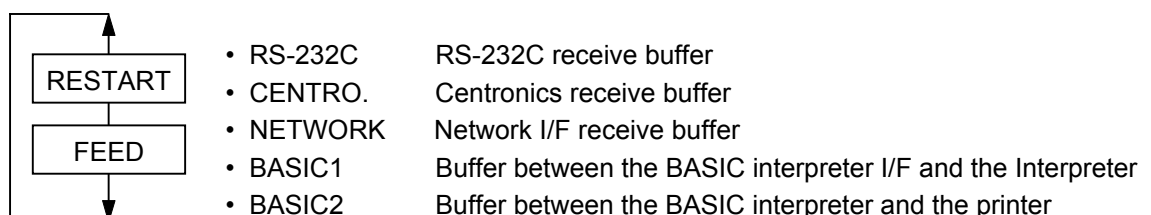
## 5.9 DUMPING OF RECEIVE BUFFER

### 5.9.1 Operation Example of Receive Buffer Dumping



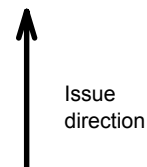
- (1) Idling or printing normally
- (2) Press the [PAUSE] key.  
\* When the [PAUSE] key is pressed during printing, this message is displayed and printing is stopped.
- (3) Hold down the [RESTART] key for 3 seconds or more while the printer is in a pause state.
- (4) The reset menu is displayed.
- (5) Press the [FEED] key.
- (6) The parameter setting menu is displayed.
- (7) Press the [FEED] key.
- (8) The fine adjustment value setting menu is displayed.
- (9) Press the [FEED] key.
- (10) The receive buffer dumping menu is displayed.
- (11) Press the [PAUSE] key.
- (12) Selection mode display for receive buffer to be dumped:  
Select the receive buffer to be dumped using the [FEED] and [RESTART] keys.
- (13) Press the [PAUSE] key.
- (14) Start of printing the receive buffer data
- (15) After printing is completed, the display is returned to the receive buffer dumping menu.

Selection of receive buffer (BUFFER)



Data in the receive buffer is printed out in the format below.

7B 41 58 3B 2B 30 30 30 2C 2B 30 30 30 2C 2B 30	{AX;+000,+000,+0
30 7C 7D 7B 44 30 37 37 30 2C 31 31 30 30 2C 30	0 }{D0760,1100,0
37 34 30 7C 7D 7B 43 7C 7D 7B 4C 43 3B 30 30 33	740 }{C }{LC;003
30 2C 30 30 32 30 2C 30 30 33 30 2C 30 36 36 30	0,0020,0030,0660
2C 30 2C 32 7C 7D 7B 4C 43 3B 30 30 37 30 2C 30	,0,2 }{LC;0070,0
30 32 30 2C 30 30 37 30 2C 30 36 36 30 2C 30 2C	020,0070,0660,0,
39 7C 7D 7B 4C 43 3B 30 30 35 30 2C 30 30 32 30	9 }{LC;0050,0020
:	
:	
:	
44 45 46 47 48 49 4A 7C 7D 7B 50 43 31 30 3B 30	DEFGHIJ }{PC10;0
33 35 30 2C 30 34 30 30 2C 31 2C 31 2C 4B 2C 30	350,0400,1,1,K,0
30 2C 42 3D 41 42 43 44 65 66 67 68 69 6A 6B 6C	0,B=ABCDefghijkl
6D 6E 6F 70 7C 7D 7B 50 56 30 32 3B 30 33 33 30	mnop }{PV02;0330
2C 30 36 36 30 2C 30 32 37 30 2C 30 32 35 30 2C	,0660,0270,0250,
41 2C 30 30 2C 42 3D 42 7C 7D 7B 50 56 30 33 3B	A,00,B=B }{PV03;
:	
:	
:	
3B 30 39 30 30 2C 30 31 38 30 2C 54 2C 48 2C 30	;0900,0180,T,H,0
35 2C 41 2C 30 3D 31 32 33 34 35 36 37 38 39 30	5,A,0=1234567890
41 42 43 44 45 7C 7D <b>00</b> 00 00 00 00 00 00 00 00	ABCDE }
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00	
:	
:	



Print conditions:

- Print width: 4.2"
- Sensor designation: None
- Print speed: 4"/sec
- The print mode (thermal transfer/direct thermal) depends on the current setting.
- Data of 16 bytes is printed on one line.
- The data that the receive buffer write pointer points, is printed using bold characters.

Size of receive buffer

- RS-232C: 10 KB (Max. 640 lines)
- Centronics: 10 KB (Max. 640 lines)
- Network I/F: 8 KB (Max. 512 lines)
- BASIC1: 4 KB (Max. 256 lines)
- BASIC2: 4 KB (Max. 256 lines)

**NOTE:** If an error occurs when printing the receive buffer dump, the printer displays an error message, and stops. The error is cleared by pressing the [PAUSE] key, and then the display is returned to the receive buffer dumping menu "<4> DUMP MODE". After the error is cleared, data is not automatically reprinted.

## 5.10 LCD MESSAGES AND LED INDICATIONS

No.	LCD Messages	LED Indication			Printer Status	Restoration by [RESTART] key Yes/No	Acceptance of Status Request Reset Command Yes/No
		POWER	ON LINE	ERROR			
1	ON LINE	○	○	●	In the online mode	-	Yes
	ON LINE PCL	○	○	●	In the online mode (In the PCL emulation mode)	-	Yes
	ON LINE KBD	○	○	●	In the online mode (The keyboard (KB-80) is connected.)	-	Yes
	ON LINE	○	⊙	●	In the online mode (Communicating)	-	Yes
2	HEAD OPEN	○	●	●	The head was opened in the online mode.	-	Yes
3	PAUSE ****	○	●	●	In a pause state	Yes	Yes
4	COMMS ERROR	○	●	○	A parity error, overrun error, or framing error has occurred during communication by RS- 232C.	Yes	Yes
5	PAPER JAM ****	○	●	○	A paper jam occurred during paper feed.	Yes	Yes
6	CUTTER ERROR****	○	●	○	An abnormal condition occurred at the cutter.	Yes	Yes
7	NO PAPER ****	○	●	○	The label has run out.	Yes	Yes
8	HEAD OPEN ****	○	●	○	A feed or an issue was attempted with the head opened. (except the [RESTART] key)	Yes	Yes
9	HEAD ERROR	○	●	○	A broken dot error has occurred in the thermal head.	Yes	Yes
10	EXCESS HEAD TEMP	○	●	○	The thermal head temperature has become excessively high. The heat sink temperature has become excessively high.	No	Yes
11	RIBBON ERROR****	○	●	○	An abnormal condition occurred in the sensor for determining the torque for the ribbon motor. The ribbon has run out.	Yes	Yes
12	SAVING ### &&&& SAVING %%%%%%%%%	○	○	●	In writable character or PC command save mode	-	Yes
13	FLASH WRITE ERR.	○	●	○	An error has occurred in writing data into the ATA card or flash memory card.	No	Yes

No.	LCD Messages	LED Indication			Printer Status	Restoration by [RESTART] key Yes/No	Acceptance of Status Request Reset Command Yes/No
		POWER	ON LINE	ERROR			
14	<b>FORMAT ERROR</b>	○	●	○	An erase error has occurred in formatting the ATA card or flash memory card.	No	Yes
15	<b>FLASH CARD FULL</b>	○	●	○	Saving failed because of the insufficient capacity of the ATA card or flash memory card.	No	Yes
16	Display of error command (See <b>NOTE 1.</b> )	○	●	○	A command error has occurred in analyzing the command.	Yes	Yes
17	<b>POWER FAILURE</b>	○	●	○	A momentary power interruption has occurred.	No	No
18	<b>EEPROM ERROR</b>	○	●	○	An EEPROM for back-up cannot be read/written properly.	No	No
19	<b>SYSTEM ERROR</b>	○	●	○	(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 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

**NOTE 1:** When a command error is found in the command sent, 16 bytes of the command code of the error command are displayed. (However, [LF] and [NUL] are not displayed.)

[Example 1] [ESC] PC001; 0A00, 0300, 2, 2, A, 00, B [LF] [NUL]

└─ Command error

LCD display

PC001;0A00,0300,

[Example 2] [ESC] T20 E40 [LF] [NUL]

└─ Command error

LCD display

T20E40

[Example 3] [ESC] XR; 0200, 0300, 0450, 1200, 1 [LF] [NUL]

└─ Command error

LCD display

XR;0200,0300,045

**NOTE 2:** When the command error is displayed, “?” (3FH)” is displayed for codes other than 20H to 7FH and A0H to DFH.

**NOTE 3:** ○: ON

⊙: Blinking

●: OFF

\*\*\*\*: Remaining number of labels to be printed      □□□□ to 9999 (in units of 1 label/tag)

%%%%%%%%: Remaining memory capacity for ATA card      0 to 9999999 (in units of 1 K byte)

###: Remaining memory capacity of PC save area of the flash memory card:  
0 to 895 (in K bytes)

&&&&: Remaining memory capacity of writable character storage area of the flash memory card  
0 to 3147 (in K bytes)



## 5.11 LCD MESSAGES IN DIFFERENT LANGUAGES

No.	ENGLISH
1	ON LINE
2	HEAD OPEN
3	PAUSE *****
4	COMMS ERROR
5	PAPER JAM *****
6	CUTTER ERROR*****
7	NO PAPER *****
8	HEAD OPEN *****
9	HEAD ERROR
10	EXCESS HEAD TEMP
11	RIBBON ERROR*****
12	SAVING ### &&&& SAVING %%%%%%%%%
13	FLASH WRITE ERR.
14	FORMAT ERROR
15	FLASH CARD FULL
16	POWER FAILURE
17	EEPROM ERROR
18	SYSTEM ERROR

No.	GERMAN
1	ON LINE
2	KOPF OFFEN
3	PAUSE *****
4	UEBERTR.-FEHLER
5	PAPIERSTAU *****
6	MESSERFEHL. *****
7	PAPIERENDE *****
8	KOPF OFFEN *****
9	KOPF DEFEKT
10	KOPF UEBERHITZT
11	FB-FEHLER *****
12	SP.-MOD ### &&&& SP.-MOD %%%%%%%%%
13	FLASH FEHLER
14	FORMATFEHLER
15	FLASH ZU KLEIN
16	POWER FAILURE
17	EEPROM ERROR
18	SYSTEM ERROR

No.	FRENCH
1	PRETE
2	TETE OUVERTE
3	PAUSE *****
4	ERR. COMMUNICAT.
5	PB. PAPIER *****
6	PB. CUTTER *****
7	FIN PAPIER *****
8	TETE OUVERTE*****
9	ERREUR TETE
10	TETE TROP CHAUDE
11	ERREUR RUBAN*****
12	MEM LIB ### &&&& MEM LIB %%%%%%%%%
13	ERREUR MEM FLASH
14	ERREUR DE FORMAT
15	MEM INSUFFISANTE
16	POWER FAILURE
17	EEPROM ERROR
18	SYSTEM ERROR

No.	DUTCH
1	IN LIJN
2	KOP OPEN
3	PAUZE *****
4	COMM. FOUT
5	PAPIER VAST *****
6	SNIJMES FOUT*****
7	PAPIER OP *****
8	KOP OPEN *****
9	PRINTKOP DEFECT
10	TEMP. FOUT
11	LINT FOUT *****
12	MEM ### &&&& MEM %%%%%%%%%
13	FLASH MEM FOUT
14	FORMAAT FOUT
15	GEHEUGEN VOL
16	POWER FAILURE
17	EEPROM ERROR
18	SYSTEM ERROR

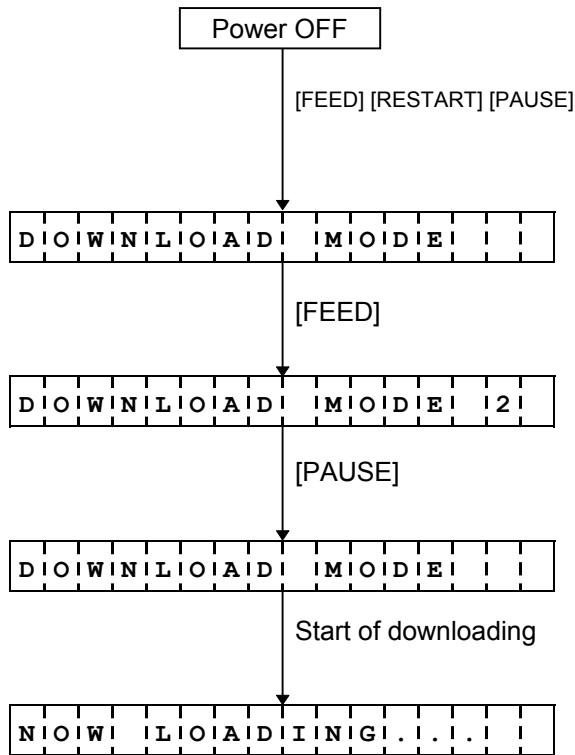
No.	SPANISH
1	ON LINE
2	CABEZAL ABIERTO
3	PAUSA *****
4	ERROR COMUNICACI
5	ATASCO PAPEL*****
6	ERROR CORTAD*****
7	SIN PAPEL *****
8	CABEZA ABIER*****
9	ERROR DE CABEZAL
10	TEMP.CABEZA ALTA
11	ERROR CINTA *****
12	SALVAR ### &&&& SALVAR %%%%%%%%%
13	ERROR ESCRITURA
14	ERROR DE FORMATO
15	MEMORIA INSUFICI
16	POWER FAILURE
17	EEPROM ERROR
18	SYSTEM ERROR

No.	JAPANESE
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	

\* Japanese messages are omitted here.

No.	Italian
1	PRONTA
2	TESTA APERTA
3	PAUSA *****
4	ERR. COMUNICAZ.
5	CARTA INCEP.*****
6	ERR. TAGL. *****
7	NO CARTA *****
8	TESTA APERTA*****
9	ERROR TESTA
10	TEMP. TESTA ALTA
11	ERR. NASTRO *****
12	SALVA _###_&&&&_
	SALVA %%%%%%%%%%
13	ERR.SCRITT.CARD
14	ERR. FORMATTAZ.
15	MEM. CARD PIENA
16	POWER FAILURE
17	EEPROM ERROR
18	SYSTEM ERROR

## 6. DOWNLOAD MODE



- (1) Power off state
- (2) Turn the power on by pressing the [FEED], [RESTART] and [PAUSE] keys at the same time.
- (3) Download mode display
- (4) Press the [FEED] key.
- (5) Download mode 2 display
- (6) Press the [PAUSE] key.
- (7) Download mode display
- (8) The download command is sent.
- (9) Loading display

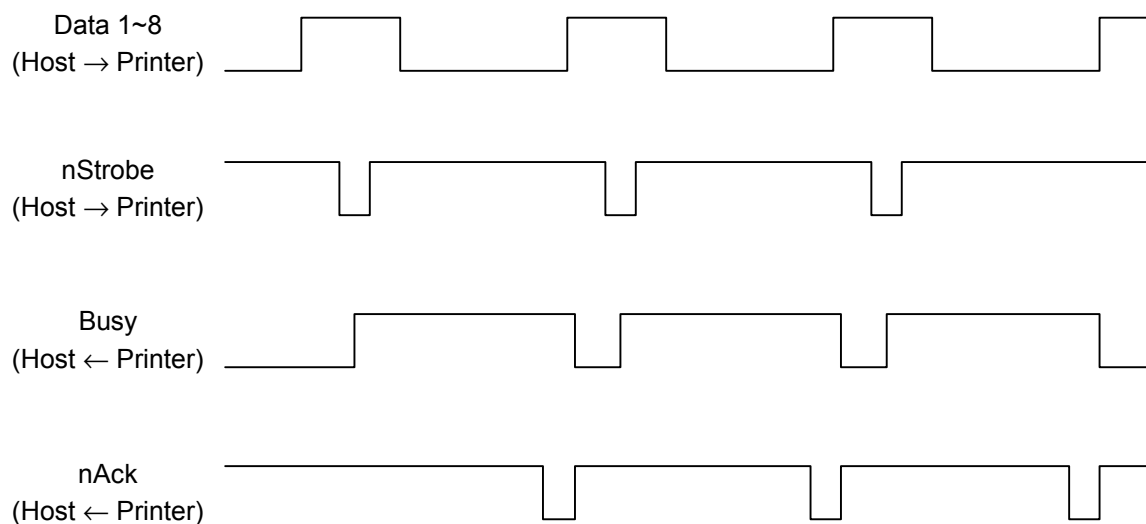
When the power is turned on by pressing the [FEED], [RESTART], and [PAUSE] keys at the same time, the printer enters the download mode.

In the download mode, only commands concerning downloading are available.

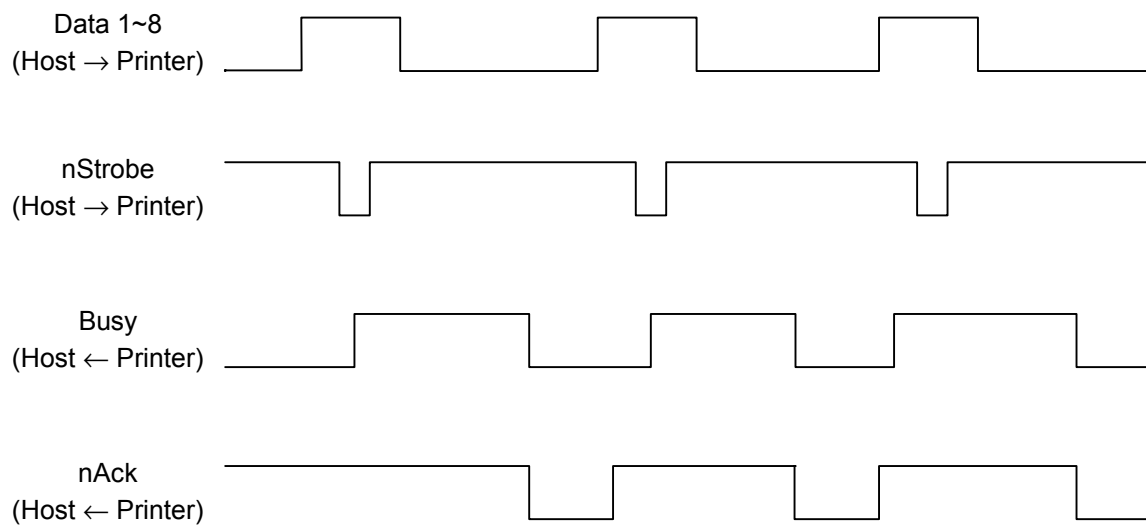
The printer keys can be used for selecting between "DOWNLOAD MODE" and "DOWNLOAD MODE 2". The timing for ACK-BUSY in Centronics differs between "DOWNLOAD MODE" and "DOWNLOAD MODE 2".. When downloading is not performed properly in the "DOWNLOAD MODE", it may be performed properly if "DOWNLOAD MODE 2" is selected.

Either of two modes for the timing for BUSY-ACK, can be selected.

(1) DOWNLOAD MODE (Default)



(2) DOWNLOAD MODE 2

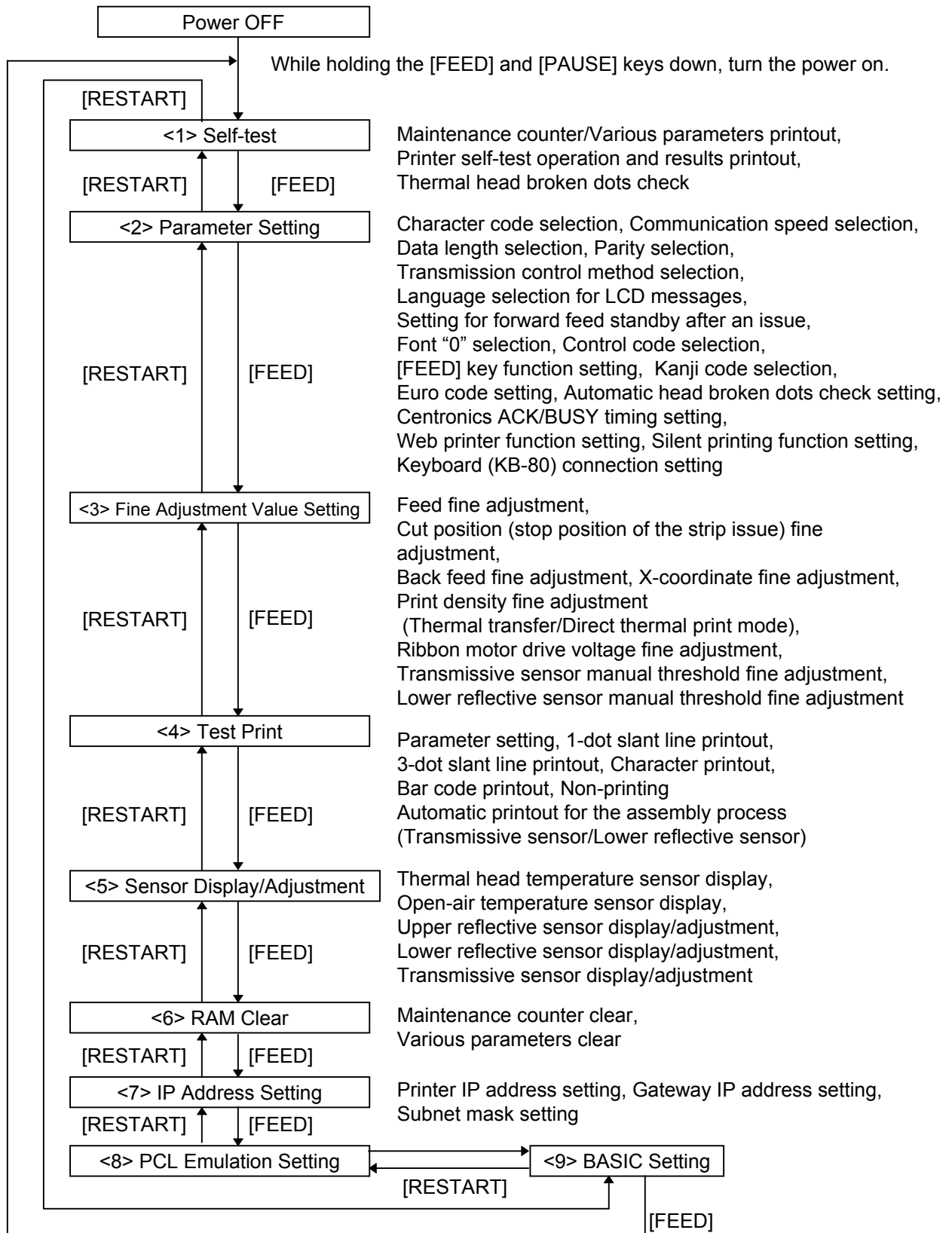


## 7. SYSTEM MODE

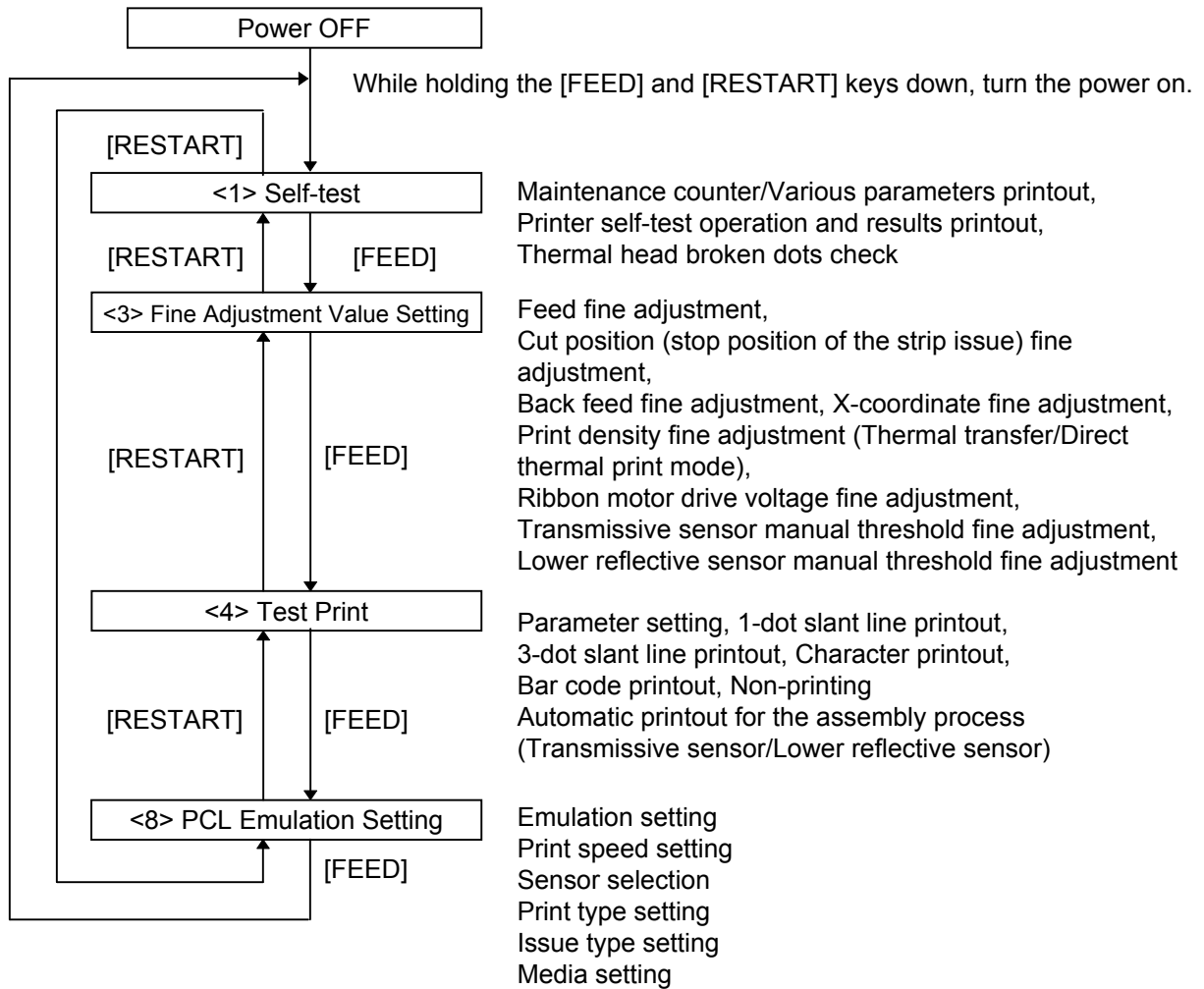
### 7.1 OUTLINE OF SYSTEM MODE

In this mode, the printer self-test operation and parameter setting operation are performed. Described below is the key operation procedure performed regarding the system mode.

- System mode for service persons or system administrators  
(All menus of the system mode are operable.)



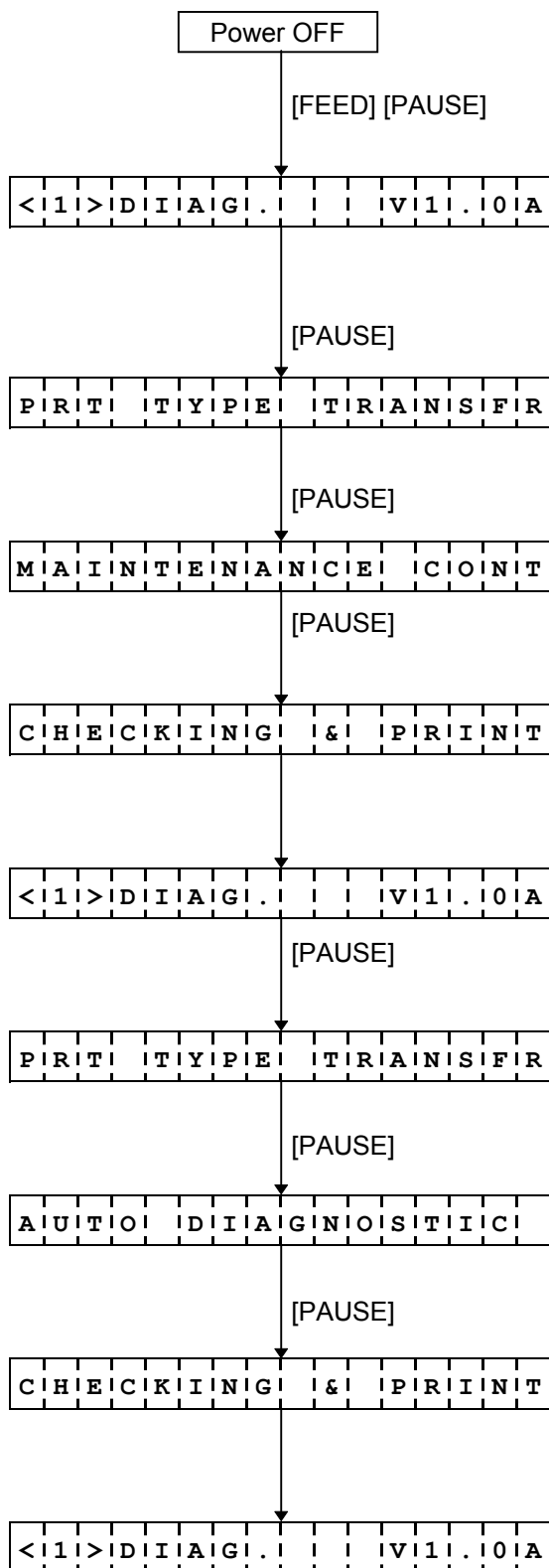
- System mode for users (Operable menus of the system mode are limited.)



## 7.2 SELF-TEST

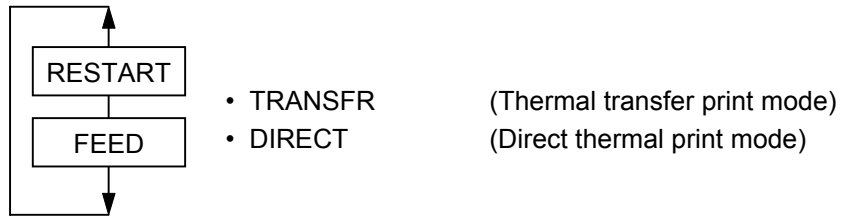
### 7.2.1 Self-test Operation Example

(1) Maintenance Counter/Various Parameters Printout, Automatic Self-test Printout



- (1) Power off state
- (2) While pressing the [FEED] and [PAUSE] keys, turn the power on.
- (3) System mode menu display (Self-test)  
(The program version is displayed.)
- (4) Press the [PAUSE] key.
- (5) Print type setting mode
- (6) Press the [PAUSE] key.
- (7) Maintenance counter/various parameters printout mode
- (8) Press the [PAUSE] key.
- (9) Start of maintenance counter/various parameters check
- (10) Results printout
- (11) System mode menu display (Self-test)
- (12) Press the [PAUSE] key.
- (13) Print type setting mode
- (14) Press the [PAUSE] key.
- (15) Self-test mode
- (16) Press the [PAUSE] key.
- (17) Start of the automatic self-test check
- (18) Results printout
- (19) System mode menu display (Self-test)

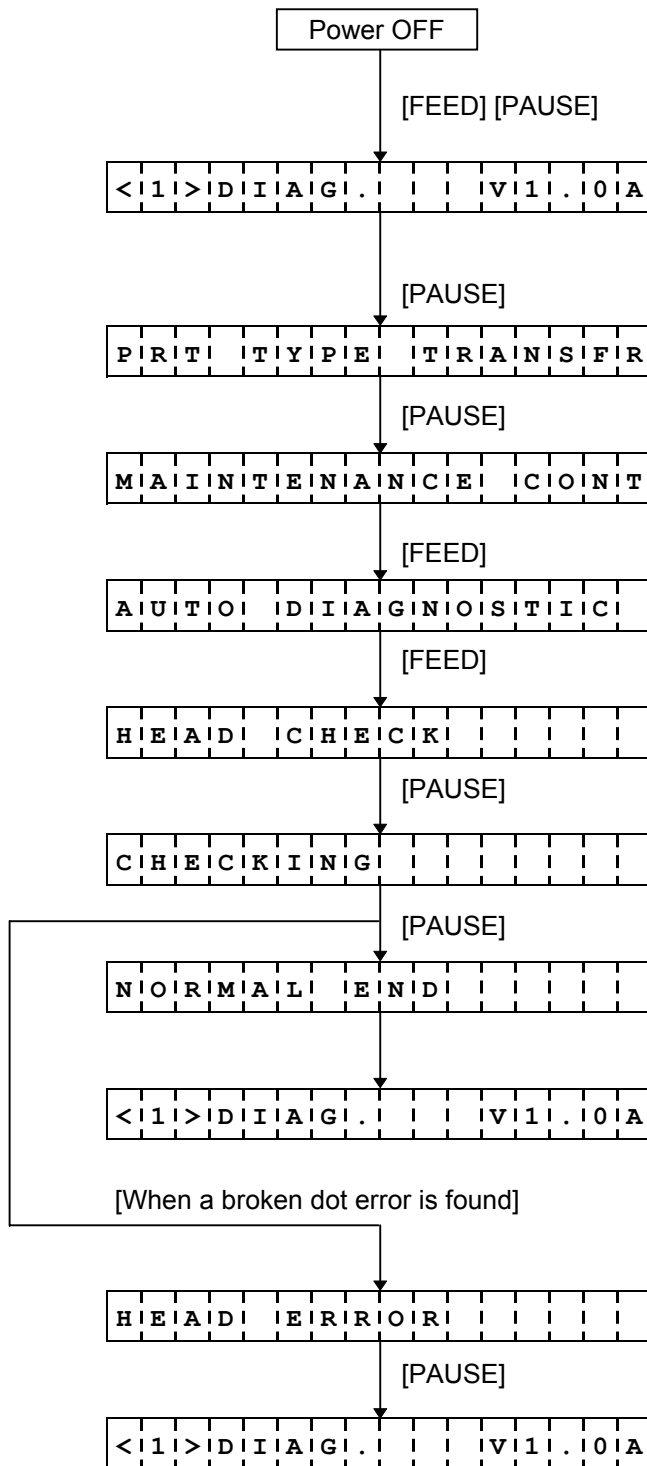
#### Print type setting mode (PRT TYPE)



**NOTE:** When an error occurs while printing the results of the self-test, the error message is displayed and printing is stopped. The error is cleared by pressing the [PAUSE] key, then the system mode menu is displayed again. Printing is not automatically resumed after the error is cleared.



## (2) Head Broken Dots Check



- (1) Power off state
- (2) While pressing the [FEED] and [PAUSE] keys, turn the power on.
- (3) System mode menu display (Self-test)  
(The program version is displayed.)
- (4) Press the [PAUSE] key.
- (5) Print type setting mode
- (6) Press the [PAUSE] key.
- (7) Maintenance counter/various parameters printout mode
- (8) Press the [FEED] key.
- (9) Self-test mode
- (10) Press the [FEED] key.
- (11) Head broken dots check mode
- (12) Press the [PAUSE] key.
- (13) Start of head broken dots check
- (14) Results display (Normal end)
- (15) Press the [PAUSE] key.
- (16) System mode menu display (Self-test)
- (14') Results display (Error)
- (15') Press the [PAUSE] key.
- (16') System mode menu display (Self-test)

## 7.2.2 Self-test Items

### (1) Maintenance counter/various parameters printout

#### ① Maintenance counter

- Total label distance covered (cannot be cleared)
- Label distance covered
- Print distance
- Cutting count
- Ribbon motor drive time
- RS-232C hard error count
- System error count
- Momentary power interruption count

#### ② Various parameters

[Fine adjustment value programmed on the PC]

- Feed fine adjustment value
- Cut position (or stop position of the strip issue) fine adjustment value
- Back feed fine adjustment value
- Print density fine adjustment value (Thermal transfer print mode)
- Print density fine adjustment value (Direct thermal print mode)
- Ribbon motor drive voltage fine adjustment (Rewind)
- Ribbon motor drive voltage fine adjustment (Back tension)

[Fine adjustment value programmed using the keys]

- Feed fine adjustment value
- Cut position (or stop position of the strip issue) fine adjustment value
- Back feed fine adjustment value
- Print density fine adjustment value (Thermal transfer print mode)
- Print density fine adjustment value (Direct thermal print mode)
- Ribbon motor drive voltage fine adjustment (Rewind)
- Ribbon motor drive voltage fine adjustment (Back tension)
- Lower reflective sensor manual threshold fine adjustment
- Transmissive sensor manual threshold fine adjustment
- X-coordinate fine adjustment value
- Character code type
- Font "0"
- Communication speed
- Data length
- Parity
- Transmission control method
- Language for LCD messages
- Forward feed standby after an issue
- Control code type
- [FEED] key function
- Kanji code type
- Euro code set value
- Automatic head broken dots check setting
- Centronics ACK/BUSY timing setting
- Web printer function setting
- Silent printing function setting
- Keyboard (KB-80) connection setting

- IP address settings
- Socket communication port setting
- Storage area setting
- PCL emulation setting
- Print speed for PCL emulation
- Sensor type for PCL emulation
- Print type for PCL emulation
- Issue type for PCL emulation
- BASIC setting

(2) Automatic self-test

① Memory check

- Program area (Model, creation date, version, part number, checksum)
- Boot area (Model, creation date, version, checksum)
- Font area checksum
- Bit map Kanji ROM checksum
- EEPROM check
- RAM check
- Card check

② Sensor check

- Thermal head open sensor
- Cutter home position sensor
- Ribbon rewind motor sensor
- Ribbon back tension motor sensor
- Thermal head temperature sensor
- Open-air temperature sensor
- Upper reflective sensor
- Lower reflective sensor
- Transmissive sensor
- Heat sink sensor

③ Expansion I/O loop back check

④ DIN loop back check for connecting to keyboard (KB-80)

## 7.2.3 Self-test Results Printout Samples

### (1) Maintenance counter/Various parameters printout

TOTAL FEED	1.1km
FEED	1.1km
PRINT	0.5km
CUT	96
RIBBON	3h
232C ERR	255
SYSTEM ERR	0
POWER FAIL	0
[PC]	[KEY]
FEED	+2.0mm
CUT	+0.0mm
BACK	+0.0mm
TONE (T)	+0step
TONE (D)	+0step
RBN (FW)	-10
RBN (BK)	+0
X ADJ.	+0.0mm
THRESHOLD (R)	1.0V
THRESHOLD (T)	1.4V
FONT	[PC-850] [0]
CODE	[AUTO]
SPEED	[9600]
DATA LENG.	[8]
PARITY	[EVEN]
CONTROL	[XON+READY AUTO]
MESSAGE	[ENGLISH]
FORWARD WAIT	[ON] +0.0mm
FEED KEY	[FEED]
KANJI	[TYPE1]
EURO CODE	[B0]
AUTO HD CHK	[OFF]
WEB PRINTER	[OFF]
SILENT PRINT	[ON]
KB80 CONNECT	[OFF]
PRTR IP ADDR	[192.168.010.020]
GATE IP ADDR	[000.000.000.000]
SUBNET MASK	[255.255.255.000]
TTF AREA	[640KB]
EXT CHR AREA	[128KB]
BASIC AREA	[ 64KB]
PC SAVE AREA	[ 64KB]
PCL EMULATION	[ON]
PRINT SPEED	[4"/s]
SENSOR	[TRANS.]
PRINT TYPE	[TRANSFER]
TYPE	[NO CUT]
MEDIA	[USER 2100x2970]
SOCKET PORT	[OFF] [08000]
BASIC	[OFF]
BASIC TRACE	[OFF]

**NOTE:** Print conditions: 170 mm of label length,  
thermal transfer/direct thermal print mode <sup>(\*)</sup>,  
no sensor used, 4"/sec, one sheet to print, batch issue

(\*) Depends on the print type setting.

(2) Automatic self-test printout

```
PROGRAM B-850 01NOV2000
          V1.0A FMRM0051402:1A00
BOOT      B-850 16NOV2000
          V1.0 FMRM0051601:8500
FONT      5600
KANJI     9D00
EEPROM    OK
SDRAM     8MB
CARD      SLOT 1 ATA
          SLOT 2 LAN
SENSOR1   00000000,00000000
SENSOR2   [H]20°C [A]22°C [S]25°C
          [R(U)]4.2V [R(L)]4.0V
          [T]2.5V
EXP.I/O   NG
KEY BRD   NG
PCL KIT   BOOT V1.0 09MAR2001
          FMRM0063001:8E00
          MAIN V1.0 09MAR2001
          FMRM0029001:4800
```

- NOTES:** 1. Print conditions: 92 mm of label length,  
thermal transfer/direct thermal print mode <sup>(\*)</sup>,  
no sensor used, 4"/sec, one sheet to print, batch issue,  
(\*) Depends on the print type setting.
2. "°" used for "°C" may not be printed correctly, depending on the types of the character code.

## 7.2.4 Self-test Printout Contents

### (1) Maintenance counter

Item	Contents	Range
TOTAL FEED	Total label distance covered (cannot be cleared)	0.0 to 2000.0 km
FEED	Label distance covered	0.0 to 181.9 km
PRINT	Print distance	0.0 to 200.0 km
CUT	Cut count	0 to 1000000
RIBBON	Ribbon motor drive time	0 to 2000 hours
232C ERR	RS-232C hardware error count	0 to 255
SYSTEM ERR	System error count	0 to 15
POWER FAIL	Momentary power interruption count	0 to 15

Maintenance Counter	Count Conditions
Total label distance covered Label distance covered	Counts when the paper feed motor is driven to perform a paper feed, print, and eject operations. (Counts also during reverse feed operation.) When the power is off, label distance of 69.4 cm or less may be regarded and backed up as 0.0 cm If maintenance counter clear is not performed when the label distance covered reaches the maximum, the total label distance covered is not updated.
Print distance	Counts while printing. (Counting is not performed during eject, reverse feed operations.) When the power is off, the print distance of 5.5 m or less is regarded and backed up as 0.0 m.
Cut count	Every cut operation is counted. When the power is off, a cut count of 31 or less is regarded and backed up as 0.
Ribbon motor drive time	Counts when the ribbon motor is driven to perform a paper feed, print, and eject operations. (Counts also during a reverse feed operation.) When the power is off, a drive time of 27 seconds or less is regarded and backed up as 0.
RS-232C hardware error count	Counts when a parity error, an overrun error, or a framing error occurs. * When data of several bytes is transmitted continuously, counting is performed per byte.
System error count	Counts when a system error of No. 20 listed in "5.10 LCD MESSAGES AND LED INDICATIONS" occurs.
Momentary power interruption count	Counts when a momentary power interruption occurs.

## (2) Various parameters check contents

Item	Contents	Remarks
<b>[PC] FEED</b>	Feed fine adjustment	-50.0 mm to +50.0 mm
<b>CUT</b>	Cut position (or stop position of the strip issue) fine adjustment	-50.0 mm to +50.0 mm
<b>BACK</b>	Back feed fine adjustment	-9.9 mm to +9.9 mm
<b>TONE (T)</b>	Print density fine adjustment (Thermal transfer print mode)	-10 to +10 step
<b>TONE (D)</b>	Print density fine adjustment (Direct thermal print mode)	-10 to +10 step
<b>RBN (FW)</b>	Ribbon motor drive voltage fine adjustment (Rewind)	-15 to +6 step
<b>RBN (BK)</b>	Ribbon motor drive voltage fine adjustment (Back tension)	-15 to +10 step
<b>[KEY] FEED</b>	Feed fine adjustment	-50.0 mm to +50.0 mm
<b>CUT</b>	Cut position (or stop position of the strip issue) fine adjustment	-50.0 mm to +50.0 mm
<b>BACK</b>	Back feed fine adjustment	-9.5 mm to +9.5 mm
<b>TONE (T)</b>	Print density fine adjustment (Thermal transfer print mode)	-10 to +10 step
<b>TONE (D)</b>	Print density fine adjustment (Direct thermal print mode)	-10 to +10 step
<b>RBN (FW)</b>	Ribbon motor drive voltage fine adjustment (Rewind)	-15 to +6 step
<b>RBN (BK)</b>	Ribbon motor drive voltage fine adjustment (Back tension)	-15 to +10 step
<b>X ADJ.</b>	X-coordinate fine adjustment	-99.5 mm to +99.5 mm
<b>THRESHOLD&lt;R&gt;</b>	Lower reflective sensor manual threshold fine adjustment	0.0 V to 4.0 V
<b>THRESHOLD&lt;T&gt;</b>	Transmissive sensor manual threshold fine adjustment	0.0 V to 4.0 V
<b>FONT</b>	Character code selection	PC-850: PC-850 PC-852: PC-852 PC-857: PC-857 PC-8: PC-8 PC-851: PC-851 PC-855: PC-855 PC-1250: PC-1250 PC-1251: PC-1251 PC-1252: PC-1252 PC-1253: PC-1253 PC-1254: PC-1254 PC-1257: PC-1257 LATIN9: LATIN9 Arabic: Arabic
	Font "0" selection	0 : No slash used Ø : Slash used

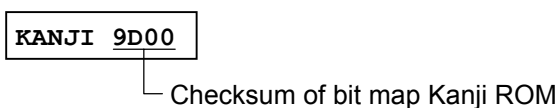
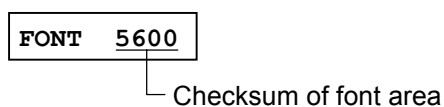
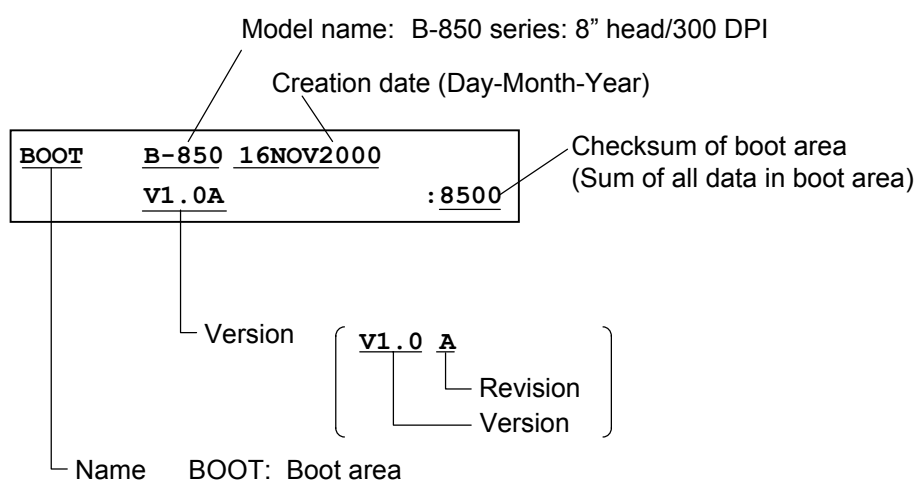
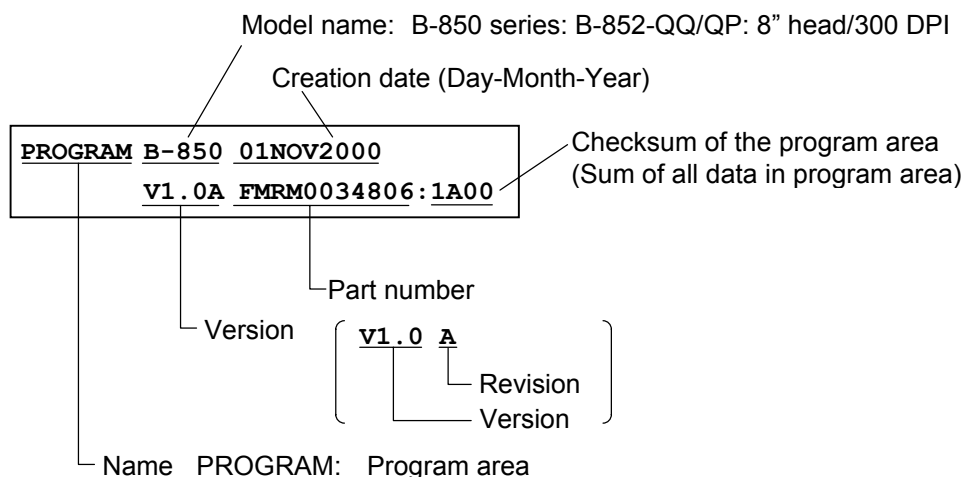
Item	Contents	Remarks
<b>CODE</b>	Control code type	AUTO: Automatic selection ESC LF NUL: ESC LF NUL method {   }: {   } method xx○○△△ Any set code (Described in hex. code)
<b>SPEED</b>	Communication speed selection	2400: 2400 bps 4800: 4800 bps 9600: 9600 bps 19200: 19200 bps
<b>DATA LENG.</b>	Data length selection	7: 7 bits 8: 8 bits
<b>PARITY</b>	Parity selection	NONE: None parity ODD: ODD parity EVEN: EVEN parity
<b>CONTROL</b>	Transmission control method selection	XON/XOFF: XON/XOFF protocol (No XON output when the power is on, no XOFF output when the power is off) READY/BUSY: READY/BUSY (DTR) protocol (No XON output when the power is on, no XOFF output when the power is off) XON+READY AUTO: XON/XOFF + READY/BUSY (DTR) protocol (XON output when the power is on, XOFF output when the power is off) XON/XOFF AUTO: XON/XOFF protocol (XON output when the power is on, XOFF output when the power is off) READY/BUSY RTS: RTS protocol (No XON output when the power is on, no XOFF output when the power is off )
<b>MESSAGE</b>	Language selection for LCD messages	ENGLISH: English GERMAN: German FRENCH: French DUTCH: Dutch SPANISH: Spanish JAPANESE: Japanese ITALIAN: Italian



Item	Contents	Remarks
<b>FORWARD WAIT</b>	Forward feed standby after an issue	ON: Performed (The stop position fine adjustment value is also printed.) OFF: Not performed
<b>FEED KEY</b>	[FEED] key function setting	FEED: One label is fed. PRINT: Data in the image buffer is printed on one label.
<b>KANJI CODE</b>	Kanji code type	TYPE1: For Windows codes TYPE2: For original codes
<b>EURO CODE</b>	Euro code setting	Any set code
<b>AUTO HD CHK</b>	Automatic broken dots check setting	ON: Automatic broken dots check is performed. OFF: Automatic broken dots check is not performed.
<b>ACK/BUSY TYPE</b>	Centronics ACK/BUSY timing setting	TYPE 1: The ACK signal is sent to match the fall of the BUSY signal and the end of the LOW level of the ACK signal. TYPE 2: The ACK signal is sent to match the end of the HIGH level of the ACK signal and the fall of the BUSY signal.
<b>WEB PRINTER</b>	Web printer function setting	ON: Enabled OFF: Disabled
<b>SILENT PRINT</b>	Silent printing function setting	ON: Enabled
<b>KB80 CONNECT</b>	Keyboard (KB-80) connection setting	ON: The keyboard is connected. OFF: The keyboard is not connected.
<b>PRTR IP ADDR</b>	Printer IP address	*** **.* **.* **.*
<b>GATE IP ADDR</b>	Gateway IP address	*** **.* **.* **.*
<b>SUBNET MASK</b>	Subnet mask	*** **.* **.* **.*
<b>TTF AREA</b>	TrueType font storage area size	0 KB to 896 KB (in units of 64 KB)
<b>EXT CHR AREA</b>	Writable character area size	0 KB to 896 KB (in units of 64 KB)
<b>PC SAVE AREA</b>	PC saving area size	0 KB to 896 KB (in units of 64 KB)
<b>PCL EMULATION</b>	PCL emulation setting	ON: PCL emulation mode OFF: Command mode
<b>PRINT SPEED</b>	Print speed for PCL emulation	2"/s: 2 inches/sec. 4"/s: 4 inches/sec. —: When PCL emulation setting is OFF.

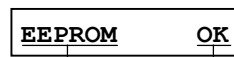
Item	Contents	Remarks
<b>SENSOR</b>	Sensor type selection for PCL emulation	NONE: No position detected REFLECT: Lower reflective sensor TRANS.: Transmissive sensor –: When PCL emulation setting is OFF.
<b>PRINT TYPE</b>	Print type for PCL emulation	TRANSFR: Thermal transfer print mode DIRECT: Direct thermal print mode –: When PCL emulation setting is OFF.
<b>TYPE</b>	Issue type for PCL emulation	[S] NO CUT: Batch issue mode, without cutting [C] WITH CUT: Issue with cutting –: When PCL emulation setting is OFF.
<b>MEDIA</b>	Media size for PCL emulation	A4: A4-size paper LEGAL: LEGAL-size paper LETTER: LETTER-size paper USER **** x ****: User defined paper –: When PCL emulation setting is OFF.
<b>SOCKET PORT</b>	Socket communication port number	ON: Socket communication function is enabled. OFF: Socket communication function is disabled Port number: 0 to 65535
<b>BASIC</b>	BASIC interpreter setting	ON: BASIC interpreter function is enabled. OFF: BASIC interpreter function is disabled.
<b>BASIC TRACE</b>	BASIC interpreter trace setting	ON: Trace function is enabled. OFF: Trace function is disabled.

(3) Memory check contents



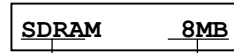
<Supplementary Explanation>

- When the [RESTART] and [FEED] keys are pressed at the same time in self-test item selection, the system mode menu is displayed.
- The last two digits of the checksum of the program area are usually "0".
- When the top one byte of the Kanji ROM is not proper, the checksum is not calculated and "0000" is printed.
- The version, part number, and checksum vary according to software version.



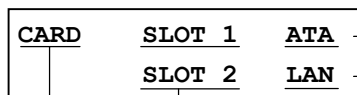
OK: Data in the check area can be properly read/written.  
 NG: Data in the check area cannot be properly read/rewritten.

Back up memory (EEPROM)



Capacity of SDRAM

Memory for the system and drawing



ATA: ATA card is installed.

LAN: LAN card is installed.

FSH: Flash memory card is installed.

NO: ATA card or flash memory card which is not formatted, is installed, or neither card is installed.

Slot

PCMCIA card

#### (4) Sensor check contents

##### ① Sensor 1

0 0 0 0 0 0 0 0 0 , 0 0 0 0 0 0 1 1

Blank

Blank (Fixed to 1.)

Cutter Home Position Sensor

0: Home position

1: Outside the home position

Blank

Ribbon Rewind Motor Sensor

0: Outside the slit

1: Inside the slit

Ribbon Back Tension Motor Sensor 1

0: Outside the slit

1: Inside the slit

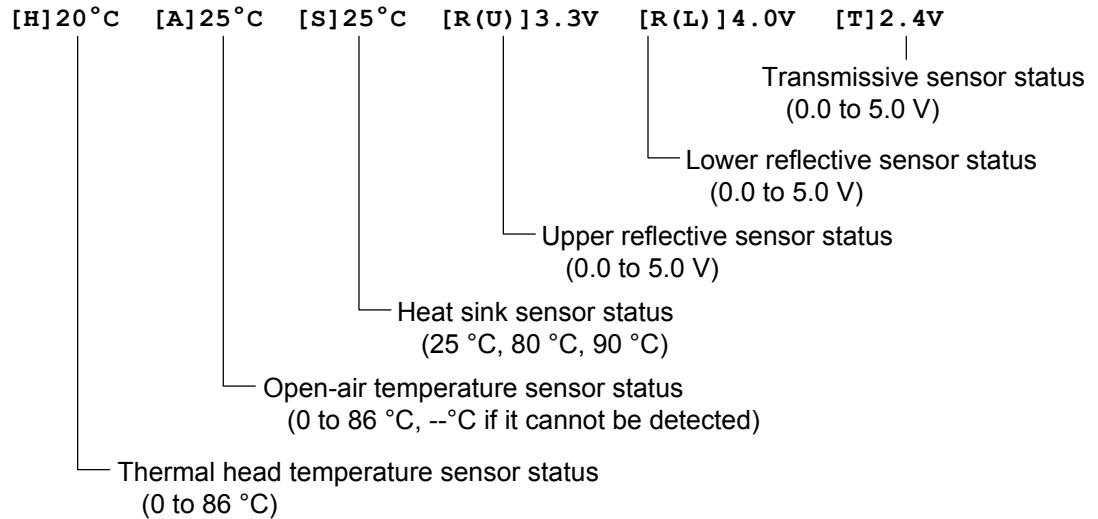
Ribbon Back Tension Motor Sensor 2

0: Outside the slit

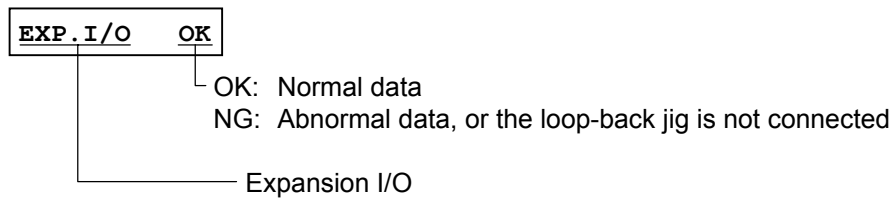
1: Inside the slit

Blank

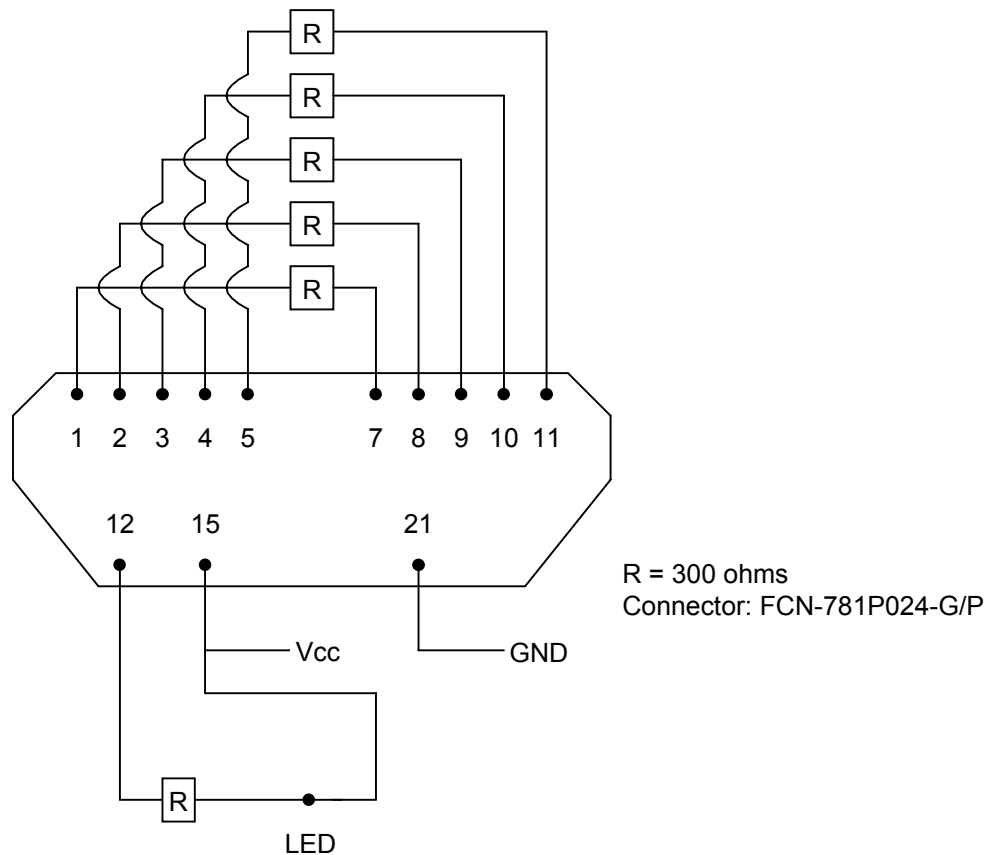
② Sensor 2



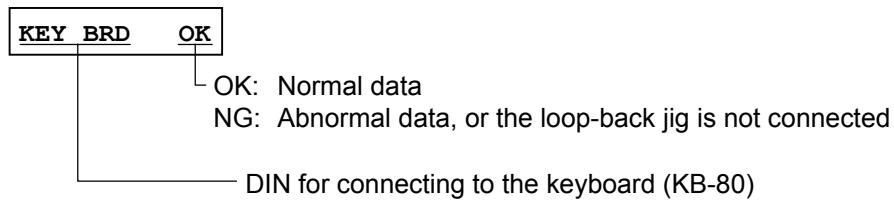
(5) Expansion I/O check contents



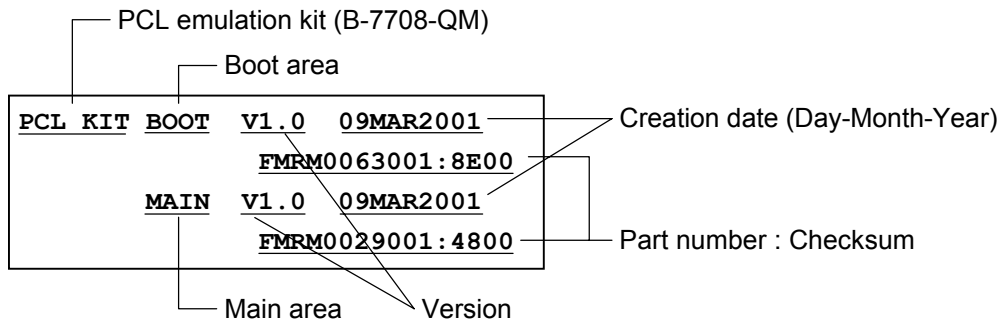
\* Connect the cable as illustrated below, then check the high output/high input, low output/low input.



(6) DIN check for keyboard (KB-80) connection



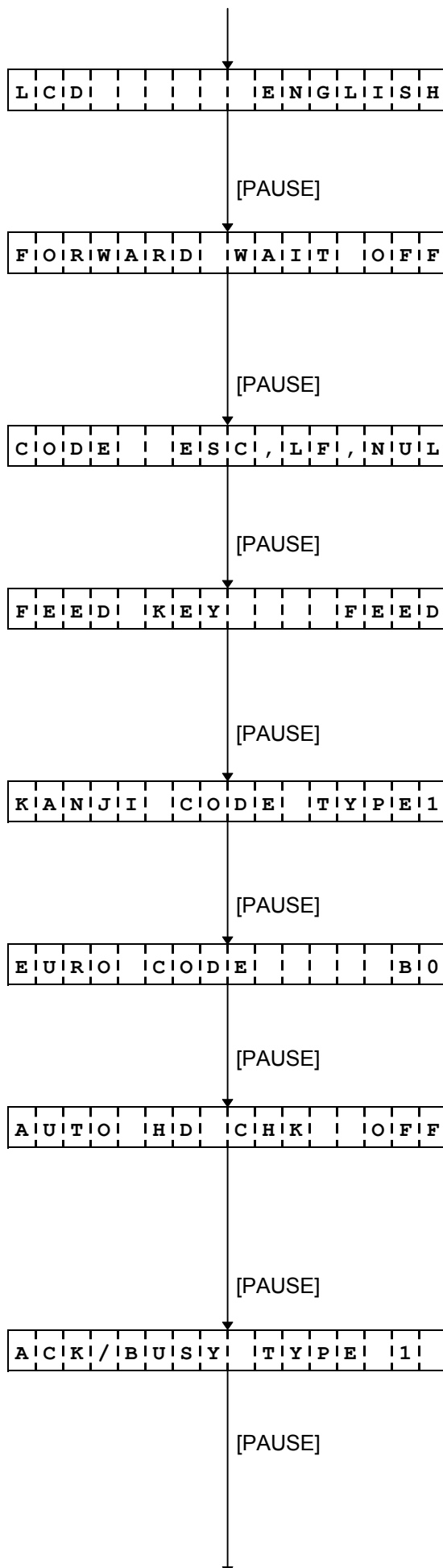
(7) PCL kit check contents



When the PCL emulation kit (B-7708-QM) is not connected to the printer, the description below is printed.

**PCL KIT NOT INSTALLED**





(19) Language selection for LCD messages:  
Select the language for LCD messages using the [FEED] and [RESTART] keys.

(20) Press the [PAUSE] key.

(21) Setting for forward feed standby after an issue:

Make the forward feed standby setting using the [FEED] and [RESTART] keys.

(22) Press the [PAUSE] key.

(23) Control code selection:

Select the code using the [FEED] and [RESTART] keys.

(24) Press the [PAUSE] key.

(25) [FEED] key function setting:

Make the setting for the [FEED] key function using the [FEED] and [RESTART] keys.

(26) Press the [PAUSE] key.

(27) Kanji code selection:

Select the Kanji code using the [FEED] and [RESTART] keys.

(28) Press the [PAUSE] key.

(29) Euro code setting:

Set the Euro code using the [FEED] and [RESTART] keys.

(30) Press the [PAUSE] key.

(31) Automatic head broken dots check setting:

Set the automatic head broken dots check using the [FEED] and [RESTART] keys.

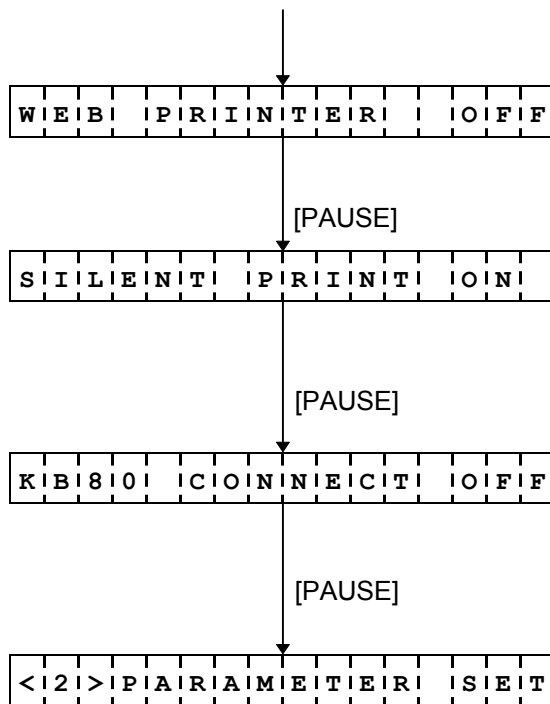
(32) Press the [PAUSE] key.

(33) Centronics ACK/BUSY timing setting:

Set the ACK/BUSY timing using the [FEED] and [RESTART] keys.

(34) Press the [PAUSE] key.

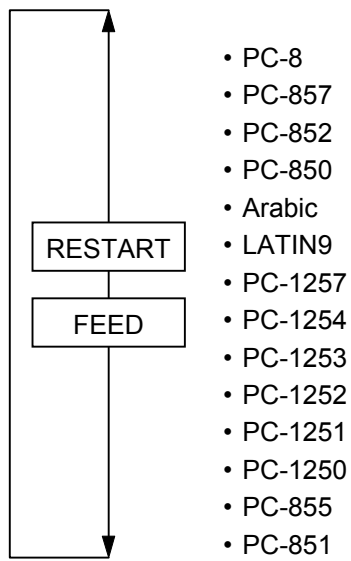




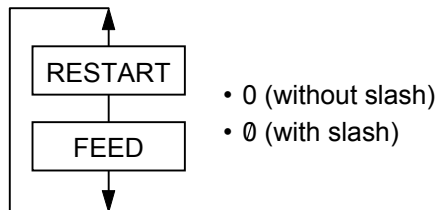
- (35) Web printer function setting:  
Set the function for a web printer using the [FEED] and [RESTART] keys.
- (36) Press the [PAUSE] key.
- (37) Silent printing function setting:  
Set the silent printing function using the [FEED] and [RESTART] keys.
- (38) Press the [PAUSE] key.
- (39) Keyboard (KB-80) connection setting:  
Displays the setting menu for the connection to the KB-80.
- (40) Press the [PAUSE] key.
- (41) System mode menu display (Parameter setting)

### 7.3.2 Setting Contents

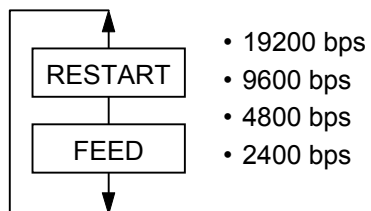
#### (1) Character code selection (FONT CODE)



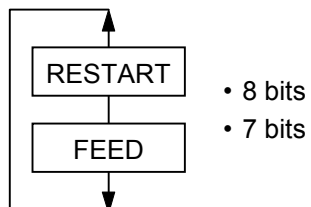
#### (2) Font "0" selection (ZERO FONT)



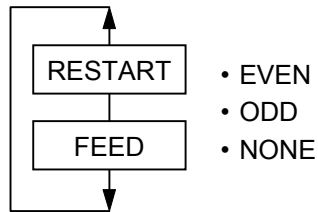
#### (3) RS-232C communication speed selection (SPEED)



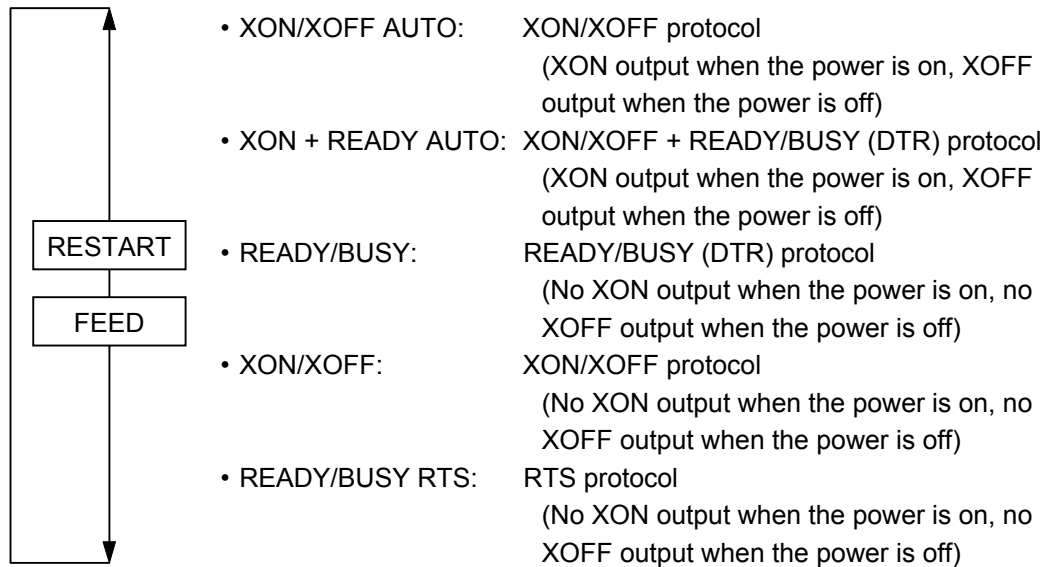
#### (4) RS-232C data length selection (DATA LENG.)



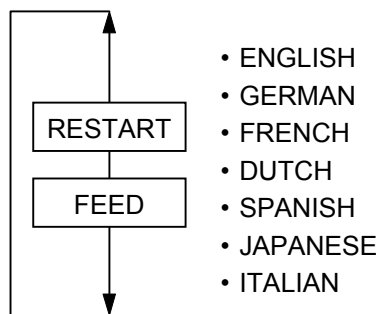
(5) RS-232C parity selection (PARITY)



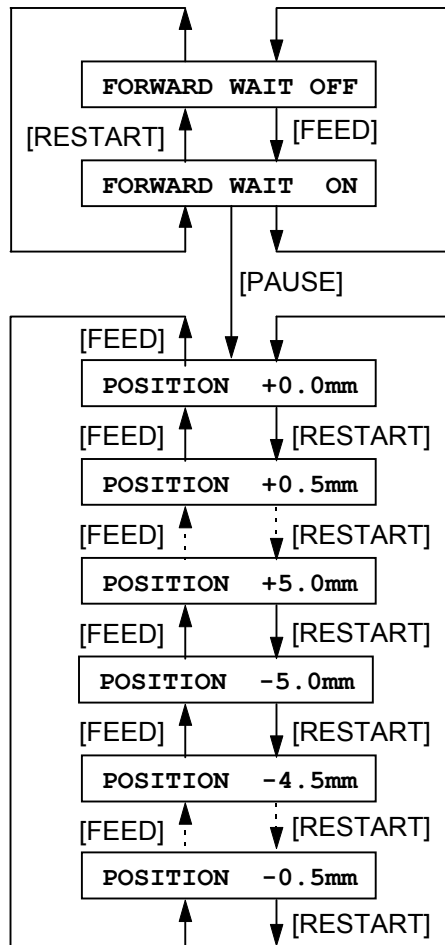
(6) RS-232C transmission control method selection (XON/XOFF, READY/BUSY)



(7) Language selection for LCD messages (LCD)



(8) Setting for forward feed standby after an issue (FORWARD WAIT)



- OFF: Forward feed standby is not performed.

- ON: Forward feed standby is performed.

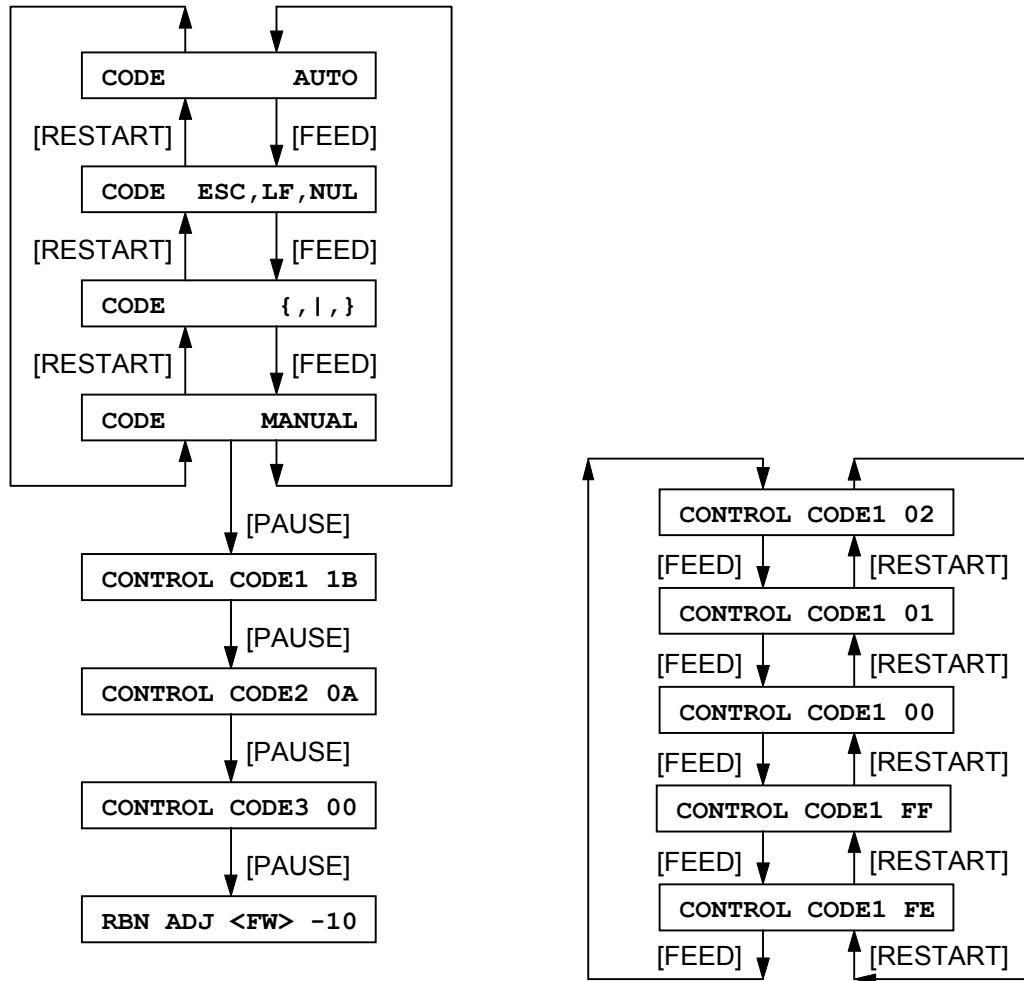
Stop position fine adjustment value for automatic forward standby:

-5.0 mm to +5.0 mm

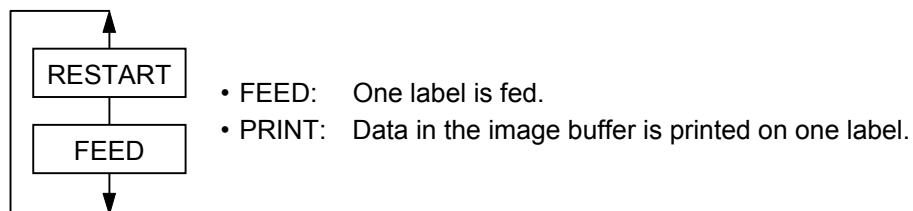
+: The printer performs a forward feed with the length longer than usual, then stops.

–: The printer performs a forward feed with the length shorter than usual, then stops.

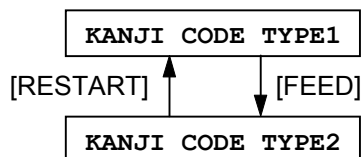
(9) Control code selection (CODE)



(10) [FEED] key function setting (FEED KEY)



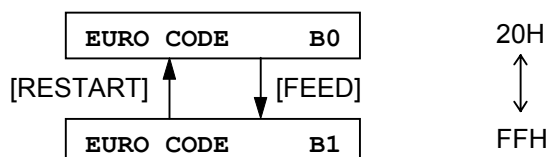
(11) Kanji code selection



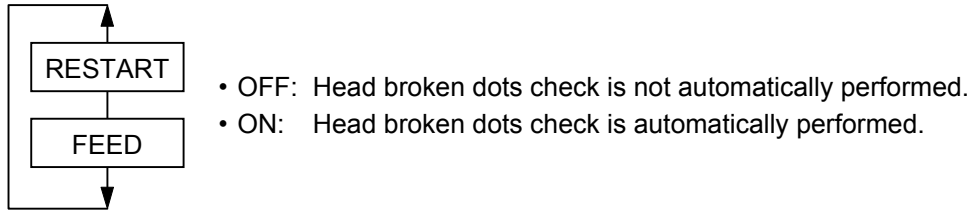
TYPE 1: For WINDOWS codes

TYPE 2: For original codes

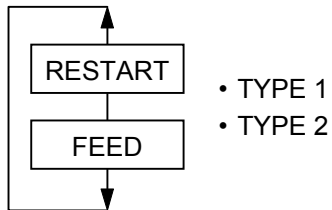
(12) Euro code setting



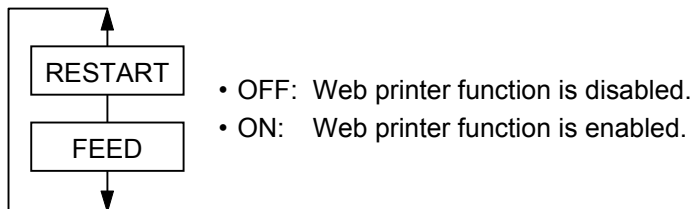
(13) Automatic head broken dots check setting (AUTO HD CHK)



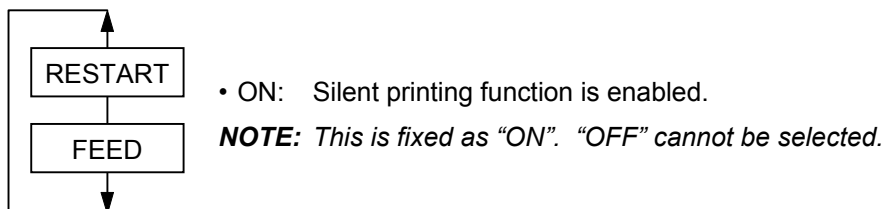
(14) Centronics ACK/BUSY timing setting (ACK/BUSY)



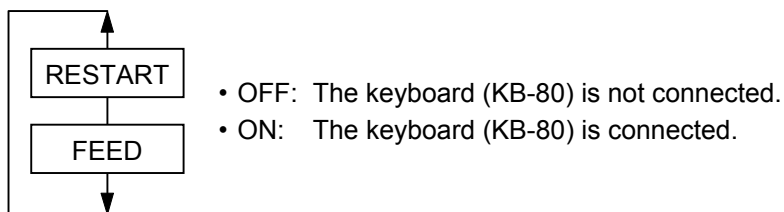
(15) Web printer function setting (WEB PRINTER)



(16) Silent printing function setting (SILENT PRINT)



(17) Keyboard (KB-80) connection setting (KB80 CONNECT)



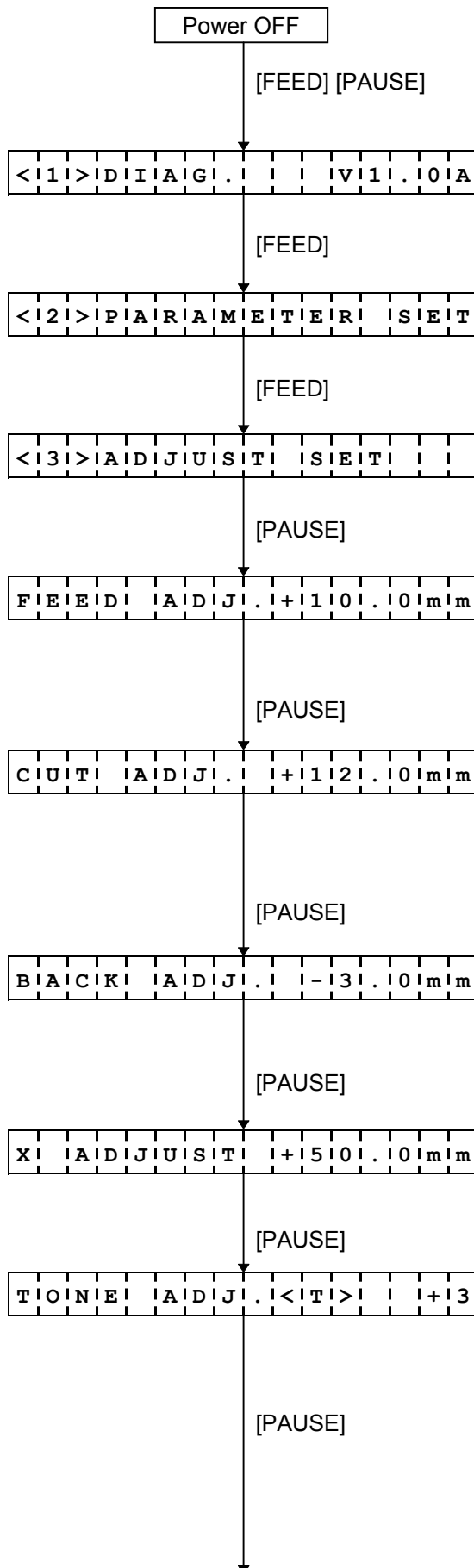
- When the keyboard connection setting is set to "ON", an RS-232C of D-Sub 9 pin for online printing, is invalid.

#### Supplementary Explanation

- When the [RESTART] and [FEED] keys are pressed at the same time, the display shows the system mode menu.
- If the [RESTART] or [FEED] key is held down for 0.5 seconds or more when a parameter is being set, the printer enters the repeat mode, in which the key is entered repeatedly.
- A changed parameter is stored in memory by pressing the [PAUSE] key.

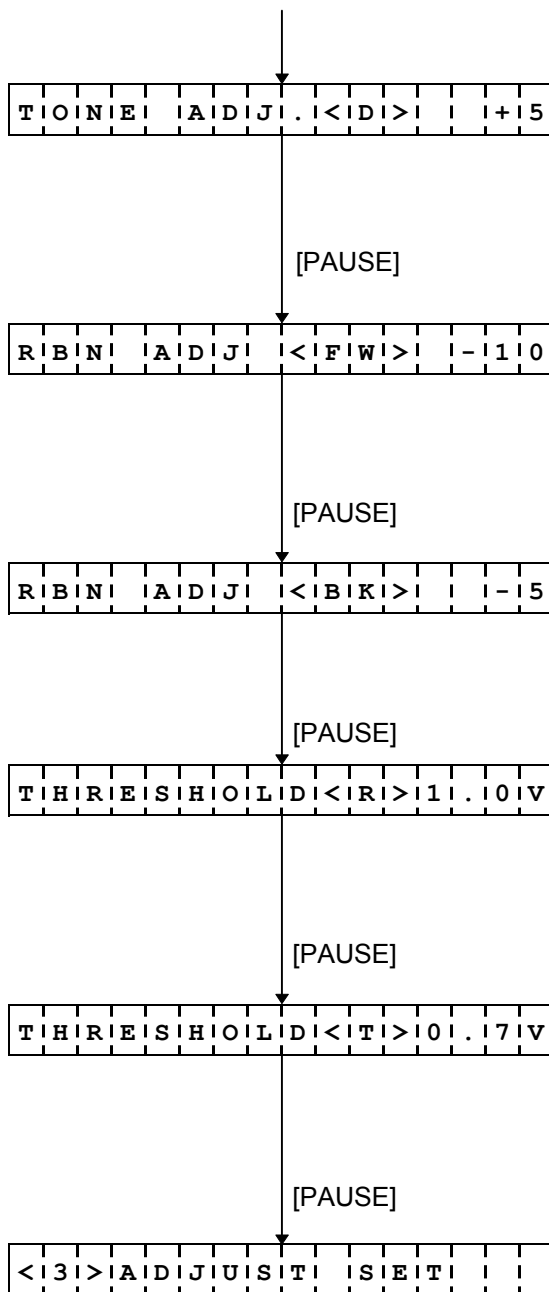
## 7.4 VARIOUS FINE ADJUSTMENT VALUES SETTING

### 7.4.1 Various Fine Adjustment Values Setting Operation Example



- (1) Power off state
- (2) While pressing the [FEED] and [PAUSE] keys, turn the power on.
- (3) System mode menu display (Self-test)
- (4) Press the [FEED] key.
- (5) System mode menu display (Parameter setting)
- (6) Press the [FEED] key.
- (7) System mode menu display (Fine adjustment value setting)
- (8) Press the [PAUSE] key.
- (9) Feed fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (10) Press the [PAUSE] key.
- (11) Cut position (or stop position of the strip issue) fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (12) Press the [PAUSE] key.
- (13) Back feed fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (14) Press the [PAUSE] key.
- (15) X-coordinate fine adjustment:  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (16) Press the [PAUSE] key.
- (17) Print density fine adjustment (Thermal transfer print mode):  
Set the fine adjustment value using the [FEED] and [RESTART] keys.
- (18) Press the [PAUSE] key.

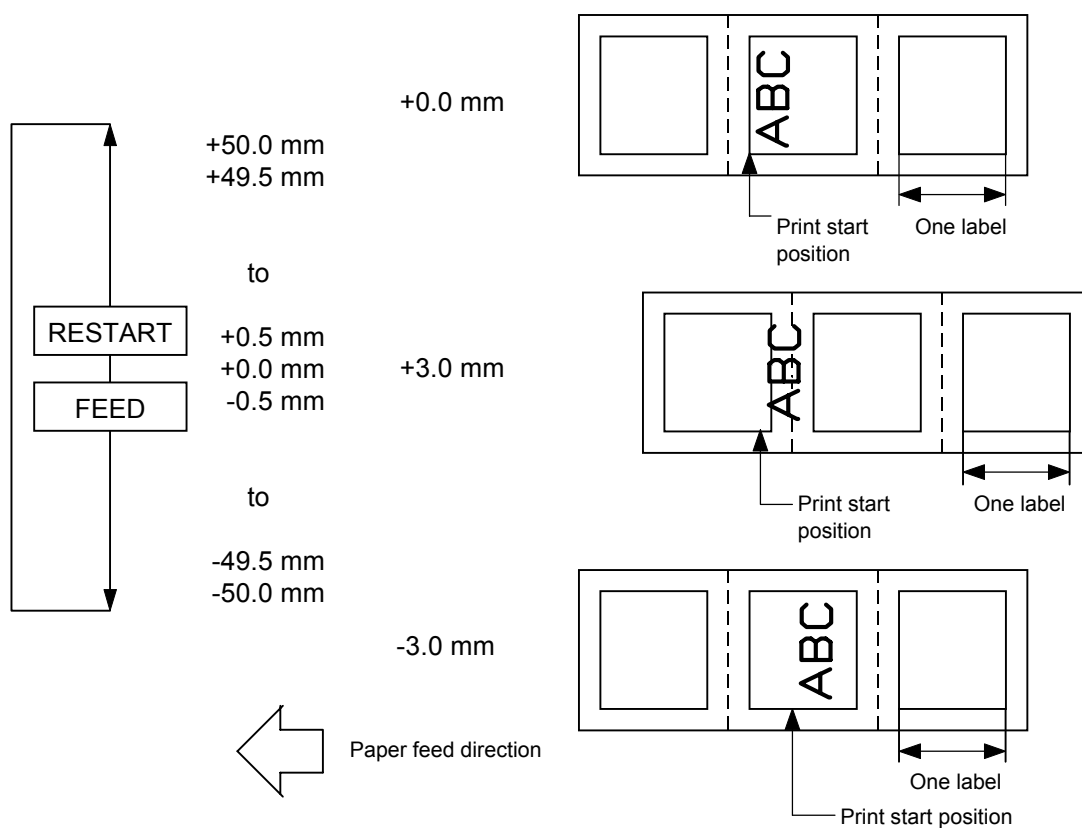




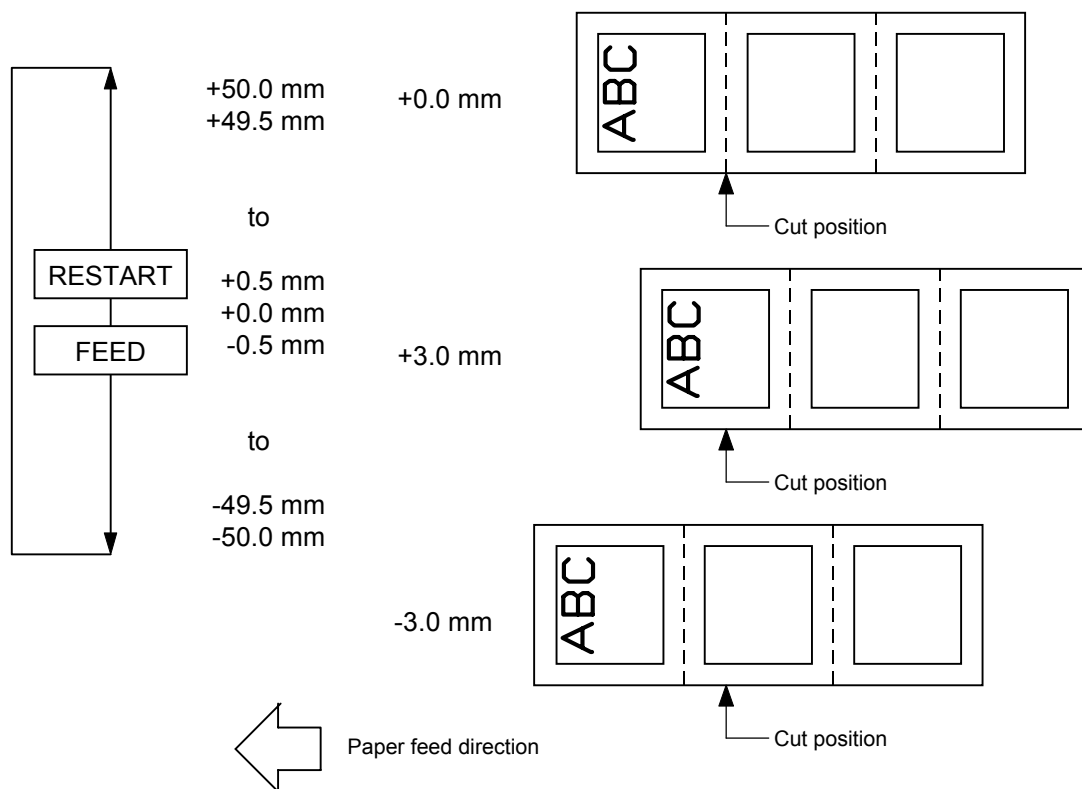
- (19) Print density fine adjustment  
(Direct thermal print mode):  
Set the fine adjustment value using the  
[FEED] and [RESTART] keys.
- (20) Press the [PAUSE] key.
- (21) Ribbon motor drive voltage fine  
adjustment (Rewind):  
Set the fine adjustment value using the  
[FEED] and [RESTART] keys.
- (22) Press the [PAUSE] key.
- (23) Ribbon motor drive voltage fine  
adjustment (Back tension):  
Set the fine adjustment value using the  
[FEED] and [RESTART] keys.
- (24) Press the [PAUSE] key.
- (25) Lower reflective sensor manual  
threshold fine adjustment:  
Set the fine adjustment value using the  
[FEED] and [RESTART] keys.
- (26) Press the [PAUSE] key.
- (27) Transmissive sensor manual threshold  
fine adjustment:  
Set the fine adjustment value using the  
[FEED] and [RESTART] keys.
- (28) Press the [PAUSE] key.
- (29) System mode menu display  
(Fine adjustment value setting)

## 7.4.2 Setting Contents

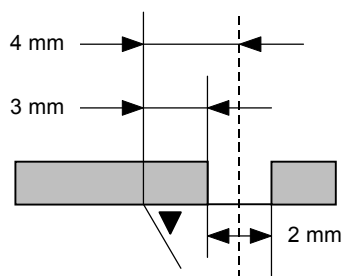
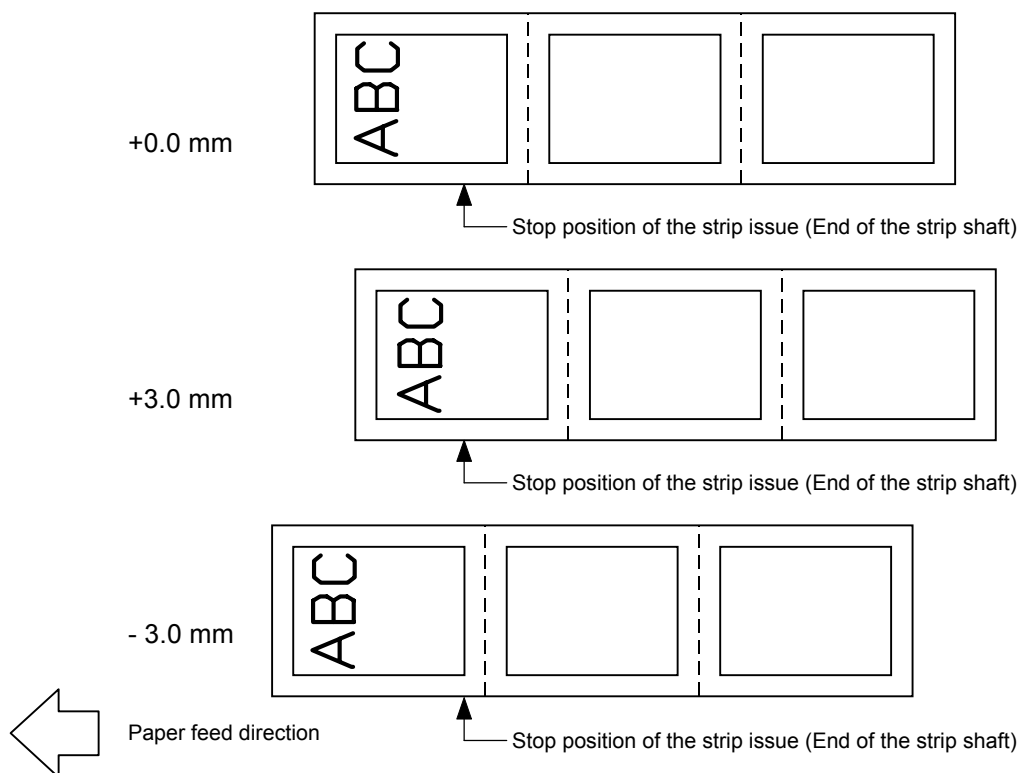
### (1) Feed fine adjustment (FEED ADJ.)



### (2) Cut position (or stop position of the strip issue) fine adjustment (CUT ADJ.)



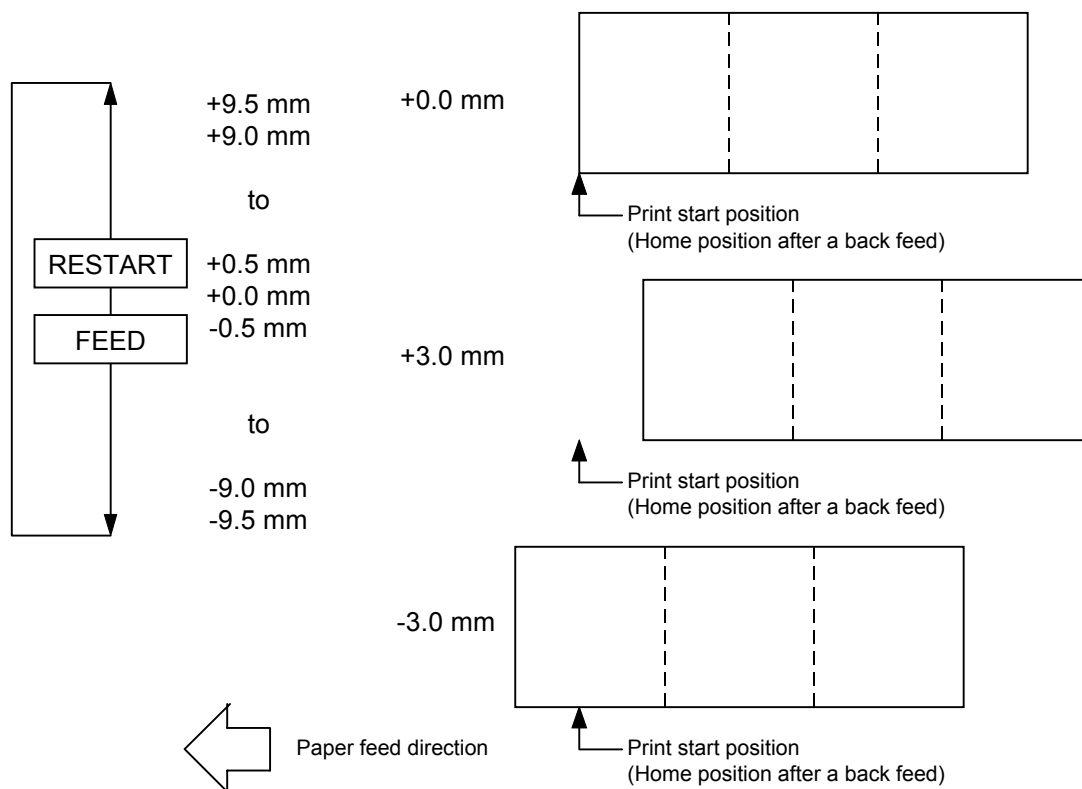
[Fine adjustment of stop position of the strip issue]



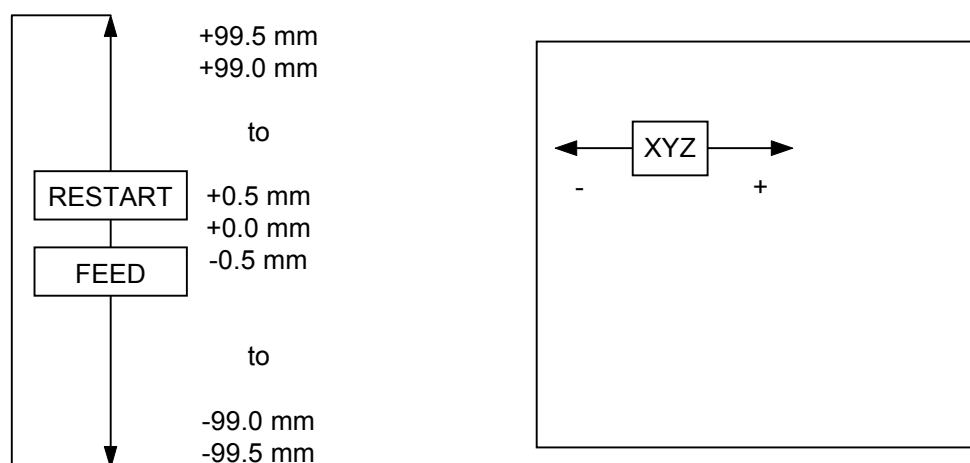
Printing in strip issue mode for the auto labeler, stops at the position where the distance from the middle point of the gap between labels to the end of the strip shaft is 4 mm, since the gap between labels is assumed to be 2 mm.

When the print stop position is not proper due to a greater gap, the print stop position should be changed by using the fine adjustment of the stop position of the strip issue.

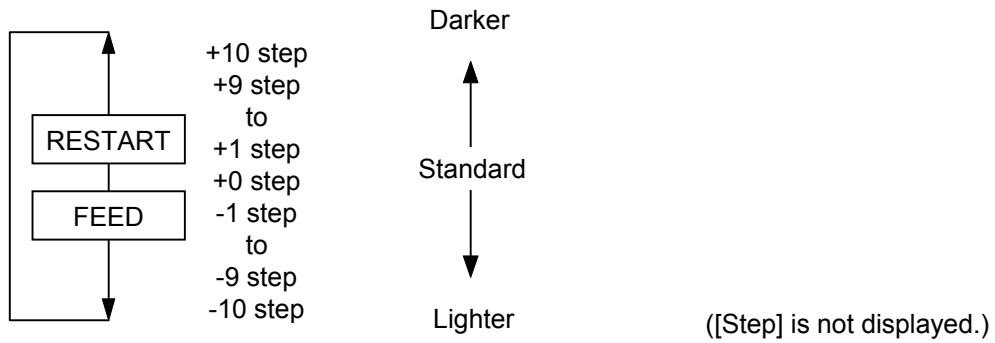
### (3) Back feed fine adjustment (BACK ADJ.)



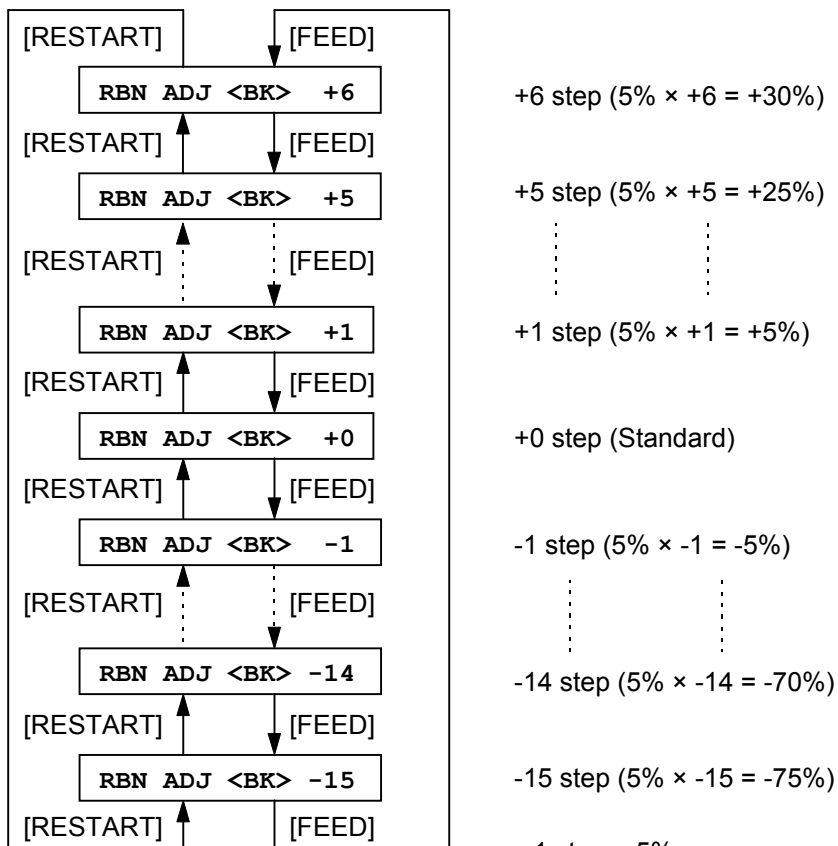
### (4) X-coordinate fine adjustment (X ADJUST.)



(5) Print density fine adjustment (Thermal transfer/Direct thermal print modes) (TONE ADJ.)

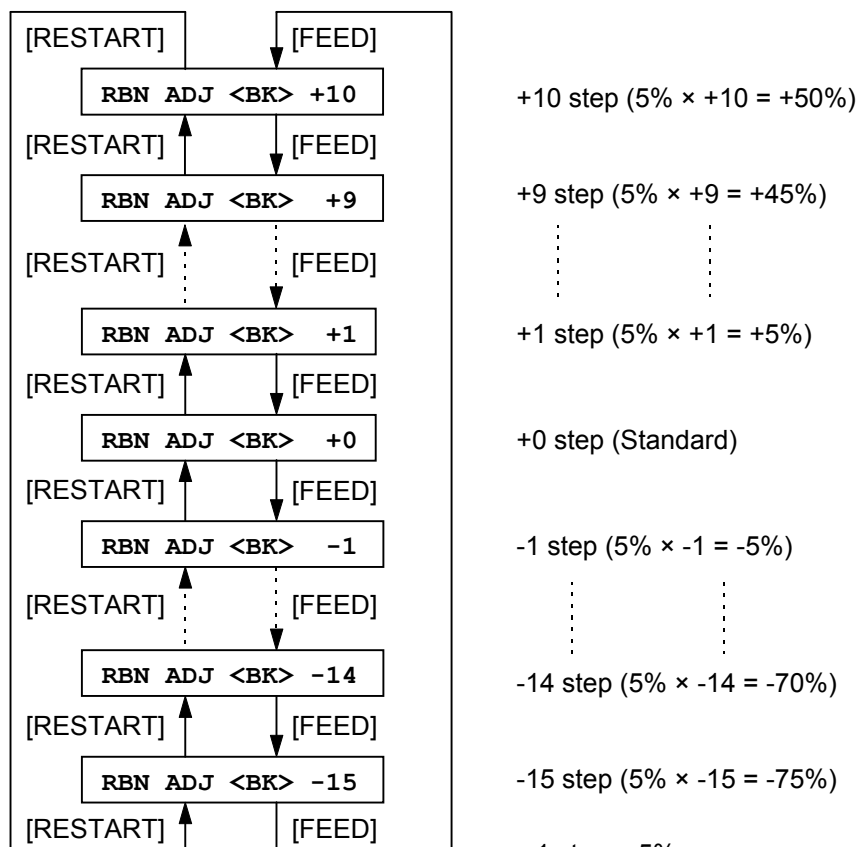


(6) Ribbon motor drive voltage fine adjustment setting (Rewind)



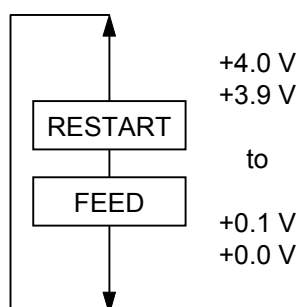
- 1 step = 5%
- Up to +6 can be set for fine adjustment in the positive (+) direction.

(7) Ribbon motor drive voltage fine adjustment setting (Back tension)

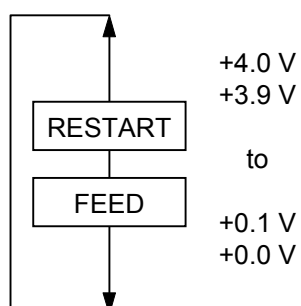


- 1 step = 5%
- Up to +10 can be set for fine adjustment in the positive (+) direction.

(8) Transmissive sensor manual threshold fine adjustment setting (THRESHOLD<T>)



(9) Lower reflective sensor manual threshold fine adjustment setting (THRESHOLD<R>)



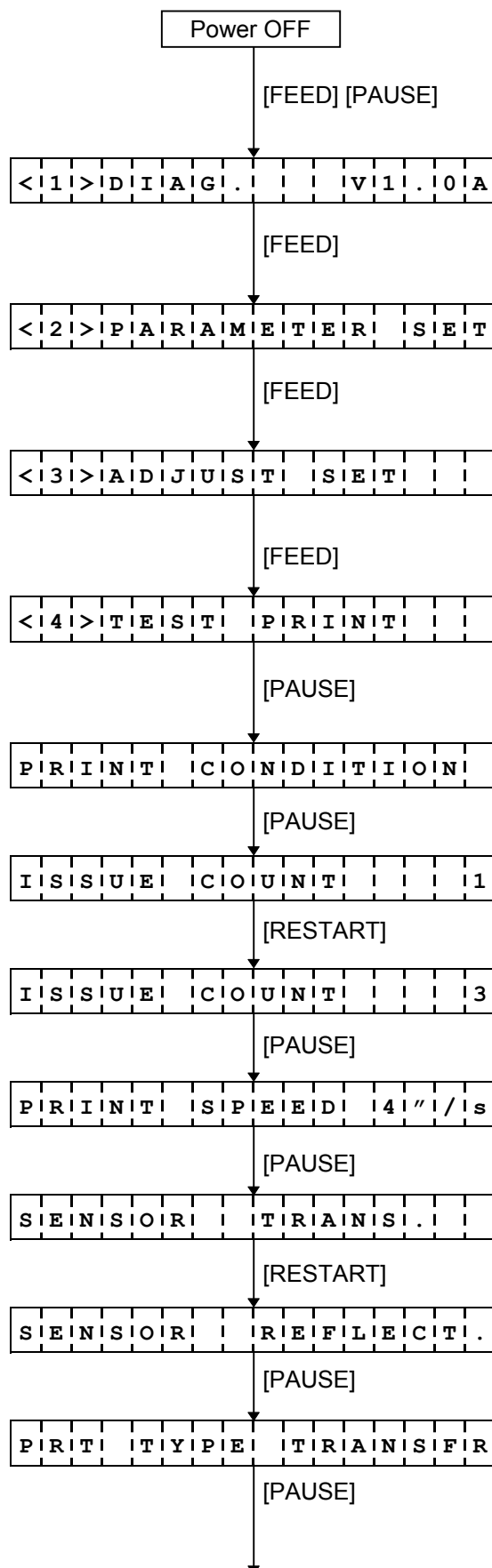
## Supplementary Explanation

- When the [RESTART] and [FEED] keys are pressed at the same time, the display shows the system mode menu.
- If the [RESTART] or [FEED] key is held down for 0.5 seconds or more when a fine adjustment value is being set, the printer enters the repeat mode, in which the key is entered repeatedly.
- A changed fine adjustment value is stored in memory by pressing the [PAUSE] key.
- The printer is controlled by the sum of the fine adjustment parameter programmed on the printer and the fine adjustment command from the PC. However, the maximum values for each fine adjustment are as follows:
  - Feed fine adjustment .....±50.0 mm
  - Cut position (stop position of the strip issue) fine adjustment .....±50.0 mm
  - Back feed fine adjustment .....±9.9 mm
  - Print density fine adjustment
    - Thermal transfer print mode .....±10 step
    - Direct thermal print mode .....+6 step or -10 step
  - X-coordinate fine adjustment .....±99.5 mm
  - Ribbon motor drive voltage fine adjustment (Rewind) .....+6 step or -15 step
  - Ribbon motor drive voltage fine adjustment (Back tension) .....+10 step or -15 step
- The X-coordinate fine adjustment is performed to finely adjust the X-coordinate of the drawing in the left or right direction. Adjust the X-coordinate in the effective print range. (After the value reaches the coordinate "0", the value remains unchanged even if a subsequent fine adjustment is performed in the negative direction.)
- The X-coordinate fine adjustment is not effective for the self-test results printout (maintenance counter, various parameters, and automatic self-test) and the test print.
- The print density fine adjustment value is +0 step at the time of shipment from the factory.
- The ribbon motor drive voltage fine adjustment value is each the sum of the fine adjustment by command (from the PC) and the fine adjustment in the system mode (by key operation). The maximum fine adjustment values are +6 or -15 for the ribbon rewind motor, and +10 or -15 for the ribbon back tension motor.
- The print density fine adjustment value is the sum of the fine adjustment by command (from the PC) and the fine adjustment in the system mode (by key operation). The respective max. fine adjustment values are ±10. (For the direct thermal print mode, the maximum fine adjustment value is +6 or -10.)

## 7.5 TEST PRINT

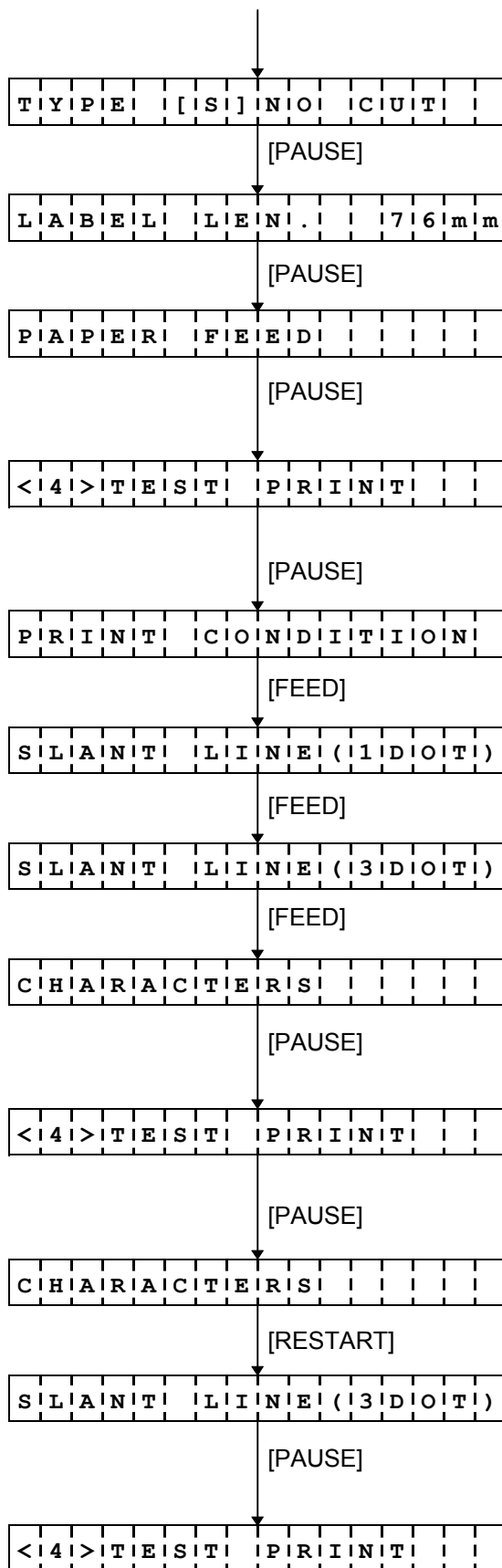
### 7.5.1 Test Print Operation Example

#### (1) Normal Test Print



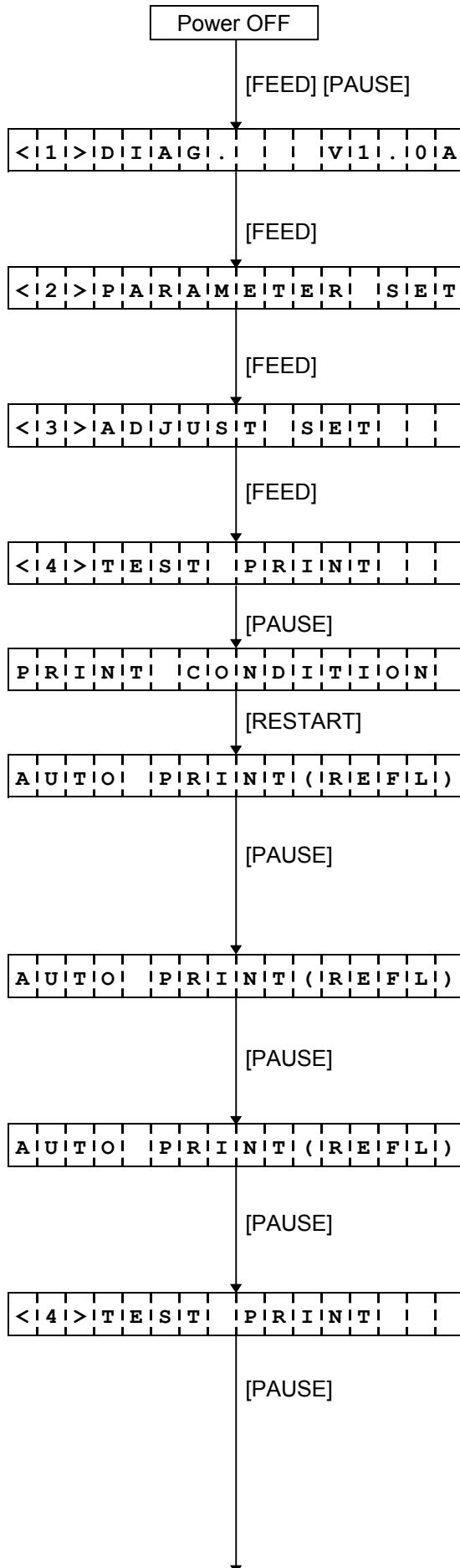
- (1) Power off state
- (2) While pressing the [FEED] and [PAUSE] keys, turn the power on.
- (3) System mode menu display (Self-test)
- (4) Press the [FEED] key.
- (5) System mode menu display (Parameter setting)
- (6) Press the [FEED] key.
- (7) System mode menu display (Fine adjustment value setting)
- (8) Press the [FEED] key.
- (9) System mode menu display (Test print)
- (10) Press the [PAUSE] key.
- (11) Test print condition setting mode
- (12) Press the [PAUSE] key.
- (13) Issue count setting mode
- (14) Press the [RESTART] key.
- (15) Set the issue count to 3.
- (16) Press the [PAUSE] key.
- (17) Print speed setting mode
- (18) Press the [PAUSE] key.
- (19) Sensor selection mode
- (20) Press the [RESTART] key.
- (21) Select the reflective sensor.
- (22) Press the [PAUSE] key.
- (23) Print type setting mode
- (24) Press the [PAUSE] key.



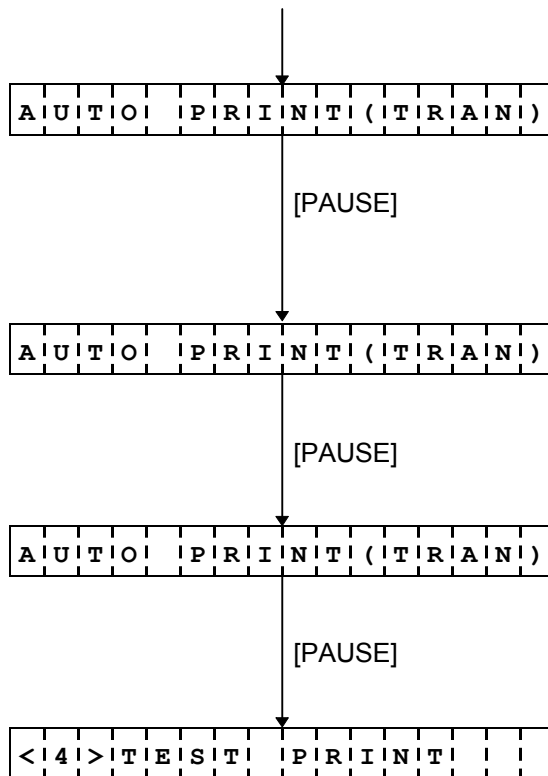


- (25) Issue type setting mode
- (26) Press the [PAUSE] key.
- (27) Label size setting mode
- (28) Press the [PAUSE] key.
- (29) One label feed mode
- (30) Press the [PAUSE] key.  
(One label is fed.)
- (31) System mode menu display  
(Test print)
- (32) Press the [PAUSE] key.
- (33) Test print condition setting mode
- (34) Press the [FEED] key.
- (35) 1-dot slant line printout mode
- (36) Press the [FEED] key.
- (37) 3-dot slant line printout mode
- (38) Press the [FEED] key.
- (39) Character printout mode
- (40) Press the [PAUSE] key.  
(Three labels are printed.)
- (41) System mode menu display  
(Test print)
- (42) Press the [PAUSE] key.
- (43) Character printout mode
- (44) Press the [RESTART] key.
- (45) 3-dot slant line printout mode
- (46) Press the [PAUSE] key.  
(Three labels are printed.)
- (47) System mode menu display  
(Test print)

## (2) Test Print for Assembly Process



- (1) Power off state
- (2) While pressing the [FEED] and [PAUSE] keys, turn the power on.
- (3) System mode menu display (Self-test)
- (4) Press the [FEED] key.
- (5) System mode menu display (Parameter setting)
- (6) Press the [FEED] key.
- (7) System mode menu display (Fine adjustment value setting)
- (8) Press the [FEED] key.
- (9) System mode menu display (Test print)
- (10) Press the [PAUSE] key.
- (11) Test print condition setting mode
- (12) Press the [RESTART] key.
- (13) Assembly process automatic printout mode (Reflective sensor)
- (14) Press the [PAUSE] key.  
 [ One label feed  
 3-dot slant line: 5 labels are printed. ]
- (15) Assembly process automatic printout mode (Reflective sensor)
- (16) Press the [PAUSE] key.  
 (Bar code: 5 labels are printed.)
- (17) Assembly process automatic printout mode (Reflective sensor)
- (18) Press the [PAUSE] key.  
 (Character: 5 labels are printed.)
- (19) System mode menu display (Test print)
- (20) Press the [PAUSE] key.



(21) Assembly process automatic printout mode (Transmissive sensor)

(22) Press the [PAUSE] key.  
 [ One label feed  
 3-dot slant line: 5 labels are printed. ]

(23) Assembly process automatic printout mode (Transmissive sensor)

(24) Press the [PAUSE] key.  
 (Bar code: 5 labels are printed.)

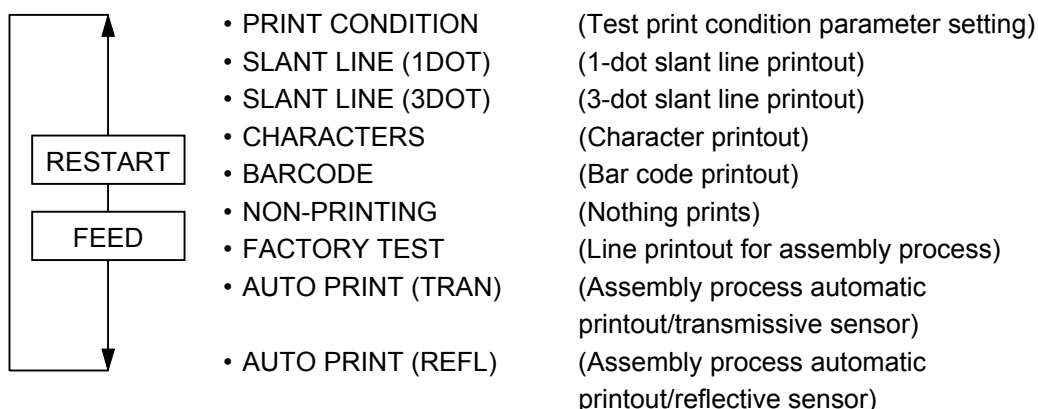
(25) Assembly process automatic printout mode (Transmissive sensor)

(26) Press the [PAUSE] key.  
 (Character: 5 labels are printed.)

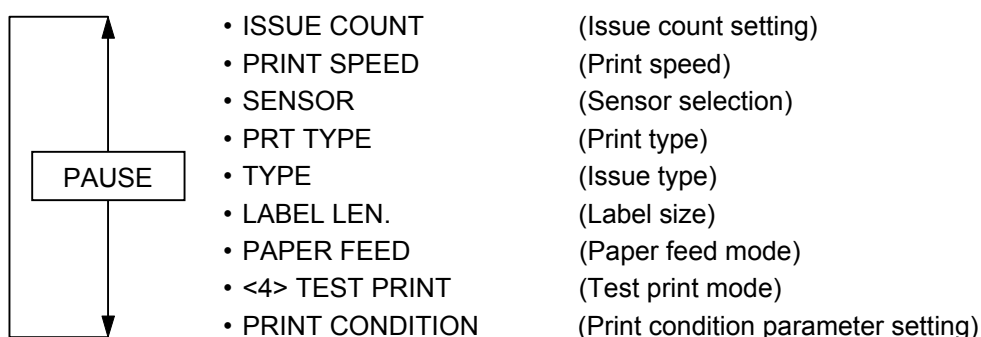
(27) System mode menu display  
 (Test print)

## 7.5.2 Setting Contents

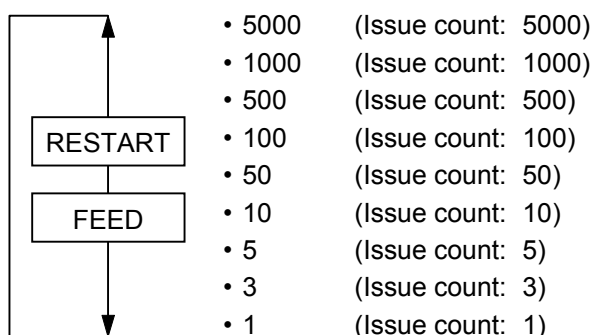
### (1) Test print mode selection



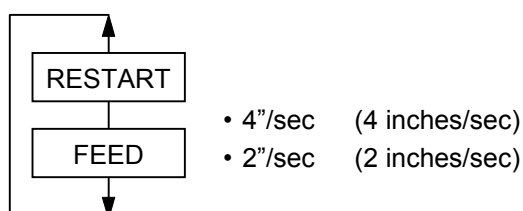
### (2) Test print condition parameter setting (PRINT CONDITION)



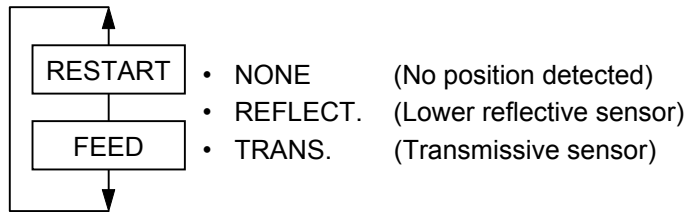
### (3) Issue count setting (ISSUE COUNT)



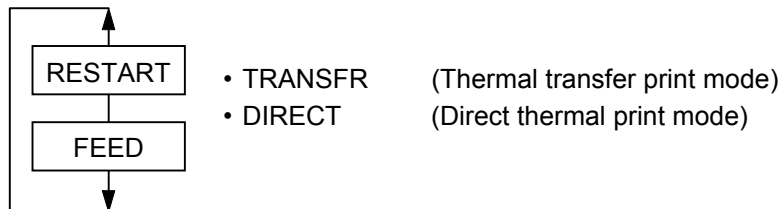
### (4) Print speed (PRINT SPEED)



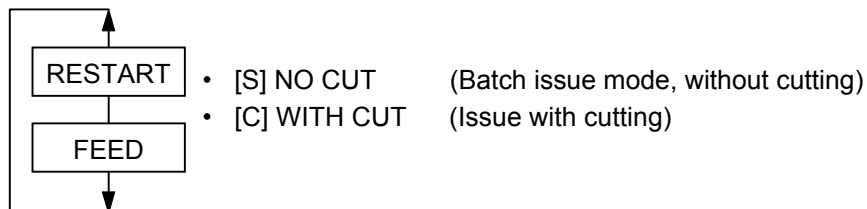
(5) Sensor selection (SENSOR)



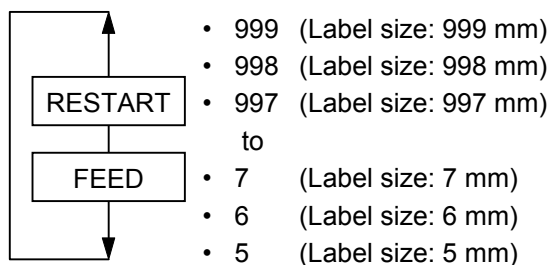
(6) Print type (PRT TYPE)



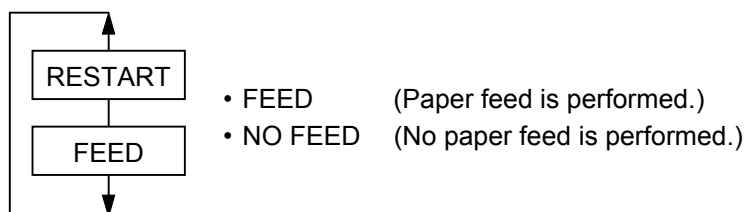
(7) Issue type (TYPE)



(8) Label size (LABEL LEN.)



(9) Paper feed (PAPER)



(10) Initial parameter values when turning the power on

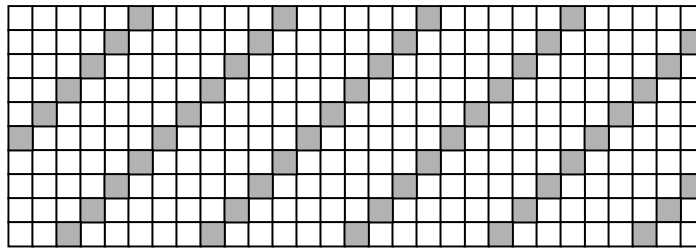
- Menu selection: Test print condition parameter setting
- Issue count setting (ISSUE COUNT): 1
- Print speed (PRINT SPEED): 4 inches/sec.
- Sensor selection (SENSOR): Transmissive sensor
- Issue type (TYPE): Batch issue (without cutting)
- Label size (LABEL LEN.): 76 mm
- Paper feed (PAPER): Paper feed is performed.

(11) Supplementary explanation

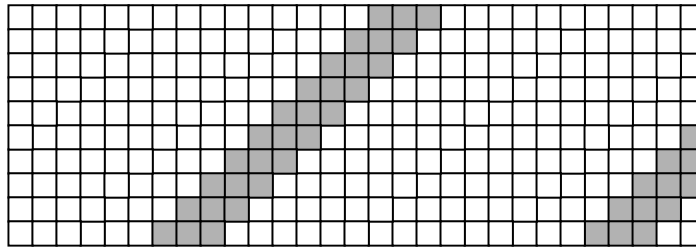
- When the [FEED] and [RESTART] keys are pressed at the same time, the display shows the system mode menu.
- If the [RESTART] or [FEED] key is held down for 0.5 seconds or more when a parameter is set or the menu is selected, the printer enters repeat mode, in which the key is entered repeatedly.
- Each fine adjustment parameter is effective for test print. However, the X-coordinate fine adjustment is excluded.
- When an error occurs during a test print, the error message is displayed and printing is stopped. The error is cleared by pressing the [PAUSE] key and the display shows the system mode menu. Printing is not automatically resumed after the error is cleared.
- A selected menu or changed parameter becomes effective by pressing the [PAUSE] key. Such a parameter is retained until the power is turned off.
- The label size greater than the image buffer length cannot be designated. If it is designated, the printer prints in the image buffer length then stops, or the printer stops because of an error.
- The test print for the assembly process is performed under the following conditions. The parameter setting and print density fine adjustment value are ignored.
  - Operations:
    - ① Feeds one label.
    - ② Prints 3-dot slant lines.
    - ③ Prints bar codes
    - ④ Prints characters
  - Issue count: 5 for each operation
  - Print speed: 4 inches/sec.
  - Sensor designation: Lower reflective or transmissive sensor
  - Print type: Thermal transfer print mode
  - Issue mode: Batch issue (without cutting)
  - Label size: 76 mm
  - Print density fine adjustment value: -1
- When the transmissive sensor is selected, the gap between labels should be 3 mm.

- Magnification of slant lines is as follows:

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

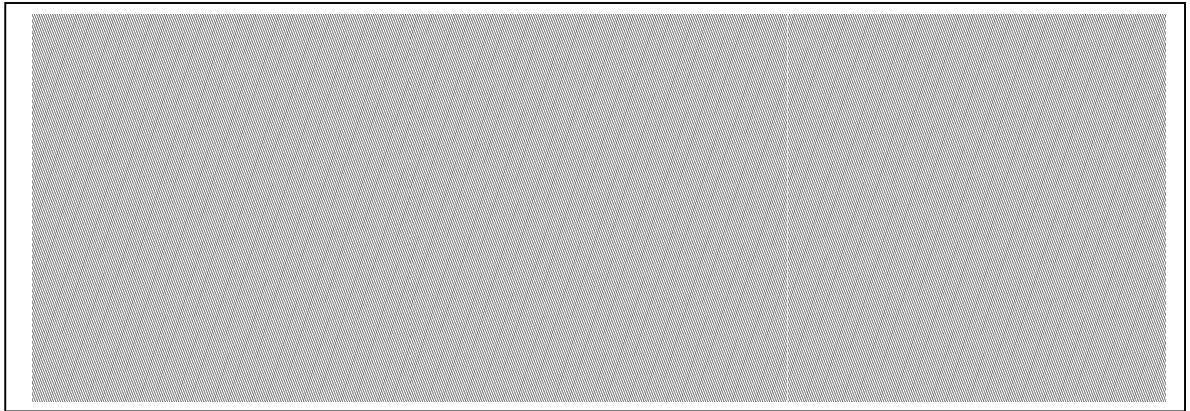


3-dot slant line (Black area ratio: 16.7%)

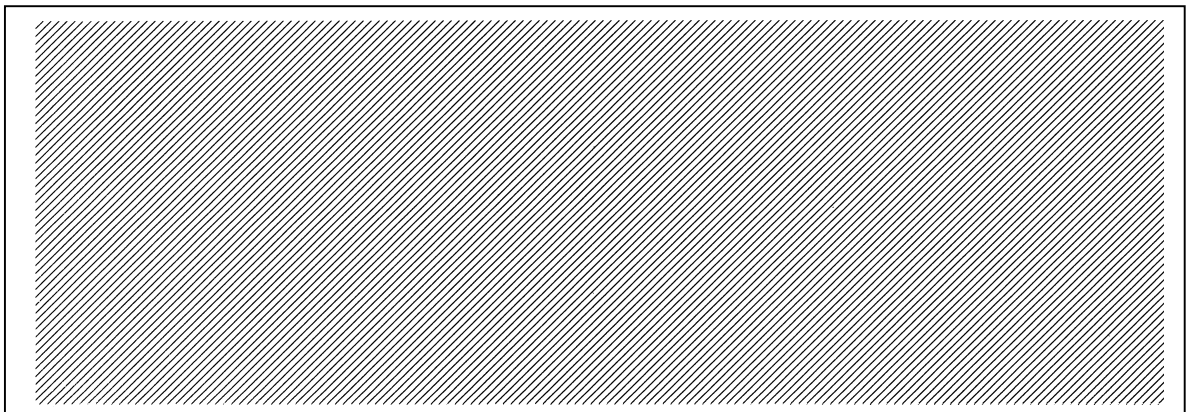


### 7.5.3 Test Print Samples

Samples below are reduced by 70%.



1-dot slant line printout



3-dot slant line printout



A /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz

B /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZa

C /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZa

D /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

E /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

F /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

M /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

N /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz

O /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz

P /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz

Q /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz

R /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

S /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

T /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

G /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz\$%&'()\*+,-

H /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz

I /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

J /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

K /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

L /0123456789@ABCDEFGHIJKLMNOPQRSTUVWXYZ

01234567

01234567

01234567

ABCDEFGH

ABCDEFGHI

Character printout

0: JAN8, EAN8



49400458

1: MSI



12345678903

2: Interleaved 2 of 5



012345678905

3: CODE39 (Standard)



\*ABCDEFGHI1234F\*

4: NW7



a1234567890a

5: JAN13, EAN13



4901480079516

6: UPC-E



01234565

9, A: CODE128



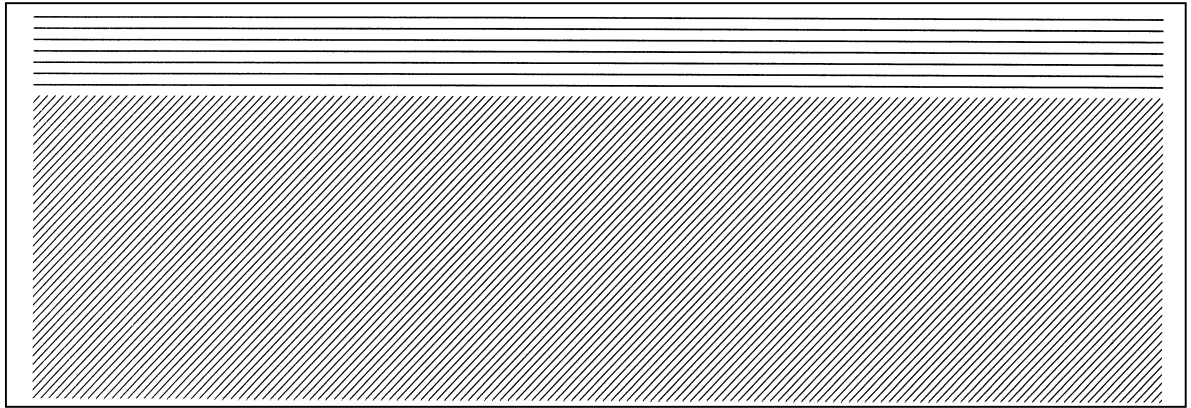
ABCDEFGHI

C: CODE93



ABCabc123

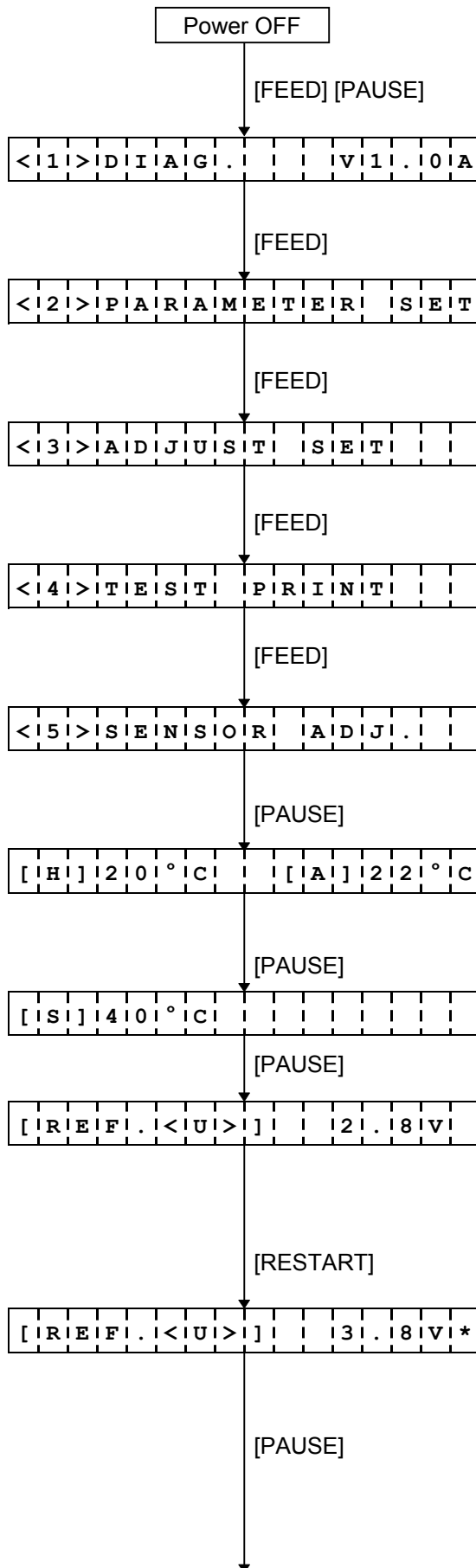
Bar code printout



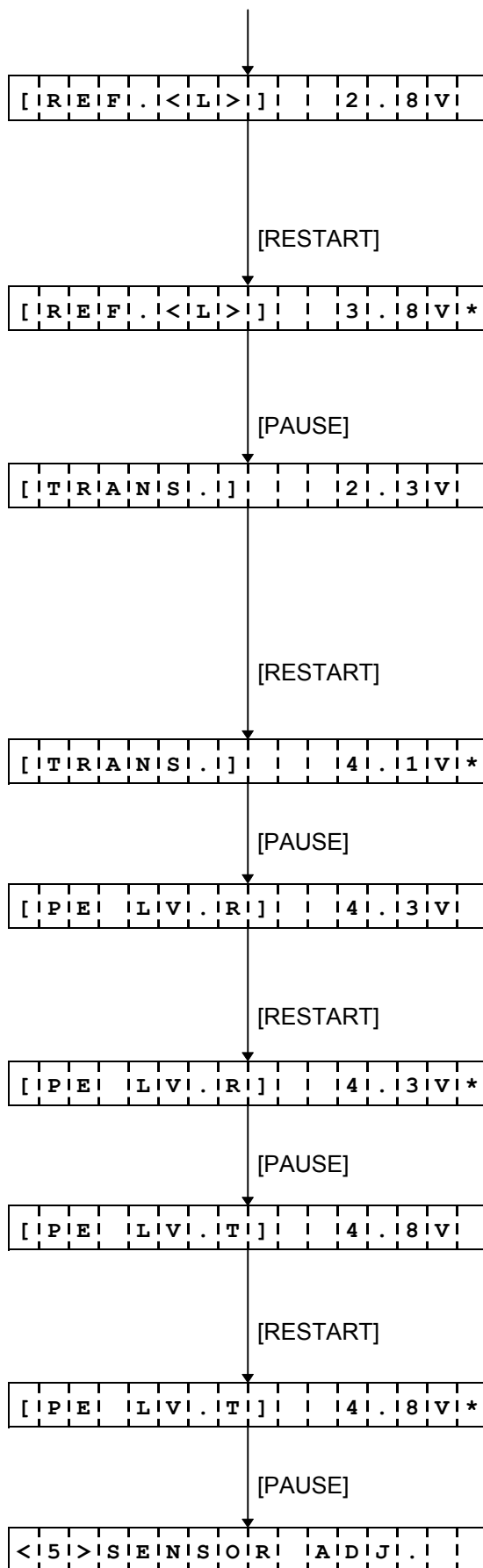
Line printout for the assembly process

## 7.6 SENSOR DISPLAY/ADJUSTMENT

### 7.6.1 Sensor Display/Adjustment Operation Example



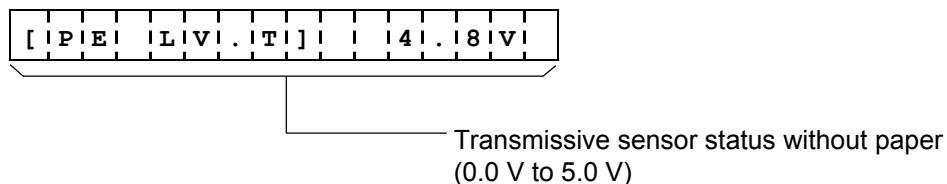
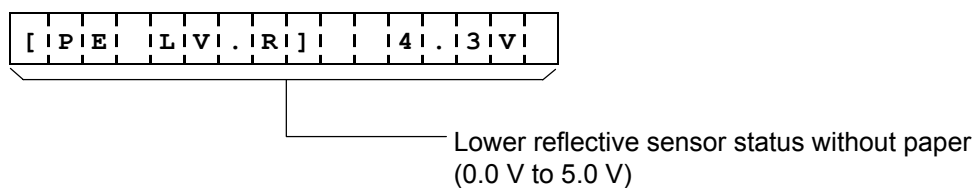
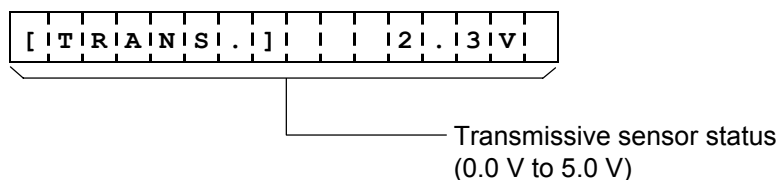
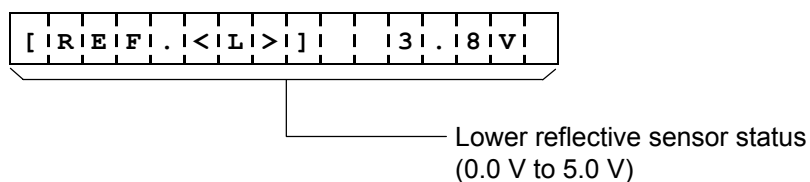
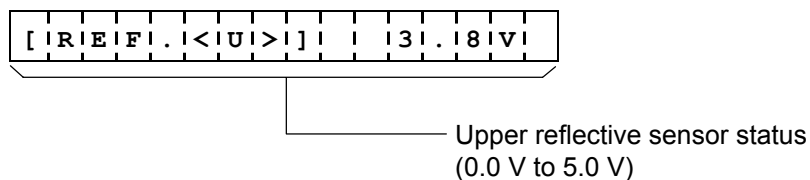
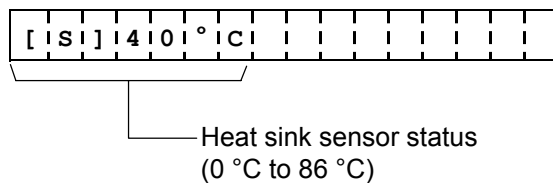
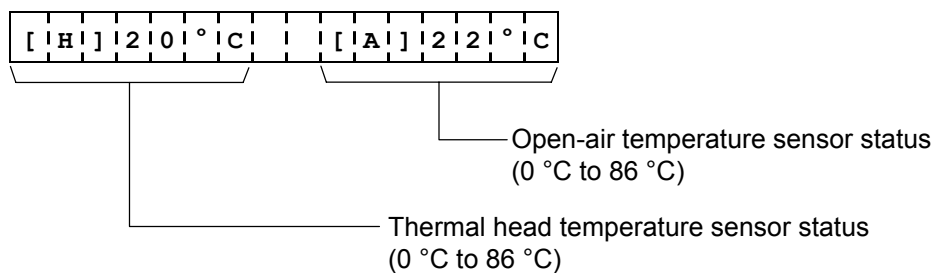
- (1) Power off state
- (2) While pressing the [FEED] and [PAUSE] keys, turn the power on.
- (3) System mode menu display (Self-test)
- (4) Press the [FEED] key.
- (5) System mode menu display (Parameter setting)
- (6) Press the [FEED] key.
- (7) System mode menu display (Fine adjustment value setting)
- (8) Press the [FEED] key.
- (9) System mode menu display (Test print)
- (10) Press the [FEED] key.
- (11) System mode menu display (Sensor display/adjustment)
- (12) Press the [PAUSE] key.
- (13) Thermal head temperature sensor adjustment value/open-air temperature sensor adjustment value
- (14) Press the [PAUSE] key.
- (15) Heat sink sensor adjustment value
- (16) Press the [PAUSE] key.
- (17) Upper reflective sensor adjustment value display:  
Load tag paper. (The black mark should not be covered by the sensor.)
- (18) Hold down the [RESTART] or [FEED] key for 3 seconds or more.
- (19) "\*" is displayed when the upper reflective sensor adjustment is complete.
- (20) Press the [PAUSE] key.



- (21) Lower reflective sensor adjustment value display:  
Load tag paper. (The black mark should not cover the sensor.)
- (22) Hold down the [RESTART] or [FEED] key for 3 seconds or more.
- (23) "\*" is displayed when the lower reflective sensor adjustment is complete.
- (24) Press the [PAUSE] key.
- (25) Transmissive sensor adjustment value display:  
Remove the label from the label paper and load the backing paper. (The label should not cover the sensor.)
- (26) Hold down the [RESTART] or [FEED] key for 3 seconds or more.
- (27) "\*" is displayed when the transmissive sensor adjustment is complete.
- (28) Press the [PAUSE] key.
- (29) Lower reflective sensor adjustment value display (without paper):  
Remove any paper covering the sensor.
- (30) Hold down the [RESTART] or [FEED] key for 3 seconds or more.
- (31) "\*" is displayed when the lower reflective sensor adjustment is complete.
- (32) Press the [PAUSE] key.
- (33) Transmissive sensor adjustment value display (without paper):  
Remove any paper covering the sensor.
- (34) Hold down the [RESTART] or [FEED] key for 3 seconds or more.
- (35) "\*" is displayed when the transmissive sensor adjustment is complete.
- (36) Press the [PAUSE] key.
- (37) System mode menu display (Sensor display/adjustment)

### 7.6.2 Display Contents

(1) Sensor adjustment value display

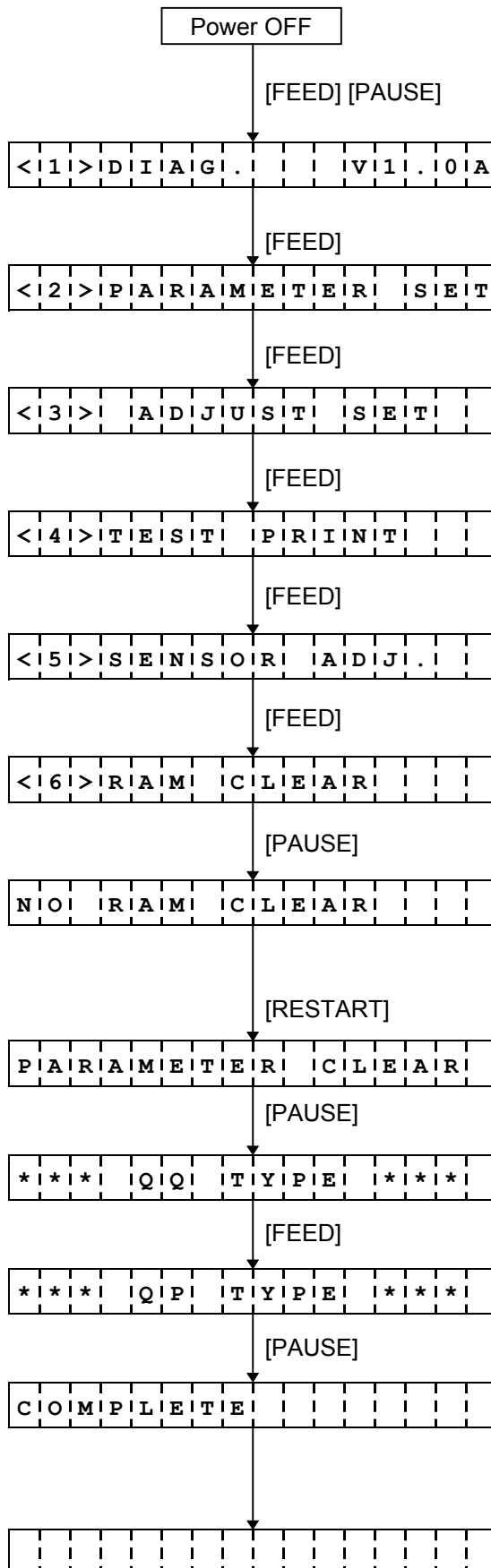


(2) Supplementary explanation

- During the sensor check, each sensor status is monitored and displayed every 200 msec. (When the sensor status is changed, the display also changes.)
- When the [FEED] and [RESTART] keys are entered at the same time, the system mode menu is displayed.

## 7.7 RAM CLEAR

### 7.7.1 RAM Clear Operation Example

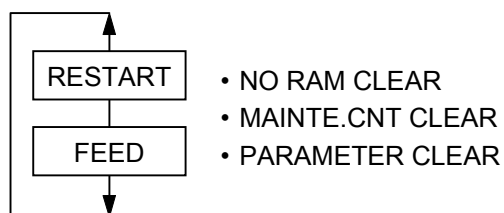


- (1) Power off state
- (2) While pressing the [FEED] and [PAUSE] keys, turn the power on.
- (3) System mode menu display (Self-test)
- (4) Press the [FEED] key.
- (5) System mode menu display (Parameter setting)
- (6) Press the [FEED] key.
- (7) System mode menu display (Fine adjustment value setting)
- (8) Press the [FEED] key.
- (9) System mode menu display (Test print)
- (10) Press the [FEED] key.
- (11) System mode menu display (Sensor display/adjustment)
- (12) Press the [FEED] key.
- (13) System mode menu display (RAM clear)
- (14) Press the [PAUSE] key.
- (15) No RAM clear mode  
\* This is the mode to prevent mistakenly performing RAM clear.
- (16) Press the [RESTART] key.
- (17) Parameter clear mode
- (18) Press the [PAUSE] key.
- (19) RAM clear for the QQ type
- (20) Press the [FEED] key.
- (21) RAM clear for the QP type.
- (22) Press the [PAUSE] key.
- (23) Parameter clear is executed  
→ Completed.
- (24) Turn the power off.

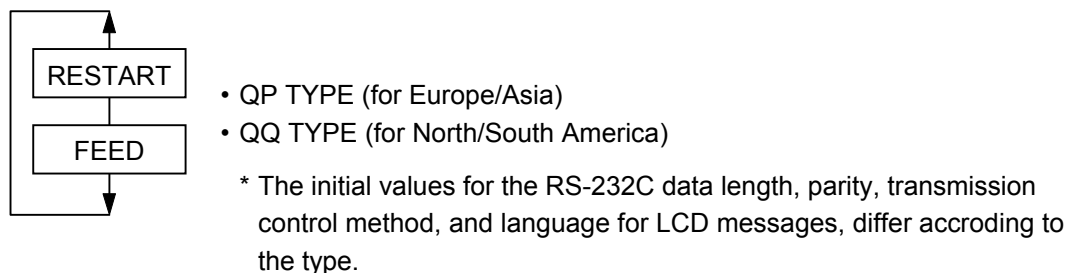
Select the type according to the destination.

### 7.7.2 RAM Clear Contents

#### (1) RAM clear mode



#### (2) Selection of destination type



#### (3) Supplementary explanation

- When the [FEED] and [RESTART] keys are pressed at the same time, the display shows the system mode menu.
- When "COMPLETE" is displayed after RAM clear is complete, be sure to turn off the power.
- The total label distance covered, sensor adjustment values (system mode <5>), the IP address setting, language for LCD messages, and data of the flash memory card and ATA card are not cleared by RAM clear.

#### (4) Initial values after maintenance counter clear

Item	Initial Value
Label distance covered	0 km
Print distance	0 km
Cut count	0
Ribbon motor drive time	0 hour
RS-232C hardware error count	0
System error count	0
Momentary power interruption count	0

(5) Initial values after parameter clear

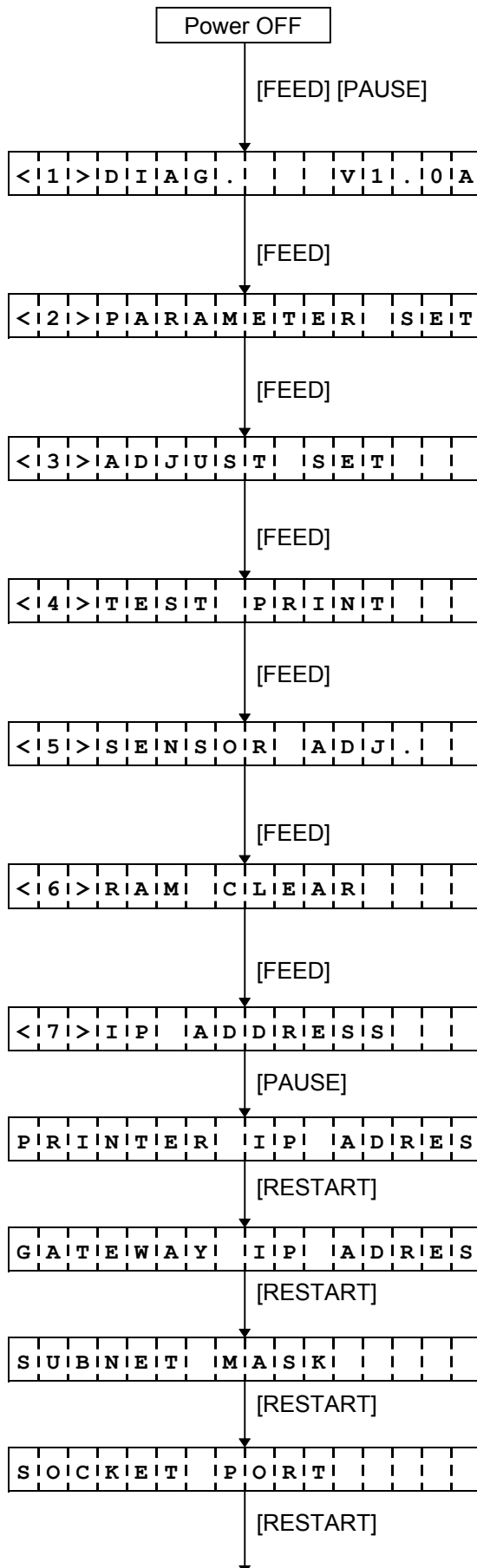
Parameter		Initial Value
Feed fine adjustment (PC)		0 mm
Cut position (or stop position of the strip issue) fine adjustment (PC)		0 mm
Back feed fine adjustment (PC)		0 mm
Print density fine adjustment: Thermal transfer print mode (PC)		0
Print density fine adjustment: Direct thermal print mode (PC)		0
Ribbon motor drive voltage fine adjustment (Rewind) (PC)		0
Ribbon motor drive voltage fine adjustment (Back tension) (PC)		0
Feed fine adjustment (Key)		0 mm
Cut position (or stop position of the strip issue) fine adjustment (Key)		0 mm
Back feed fine adjustment (Key)		0 mm
Print density fine adjustment: Thermal transfer print mode (Key)		0
Print density fine adjustment: Direct thermal print mode (Key)		0
Ribbon motor drive voltage fine adjustment (Rewind) (Key)		0
Ribbon motor drive voltage fine adjustment (Back tension) (Key)		0
X-coordinate fine adjustment (Key)		0 mm
Transmissive sensor manual threshold fine adjustment value		1.4 V
Reflective sensor manual threshold fine adjustment value		1.0 V
Character code selection		PC-850
Font "0" selection		"0" (without slash mark)
Control code type		Auto
Communication speed		9600 bps
Data length	QP type	8 bits
	QQ type	7 bits
Parity	QP type	NONE
	QQ type	EVEN
Transmission control	QP type	XON/XOFF + READY/BUSY (DTR) protocol: (XON output when the power is on, XOFF output when the power is off)
	QQ type	READY/BUSY (DTR) protocol
Language for LCD messages	QP type	English
	QQ type	English
Forward feed standby after an issue		ON



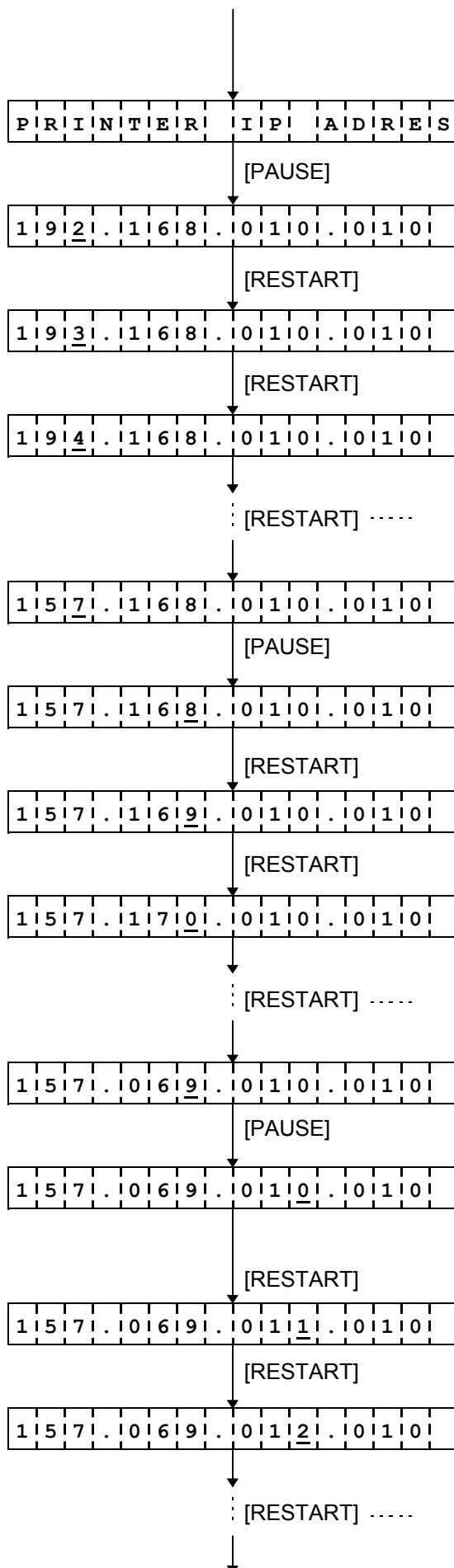
Parameter	Initial Value
Automatic head broken dots check	OFF
[FEED] key function	FEED (One label is fed.)
Status response	With
Label pitch	76.2 mm
Effective print length	74.2 mm
Effective print width	216.8 mm
Print type	Thermal transfer print mode
Sensor type	Transmissive sensor
Feed speed	4"/sec
Issue mode	Batch (without cutting)
PC-save automatic call	ON
Kanji code	TYPE 1
Euro code	B0H
Centronics ACK/BUSY timing setting	TYPE 1
Web printer function	OFF
Silent printing function	ON
PCL emulation	OFF
Keyboard (KB-80) connection setting	OFF

## 7.8 IP ADDRESS SETTING

### 7.8.1 IP Address Setting Operation Example



- (1) Power off state
- (2) While pressing the [FEED] and [PAUSE] keys, turn the power on.
- (3) System mode menu display (Self-test)
- (4) Press the [FEED] key.
- (5) System mode menu display (Parameter setting)
- (6) Press the [FEED] key.
- (7) System mode menu display (Fine adjustment value setting)
- (8) Press the [FEED] key.
- (9) System mode menu display (Test print)
- (10) Press the [FEED] key.
- (11) System mode menu display (Sensor display/adjustment)
- (12) Press the [FEED] key.
- (13) System mode menu display (RAM clear)
- (14) Press the [FEED] key.
- (15) IP address setting menu display
- (16) Press the [PAUSE] key.
- (17) Printer IP address setting mode
- (18) Press the [RESTART] key.
- (19) Gateway IP address setting mode
- (20) Press the [RESTART] key.
- (21) Subnet mask setting mode
- (22) Press the [RESTART] key.
- (23) Socket communication port setting mode
- (24) Press the [RESTART] key.



(25) Printer IP address setting mode

(26) Press the [PAUSE] key.

(27) Printer IP address display

(28) Press the [RESTART] key.

(29) Setting for the first 8 bits

(30) Press the [RESTART] key.

(31) Setting for the first 8 bits

(32) Press the [RESTART] key.

(33) Setting for the first 8 bits

(34) Press the [PAUSE] key.

(35) The first 8 bits are entered and the setting goes on to the next 8 bits.

(36) Press the [RESTART] key.

(37) Setting for the next 8 bits

(38) Press the [RESTART] key.

(39) Setting for the next 8 bits

(40) Press the [RESTART] key.

(41) Setting for the next 8 bits

(42) Press the [PAUSE] key.

(43) The 8 bits are entered and the setting goes on to the next 8 bits.

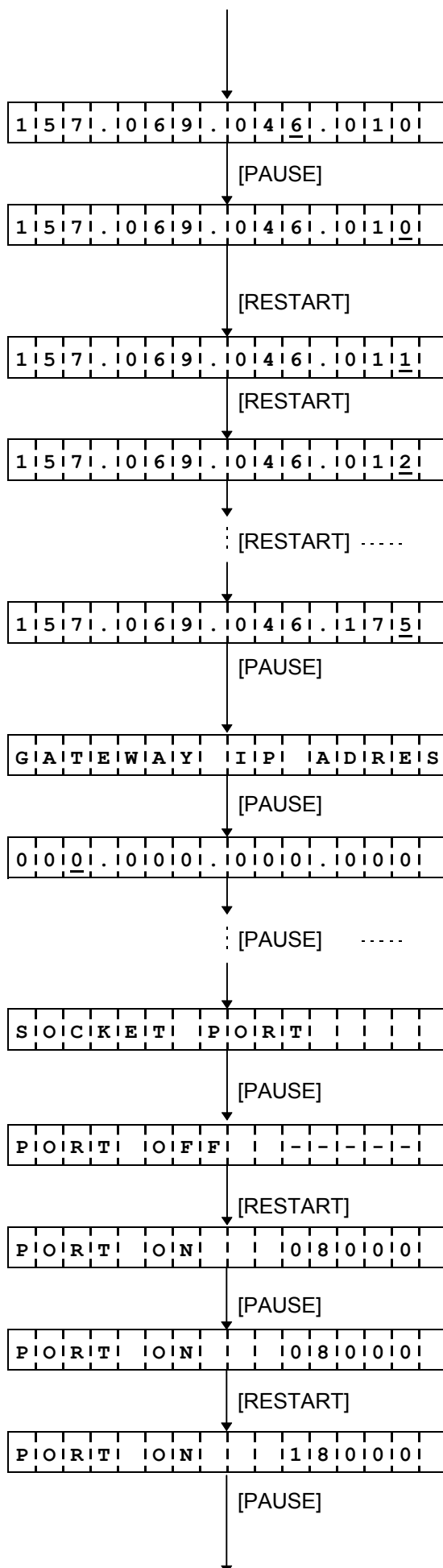
(44) Press the [RESTART] key.

(45) Setting for the next 8 bits

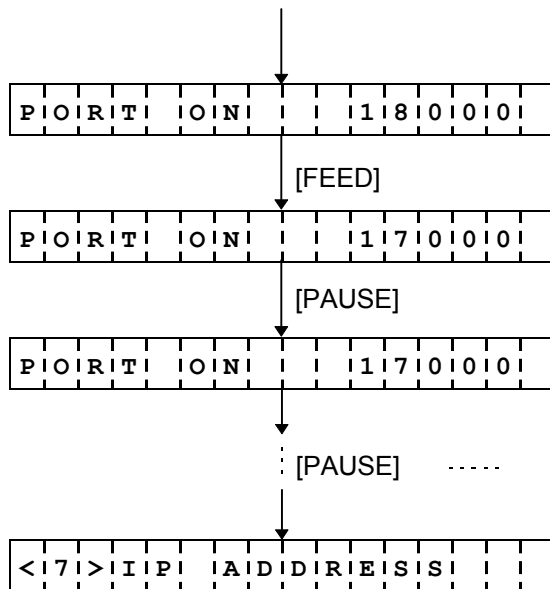
(46) Press the [RESTART] key.

(47) Setting for the next 8 bits

(48) Press the [RESTART] key.



- (49) Setting for the next 8 bits
- (50) Press the [PAUSE] key.
- (51) The 8 bits are entered and the setting goes on to the next 8 bits.
- (52) Press the [RESTART] key.
- (53) Setting for the next 8 bits
- (54) Press the [RESTART] key.
- (55) Setting for the next 8 bits
- (56) Press the [RESTART] key.
- (57) Setting for the next 8 bits
- (58) Press the [PAUSE] key.
- (59) End of IP address setting
- (60) Gateway IP address setting mode
- (61) Press the [PAUSE] key.
- (62) Gateway IP address display
- (63) Socket communication port setting mode
- (64) Press the [PAUSE] key.
- (65) Socket communication setting (Disabled)
- (66) Press the [RESTART] key.
- (67) Socket communication setting (Enabled)
- (68) Press the [PAUSE] key.
- (69) Set a value for the 5th digit.
- (70) Press the [RESTART] key.
- (71) Confirm a set value for the 5th digit.
- (72) Press the [PAUSE] key.



(73) Set a value for the 4th digit.

(74) Press the [FEED] key.

(75) Confirm a set value for the 4th digit.

(76) Press the [PAUSE] key.

(77) Set a value for the 3rd digit.

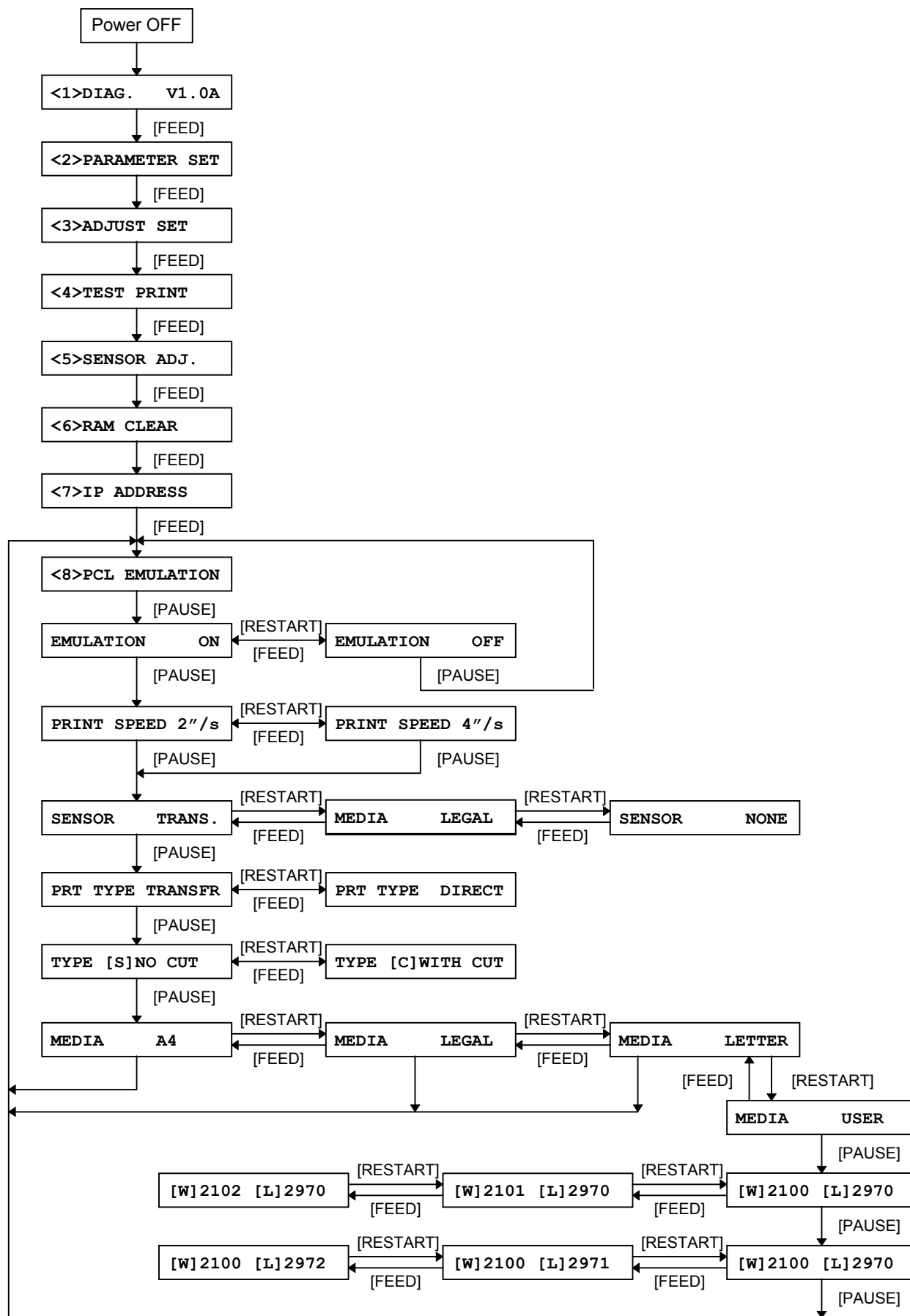
(78) Press the [PAUSE] key.

Then, the setting goes on to the next 8 bits.

(85) End of IP address setting

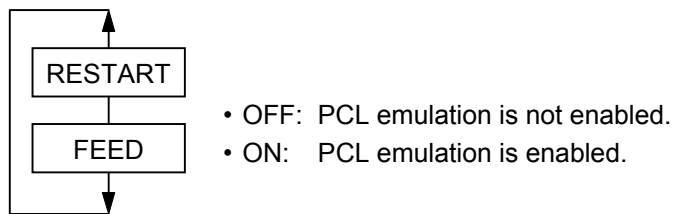
## 7.9 PCL EMULATION SETTING

### 7.9.1 PCL Emulation Setting Operation Example

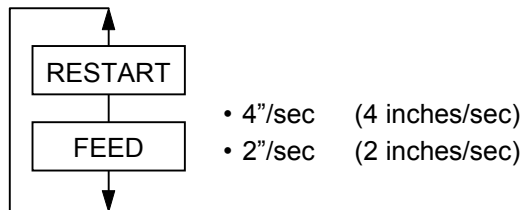


## 7.9.2 Setting Contents

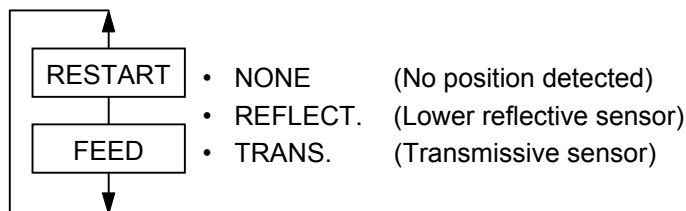
### (1) Emulation setting (EMULATION)



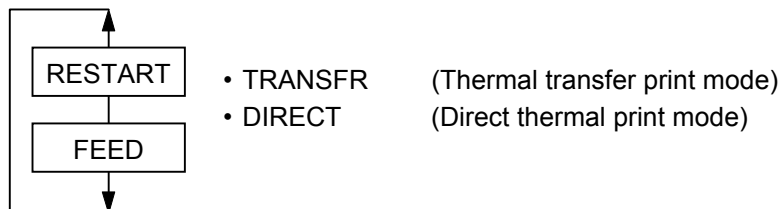
### (2) Print speed (PRINT SPEED)



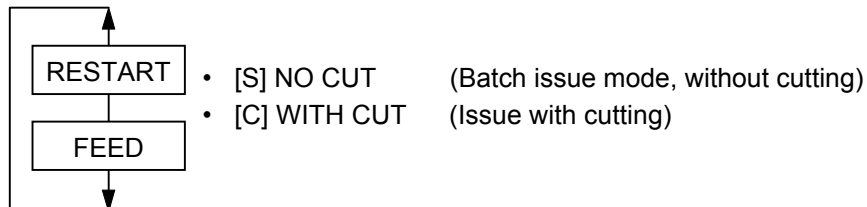
### (3) Sensor selection (SENSOR)



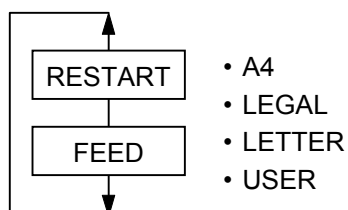
### (4) Print type (PRT TYPE)



### (5) Issue type (TYPE)

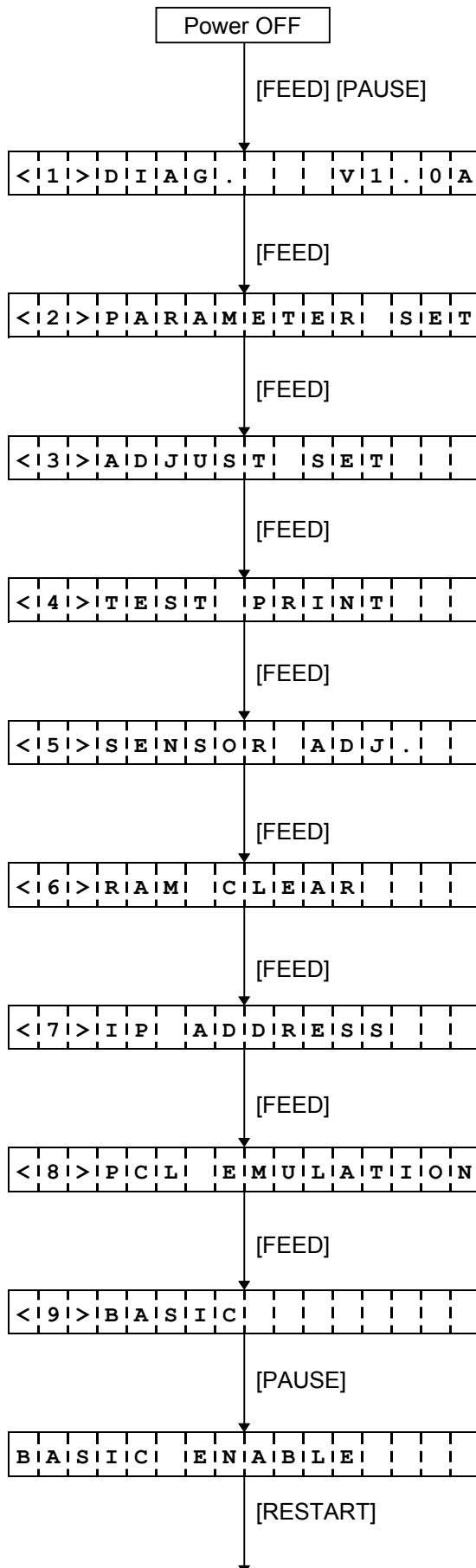


### (6) Media setting (MEDIA)



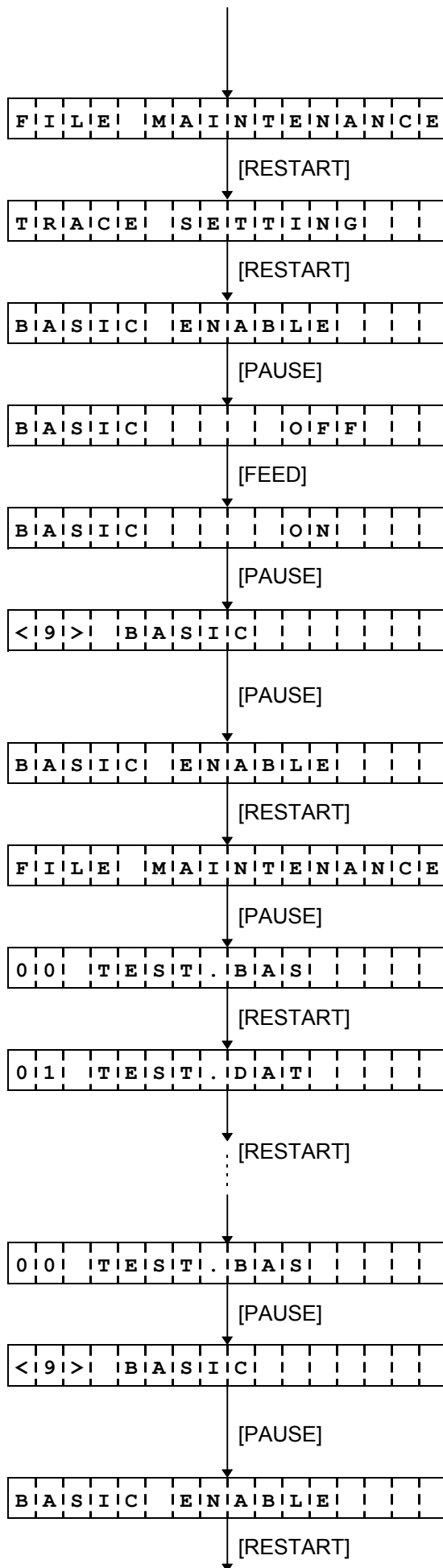
## 7.10 BASIC SETTING

### 7.10.1 BASIC Setting Operation Example



- (1) Power off state
- (2) While holding the [FEED] and [PAUSE] keys down, turn the power on.
- (3) System mode menu display (Self-test)
- (4) Press the [FEED] key.
- (5) System mode menu display (Parameter setting)
- (6) Press the [FEED] key.
- (7) System mode menu display (Fine adjustment value setting)
- (8) Press the [FEED] key.
- (9) System mode menu display (Test print)
- (10) Press the [FEED] key.
- (11) System mode menu display (Sensor display/adjustment)
- (12) Press the [FEED] key.
- (13) System mode menu display (RAM clear)
- (14) Press the [FEED] key.
- (15) System mode menu display (IP address)
- (16) Press the [FEED] key.
- (17) System mode menu display (PCL emulation)
- (18) Press the [FEED] key.
- (19) System mode menu display (BASIC setting)
- (20) Press the [PAUSE] key.
- (21) BASIC enable setting mode
- (22) Press the [RESTART] key.





(23) BASIC file browser

(24) Press the [RESTART] key.

(25) BASIC trace setting mode

(26) Press the [RESTART] key.

(27) BASIC enable setting mode

(28) Press the [PAUSE] key.

(29) BASIC is disabled.

(30) Press the [FEED] key.

(31) BASIC is enabled.

(32) Press the [PAUSE] key.

(33) System mode menu display  
(BASIC setting)

(34) Press the [PAUSE] key.

(35) BASIC enable setting mode

(36) Press the [RESTART] key.

(37) BASIC file browser

(38) Press the [PAUSE] key.

(39) Program file display

(40) Press the [RESTART] key.

(41) Data file display

(42) Names of data files saved in the BASIC  
file area are displayed.

(43) Program file display

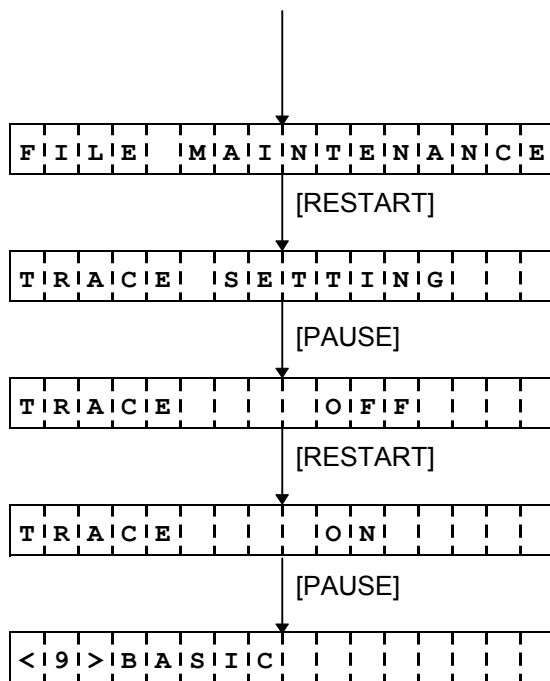
(44) Press the [PAUSE] key.

(45) System mode menu display  
(BASIC setting)

(46) Press the [PAUSE] key.

(47) BASIC enable setting mode

(48) Press the [RESTART] key.



(49) BASIC file browser

(50) Press the [RESTART] key.

(51) BASIC trace setting mode

(52) Press the [PAUSE] key.

(53) BASIC trace function is disabled.

(54) Press the [RESTART] key.

(55) BASIC trace function is enabled.

(56) Press the [PAUSE] key.

(57) System mode menu display  
(BASIC setting)