

# **PJ-600/700/800 Series Printer Raster Command Reference**

**PJ-622/623/662/663/673  
722/723/763/763MFi/773  
822/823/862/863/883**

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Brother Industries, Ltd.

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## 1. Introduction

This material provides the necessary information for directly controlling the Brother PJ-600 series printer (hereafter, referred to as “PJ unit”). This information is provided assuming that the user has full understanding of the operating system being used and basic mastery of USB/Bluetooth/IrDA and networks in a developer’s environment.

Details concerning the USB interface are not described in this material. If a USB interface is being used, refer to “7. USB Specifications” to prepare the interface.

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## 2. Overview

The printing procedure is described below. For detailed flow charts, refer to “6. Flow Charts” For details on each command, refer to “5. Command Reference”.

### 1. Open USB/Bluetooth Serial/IrDA/Network port

Open the USB/Bluetooth Serial/IrDA/network port in the operating environment. In addition, since the procedure for opening the USB port is not described in this material, perform the appropriate operation for the environment being used.

### 2. Check machine status

The “Status information request” command is sent to the printer, the status information received from the printer is analyzed, and then the status of the printer is determined. For details on the “Status information request” command and on the definition of “status”, refer to “Status information request” in “Command Reference”.

Printing is possible if the analysis results show that the following conditions are met.

- Paper compatible with the print data is installed in the printer.
- No error has occurred.

This step is not necessary with a unidirectional transmission.

### 3. Send print data

The print data is sent. The structure of the print data is explained in the next section, “3. Print Data”.

### 4. Confirmation of printing completion

When printing is completed, the status is sent from the printer. This status is analyzed and, if printing is completed, one page is printed. If the print job has multiple pages, 2 through 4 are repeated.

In addition, the status is not sent with a unidirectional transmission.

### 5. Close USB/Bluetooth Serial/IrDA/Network port

After all printing is finished, close the port.

### 3. Print Data

#### 3.1. Print data overview

The print data is constructed of the following: ① Initialization data, ② Printing commands and ③ Print command. If the print job consists of multiple pages, ② through ③ are repeated.

##### 1. Initialization data

The beginning of the job is specified only once.

Sequence	Command Name	Description/Example
1	Invalid command 700 bytes	Sends the “invalid” command to the PJ unit, then clears raster data remaining in the unit. 00 H, 00 H, 00 H, ... ,00 H
2	Switch command mode	Switches the command mode of the PJ unit. 1B H, 69 H, 61 H, 00 H
3	Initialize	Initializes the print buffer. 1B H, 40 H
4	Set 2-ply mode	To specify the disable setting for 2-ply paper: 1B H, 7E H, 70 H, 00 H
5	Set density	Specifies the print density. To set the density to 5: 1B H, 7E H, 64 H, 80 H, 00H
6	Set form feed mode	Specifies the operation that is performed when the “Form Feed” command is received. To feed according to the paper size specified with the “Set paper height” command (step 9): 1B H, 7E H, 66 H, 01 H
7	Set dash line print	To turn off printing of the dashed line: 1B H, 7E H, 2D H, 00 H
8	Set paper width	Specifies the paper width. For A4 on a 300 dpi model: 1B H, 7E H, 77 H, 2C H, 01 H
9	Set paper height	Specifies the paper size. For A4 on a 300 dpi model: 1B H, 7E H, 68 H, E4 H, 0C H

\*If an unlimited length or custom paper size is selected, use “Set paper length” command in step 9.

## 2. Printing commands

Repeat for each raster line in the print job.

Sequence	Command Name	Description/Example
—	Set left margin	Moves the cursor the specified distance from the left edge of the printable area in the X direction. 1B H, 7E H, 24 H, {n1}, {n2}
—	1 Raster line data transfer	Sends the raster line data. To send 300 bytes of data: 1B H, 7E H, 2A H, 2C H, 01 H, FF H, FF H....
—	Multi-line feed	Terminates raster line data and feeds 1 or more lines. 1B H, 7E H, 4A H, {n1}

Note:

“Set left margin” and “1 Raster line data transfer” commands can be sent more than once per line

Example: The raster line data shown below can be sent with the following commands.

In addition, it is recommended that the “set left margin” command be used when a blank space extends for 16 bytes or more.

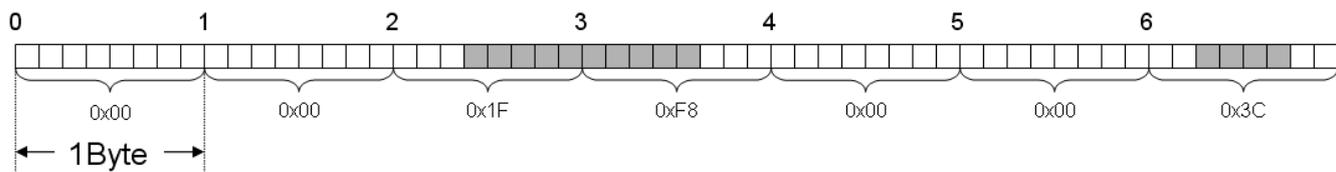
Set left margin: 1BH, 7EH, 24H, 10H, 00H

Raster line data transfer: 1BH, 7EH, 2AH, 02H, 00H, 1FH, F8H

Set left margin: 1BH, 7EH, 24H, 30H, 00H

Raster line data transfer: 1BH, 7EH, 2AH, 01H, 00H, 3CH

Multi-line feed: 1BH, 7EH, 4AH, 01H



## 3. Print command

Specified at the end of the page.

Sequence	Command Name	Description/Example
—	Form feed	Specifies the end of a page. 1B H, 7E H, 0C H

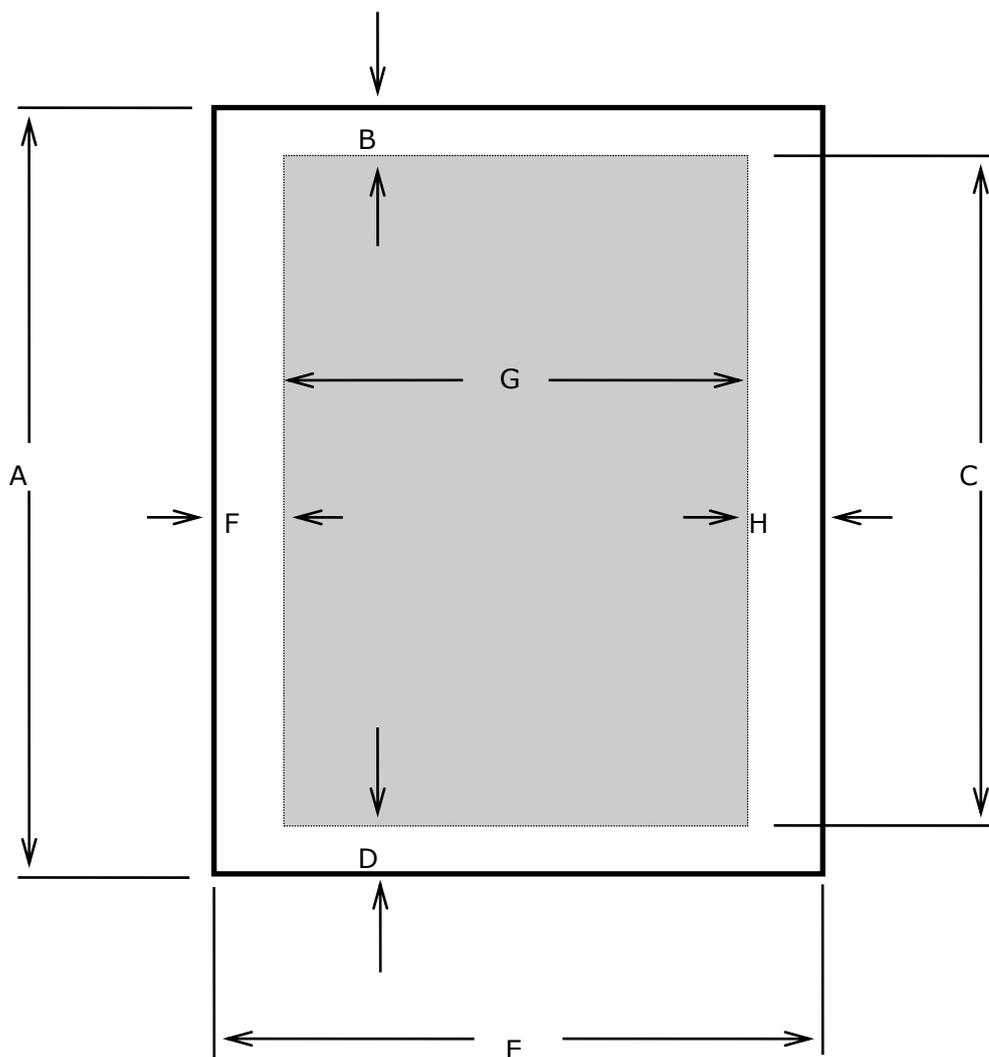
### 3.2. Page data details

Information on the values for the printed page size is provided below.

#### 3.2.1. Resolution

Model	Resolution
200 dpi (PJ-622/662/722/762/822/862)	203 dpi in main scan direction, 200 dpi in secondary scan direction
300 dpi (PJ-623/663/673/723/763/763MFi/773/823/863/883)	300 dpi in main scan direction, 300 dpi in secondary scan direction

3.2.2. Page size (300 dpi model)



- |                         |                  |
|-------------------------|------------------|
| A: Length               | B: Top margin    |
| C: Print area length    | D: Bottom margin |
| E: Width                | F: Left margin   |
| G: Printable area width | H: Right margin  |

•Fixed length

\*When the paper type is set to “cut sheet” or “perforated roll retracts”

Paper	A	B	C	D	E	F	G	H
A4	297.0 mm 3507 dots	2.5 mm 30 dots	279.4 mm 3300 dots	15.0 mm 177 dots	210.0 mm 2480 dots	3.4 mm 40 dots	203.2 mm 2400 dots	3.4 mm 40 dots
Legal	355.6 mm 4200 dots	2.5 mm 30 dots	347.1 mm 4100 dots	5.9 mm 70 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots
Letter	279.4 mm 3300 dots	2.5 mm 30 dots	270.9 mm 3200 dots	5.9 mm 70 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots
A5	210.0mm 2480 dots	2.5 mm 30 dots	193.8 mm 2289 dots	13.6 mm 161 dots	148.0 mm 1748 dots	3.4 mm 40 dots	141.2 mm 1668 dots	3.4 mm 40 dots
Custom Size Min	50.8 mm 600 dots	2.5 mm 30 dots	42.3 mm 500 dots	5.9 mm 70 dots	101.6 mm 1200 dot	3.4 mm 40 dots	94.8 mm 1120 dots	3.4 mm 40 dots
Custom Size Max	2540.0 mm 30000 dots	2.5 mm 30 dots	2531.5 mm 29900 dots	5.9 mm 70 dots	215.9 mm 2550 dot	3.4 mm 40 dots	208.6 mm 2464 dot	3.9 mm 46 dots

\*When the paper type is set to “roll”

Paper	A	B	C	D	E	F	G	H
A4	297.0 mm 3507 dots	11.9 mm 140 dots	279.1 mm 3297 dots	5.9 mm 70 dots	210.0 mm 2480 dots	3.4 mm 40 dots	203.2 mm 2400 dots	3.4 mm 40 dots
Legal	355.6 mm 4200 dots	11.9 mm 140 dots	337.8 mm 3990 dots	5.9 mm 70 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots
Letter	279.4 mm 3300 dots	11.9 mm 140 dots	261.6 mm 3090 dots	5.9 mm 70 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots
A5	210.0mm 2480 dots	11.9 mm 140 dots	192.2 mm 2270 dots	5.9 mm 70 dots	148.0 mm 1748 dots	3.4 mm 40 dots	141.2 mm 1668 dots	3.4 mm 40 dots
Custom Size Min	50.8 mm 600 dots	11.9 mm 140 dots	33.0 mm 390 dots	5.9 mm 70 dots	101.6 mm 1200 dots	3.4 mm 40 dots	94.8 mm 1120 dots	3.4 mm 40 dots
Custom Size Max	2540.0 mm 30000 dots	11.9 mm 140 dots	2522.2 mm 29790 dots	5.9 mm 70 dots	215.9 mm 2550 dots	3.4 mm 40 dots	208.6 mm 2464 dots	3.9 mm 46 dots

\*When the paper type is set to “perforated roll”

Paper	A	B	C	D	E	F	G	H
A4	297.0 mm 3507 dots	11.9 mm 140 dots	268.9 mm 3177 dots	16.1 mm 190 dots	210.0 mm 2480 dots	3.4 mm 40 dots	203.2 mm 2400 dots	3.4 mm 40 dots
Legal	355.6 mm 4200 dots	11.9 mm 140 dots	327.6 mm 3870 dots	16.1 mm 190 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots
Letter	279.4 mm 3300 dots	11.9 mm 140 dots	251.4 mm 2970 dots	16.1 mm 190 dots	215.9 mm 2550 dots	3.6 mm 43 dots	208.6 mm 2464 dots	3.6 mm 43 dots
A5	210.0mm 2480 dots	11.9 mm 140 dots	182.0 mm 2150 dots	16.1 mm 190 dots	148.0 mm 1748 dots	3.4 mm 40 dots	141.2 mm 1668 dots	3.4 mm 40 dots
Custom Size Min	50.8 mm 600 dots	11.9 mm 140 dots	22.9 mm 270 dots	16.1 mm 190 dots	101.6 mm 1200 dots	3.4 mm 40 dots	94.8 mm 1120 dots	3.4 mm 40 dots
Custom Size Max	2540.0 mm 30000 dots	11.9 mm 140 dots	2512.0 mm 29670 dots	16.1 mm 190 dots	215.9 mm 2550 dots	3.4 mm 40 dots	208.6 mm 2464 dots	3.9 mm 46 dots

**3.2.3. Page size (200 dpi model)**

- Fixed length

\*When the paper type is set to “cut sheet” or “perforated roll retract”

Paper	A	B	C	D	E	F	G	H
A4	297.0 mm 2338 dots	2.5 mm 20 dots	279.4 mm 2200 dots	15.0 mm 118 dots	210.0 mm 1654 dots	3.4 mm 27 dots	203.2 mm 1600 dots	3.4 mm 27 dots
Legal	355.6 mm 2800 dots	2.5 mm 20 dots	347.1 mm 2733 dots	6.0 mm 47 dots	215.9 mm 1700 dots	4.3 mm 34 dots	207.2 mm 1632 dots	4.3 mm 34 dots
Letter	279.4 mm 2200 dots	2.5 mm 20 dots	270.9 mm 2133 dots	6.0 mm 47 dots	215.9 mm 1700 dots	4.3 mm 34 dots	207.2 mm 1632 dots	4.3 mm 34 dots
A5	210.0 mm 1653 dots	2.5 mm 20 dots	193.8 mm 1526 dots	13.6 mm 107 dots	148.0 mm 1165 dots	3.4 mm 27 dots	141.1 mm 1111 dots	3.4 mm 27 dots
Custom Size Min	50.8 mm 400 dots	2.5 mm 20 dots	42.2 mm 333 dots	6.0 mm 47 dots	101.6 mm 800 dots	3.4 mm 27 dots	94.7 mm 746 dots	3.4 mm 27 dots
Custom Size Max	2540.0 mm 20000 dots	2.5 mm 20 dots	2531.4 mm 19933 dots	6.0 mm 47 dots	215.9 mm 1700 dots	3.4 mm 27 dots	207.2 mm 1632 dots	5.2 mm 41 dots

\*When the paper type is set to “roll”

Paper	A	B	C	D	E	F	G	H
A4	297.0 mm 2338 dots	10.9 mm 93 dots	280.0 mm 2198 dots	6.0 mm 47 dots	210.0 mm 1654 dots	3.4 mm 27 dots	203.2 mm 1600 dots	3.4 mm 27 dots
Legal	355.6 mm 2800 dots	10.9 mm 86 dots	338.7 mm 2667 dots	6.0 mm 47 dots	215.9 mm 1700 dots	4.3 mm 34 dots	207.2 mm 1632 dots	4.3 mm 34 dots
Letter	279.4 mm 2200 dots	10.9 mm 86 dots	262.5 mm 2067 dots	6.0 mm 47 dots	215.9 mm 1700 dots	4.3 mm 34 dots	207.2 mm 1632 dots	4.3 mm 34 dots
A5	210.0 mm 1653 dots	10.9 mm 86 dots	193.0 mm 1520 dots	6.0 mm 47 dots	148.0 mm 1165 dots	3.4 mm 27 dots	141.1 mm 1111 dots	3.4 mm 27 dots
Custom Size Min	50.8 mm 400 dots	10.9 mm 86 dots	33.9 mm 267 dots	6.0 mm 47 dots	101.6 mm 800 dots	3.4 mm 27 dots	94.7 mm 746 dots	3.4 mm 27 dots
Custom Size Max	2540.0 mm 20000 dots	10.9 mm 86 dots	2523.1 mm 19867 dots	6.0 mm 47 dots	215.9 mm 1700 dots	3.4 mm 27 dots	207.2 mm 1632 dots	5.2 mm 41 dots

\*When the paper type is set to “perforated roll”

Paper	A	B	C	D	E	F	G	H
A4	297.0 mm	10.9 mm	269.0 mm	17.0 mm	210.0 mm	3.4 mm	203.2 mm	3.4 mm
	2338 dots	86 dots	2118 dots	134 dots	1654 dots	27 dots	1600 dots	27 dots
Legal	355.6 mm	10.9 mm	327.7 mm	17.0 mm	215.9 mm	4.3 mm	207.2 mm	4.3 mm
	2800 dots	86 dots	2580 dots	134 dots	1700 dots	34 dots	1632 dots	34 dots
Letter	279.4 mm	10.9 mm	251.5 mm	17.0 mm	215.9 mm	4.3 mm	207.2 mm	4.3 mm
	2200 dots	86 dots	1980 dots	134 dots	1700 dots	34 dots	1632 dots	34 dots
A5	210.0 mm	10.9 mm	182.0 mm	17.0 mm	148.0 mm	3.4 mm	141.1 mm	3.4 mm
	1653 dots	86 dots	1433 dots	134 dots	1165 dots	27 dots	1111 dots	27 dots
Custom Size Min	50.8 mm	10.9 mm	22.9 mm	17.0 mm	101.6 mm	3.4 mm	94.7 mm	3.4 mm
	400 dots	86 dots	180 dots	134 dots	800 dots	27 dots	746 dots	27 dots
Custom Size Max	2540.0 mm	10.9 mm	2512.0 mm	17.0 mm	215.9 mm	3.4 mm	207.2 mm	5.2 mm
	20000 dots	86 dots	19780 dots	134 dots	1700 dots	27 dots	1632 dots	41 dots

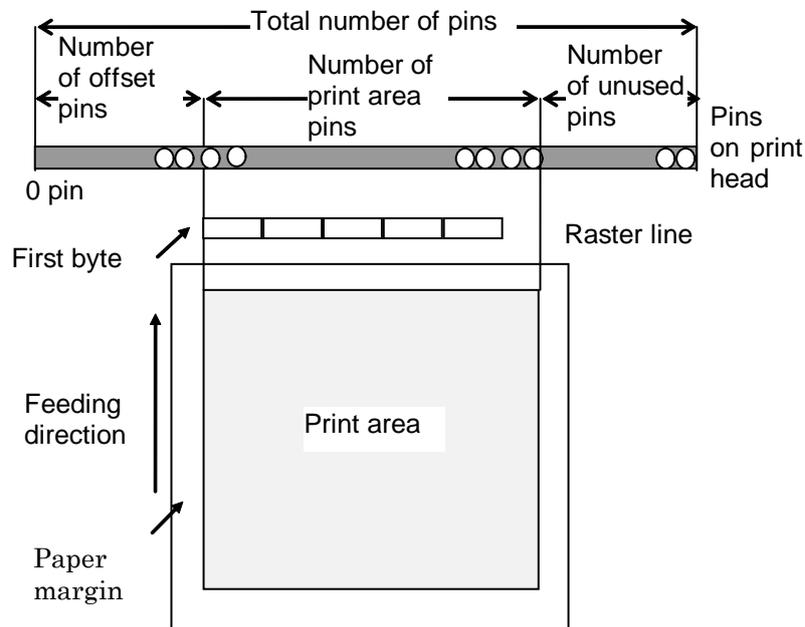
### 3.2.4. Raster line

The following shows how the raster is arranged on the pins of the print head according to "raster graphics transfer".

The number of offset pins is calculated automatically based on the "set paper width" command and centering the print area across the print head

The raster data specified with the "set left margin" and "1 raster line data transfer" commands is reflected in the pins of the print area.

Furthermore, specified print data that extends out of the print area is automatically cut by the unit. In addition, the page margins (in all directions) in the figure shown below have no effect on the raster line.



Total number of pins (300dpi) 2592

Paper	Number of offset pins	Number of Print area pins	Number of unused pins
A4	96	2400	96
Legal	64	2464	64
Letter	64	2464	64
A5	462	1668	462

Total number of pins (200dpi) 1728

Paper	Number of offset pins	Number of Print area pins	Number of unused pins
A4	64	1600	64
Legal	48	1632	48

Letter	48	1632	48
A5	309	1111	308

## 4. Status

### 4.1. Overview

The status is sent from the printer to the computer as a reply to the "status information request" command or as an error message. The size is fixed to 32 bytes.

Number	Offset	Size	Name	Value/Reference
1	0	1	Print head mark	Fixed to "80 Hex"
2	1	1	Size	Fixed to "20 Hex"
3	2	1	Reserved	Fixed to 'B' (42 Hex)
4	3	1	Series code	Refer to section 4.2.1.
5	4	1	Model code	Refer to section 4.2.1.
6	5	1	Reserved	Fixed to '0' (30 Hex)
7	6	1	Battery and Power Supply Information	Refer to section 4.2.2
8	7	1	Reserved	Fixed to "00 Hex"
9	8	1	Error information 1	Refer to section 4.2.3.
10	9	1	Error information 2	Refer to section 4.2.3.
11	10	1	Paper width	Refer to section 4.2.4.
12	11	1	Paper loaded	Refer to section 4.2.5.
13	12	1	Reserved	Fixed to "00 Hex"
14	13	1	Reserved	Fixed to "00 Hex"
15	14	1	Reserved	Fixed to "00 Hex"
16	15	1	Reserved	Fixed to "00 Hex"
17	16	1	Reserved	Fixed to "00 Hex"
18	17	1	Paper Length (Lower order bytes)	Refer to section 4.2.5.
19	18	1	Status type	Refer to section 4.2.6.
20	19	1	Phase type	Refer to section 4.2.7.
21	20	1	Higher order bytes of phase number	Refer to section 4.2.7.
22	21	1	Lower order bytes of phase number	Refer to section 4.2.7.
23	22	1	Notification number	Refer to section 4.2.8.
24	23	1	Reserved	Fixed to "00 Hex"
25	24	8	Reserved	Fixed to "00 Hex"

## 4.2. Definitions of each part

### 4.2.1. Series/model

Model name	Status code	
	Series	Model
PJ-622	'6' (0x36)	'1' (0x31)
PJ-623	'6' (0x36)	'2' (0x32)
PJ-662	'6' (0x36)	'3' (0x33)
PJ-663	'6' (0x36)	'4' (0x34)
PJ-673	'6' (0x36)	'5' (0x35)
PJ-722	'6' (0x36)	'6' (0x36)
PJ-723	'6' (0x36)	'7' (0x37)
PJ-762	'6' (0x36)	'8' (0x38)
PJ-763	'6' (0x36)	'9' (0x39)
PJ-763MFi	'6' (0x36)	'A' (0x41)
PJ-773	'6' (0x36)	'B' (0x42)
PJ-822	'6' (0x36)	'C' (0x43)
PJ-823	'6' (0x36)	'D' (0x44)
PJ-862	'6' (0x36)	'E' (0x45)
PJ-863	'6' (0x36)	'F' (0x46)
PJ-883	'6' (0x36)	'G' (0x47)

### 4.2.2. Battery and Power Supply Information

#### PJ-700

Battery and Power Supply Information	Value
Battery Charge Full	00 Hex
Battery Charge Half	01 Hex
Battery Charge Low	02 Hex
Battery Charge Charging required	03 Hex
When using an AC adapter	04 Hex

#### PJ-800

Battery and Power Supply Information	Value
Battery Charge Full / Not connected to AC adapter	20 Hex
Battery Charge Half / Not connected to AC adapter	22 Hex
Battery Charge Low / Not connected to AC adapter	23 Hex
Battery Charge Charging required / Not connected to AC adapter	24 Hex
Battery Charge Full / Connected to AC adapter	30 Hex
Battery Charge Half / Connected to AC adapter	32 Hex
Battery Charge Low / Connected to AC adapter	33 Hex
Battery Charge Charging required / Connected to AC adapter	34 Hex
Battery Charge No battery / Connected to AC adapter	37 Hex

### 4.2.3. Error information 1 and error information 2

#### Error information 1

Flag	Mask	Definition
Bit 0	0x01	Not used
Bit 1	0x02	Page finished (only while printing)
Bit 2	0x04	Not used
Bit 3	0x08	Charging required
Bit 4	0x10	Not used
Bit 5	0x20	Not used
Bit 6	0x40	Not used
Bit 7	0x80	Not used

#### Error information 2

Flag	Mask	Definition
Bit 0	0x01	Not used
Bit 1	0x02	Not used
Bit 2	0x04	Not used
Bit 3	0x08	Not used
Bit 4	0x10	Not used
Bit 5	0x20	Not used
Bit 6	0x40	Not used
Bit 7	0x80	Not used

#### 4.2.4. Paper width and length

Paper width:

No paper: 0x00

Paper: 0xD2

Paper length:

Fixed to "0x00"

#### 4.2.5. Paper loaded

Paper loaded	Value
No paper	00 Hex
Paper	01 Hex

**4.2.6. Status type**

Status Type	Value
Reply to status request	00 Hex
Printing completed	01 Hex
Error occurred	02 Hex
Notification	05 Hex
Phase change	06 Hex

**4.2.7. Phase type and phase number**

If the phase type and phase number are not used, both are fixed to "00 Hex".

Phase Type	Value
Receiving state	00 Hex
Printing state	01 Hex

Receiving state

Phase Number	Value (Dec)	Higher Order Bytes	Lower Order Bytes
Waiting to receive	0	00 Hex	00 Hex

Printing state

Phase Number	Value (Dec)	Higher Order Bytes	Lower Order Bytes
Printing	0	00 Hex	00 Hex

**4.2.8.** Notification number

Notification	Value
Invalid	00 Hex

## 5. Command

### 5.1. Overview

This chapter provides descriptions of the commands that can be interpreted by the PJ unit.

Section 5.2 provides descriptions of the commands used for printing in Raster mode. See section 3.1 for typical Print Data Sequence.

Section 5.3 provides descriptions of the commands for default printer settings and ESC/P mode.

5.2. Command details

Name	Invalid command
Syntax	NULL 00 H
Description	Skip If data transmission should be stopped midway, send the "initialize" command after sending the "invalid" command for the appropriate number of bytes to return to the receiving state, where the print buffer is cleared.

Name	Switch command mode
Syntax	ESC + i + a + {n1} 1B H + 69 H + 61 H + {n1}
Description	Switches between the machine's command modes. A machine that receives this command operates in the specified command mode until the machine is turned off. Definition of {n1}: 0: ESC/P•Raster (default) 1: Maintenance Mode 3: P-touch Template

Name	Initialize
Syntax	ESC + @ 1B H + 40 H
Description	Initializes the print buffer.

Name	Status information request
Syntax	ESC + i + S 1B H + 69 H + 53 H
Description	Status information is transmitted.

Name	Set 2-ply mode
Syntax	ESC + ~ + p + {n1} + null 1B H + 7E H + 70 H + {n1} + 00 H
Description	Specifies whether or not the strobe time is extended and the print density is adjusted when 2-ply paper is used. Definition of {n1}: 0: Disable (default) 1: Enable

Name	Bidirectional transmission mode
Syntax	ESC + ~ + e + D + {n1} 1B H + 7E H + 65 H + 44 H + {n1}
Description	<p>When bidirectional transmission is enabled, the printer returns the “printing completed” status when printing is finished. In addition, if an error occurred during printing, all print data received for those pages is discarded.</p> <p>Definition of {n1}:            0: Disable (default)            1: Enable</p> <p>*Replies with a “status information request” command even if bidirectional transmission is disabled.</p>

Name	Set density																								
Syntax	ESC + ~ + d + {n1} + null 1B H + 7E H + 64 H + {n1} + 00 H																								
Description	<p>Specifies the print density.            Note: Print density may differ from the conditions, such as the type of thermal paper, print pattern, environment, etc. Please set the appropriate density.</p> <p>Definition of {n1}: 0 to 255</p> <p>The lower the parameter value, the lower the density becomes.</p> <table border="0"> <thead> <tr> <th>Parameter n1</th> <th>Density amount</th> </tr> </thead> <tbody> <tr> <td>0 (00 H) ~ 23 (17 H)</td> <td>0</td> </tr> <tr> <td>24 (18 H) ~ 47 (2F H)</td> <td>1</td> </tr> <tr> <td>48 (30 H) ~ 71 (47 H)</td> <td>2</td> </tr> <tr> <td>72 (48 H) ~ 95 (5F H)</td> <td>3</td> </tr> <tr> <td>96 (60 H) ~ 119 (77 H)</td> <td>4</td> </tr> <tr> <td>120 (78 H) ~ 143 (8F H)</td> <td>5</td> </tr> <tr> <td>144 (90 H) ~ 167 (A7 H)</td> <td>6</td> </tr> <tr> <td>168 (A8 H) ~ 191 (BF H)</td> <td>7</td> </tr> <tr> <td>192 (C0 H) ~ 215 (D7 H)</td> <td>8</td> </tr> <tr> <td>216 (D8 H) ~ 239 (EF H)</td> <td>9</td> </tr> <tr> <td>240 (F0 H) ~ 255 (FF H)</td> <td>10</td> </tr> </tbody> </table>	Parameter n1	Density amount	0 (00 H) ~ 23 (17 H)	0	24 (18 H) ~ 47 (2F H)	1	48 (30 H) ~ 71 (47 H)	2	72 (48 H) ~ 95 (5F H)	3	96 (60 H) ~ 119 (77 H)	4	120 (78 H) ~ 143 (8F H)	5	144 (90 H) ~ 167 (A7 H)	6	168 (A8 H) ~ 191 (BF H)	7	192 (C0 H) ~ 215 (D7 H)	8	216 (D8 H) ~ 239 (EF H)	9	240 (F0 H) ~ 255 (FF H)	10
Parameter n1	Density amount																								
0 (00 H) ~ 23 (17 H)	0																								
24 (18 H) ~ 47 (2F H)	1																								
48 (30 H) ~ 71 (47 H)	2																								
72 (48 H) ~ 95 (5F H)	3																								
96 (60 H) ~ 119 (77 H)	4																								
120 (78 H) ~ 143 (8F H)	5																								
144 (90 H) ~ 167 (A7 H)	6																								
168 (A8 H) ~ 191 (BF H)	7																								
192 (C0 H) ~ 215 (D7 H)	8																								
216 (D8 H) ~ 239 (EF H)	9																								
240 (F0 H) ~ 255 (FF H)	10																								

Name	Set print speed
Syntax	ESC + ~ + e + V + 01 + {n1} 1B H + 7E H + 65 H + 56H + 01H + {n1}
Description	Specifies the print speed. For details, refer to the respective commands for <a href="#">PJ-700 series</a> and <a href="#">PJ-800 series</a> . PJ-600 series are not available.

Name	Set roll printer case setting
Syntax	ESC + ~ + e + R + 01 + {n1} 1B H + 7E H + 65 H + 52H + 01H + {n1}
Description	Specifies the feed setting when using roll printer case. For details, refer to the respective commands for <a href="#">PJ-700 series</a> and <a href="#">PJ-800 series</a> . PJ-600 series are not available.

Name	Set form feed mode
Syntax	ESC + ~ + f + {n1} 1B H + 7E H + 66 H + {n1}
Description	Specifies the operation that is performed when the “Form Feed” command is received. Definition of {n1}: 0: No Feed 1: Fixed Page (default) 2: End of Page 3: End of Page Retract  [Details] No Feed: A page feed is not performed, even if the “Form Feed” command is received. Fixed Page: The page is fed the number of lines specified with the “set paper height” or “set paper length” command. End of Page: The paper is fed until the end of the page is detected. However, this is a maximum of 14 inches. End of Page Retract: The paper is fed until the end of the page is detected, and then the paper is readjusted to the starting position.

Name	Set dash line print
------	---------------------

Syntax	ESC + ~ + - + {n1} 1B H + 7E H + 2D H + {n1}
Description	Specifies whether or not a dotted line is printed between pages when the user sets the paper type to “roll” and the form feed mode to “Fixed page”.  Definition of {n1}: 0: Disable (default) 1: Enable

Name	Set paper height																										
Syntax	ESC + ~ + h + {n1} + {n2} 1B H + 7E H + 68 H + {n1} + {n2}																										
Description	<p>Specifies the paper size. The default setting is Letter size.</p> <p>The 2-byte data for pre-defined paper sizes is sent as the values for {n1} and {n2}.</p> <p>—300dpi—</p> <table border="0"> <tr> <td>Paper Size</td> <td>Letter</td> <td>A4</td> <td>Legal</td> </tr> <tr> <td>Value</td> <td>3200</td> <td>3300</td> <td>4100</td> </tr> <tr> <td>(n1, n2)</td> <td>(80 H, 0C H)</td> <td>(E4 H, 0CH)</td> <td>(04 H, 10 H)</td> </tr> </table> <p>—200dpi—</p> <table border="0"> <tr> <td>Paper Size</td> <td>Letter</td> <td>A4</td> <td>Legal</td> </tr> <tr> <td>Value</td> <td>2133</td> <td>2200</td> <td>2733</td> </tr> <tr> <td>(n1, n2)</td> <td>(55 H, 08 H)</td> <td>(98 H, 08H)</td> <td>(AD H, 0A H)</td> </tr> </table>			Paper Size	Letter	A4	Legal	Value	3200	3300	4100	(n1, n2)	(80 H, 0C H)	(E4 H, 0CH)	(04 H, 10 H)	Paper Size	Letter	A4	Legal	Value	2133	2200	2733	(n1, n2)	(55 H, 08 H)	(98 H, 08H)	(AD H, 0A H)
Paper Size	Letter	A4	Legal																								
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Value	2133	2200	2733																								
(n1, n2)	(55 H, 08 H)	(98 H, 08H)	(AD H, 0A H)																								

Name	Set paper width
Syntax	ESC + ~ + w + {n1} + {n2} 1B H + 7E H + 77 H + {n1} + {n2}
Description	<p>Specifies the paper width.</p> <p>※The selection method is different for custom paper and for non-custom paper.</p> <p>■ Non-custom paper</p> <p>The units of the data are in bytes.</p> <p>Example: For A4, the number of dots for the print area is 2400, so 300 is set.</p> <p>Ex. 1B H 7E H 77 H 2C H 01 H</p> <p>→A4 setting (300)</p> <p>■ Custom paper</p> <p>Specify the width according to the feed position, as shown below.</p> <p>With [Center Alignment]</p> <p>Specify, in bytes, the number of dots for the width of the print area.</p> <p>Example: For a 140-mm-wide print area, the number of dots for the print area is 1654, so 207 is set.</p> <p>Ex. 1BH 7EH 77H CFH 00H</p> <p>With [Left Alignment]</p> <p>Specify as fixed, regardless of the paper width, as shown below.</p> <p>300dpi: 1BH 7EH 77H 34H 01H</p> <p>200dpi: 1BH 7EH 77H CCH 00H</p>

Name	Set paper length
Syntax	ESC + ~ + l + {n1} + {n2} 1B H + 7E H + 6C H + {n1} + {n2}
Description	<p>Specifies the paper length.</p> <p>Normally used with roll paper or custom lengths.</p> <p>The setting range is 200 to 65535 (raster lines).</p> <p>Ex. 1B h 7E H 6C H E4 H 0C H</p> <p>→The length of the print area is set to 3300.</p>

Name	Set left margin
Syntax	ESC + ~ + \$ + {n1} + {n2} 1B H + 7E H + 24 H + {n1} + {n2}

Description	<p>Moves the cursor the specified distance from the left edge of the printable area in the X direction.</p> <p>The setting is a 2-byte value, and the units are in bits.</p> <p>Since the sent data is specified in bytes, it is treated as a multiple of 8.</p> <p>If it is not a multiple of 8, the nearest value at a multiple of 8 is specified.</p> <p>Ex) 1B H 7E H 24 H 44 H 00 H</p> <p>44 H = 68 However, since it is treated as bytes, the setting becomes 64.</p>
-------------	--

Name	Multi-line feed
Syntax	ESC + ~ + J + {n1} 1B H + 7E H + 4A H + {n1}
Description	<p>Terminates current raster line and performs a line feed of multiple raster lines on the current page.</p> <p>Definition of {n1}: Number of lines</p> <p>This command is used in connection with the "1 raster line data transfer" command. After raster line data is transferred, the line buffer data is deleted, and then the current print position in the X direction remains the same while the print position is moved in the Y direction by the number of lines specified with {n1}.</p> <p>Ex) 1B H 7E H 4A H 03 H Performs a line feed of 3 lines.</p>

Name	1 Raster line data transfer
Syntax	ESC + ~ + * + {n1} + {n2} + {d1} + ... + {dk} 1B H + 7E H + 2A H + {n1} + {n2} + {d1} + ... + {dk}
Description	<p>Sends the raster line data.</p> <p>Definition of {n1} and {n2}: Amount of data to be sent (Specified in units of bytes.)</p> <p>Definition of {d1} + ... + {dk}: Raster line data</p> <p>The data print position specified with this command is for the current position of the current raster line.</p> <p>If more than 1 "Raster line data transfer" command is sent for the same raster line, the data cannot be positioned to the left of the final raster byte already sent for this raster line.</p> <p>Ex) 1B H 7E H 2A H 2C H 01 H FF H FF H ... 300 bytes = Sends raster line data for 2400 dots</p>

Name	Form feed
Syntax	ESC + ~ + FF 1B H + 7E H + 0C H
Description	Prints the current page and ejects according to the setting of the “set form feed mode” command. Using this command, cursor position is automatically reset to left edge. If no data is received for the current page, this command is ignored.

### 5.3. Utility Command details

Note: These commands are primarily for setting power-on default values for printer specific settings and for printing text-only data. **When the printer gets turned off, it will return to the previous setting. In order to keep the current setting statically, please use [this command](#).**

#### 5.3.1. PJ-600 Series Utility Command details

Name	Specify page length in lines																
Syntax	ESC + C + {n1} 1B H + 43 H + {n1}																
Description	<p>Specifies the page length as ((line feed amount when this command is specified) * (n in lines)) inches.</p> <p>In addition, when this command is executed, the bottom margin is set to 0 (canceled).</p> <p>Definition of {n1}: 01 H ~ 7F H(1~127)</p> <p>• Basic page length settings (in lines) for each paper size and line feed</p> <table border="1"> <thead> <tr> <th></th> <th>6LPI</th> <th>8LPI/0.125</th> <th>8LPI/0.12</th> </tr> </thead> <tbody> <tr> <td>Letter</td> <td>66</td> <td>88</td> <td>91</td> </tr> <tr> <td>Legal</td> <td>84</td> <td>112</td> <td>116</td> </tr> <tr> <td>A4</td> <td>70</td> <td>93</td> <td>97</td> </tr> </tbody> </table>		6LPI	8LPI/0.125	8LPI/0.12	Letter	66	88	91	Legal	84	112	116	A4	70	93	97
	6LPI	8LPI/0.125	8LPI/0.12														
Letter	66	88	91														
Legal	84	112	116														
A4	70	93	97														

Name	Specify bottom margin																
Syntax	ESC + N + {n1} 1B H + 4E H + {n1}																
Description	<p>Specify the size of the bottom margin.</p> <p>Definition of {n1}: 01 H ~ 7F H(1~127)</p> <p>The units are in lines.</p> <p>• Basic bottom margin settings for each paper size and line feed</p> <table border="1"> <thead> <tr> <th></th> <th>6LPI</th> <th>8LPI/0.125</th> <th>8LPI/0.12</th> </tr> </thead> <tbody> <tr> <td>Letter</td> <td>2</td> <td>3</td> <td>2</td> </tr> <tr> <td>Legal</td> <td>2</td> <td>3</td> <td>2</td> </tr> <tr> <td>A4</td> <td>2</td> <td>3</td> <td>2</td> </tr> </tbody> </table>		6LPI	8LPI/0.125	8LPI/0.12	Letter	2	3	2	Legal	2	3	2	A4	2	3	2
	6LPI	8LPI/0.125	8LPI/0.12														
Letter	2	3	2														
Legal	2	3	2														
A4	2	3	2														

Name	Specify line feed of 1/6 inch
Syntax	ESC + 2 1B H + 32 H
Description	Specify line feed of 1/6 inch (6LPI). The line feed becomes 1/6 inch. After this command is specified, the page length in lines and bottom margin must be specified again.

Name	Specify line feed of 1/8 inch
Syntax	ESC + 0 1B H + 30 H
Description	Specify line feed of 1/8 inch (8LPI). The line feed becomes 1/8 inch. After this command is specified, the page length in lines and bottom margin must be specified again.

Name	Line feed at 8 LPI
Syntax	ESC + ~ + + + {n1} 1B H + 7E H + 2B H + {n1}
Description	Specify whether the line feed is "0.125" or "0.12" when the line feed is set to 1/8 inch. You can use this command to allow extended ASCII graphic characters to touch each other without creating a small vertical gap between the characters. After this command is specified, the page length in lines and bottom margin must be specified again.  Definition of {n1} 01 H(1) or 1F H(31) :0.120 inch Line feed Other than those listed above :0.125 inch Line feed

Name	Specify left margin
Syntax	ESC + I + {n1} 1B H + 6C H + {n1}
Description	<p>Specifies the left margin position as the position from the left edge where (character width when this command is specified) * n1, and specifies the area to the left of this as an unprinted area.</p> <p>Character width = 1 / Default pitch.</p> <p>In addition, this printer operates as an 80-column device, and a setting that extends past 4.5 inches from the left edge is ignored.</p> <p>Definition of {n1}:01 H(1) ~ FF H(255)</p> <p>The units are in columns.</p>

Name	Specify right margin
Syntax	ESC + Q + {n1} 1B H + 51 H + {n1}
Description	<p>Specifies the right margin position as the position from the left edge where (character width when this command is specified) * n1.</p> <p>Character width = 1 / Default pitch.</p> <p>Setting that extends past 8.0 inches from the left edge and that is less than left margin is ignored.</p> <p>Note that the setting indicates the value from left edge.</p> <p>Definition of {n1}:01 H(1) ~ FF H(255)</p>

Name	Specify Default pitch
Syntax	ESC + M + {n1} 1B H + 4D H + {n1}
Description	<p>Select the character size (pitch).</p> <p>After this command is specified, the left margin and right margin must be specified again.</p> <p>Definition of {n1}</p> <p>00 H(0):10cpi</p> <p>01 H(1):12cpi</p> <p>02 H(2):15cpi</p>

Name	Apply/cancel proportional characters
Syntax	ESC + p + {n1} 1B H + 70 H + {n1}
Description	Applies or cancels proportional characters for alphanumeric characters. After this command is specified, the left margin and right margin must be specified again.  Definition of {n1} 00 H(0): Cancel proportional characters 01 H(1): Apply proportional characters

Name	Auto-on/off
Syntax	ESC + ~ + A + {n1} 1B H + 7E H + 41 H + {n1}
Description	Select whether or not the print unit is automatically turned on when it is plugged into an external power supply.  Definition of {n1}: 00 H(0):Disable 01 H(1):Enable 02 H(2):Enable(No main button)

Name	Specify Auto Power Off (AC/DC/Li-ion)
Syntax	ESC + ~ + e + t + {n1} + NUL 1B H + 7E H + 65 H + 74 H + {n1} + 00 H
Description	Select the length of time until the print unit automatically turns off when it is plugged into an external power supply.  Definition of {n1}: 00 H(0): None 01 H(1): 10 minutes 02 H(2):20 minutes 03 H(3):30 minutes 04 H(4):40 minutes 05 H(5):50 minutes 06 H(6):60 minutes

Name	Specify Auto Power Off (Ni-MH)
Syntax	ESC + ~ + t + {n1} + NUL 1B H + 7E H + 74 H + {n1} + 00 H
Description	Select the length of time until the print unit automatically turns off when it is only using the Ni-MH rechargeable battery.  Definition of {n1}: 00 H(0): None 01 H(1): 10 minutes 02 H(2): 20 minutes 03 H(3): 30 minutes 04 H(4): 40 minutes 05 H(5): 50 minutes 06 H(6): 60 minutes

Name	Specify Refresh Battery
Syntax	ESC + ~ + B + {n1} 1B H + 7E H + 42 H + {n1}
Description	Select how frequently the refresh operation is performed when the Ni-MH rechargeable battery is charged.  Definition of {n1}: 00 H(0): Do not refresh 01 H(1): Each time 02 H(2): Every 5 times 03 H(3): Every 10 times

Name	Specify dash line print
Syntax	ESC + ~ + - + {n1} 1B H + 7E H + 2D H + {n1}
Description	Select whether or not a dotted line is printed as a perforation between pages. If roll paper is being used and "Form Feed Mode" is set to "Fixed Page", dotted lines are printed between pages.  Definition of {n1}: 00 H(0):Disable 01 H(1):Enable

Name	Specify skip perforation
Syntax	ESC + ~ + P + {n1} 1B H + 7E H + 50 H + {n1}
Description	The bottom margin and the top margin of pages total 1 inch.  Definition of {n1} 00 H(0):Disable 01 H(1):Enable

Name	Specify Pre-Feed
Syntax	ESC + ~ + E + {n1} 1B H + 7E H + 45 H + {n1}
Description	Select whether or not to pre-feed paper that is in the unit when it is turned on.  Definition of {n1}: 00 H(0): Disable 01 H(1): Enable

Name	Specify CR-LF mode
Syntax	ESC + ~ + L + {n1} 1B H + 7E H + 4C H + {n1}
Description	Select the operation mode for receiving a new line command.  Definition of {n1}: 00 H(0): LF = LF CR = CR 01 H(1): LF = CR + LF CR = CR + LF

Name	Specify Paper sensor threshold
Syntax	ESC + ~ + e + S + {n1} 1B H + 7E H + 65 H + 53 H + {n1}
Description	Specify the threshold for the sensor that detects the paper.  Definition of {n1}: 00 H(0) ~ FF H(255)

Name	BT/IrDA *Available only with PJ-662 and PJ-663.
Syntax	ESC + ~ + e + l + {n1} 1B H + 7E H + 65 H + 6C H + {n1}
Description	Select whether a Bluetooth or an IrDA connection is to be used.  Definition of {n1} 00 H(0):IrDA 01 H(1):Bluetooth

Name	Specify Wireless Switching Mode *Available only with PJ-662 and PJ-663.
Syntax	ESC + ~ + e + M + {n1} 1B H + 7E H + 65 H + 4D H + {n1}
Description	Select whether or not print unit buttons (Feed button + power button) can be pressed to switch between using a Bluetooth or an IrDA connection.  Definition of {n1}: 00 H(0):Disable 01 H(1):Enable

Name	Select Extended character code table
Syntax	ESC + t + {n1} 1B H + 74 H + {n1}
Description	Selects the character table for character codes 128 through 255. Definition of {n1}: 00 H(0): Select italic characters 01 H(1): Select advanced graphics

Name	Select international character set
Syntax	ESC + R + {n1} 1B H + 52 H + {n1}
Description	Changes a part of the alphanumeric character code table. Definition of {n1}: 00 H(0):USA 01 H(1):France 02 H(2):Germany 03 H(3):UK 04 H(4):Denmark 05 H(5):Sweden 06 H(6):Italy 07 H(7):Spain 08 H(8):Japan 09 H(9):Norway 0A H(10):Denmark II 0B H(11):Spain II 0C H(12):Latin America 0D H(13):Korea 40 H(64):Legal

Name	Specify Default font
Syntax	ESC + k + {n1} 1B H + 6B H + {n1}
Description	Select the font to be used.  Definition of {n1} 00 H(0):Serif 01 H(1):Sans Serif

Name	Specify reduced characters
Syntax	ESC + 0x0F 1B H + 0F H
Description	The width of proportional characters is halved (10 cpi→16.67 cpi and 12 cpi → 20 cpi).  After this command is specified, the page length in lines and bottom margin must be specified again.  In addition, the final character size when this command is executed and the “specify double-width characters” is set becomes the size of the double-width characters after they are reduced.

Name	Cancel reduced characters.
Syntax	ESC + 0x12 1B H + 12 H
Description	Cancels reduced characters After this command is specified, the page length in lines and bottom margin must be specified again.

Name	Apply bold style
Syntax	ESC + E 1B H + 45 H
Description	Applies the bold style to alphanumeric characters.

Name	Cancel bold style
Syntax	ESC + F 1B H + 46 H
Description	Cancels the bold style.

Name	Specify/cancel double-width characters
Syntax	ESC + W + {n1} 1B H + 57 H + {n1}
Description	<p>Specifies or cancels double-width enlargement for alphanumeric characters.</p> <p>After this command is specified, the page length in lines and bottom margin must be specified again.</p> <p>In addition, the final character size when this command is executed and the “Specify reduced characters” is set becomes the size of the double-width characters after they are reduced.</p> <p>Definition of {n1}</p> <p>00 H(0):Disable 01 H(1):Enable</p>

Name	Apply/cancel underlining
Syntax	ESC + - + {n1} 1B H + 2D H + {n1}
Description	<p>Specifies or cancels underlining of alphanumeric characters.</p> <p>Definition of {n1}</p> <p>00 H(0):Disable 01 H(1):Enable</p>

Name	Specify/retrieve Bluetooth settings *Available only with PJ-662 and PJ-663.
Syntax	ESC + ~ + e + B + {n1} + ... 1B H + 7E H + 65 H + 42 H + {n1} + ...
Description	<p>Specifies or retrieves Bluetooth settings in the utility.</p> <p>Definition of {n1}</p> <p>00 H(0): Retrieve 01 H(1): Specify</p> <p>...Additional</p> <p>00 H(0):PIN Code(less than 16 characters) 01 H(1):Device Name(less than 30 characters) 02 H(2): Visible to Other Devices 00 H(0):Disable 01 H(1):Enable 03 H(3): Authentication and Encoding 00 H(0): No authentication/no encoding 01 H(1): Authentication/no encoding 02 H(2): Authentication/encoding 04 H(4): Retrieve BT address (*Invalid if "Specify" is set for {n1}.)</p> <p>ex1) 1B H 7E H 65 H 42 H <u>01 H</u> <u>00 H</u> <u>04 H</u> <u>0001</u> Specify PIN Code Number of characters</p> <p>Setting →Sets the PIN code to 0001.</p> <p>ex2) 1B H 7E H 65 H 42 H <u>00 H</u> <u>00 H</u> Retrieve PIN Code →Retrieves the PIN code. (Reception example: 0x04 0001)</p> <p>ex3) 1B H 7E H 65 H 42 H <u>01 H</u> <u>01 H</u> <u>0A H</u> <u>PJ-6630001</u> Specify Device Name Number of characters</p> <p>Setting →Sets the device name to PJ-6630001.</p> <p>ex4) 1B H 7E H 65 H 42 H <u>00 H</u> <u>01 H</u> Retrieve Device Name →Retrieves the device name. (Reception example: 0x0A PJ-6630001)</p>

	<p>ex5) 1B H 7E H 65 H 42 H <u>01 H</u> <u>02 H</u> <u>00 H</u>  Specify Visible to Other Devices Settings  →Sets that other devices cannot detect this machine (Disable).</p> <p>ex6) 1B H 7E H 65 H 42 H <u>01 H</u> <u>03 H</u> <u>00 H</u>  Specify Authentication and Encoding Settings  →Sets that there is no authentication and encoding.</p> <p>*The BT address is received at a fixed size of 6 bytes.</p>
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Name	Enter cleaning mode
Syntax	ESC + ~ + c + {n1} + NUL 1B H + 7E H + 63 H + {n1} + 00 H
Description	<p>Sets the machine into cleaning mode.</p> <p>Definition of {n1}: 01 H(1):ON</p> <p>※To cancel cleaning mode, press the Feed button on the machine while it is in cleaning mode.</p>

Name	Print Unit Settings
Syntax	ESC + ~ + s + {n1} + NUL 1B H + 7E H + 73 H + {n1} + 00 H
Description	<p>Sends the “print unit settings” command to the machine.</p> <p>The machine that receives this command will print a page showing its current settings</p> <p>Definition of {n1}: 01 H(1):ON</p>

Name	Auto Adjust Sensor
Syntax	ESC + ~ + e + C + {n1} 1B H + 7E H + 65 H + 43 H + {n1}
Description	<p>Automatically adjusts the threshold for the sensor that detects the paper. The machine that receives this command feeds the paper and detects the black mark. After this command is sent, notification of the results is returned as 2 bytes.</p> <p>Definition of {n1}</p> <p>01 H(1): Perform automatic adjustment</p> <p>Notification of results</p> <ul style="list-style-type: none"> <li>• First byte</li> <li>00 H(0): Failed</li> <li>01 H(1): Succeeded</li> <li>• Second byte</li> <li>Specified paper sensor threshold value if succeeded</li> </ul> <p>ex) 1B H 7E H 65 H 43 H 01 H (perform automatic adjustment)</p> <ul style="list-style-type: none"> <li>• Reception example of notification of results 1: 00 H</li> <li>→Failed to perform automatic adjustment.</li> <li>• Reception example of notification of results 2: 01 H 96 H</li> <li>→Succeeded in performing automatic adjustment, and set the value to 150.</li> </ul>

Name	Factory Reset
Syntax	ESC + ~ + R 1B H + 7E H + 52 H
Description	<p>Returns the unit to its manufacturer default settings.</p> <p>Overwrites the settings in both the non-volatile memory and RAM with the manufacturer default settings.</p> <p>If the current settings are the same as the manufacturer default settings, they are not overwritten.</p> <p>Then, the reset can be saved on the machine if the “initialize” command is sent.</p>

Name	Retrieve current settings (except Bluetooth settings)
Syntax	ESC + ~ + e + U + {n1} 1B H + 7E H + 65 H + 55 H + {n1}
Description	Retrieves the settings for the parameters that can be specified, except those related to Bluetooth. The data size (2 bytes) and data are returned from the machine. The normal data size is 34 bytes.  For details on the data, refer to <a href="#">5.4</a> .  Definition of {n1}: 00 H(0): Host transmission

Name	Save settings
Syntax	ESC + ~ + S 1B H + 7E H + 53 H
Description	Saves the settings on the printer. Overwrites them even if they are the same as those on the RAM and non-volatile memory.

Firmware version acquisition

If you want to check the firmware version, refer to the P-touch template command reference.

**5.3.2. PJ-700 Series Utility Command details**

In this section, the Utility commands for only PJ-700 Series are listed.

Name	Auto Power Off (AC/DC) 1 minute
Syntax	ESC + ~+ e + t + {n1} + 01h
Description	Specifies the amount of time that passes before the printer turns off automatically when connected to an AC or DC power outlet.  Definition of {n1} 00h: None ~ 78h: 120 minutes

Name	Auto Power Off (Li-ion) 1 minute
Syntax	ESC + ~+ t + {n1} + 01h
Description	Specifies the amount of time that passes before the printer turns off automatically

	<p>when powered by the rechargeable Li-ion battery.</p> <p>Definition of {n1}</p> <p>00h: None ~ 78h: 120 minutes</p>
--	---

Name	Print Speed
Syntax	ESC + ~ + e + V + 01h + {n1}
Description	<p>Specifies the printing speed in inches or millimeters per second.</p> <p>Definition of {n1}</p> <p>00 H(0): 2.5 ips / 65 mm/s</p> <p>01 H(1): 1.9 ips / 48 mm/s</p> <p>02 H(2): 1.6 ips / 41 mm/s</p> <p>03 H(3): 1.1 ips / 27 mm/s</p>

Name	Tear Adjust
Syntax	ESC + ~ + e + r + 01h + {n1}
Description	<p>Adjust the tear bar tear off position for paper media.</p> <p>Definition of {n1}</p> <p>30h : +0.08" ~ 00h : 0" ~ D0h : -0.08"</p>

Name	Roll Printer Case Setting
Syntax	ESC + ~ + e + R + 01h + {n1}
Description	<p>Specifies the setting for using the optional roll printer case.</p> <p>Definition of {n1}</p> <p>00h: Off</p> <p>01h: On (Without Anti Curl)</p> <p>02h: On (With Anti Curl)</p> <p>03h: On (Short Feed)</p>

Name	Power Off Mode
Syntax	ESC + ~ + e + 6 + 01h + {n1}
Description	<p>Choose how you want to turn off the printer.</p> <p>Definition of {n1}</p> <p>00h: Single press to turn off</p> <p>01h: Double press to turn off</p>

### 5.3.3. PJ-700 and PJ-800 Series Utility Command details

This section describes the utility commands common to the PJ-700 and PJ-800 series.

Name	Command Mode
Syntax	ESC + i + X + i + 2 + 01h + 00h + {n1}
Description	<p>Specifies the printer's command format.</p> <p>Definition of {n1}</p> <p>00 H(0): Raster</p> <p>03 H(1): P-touch Template</p> <p>04 H(2): ESC/P Brother</p> <p>10 H(3): ESC/P Legacy</p>

Name	Print Length Scaling
Syntax	ESC + ^ + L + 01h + {n1}
Description	<p>Specifies the reduction or enlargement ratio for printing.</p> <p>Definition of {n1}</p> <p>CEh : 95% ~ 00h : 100% ~ 32h : 105%</p>

Name	Paper Grip Time
Syntax	ESC + ~ + e + K + 01h + {n1}
Description	<p>Specifies the delay before the printer grabs the paper.</p> <p>Definition of {n1}</p> <p>05h : 0.5 seconds</p> <p>08h : 0.8 seconds</p> <p>0Ch : 1.2 seconds</p>

Name	Print Data after Printing
Syntax	ESC + i + X + s + 32h + 00h + {n1}
Description	<p>Allows to erase print data after it is printed.</p> <p>Definition of {n1}</p> <p>00h : Keep Print Data</p> <p>01h : Erase All Print Data</p>

Name	JPEG Printing Setting
Syntax	ESC + ~ + e + J + 01h + {n1}

Description	Specifies the JPEG printing setting.  Definition of {n1} 00h: Simple Binary 01h: Error Diffusion
-------------	--

Name	Scale JPEG images to fit media
Syntax	ESC + ~ + e + a + 01h + {n1}
Description	Allows enlarging or reducing a JPEG image to fit the paper size.  Definition of {n1} 00h: Disable 01h: Enable

Name	Airplane Mode
Syntax	WiFi Model : ESC+ i + X + K + 2 + 00h + 00h + {n1} Bluetooth Model : ESC+ i + X + B + 2 + 01h + 00h + 06h + {n1}
Description	Allows disabling the Bluetooth or Wi-Fi button. This function is useful when you use the printer in a place where signal transmissions are not allowed.  Definition of {n1} 03h: On 04h: Off

Name	Reset only Device Settings
Syntax	ESC + i + U + Z
Description	Resets only the settings that can be specified using the PJ-700 Device Settings to the factory settings.

Name	Delete Template
Syntax	ESC + i + U + Y
Description	Deletes all the templates stored in the printer.

Name	Saving printer settings
Syntax	ESC + ~ + S
Description	Permanently save the values of setting commands that were sent to a printer in advance on the printer.

**5.3.4. PJ-800 Series Utility Command details**

In this section, the Utility commands for only PJ-800 Series are listed.

Name	Print Speed
Syntax	ESC + ~ + e + V + 01h + {n1}
Description	<p>Specifies the printing speed in inches or millimeters per second.</p> <p>Definition of {n1}</p> <p>00 H(0): 3.5 ips / 90 mm/s</p> <p>01 H(1): 2.7 ips / 70 mm/s</p> <p>02 H(2): 1.9 ips / 48 mm/s</p> <p>03 H(3): 1.1 ips / 27 mm/s</p> <p>04 H(4): Fast (Line Conversion)</p> <p>05 H(5): Fast (Draft Quality)</p>

Name	Tear Adjust
Syntax	ESC + ~ + e + r + 01h + {n1}
Description	<p>Adjust the tear bar tear off position for paper media.</p> <p>Definition of {n1}</p> <p>30h : +0.2" ~ 00h : 0" ~ D0h : -0.2"</p>

Name	Roll Printer Case Setting
Syntax	ESC + ~ + e + R + 01h + {n1}
Description	<p>Specifies the setting for using the optional roll printer case.</p> <p>Only when "04h: On (Custom Option)" is specified, "Adjusting the transport distance at the end of a job" and "Lead position adjustment" take effect.</p> <p>Definition of {n1}</p> <p>00h: Off</p> <p>01h: On (Without Anti Curl)</p> <p>02h: On (With Anti Curl)</p> <p>03h: On (Short Feed)</p> <p>04h: On (Custom Option)</p>

Name	Auto Power Off 10 minutes
Syntax	ESC + i+ U + A + 00h + {n1}
Description	Specifies the amount of time that passes before the printer turns off automatically.

	<p>Definition of {n1}</p> <p>00h: None ~ 48h: 12 hours</p>
--	--

Name	Switching between saving and discarding when pages are carried over
Syntax	ESC + i + DC1 + S + S + 01h + 01h + 00h + {P1}
Description	<p>Printing when pages are carried over</p> <p>Definition of {P1}</p> <p>00h: Print</p> <p>01h: Discard</p>

Name	Adjusting the transport distance at the end of a job
Syntax	ESC + i + DC1 + S + D + 01h + 01h + 00h + {P1}
Description	<p>Adjusting the transport distance at the end of a job. This command takes effect only when "Roll Printer Case Setting" is specified as "04h: On (Custom Option)".</p> <p>Definition of {P1}</p> <p>0000h ~ FFFFh: Transport distance at the end of a job</p> <p>Specify the adjustment value (number of pulses) as a signed integer. (-32,768 ~ +32,768)</p> <p>1 pulse is about 0.0423 mm.</p>

Name	Lead position adjustment
Syntax	ESC + i + DC1 + S + F + 01h + 01h + {P1}
Description	<p>Lead position adjustment. This command takes effect only when "Roll Printer Case Setting" is specified as "04h: On (Custom Option)".</p> <p>Definition of {P1}</p> <p>0000h ~ FFFFh: Lead position adjustment value</p> <p>Specify the adjustment value (number of pulses) as a signed integer. (-32,768 ~ +32,768)</p> <p>1 pulse equals about 0.0423 mm.</p>

Name	Time setting for "Pause to cut every". 1 second
Syntax	ESC + i + DC1 + S + C + 01h + 01h + 00h + {P1}
Description	<p>Time setting for "Pause to cut every".</p> <p>Definition of {P1}</p> <p>00h: None ~ FFh: 255 seconds</p>

Name	Halftone settings
Syntax	ESC + i + DC1 + S + T + 01h + 01h + 00h + {P1}
Description	Halftone settings  Definition of {P1} 00h: Binary 01h: Error Diffusion 02h: Dither

Name	Halftone binarization threshold settings (AirPrint)
Syntax	ESC + i + DC1 + S + t + 01h + 01h + 00h + {P1}
Description	Halftone binarization threshold settings (AirPrint)  Definition of {P1} 00h: 0 ~ FFh: 255

Name	Halftone binarization threshold settings (JPEG)
Syntax	ESC + i + DC1 + S + J + 01h + 01h + 00h + {P1}
Description	Halftone binarization threshold settings (JPEG)  Definition of {P1} 00h: 0 ~ FFh: 255

Name	Hybrid drive settings
Syntax	ESC + i + DC1 + S + H + 01h + 01h + 00h + {P1}
Description	Hybrid drive settings  Definition of {P1} 00h: Disable 01h: Enable

Name	Drive priority power source settings
Syntax	ESC + i + DC1 + S + P + 01h + 01h + 00h + {P1}
Description	Drive priority power source settings  Definition of {P1} 00h: Drive power source battery priority 01h: Drive power source adapter priority

Name	Retrieve firmware version information
Syntax	ESC + i + DC1 + I + V + 00h + 01h + 00h + 00h
Description	Retrieve firmware version information. (Main program)

**5.4. Returned data for retrieve commands**

	Name	Value	BYTE
0	Paper Size	Letter A4 Legal The values differ for the 200 dpi and 300 dpi models.	2
2	Print Density	0x00 – 0xFF	1
3	Form Feed Mode	0x00: No Feed 0x01: Fixed Page 0x02: End of Page 0x03: End of Page Retract	1
4	Pre-Feed	0x00: Disable 0x01: Enable	1
5	CR-LF Mode	0x00: LF=LF CR=CR 0x01: LF=CR+LF CR=CR+LF	1
6	Paper Sensor Threshold	0x00 – 0xFF	1
7	BT/IrDA	0x00: IrDA 0x01: Bluetooth	1
8	Wireless Switching Mode	0x00: Disable 0x01: Enable	1
9	Auto-on	0x00: Disable 0x01: Enable 0x02: Enable+No main button	1
10	Auto Power Off (AC/DC/Li-ion)	0x00 – 0x06 (in 10-minute units)	1
11	Auto Power Off (Ni-MH)	0x00 – 0x06 (in 10-minute units)	1
12	Refresh Ni-MH Battery	0x00: Do not refresh 0x01: Each time 0x02: Every 5 times 0x03: Every 10 times	1
13	Dash line print	0x00:Disable 0x01:Enable	1
14	Line feed at 8 LPI	0x01 or 0x1F: 0.120 inches line feed Other than those listed above: 0.125 inch line feed	1
15	Skip Perforation	0x00: Disable 0x01: Enable	1

16	Default Pitch	0x00:10cpi 0x01:12cpi 0x02:15cpi	1
17	Default Pitch(Proportional characters)	0x00:Cancel 0x01:Specify	1
18	Form Length	0x0001 – 0x007F (in units of number of lines)	2
20	Left Margin	0x0000 – 0xFFFF (in units of number of lines)	2
22	Right Margin	0x0000 – 0xFFFF (in units of number of lines)	2
24	Bottom Margin	0x0001 – 0x007F (in units of number of lines)	2
26	Text Line Spacing	0x00:1/8 inch line feed 0x02:1/6 inch line feed	1
27	Extended ASCII	0x00:Italic 0x01:Advanced graphics	1
28	Character Set Map	0x00: USA 0x01: France 0x02: Germany 0x03: UK 0x04: Denmark 0x05: Sweden 0x06: Italy 0x07: Spain 0x08: Japan 0x09: Norway 0x0A: Denmark II 0x0B: Spain II 0x0C: Latin America 0x0D: Korea 0x40: Legal	1
29	Default Font	0x00: Serif 0x01: Sans Serif	1

30	Reduce Character Size Character Attribute: Double-width	0x00: Normal 0x01: Reduced 0x02: Double width 0x03: Normal	1
31	Character Attribute: Double-height	0x00: Cancel 0x02: Specify	1
32	Character Attribute:Bold	0x00: Cancel 0x01: Specify	1
33	Character Attribute:Underline	0x00: Cancel 0x01: Specify	1

## 6. Flow Charts

This chapter provides flow charts for printing with a bidirectional transmission.

To print with a unidirectional transmission, send the data to the unit as shown under “Print data overview” in chapter 3.

※PJ-673 network printing does not support duplex transmission.



## Note

### ① Status (response to Status information request)

Refer to [“4. 2. 6. Status type”](#).

However, if an error has already occurred on the machine, the machine returns “error occurred” as the status type. For details, refer to [“4. 2. 3. Error information 1/2”](#).

### ② Print data

Print command for 1 page. Refer to [“3.1. Print data overview”](#).

### ③ Status (Start printing status)

Status indicating that printing has started

Indicates “printing” as the “phase number” with “printing state” as the “phase type” and “phase change” as the “status type”.

### ④ Status (Complete Printing Status)

Status indicating that printing is completed

Indicates that printing has been completed correctly when “printing completed” is received as the “status type”.

If an error occurred,

“error occurred” is received as the “status type”,

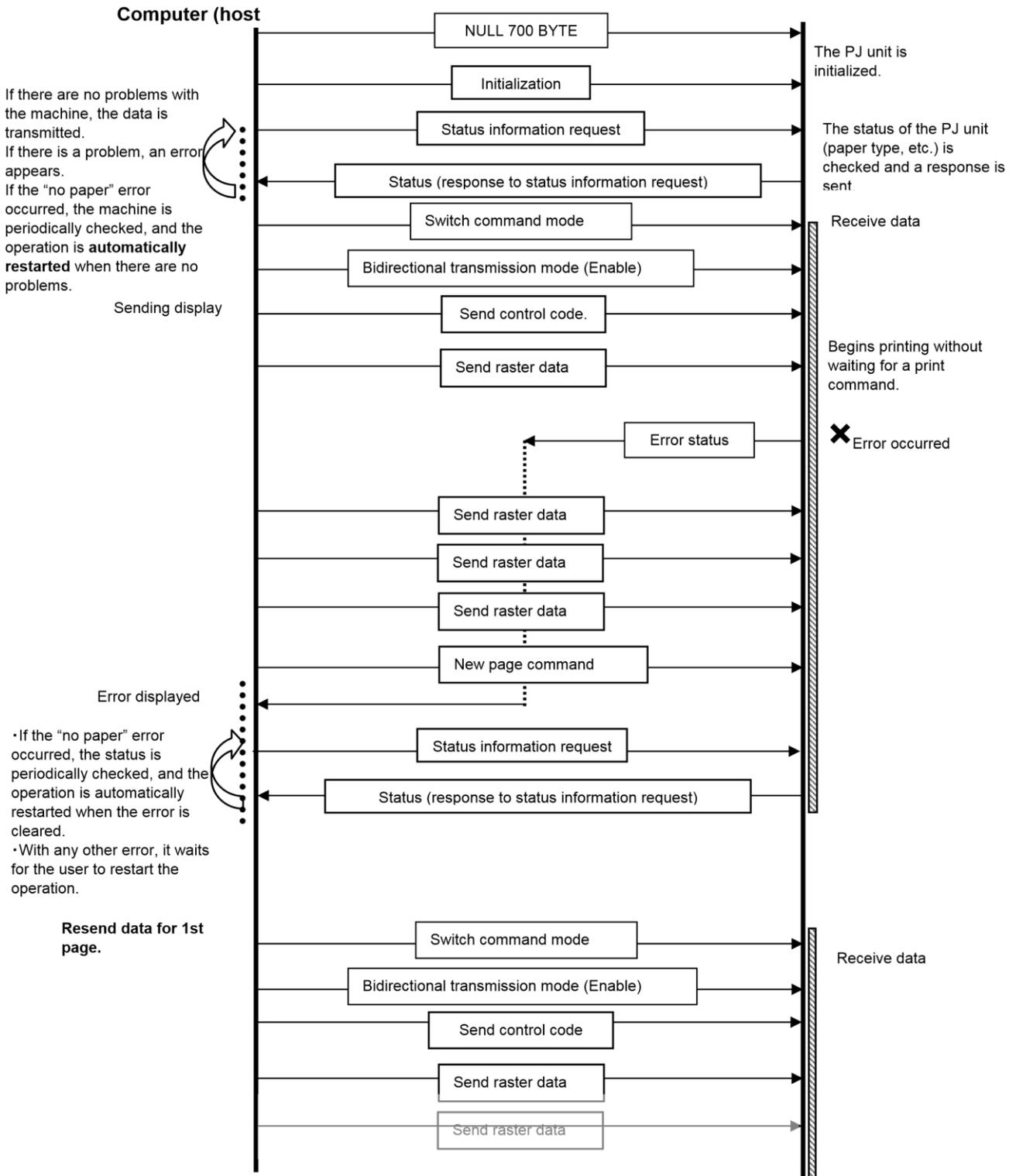
and the error details can be retrieved from “error Information 1/2”.

### ⑤ Status (Edit Phase Status)

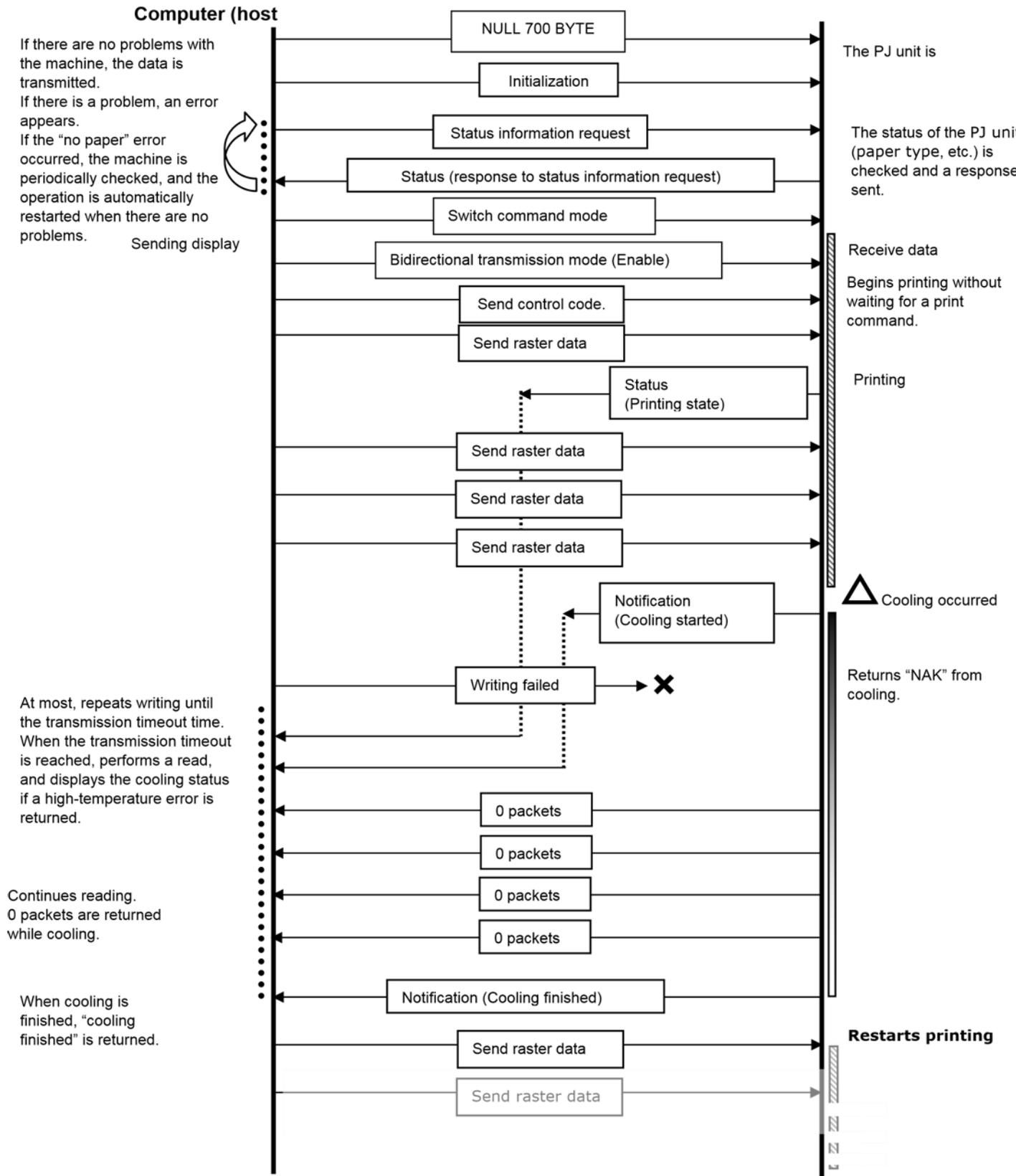
Indicates that the printer has returned to standby.

Indicates “waiting to receive” as the “phase number” with “receiving state” as the “phase type” and “phase change” as the “status type”.

6.2. USB/Bluetooth/IrDA Error flow



6.3. USB/Bluetooth/IrDA Cooling flow



## 7. USB Specifications

Item	Description
Vendor ID	Brother 0x04F9
Product ID	Brother PJ-622:0x203D Brother PJ-623:0x203E Brother PJ-662:0x203F Brother PJ-663:0x2040 Brother PJ-673:0x2052 Brother PJ-722:0x2075 Brother PJ-723:0x2076 Brother PJ-762:0x2077 Brother PJ-763:0x2078 Brother PJ-763MFi:0x2079 Brother PJ-773:0x207a Brother PJ-822:20e2 Brother PJ-823:20e3 Brother PJ-862:20e4 Brother PJ-863:20e5 Brother PJ-883:20e6
Class	Printer
Vendor String	Character string descriptor:0x01 "Brother"
Character string for product	Character string descriptor:0x02
Character string for serial number	Character string descriptor:0x03
Device speed	Full speed
Number of interfaces	1 (No alternate interfaces)
Power supply	Self-powered (As a printer class, Bus power is also set to "ON".)
PnP ID	"PJ-622" BrotherPJ-62282DE "PJ-623" BrotherPJ-623421F "PJ-662" BrotherPJ-66242DC "PJ-663" BrotherPJ-663821D "PJ-673" BrotherPJ-673101C "PJ-722" BrotherPJ-722428F "PJ-723" BrotherPJ-723824E "PJ-762" BrotherPJ-762828D "PJ-763" BrotherPJ-763424C "PJ-763MFi" BrotherPJ-763MFi2E93 "PJ-773" BrotherPJ-773D04D "PJ-822" BrotherPJ-82241BF "PJ-823" BrotherPJ-823817E "PJ-862" BrotherPJ-86281BD "PJ-863" BrotherPJ-863417C "PJ-883" BrotherPJ-8832378

## 8. Compatibility and Support Information

### 8.1. Compatibility with PJ-500 series printers

#### Main differences with PJ3/PJ3Plus

The main differences with the PJ-500 series printers are listed below.

- USB-related information  
(Product ID, Device ID, PnP ID, Manufacturer string descriptor and Product string descriptor)
- Shortened IrDA transmission distance

#### Transferring from PJ-500 series printers to PJ-600/700/800 series printers

With a USB connection, since the installed driver will change, the machine cannot simply be exchanged. The driver must be replaced from the application.

With an IrDA/Bluetooth connection, the machine can simply be used as it is. However, if the printing system for the PJ-500 series printers have created an assumed Friendly Name and PIN code (default), printing is not possible on the PJ-600/700/800 series printers.

Data that can be printed on the PJ-500 series printers can be sent to the PJ-600/700/800 series printers to be printed; however, the opposite does not apply.

\*Note: The PJ-500 series actually includes the PJ3/PJ3Plus.

### 8.2. Inquiry

Information for developers can be found at the URL below.

<https://support.brother.com/g/s/es/dev/en/index.html>

In the event of doubts about the technical information, get in touch with the contact listed on the "Inquiry" page of the above-mentioned website. Our company offers support at our option.

In addition, cases may arise in which we are unable to respond to technical inquiries received at our call center.