Software Developer's Manual

P-touch Template 2.0 Command Reference

RJ-4230B/4250WB

RJ-3230B/3250WB

RJ-2030/2031/2050/2131/2140/2150

TD-4410D/4420DN/4510D/4520DN/4550DNWB/4210D

TD-2020/2120N/2130N

TD-2020A/2030A/2125N/2125NWB/2135N/2135NWB

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Introduction

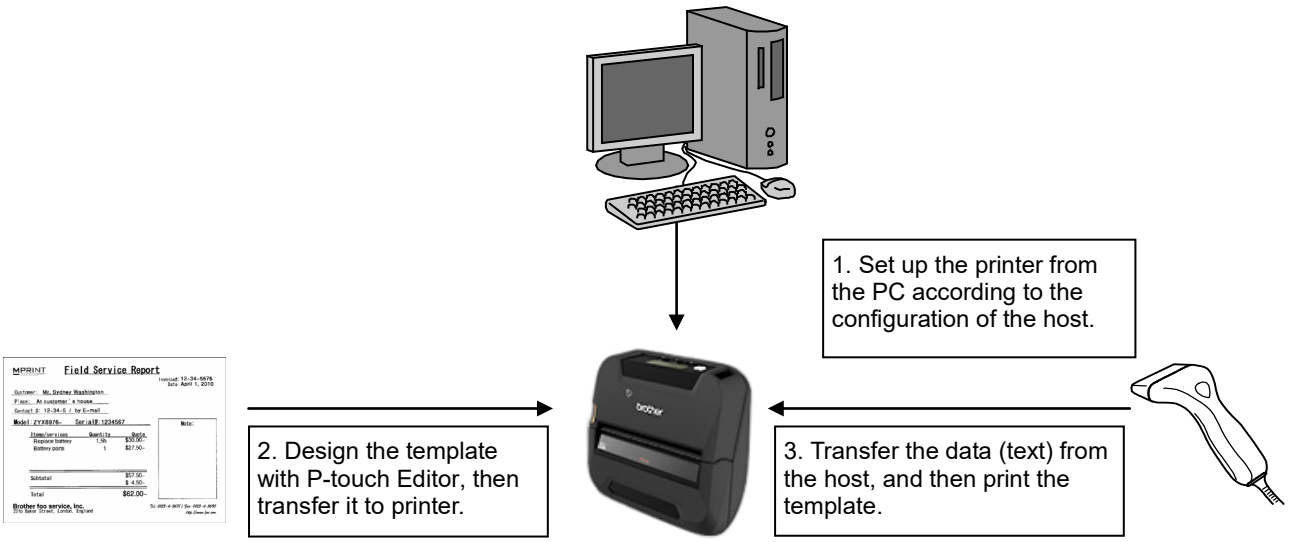
This material provides the necessary information for directly controlling the templates transferred to your printer.
This information is provided assuming that the user has full understanding of the operating system being used and basic mastery of programming in a developer's environment.
Read the model names that appear in the screens in this manual as the name of your printer.

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What is P-touch Template 2.0?

P-touch Template 2.0 helps the user develop a printing system that connects directly from the host and has following functions:

- Transfers the template data from P-touch Editor to the printer (2)
- Transfers the ASCII text and binary data from a host to the template in the printer (3)
  (“Host” includes medias such as barcode readers, smartphones or mobile terminals.)
- Prints the transferred data (3)
  (See the figure shown below.)



P-touch Template 2.0 commands consist of a prefix character and a two-character text string.
When the prefix character is sent, the printer begins the analysis of the P-touch Template 2.0 command, and performs the specified process if the following two-character text string corresponds to a command.

There are two types of command, “static command” and “dynamic command”. Items set with the dynamic command are retained until the printer is turned off. On the other hand, the items set with the static command are stored in the non-volatile ROM in the printer.

Note

***P-touch Template 2.0 is not compatible with some hosts.**

***These hosts should have an interface to transfer the data.**

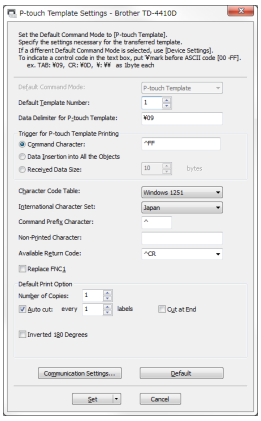
***ZPL II emulation is supported by P-touch Template 2.0.**

1. Using P-touch Template 2.0

(1) Specify the printer settings.

Using the P-touch Template Settings tool, specify the initial printer settings according to the host system environment or the host that the printer is connected to.

(Please refer to "2. P-touch Template Settings Tool User's Guide".)

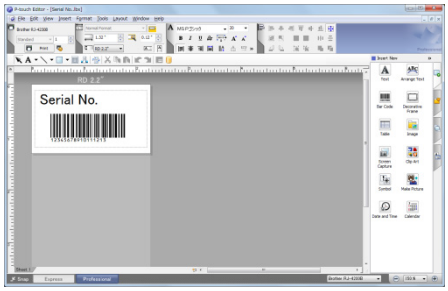


The printer driver must first be installed via a USB connection.

(2) Design the template.

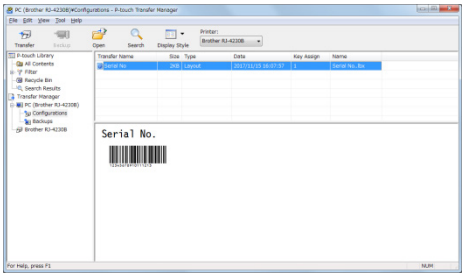
Using P-touch Editor, design the template to be transferred to the printer.

(Please refer to "4. P-touch Template 2.0 Limitations".)



(3) Transfer the templates.

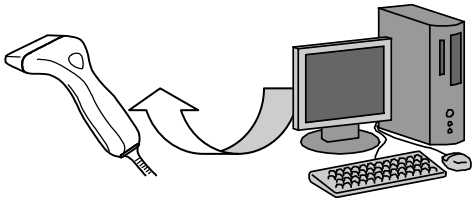
Using P-touch Transfer Manager, transfer the templates to the printer.



(4) Program using P-touch Template 2.0 commands.

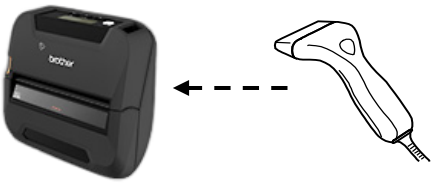
If any special commands are required to control the printer, change the terminal program in accordance with the P-touch Template 2.0 commands.

(Please refer to "6. Control Code Lists".)

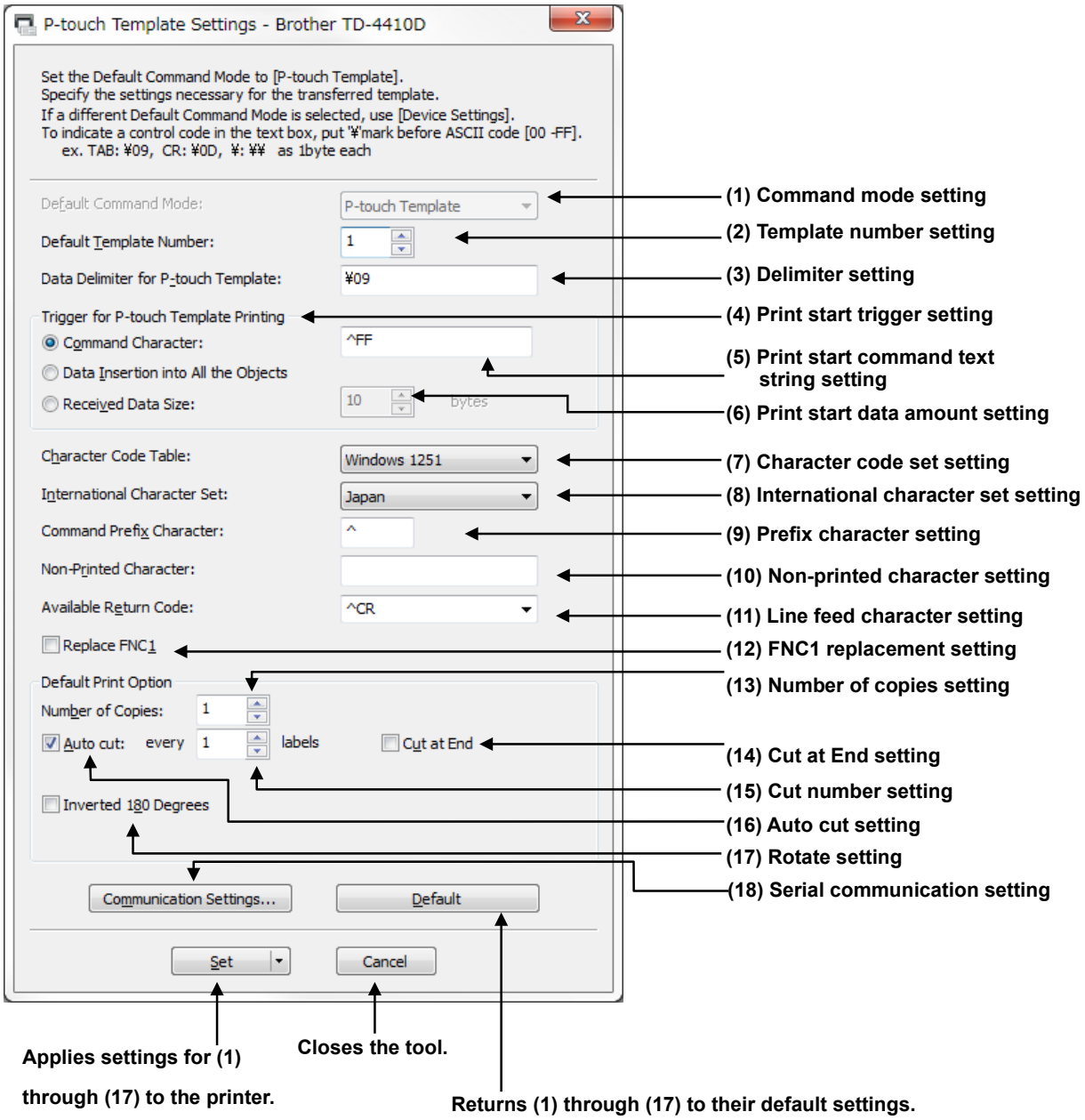


(5) Connect the printer with the host and print slips etc.

Transfer the data such as ASCII text from the host to templates in the printer, and print the slips etc.



2. P-touch Template Settings Tool User's Guide



*Available items depend on the printer models.

(1) Command mode setting

- P-touch Template mode

To use P-touch Template 2.0, select the P-touch Template mode.

(2) Template number setting

Specify the template number selected as the default when the printer is turned on.

However, if any template has been set to not be transferred to the printer, the number of that template cannot be specified.

(3) Delimiter setting

A delimiter is the symbol used to indicate when to move to the next object in the data that is being sent. Between 1 and 20 characters can be specified.

(4) Print start trigger setting

Select one of the following three options for the print start trigger.

- Command Character

(Printing starts when the command character specified in (5) is received.)

- Data Insertion into All the Objects

(Printing starts when the delimiter for the last object is received.)

- Received Data Size

(Printing starts when the number of characters specified in (6) is received. However, delimiters are not counted in the number of characters.)

(5) Print start command text string setting

Specify 1 to 20 characters.

(6) Print start data amount setting

The amount of data that must be received before printing can begin can be set between 1 and 999.

(7) Character code set setting

Select one of the following code sets. For character code tables, refer to “Appendix C: Character Code Tables”.

- Windows1252
- Windows1250
- Brother standard
- Unicode (UTF-8) * Not supported by RJ-2XXX, TD-20XX, TD-21XX

(8) International character set setting

Select one of the following countries for the character set.

- USA
- France
- Germany
- Britain
- Denmark I
- Sweden
- Italy
- Spain I
- Japan
- Norway
- Denmark II
- Spain II
- Latin America
- South Korea
- Legal

The following 12 codes are switched depending on the country selected from those listed above.

23h 24h 40h 5Bh 5Ch 5Dh 5Eh 60h 7Bh 7Ch 7Dh 7Eh

For the characters that are switched, refer to the "International character set table" in "Appendix C: Character Code Tables".

(9) Prefix character setting

Change the prefix character code. Specify as a one-character character code.

The prefix character is the code for the first character that identifies commands that can be used in P-touch Template mode.

(10) Non-printed character setting

The characters specified here are not printed when data is received. Specify 1 to 20 characters.

(11) Line feed character setting

The line feed code is used when feeding data to indicate that the following data should be moved to the next line in a text object. One of the following four line feed codes can be selected, or 1 to 20 characters can be specified as the line feed code.

1. ^CR
2. \0D\0A
3. \0A
4. \0D

(12) FNC1 replacement setting

This setting selects if GS codes, which are included in barcode protocols such as GS1-128 (UCC/EAN-128), are replaced with FNC1 codes.

If the check box is selected, a received GS code is replaced with the FNC1 code. If the check box is cleared, a received GS code is outputted as is.

(13) Number of copies setting

Specify the number of copies. A number between 1 and 99 can be specified.

(14) Cut at End setting

If this setting is selected, the cut operation will be performed when printing is finished.

*This command is available only for printers with auto cutter.

(15) Cut number setting

A number between 1 and 99 can be specified.

*This command is available only for printers with auto cutter.

(16) Auto cut setting

If auto cutting is selected, the cut operation will be performed after the number of labels specified in (16).

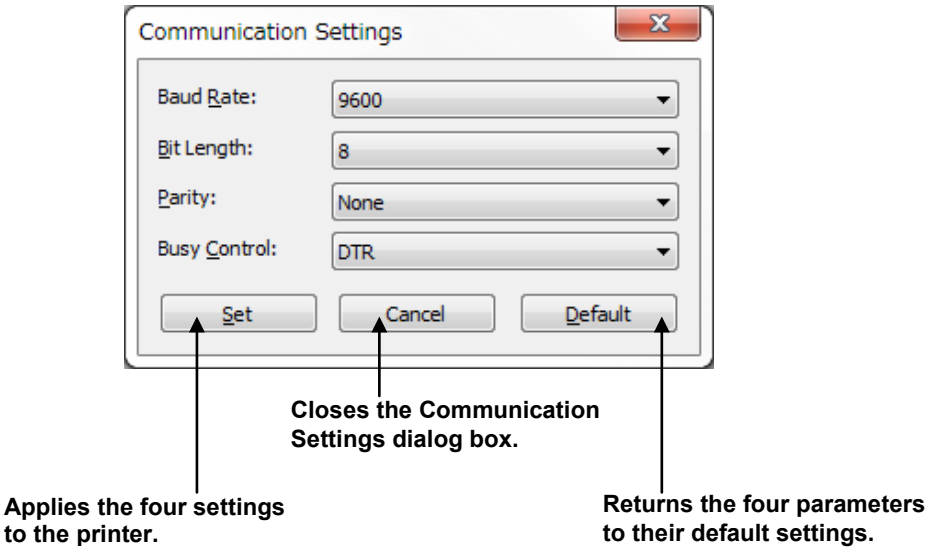
*This command is available only for printers with auto cutter.

(17) Rotate setting

Set print orientation. When the check box is checked, a print is 180 degrees rotated.

(18) Serial communication settings

Baud rate	Please refer to “Appendix B: Specifications”
Bit length (bit)	8 bit, 7 bit
Parity	None, Odd, Even
Busy control	DTR, XON/XOFF



Others

· Typing text into text boxes (3), (5), (9), (10) and (11)

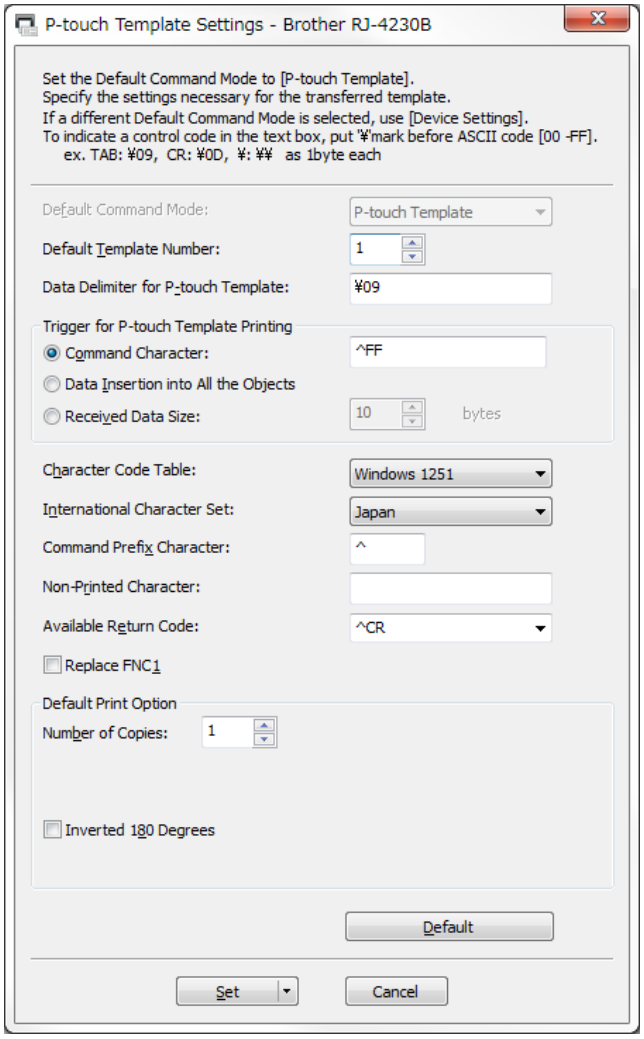
Characters that can be entered as text can be typed in, and control codes can be entered as ASCII codes (00 to FF) with \ in front of them.

Example

PRINT	PRINT
Tab control code	\09
Line feed control code	\0D
\	\\

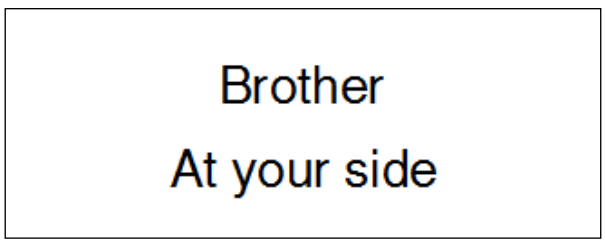
3. Examples for Using Commands

In this chapter, the following settings are described as defaults.



3.1 Example for using P-touch Template 2.0

Target label is following.



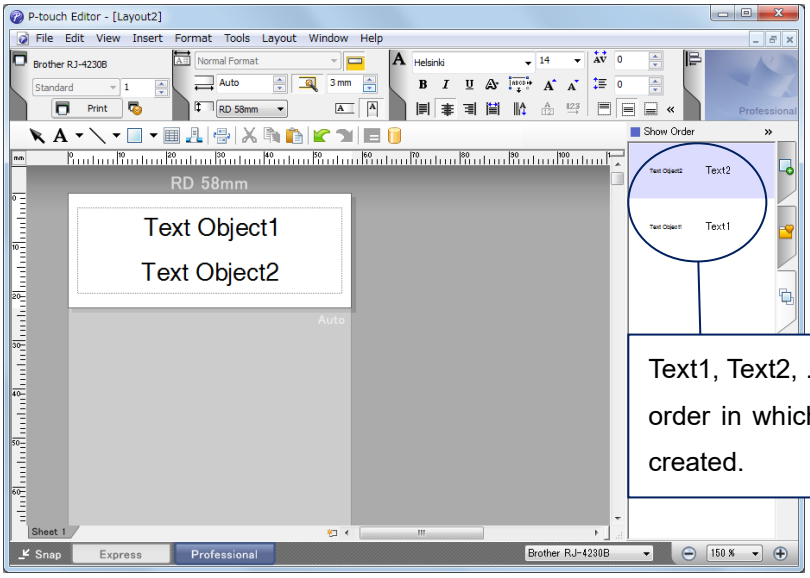
Steps

1. Make a template with P-touch Editor.
2. Transfer the template to Transfer Manager.
3. Transfer the template from Transfer Manager to the printer.
4. Use P-touch Template 2.0 commands for printing.

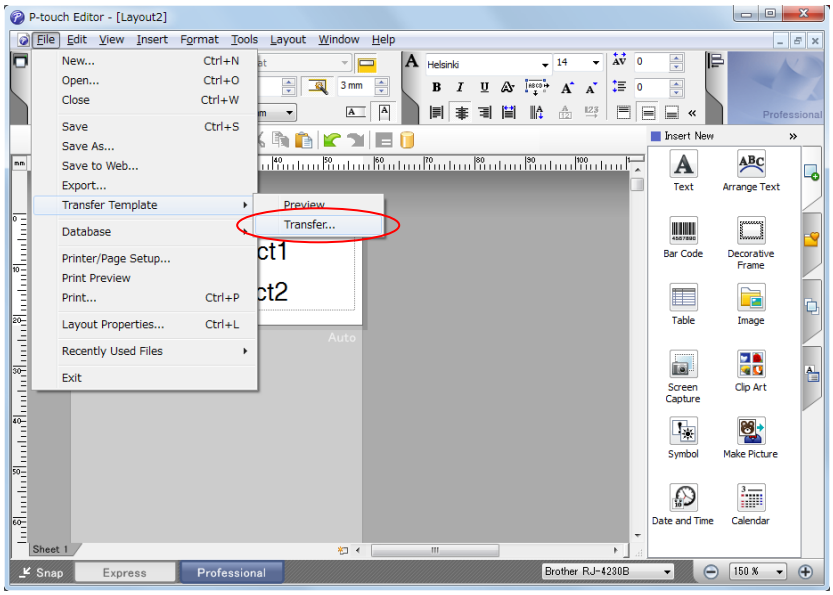
Step 1: Make a template with P-touch Editor.

Start the P-touch Editor and make a label.

In this example, P-touch Editor operates in Professional mode.

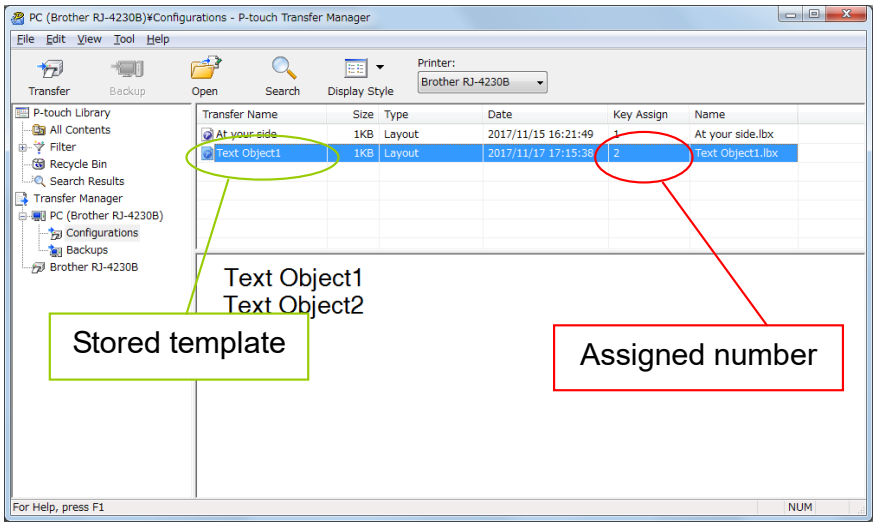


Step 2: Transfer the template to Transfer Manager.

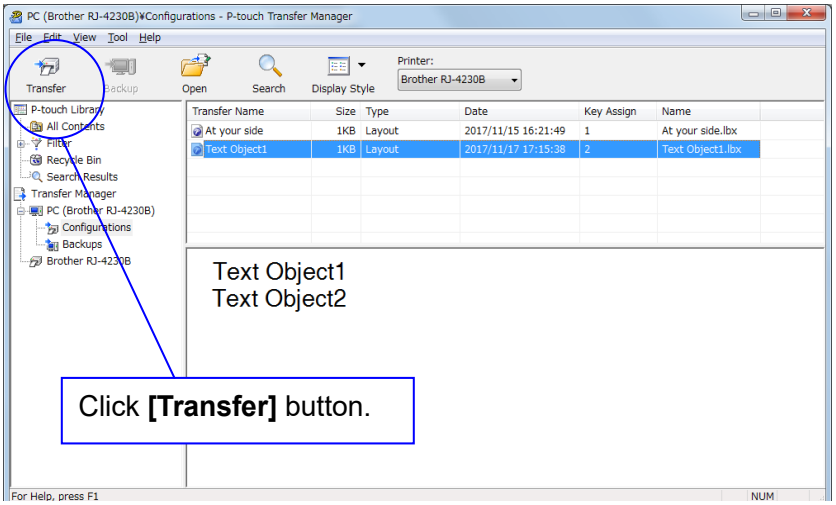


The template sent in step 2 is stored in Transfer Manager, as shown below.

In this example, it is assumed that another template has already been transferred with key assignment number 1, and the key assignment number is 2.



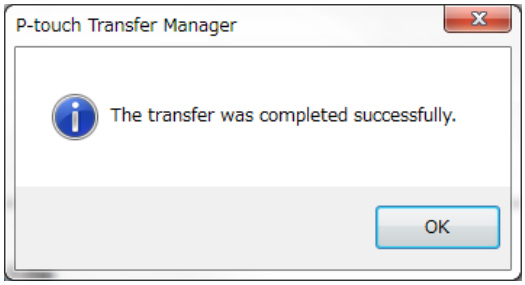
Step 3: Transfer the template from Transfer Manager to the printer.



Note

Make sure that the printer is turned on and hooked up to the PC with a USB cable before using Transfer Manager. Also, make sure that the printer communication setting is always bi-directional communication when Transfer Manager is used.

When the template is transferred to the printer, the following message appears.



Step 4: Use P-touch Template 2.0 commands for printing.

(1) Initialize P-touch Template 2.0

Send "Initialize" command to restore the default settings.

^II Initialize

ASCII:	^	I	I
Decimal:	94	73	73
Hexadecimal:	5E	49	49

Parameters

None

Entered command

^II

(2) Select template number

Select target template number using “Select template” command. In this example, please select number 2 selected in Step2.

^TS Select template

ASCII:	^	T	S	n1	n2	n3
Decimal:	94	84	83	nd1	nd2	nd3
Hexadecimal:	5E	54	53	nh1	nh2	nh3

Parameters

0≤n1≤2

0≤n2≤9

0≤n3≤9

Entered command

^TS002

(3) Creating text data to insert

Insert text data to print.

Order of the data is followings.

1. Data for the first object (ex: “Brother”)
2. Delimiter (09h)
3. Data for the second object (ex: “At your side”)

Entered command

Brother
0x09
At your side

(4) Print Start

^FF Start printing

ASCII:	^	F	F
Decimal:	94	70	70
Hexadecimal:	5E	46	46

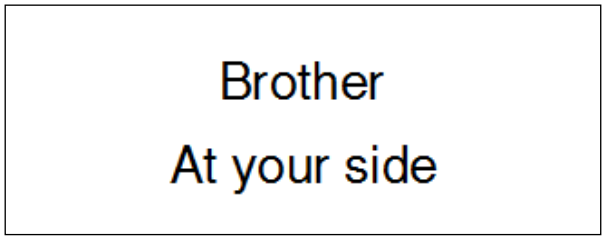
Parameters

None

Entered command

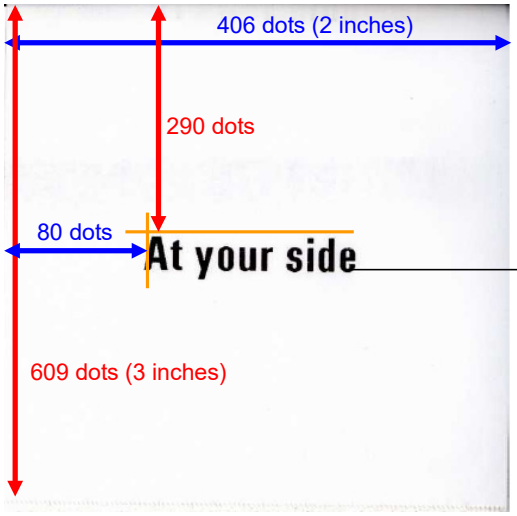
^FF

When the printer receives the command above, the label below is printed.



3.2 Example for using ZPL II in P-touch Template 2.0

Here is the label that will be made.



Example:
A case 203dpi printer is used

Font is outline font, and size is 50, 50 dots.

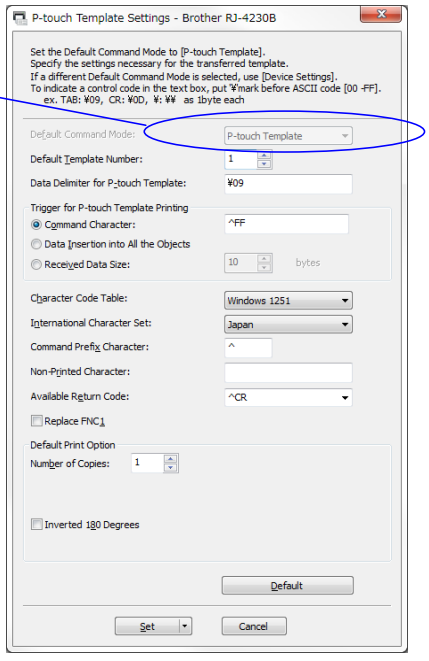
Steps

1. Change the mode to P-touch Template mode.
2. Set the label length with ^LL.
3. Set the label width with ^PW.
4. Send other ZPL II command.

Step 1: Change the mode to P-touch Template mode.

P-touch Template mode can be selected by using the P-touch Template Settings tool shown below.

Select P-touch Template mode.



Step 2: Set the label length with ^LL.

The label length is 609 dots.

Entered command

```
^LL609
```

Step 3: Set the label width with ^PW.

The label width is 406 dots.

Entered command

```
^PW406
```

Step 4: Send other ZPL II commands.

The orientation of the text is 80, 290.

The font is outline font and size is 50, 50.

The text is “At your side.”

Entered command

```
^FO80,290
^A0N,50,50
^FDAt your side
```

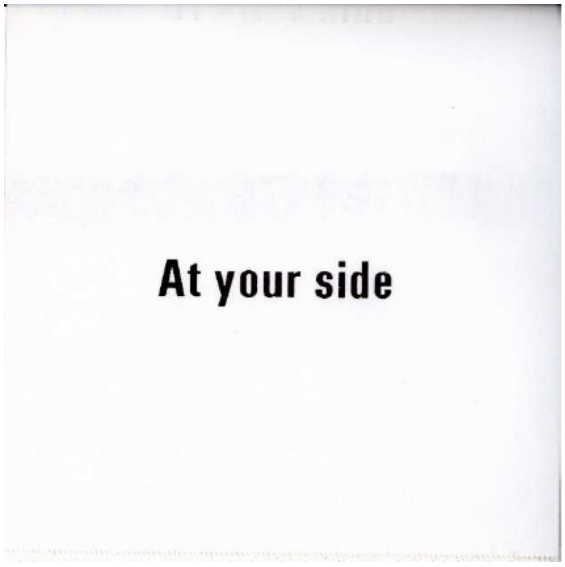
Summary -all commands to be sent to make the label-

```
^XA
^LL609
^PW406
^FO80,290
^A0N,50,50
^FDAt your side
^XZ
```

Note

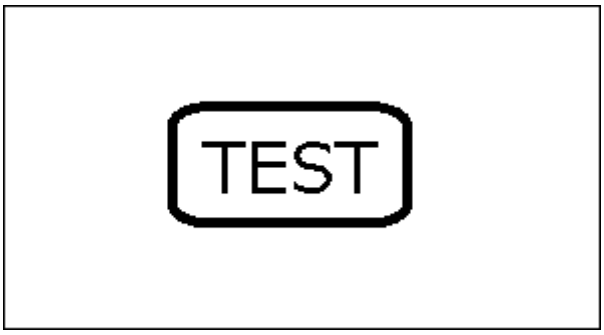
“^XZ” is the command required at the end of format with ZPL II commands.

With those commands above, the label below is printed.



3.3 Example for printing logo/external characters in P-touch Template 2.0

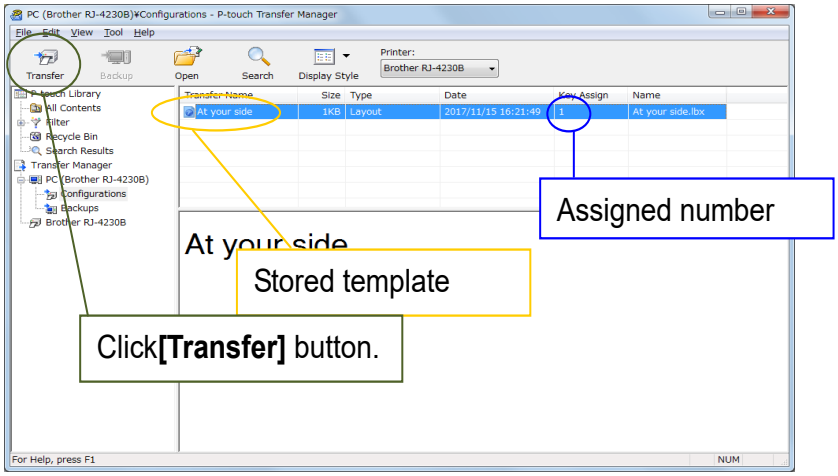
Here is the label to be printed.



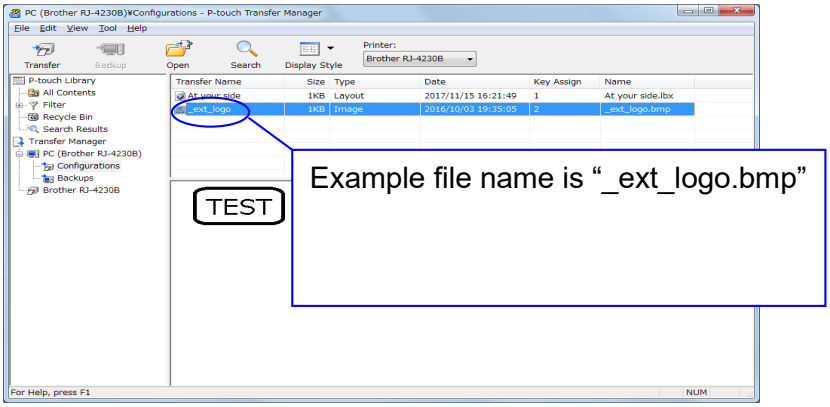
Steps

1. Make a template and transfer it to the printer.
2. Store the logo/external characters as a bitmap file.
3. Transfer the bitmap file from Transfer Manager to the printer.
4. Use P-touch Template commands for printing.

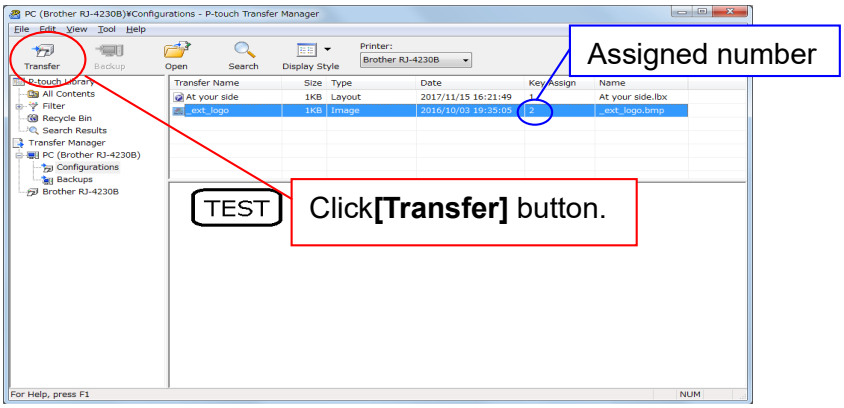
Step 1: Make a template and transfer it to the printer.



Step 2: Store the logo/external characters as a bitmap file. The file name should be started from "_ext_",, and drag & drop it to Transfer Manager.



Step 3: Transfer the bitmap file from Transfer Manager to the printer.



Step 4: Use P-touch Template commands for printing.

(1) Initialize P-touch Template

^II Initialize

ASCII:	^	I	I
Decimal:	94	73	73
Hexadecimal:	5E	49	49

Parameters

None

Entered command

^II

(2) Select the bitmap file to be printed.

In order to select the bitmap file, enter a specific character "\" and the value one less than the assigned number for the bitmap file that is shown in Step 3.
For example, if the assigned number for the bitmap file is 2, enter \01 as shown right.

Entered command

\01

(3) Start printing.

^FF Start printing

ASCII:	^	F	F
Decimal:	94	70	70
Hexadecimal:	5E	46	46

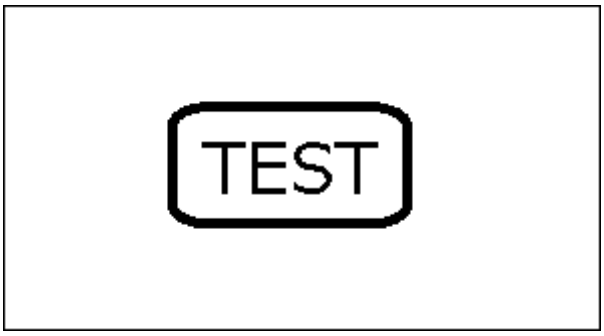
Entered command

^FF

Parameters

None

When the printer receives the command above, the label below is printed.



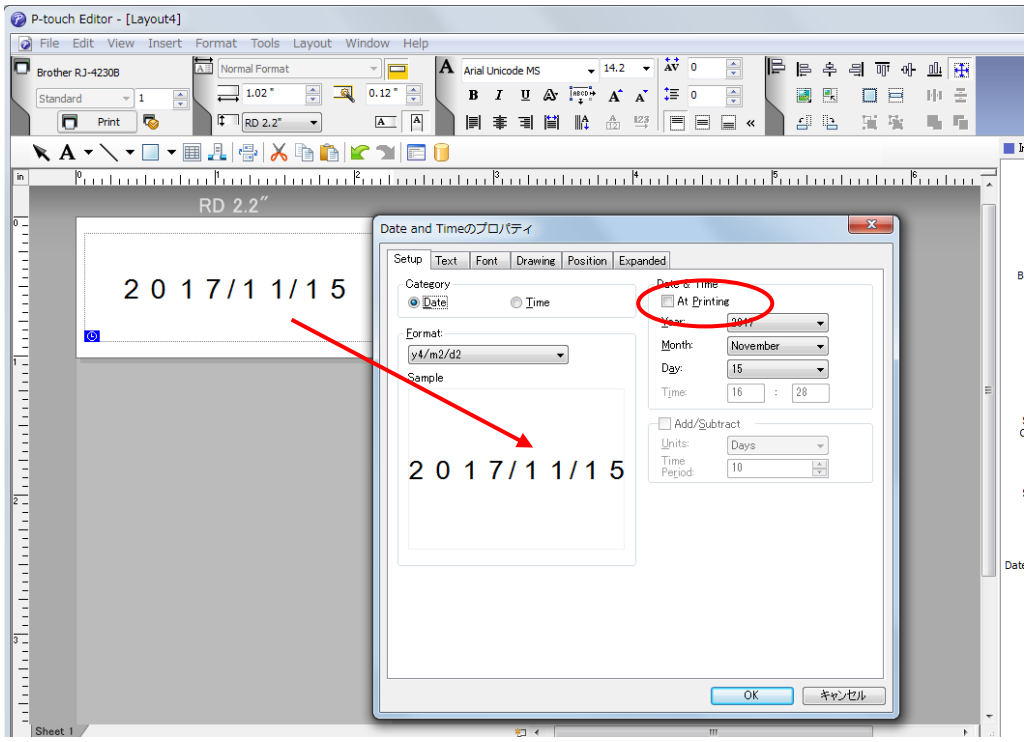
4. P-touch Template 2.0 Limitations

4.1 Relating to text objects

4.1.1 Font, size, etc.

Please also refer to “5.3 Relationship between the P-touch Editor settings and the printer image” on page 32

- When a template is transferred to a printer, a font specified in P-touch Editor is changed to most similar resident font in the printer.
- Character sizes specified in P-touch Editor are converted to the closest built-in character size when the data is sent to the printer.
- Character sizes specified in P-touch Editor are all made the same size within an object.
- Depending on the language of the computer used for transferring, either the Western European or the Eastern European character set is used for characters within text objects.
- “\” is used as control character for an external character. When “\” has to be used as a data, input “\\”.
- When “At Printing” check box is NOT checked, the time and date when editing P-touch Editor is applied and printed.



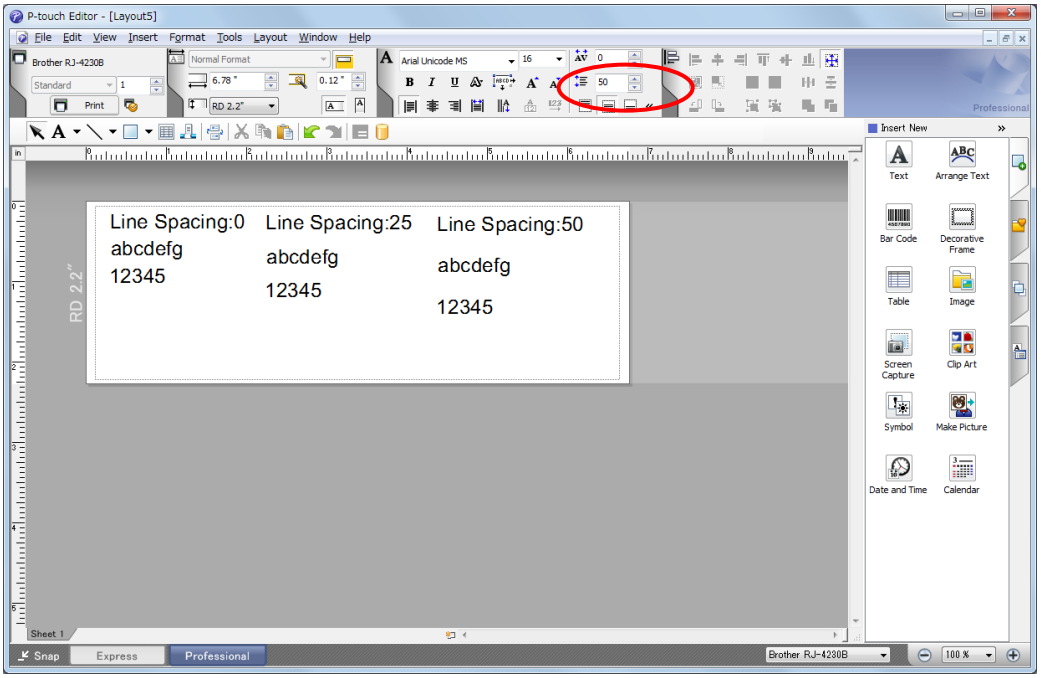
“At Printing” setting

To cancel the “At Printing” setting for a date/time in P-touch Editor, display the properties for the Date and Time object, and then clear the “At Printing” check box.

4.1.2 Character alignment

- Horizontal alignment settings (“Justify” or “Equal Length”) specified in P-touch Editor are changed to the left alignment setting.
- The setting for line feed with a line feed specified with the P-touch Editor can be set between 0 and 255 dots.

  A negative line spacing setting cannot be used in P-touch Editor. In addition, since there is an upper limit for the line width with the printer, a line spacing setting larger than this limit specified in P-touch Editor will not be applied on the printer.



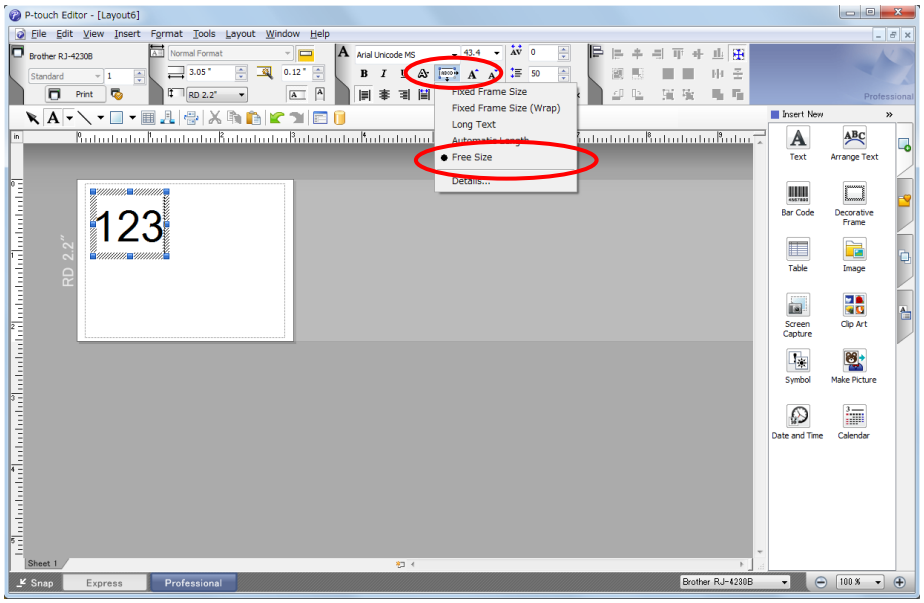
Specifying the line spacing setting in P-touch Editor

4.1.3 Text Layout settings

- Character styles specified in P-touch Editor all become the same style within an object.
- If the “Long text” is selected under “Text Layout” in P-touch Editor, the text will be placed at the position specified as “Horizontal Position” in Appendix B:Specifications.
- If the “Long Text” setting is selected under “Text Layout” in P-touch Editor and continuous length tape is used, the print length is increased to fit the text.
- If the “Fixed Frame Size (Wrap)” setting is selected under “Text Layout” in P-touch Editor, the object size does not change, and the text size is reduced.

  “Fixed Frame Size (Wrap)” is a setting that was added for inserting long text. Since it is possible that the text size may become extremely small if the wrapping feature is no longer applied, we recommend that “Fixed Frame Size” be selected when die-cut labels or a fixed length is specified in P-touch Editor, or that “Automatic Length” be selected when an automatic media length is specified.

Shrink to Fit	The text object size is fixed, and the text size is changed depending on the text length.
Clip Text	The text object size is fixed, and the text size is fixed. If the text is too long, the text is not printed.
Long Text	The text object width is fixed, and the text size is fixed. If the text is too long, the text object height is increased.
Automatic Length	The text object height is fixed, and the text size is fixed. If the text is too long, the text object width is increased.
Free Size	The text size is fixed. If the text is too long, the text object width is increased. If a new line is started, the text height is increased.



Specifying a Text Layout setting

Click the button circled in red to display a drop-down list, and then select the desired option.

- It is possible to decorate specific text by surrounding text data with decoration tags.

  The specification of the tag is as follows.

Type	Decoration tag*	
	Start tag	End tag
Bold		
Underline	<u>	</u>

  *These are default values.

  Ex) When the text ”AAABBB<u>CCC</u>” is inserted to a text object:

  Output: AAA**BBB**<u>CCC</u>

- Decoration tags are required for each line. If a line break occurs inside the decorative tag, the text after the line feed is not decorated.
- Decoration tag is available only for text object.
- Numbering field is not supported for decoration.

4.2 Relating to barcodes

4.2.1 Barcodes

- When trying to transfer a template containing a barcode that is not compatible with the printer, an error will occur while transferring and the template cannot be transferred to the printer.

  The following barcodes are compatible with the printer.

1D barcodes	CODE39, ITF(I-2/5), UPC-A, UPC-E, EAN-13, EAN-8, CODABAR, CODE128, GS1-128(UCC/EAN-128) , GS1 Databar(RSS), POSTNET, Intelligent Mail Barcode
2D barcodes	PDF417, QR Code, Data Matrix, MaxiCode, Aztec, GS1 Databar Composite

  *Please refer to Appendix B:Specifications for each model support information.

- If data containing characters incompatible with the protocol are fed into the barcode object, that barcode object is not printed.
- The barcode size may differ from that in the print result with P-touch Editor.
- Since CODE128 and GS1-128(UCC/EAN-128) can easily be printed slightly larger, we recommend leaving larger margins when creating templates in P-touch Editor.
- If data fed into a barcode in a template created with P-touch Editor causes an extremely long barcode, the barcode may not be fully printed.
- Do not insert line feed immediately before or immediately after the barcode data. Otherwise, it will be considered as part of the barcode data. In that case, the barcode will be created containing the line feed code, or the barcode will not be printed since data incompatible with the barcode protocol is entered.
- A delimiter or print start text string should be entered immediately after the barcode data.

4.2.2 1D barcodes

- A barcode wider than 22.5 cm will not be printed.
- A 1D barcode taller than 1164 dots is converted to 1164dots.
- The number of characters that can be entered for each protocol is shown below.

CODE39	1 to 50 characters (not including “*” on both sides) When feeding data, the asterisks (*) at the beginning and end of the data are skipped.
ITF I-2/5	1 to 64 characters The bearer bar setting specified in P-touch Editor is invalid.
EAN-8	7 characters
EAN-13	12 characters
UPC-A	11 characters
UPC-E	6 characters
CODABAR	3 to 64 characters (with “A”, “B”, “C” or “D” at the beginning and end)
CODE128	1 to 64 characters
GS1-128 (UCC/EAN-128)	1 to 64 characters
GS1 Databar (RSS-14)	3 to 15 characters (begins with “01”)
GS1 Databar (RSS Limited)	3 to 15 characters (begins with “01”; third digit is “0” or “1”)
GS1 Databar (RSS Expanded)	1 to 64 numbers or 1 to 40 letters*
POSTNET	5, 9 or 11 characters
Intelligent Mail Barcode	20 characters, 25 characters, 29 characters, 31 characters (second digit is “0”-“4”)

* ISO646 characters can be printed.

<<numbers, letters, spaces, !, ”, %, &, ’, (,), *, +, ,, -, ., /, :, ;, <, =, >, ? and _>>

When trying to transfer data exceeding the ranges described above, an error will occur while transferring. If the data that is fed does not meet the minimum limit, the barcode is not printed. If the data exceeds the maximum limit, only the data to the maximum limit is applied.

4.2.3 2D barcodes

- Margin setting in the P-touch Editor is ignored. It is only changed by Barcode margin setting command (ESC iXE2).
- Other limitations are as follows.

QR Code	The version setting for a QR Code specified in P-touch Editor is invalid. The version setting must be turned off. The Structured Append settings specified in P-touch Editor are invalid.
PDF417	Since the error correction levels for PDF417 specified in P-touch Editor are inconsistent with those on the printer, the size of the barcode may change when it is printed with P-touch Template 2.0. The Structured Append settings specified in P-touch Editor are invalid.
Data Matrix	The Structured Append settings specified in P-touch Editor are invalid. Macro settings specified in P-touch Editor are invalid
Maxi Code	The Structured Append settings specified in P-touch Editor are invalid. The barcode is partitioned when too much data is entered. When specifying the country code and service class with P-touch Editor, the number is entered at the beginning if the maximum number of characters is not reached. However, with the printer, the number is entered at the end. Example: “2” is specified. P-touch Editor: “200”; Printer: “002”
Aztec	The Remove Character setting specified in P-touch Editor is invalid. The Code Spacing and Join Vertically in the Set Structured Append settings specified in P-touch Editor are invalid. When inserting data, please add “00” in between the message ID and the data. If the message ID is not included, please add “00” to the beginning of the data.
GS1 Databar Composite	Following models are supported. - GS1 Databar Omni CC-A/CC-B - GS1 Databar Truncated CC-A/CC-B - GS1 Databar Stacked CC-A/CC-B - GS1 Databar Stacked Omni CC-A/CC-B - GS1 Databar Limited CC-A/CC-B - GS1 Databar Expanded CC-A/CC-B - GS1 Databar Expanded Stacked CC-A/CC-B When inserting data, please add the data “01” to the beginning of data. The setting “Add 01 on the head of data” of the P-touch Editor is not affected. In addition, 1D barcode data and 2D code data must be separated by ‘|’. Ex) 1D barcode data is “12345”, 2D code data is ”67890”: Please insert “0112345|67890”.

4.3 Relating to images

- If a template containing overlapping images is transferred with P-touch Editor, all image data will be overlapping. (P-touch Editor displays the image created last on top.)

4.4 Relating to Numbering

- A single object contains a single Numbering field.
- A Numbering field can contain a maximum of 15 digits.
- Only Numbering fields will be saved in Numbering objects when printing is finished.
- If the number of characters that was fed in is less than the number of characters in the Numbering object, it may not be printed correctly.
- If a line feed exists in the numbering area, characters after line feed are deleted.

  Note

  Numbering objects refer to text objects or barcode objects that have the Numbering function applied.

4.5 Relating to Database

- When a database is transferred, it is named using the file name + sheet name (when created in Excel).
- The file name can contain up to 15 bytes of characters (15 one-byte characters or 7 two-byte characters).
- A maximum of 255 databases can be transferred. However, the transfer cannot be completed if the amount of data being transferred exceeds user area* of the flash memory. (* See Appendix B: Specifications)
- If there is a line feed in a cell containing text to be replaced, only the string of characters before the line feed will be replaced.
- The text to be replaced can contain up to 256 characters.
- A database can contain a maximum of 65,000 rows.
- The maximum number of database line is 65000 lines included the title. If the database is over 65000 lines, the only lines over 65000 are deleted.
- A database can contain a maximum of 100 columns. If a database containing more than 100 columns is transferred, all data after the 100th column will be deleted.
- If there is no database linked to the template being printed, or if the corresponding string of characters to be replaced cannot be found, an error occurs.
- If columns linked to the template being printed are not in the database, the objects related to those columns remain as they were when the template was transferred.
- Depending on the language of the computer used for transferring, either the Western European or the Eastern European character set is used for characters within databases.

4.6 Others

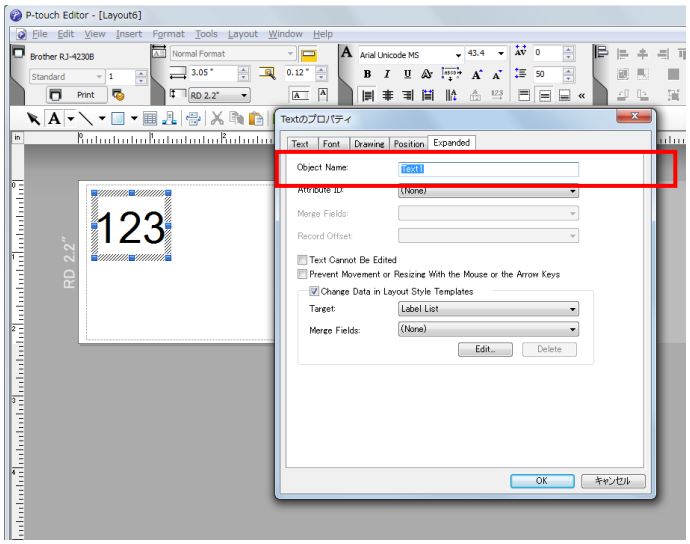
4.6.1 Transferring templates

- A maximum of 255 templates can be transferred. The transfer cannot be completed if the amount of data being transferred exceeds user area of the flash memory.
- A single template can contain a maximum of 255 objects.
- When print data is fed, the command mode should be the P-touch Template mode.
- When a template is transferred to the printer, all values specified with dynamic commands are initialized.
- This is not compatible with split labels.
- After printing from P-touch Editor, the command mode changes to initial value. In order to print a template, select the P-touch Template mode in the P-touch Template Settings tool or, if the previous mode in the P-touch Template Settings tool was the P-touch Template mode, turn the printer off, then on again to enter P-touch Template mode.

4.6.2 About objects in a template

- The line feed codes (0D0A, 0D and 0A) in print data are read, then discarded. However, when specified as special data, such as delimiters, print start text strings or line feed commands, they are applied.
- The order of the objects is determined only by the last four-digit number of the object name. Objects with no numbers in their names will be at the end of the order. If objects have the same number, the order is determined in the following order: text, 1D barcodes, then 2D barcodes. If the objects are of the same type, the object created first is first in the order. We recommend that the numbers indicating the order be added at the end of the object name.

(To specify the name of an object in P-touch Editor, display the properties of the text or barcode object, and then specify the name in the “Object Name” box on the Expanded tab.)



Specifying the object name

5. Precautions

5.1 Notes on using static commands

Some static commands are only executed in raster mode. When using these static commands, change the command mode to raster mode before sending the command.

(1) Switch to raster mode.

ESC i a 01h (1Bh 69h 61h 01h)

(2) Send static commands.

(3) Switch to P-touch Template mode.

ESC i a 03h (1Bh 69h 61h 03h)

*Please refer to 6.3 Raster commands.

5.2 Notes for printers with Bluetooth interface

If the printer is connected using Bluetooth, the printer may not be ready immediately after the port is opened. When sending print data, wait at least 500 msec after the port has been opened before starting to send the data.

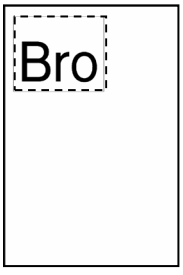
In addition, if the port is continuously opened and closed, for example, when printing multiple pages, wait at least 500 msec after the port is closed before opening the port the next time.

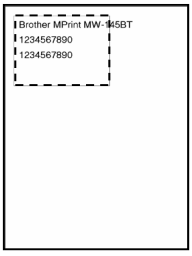
Once the print data for one page has been sent, do not close the Bluetooth port until printing is finished.

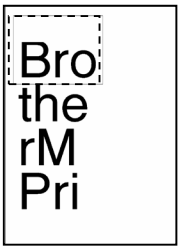
5.3 Relationship between the P-touch Editor settings and the printer image

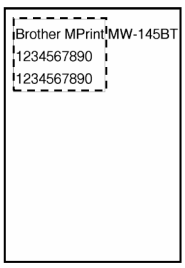
P-touch Editor setting Text options (Text Layout settings)			Printer image				Printed image
			Width		Height		
Text Layout	Details-Options	Wrap Text	Frame Size	Text Size	Frame Size	Text Size	
Fixed Frame Size	Clip Text		Fixed If the text is too long, the overflow text is not printed.	Fixed	Fixed If the text is too long, the overflow text is not printed.	Fixed	1 (See below.)
	Shrink to Fit		Fixed If the text is too long, even with the minimum text size, the overflow text is printed outside the frame.	Auto The text is automatically maximized to fit the frame size.	Fixed If the text is too long, even with the minimum text size, the overflow text is printed outside the frame.	Auto The text is automatically maximized to fit the frame size.	2 (See below.)
	Clip Text	Selected					
	Shrink to Fit	Selected					
Fixed Frame Size (Wrap)	-						
Long Text	-		Fixed The overflow text is automatically sent to the new line.	Fixed	Even the overflow text is printed outside the frame.	Fixed	3 (See below.)
Automatic Length	-		Even the overflow text is printed outside the frame.	Fixed	Fixed If the text is too long, even with the minimum text size, the overflow text is printed outside the frame.	Auto The text is automatically maximized to fit the frame size.	4 (See below.)
Free Size	-		Even the overflow text is printed outside the frame.	Fixed	Even the overflow text is printed outside the frame.	Fixed	5 (See below.)

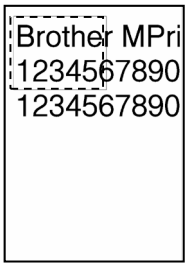
Printed image

1 

2 

3 

4 

5 

5.4 Making a template in order to save time before starting to print

- Perform the following operation to convert permanent objects into images.

- In the **Text Properties** dialog box, select the **Expanded** tab, and then select the "**Text Cannot Be Edited**" check box.

- If the **Expanded** tab of the **Text Properties** dialog box is not displayed, click [**Options**] on the **Tools** menu, and then select the "**Display Expanded Tabs of Object Properties**" check box on the **General** tab.

- Specify the text options (Text Layout settings) so that the text size is fixed.

6. Control Command Lists

6.1 P-touch Template commands

Commands	Description	Note
^II	Initialize	
^TS	Select template	
^FF	Start printing	
^CN	Specify number of copies	
^NN	Specify number of numbering copies	
^ID	Initialize template data	
^PT	Select print start trigger	
^PS	Specify print start command text string	
^PC	Specify print start received character count	
^SS	Specify delimiter	
^CO	Select cut options	Models without cutters are not supported
^LS	Specify line spacing with line feed	
^CC	Change the prefix character	
^RC	Specify line feed command text string	
^QS	Select print options	Only TD-20XX, TD-21XX printer supports.
^QV	Specify QR Code version	
^FC	FNC1 replacement setting	
^OP	Perform printer operation (feed)	
^SR	Status request	
^VR	Retrieve version information	
^CR	Line feed in object	
^OS	Select object (object number)	
^ON	Select object (object name)	
^DI	Directly insert object	

Note

*** The commands listed above must be used in P-touch Template mode.**

*** These commands cannot be used in raster mode or ESC/P mode.**

6.2 Setting and retrieving commands

Commands	Description	Note
ESC iXT	Select print start trigger	
ESC iXP	Specify print start command text string	
ESC iXr	Specify print start received character count	
ESC iXD	Specify delimiter	
ESC iXa	Specify non-printed text string	
ESC iXi	Select command mode	
ESC iXn	Select template	
ESC iXf	Change prefix character	
ESC iXc	Select cut options	Models without cutters are not supported
ESC iXy	Select cut options (specifying number of labels)	
ESC iXm	Select character code set	
ESC iXj	Select international character set	
ESC iXR	Specify line feed command text string	
ESC iXC	Specify number of copies	
ESC iXN	Specify number of numbering copies	
ESC iXF	FNC1 replacement setting	
ESC iXq	Select print options	Only TD-20XX, TD-21XX printer supports.
ESC iXd	Specify recovery setting	
ESC iXE	Specify barcode margin setting	
ESC iXh	Specify rotated print	
ESC iX^	Specify print stop position	Not supported by RJ-2XXX.
ESC iXv (08h)	Specify WLAN communication mode of Raw port	
ESC iXv (0Ch)	Specify number of recovery prints	
ESC iXu (04h)	Specify job-nonstop print control	
ESC iXu (80h)	Specify image print line setting for ZPL II emulation / CPCL page mode	
ESC iDC1SQ(01h)	Specify self-printing QR code content	Only RJ-3XXX printer supports
ESC iDC1SQ(00h)	Retrieve self-printing QR code content	Only RJ-3XXX printer supports
ESC iDC1SR(01h)	Select setting change lock	Only RJ-3XXX printer supports
ESC iDC1SR(00h)	Retrieve setting change lock	Only RJ-3XXX printer supports

6.3 Setting and retrieving commands (Raster mode)

Commands	Description	Note
ESC iOUe	Specify decoration tag string	

Note

*** These commands are only available in raster mode.**

6.4 Printer control commands

Commands	Description	Note
ESC ia	Select command mode	
ESC iUx	Reboot	

7. P-touch Template Command Details

^II Initialize

ASCII:	^	I	I
Hexadecimal:	5E	49	49

Parameters

None

Description

- Reverts all dynamic settings to the printer settings.
  - (1) Print start trigger setting
  - (2) Print start command text string
  - (3) Print start received character count
  - (4) Delimiter
  - (5) Selected template number
  - (6) Prefix character
  - (7) Line feed command text string
  - (8) Number of copies setting
  - (9) QR Code version setting
  - (10) Number of serialize
  - (11) FNC1 replacement setting

^TS Select template

ASCII:	^	T	S	n1	n2	n3
Hexadecimal:	5E	54	53	nh1	nh2	nh3

Parameters

0≤n1≤2

0≤n2≤9

0≤n3≤9

Description

- Specifies the number of the template selected from the printer.
  (n1*100)+(n2*10)+n3: Template number (1 to 255)
- The default selection number is 1.
- This command is a dynamic command.

Remarks

- The template numbers that can be set are between 1 and 255.
  This command becomes invalid if any other value has been specified or if the number that has been specified is for a template not transferred to the printer.

Example

- To select template number 99:
  Since n2=9 and n3=9, the command will be as follows.

```
^ T S 0 9 9
(5Eh 54h 53h 30h 39h 39h)
```

^FF Start printing

ASCII:	^	F	F
Hexadecimal:	5E	46	46

Parameters

None

Description

- Starts printing.
- However, the print start trigger must be “when the specified text string is received”.
  (Refer to “^PT” and “ESC iXT2”.)
- The text string for the print start command can be changed.
  (Refer to “^PS” and “ESC iXP2”.)

Example

- To print template number 3:

```
^ T S 0 0 3 ^ F F
(5Eh 54h 53h 30h 30h 33h 5Eh 46h 46h)
```

^CN Specify number of copies

ASCII:	^	C	N	n1	n2	n3
Hexadecimal:	5E	43	4E	nh1	nh2	nh3

Parameters

0≤n1≤9

0≤n2≤9

0≤n3≤9

Description

- Specifies the number of copies to be printed.

  (n1*100)+(n2*10)+n3: Number of copies (bytes) (1 to 999)
- The default number of copies is 1.
- This command is a dynamic command.

Remarks

- When printing is finished, the number of copies specified with this command returns to the number of copies (static value) specified from the printer.

Example

- To change the number of copies to 100:

  Since n1=1, n2=0 and n3=0, the command will be as follows.

  ^ C N 1 0 0
  (5Eh 43h 4Eh 31h 30h 30h)

^NN Specify number of Numbering copies

ASCII:	^	N	N	n1	n2	n3
Hexadecimal:	5E	4E	4E	nh1	nh2	nh3

Parameters

0≤n1≤9

0≤n2≤9

0≤n3≤9

Description

- Specifies the number of copies to be printed with Numbering.
  (n1*100)+(n2*10)+n3: Number of Numbering copies (bytes) (1 to 999)
- The default number of copies printed with Numbering is 1.
- This command is a static command.

Remarks

- When printing is finished, the number of copies specified with this command returns to the number of copies (static value) specified from the printer.

Example

- To change the number of Numbering copies to 100:
  Since n1=1, n2=0 and n3=0, the command will be as follows.

```
^ N N 1 0 0
(5Eh 4Eh 4Eh 31h 30h 30h)
```

^ID Initialize template numbering data

ASCII:	^	I	D
Hexadecimal:	5E	49	44

Parameters

None

Description

- Returns the numbering data in the selected template to what it was when the template was transferred.

^PT Select print start trigger

ASCII:	^	P	T	n
Hexadecimal:	5E	50	54	nh

Parameters

1≤n≤3

Description

- Selects the type of print start trigger.

  n=1: When the specified text string is received (default)

  n=2: When all objects are filled
  (Prints with the delimiter at the end of the data.)

  n=3: When the specified number of characters is received
  (not including delimiters)

- This command is a dynamic command.

Remarks

- Invalid if n is a value other than 1 through 3

Example

- When the print start trigger is “when all objects are filled”:

```
^ P T 2
(5Eh 50h 54h 32h)
```

^PS Specify print start command text string

ASCII:	^	P	S	n1	n2	data
Hexadecimal:	5E	50	53	nh1	nh2	datah

Parameters

0≤n1≤2

0≤n2≤9

00h≤datah≤FFh

Description

- Specifies the text string for the print start command.

  (n1*10)+n2: Length of the text string (can be set between 1 and 20)

  data: Text string (The maximum number of characters that can be set is 20 characters (bytes).)

- The default text string for the print start command is “^FF”.
- This command is a dynamic command.

Remarks

- Invalid if more than 20 characters have been specified

Example

- To change the text string for the print start command to “START”:

  Since the text string to be specified (data), “START”, contains 5 characters, n1=0 and n2=5. Therefore, the command will be as follows.

  ^ P S 0 5 S T A R T

  (5Eh 50h 53h 30h 35h 53h 54h 41h 52h 54h)

^PC Specify print start received character count

ASCII:	^	P	C	n1	n2	n3
Hexadecimal:	5E	50	43	nh1	nh2	nh3

Parameters

0≤n1≤9

0≤n2≤9

0≤n3≤9

Description

- Specifies the number of characters to be received in order to start printing.

  (n1*100)+(n2*10)+n3: Print start received character count (bytes) (1 to 999)
- The default print start received character count is 10.
- This command is a dynamic command.
- If Unicode(UTF-8) mode is used, 1-4 bytes are used as 1 character.

Example

- To change the print start received character count to 100 characters:

  Since n1=1, n2=0 and n3=0, the command will be as follows.

  ^ P C 1 0 0
  (5Eh 50h 43h 31h 30h 30h)

^SS Specify delimiter

ASCII:	^	S	S	n1	n2	data
Hexadecimal:	5E	53	53	nh1	nh2	datah

Parameters

0≤n1≤2

0≤n2≤9

00h≤datah≤FFh

Description

- The delimiter is used to indicate when to move to the next object in data that is being sent.
- Specifies the text string for the delimiter.

  (n1*10)+n2: Length of the text string (between 1 and 20)

  data: Text string (The maximum number of characters that can be set is 20 characters (bytes).)
- The default text string for the delimiter is “09h” (Tab code).

  A text string that will not appear in the print data should be specified.
- This command is a dynamic command.

Remarks

- Invalid if more than 20 characters have been specified

Example

- To change the delimiter to “,” (2Ch):

  Since the text string contains one character, n1=0 and n2=1. In addition, with the text string (datah) “,” (2Ch), the command will be as follows.

```
^ S S 0 1 ,
(5Eh 53h 53h 30h 31h 2Ch)
```

^CO Select cut options

ASCII:	^	C	O	n1	n2	n3	n4
Hexadecimal:	5E	43	4F	nh1	nh2	nh3	nh4

Parameters

0≤n1≤1

0≤n2≤9

0≤n3≤9

0≤n4≤1

Description

- Specifies the various cut options.

  n1: Auto cut setting
  (ON: 1 (default); OFF: 0)

  (n2*10)+n3: Auto cut label number setting (1 to 99)
  (Default value: 1)

  n4: Cut at end setting
  (ON: 1 (default); OFF: 0)

- This command is a dynamic command.
- This command is applied to only a printer with auto cutter.

Remarks

- The auto cut label number setting can be between 1 and 99.
  This command becomes invalid if any other value has been specified.

Example

- To cut after every two labels:
  Since the auto cut setting will be set to ON and the auto cut label number will be two labels, n1=1, n2=0 and n3=2. Therefore, the command will be as follows.

```
^ C O 1 0 2 0
(5Eh 43h 4Fh 31h 30h 32h 30h)
```

^LS Specify line spacing with line feed

ASCII:	^	L	S	n1	n2	n3
Hexadecimal:	5E	4C	53	nh1	nh2	nh3

Parameters

0≤n1≤2

0≤n2≤9

0≤n3≤9

Description

- Specifies the number of dots for the line spacing when a line feed is entered.

  (n1*100)+(n2*10)+n3: Number of dots for the line spacing (0 to 255)
- The default number of dots for the line spacing when a line feed is entered is the number of dots determined when the template is created in P-touch Editor.
- This command is a dynamic command.

Remarks

- The number of dots for the line spacing can be between 0 and 255. This command becomes invalid if any other value has been specified.

Example

- To set the line spacing to 10 dots:

```
^ L S 0 1 0
(5Eh 4Ch 53h 30h 31h 30h)
```

^CC Change the prefix character

ASCII:	^	C	C	n
Hexadecimal:	5E	43	43	nh

Parameters

00h≤nh≤FFh

Description

- Changes the prefix character code.

  n: Character code

- The default text string for the prefix character is “^”.
- This command is a dynamic command.

Example

- To change the prefix character from “^” to “_”:

  ^ C C 5Fh

  (5Eh 43h 43h 5Fh) (5Fh stands for “_” in ASCII code)

- However, if the printer is later not turned off, then on again, the prefix character remains set to “_”, and the initialize command, for example, will be “_II” instead of “^II”.

^RC Specify line feed command text string

ASCII:	^	R	C	n1	n2	data
Hexadecimal:	5E	52	43	nh1	nh2	datah

Parameters

0≤n1≤2

0≤n2≤9

00h≤datah≤FFh

Description

- Specifies the text string for the line feed command.

  (n1*10)+n2: Length of the text string (can be set between 1 and 20)

  data: Text string (The maximum number of characters that can be set is 20 characters (bytes).)
- The default text string for the line feed command is “^CR”.
- This command is a dynamic command.

Remarks

- Invalid if more than 20 characters have been specified

Example

- To change the text string for the line feed command to “0Dh 0Ah”:

  Since the text string to be specified (data) contains 2 characters, n1=0 and n2=2. Therefore, the command will be as follows.

  ^ R C 0 2 0Dh 0Ah
  (5Eh 52h 43h 30h 32h 0Dh 0Ah)

^QS Select print options

ASCII:	^	Q	S	n
Hexadecimal:	5E	51	53	n

Parameters

0≤n≤1

Description

- Select the print options.
  - n=0: Priority given to print speed
  - n=1: Priority given to print quality
- The default value for the print options is “0” (priority given to print speed).
- This command is a dynamic command.

Example

- To set the print options to give priority to print quality:

  Since n=1, the command will be as follows.

```
^ Q S 1
(5Eh 51h 53h 31h)
```

^QV Specify QR Code version

ASCII:	^	Q	V	n1	n2
Hexadecimal:	5E	51	56	nh1	nh2

Parameters

0≤n1≤4

0≤n2≤9

Description

- Specifies the QR Code version.

  (n1*10)+n2: Version number (between 0 and 40)
- The default QR Code version is 0.
- This command becomes invalid if a value other than those that can be set (between 0 and 40) has been specified.
- This command is a dynamic command.

Example

- To change the version to 10:

  Since n1=1 and n2=0, the command will be as follows.

```
^ Q V 1 0
(5Eh 51h 56h 31h 30h)
```

^FC FNC1 replacement setting

ASCII:	^	F	C	n
Hexadecimal:	5E	46	43	nh

Parameters

0≤n≤1

Description

- Selects whether or not GS codes, which are included in barcode protocols such as GS1-128 (UCC/EAN-128), are replaced with FNC1 codes.

  n: FNC1 replacement setting
  (ON: 1; OFF: 0 (default))

- This command is a dynamic command.

Remarks

- Invalid if n is a value other than 1 or 0

Example

- To disable FNC1 replacement:

  Since FNC1 replacement will be disabled, n=0. Therefore, the command will be as follows.

  ^ F C 0
  (5Eh 46h 43h 30h)

^OP Perform printer operation (feed)

ASCII:	^	O	P	n
Hexadecimal:	5E	4F	50	nh

Parameters

1≤n≤3

Description

- Causes the printer to perform a feed operation.

  n=1 or 2: Feeds one label length (feed operation with continuous length tape)

  n=3: Cuts

Remarks

- Models without cutters: Regardless of parameter setting value, feed operation is performed.

Example

- To specify that the printer performs a feed operation:

```
^ O P 1
(5Eh 4Fh 50h 31h)
```

^SR Status request

ASCII:	^	S	R
Hexadecimal:	5E	53	52

Parameters

None

Description

- Returns the printer status. The printer status consists of 32 bytes. The printer does not return status during the printing operation.

Offset	Name	Value/Standard
0	Print head mark	Fixed at 80h
1	Size	Fixed at 20h
2	Brother code	Fixed at “B” (42h)
3	Series code	Refer to table (6) below.
4	Model code	Refer to table (7) below.
5	Country code	Fixed at “0” (30h)
6	Power status	Refer to table (5) below.
7	Reserved	Fixed at 00h
8	Error information 1	Refer to table (1) below.
9	Error information 2	Refer to table (2) below.
10	Media width	-
11	Media type	Refer table (3) below.
12	Number of colors	Fixed at 00h
13	Media length (higher order bytes)	-
14	Media sensor value	Not used
15	Mode	Fixed at 01h
16	Density	Fixed at 00h
17	Media length (lower order bytes)	-
18	Status type	Refer to table (4) below.
19	Phase type	Fixed at 00h
20	Phase number (higher order bytes)	Fixed at 00h
21	Phase number (lower order bytes)	Fixed at 00h
22	Notification number	Not used
23	Expansion area (number of bytes)	Fixed at 00h
24-31	Reserved	Fixed at 00h

(1) Error information 1

Flag	Mask	Definition
Bit 0	01h	Not used
Bit 1	02h	End of media error/”Out of paper” error
Bit 2	04h	Not used
Bit 3	08h	Battery weak/”Charge needed” error
Bit 4	10h	Not used
Bit 5	20h	Printer turned off
Bit 6	40h	Not used
Bit 7	80h	Not used

(2) Error information 2

Flag	Mask	Definition
Bit 0	01h	Not used
Bit 1	02h	Buffer full error
Bit 2	04h	Communication error
Bit 3	08h	Not used
Bit 4	10h	Cover open
Bit 5	20h	Print head overheating error
Bit 6	40h	Leading edge detection error/Paper error
Bit 7	80h	System error

(3) Media type

Media Type	Value	Remarks
Continuous length tape	4Ah	
Die-cut label	4Bh	

(4) Status type

Status Type	Value	Remarks
Reply to status request	00h	
(Not used)	01h	
Error occurred	02h	For error types, see Error Information 1/2.
(Not used)	03h to FFh	

(5) Power status

(RJ-4XXX, RJ-3XXX)

Value	Battery level	AC adapter
20h	Full	Not connected
21h	High	Not connected
22h	Half	Not connected
23h	Low	Not connected
24h	Charging required	Not connected
30h	Full	Connected
31h	High	Connected
32h	Half	Connected
33h	Low	Connected
34h	Charging required	Connected
37h	No battery	Connected
Other	Undefined	Undefined

(TD-4XXX)

Value	Meaning
37h	AC adapter in use

(RJ-3XXX, RJ-2XXX, TD-20XX, TD-21XX)

Value	Meaning
00h	Full battery
01h	Half battery
02h	Low battery
03h	Charging required
04h	AC adapter in use

(6) Series code

Series	Value	Remarks
RJ series	“7” (37h)	
TD series	“5” (35h)	

(7) Model code

Model	Value	Remarks
RJ-4230B	“C”(43h)	
RJ-4250WB	“D”(44h)	

RJ-3230B	”E”(45h)	
RJ-3250WB	”F”(46h)	
RJ-2030	“6” (36h)	
RJ-2031	“K” (4Bh)	
RJ-2050	“7” (37h)	
RJ-2131	“L” (4Ch)	
RJ-2140	“8” (38h)	
RJ-2150	“9” (39h)	
TD-4410D	“7”(37h)	
TD-4420DN	“8”(38h)	
TD-4510D	“9”(39h)	
TD-4520DN	“A”(41h)	
TD-4550DNWB	“B”(42h)	
TD-4210D	“C”(43h)	
TD-2020	“3” (33h)	
TD-2120N	“5” (35h)	
TD-2130N	“6” (36h)	
TD-2020A	“3” (33h)	
TD-2030A	“D” (44h)	
TD-2125N	“E” (45h)	
TD-2125NWB	“F” (46h)	
TD-2135N	“G” (47h)	
TD-2135NWB	“H” (48h)	

^VR Retrieve version information

ASCII:	^	V	R
Hexadecimal:	5E	56	52

Parameters

None

Description

- Retrieves the version information for the printer as a 8-character text string.
- Retrieves the version information for the printer as a 16-character text string.(RJ-4230B)

^CR Line feed in object

ASCII:	^	C	R
Hexadecimal:	5E	43	52

Parameters

None

Description

- Adds a line feed to the next line in the text object.
- Command characters are modifiable.

  (Refer to ^RC, ESC iXR2)

Example

- To print three lines:

Code: 1 ^ C R 2 ^ C R 3 ^ F F

(31h 5Eh 43h 52h 32h 5Eh 43h 52h 33h 5Eh 46h 46h)

Print result:

1
2
3

^OS Select object (object number)

ASCII:	^	O	S	n1	n2
Hexadecimal:	5E	4F	53	nh1	nh2

Parameters

0≤n1≤9

0≤n2≤9

Description

- Selects an object by its object number.

  (n1*10)+n2: Object number (1 to 99)

Remarks

- The object number can be set between 1 and 99.

  This command becomes invalid if any other value has been specified.
- Use this command to insert data starting with an intermediary object.

Example

- To select the 33rd object:

  ^ O S 3 3

  (5Eh 4Fh 53h 33h 33h)

^ON Select object (object name)

ASCII:	^	O	N	data	00
Hexadecimal:	5E	4F	4E	datah	00

Parameters

None

Description

- Selects an object by its object name.

  data: Text string (object name)

Remarks

- The maximum length of text that can be set is 20 characters. If text longer than this has been specified, the command becomes invalid. In addition, the command becomes invalid if no text has been specified.
- “00h” should be added at the end of the text. This indicates the end of the text.
- Use this command to insert data starting with an intermediary object.

Example

- To select an object with the name “TEXT1”:

```
^ O N T E X T 1 00h
(5Eh 4Fh 4Eh 54h 45h 58h 54h 31h 00h)
```

^DI Directly insert object

ASCII:	^	D	I	n1	n2	data
Hexadecimal:	5E	44	49	nh1	nh2	datah

Parameters

00h≤nh1≤FFh

00h≤nh2≤FEh

Description

- Inserts a text string for the specified number of characters into the object selected in the selected template. (Even if a print command or delimiter is within the specified number of characters, they are treated as data.)

  (nh2*256)+nh1: Specified number of characters

  data: Text string

Example

- If “A” is specified as the print start text string, and the print start trigger is specified as the print start text string, easily print “A” with the following command.

Code: ^ D I 03h 00h 1 A 2 A

(5Eh 44h 49h 03h 00h 31h 41h 32h 41h)

Print result: 1A2

8. Setting and Retrieving Command Details

ESC iXT2 Select print start trigger

ASCII:	ESC	i	X	T	2	01h	00h	n1
Hexadecimal:	1B	69	58	54	32	01	00	nh1

Parameters

00h≤nh1≤02h

Description

- Selects the type of print start trigger.

  nh1=00h: When the specified text string is received (default)

  nh1=01h: When all objects are filled
  (Prints with the delimiter at the end of the data.)

  nh1=02h: When the specified number of characters is received
  (not including delimiters)

- This command is a static command.

Remarks

- Invalid if nh1 is a value other than 00h through 02h

Example

- When the print start trigger is “when all objects are filled”:

```
ESC i X T 2 01h 00h 01h
(1Bh 69h 58h 54h 32h 01h 00h 01h)
```

ESC iXT1 Retrieve print start trigger setting

ASCII:	ESC	i	X	T	1	00h	00h
Hexadecimal:	1B	69	58	54	31	00	00

Parameters

None

Description

- The print start trigger is returned as 3-byte data.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Setting
  00h: When the specified text string is received
  01h: When all objects are filled
  02h: When the specified number of characters is received

- The retrieved value is a value specified by a static command.

Example

- The print start trigger specified for the printer is retrieved. When the setting is “when the specified text string is received”:

  Code: ESC i X T 1 00h 00h
  (1Bh 69h 58h 54h 31h 00h 00h)
  Returned value: 01h 00h 00h

ESC iXP2　Specify print start command text string

ASCII:	ESC	i	X	P	2	n1	n2	data
Hexadecimal:	1B	69	58	50	32	nh1	nh2	datah

Parameters

01h≤nh1≤14h

nh2: 00h (Fixed)

00h≤datah≤FFh

Description

- Specifies the text string for the print start command.

  nh1+(nh2*256): Length of the text string (can be set between 1 and 20)

  data: Text string (The maximum number of characters that can be set is 20 characters (bytes).)

- The default text string for the print start command is “^FF”.
- This command is a static command.

Remarks

- Invalid if more than 20 characters have been specified

Example

- To change the text string for the print start command to “START”:

  Since the text string to be specified (data), “START”, contains 5 characters, nh1=05h and nh2=00h. Therefore, the command will be as follows.

  ESC i X P 2 05h 00h S T A R T

  (1Bh 69h 58h 50h 32h 05h 00h 53h 54h 41h 52h 54h)

ESC iXP1　Retrieve print start command setting text string

ASCII:	ESC	i	X	P	1	00h	00h
Hexadecimal:	1B	69	58	50	31	00	00

Parameters

None

Description

- Retrieves the text string specified for the print start command.
- 3- to 22-byte data is returned from the printer. (Varies depending on the length of the text string)

  [1,2]: nh1 nh2 (number of characters) nh1+(nh2*256)

  [3 and later]: Text string
- The retrieved value is a value specified by a static command.

Example

- When the text string for the print start command is specified as “START”:

Code: ESC i X P 1 00h 00h
(1Bh 69h 58h 50h 31h 00h 00h)
Returned value: 05h 00h S T A R T
(05h 00h 53h 54h 41h 52h 54h)

ESC iXr2　Specify print start received character count

ASCII:	ESC	i	X	r	2	02h	00h	n1	n2
Hexadecimal:	1B	69	58	72	32	02	00	nh1	nh2

Parameters

00h≤nh1≤FFh

00h≤nh2≤03h

Description

- Specifies the number of characters to be received in order to start printing.

  nh1+(nh2*256):　Print start received character count (1 to 999)
- The default print start received character count is 10.
- This command is a static command.
- If Unicode (UTF-8) mode is being used, maximum 4 bytes are used as 1 character.

Example

- To change the print start received character count to 100 characters:

  Since nh1=64h and nh2=00h, the command will be as follows.

  ESC i X r 2 02h 00h 64h 00h

  (1Bh 69h 58h 72h 32h 02h 00h 64h 00h)

ESC iXr1 Retrieve print start received character count

ASCII:	ESC	i	X	r	1	00h	00h
Hexadecimal:	1B	69	58	72	31	00	00

Parameters

None

Description

- Retrieves the number of characters specified to be received in order to start printing.
- 4-byte data is returned from the printer.

  [1]: 02h (Fixed)

  [2]: 00h (Fixed)

  [3,4]: nh1 nh2 settings
  nh1+(nh2*256): Print start received character count
- The retrieved value is a value specified by a static command.

Example

- For a print start received character count of 500 characters:

Code: ESC i X r 1 00h 00h
(1Bh 69h 58h 72h 31h 00h 00h)
Returned value: 02h 00h F4h 01h (244+1*256=F4h+01h*256=500 characters)

ESC iXD2 Specify delimiter

ASCII:	ESC	i	X	D	2	n1	n2	data
Hexadecimal:	1B	69	58	44	32	nh1	nh2	datah

Parameters

01h≤nh1≤14h

nh2: 00h (Fixed)

00h≤datah≤FFh

Description

- The delimiter is used to indicate when to move to the next object in data that is being sent.
- Specifies the text string for the delimiter.

  nh1+(nh2*256): Length of the text string (between 1 and 20)

  data: Text string (The maximum number of characters that can be set is 20 characters (bytes).)
- The default text string for the delimiter is “09h” (Tab code).
- This command is a static command.

Remarks

- Invalid if more than 20 characters have been specified

Example

- To change the delimiter to “,” (2Ch):

  Since the text string contains one character, nh1=01h and nh2=00h. In addition, with the text string (datah) “,” (2Ch), the command will be as follows.

  ESC i X D 2 01h 00h 2Ch
  (1Bh 69h 58h 44h 32h 01h 00h 2Ch)

ESC iXD1 Retrieve delimiter

ASCII:	ESC	i	X	D	1	00h	00h
Hexadecimal:	1B	69	58	44	31	00	00

Parameters

None

Description

- Retrieves the text string specified for the delimiter.
- 3- to 22-byte data is returned from the printer. (Varies depending on the length of the text string)

  [1,2]: nh1 nh2 (number of characters) nh1+(nh2*256)

  [3 and later]: Text string
- The retrieved value is a value specified by a static command.

Example

- When the delimiter is set as “,” (2Ch):

Code: ESC i X D 1 00h 00h
(1Bh 69h 58h 44h 31h 00h 00h)
Returned value: 01h 00h ,
(01h 00h 2Ch)

ESC iXa2　Specify non-printed text strings

ASCII:	ESC	i	X	a	2	n1	n2	n3	data
Hexadecimal:	1B	69	58	61	32	nh1	nh2	nh3	datah

Parameters

01h≤nh1≤15h

nh2: 00h (Fixed)

nh3: 01h (Fixed)

00h≤datah≤FFh

Description

- Specifies the non-printed text string.

  nh1+(nh2*256): Length of the text string (0 to 20) + 1

  data: Text string (The maximum number of characters that can be set is 20 characters (bytes).)

- This command is a static command.

Remarks

- Invalid if more than 20 characters have been specified

Example

- To specify the non-printed text string as “ABCD”:

  Since the text string contains four characters, nh1=05h and nh2=00h. Therefore, the command will be as follows.

  ESC i X a 2 05h 00h 01h A B C D
  (1Bh 69h 58h 61h 32h 05h 00h 01h 41h 42h 43h 44h)

ESC iXa1 Retrieve non-printed text strings

ASCII:	ESC	i	X	a	1	01h	00h	01h
Hexadecimal:	1B	69	58	61	31	01	00	01

Parameters

None

Description

- Retrieves the specified non-printed text string.
- 2- to 22-byte data is returned from the printer. (Varies depending on the length of the text string)

  [1,2]: nh1 nh2 (number of characters) nh1+(nh2*256)

  [3 and later]: Text string
- The retrieved value is a value specified by a static command.

Example

- When “ABCD” is specified as the non-printed text string:

  The following command is sent to the printer.

Code: ESC i X a 1 01h 00h 01h
(1Bh 69h 58h 61h 31h 01h 00h 01h)
Returned value: 04h 00h A B C D
(04h 00h 41h 42h 43h 44h)

ESC iXi2 Select command mode

ASCII:	ESC	i	X	i	2	01h	00h	n1
Hexadecimal:	1B	69	58	69	32	01	00	nh1

Parameters

nh1: 00h 01h 03h 04h 05h

Description

- Switches the mode.

  nh1=00h: ESC/P mode

  nh1=01h: Raster mode

  nh1=03h: P-touch Template mode (default)

  nh1=04h: CPCL Page Print mode

  nh1=05h: CPCL Line Print mode

  nh1=07h: EPL emulation mode

  nh1=08h: DPL emulation mode

- This command is a static command.

Remarks

- Invalid if nh1 is a value outside of the available range.

ESC iXi1 Retrieve command mode setting

ASCII:	ESC	i	X	i	1	00h	00h
Hexadecimal:	1B	69	58	69	31	00	00

Parameters

None

Description

- Retrieves the setting for the command mode.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Setting
  00h: ESC/P mode
  01h: Raster mode
  03h: P-touch Template mode
  04h: CPCL Page Print mode
  05h: CPCL Line Print mode
  06h: EPL emulation mode
  07h: DPL emulation mode
- The retrieved value is a value specified by a static command.

Example

- When the setting is for raster mode:

  Code: ESC i X i 1 00h 00h
  (1Bh 69h 58h 69h 31h 00h 00h)
  Returned value: 01h 00h 01h

ESC iXn2　Select template

ASCII:	ESC	i	X	n	2	01h	00h	n1
Hexadecimal:	1B	69	58	6E	32	01	00	nh1

Parameters

01h≤nh1≤FFh

Description

- Selects the number of the template selected from the printer.

  n1:　Template number (1 to 255)

- The default selection number is 1.
- This command is a static command.

Remarks

- The template numbers that can be set are between 1 and 255.

  This command becomes invalid if any other value has been specified or if the number that has been specified is for a template not transferred to the printer.

Example

- To select template number 99:

  Since nh1=63h, the command will be as follows.

  ESC i X n 2 01h 00h 63h
  (1Bh 69h 58h 6Eh 32h 01h 00h 63h)

ESC iXn1　Retrieve number of selected template

ASCII:	ESC	i	X	n	1	00h	00h
Hexadecimal:	1B	69	58	6E	31	00	00

Parameters

None

Description

- Retrieves the template number selected from the printer.
- 3-byte data is returned from the printer.
  - [1]: 01h (Fixed)
  - [2]: 00h (Fixed)
  - [3]: Setting
- The retrieved value is a value specified by a static command.

Example

- When template number 99 is selected:

Code: ESC i X n 1 00h 00h
(1Bh 69h 58h 6Eh 31h 00h 00h)
Returned value: 01h 00h 63h

ESC iXf2　Change the prefix character

ASCII:	ESC	i	X	f	2	01h	00h	n1
Hexadecimal:	1B	69	58	66	32	01	00	nh1

Parameters

00h≤nh1≤FFh

Description

- Changes the prefix character code.

  n1:　Character code

- The default text string for the prefix character is “^”.
- This command is a static command.

Example

- To change the prefix character to “_”:

  ESC i X f 2 01h 00h 5Fh (“_”)

  (1Bh 69h 58h 66h 32h 01h 00h 5Fh)　(“5Fh” is “_” in ASCII code.)

ESC iXf1 Retrieve prefix character

ASCII:	ESC	i	X	f	1	00h	00h
Hexadecimal:	1B	69	58	66	31	00	00

Parameters

None

Description

- Retrieves the prefix character code.
- 3-byte data is returned from the printer.
  - [1]: 01h (Fixed)
  - [2]: 00h (Fixed)
  - [3]: Specified character
- The retrieved value is a value specified by a static command.

Example

- When the prefix character is set to "_":

Code: ESC i X f 1 00h 00h
(1Bh 69h 58h 66h 31h 00h 00h)
Returned value: 01h 00h 5Fh (5Fh stands for "_" in ASCII code)

ESC iXc2　Select cut options

ASCII:	ESC	i	X	c	2	01h	00h	n1
Hexadecimal:	1B	69	58	63	32	01	00	nh1

Parameters

nh1: 00h 01h 08h 09h

Description

- Selects the various cut options.

  nh1=00h:　No cutting

  nh1=01h:　Automatically cuts

  nh1=08h:　Cut at end of printing

  nh1=09h:　Automatically cuts, and cuts at end of printing

- This command is a static command.
- This command is applied to only a printer with auto cutter

Example

- To select auto cutting:

  ESC i X c 2 01h 00h 01h
  (1Bh 69h 58h 63h 32h 01h 00h 01h)

ESC iXc1　Retrieve cut options

ASCII:	ESC	i	X	c	1	00h	00h
Hexadecimal:	1B	69	58	63	31	00	00

Parameters

None

Description

- Retrieves the various cut settings.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Setting
  00h: No cutting
  01h: Automatically cuts
  08h: Cut at end
  09h: Both (Automatically cuts + Cut at end)
- The retrieved value is a value specified by a static command.
- This command is applied to only a printer with auto cutter.

Example

- When auto cutting is selected:

Code: ESC i X c 1 00h 00h
(1Bh 69h 58h 63h 31h 00h 00h)
Returned value: 01h 00h 01h

ESC iXy2　Select cut options (specifying number of labels)

ASCII:	ESC	i	X	y	2	01h	00h	n1
Hexadecimal:	1B	69	58	79	32	01	00	nh1

Parameters

01h≤nh1≤63h

Description

- Specifies that the tape will be cut after the specified number of labels. (If the auto cut setting is ON, the tape will be cut after the number of labels specified with this setting.)

  nh1: Cuts after a specified number of labels (01h to 63h)
- This command is a static command.
- This command is applied to only a printer with auto cutter.

Example

- To cut after every five labels (However, the auto cut setting must be set to ON.):

```
ESC i X y 2 01h 00 05h
(1Bh 69h 58h 79h 32h 01h 00h 05h)
```

ESC iXy1　Retrieve cut options (specifying number of labels)

ASCII:	ESC	i	X	y	1	00h	00h
Hexadecimal:	1B	69	58	79	31	00	00

Parameters

None

Description

- Retrieves the setting for cutting after a specified number of labels.
- 3-byte data is returned from the printer.
  - [1]: 01h (Fixed)
  - [2]: 00h (Fixed)
  - [3]: Setting
- The retrieved value is a value specified by a static command.
- This command is applied to only a printer with auto cutter.

Example

- When cutting is specified for every five labels:

Code: ESC i X y 1 00h 00h
(1Bh 69h 58h 79h 31h 00h 00h)
Returned value: 01h 00h 05h

ESC iXm2 Select character code set

ASCII:	ESC	i	X	m	2	01h	00h	n1
Hexadecimal:	1B	69	58	6D	32	01	00	nh1

Parameters

00h≤nh1≤04h, 10h

Description

- Selects the character code set. (For details on the character code sets, refer to the character code tables in "Appendix C: Character Code Tables".)

  nh1=00h: Brother standard

  nh1=01h: Windows1250 (Eastern Europe)

  nh1=02h: Windows1252 (Western Europe)

  nh1=03h: ZPL II Emulation

  nh1=04h: Japan

  nh1=10h: Unicode (UTF-8)
- Invalid if n1 is a value outside of the allowable range
- This command is a static command.

Example

- To set the character code set to the Brother standard:

  ESC i X m 2 01h 00h 00h
  (1Bh 69h 58h 6Dh 32h 01h 00h 00h)

ESC iXm1 Retrieve character code set setting

ASCII:	ESC	i	X	m	1	00h	00h
Hexadecimal:	1B	69	58	6D	31	00	00

Parameters

None

Description

- Retrieves the specified character code set. (For details on the character code sets, refer to "Appendix C: Character Code Tables".)
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Setting
  00h: Brother standard
  01h: Windows1250 (Eastern Europe)
  02h: Windows1252 (Western Europe)
  03h: ZPL II Emulation
  04h: Japan
  10h: Unicode(UTF-8)
- The retrieved value is a value specified by a static command.

Example

- When the character code set is the Brother standard:

  Code: ESC i X m 1 00h 00h
  (1Bh 69h 58h 6Dh 31h 00h 00h)
  Returned value: 01h 00h 00h

ESC iXj2 Select international character set

ASCII:	ESC	i	X	j	2	01h	00h	n1
Hexadecimal:	1B	69	58	6A	32	01	00	nh1

Parameters

00h≤nh1≤0Dh, 40h

Description

- Selects the character set according to the country selected, and switches some character codes in the code table according to the value for nh1.
  - nh1=00h: USA
  - nh1=01h: France
  - nh1=02h: Germany
  - nh1=03h: Britain
  - nh1=04h: Denmark I
  - nh1=05h: Sweden
  - nh1=06h: Italy
  - nh1=07h: Spain I
  - nh1=08h: Japan
  - nh1=09h: Norway
  - nh1=0Ah: Denmark II
  - nh1=0Bh: Spain II
  - nh1=0Ch: Latin America
  - nh1=0Dh: South Korea
  - nh1=40h: Legal
- The following 12 codes are switched.
  23h 24h 40h 5Bh 5Ch 5Dh 5Eh 60h 7Bh 7Ch 7Dh 7Eh
  (For the characters that are switched, refer to "International character set table".)
- The default setting is nh1=00h (USA).
- This command is a static command.

Example

- To change the international character set to that for Japan:

```
ESC i X j 2 01h 00h 08h
(1Bh 69h 58h 6Ah 32h 01h 00h 08h)
```

ESC iXj1 Retrieve international character set setting

ASCII:	ESC	i	X	j	1	00h	00h
Hexadecimal:	1B	69	58	6A	31	00	00

Parameters

None

Description

- Retrieves the international character set setting.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Setting

  00h: USA
  01h: France
  02h: Germany
  03h: Britain
  04h: Denmark I
  05h: Sweden
  06h: Italy
  07h: Spain I
  08h: Japan
  09h: Norway
  0Ah: Denmark II
  0Bh: Spain II
  0Ch: Latin America
  0Dh: South Korea
  40h: Legal
- The retrieved value is a value specified by a static command.

Example

- When the international character set is that for Japan:

Code: ESC i X j 1 00h 00h
(1Bh 69h 58h 6Ah 31h 00h 00h)
Returned value: 01h 00h 08h

ESC iXR2　Specify line feed command text string

ASCII:	ESC	i	X	R	2	n1	n2	data
Hexadecimal:	1B	69	58	52	32	nh1	nh2	datah

Parameters

01h≤nh1≤14h

nh2: 00h (Fixed)

00h≤datah≤FFh

Description

- Specifies the text string for the line feed command.

  nh1+(nh2*256): Length of the text string (can be set between 1 and 20)

  data: Text string (The maximum number of characters that can be set is 20 characters (bytes).)

- The default text string for the line feed command is “^CR”.
- This command is a static command.

Remarks

- Invalid if more than 20 characters have been specified

Example

- To change the text string for the line feed command to “0Dh 0Ah”:

  Since the text string to be specified (data), contains 2 characters, nh1=02h and nh2=00h. Therefore, the command will be as follows.

  ESC i X R 2 02h 00h 0Dh 0Ah
  (1Bh 69h 58h 52h 32h 02h 00h 0Dh 0Ah)

ESC iXR1 Retrieve line feed command setting text string

ASCII:	ESC	i	X	R	1	00h	00h
Hexadecimal:	1B	69	58	52	31	00	00

Parameters

None

Description

- Retrieves the text string specified for the line feed command.
- 2- to 22-byte data is returned from the printer. (Varies depending on the length of the text string)

  [1, 2]: nh1 nh2 (number of characters) nh1+(nh2*256)

  [3 and later]: Text string
- The retrieved value is a value specified by a static command.

Example

- When the text string for the line feed command is specified as “0Dh 0Ah”:

Code: ESC i X R 1 00h 00h
(1Bh 69h 58h 52h 31h 00h 00h)
Returned value: 02h 00h 0Dh 0Ah

ESC iXC2 Specify number of copies

ASCII:	ESC	i	X	C	2	02h	00h	n1	n2
Hexadecimal:	1B	69	58	43	32	02	00	nh1	nh2

Parameters

00h≤nh1≤FFh

00h≤nh2≤03h

Description

- Specifies the number of copies to be printed.

  nh1+(nh2*256): Number of copies (bytes) (1 to 999)
- The default number of copies is 1.
- This command is a static command.

Example

- To change the number of copies to 100:

  Since nh1=64h and nh2=00h, the command will be as follows.

  ESC i X C 2 02h 00h 64h 00h
  (1Bh 69h 58h 43h 32h 02h 00h 64h 00h)

ESC iXC1 Retrieve number of copies setting

ASCII:	ESC	i	X	C	1	00h	00h
Hexadecimal:	1B	69	58	43	31	00	00

Parameters

None

Description

- Retrieves the number of copies specified to be printed.
- 4-byte data is returned from the printer.

  [1]: 02h (Fixed)

  [2]: 00h (Fixed)

  [3, 4]: nh1 nh2 settings
  nh1+(nh2*256): Print start received character count
- The retrieved value is a value specified by a static command.

Example

- When the number of copies is set to 500:

  Code: ESC i X C 1 00h 00h
  (1Bh 69h 58h 43h 31h 00h 00h)
  Returned value: 02h 00h F4h 01h (F4h+01h*256=244+256=500)

ESC iXN2 Specify number of Numbering copies

ASCII:	ESC	i	X	N	2	02h	00h	n1	n2
Hexadecimal:	1B	69	58	4E	32	02	00	nh1	nh2

Parameters

00h≤nh1≤FFh

00h≤nh2≤03h

Description

- Specifies the number of copies to be printed with Numbering.

  nh1+(nh2*256): Number of Numbering copies (bytes) (1 to 999)
- The default number of copies printed with Numbering is 1.
- This command is a static command.

Example

- To change the number of Numbering copies to 100:

  Since nh1=64h and nh2=00h, the command will be as follows.

  ESC i X N 2 02h 00h 64h 00h
  (1Bh 69h 58h 4Eh 32h 02h 00h 64h 00h)

ESC iXN1 Retrieve number of Numbering copies setting

ASCII:	ESC	i	X	N	1	00h	00h
Hexadecimal:	1B	69	58	4E	31	00	00

Parameters

None

Description

- Retrieves the number of copies specified to be printed with Numbering.
- 4-byte data is returned from the printer.

  [1]: 02h (Fixed)

  [2]: 00h (Fixed)

  [3, 4]: nh1 nh2 settings
  nh1+(nh2*256): Number of Numbering copies
- The retrieved value is a value specified by a static command.

Example

- When the number of Numbering copies is set to 500:

  Code: ESC i X N 1 00h 00h
  (1Bh 69h 58h 4Eh 31h 00h 00h)
  Returned value: 02h 00h F4h 01h (F4h+01h*256=244+256=500)

ESC iXF2 FNC1 replacement setting

ASCII:	ESC	i	X	F	2	01h	00h	n1
Hexadecimal:	1B	69	58	46	32	01	00	nh1

Parameters

nh1: 00h, 01h

Description

- Selects whether or not GS codes, which are included in barcode protocols such as GS1-128 (UCC/EAN-128), are replaced with FNC1 codes.

  nh1=00h: FNC1 replacement setting OFF

  nh1=01h: FNC1 replacement setting ON
- This command is a static command.

Example

- To disable FNC1 replacement:

ESC i X F 2 01h 00h 00h
(1Bh 69h 58h 46h 32h 01h 00h 00h)

ESC iXF1　Retrieve FNC1 replacement setting

ASCII:	ESC	i	X	F	1	00h	00h
Hexadecimal:	1B	69	58	46	31	00	00

Parameters

None

Description

- Retrieves the FNC1 replacement setting.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Setting
  00h: FNC1 replacement setting OFF
  01h: FNC1 replacement setting ON
- The retrieved value is a value specified by a static command.

Example

- When the FNC1 replacement setting is OFF:

Code: ESC i X F 1 00h 00h
(1Bh 69h 58h 46h 31h 00h 00h)
Returned value: 01h 00h 00h

ESC iXq2　Specify a print option

ASCII:	ESC	i	X	q	2	01h	00h	n1
Hexadecimal:	1B	69	58	71	32	01	00	n1

Parameters

n1: 00h, 01h

Description

- Select a print option.

  n1=00h:　Prioritize print speed

  n1=01h:　Prioritize print quality

- The print option default value is 00h (Prioritize print speed).
- This command is a static command.
- This command is valid only for models that support prioritize print quality.

Command example

- For when the print option is prioritize print quality.

  Since the value will be n1=01h, the command will be as follows.

  ESC i X q 2 01h 00h 01h
  (1Bh 69h 58h 71h 32h 01h 00h 01h)

ESC iXq1　Retrieve a Print option value

ASCII:	ESC	i	X	q	1	00h	00h
Hexadecimal:	1B	69	58	71	31	00	00

Parameters

None

Description

- Retrieve a print option setting value.
- 3 bytes of data are returned from the main unit.

  [1]: 01h（Fixed）

  [2]: 00h（Fixed）

  [3]: Setting values
  00h: Prioritize print speed
  01h: Prioritize print quality
- The retrieved value is a value set by static command.
- This command is valid only for models that support prioritize print quality.

Command example

- For when the print option is prioritize print quality.

  Code:ESC i X q 1 00h 00h
  (1Bh 69h 58h 71h 31h 00h 00h)
  Returned value:01h 00h 01h

ESC iXd2　Specify recovery setting

ASCII:	ESC	i	X	d	2	01h	00h	n1
Hexadecimal:	1B	69	58	64	32	01	00	nh1

Parameters

nh1: 00h, 01h

Description

- Select enable or disable of recovery print.

  nh1=00h:　Disable recovery print

  nh1=01h:　Enable recovery print

- The default value of “nh1” is 01h.

  * TD-2020/2120N/2130N: The default value of “nh1” is 00h.

- This command is a static command.

Example

- For being enable recovery print.

  Since nh1=01h, the command will be as follows.

  ESC i X d 2 01h 00h 01h
  (1Bh 69h 58h 64h 32h 01h 00h 01h)

ESC iXd1　Retrieve recovery setting

ASCII:	ESC	i	X	d	1	00h	00h
Hexadecimal:	1B	69	58	64	31	00	00

Parameters

None

Description

- Retrieve the recovery print setting.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Settings
  00h: Disable recovery print
  01h: Enable recovery print
- The retrieved value is a value specified by a static command.

Example

- The case the recovery print setting is enabled.

Code: ESC i X d 1 00h 00h
(1Bh 69h 58h 64h 31h 00h 00h)
Returned value: 01h 00h 01h

ESC iXE2　Specify barcode margin setting

ASCII:	ESC	i	X	E	2	01h	00h	n1
Hexadecimal:	1B	69	58	45	32	01	00	n1

Parameters

n1: 00h, 01h

Description

- Specify barcode margin setting.

  n1=00h:　Disable

  n1=01h:　Enable
- Default value is 01h (Enable).
- This command is a static command.
- This setting affects only for 2D codes.

Example

- For setting barcode margin to disable:

  Since n1=00h, the command will be as follows

  ESC i X E 2 01h 00h 00h
  (1Bh 69h 58h 45h 32h 01h 00h 00h)

ESC iXE1　Retrieve barcode margin setting

ASCII:	ESC	i	X	E	1	00h	00h
Hexadecimal:	1B	69	58	45	31	00	00

Parameters

None

Description

- Retrieve barcode margin setting.
- 3-byte data is returned from the printer.

  [1]: 01h（Fixed）

  [2]: 00h（Fixed）

  [3]: Settings
  00h: Disable
  01h: Enable
- The retrieved value is a value specified by a static command.
- This setting is available only for 2D codes.

Example

- When the barcode margin is set to enable:

  Code: ESC i X E 1 00h 00h
  (1Bh 69h 58h 45h 31h 00h 00h)
  Returned value: 01h 00h 01h

ESC iXh2　Specify rotated print

ASCII:	ESC	i	X	h	2	01h	00h	n1
Hexadecimal:	1B	69	58	68	32	01	00	nh1

Parameters

nh1: 00h, 01h

Description

- Select rotate setting.

  nh1=00h:　No rotation

  nh1=01h:　180 degrees rotation

- The default value for the rotate setting is "00h" (No rotation).
- This command is a static command.

Example

- To set the rotate setting to 180 degrees rotation:

  Since nh1=01h, the command will be as follows.

  ESC i X h 2 01h 00h 01h
  (1Bh 69h 58h 68h 32h 01h 00h 01h)

ESC iXh1　Retrieve rotated print setting

ASCII:	ESC	i	X	h	1	00h	00h
Hexadecimal:	1B	69	58	68	31	00	00

Parameters

None

Description

- Retrieve rotated print setting.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Settings
  00h: No rotate
  01h: Rotate 180 degrees
- The retrieved value is a value specified by a static command.

Example

- When the rotate setting is set to 180 degrees rotation:

Code: ESC i X h 1 00h 00h
(1Bh 69h 58h 68h 31h 00h 00h)
Returned value: 01h 00h 01h

ESC iX^2 Specify print stop position

ASCII:	ESC	i	X	^	2	01h	00h	n1
Hexadecimal:	1B	69	58	5E	32	01	00	nh1

Parameters

nh1: 00h, 01h

Description

- Select print stop position.

  nh1=00h: Tear-bar

  nh1=01h: Head

- The default value is "00h" (Tear-bar).
- This command is a static command.

Example

- To set the print stop position to head:

  Since nh1=01h, the command will be as follows.

  ESC i X ^ 2 01h 00h 01h
  (1Bh 69h 58h 5Eh 32h 01h 00h 01h)

ESC iX^1 Retrieve print stop position

ASCII:	ESC	i	X	^	1	00h	00h
Hexadecimal:	1B	69	58	5E	31	00	00

Parameters

None

Description

- Retrieve print stop position.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Settings
  00h: Tear-bar
  01h: Head
- The retrieved value is a value specified by a static command.

Example

- When the print stop position is set to tear-bar (00h):

  Code: ESC i X ^ 1 00h 00h
  (1Bh 69h 58h 5Eh 31h 00h 00h)
  Retuned value: 01h 00h 00h

ESC iXv2 (08h) Specify Network Raw port bi-directional communication

ASCII:	ESC	i	X	v	2	03h	00h	00h	08h	n1
Hexadecimal:	1B	69	58	76	32	03	00	00	08	nh1

Parameters

nh1: 00h, 07h

Description

- Enable or disable the bi-directional communication setting for during Network Raw port communication.
  nh1=00h: Disable (Default)
  nh1=07h: Enable
- The default value is 00h (Disable).
- Specifying 07h (Enable) will allow the printer to return a response during Network Raw port communication.
- This command is a static command.

Example

- For when bi-directional communication (response from the printer) with the Raw port is enabled.
- Since the value will be n1=07h, the command will be as follows.

```
ESC i X v 2 03h 00h 00h 08h 07h
(1Bh 69h 58h 76h 32h 03h 00h 00h 08h 07h)
```

ESC iXv1 (08h) Retrieve a Network Raw port bi-directional communication setting

ASCII:	ESC	i	X	v	1	03h	00h	00h	08h	00h
Hexadecimal:	1B	69	58	76	31	03	00	00	08	00

Parameters

None

Description

- Retrieve a bi-directional communication (response from the printer) setting for during Network Raw port communication.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Settings
  00h: Disabled
  07h: Enabled
- The retrieved value is a value set by static command.

Example

- For when Enable is set.

Code: ESC i X v 1 03h 00h 00h 08h 00h
(1Bh 69h 58h 76h 31h 03h 00h 00h 08h 00h)
Returned value: 01h 00h 07h

ESC iXv2 (0Ch) Specify number of recovery prints

ASCII:	ESC	i	X	v	2	03h	00h	00h	0Ch	n1
Hexadecimal :	1B	69	58	76	32	03	00	00	0C	nh1

Parameters

nh1: 00h, 01h

Description

- Specify number of recovery print.

  nh1=00h: Once

  nh1=01h: No limits
- Default value is 00h.
- This command is a static command.

Example

- For setting number of recovery prints to no limit:

  Since nh1=01h, the command will be as follows.

  ESC i X v 2 03h 00h 00h 0Ch 01h

  (1Bh 69h 58h 76h 32h 03h 00h 00h 0Ch 01h)

ESC iXv1 (0Ch) Retrieve number of recovery prints

ASCII:	ESC	i	X	v	1	03h	00h	00h	0Ch	00h
Hexadecimal:	1B	69	58	76	31	03	00	00	0C	00

Parameters

None

Description

- Retrieve number of recovery prints.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Settings
  00h: Once
  01h: No limits
- The retrieved value is a value specified by a static command.

Example

- When the number of recovery prints is set to once:

  Code: ESC i X v 1 03h 00h 00h 0Ch 00h
  (1Bh 69h 58h 76h 31h 03h 00h 00h 0Ch 00h)
  Retuned value: 01h 00h 00h

ESC iXu2 (04h) Specify job-nonstop print control

ASCII:	ESC	i	X	u	2	03h	00h	00h	04h	n1
Hexadecimal :	1B	69	58	75	32	03	00	00	04	nh1

Parameters

nh1: 00h, 01h

Description

- Specify the Job-Nonstop print control.

  nh1=00h: Enable (Default)

  nh1=01h: Disable

- This command is a static command.

Example

- For setting job-nonstop print to disable:

  Since nh1=01h, the command will be as follows.

  ESC i X u 2 03h 00h 00h 04h 01h
  (1Bh 69h 58h 75h 32h 03h 00h 00h 04h 01h)

ESC iXu1 (04h) Retrieve job-nonstop print control

ASCII:	ESC	i	X	u	1	03h	00h	00h	04h	00h
Hexadecimal:	1B	69	58	75	31	03	00	00	04	00

Parameters

None

Description

- Retrieve the Job-Nonstop print control.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Settings
  00h: Enable (Default)
  01h: Disable
- The retrieved value is a value specified by a static command.

Example

- When the job-nonstop is set to disable:

  Code: ESC i X u 1 03h 00h 00h 04h 00h
  (1Bh 69h 58h 75h 31h 03h 00h 00h 04h 00h)
  Retuned value: 01h 00h 01h

ESC iXu2 (80h) Specify image print line setting for ZPL II emulation / CPCL page mode

ASCII:	ESC	i	X	u	2	03h	00h	00h	80h	n1
Hexadecimal :	1B	69	58	75	32	03	00	00	80	nh1

Parameters

nh1: 00h, 01h, 02h

Description

- Print length settnig for ZPL/CPCL page mode.

  nh1=00h: Automatic - Media or command. Longer is adopted.

  nh1=01h: Media setting

  nh1=02h Command
- Default value is 00h.
- This command is a static command.

Example

- For setting image print line settings to Command:

  Since nh1=02h, the command will be as follows.

  ESC i X u 2 03h 00h 00h 80h 02h
  (1Bh 69h 58h 75h 32h 03h 00h 00h 80h 02h)

ESC iXv1 (80h) Retrieve image print line setting for ZPL II emulation / CPCL page mode

ASCII:	ESC	i	X	u	1	03h	00h	00h	80h	00h
Hexadecimal:	1B	69	58	75	31	03	00	00	80	00

Parameters

None

Description

- Retrieve image print line setting for ZPL II emulation / CPCL page mode.
- 3-byte data is returned from the printer.

  [1]: 01h (Fixed)

  [2]: 00h (Fixed)

  [3]: Settings
  00h: Automatic
  01h: Media setting
  02h: Command
- The retrieved value is a value specified by a static command.

Example

- When the image print line settings are set to Command:

  Code: ESC i X u 1 03h 00h 00h 80h 00h
  (1Bh 69h 58h 75h 31h 03h 00h 00h 80h 00h)
  Retuned value: 01h 00h 02h

ESC i DC1 SQ(01h)　Specify self-printing QR code content

ASCII:	ESC	i	DC1	S	Q	01h	n1	n2	data
Hexadecimal:	1B	69	11	53	51	01	n1	n2	data

Parameters

00h≦n1≦5Ah

n2: 00h

Description

- Set the QR code content included in self-printing.

  n1: length of the content set in the QR code (up to 90 bytes)

  data: content set in the QR code

- This command is a static command.

ESC i DC1 SQ(00h)　Retrieve self-printing QR code content

ASCII:	ESC	i	DC1	S	Q	00h	00h	00h
Hexadecimal:	1B	69	11	53	51	00	00	00

Parameters

None

Description

- The self-printing QR code content setting value is returned with the following data.

[1]	00h (Fixed)
[2]	01h (Fixed)
[3]	Command reception response 00h: command reception OK 01h: command reception NG
[4]	Length of the content set in the QR code
[5]	00h (Fixed)
[6] and after	Content set in the QR code

ESC i DC1 SR(01h) Select setting change lock

ASCII:	ESC	i	DC1	S	Q	01h	n1	n2	n3
Hexadecimal:	1B	69	11	53	52	01	n1	n2	n3

Parameters

n1: 01h

n2: 00h

n3: 00h or FFh

Description

- Prohibit changing settings and rewriting transfer data.

  n3=00h: Cancel the prohibition of setting change

  n3=FFh: Prohibit setting change

- This command is a static command.

ESC i DC1 SR(00h) Retrieve setting change lock

ASCII:	ESC	i	DC1	S	Q	00h	00h	00h
Hexadecimal:	1B	69	11	53	52	00	00	00

Parameters

None

Description

- The setting change lock setting value is returned as 6-byte data.

[1]	00h (Fixed)
[2]	01h (Fixed)
[3]	Command reception response 00h: command reception OK 01h: command reception NG
[4]	01h (Fixed)
[5]	00h (Fixed)
[6]	00h: Cancel prohibition FFh: Prohibit

- The retrieved value is a value specified by a static command.

ESC iDC2 3 0 Specify ignore media margin

ASCII:	ESC	i	DC2	3	0	01h	01h	00h	n1
Hexadecimal:	1B	69	12	33	30	01	01	00	nh1

Parameters

nh1: 00h, 01h

Description

- Specify whether to ignore the margins specified in the media settings.

  [3]: Settings
  00h: No ignore
  01h: ignore

- Default value is 00h.
- This command is a static command.

Example

- To set the margins specified in the media settings to Ignore:

  Since nh1=01h, the command will be as follows.

  ESC i DC2 3 0 01h 01h 00h 01h
  (1Bh 69h 12h 33h 30h 01h 01h 00h 01h)

9. Setting and Retrieving Command Details (Raster mode)

ESC iOUe1　Specify the string of text decoration tags

ASCII:	ESC	i	O	U	e	1	n1	n2	n3	data
Hexadecimal:	1B	69	4F	55	65	31	n1	n2	n3	data

Parameters

00h≤n1≤03h

01h≤n2≤08h

n3: 00h (Fixed)

00h≤data≤FFh

Description

- Specify the string of text decoration tags.

n1=00h:	Bold start (Default: “”)
n1=01h:	Bold end (Default: “”)
n1=02h:	Underline start (Default: “<u>”)
n1=03h:	Underline end (Default: “</u>”)
n2+(n3*256):	Length of the text string　(can be set between 1 and 8)
data:	Text string (The maximum number of characters that can be set is 8 characters (bytes).)

- This command is a static command.

Example

- To modify “Bold start” tag string to ”&b”:

  Since the length of the string is 2 (n3=02h), the command will be as follows.

  ESC i O U e 1 00h 02h 00h 26h 62h
  (1Bh 69h 4Fh 55h 65h 31h 00h 02h 00h 26h 62h)

- To modify “Bold end” tag string to ”&&b” :

  Since the length of the string is 3 (n3=03h), the command will be as follows

  ESC i O U e 1 01h 03h 00h 26h 26h 62h
  (1Bh 69h 4Fh 55h 65h 31h 01h 03h 00h 26h 26h 62h)

ESC iOUe0 Retrieve the string of text decoration tags

ASCII:	ESC	i	O	U	e	0	n1	n2	n3
Hexadecimal:	1B	69	4F	55	65	30	n1	n2	n3

Parameters

00h≤n1≤03h

n2: 00h (Fixed)

n3: 00h (Fixed)

Description

- Retrieve the text string of selected decoration tags.

  n1=00h: Bold start

  n1=01h: Bold end

  n1=02h: Underline start

  n1=03h: Underline end

- 2- to 10-byte data is returned from the printer. (Varies depending on the length of the text string)

  [1, 2]: n1 n2 (number of characters)
  n1+(n2*256)

  [3 and later]: Text string

- The retrieved value is a value specified by a static command.

Example

- When the text string for the Bold start is specified as ”&b” :

  Code: ESC i O U e 0 00h 00h 00h
  (1Bh 69h 4Fh 55h 65h 30h 00h 00h 00h)
  Returned value: 02h 00h 26h 62h

- When the text string for the Bold end is specified as ”&&b”:

  Code: ESC i O U e 0 01h 00h 00h
  (1Bh 69h 4Fh 55h 65h 30h 01h 00h 00h)
  Returned value:03h 00h 26h 26h 62h

10. Printer Control Command Details

ESC i a Select command mode

ASCII:	ESC	i	a	n
Hexadecimal:	1B	69	61	nh

Parameters

nh=00h 01h 03h 04h 05h 30h 31h 33h 34h 35h

Description

- Switches the mode.

  nh=00h or 30h: ESC/P mode

  nh=01h or 31h: Raster mode

  nh=03h or 33h: P-touch Template mode (default) / ZPL II emulation mode

  nh=04h or 34h: CPCL Page Print mode

  nh=05h or 35h: CPCL Line Print mode

  nh=07h or 37h: EPL emulation mode

  nh=08h or 38h: DPL emulation mode

  nh=FFh Switch to the initial mode (See also ESC iXi2Select command mode)

- This command is a dynamic command.

Remarks

- Invalid if n is a value outside of the allowable range.

ESC i U x Reboot

ASCII:	ESC	i	U	x
Hexadecimal:	1B	69	55	78

Parameters

None

Description

- Reboot the printer.
- This is a raster command. Please change the mode before sending this command. Please refer to ESC i a Select command mode.

ESC i S Status request

ASCII:	ESC	i	S
Hexadecimal:	1B	69	53

Parameters

None

Description

- Returns the printer status. The printer status consists of 32 bytes.
- The response content of the command is the same as ^SR. Please refer to the ^SR page.
- This command does not return a response during printing.

11. ZPL II Emulation Support Commands

ZPL II	Description	Note
^A	Select font	
^A@	Select font	・RJ-2XXX, TD-20XX, TD-21XX: Command not supported.
^B0	Aztec	
^B2	Interleaved 2 of 5	
^B3	Code39	
^B7	PDF417	
^B8	EAN-8	
^B9	UPC-E	
^BA	Code93	・“□” is not added to the beginning or end of subscript.
^BC	Code128	
^BD	MaxiCode	
^BE	EAN-13	
^BF	MicroPDF417	
^BI	Industrial 2 of 5	
^BJ	Standard 2 of 5	
^BK	ANSI CodaBar	
^BM	MSI/Plessey	
^BO	Aztec	
^BQ	QR Code	・The mask pattern is fixed. ・Mixed mode is not supported.
^BR	GS1 Databar	
^BS	UPC-EAN Extension	
^BU	UPC-A	・If suffixes were disabled, guard bars will be disabled. ・The size of suffixes does not change with the size of the module width.
^BX	DataMatrix	・The error correction level is fixed at 200.
^BY	Bar setting for barcodes	
^BZ	POSTAL	・Compatible with Postnet and IMB.
^CC	Change prefix ^	
~CC	Change prefix ^	
^CD	Change delimiter character	

~CD	Change delimiter character	
^CF	Change default font	
^CI	Change international character set	・Compatible with 1-byte code (international character settings) and UTF-8.
^CT	Change prefix ~	
~CT	Change prefix ~	
^CW	Name downloaded font with 1 alphanumeric character.	・TTE files are not supported.
^DB	Download bitmap font	
~DB	Download bitmap font	
^DF	Download format	
^DG	Download graphic	
~DG	Download graphic	
~DY	Download Object	・This command is supported only on the TD-4XXX printers. ・TTE, PNG, OTF, NRD, PAC, WML, HTM, GET are not supported.
^EF	Clear all formats in RAM except GRF	
~EF	Clear all formats in RAM except GRF	
^EG	Clear all GRF	
~EG	Clear all GRF	
^FA	Allocate space for the field to be saved	
^FB	Set field block	
^FC	Field Clock	・This command is supported only on the TD-4XXX printers.
^FD	Set input data area	
^FH	Use hexadecimal character for input data	
^FN	Set data area as a number	
^FO	Set position from home position of label	
^FP	Set field parameter	・Settings for barcode suffixes are invalid. ・Vertical text settings for field blocks are invalid.
^FR	Reverse field color	
^FS	Point to last position of field	
^FT	Set position of field	
^FV	Set the number of data to be inserted in field	

^FW	Set the default orientation	
^FX	Comment	・This command is supported only on the TD-4XXX printers.
^GB	Draw box	
^GC	Graphic circle	・RJ-2XXX, TD-20XX, TD-21XX: Command not supported.
^GD	Graphic diagonal line	
^GE	Graphic ellipse	・RJ-2XXX, TD-20XX, TD-21XX: Command not supported.
^GF	Graphic field	・Compressed binary data is not supported.
^GS	GS fonts	・Supports registered trademarks, copyright marks, and trademarks.
^HG	Return graphic data to host	・Odd data is converted to even data.
~HI	Retrieve printer information	
~HS	Return printer settings to host	
^HY	Upload Graphics	・This command is supported only on the TD-4XXX printers. ・PNG is not supported.
^ID	Delete image file	
^IL	Recall image files stored with ^IS	
^IM	Recall image files	
^IS	Store image files	
~JA	Cancel format	
^JB	Initialize memory	
^JM	Set Dots per Millimeter	・This command is supported only on the TD-4XXX printers.
~JP	Clear format holding ~JP	
~JR	Initialize when printer turned on	
^JU	Printer setting	・Default settings related to the network are not loaded. ・Label lengths and shift values are not saved.
^JZ	Select print setting after error occurs	
^KL	Set language	・Control panel language settings are not supported.
^LH	Set home position of label	
^LL	Set label length	
^LR	Reverse field data color	
^LS	Set horizontal print position	
^LT	Set vertical print position	
^MC	Clear data after printing	

^MF	Feed setting	･Some feed operations are not supported.
^MM	Print Mode	･The pre-peel operation is not performed. ･RJ-4XXX, RJ-2XXX, TD-20XX, TD-21XX: Command not supported.
^MN	Media setting	･Black mark position adjustment is not supported.
^MU	Unit setting	･Resolution settings are not supported. Operation is according to the resolution of the model.
^PM	Mirror printing	
^PO	Upside-down printing	
^PQ	Copy printing	･The pause command is not supported.
^PW	Set print width	
~SD	Set print density	
^SF	Serialization	
^SN	Serialization	
^ST	Set Date and Time	･This command is supported only on the TD-4XXX printers.
~TA	Reverse feed length setting when printing	
^TB	Text Blocks	
~WC	Print printer settings	
^WD	Print list of stored files	
^XA	Command required at beginning of format	･Replacement with STX is not supported.
^XF	Recall format stored with ^DF	
^XG	Recall format stored with ^DG or ^DG	
^XZ	Command required at end of format	

12. CPCL Emulation Support Commands

12.1 UTILITIES

CPCL	Description
!	Command Start Line
UTILITIES	Start utility session
U1	One-line utility session
VERSION	Return firmware version string
CHECKSUM	Return application checksum
DEL	Delete a file
DIR	Return file directory
DF	Write a file
DEFINE-FILE	
DF	Define saved format file
DEFINE-FORMAT	
UF	Use saved format file for data
USE-FORMAT	
TYPE	Return file contents
COUNTRY	Character set / Code page
CHAR-SET	
TIMEOUT	Inactivity power-off timeout
BEEP	Sound the beeper
LT	Line terminator character(s)
SET-TIME	Set real-time clock time
GET-TIME	Report real-time clock time
SET-DATE	Set real-time clock date
GET-DATE	Report real-time clock date

12.2 CPCL Job/Mode Control

CPCL	Description
;	Comment
LEFT	Justification (field alignment)
CENTER	
RIGHT	

CPCL	Description
PAGE-WIDTH	Page width
PW	
IN-CENTIMETERS	Units of measure
IN-DOTS	
IN-INCHES	
IN-MILLIMETERS	
COUNTRY	Character set / code page
SETSP	Character spacing
UNDERLINE	Used to underline text
FG	Define font group
SETMAG	Font magnification
BARCODE-TEXT	Print text of barcode
BT	
PRINT	Terminate and print
END	Terminate and print
ABORT	Terminate

12.3 CPCL Printer Control

CPCL	Description
JOURNAL	Disable automatic correction of media alignment
CONTRAST	Specify print darkness
TONE	Specify print darkness
FORM	Form feed after print
PACE	Wait for key after print
AUTO-PACE	Wait for presentation sensor
NO-PACE	Cancel PACE or AUTO-PACE
WAIT	Delay after print
SPEED	Set maximum motor speed
PREFEED	Feed before print
POSTFEED	Feed after print
PRESENT-AT	Conditional advance/retract
BEEP	Sound the beeper
CUT	Cut * Models without cutters are not supported
CUT-AT	Retract after cut

12.4 CPCL Pre-scaled Text

CPCL	Description
TEXT	Horizontal text
T	
VTEXT	Vertical text
VT	
TEXT90	Vertical text
T90	
TEXT180	Inverted text
T180	
TEXT270	Inverted vertical text
T270	
ENCODING	Specifies encoding of data sent to the printer
CONCAT	Horizontal pre-scaled text concatenation
VCONCAT	Vertical pre-scaled text concatenation
ENDCONCAT	End text concatenation
MULTILINE	Multiple-line text block
ML	
ENDMULTILINE	End multiple-line text block
MLEND	

12.5 CPCL Scalable Text

CPCL	Description
SCALE-TEXT	Horizontal scalable text size
ST	
VSCALE-TEXT	Vertical scalable text size
VST	
SCALE-TO-FIT	Scale horizontal scalable text to fit window
STF	
VSCALE-TO-FIT	Scale vertical scalable text to fit window
VSTF	
CONCAT ... ST	Horizontal scalable text concatenation
VCONCAT ... ST	Vertical scalable text concatenation

CPCL	Description
ROTATE	Rotate scalable text
R	

12.6 CPCL Linear Barcodes

CPCL	Description
BARCODE UPCA	Horizontal Barcode UPC-A
B UPCA	
VBARCODE UPCA	Vertical Barcode UPC-A
VB UPCA	
BARCODE UPCA2	Horizontal Barcode UPC-A with extension
BARCODE UPCA5	
B UPCA2	
B UPCA5	
VBARCODE UPCA2	Vertical Barcode UPC-A with extension
VBARCODE UPCA5	
VB UPCA2	
VB UPCA5	
BARCODE UPCE	Horizontal Barcode UPC-E
B UPCE	
VBARCODE UPCE	Vertical Barcode UPC-E
VB UPCE	
BARCODE UPCE2	Horizontal Barcode UPC-E with extension
BARCODE UPCE5	
B UPCE2	
B UPCE5	
VBARCODE UPCE2	Vertical Barcode UPC-E with extension
VBARCODE UPCE5	
VB UPCE2	
VB UPCE5	
BARCODE I2OF5	Horizontal Barcode ITF
B I2OF5	
VBARCODE I2OF5	Vertical Barcode ITF
VB I2OF5	

CPCL	Description
BARCODE I2OF5C	Horizontal Barcode ITF with Checksum
B I2OF5C	
VBARCODE I2OF5C	Vertical Barcode ITF with Checksum
VB I2OF5C	
BARCODE I2OF5G	Horizontal Barcode German Post Code
B I2OF5G	
VBARCODE I2OF5G	Vertical Barcode German Post Code
VB I2OF5G	
BARCODE EAN13	Horizontal Barcode EAN13
B EAN13	
VBARCODE EAN13	Vertical Barcode EAN13
VB EAN13	
BARCODE EAN132	Horizontal Barcode EAN13 with extension
BARCODE EAN135	
B EAN132	
B EAN135	
VBARCODE EAN132	Vertical Barcode EAN13 with extension
VBARCODE EAN135	
VB EAN132	
VB EAN135	
BARCODE EAN8	Horizontal Barcode EAN8
B EAN8	
VBARCODE EAN8	Vertical Barcode EAN8
VB EAN8	
BARCODE EAN82	Horizontal Barcode EAN8 with extension
BARCODE EAN85	
B EAN82	
B EAN85	
VBARCODE EAN82	Vertical Barcode EAN8 with extension
VBARCODE EAN85	
VB EAN82	
VB EAN85	
BARCODE 39	Horizontal Barcode 39
B 39	

CPCL	Description
VBARCODE 39	Vertical Barcode 39
VB 39	
BARCODE 39C	Horizontal Barcode 39 with Checksum
B 39C	
VBARCODE 39C	Vertical Barcode 39 with Checksum
VB 39C	
BARCODE F39	Horizontal Barcode 39 with Full ASCII
B F39	
VBARCODE F39	Vertical Barcode 39 with Full ASCII
VB F39	
BARCODE F39C	Horizontal Barcode 39 with Full ASCII and Checksum
B F39C	
VBARCODE F39C	Vertical Barcode 39 with Full ASCII and Checksum
VB F39C	
BARCODE 93	Horizontal Barcode 93
B 93	
VBARCODE 93	Vertical Barcode 93
VB 93	
BARCODE 128	Horizontal Barcode 128 Subsets A/B/C Auto
B 128	
VBARCODE 128	Vertical Barcode 128 Subsets A/B/C Auto
VB 128	
BARCODE UCCEAN128	Horizontal Barcode UCC-128 Standard
B UCCEAN128	
VBARCODE UCCEAN128	Vertical Barcode UCC-128 Standard
VB UCCEAN128	
BARCODE CODABAR	Horizontal Barcode CODABAR (no checksum)
B CODABAR	
VBARCODE CODABAR	Vertical Barcode CODABAR (no checksum)
VB CODABAR	
BARCODE CODABAR16	Horizontal Barcode CODABAR with mod 16 Checksum
B CODABAR16	
VBARCODE CODABAR16	Vertical Barcode CODABAR with mod 16 Checksum
VB CODABAR16	

CPCL	Description
BARCODE MSI	Horizontal Barcode MSI Plessey
B MSI	
VBARCODE MSI	Vertical Barcode MSI Plessey
VB MSI	
BARCODE MSI10	Horizontal Barcode MSI Plessey with Checksum(s)
BARCODE MSI1010	
BARCODE MSI1110	
B MSI10	
B MSI1010	
B MSI1110	
VBARCODE MSI10	Vertical Barcode MSI Plessey with Checksum(s)
VBARCODE MSI1010	
VBARCODE MSI1110	
VB MSI10	
VB MSI1010	
VB MSI1110	
BARCODE POSTNET	Horizontal Barcode Postnet
B POSTNET	
VBARCODE POSTNET	Vertical Barcode Postnet
VB POSTNET	
BARCODE FIM	Horizontal Facing Identification Marks
B FIM	
VBARCODE FIM	Vertical Facing Identification Marks
VB FIM	

12.7 CPCL RSS(with 6 subtypes)

CPCL	Description
BARCODE RSS	Horizontal Reduced Space Symbology and Composite Symbols
B RSS	
VBARCODE RSS	Vertical Reduced Space Symbology and Composite Symbols
VB RSS	

12.8 CPCL 2D Barcodes

CPCL	Description
BARCODE PDF-417	Horizontal Barcode PDF417
B PDF-417	
VBARCODE PDF-417	Vertical Barcode PDF417
VB PDF-417	
ENDPDF	End Barcode PDF417
BARCODE MAXICODE	Horizontal Barcode Maxicode
B MAXICODE	
VBARCODE MAXICODE	Vertical Barcode Maxicode
VB MAXICODE	
ENDMAXICODE	End Barcode Maxicode
BARCODE QRCODE	Horizontal Barcode QRCode
B QRCODE	
VBARCODE QRCODE	Vertical Barcode QRCode
VB QRCODE	
ENDQR	End Barcode QRCode
BARCODE AZTEC	Horizontal Barcode Aztec
B AZTEC	
VBARCODE AZTEC	Vertical Barcode Aztec
VB AZTEC	
ENDAZTEC	End Barcode Aztec

12.9 CPCL Graphics

CPCL	Description
COUNT	Serialization
BOX	Draw rectangle
LINE	Draw horizontal, vertical or diagonal line
L	
INVERSE-LINE	Overdraw inverse horizontal or vertical line
IL	
PATTERN	Pattern line or scalable text
EXPANDED-GRAPHICS	Horizontal expanded graphics
EG	

CPCL	Description
VEXPANDED-GRAPHICS	Vertical expanded graphics
VEG	
COMPRESSED-GRAPHICS	Horizontal compressed graphics
CG	
VCOMPRESSED-GRAPHICS	Vertical compressed graphics
VCG	
PCX	Print ".PCX" graphics data

12.10 CPCL Line Print Mode

CPCL	Description
LP-ORIENT	Line print mode orientation
SETLP	Line print mode font
SETLF	Line print mode line spacing
X	Move right absolute
Y	Move down absolute
XY	Move right and down absolute
RX	Move right relative to present position
RY	Move down relative to present position
RXY	Move right and down relative to present position
LMARGIN	Line print mode left margin
SETBOLD	Set text darkness/width
SETSP	Character spacing
PAGE-WIDTH	Page width
PW	
PAGE-HEIGHT	Line print mode pagination
PH	
0x0C(ASCII Character)	Form-feed
0x08(ASCII Character)	Non-destructive backspace
SETFF	Line print mode top-of-form
SET-TOF	Distance between top-of-form and index
PRESENT-AT	Conditional advance/retract
CUT-AT	Retract after cut
CUT	Cut * Models without cutters are not supported
SETLP-TIMEOUT	Print after idle time

CPCL	Description
(Any linear barcode or graphics command)	Any linear barcode or graphics command are able to be used in Line Print Mode.

13. EPL Emulation Support Command

EPL	Name	Notes
A	ASCII Text	・Asian fonts are not supported. ・Black-and-white inversion is not supported.
A	Simple Expressions in Data Fields	・Asian fonts are not supported. ・Black-and-white inversion is not supported.
AUTOFR	Automatic Form Printing	・Automatic printing at power-on is not supported.
B	Bar Code	・Code 128 with Deutsche Post check digit, Interleaved 2 of 5 with human readable check digit, Planet 11 & 13 digit, Japanese Postnet, and UPC Interleaved 2 of 5 are not supported.
B	RSS-14 Bar Code Specific Options	・Suffixes are not supported.
b	2D Bar Code – Aztec Specific Options	・flg(n) is not supported. ・Menu support option is not supported. ・Black-and-white inversion is not supported.
b	2D Bar Code – Data Matrix Specific Options	・Black-and-white inversion is not supported.
b	2D Bar Code – MaxiCode Specific Options	
b	2D Bar Code – PDF417 Specific Options	・Macro PDF417 is not supported.
b	2D Bar Code – QR Code Specific Options	
C	Counter	・Prompt display is not supported.
C	Cut Immediate	
FE	End Form Store	
FK	Delete Form	
FR	Retrieve Form	
FS	Store Form	
GG	Print Graphics	
GK	Delete Graphics	
GM	Store Graphics	
GW	Direct Graphic Write	
I	Character Set Selection	・8-bit data is only supported in Windows 1250 and Windows 1252. For other code pages, the intended characters may not be printed. ・KDU code setting is not supported.
LE	Line Draw Exclusive OR	
LO	Line Draw Black	

EPL	Name	Notes
LS	Line Draw Diagonal	
LW	Line Draw White	
N	Clear Image Buffer	
oW	Customize Bar Code Parameters	
P	Print	
PA	Print Automatic	
q	Set Label Width	
Q	Set Form Length	・Offset setting is not supported.
R	Set Reference Point	
V	Define Variable	・Prompt display is not supported.
X	Box Draw	
Z	Print Direction	
?	Download Variables	
;	Code Comment Line	

14. DPL Emulation Support Command

14.1 Configuration Commands

DPL	Name	Notes
<STX>KcAS	Single Byte Symbol Set	・Supports E1, E9, FR, GR, IT, P9, PM, SP, SW, UK, US, and W1. For other code pages, the intended characters may not be printed.
<STX>KcCL	Continuous Label Length	
<STX>KcCO	Column Offset	
<STX>KcDS	Double Byte Symbol Set	・Supports SJ and UC. For other code pages, the intended characters may not be printed.
<STX>KcEN	End Character	
<STX>KcFA	Format Attributes	・Opaque is not supported.
<STX>KcLR	Label Rotation	
<STX>KcNS	Disable Symbol Set Selection	
<STX>KcRF	Row Adjust Fine Tune	
<STX>KcRO	Row Offset	
<STX>KcUM	Unit of Measure	

14.2 Format Record Commands

Support Type	Notes
Inter Bitmapped Font	・Maximum vertical and horizontal magnification ratio of 15×.
Smooth/Downloaded Bitmapped Fonts	・Maximum vertical and horizontal magnification ratio of 15×. ・Downloaded bitmap fonts are not supported.
Scalable Fonts	・Maximum vertical and horizontal magnification ratio of 15×. ・2-byte character fonts are not supported. To print 2-byte characters, use a downloaded font.
Images	・Maximum vertical and horizontal magnification ratio of 15×.
Lines and Boxes	
Polygons	
Circles	

14.3 Bar Code Format Record Commands

Support Type	Notes
Code 3 of 9 Bar Code	
UPC-A Bar Code	
UPC-E Bar Code	
Interleaved 2 of 5 (I2 of 5) Bar Code	
Code 128 Bar Code	
EAN-13 Bar Code	
EAN-8 Bar Code	
Codabar Bar Code	
Interleaved 2 of 5 (with a Modulo 10 Checksum) Bar Code	
2-Digit UPC Addendum Bar Code	
5-Digit UPC Addendum Bar Code	
Code 93 Bar Code	
Postnet Bar Code	
UCC/EAN Code 128 Bar Code	
UPS MaxiCode, Modes 2 & 3 Bar Code	
UPS MaxiCode, Modes 2 & 3 Bar Code with Byte Count Specifier	
PDF-417 Bar Code with Byte Count Specifier	
PDF-417 Bar Code	
DataMatrix Bar Code	・Supports only error correction level 200. If another value is set, the barcode does not print. ・If the entered data exceeds the maximum amount of data, the barcode does not print.
DataMatrix Bar Code with Byte Count Specifier	・Supports only error correction level 200. If another value is set, the barcode does not print. ・If the entered data exceeds the maximum amount of data, the barcode does not print.
QR Code Bar Code	・Mask value is fixed without a mask. ・Add-data mode is not supported.
Aztec Bar Code	・ECI mode is fixed as disabled.
EAN128 Bar Code (with Auto Subset Switching)	
Code 128 Bar Code (with Auto Subset Switching)	・If invalid data is entered, the barcode does not print.
GS1 DataBar Bar Code	・Undercut is not supported.
Industrial 2 of 5 Bar Code	

Support Type	Notes
Intelligent Mail Bar Code (IMB)	
Standard 2 of 5 Bar Code	
Micro PDF417 Bar Code	・Maximum vertical magnification ratio of 64×. ・Maximum horizontal magnification ratio of 32×. ・Replacement of macro characters is not supported.
Micro PDF417 Bar Code with Byte Count Specifier	・Maximum vertical magnification ratio of 64×. ・Maximum horizontal magnification ratio of 32×. ・Replacement of macro characters is not supported.

14.4 System Label Commands

DPL	Name	Notes
<STX>c	Set Continuous Paper Length	
<STX>E	Set Quantity for Stored Label	
<STX>e	Select Edge Sensor	
<STX>F	Form Feed	
<STX>G	Print Last Label Format	
<STX>I	Input Image Data	・If “D” is specified in the Memory Module, data is saved in RAM. If something different is specified, data is stored in FROM. ・IMG format is not supported.
<STX>L	Enter Label Formatting Command Mode	
<STX>m	Set Printer to Metric Mode	
<STX>n	Set Printer to Imperial Mode	
<STX>U	Label Format String Replacement Field	・The number of characters after replacing text is limited to the number of characters before replacing text.
<STX>y	Select Font Symbol Set	・Supports E1, E9, FR, GR, IT, P9, PM, SP, SW, UK, US, and W1 for 1-byte code. For other code pages, the intended characters may not be printed. ・Supports SJ and UC for 2-byte code. For other code pages, the intended characters may not be printed.

14.5 Label Format Commands

DPL	Name	Notes
A	Set Format Attribute	・Opaque Mode and Inverse Mode are not supported. Prints in Transparent Mode.
B	Bar Code Magnification	
C	Set Column Offset Amount	
D	Set Dot Size Width and Height	
E	Terminate Label Formatting Mode and Print Label	
F	Advanced Format Attributes	
G	Place Data in Global Register	
J	Justification	
m	Set Metric Mode	
n	Set Inch (Imperial) Mode	
Q	Set Quantity of Labels to Print	
R	Set Row Offset Amount	
T	Set Field Data Line Terminator	
X	Terminate Label Formatting Mode	
y	Select Font Symbol Set	・Supports E1, E9, FR, GR, IT, P9, PM, SP, SW, UK, US, and W1 for 1-byte code. For other code pages, the intended characters may not be printed. ・Supports SJ and UC for 2-byte code. For other code pages, the intended characters may not be printed.
z	Zero (Ø) Conversion to "0"	
+|>|(	Make Last Field Entered Increment	・Does not perform digit alignment. Only significant digits are printed.
-|<|)	Make Last Field Entered Decrement	・Does not perform digit alignment. Only significant digits are printed.
<STX>S	Recall Global Data and Place in Field	
<STX>T<CR>	Print Time and Date	
^	Set Count by Amount	

Appendix A: Supported Printers

Series	Model
RJ-4XXX	RJ-4230B
	RJ-4250WB
RJ-3XXX	RJ-3230B
	RJ-3250WB
RJ-2XXX	RJ-2030
	RJ-2031
	RJ-2050
	RJ-2131
	RJ-2140
	RJ-2150
TD-4XXX	TD-4410D
	TD-4420DN
	TD-4510D
	TD-4520DN
	TD-4550DNWB
	TD-4210D
TD-20XX, TD-21XX	TD-2020
	TD-2120N
	TD-2130N
	TD-2020A
	TD-2030A
	TD-2125N
	TD-2125NWB
	TD-2135N
	TD-2135NWB

Appendix B: Specifications

RJ-4XXX P-touch Template 2.0 specifications

Model			RJ-4230B	RJ-4250WB
Printing	Printing method		Raster ESC/P **P-touch Template / ZPL II emulation** CPCL Page Print emulation CPCL Line Print emulation EPL emulation mode (Switchable only with Select command mode command) DPL emulation mode (Switchable only with Select command mode command)	
	Maximum print length		3 m	
	Resolution (dpi)		203 dpi × 203 dpi	
	Text	Font	Outline fonts: Helsinki, Brussel, Letter Gothic, Gothic (*Japanese font) Support downloading fonts (TrueType/OpenType)	
		Size (dots)	Outline fonts: Maximum 400 dots	
		Character style	None, Bold, Italics, Outline, Shadow, Shadow + Outline	
		Horizontal alignment	Left, Center, Right *When set to "Long text": Top left	
		Rotate	Portrait, landscape	
	Bar-code	Types	CODE39, ITF (I-2/5), EAN-13, EAN-8, UPC-A, UPC-E, CODABAR, CODE128, GS1-128 (UCC/EAN-128), GS1 Databar (Omni, Truncated, Stacked, Stacked Omni, Limited, Expanded, Expanded Stacked), POSTNET, Intelligent Mail Barcode, GS1 Databar Composite, QR Code, PDF417, Data Matrix, MaxiCode, Aztec	
		Width	Large, Medium, Small, Extra Small	
Flash ROM (user area)			42MB	
Communication Interfaces			USB Bluetooth	USB Bluetooth WLAN
Options			-	

Settings that appear in **bold** and underlined are the default settings.

RJ-3XXX P-touch Template 2.0 specifications

Model			RJ-3230B	RJ-3250WB
Printing	Printing method		Raster ESC/P **<u>P-touch Template / ZPL II emulation</u>** CPCL Page Print emulation CPCL Line Print emulation	
	Maximum print length		3 m	
	Resolution (dpi)		203 dpi × 203 dpi	
	Text	Font	Outline fonts: Helsinki, Brussel, Letter Gothic, Gothic (*Japanese font) Support downloading fonts (TrueType/OpenType)	
		Size (dots)	Outline fonts: Maximum 400 dots	
		Character style	None, Bold, Italics, Outline, Shadow, Shadow + Outline	
		Horizontal alignment	Left, Center, Right *When set to "Long text": Top left	
		Rotate	Portrait, landscape	
	Bar-code	Types	CODE39, ITF (I-2/5), EAN-13, EAN-8, UPC-A, UPC-E, CODABAR, CODE128, GS1-128 (UCC/EAN-128), GS1 Databar (Omni, Truncated, Stacked, Stacked Omni, Limited, Expanded, Expanded Stacked), POSTNET, Intelligent Mail Barcode, GS1 Databar Composite, QR Code, PDF417, Data Matrix, MaxiCode, Aztec,	
		Width	Large, Medium, Small, Extra Small	
Flash ROM (user area)			42MB	
Communication Interfaces			USB Bluetooth Ethernet (Option)	USB Bluetooth WLAN Ethernet (Option)
Options			-	

Settings that appear in **bold** and <u>underlined</u> are the default settings.

RJ-2XXX P-touch Template 2.0 specifications

Model			RJ-2030	RJ-2031	RJ-2050	RJ-2131	RJ-2140	RJ-2150
Printing	Printing method		Raster ESC/P **<u>P-touch Template / ZPL II emulation</u>** CPCL Page Print emulation CPCL Line Print emulation					
	Maximum print length		1 m					
	Resolution (dpi)		203 dpi × 203 dpi					
	Text	Font	Outline fonts: Helsinki, Brussel, Letter Gothic, Gothic (*Japanese font)					
		Size (dots)	Outline fonts: Maximum 400 dots					
		Character style	None, Bold, Italics, Outline, Shadow, Shadow + Outline					
		Horizontal alignment	Left, Center, Right *When set to "Long text": Top left					
		Rotate	Portrait, landscape					
	Bar-code	Types	CODE39, ITF (I-2/5), EAN-13, EAN-8, UPC-A, UPC-E, CODABAR, CODE128, GS1-128 (UCC/EAN-128), GS1 Databar (Omni, Truncated, Stacked, Stacked Omni, Limited, Expanded, Expanded Stacked), POSTNET, QR Code, PDF417, Data Matrix, MaxiCode, Aztec					
		Width	Large, Medium, Small, Extra Small					
Flash ROM (user area)			12MB					
Communication Interfaces			USB Bluetooth	USB Bluetooth	USB Bluetooth WLAN	USB Bluetooth	USB WLAN	USB Bluetooth WLAN
Options			-					

Settings that appear in **bold** and <u>underlined</u> are the default settings.

TD-4XXX P-touch Template 2.0 specifications

Model			TD-4410D	TD-4420DN	TD-4210D	TD-4510D	TD-4520DN	TD-4550DNWB
Printing	Printing method		Raster ESC/P **P-touch Template / ZPL II emulation** CPCL Page Print emulation CPCL Line Print emulation EPL emulation mode DPL emulation mode					
	Maximum print length		3 m					
	Resolution (dpi)		203 dpi × 203 dpi			300 dpi × 300 dpi		
	Text	Font	Outline fonts: Helsinki, Brussel, Letter Gothic, Gothic (*Japanese font) Support downloading fonts (TrueType/OpenType)					
		Size (dots)	Outline fonts: Maximum 400 dots					
		Character style	None, Bold, Italics, Outline, Shadow, Shadow + Outline					
		Horizontal alignment	Left, Center, Right *When set to "Long text": Top left					
		Rotate	Portrait, Landscape					
	Bar-code	Types	CODE39, ITF (I-2/5), EAN-13, EAN-8, UPC-A, UPC-E, CODABAR, CODE128, GS1-128 (UCC/EAN-128), GS1 Databar (Omni, Truncated, Stacked, Stacked Omni, Limited, Expanded, Expanded Stacked), POSTNET, Intelligent Mail Barcode, GS1 Databar Composite, QR Code, PDF417, Data Matrix, MaxiCode, Aztec,					
		Width	Large, Medium, Small, Extra Small					
Flash ROM (user area)			40MB					
Communication Interfaces			USB RS-232C	USB RS-232C Ethernet	USB RS-232C	USB RS-232C	USB RS-232C Ethernet	USB RS-232C Ethernet Bluetooth WLAN USB-HOST
RS-232C		Baud rate	4800, **9600**, 14400, 19200, 28800, 31250, 38400, 57600, 115200 bps					
		Flow control	**DTR**, Xon/Xoff					
		Parity	**None**, ODD, EVEN					
		Bit length	**8bit**, 7bit					
Options			Cutter, Label Peeler					

Settings that appear in **bold** and underlined are the default settings.

TD-20XX, TD-21XX P-touch Template 2.0 specifications

Model			TD-2020	TD-2120N	TD-2130N
Printing	Printing method		Raster ESC/P **P-touch Template / ZPL II emulation** CPCL Page Print emulation CPCL Line Print emulation		
	Maximum print length		1 m		
	Resolution (dpi)		203 dpi × 203 dpi		300 dpi x 300 dpi
	Text	Font	Outline fonts: Helsinki, Brussel, Letter Gothic, Gothic (*Japanese font)		
		Size (dots)	Outline fonts: Maximum 400 dots		
		Character style	None, Bold, Italics, Outline, Shadow, Shadow + Outline		
		Horizontal alignment	Left, Center, Right *When set to "Long text": Top left		
		Rotate	Portrait, landscape		
	Bar-code	Types	CODE39, ITF (I-2/5), EAN-13, EAN-8, UPC-A, UPC-E, CODABAR, CODE128, GS1-128 (UCC/EAN-128), GS1 Databar (Omni, Truncated, Stacked, Stacked Omni, Limited, Expanded, Expanded Stacked), POSTNET, QR Code, PDF417, Data Matrix, MaxiCode,		
		Width	Large, Medium, Small, Extra Small		
Flash ROM (user area)			6 MB		
Communication Interfaces			USB RS-232C	USB RS-232C Ethernet Bluetooth (Option) WLAN (Option)	
RS-232C		Baud rate	300, 600, 1200, 2400, 4800, **9600**, 14400, 19200, 28800, 31250, 38400, 57600, 115200 bps		
		Flow control	**DTR**, Xon/Xoff		
		Parity	**None**, ODD, EVEN		
		Bit length	**8bit**, 7bit		
Options			-	Battery Peeler	

Settings that appear in **bold** and underlined are the default settings.

Model			TD-2020A	TD-2125 N	TD-2125 NWB	TD-2030A	TD-2135N	TD-2135 NWB
Printing	Printing method		Raster ESC/P **P-touch Template / ZPL II emulation** CPCL Page Print emulation CPCL Line Print emulation					
	Maximum print length		3 m					
	Resolution (dpi)		203 dpi × 203 dpi			300 dpi x 300 dpi		
	Text	Font	Outline fonts: Helsinki, Brussel, Letter Gothic, Gothic (*Japanese font)					
		Size (dots)	Outline fonts: Maximum 400 dots					
		Character style	None, Bold, Italics, Outline, Shadow, Shadow + Outline					
		Horizontal alignment	Left, Center, Right *When set to "Long text": Top left					
		Rotate	Portrait, landscape					
	Bar-code	Types	CODE39, ITF (I-2/5), EAN-13, EAN-8, UPC-A, UPC-E, CODABAR, CODE128, GS1-128 (UCC/EAN-128), GS1 Databar (Omni, Truncated, Stacked, Stacked Omni, Limited, Expanded, Expanded Stacked), POSTNET, Intelligent Mail Barcode (*1), GS1 Databar Composite (*1), QR Code, PDF417, Data Matrix, MaxiCode, Aztec (*1),					
		Width	Large, Medium, Small, Extra Small					
Flash ROM (user area)			20 MB					
Communication Interfaces			USB RS-232C	USB RS-232C Ethernet	USB RS-232C Ethernet Bluetooth WLAN	USB RS-232C	USB RS-232C Ethernet	USB RS-232C Ethernet Bluetooth WLAN
RS-232C	Baud rate		4800, **9600**, 14400, 19200, 28800, 31250, 38400, 57600, 115200 bps					
	Flow control		**DTR**, Xon/Xoff					
	Parity		**None**, ODD, EVEN					
	Bit length		**8bit**, 7bit					
Options			-	Peeler		-	Peeler	

Settings that appear in **bold** and underlined are the default settings.

*1 Not Supported by TD-2020A.

Appendix C: Character Code Tables

Character code tables

(1) Windows1252 (Western Europe)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			SP	0	@	P	`	p	€			°	À	Đ	à	ð
1			!	1	A	Q	a	q	~	‘	¡	±	Á	Ñ	á	ñ
2			”	2	B	R	b	r	,	’	¢	²	Â	Ò	â	ò
3			#	3	C	S	c	s	*ƒ*	“	£	³	Ã	Ó	ã	ó
4			$	4	D	T	d	t	„	”	¤	´	Ä	Ô	ä	ô
5			%	5	E	U	e	u	…	•	¥	µ	Å	Õ	å	õ
6			&	6	F	V	f	v	†	-	|	¶	Æ	Ö	æ	ö
7			’	7	G	W	g	w	‡	—	§	·	Ç	×	ç	÷
8			(	8	H	X	h	x	ˆ	˜	¨	¸	È	Ø	è	ø
9			)	9	I	Y	i	y	‰	™	©	¹	É	Ù	é	ù
A			*	:	J	Z	j	z	Š	š	ª	º	Ê	Ú	ê	ú
B			+	;	K	[	k	{	<	>	«	»	Ë	Û	ë	û
C			,	<	L	\	l	¦	Œ	œ	¬	¼	Ì	Ü	ì	ü
D			-	=	M	]	m	}			-	½	Í	Ý	í	ý
E			.	>	N	^	n	~	Ž	ž	®	¾	Î	Þ	î	þ
F			/	?	O	_	o	DEL		Ÿ	¯	¿	Ï	ß	ï	ÿ

Note

" ■ " indicates that a space is printed.

" ■ " indicates that the character will switch when the international character set is changed.

(2) Windows1250 (Eastern Europe)

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			SP	0	@	P	`	p	€	t˘		°	Ŕ	Đ	ŕ	đ
1			!	1	A	Q	a	q	À	‘	ˇ	±	Á	Ń	á	ń
2			"	2	B	R	b	r	¸	’	˘	˛	Â	Ň	â	ň
3			#	3	C	S	c	s	ˇ L	“	Ł	ł	Ă	Ó	ă	ó
4			$	4	D	T	d	t	„	”	¤	´	Ä	Ô	ä	ô
5			%	5	E	U	e	u	…	•	Ą	µ	Ĺ	Ő	Í	ő
6			&	6	F	V	f	v	†	–	|	¶	Ć	Ö	ć	ö
7			’	7	G	W	g	w	‡	—	§	·	Ç	×	ç	÷
8			(	8	H	X	h	x	ľ		¨	¸	Č	Ř	č	ř
9			)	9	I	Y	i	y	‰	™	©	ą	É	Ů	é	ů
A			*	:	J	Z	j	z	Š	š	Ş	ş	Ę	Ú	ę	ú
B			+	;	K	[	k	{	<	>	«	»	Ë	Ű	ë	ű
C			,	<	L	\	l	¦	Ś	ś	¬	Ľ	Ě	Ü	ě	ü
D			–	=	M	]	m	}	Ť	ť	–	˝	Í	Ý	í	ý
E			.	>	N	^	n	~	Ž	ž	®	ľ	Î	Ţ	î	ţ
F			/	?	O	_	o	DEL	Ź	ź	Ż	ż	Ď	ß	ď	˙

Note

" ■ " indicates that a space is printed.

" ■ " indicates that the character will switch when the international character set is changed.

(3) Brother standard

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			SP	0	@	P	`	p	Ç	É	á	▒	└		α	
1			!	1	A	Q	a	q	ü	æ	í	▒	┴		β	±
2			”	2	B	R	b	r	é	Æ	ó	▓	┬			
3			#	3	C	S	c	s	â	ô	ú	│	├			¾
4			$	4	D	T	d	t	ä	ö	ñ	┤	─			
5			%	5	E	U	e	u	à	ò	Ñ		┼			§
6			&	6	F	V	f	v	å	û	ª				µ	÷
7			’	7	G	W	g	w	ç	ù	º					
8			(	8	H	X	h	x	ê	ÿ	¿	©	╚			°
9			)	9	I	Y	i	y	ë	Ö	®	╣	╔	┘		·
A			*	:	J	Z	j	z	è	Ü	€	║	╩	┌	Ω	
B			+	;	K	[	k	{	ï	¢	½	╗	╦	✓	δ	
C			,	<	L	\	l	¦	î	£	¼	╝	╠	☑		³
D			-	=	M	]	m	}	ì	¥	¡	TEL	═		ø	²
E			.	>	N	^	n	~	Ä	Pts	«	FAX	╬			
F			/	?	O	_	o	DEL	Å	ƒ	»	┐		☐		

Note

" ■ " indicates that a space is printed.

" ■ " indicates that the character will switch when the international character set is changed.

(4) Japan

	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0			SP	0	@	P	`	p	_		SP	ー	タ	ミ		
1			!	1	A	Q	a	q			。	ア	チ	ム		
2			”	2	B	R	b	r			「	イ	ツ	メ		
3			#	3	C	S	c	s			」	ウ	テ	モ		
4			$	4	D	T	d	t			、	エ	ト	ヤ		
5			%	5	E	U	e	u			・	オ	ナ	ユ		
6			&	6	F	V	f	v			ヲ	カ	ニ	ヨ		
7			’	7	G	W	g	w			ァ	キ	ヌ	ラ		
8			(	8	H	X	h	x			ィ	ク	ネ	リ		
9			)	9	I	Y	i	y			ゥ	ケ	ノ	ル		
A			*	:	J	Z	j	z			ェ	コ	ハ	レ		
B			+	;	K	[	k	{			ォ	サ	ヒ	ロ		
C			,	<	L	\	l	|			ャ	シ	フ	ワ		
D			-	=	M	]	m	}			ュ	ス	ヘ	ン		
E			.	>	N	^	n	~			ョ	セ	ホ	゛		
F			/	?	O	_	o	DEL			ッ	ソ	マ	゜		

注意:

" ■ " indicates that a space is printed.

" ■ " indicates that the character will switch when the international character set is changed.

International character set table

Corresponding characters that switch in each language when the international character set is changed

n		23	24	40	5B	5C	5D	5E	60	7B	7C	7D	7E
0	United States (U.S.A)	#	$	@	[	\	]	^	`	{	¦	}	~
1	France	#	$	à	°	ç	§	^	`	é	ù	è	¨
2	Germany	#	$	§	Ä	Ö	Ü	^	`	ä	ö	ü	ß
3	Britain (U.K.)	£	$	@	[	\	]	^	`	{	¦	}	~
4	Denmark I	#	$	@	Æ	Ø	Å	^	`	æ	ø	å	~
5	Sweden	#	¤	É	Ä	Ö	Å	Ü	é	ä	ö	å	ü
6	Italy	#	$	@	°	\	é	^	ù	à	ò	è	ì
7	Spain I	Pt	$	@	¡	Ñ	¿	^	`	¨	ñ	}	~
8	Japan	#	$	@	[	¥	]	^	`	{	¦	}	~
9	Norway	#	¤	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
10	Denmark II	#	$	É	Æ	Ø	Å	Ü	é	æ	ø	å	ü
11	Spain II	#	$	á	¡	Ñ	¿	é	`	í	ñ	ó	ú
12	Latin America	#	$	á	¡	Ñ	¿	é	ü	í	ñ	ó	ú
13	South Korea	#	$	@	[	₩	]	^	`	{	¦	}	~
64	Legal	#	$	§	°	´	"	¶	`	©	®	†	TM

Appendix D: Troubleshooting

If printing does not begin (main most frequent cause)

(1) The communication settings are incorrect.

(2) The command mode is not in the P-touch Template mode.

(3) The conditions for the print start trigger are not met.

The following three types of print start triggers exists, but the current selection is incorrect.

- When the specified text string is received
- When all objects are filled
- When the specified number of characters is received

If the settings described above are incorrect, use the P-touch Template Settings tool to specify the settings.

If a template linked to a database is not printed

(1) A delimiter character must be entered after the search text.

(2) The print start trigger must be “when the specified text string is received”.

Example:

To search for the key code (333333333333) for “Chocolate”, then print:

	A	B	C
1	Key code	Product	Price
2	111111111111	Cake	1.5
3	222222222222	Candy	1
4	333333333333	Chocolate	2.5
5	444444444444	Cookie	1.5
6	555555555555	Pie	4.5



333333333333 09h ^ F F

The barcode is not printed (common main cause)

(1) The size of the barcode is too big for the paper/the barcode is bigger than the print area

If it is determined that the barcode does not fit within the print area, the printer will not print the barcode.
Either make the barcode smaller, or correct the position and try again.

Appendix E: Introducing the Brother Developer Center

Useful information for developers, such as applications, tools, SDKs as well as FAQs, are provided in the Brother Developer Center.

https://support.brother.com/g/s/es/dev/en/index.html?navi=offall

