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P-touch Template manual

Version 1.20

Model Name: TD-4000/4100N

Created by: Brother Industries, Ltd.

Machine Model: TD-4000/TD-4100N

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Introduction:

This material provides the necessary information for directly controlling the transferred templates in TD-4000/4100N.

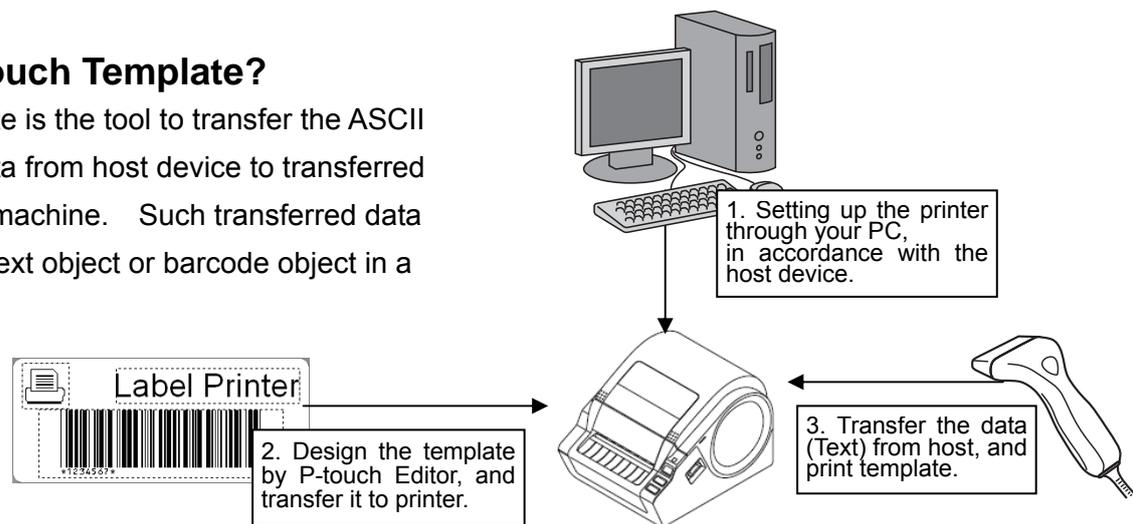
This information is provided assuming that the user has full understanding of the operating system being used and basic mastery of RS-232C in a developer's environment.

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What is P-touch Template?

P-touch Template is the tool to transfer the ASCII text & binary data from host device to transferred template in the machine. Such transferred data is inserted into text object or barcode object in a template.



It helps the user develop the printing system which connects directly from host device.

The types of host device are as below.

- ◆ Scale, Measurement device
- ◆ Medical device
- ◆ Barcode reader
- ◆ Control device and any system environment

Notes:

*P-touch Template is available only for TD-4000/4100N.

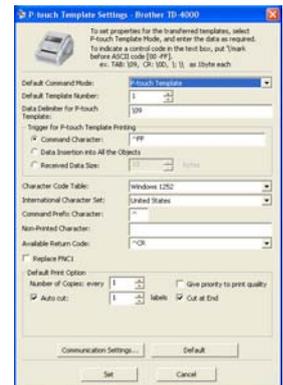
*Host should have serial cable to transfer the data.

How to use P-touch Template

1. Printer setting

Set up the initial printer setting by P-touch Template settings tool, in accordance with the environment of host system or host device, which TD-4000/4100N connect to.

(Please refer to [P-touch Template Settings Tool User's Guide](#) in page 6.)



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

2. Design the template

Design the transferred template by P-touch Editor

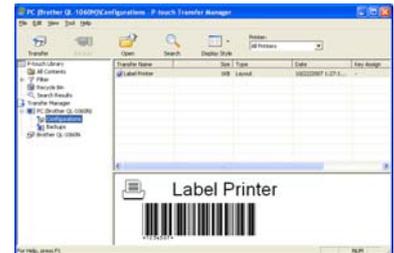
(Please refer to [P-touch Template Limitations](#) in page 11.)



3. Transfer the templates

Transfer the templates to the printer by P-touch transfer manager.

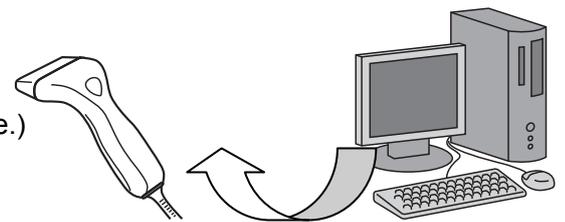
(Please refer to TD-Series Software User's Guide.)



4. Program by P-touch template commands

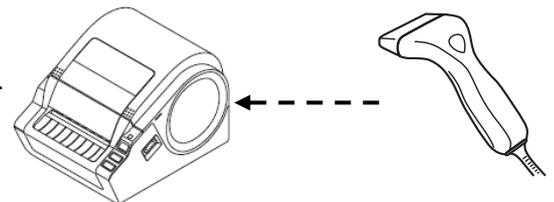
If any special commands are required to control the printer, change the host program in accordance with the P-touch Template Command Reference.

(Please refer to P-touch Template Command Reference.)



5. Connect the printer with host and print label.

Connect the printer to the host device by a serial cable. Transfer the data such as ASCII text from host to templates in the machine, and print the label.



*Please refer to the sample code for the details of how to use P-touch Template.

P-touch Template Settings Tool User's Guide

① Command mode setting

② Template number setting

③ Delimiter setting

④ Print start trigger setting

⑤ Print start command text string setting

⑥ Print start data amount setting

⑦ Character code set setting

⑧ International character setting

⑨ Prefix character setting

⑩ Non-printed character setting

⑪ Line return character setting

⑰ FNC1 replacement setting

⑱ Number of copies setting

⑲ Auto cut setting

⑳ Print quality setting

㉑ Cut number setting

㉒ Cut at End setting

㉓ Communication settings

To set properties for the transferred templates, select P-touch Template Mode, and enter the data as required. To indicate a control code in the text box, put \" mark before ASCII code [00 -FF].
ex. TAB: \\09, CR: \\0D, \\; \\ as 1byte each

Default Command Mode: P-touch Template

Default Template Number: 1

Data Delimiter for P-touch Template: \\09

Trigger for P-touch Template Printing

Command Character: ^FF

Data Insertion into All the Objects

Received Data Size: 10 bytes

Character Code Table: Windows 1252

International Character Set: United States

Command Prefix Character: ^

Non-Printed Character:

Available Return Code: ^CR

Replace FNC1

Default Print Option

Number of Copies: every 1

Auto cut: 1 labels

Give priority to print quality

Cut at End

Communication Settings... Default

Set Cancel

Applies settings for ① through ⑱ to the machine.

Returns ① through ⑰ to their default

Closes the tool.

① **Command mode setting**

- P-touch Template mode
To use P-touch Template, select the P-touch Template mode.
- ESC/P mode
- Raster mode

② **Template number setting**

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

However if any number of template not be transferred to the machine, then it cannot be specified such number of template.

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 to 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.

⑦Character code set setting

Select one of the following three character codes. For character code tables, refer to the character code tables in the P-touch Template Command.

- Windows1252
- Windows1250
- Brother standard

⑧International character setting

Select one of the following as the character set of the country.

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

The following 12 codes are switched depending on the country selected from those mentioned 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 the P-touch Template Command.

⑨Prefix 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 return character setting

The line return 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 return codes can be selected, or 1 to 20 characters can be specified as the line return code.

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

⑫ Number of copies setting

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

⑬ Auto cut setting

If auto cutting is selected, the cut operation will be performed after the number of labels specified in ⑮.

⑭ Print quality setting

Specify the print quality setting. If the check box is selected, priority is given to the print quality. If the check box is cleared, priority is given to the print speed.

⑮ Cut number setting

A number between 1 and 99 can be specified.

⑯ Cut at End setting

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

⑰ FNC1 replacement setting

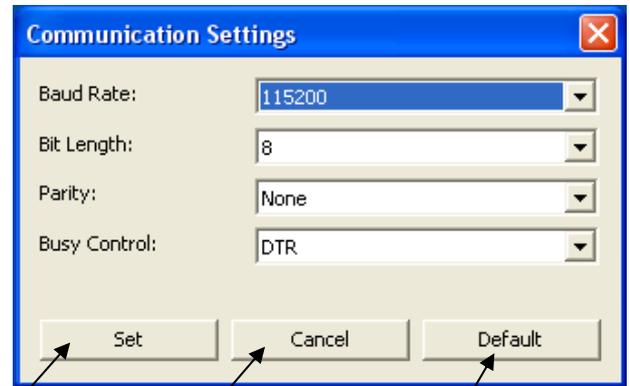
This setting selects whether or not GS codes, which are included in bar code protocols such as GS1-128 (UCC/EAN-128), are replaced with FNC1 codes.

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.

⑱ Communication settings

Settings can be specified for the following parameters for serial communication.

- Baud rate
115200 bps, 57600 bps, 38400 bps, 31250 bps,
28800 bps, 19200 bps, 14400 bps, 9600 bps,
4800 bps, 2400 bps, 1200 bps, 600 bps, 300 bps
- Bit length (bits)
8 bits, 7 bits
- Parity
None, Odd, Even
- Busy control
DTR, XON/XOFF



Closes the Communication Settings dialog box.

Applies the four settings to the machine.

Returns the four parameters to their default settings.

Others

- ini file

After the [Set] button (in the main dialog box or the Communications Settings dialog box) is clicked, the settings are saved when the dialog box is closed.

(With TD-4000)

C:\Documents and Settings\{user_account_name}\Application Data\Brother
\Printer Settings\Pts3135.ini

(With TD-4100N)

C:\Documents and Settings\{user_account_name}\Application Data\Brother
\Printer Settings\Pts3235.ini

- Typing text into text boxes ③, ⑤, ⑨ and ⑩

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]

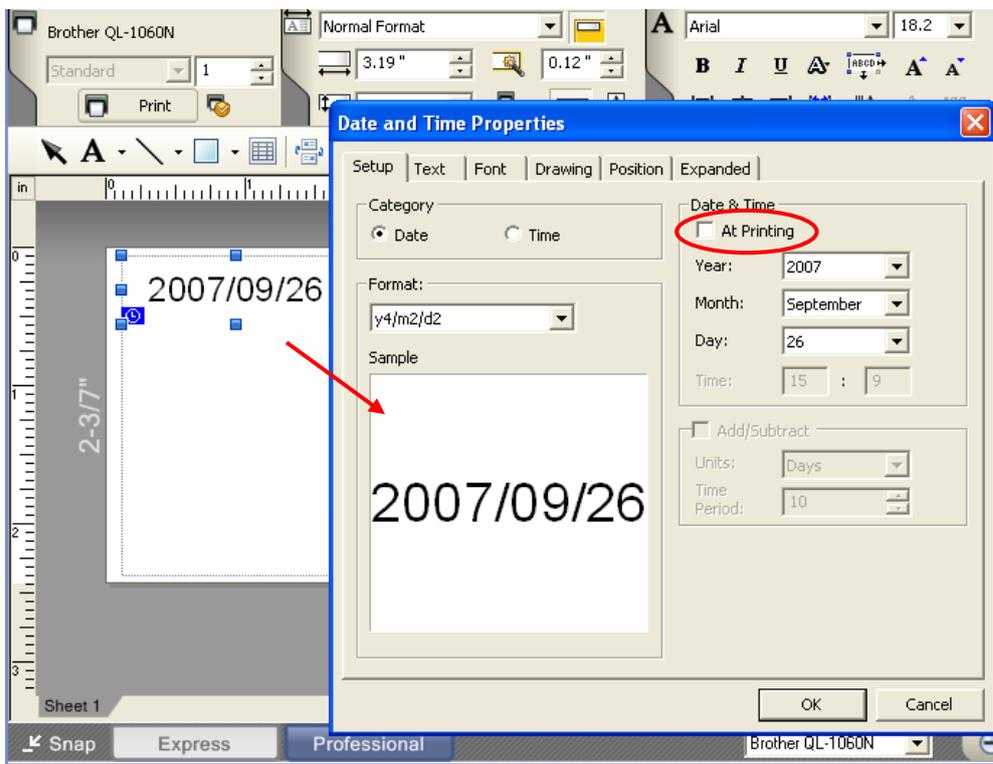
Return control code: [\0D]

\: [\]

P-touch Template Limitations

- Relating to text objects
 - Fonts specified in P-touch Editor are converted to Helsinki, Letter Gothic or Brussels, depending on the font shape, when the data is sent to the machine.
(The font is converted according to the following rules: fixed pitch: Letter Gothic; serif: Brussels; san serif: Helsinki. Symbol fonts are converted to text objects while text input mode is entered, and fonts are divided in three, as described above. If the text input mode has been exited, they are converted to image objects and the selected font is not converted.)
 - Character sizes specified in P-touch Editor are converted to the closest built-in character size when the data is sent to the machine.
 - Character sizes specified in P-touch Editor are all made the same size within an object.
 - If “At Printing” is selected, a time stamp specified in P-touch Editor is not printed. If “At Printing” is not selected, the time stamp is printed with the date and time that the data was created in P-touch Editor.
 - 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.

“At Printing” setting

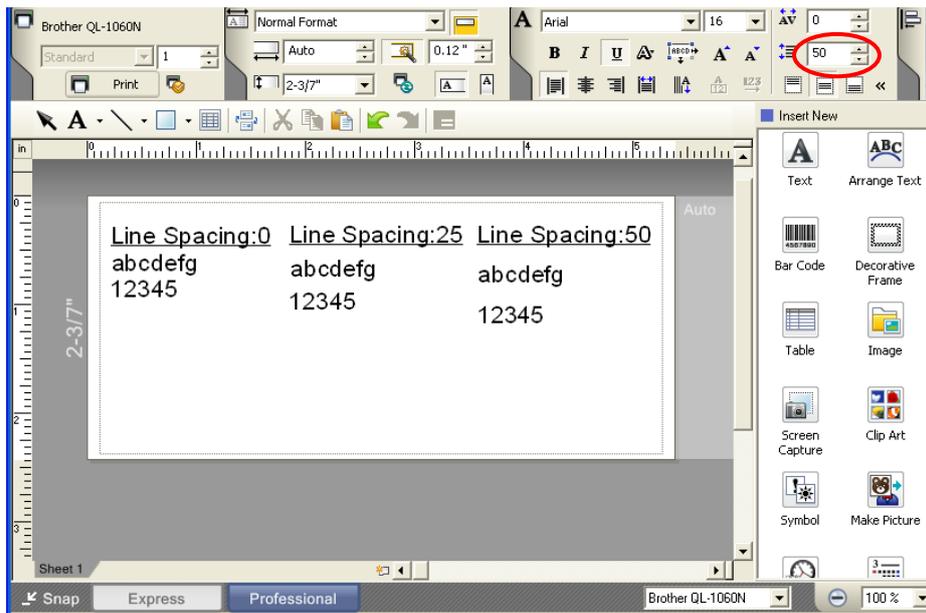


(To cancel the “At Printing” setting for a date/time in P-touch Editor, display the properties for the Date and Time object, and then clear the “At Printing” check box.)

- Horizontal alignment settings (“Justify” or “Equal Length”) specified in P-touch Editor are changed to the left alignment setting.
- The setting for line spacing with a line return 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 (about 21 mm) for the line width with the machine, a line spacing setting larger than this limit specified in P-touch Editor will not be applied on the machine.)

Specifying the line spacing setting in P-touch Editor

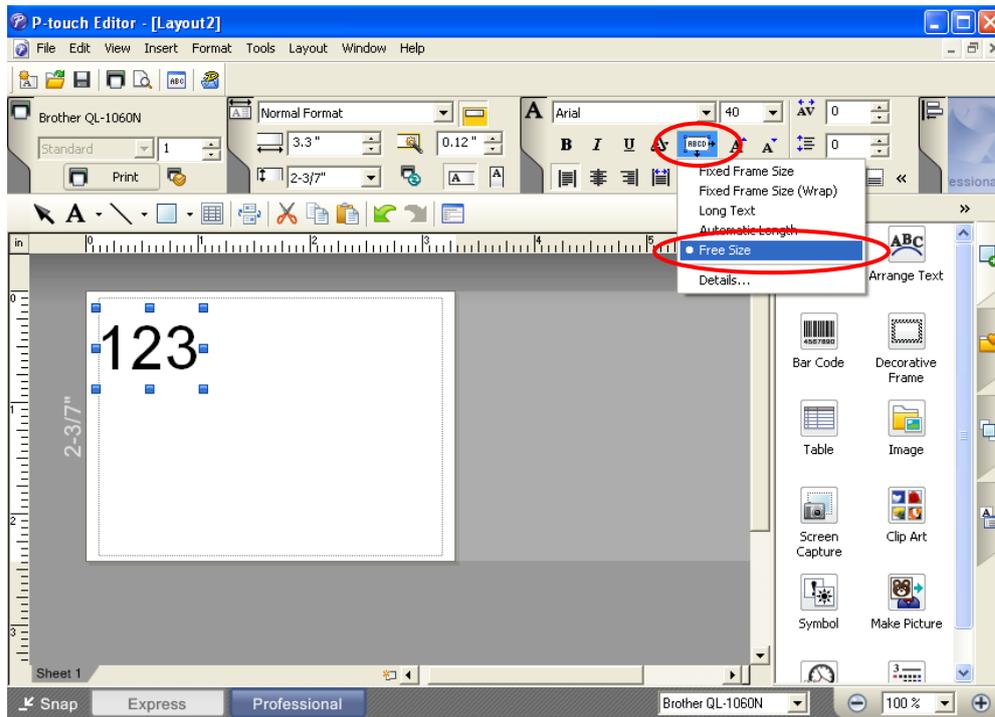


- Character styles specified in P-touch Editor are all made the same style within an object.
- If the “Long Text” setting is selected below “Text Layout” in P-touch Editor, the vertical alignment setting is normally set for top alignment.
- If “Long Text” is selected below “Text Layout” in P-touch Editor, or if continuous length label is used, the print length is increased to fit the text.
- The “Fixed Frame Size (Wrap)” setting specified below “Text Layout” in P-touch Editor is changed to “Shrink to Fit”.

(“Fixed Frame Size (Wrap)” is a mode 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 are specified in P-touch Editor or a fixed length is specified or that “Automatic Length” be selected when an automatic media length is specified.)

1. Shrink to Fit: The text object size is fixed, and the text size is changed depending on the text length.
2. 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.
3. 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.
4. 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.
5. 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.

- Relating to bar codes

- Bar codes

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

The following bar codes are compatible with the machine.

1D bar codes

CODE39, ITF(I-2/5), UPC-A, UPC-E, EAN-13, EAN-8, CODABAR, CODE128, GS1-128(UCC/EAN-128) , RSS

2D bar codes

PDF417, QR Code, Data Matrix, MaxiCode

- If data containing characters incompatible with the protocol are fed into the bar code object, that bar code object is not printed.
- The bar code 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 bar code in a template created with P-touch Editor causes an extremely long bar code, the bar code may not be fully printed.
- Do not insert line returns immediately before or immediately after the bar code data. Otherwise, it will be considered as part of the bar code data. In that case, the bar code will be created containing the line return code, or the bar code will not be printed since data incompatible with the bar code protocol is entered.
- A delimiter or print start text string should be entered immediately after the bar code data.

- 1D bar codes

- The ratio setting for 1D bar codes specified in P-touch Editor is invalid. Normally, this is fixed at 3:1.
- A bar code wider than 22.5 cm will not be printed.
- A 1D bar code taller than 99 mm is converted to 99 mm.
- The number of characters that can be entered for each protocol is shown below.
CODE39: 1 to 50 characters (not including "*" on both sides)
I-2/5: 1 to 64 characters
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

RSS-14: 3 to 15 characters (begins with "01")

RSS Limited: 3 to 15 characters (begins with "01"; third digit is "0" or "1")

RSS Expanded: 1 to 64 numbers or 1 to 40 letters*

* ISO646 characters can be printed.

<<numbers, letters, spaces, !, ", %, &, ', (,),

*, +, ,, -, ., /, :, ;, <, =, >, ? and _>>

When trying to transfer data exceeding the ranges describe above, an error will occur while transferring. If the data that is fed does not meet the minimum limit, the bar code is not printed. If the data exceeds the maximum limit, only the data to the maximum limit is applied. However, if the data exceeds 64 characters, the bar code is not printed.

- If a template is created in P-touch Editor with an extremely low bar code bar height, the bars may not be printed.

- CODE39

- When feeding data, the asterisks (*) at the beginning and end of the data are skipped.

- ITF(I-2/5)

- The bearer bar setting specified in P-touch Editor is invalid.

- QR Code

- The version setting for a QR Code specified in P-touch Editor is invalid. The version setting must be turned off.
- The joining setting specified in P-touch Editor is invalid.

- PDF417

- Since the error correction levels for PDF417 specified in P-touch Editor are inconsistent with those on the machine, the size of the bar code may change when it is printed with P-touch Template.
- The width for PDF417 specified in P-touch Editor may change from "Minimum" to "Small".
- The joining setting specified in P-touch Editor is invalid.

- Data Matrix

- The joining setting specified in P-touch Editor is invalid.
- Macro settings specified in P-touch Editor are invalid.
- Maxi Code
 - The link setting specified in P-touch Editor is invalid. It is linked 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 main unit, the number is entered at the end.
Example: “2” is specified. P-touch Editor: “200”; Main unit: “002”
- 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.)
- Relating to databases
 - 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 99 databases can be transferred. However, the transfer cannot be completed if the amount of data being transferred exceeds 2,048 KB.
 - 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.
If a database containing more than 65,000 rows is transferred, all data after the 65,000th row will be 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.

■ Relating to Numbering

- A single template can contain a maximum of 9 valid Numbering objects. Numbering will not be performed for Numbering objects that exceed the maximum of 9.
- A single object contains a single Numbering field.
- A Numbering field can contain a maximum of 15 digits. If the field contains more than 15 digits, Numbering will only be performed with the last 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.

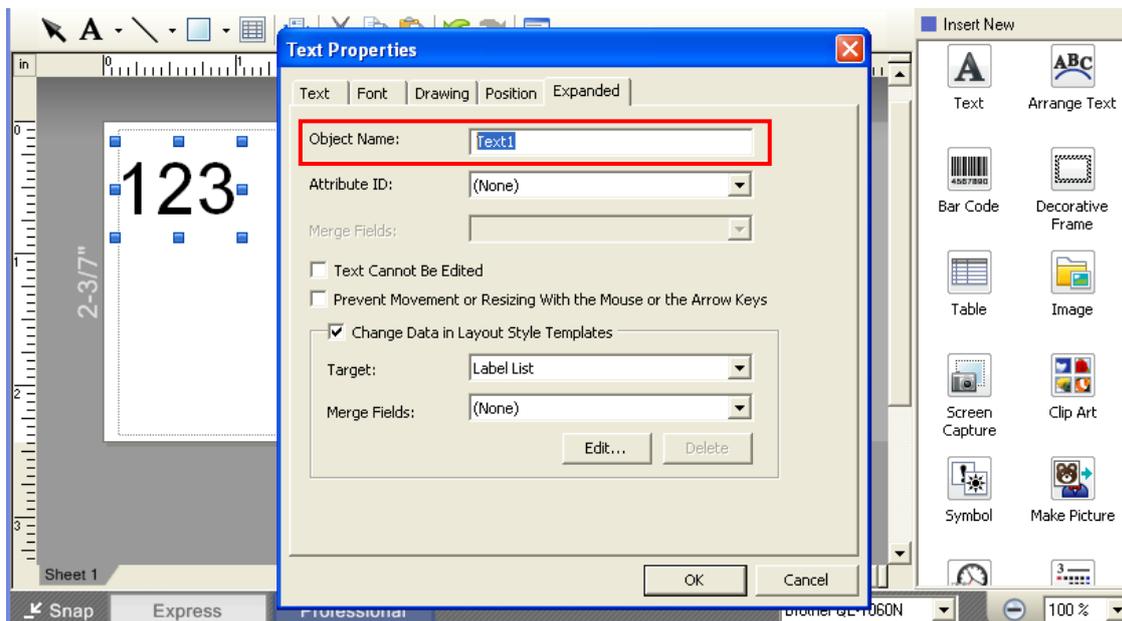
*Numbering objects refer to text objects or bar code objects that have the Numbering function applied.

■ Others

- A maximum of 99 templates can be transferred. The transfer cannot be completed if the amount of data being transferred exceeds 2,048 KB.
- A single template can contain a maximum of 50 objects. When trying to transfer 51 or more objects, an error will occur and the transfer cannot be completed.
- A single template can contain a total of 1000 lines. If it exceeds this limit, an error will occur during printing.
- The line return codes (0D0A, 0D and 0A) in print data are read, then discarded. However, when specified as special data, such as delimiters or print start text strings or line return 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 bar codes, then 2D bar codes. 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 bar code object, and then specify the name in the "Object Name" box on the Expanded tab.)

Specifying the object name



- When print data is fed, the command mode should be the P-touch Template mode.
- This is not compatible with split labels.
- After printing from P-touch Editor, the command mode changes to raster mode. In order to print a template, select the P-touch Template mode in the Printer Settings tool or, if the previous mode in the Printer Settings tool was the P-touch Template mode, turn the machine off, then on again to enter P-touch Template mode.

If printing does not begin (main most frequent causes)

- 1) Incorrect communication settings
- 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 this selection is incorrect.

- ① When the specified text string is received
- ② When all objects are filled
- ③ When the specified number of characters is received

If the settings described above are incorrect, use the machine setting tool to specify the settings.

Appendix: Specifications

BROTHER TD-4000/4100N P-touch Template specifications

Printing	Printing method		Raster printing (PTCBP mode) <u>ESC/P printing</u> P-touch Template printing	
	Maximum Print Length		1 meter	
	Resolution (dpi)		300 dpi × 300 dpi	
	Text	Font	Bitmap fonts: Helsinki, Brussels, Letter Gothic Bold Outline fonts: Helsinki, Brussels, Letter Gothic	
		Size (dots)	Bitmap fonts: 24 x 24, 32 x 32 (dots) Outline fonts: 33 - 400 dot (22sizes)	
		Character style	None, Bold, Italics, Outline, Shadow, Shadow + Outline	
		Underline	Off, On	
		Character width	-	
		Horizontal alignment	Left, Center, Right	
		Rotate	Portrait, landscape	
Bar code	Protocols *1	CODE39, ITF(I-2/5), EAN-13, EAN-8, UPC-A, UPC-E, CODABAR, CODE128, GS1-128(UCC/EAN-128), QR Code, PDF417, Data Matrix, MaxiCode, RSS-14(Standard, Truncated, Stacked, Stacked Omni), RSS-Limited, RSS Expanded(Standard, Stacked)		
	Width	Large, Medium, Small, Extra Small		
Transmission	RS	Baud rate (bps)	115.2k, 57.6k, <u>9600</u>	
		Busy	<u>DTR</u> , Xon/Xoff	
		Bit length	<u>8</u> , 7	
		Parity	<u>NONE</u> , ODD, EVEN	
		Stop bit	1 bit	

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

- *1 BarStar Pro Encode Library (DataMatrix, MaxiCode, PDF417, RSS) Copyright © 2007 AINIX Corporation. All rights reserved.
QR Code is registered trademark of DENSO WAVE INCORPORATED in JAPAN and other countries.
QR Code Generating Program Copyright © 2008 DENSO WAVE INCORPORATED

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P-touch Template command reference

Version 1.20

Model Name: TD-4000/4100N

Created by: Brother Industries, Ltd.

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ESC iXa1	Retrieve Non-Printed character text strings	52
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Control Code List

Commands that can be set or obtained in P-touch Template mode

^PT	5E 50 54	Dynamic	Select print start trigger
^FF	5E 46 46		Start printing
^PS	5E 50 53	Dynamic	Specify print start command text string
^PC	5E 50 43	Dynamic	Specify print start received character count
^SS	5E 53 53	Dynamic	Specify delimiter
^TS	5E 54 53	Dynamic	Select template
^CO	5E 43 4F	Dynamic	Specify machine settings (cut options ON/OFF)
^LS	5E 4C 53	Dynamic	Specify line spacing with line return
^CC	5E 43 43	Dynamic	Change prefix character
^RC	5E 52 43	Dynamic	Specify line return command text string
^CN	5E 43 4E	Dynamic	Specify number of copies
^NN	5E 4E 4E	Dynamic	Specify number of Numbering copies
^ID	5E 49 44		Initialize template data
^QS	5E 51 53	Dynamic	Specify print options
^QV	5E 51 56	Dynamic	Specify QR code version
^FC	5E 46 43	Dynamic	FNC1 replacement setting
^II	5E 49 49		Initialize
^OP	5E 4F 50		Perform machine operation (feed/cut)
^SR	5E 53 52		Status request
^VR	5E 56 52		Retrieve version Information
^CR	5E 43 52		Line return in object
^OS	5E 4F 53		Specify object selection (object number)
^ON	5E 4F 4E		Specify object selection (object name)
^DI	5E 44 49		Direct object insertion
ESC ia	1B 69 61	Dynamic	Specify command mode

* The commands mentioned above must be used in P-touch Template mode. They cannot be used in raster mode or ESC/P mode. (except ESC ia)

Commands that can be set or obtained in raster mode

ESC iXT2	1B 69 58 54 32	Static	Select print start trigger
ESC iXP2	1B 69 58 50 32	Static	Specify print start command text string
ESC iXr2	1B 69 58 72 32	Static	Specify print start received character count
ESC iXD2	1B 69 58 44 32	Static	Specify delimiter
ESC iXa2	1B 69 58 61 32	Static	Specify Non-Printed character text strings
ESC iXi2	1B 69 58 69 32	Static	Specify command mode
ESC iXn2	1B 69 58 6E 32	Static	Select template
ESC iXf2	1B 69 58 66 32	Static	Change prefix character
ESC iXc2	1B 69 58 63 32	Static	Specify machine settings (cut options ON/OFF)
ESC iXy2	1B 69 58 79 32	Static	Specify machine settings (cut options—specify cutting after fixed number of labels)
ESC iXm2	1B 69 58 6D 32	Static	Select character code set
ESC iXj2	1B 69 58 6A 32	Static	Specify international character set
ESC iXR2	1B 69 58 52 32	Static	Specify line return command text string
ESC iXC2	1B 69 58 43 32	Static	Specify number of copies
ESC iXN2	1B 69 58 4E 32	Static	Specify number of Numbering copies
ESC iXF2	1B 69 58 46 32	Static	FNC1 replacement setting
ESC iXq2	1B 69 58 71 32	Static	Specify print options
ESC iXT1	1B 69 58 54 31		Retrieve select print start trigger items
ESC iXP1	1B 69 58 50 31		Retrieve print start command setting text string
ESC iXr1	1B 69 58 72 31		Retrieve print start received character count
ESC iXD1	1B 69 58 44 31		Retrieve delimiter
ESC iXa1	1B 69 58 61 31		Retrieve Non-Printed character text strings
ESC iXi1	1B 69 58 69 31		Retrieve command mode
ESC iXn1	1B 69 58 6E 31		Retrieve template selection number
ESC iXc1	1B 69 58 63 31		Retrieve machine settings (cut options ON/OFF)
ESC iXy1	1B 69 58 79 31		Retrieve machine settings (cut options—specify cutting after fixed number of labels)
ESC iXm1	1B 69 58 6D 31		Retrieve character code set setting
ESC iXj1	1B 69 58 6A 31		Retrieve international character set setting
ESC iXf1	1B 69 58 66 31		Retrieve prefix setting character
ESC iXR1	1B 69 58 52 31		Retrieve line return command setting text string
ESC iXC1	1B 69 58 43 31		Retrieve number of copies
ESC iXN1	1B 69 58 4E 31		Retrieve number of Numbering copies setting
ESC iXF1	1B 69 58 46 31		Retrieve FNC1 replacement setting
ESC iXq1	1B 69 58 71 31		Retrieve print options

* The commands mentioned above must be used in raster mode. They cannot be used in ESC/P mode or P-touch Template mode.

About P-touch Template

Data can be sent from a host (such as measuring instruments, scales and bar code readers) and printed in a template previously transferred to the machine from P-touch Editor.

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

Static and dynamic commands

With static commands, items specified with a setting command are saved and stored in the memory.

With dynamic commands, items specified with a setting command are temporarily saved and applied until the machine is turned off.

If printing does not begin (main most frequent causes)

- 1) Incorrect communication settings
- 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 this selection is incorrect.

- ① When the specified text string is received
- ② When all objects are filled
- ③ When the specified number of characters is received

If the settings described above are incorrect, use the machine setting 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

Control Command Details

<code>^PT</code>	Specify print start trigger selection
------------------	---------------------------------------

[ASCII] `^ P T n`

[Decimal] `94 80 84 nd`

[Hexadecimal] `5E 50 54 nh`

[Parameters] `1≤n≤3`

[Description]

- Selects the print start trigger type.
 - 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 when 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)`

<code>^FF</code>	Start printing
------------------	----------------

[ASCII] `^ F F`

[Decimal] `94 70 70`

[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)

^PS	Specify print start command text string
------------	---

[ASCII] ^ P S n1 n2 data

[Decimal] 94 80 83 nd1 nd2 data

[Hexadecimal] 5E 50 53 nh1 nh2 data

[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 when an attempt is made to specify more than 20 characters

[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)

<code>^PC</code>	Specify print start received character count
------------------	--

[ASCII] `^ P C n1 n2 n3`

[Decimal] `94 80 67 nd1 nd2 nd3`

[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 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.

[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)`

<code>^SS</code>	Specify delimiter
------------------	-------------------

[ASCII] `^ S S n1 n2 data`
[Decimal] `94 83 83 nd1 nd2 data`
[Hexadecimal] `5E 53 53 nh1 nh2 data`
[Parameters] `0≤n1≤2`
 `0≤n2≤9`
 `00h≤data≤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 when an attempt is made to specify more than 20 characters

[Example]

- To change the delimiter to "," (0x2C):
 Since the text string contains one character, `n1=0` and `n2=1` and, with the text string (`data`) ",", (2Ch), the command will be as follows.
 `^ S S 0 1 , (5Eh 53h 53h 30h 31h 2Ch)`

^TS	Specify template selection
------------	----------------------------

[ASCII] ^ T S n1 n2 n3

[Decimal] 94 84 83 nd1 nd2 nd3

[Hexadecimal] 5E 54 53 nh1 nh2 nh3

[Parameters] n1:0 (Fixed)

 0≤n2≤9

 0≤n3≤9

[Description]

- Specifies the template selected from the machine as a number.

(n2*10)+n3: Template number (1 to 99)

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

[Remarks]

- The template numbers that can be set are between 1 and 99. This is invalid when an attempt is made to specify a value other than these or when the number that is specified is of a template not transferred to the machine.

[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)

<code>^CO</code>	Specify machine settings (cut options)
------------------	--

[ASCII] `^ C O n1 n2 n3 n4`
[Decimal] `94 67 79 nd1 nd2 nd3 nd4`
[Hexadecimal] `5E 43 4F nh1 nh2 nh3 nh4`
[Parameters] $0 \leq n1 \leq 1$
 $0 \leq n2 \leq 9$
 $0 \leq n3 \leq 9$
 $0 \leq n4 \leq 1$

[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.

[Remarks]

- The auto cut label number setting can be between 1 and 99. This is invalid when an attempt is made to specify a value other than these.

[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 return
------------	---------------------------------------

[ASCII] ^ L S n1 n2 n3

[Decimal] 94 76 83 nd1 nd2 nd3

[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 return 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 return 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 is invalid when an attempt is made to specify a value other than these.

1 dot = 1/300 inch

1 dot ≈ 0.085 mm

[Example]

- To set the line spacing to 10 dots:

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

<code>^CC</code>	Change the prefix character
------------------	-----------------------------

[ASCII] `^ C C n`

[Decimal] `94 67 67 nd`

[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 “_”, send the command shown below.

`^ C C 5Fh (5Eh 43h 43h 5Fh)`

(“_”)

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

<code>^RC</code>	Specify line return command text string
------------------	---

[ASCII] `^ R C n1 n2 data`

[Decimal] `94 82 67 nd1 nd2 data`

[Hexadecimal] `5E 52 43 nh1 nh2 data`

[Parameters] $0 \leq n1 \leq 2$

$0 \leq n2 \leq 9$

$00h \leq data \leq FFh$

[Description]

- Specifies the text string for the line return command.

($n1 \times 10$)+ $n2$: 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 return command is “`^CR`”.
- This command is a dynamic command.

[Remarks]

- Invalid when an attempt is made to specify more than 20 characters

[Example]

- To change the text string for the line return 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`)

<code>^CN</code>	Specify number of copies
------------------	--------------------------

[ASCII] `^ C N n1 n2 n3`

[Decimal] `94 67 78 nd1 nd2 nd3`

[Hexadecimal] `5E 43 4E nh1 nh2 nh3`

[Parameters] $0 \leq n1 \leq 9$

$0 \leq n2 \leq 9$

$0 \leq n3 \leq 9$

[Description]

- Specifies the number of copies to be printed.
($n1 \cdot 100$) + ($n2 \cdot 10$) + $n3$: 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 machine.

[Example]

- To change the number of copies to 100 characters: 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)`

<code>^NN</code>	Specify number of Numbering copies
------------------	------------------------------------

[ASCII] `^ N N n1 n2 n3`

[Decimal] `94 78 78 nd1 nd2 nd3`

[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.

[Remarks]

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

[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 data
-----	--------------------------

[ASCII] ^ I D

[Decimal] 94 73 68

[Hexadecimal] 5E 49 44

[Parameters] None

[Description]

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

<code>^QS</code>	Specify print options
------------------	-----------------------

[ASCII]	<code>^ Q S n</code>
[Decimal]	<code>94 81 83 nd</code>
[Hexadecimal]	<code>5E 51 53 nh</code>
[Parameters]	<code>n: 0, 1</code>

[Description]

- Specifies 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)`

<code>^QV</code>	Specify QR code version
------------------	-------------------------

[ASCII]	<code>^ Q V n1 n2</code>
[Decimal]	<code>94 81 86 nd1 nd2</code>
[Hexadecimal]	<code>5E 51 56 nh1 nh2</code>
[Parameters]	<code>0≤n1≤9</code> <code>0≤n2≤9</code>

[Description]

- Specifies the QR code version.
($n1 \times 10$) + $n2$: Version number (between 0 and 40)
- The default QR code version is 0.
- This command becomes invalid when 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)`

<code>^FC</code>	FNC1 replacement setting
------------------	--------------------------

[ASCII] `^ F C n`

[Decimal] 94 70 67 nd

[Hexadecimal] 5E 46 43 nh

[Parameters] $0 \leq n \leq 1$

[Description]

- This command selects whether or not GS codes, which are included in bar code 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)

^II	Initialize
[ASCII]	^ I I
[Decimal]	94 73 73
[Hexadecimal]	5E 49 49
[Parameters]	None

[Description]

• Reverts all dynamic settings to the machine settings.

- 1) Print start trigger selections
- 2) Print start command text strings
- 3) Print start received character count
- 4) Delimiter
- 5) Template selection number
- 6) Machine settings (cut options)
- 7) Line spacing with line return
- 8) Prefix character
- 9) Number of copies setting
- 10) Print options setting
- 11) QR code version setting
- 12) Line return command text string
- 13) FNC1 replacement setting

<code>^OP</code>	Perform machine operation (feed/cut)
------------------	--------------------------------------

[ASCII] `^ O P n`

[Decimal] `94 79 80 nd`

[Hexadecimal] `5E 4F 50 nh`

[Parameters] `1≤n≤3`

[Description]

- Causes the machine to perform a feed or cut operation.

 n = 1: Feeds 1 inch (for continuous length label)

 n = 2: Feeds one label length (for die-cut labels)

 n = 3: Cuts

[Remarks]

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

[Example]

- To specify that the machine performs a cut operation:

`^ O P 3 (5Eh 4Fh 50h 33h)`

^SR	Status request
-----	----------------

[ASCII] ^ S R

[Decimal] 94 83 82

[Hexadecimal] 5E 53 52

[Parameters] None

[Description]

- The printer status is returned.

The printer status consists of 32 bytes.

Number	Offset	Size	Name	Value/Reference
1	0	1	Print head mark	Fixed at "80 Hex"
2	1	1	Size	Fixed at "20 Hex"
3	2	1	"Brother" code	Fixed at "B' Char (42 Hex)"
4	3	1	Series code	Fixed at "5' Char (35 Hex)"
5	4	1	Model code	Fixed at TD-4000:"1' Char (31 Hex)" TD-4100N:"2' Char (32 Hex)"
6	5	1	Country code	Fixed at "0' Char (30 Hex)"
7	6	1	Machine information	Fixed at "00 Hex"
8	7	1	Reserved	Fixed at "00 Hex"
9	8	1	Error information 1	Refer to the following table.
10	9	1	Error information 2	Refer to the following table.
11	10	1	Media width	
12	11	1	Media type	Refer to the following table.
13	12	1	Number of colors	Fixed at "00 Hex"
14	13	1	Media length (upper order bytes)	
15	14	1	Media sensor value	
16	15	1	Mode	Fixed at "00 Hex"
17	16	1	Density	Fixed at "00 Hex"
18	17	1	Media length (lower order bytes)	
19	18	1	Status type	Refer to the following table.
20	19	1	Phase type	Fixed at "00 Hex"
21	20	1	Higher order bytes of phase number	Fixed at "00 Hex"
22	21	1	Lower order bytes of phase number	Fixed at "00 Hex"
23	22	1	Notification number	Not used
24	23	1	Number of bytes in the expanded area	Fixed at "00 Hex"
25	24	8	Reserved	Fixed at "00 Hex"

Error information 1

Flag	Mask	Definition
Bit 0	0x01	"No media" error
Bit 1	0x02	"End of media" error
Bit 2	0x04	"Tape cutter jam" error
Bit 3	0x08	Not used
Bit 4	0x10	Machine in use
Bit 5	0x20	Machine turned off
Bit 6	0x40	Not used
Bit 7	0x80	Fan motor error

Error information 2

Flag	Mask	Definition
Bit 0	0x01	"Replace the media." error
Bit 1	0x02	"Expansion buffer is full." error
Bit 2	0x04	Transmission error
Bit 3	0x08	Image error occurred
Bit 4	0x10	"Cover open" error
Bit 5	0x20	Not used
Bit 6	0x40	Leading edge detection error
Bit 7	0x80	System error

Media type

Media type	Value	Remarks
Continuous length label	4A Hex	
Die-cut label	4B Hex	

Status type

Status type	Value
Reply to status request	00 Hex
(Not used)	01 Hex
Error occurred	02 Hex
(Not used)	03 Hex to FF Hex

<code>^VR</code>	Retrieve version Information
------------------	------------------------------

[ASCII] `^ V R`

[Decimal] 94 86 82

[Hexadecimal] 5E 56 52

[Parameters] None

[Description]

- Retrieves the version information for the machine as a 16-character text string.

<code>^CR</code>	Line return in object
------------------	-----------------------

[ASCII] `^ C R`

[Decimal] 94 67 82

[Hexadecimal] 5E 43 52

[Parameters] None

[Description]

- Adds a return to the next line in the text object.
- Valid even if the text string for the line feed command has been changed

[Example]

- To print three lines:

```
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	Specify object selection (object number)
------------	--

[ASCII] ^ O S n1 n2
[Decimal] 94 79 83 nd1 nd2
[Hexadecimal] 5E 4F 53 nh1 nh2
[Parameters] 0≤n1≤5
 0≤n2≤9

[Description]

- Selects an object by its object number.
(n1*10)+n2: Object number (1 to 50)

[Remarks]

- The object number can be set between 1 and 50. This is invalid when an attempt is made to specify a value other than these.
- Use this command to insert data from an intermediary object.

[Example]

- To select the 33rd object:
^ O S 3 3 (5Eh 4Fh 53h 33h 33h)

^ON	Specify object selection (object name)
------------	--

[ASCII] ^ O N data 00
[Decimal] 94 79 78 datad 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 is specified, the command is invalid. In addition, the command is invalid if no text is 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	Direct object insertion
-----	-------------------------

[ASCII] ^ D I n1 n2 data

[Decimal] 94 68 73 nd1 nd2 data

[Hexadecimal] 5E 44 49 nh1 nh2 data

[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. (If even 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 a print start text string, easily print “A” by printing with the following command.

^ D I 03h 00h 1 A 2 A

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

Print result

1A2

ESC ia	Specify command mode
--------	----------------------

[ASCII] ESC i a n

[Decimal] 27 105 97 nd

[Hexadecimal] 1B 69 61 nh

[Parameters] nh=00h 01h 03h 30h 31h 33h

[Description]

- Switches the mode.
nh=00h or 30h: ESC/P mode (default)
nh=01h or 31h: Raster mode
nh=03h or 33h: P-touch Template mode
- This command is a dynamic command.

[Remarks]

If the specified value is one other than those that can be set, raster mode will be entered.

ESC iXT2	Specify print start trigger selection
----------	---------------------------------------

[ASCII] ESC i X T 2 n1 n2 n3

[Decimal] 27 105 88 84 50 nd1 nd2 nd3

[Hexadecimal] 1B 69 58 54 32 nh1 nh2 nh3

[Parameters] nh1 = 01h (Fixed)
 nh2 = 00h (Fixed)
 00h≤nh3≤02h

[Description]

- Selects the print start trigger type.
 - nh3=00h: When the specified text string is received (default)
 - nh3=01h: When all objects are filled
 (Prints with the delimiter at the end of the data)
 - nh3=02h: When the specified number of characters is received
 (not including delimiters)
- This command is a static command.

[Remarks]

- Invalid when nh3 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 iXP2	Specify print start command text string
----------	---

[ASCII] ESC i X P 2 n1 n2 data
 [Decimal] 27 105 88 80 50 nd1 nd2 data
 [Hexadecimal] 1B 69 58 50 32 nh1 nh2 data
 [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 when an attempt is made to specify more than 20 characters

[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 iXr2	Specify print start received character count
----------	--

[ASCII]	ESC i X r 2 n1 n2 n3 n4
[Decimal]	27 105 88 114 50 nd1 nd2 nd3 nd4
[Hexadecimal]	1B 69 58 72 32 nh1 nh2 nh3 nh4
[Parameters]	nh1:02h (Fixed) nh2:00h (Fixed) 00h≤nh3≤FFh 00h≤nh4≤03h

[Description]

- Specifies the number of characters to be received to start printing.
nh3+(nh4*256): Print start received character count (bytes) (1 to 999)
- The default print start received character count is 10.
- This command is a static command.

[Example]

- To change the print start received character count to 100 characters: Since nh3=64h and nh4=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 iXD2	Specify delimiter
[ASCII]	ESCi X D 2 n1 n2 data
[Decimal]	27 105 88 68 50 nd1 nd2 data
[Hexadecimal]	1B 69 58 44 32 nh1 nh2 data
[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 when an attempt is made to specify more than 20 characters

[Example]

- To change the delimiter to "," (2Ch):
Since the text string contains one character, nh1=01h and nh2=00h and, with the text string (data) ",", (2Ch), the command will be as follows.
ESC i X D 2 01h 00h 2Ch
(1Bh 69h 58h 44h 32h 01h 00h 2Ch)

ESC iXa2	Specify Non-Printed character text strings
----------	--

[ASCII] ESC i X a 2 n1 n2 n3 data
[Decimal] 27 105 88 97 50 nd1 nd2 nd3 data
[Hexadecimal] 1B 69 58 61 32 nh1 nh2 nh3 data
[Parameters] 01h≤nh1≤15h
 nh2:00h (Fixed)
 nh3:01h (Fixed)
 00h≤datah≤FFh

[Description]

- Specifies the Non-Printed character 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 when an attempt is made to specify more than 20 characters

[Example]

- To specify the Non-Printed character text string as "ABCD":
Since the text string contains four characters, nh1=05h and nh2=00h, and then 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 iXi2	Specify command mode
[ASCII]	ESC i X i 2 n1 n2 n3
[Decimal]	27 105 88 105 50 nd1 nd2 nd3
[Hexadecimal]	1B 69 58 69 32 nh1 nh2 nh3
[Parameters]	nh1:01h (Fixed) nh2:00h (Fixed) nh3:00h 01h 03h

[Description]

- Switches the mode.
 - nh3=00h: ESC/P mode (default)
 - nh3=01h: Raster mode
 - nh3=03h: P-touch Template mode
- This command is a static command.

[Remarks]

Invalid when the specified value is any other than those that can be set

ESC iXn2	Specify template selection
----------	----------------------------

[ASCII]	ESC i X n 2 n1 n2 n3
[Decimal]	27 105 88 110 50 nd1 nd2 nd3
[Hexadecimal]	1B 69 58 6E 32 nh1 nh2 nh3
[Parameters]	nh1:01h (Fixed) nh2:00h (Fixed) 01h≤nh3≤63h

[Description]

- Specify the template selected from the machine as a number.
n3: Template number (1 to 99)
- The default selection number is 1.
- This command is a static command.

[Remarks]

- The template numbers that can be set are between 1 and 99. This is invalid when an attempt is made to specify a value other than these or when the number that is specified is of a template not transferred to the machine.

[Example]

- To select template number 99:
Since nh3=63h, the command will be as follows.
ESC i X n 2 01h 00h 63h
(1Bh 69h 58h 6Eh 32h 01h 00h 63h)

ESC iXf2	Change the prefix character
----------	-----------------------------

[ASCII] ESC i X f 2 n1 n2 n3

[Decimal] 27 105 88 102 50 nd1 nd2 nd3

[Hexadecimal] 1B 69 58 66 32 nh1 nh2 nh3

[Parameters] nh1:01h (Fixed)
 nh2:00h (Fixed)
 00h≤nh3≤FFh

[Description]

- Changes the prefix character code.
 n3: 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)

ESC iXc2	Specify machine settings (cut options)
----------	--

[ASCII]	ESC i X c 2 n1 n2 n3
[Decimal]	27 105 88 99 50 nd1 nd2 nd3
[Hexadecimal]	1B 69 58 63 32 nh1 nh2 nh3
[Parameters]	nh1:01h (Fixed) nh2:00h (Fixed) nh3:00h 01h 08h 09h

[Description]

- Specifies the various cut options.
 - nh3=00h: No cutting
 - nh3=01h: Automatically cuts
 - nh3=08h: Cut at end turned on
 - nh3=09h: Auto cutting turned on, and cut at end turned on
- This command is a static command.

[Example]

- To specify auto cutting:
ESC i X c 2 01h 00h 01h
(1Bh 69h 58h 63h 32h 01h 00h 01h)

ESC iXy2	Specify machine settings (cut options—specify cutting after a number of labels)
----------	---

[ASCII]	ESC i X y 2 n1 n2 n3
[Decimal]	27 105 88 121 50 nd1 nd2 nd3
[Hexadecimal]	1B 69 58 79 32 nh1 nh2 nh3
[Parameters]	nh1:01h (Fixed) nh2:00h (Fixed) 01h≤nh3≤63h

[Description]

- Specifies that the tape will be cut after the fixed number of labels. (If the auto cut setting is set to ON, the tape will be cut after the number of labels specified with this setting.)
nh3: Cuts after a fixed number of labels (01h to 63h)
- This command is a static command.

[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 iXm2	Select character code set
[ASCII]	ESC i X m 2 n1 n2 n3
[Decimal]	27 105 88 109 50 nd1 nd2 nd3
[Hexadecimal]	1B 69 58 6D 32 nh1 nh2 nh3
[Parameters]	nh1:01h (Fixed) nh2:00h (Fixed) nh3:00h 01h 02h

[Description]

- Selects the character code set. (For details on the character code sets, refer to the character code tables.)
nh3=00h: Brother standard
nh3=01h: Windows1250 (Eastern Europe)
nh3=02h: Windows1252 (Western Europe)
- Invalid when nh3 is set to a value other than 00h through 02h
- 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 iXj2	Specify international character set
[ASCII]	ESC i X j 2 n1 n2 n3
[Decimal]	27 105 88 106 50 nd1 nd2 nd3
[Hexadecimal]	1B 69 58 6A 32 nh1 nh2 nh3
[Parameters]	nh1:01h (Fixed) nh2:00h (Fixed) 00h≤nh3≤0Dh, 40h

[Description]

- Selects the character set for the country, and switches some character codes of the code table with the value for nh3.

- nh3=00h: USA
- nh3=01h: France
- nh3=02h: Germany
- nh3=03h: Britain
- nh3=04h: Denmark
- nh3=05h: Sweden
- nh3=06h: Italy
- nh3=07h: Spain
- nh3=08h: Japan
- nh3=09h: Norway
- nh3=0Ah: Denmark II
- nh3=0Bh: Spain II
- nh3=0Ch: Latin America
- nh3=0Dh: Korea
- nh3=40h: Legal

- The following are the 12 switching codes.

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.)

- The default setting is nh3=00h (USA).
- This command is a static command.

[Example]

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

ESC i X j 2 01h 00h 08h

(1Bh 69h 58h 6Ah 32h 01h 00h 08h)

ESC iXR2	Specify line return command text string
----------	---

[ASCII] ESC i X R 2 n1 n2 data
 [Decimal] 27 105 88 82 50 nd1 nd2 data
 [Hexadecimal] 1B 69 58 52 32 nh1 nh2 data
 [Parameters] 01h≤nh1≤14h
 nh2:00h (Fixed)
 00h≤datah≤FFh

[Description]

- Specifies the text string for the line return 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 return command is “^CR”.
- This command is a static command.

[Remarks]

- Invalid when an attempt is made to specify more than 20 characters

[Example]

- To change the text string for the print start 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 iXC2	Specify number of copies
----------	--------------------------

[ASCII]	ESC i X C 2 n1 n2 n3 n4
[Decimal]	27 105 88 67 50 nd1 nd2 nd3 nd4
[Hexadecimal]	1B 69 58 43 32 nh1 nh2 nh3 nh4
[Parameters]	nh1:02h (Fixed) nh2:00h (Fixed) 00h≤nh3≤FFh 00h≤nh4≤03h

[Description]

- Specifies the number of copies to be printed.
nh3+(nh4*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 characters: Since nh3=64h and nh4=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 iXN2	Specify number of Numbering copies
----------	------------------------------------

[ASCII] ESC i X N 2 n1 n2 n3 n4

[Decimal] 27 105 88 78 50 nd1 nd2 nd3 nd4

[Hexadecimal] 1B 69 58 4E 32 nh1 nh2 nh3 nh4

[Parameters] nh1: 02h (fixed)

nh2: 00h (fixed)

00h≤nh3≤FFh

00h≤nh4≤03h

[Description]

- Specifies the number of copies to be printed with Numbering.
nh3+(nh4*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 nh3=64h and nh4=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 iXF2	FNC1 replacement setting
----------	--------------------------

[ASCII] ESC i X F 2 n1 n2 n3
 [Decimal] 27 105 88 70 50 nd1 nd2 nd3
 [Hexadecimal] 1B 69 58 46 32 nh1 nh2 nh3
 [Parameters] nh1: 01h (fixed)
 nh2: 00h (fixed)
 nh3: 00h 01h

[Description]

- This command selects whether or not GS codes, which are included in bar code protocols such as GS1-128 (UCC/EAN-128), are replaced with FNC1 codes.

nh3=00h: FNC1 replacement setting OFF

nh3=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 iXq2	Specify print options
[ASCII]	ESC i X q 2 n1 n2 n3
[Decimal]	27 105 88 113 50 nd1 nd2 nd3
[Hexadecimal]	1B 69 58 71 32 nh1 nh2 nh3
[Parameters]	nh1:01h (Fixed) nh2:00h (Fixed) nh3:00h, 01h

[Description]

- Specifies the print options.
 - nh3=00h: Priority given to print speed
 - nh3=01h: Priority given to print quality
- The default value for the print options is “00h” (priority given to print speed).
- This command is a static command.

[Example]

- To set the print options to give priority to print quality:
Since nh3=01h, the command will be as follows.
ESC i X q 2 01h 00h 01h
(1Bh 69h 58h 71h 32h 01h 00h 01h)

ESC iXT1	Retrieve select print start trigger items
----------	---

[ASCII] ESC i X T 1 n1 n2
 [Decimal] 27 105 88 84 49 nd1 nd2
 [Hexadecimal] 1B 69 58 54 31 nh1 nh2
 [Parameters] nh1 = 00h (Fixed)
 nh2 = 00h (Fixed)

[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 machine is retrieved. When the setting is “When the specified text string is received”:
 ESC i X T 1 00h 00h
 (1Bh 69h 58h 54h 31h 00h 00h)
 01h 00h 00h is returned from the machine.

ESC iXP1	Retrieve print start command setting text string
----------	--

[ASCII]	ESC i X P 1 n1 n2
[Decimal]	27 105 88 80 49 nd1 nd2
[Hexadecimal]	1B 69 58 50 31 nh1 nh2
[Parameters]	nh1:00h (Fixed) nh2:00h (Fixed)

[Description]

- Retrieves the text string specified for the print start command.
- 3- to 22-byte data is returned from the machine. (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":
If the command ESC i X P 1 00h 00h (1Bh 69h 58h 50h 31h 00h 00h) is sent,
05h 00h S T A R T (05h 00h 53h 54h 41h 52h 54h) is returned from the machine.

ESC iXr1	Retrieve print start received character count
----------	---

[ASCII] ESC i X r 1 n1 n2

[Decimal] 27 105 88 114 49 nd1 nd2

[Hexadecimal] 1B 69 58 72 31 nh1 nh2

[Parameters] nh1:00h (Fixed)

nh2:00h (Fixed)

[Description]

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

[1]:02h (Fixed)

[2]:00h (Fixed)

[3,4]: nh3 nh4 settings

nh3+(nh4*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:

If the command ESC i X r 1 00h 00h (1Bh 69h 58h 72h 31h 00h 00h) is sent to the machine, 02h 00h F4h 01h is returned from the machine. $244 (F4h) + (1 (01h) * 256) = 500$ characters

ESC iXD1	Retrieve delimiter
----------	--------------------

[ASCII]	ESC i X D 1 n1 n2
[Decimal]	27 105 88 68 49 nd1 nd2
[Hexadecimal]	1B 69 58 44 31 nh1 nh2
[Parameters]	nh1:00h (Fixed) nh2:00h (Fixed)

[Description]

- Retrieves the text string specified for the delimiter.
- 3- to 22-byte data is returned from the machine. (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):

The command ESC i X D 1 00h 00h (1Bh 69h 58h 44h 31h 00h 00h) is sent to the machine.

01h 00h , (01h 00h 2Ch) is returned from the machine.

ESC iXa1	Retrieve Non-Printed character text strings
----------	---

[ASCII] ESC i X a 1 n1 n2 n3

[Decimal] 27 105 88 97 49 nd1 nd2 nd3

[Hexadecimal] 1B 69 58 61 31 nh1 nh2 nh3

[Parameters] nh1:01h (Fixed)
 nh2:00h (Fixed)
 nh3:01h (Fixed)

[Description]

- Retrieves the specified Non-Printed character text string.
- 2- to 22-byte data is returned from the machine. (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 character text string:
 The following command is sent to the machine.
 ESC i X a 1 01h 00h 01h
 (1Bh 69h 58h 61h 31h 01h 00h 01h)
 The following is returned from the machine.
 04h 00h A B C D (04h 00h 41h 42h 43h 44h)

ESC iXi1	Retrieve command mode setting
----------	-------------------------------

[ASCII] ESC i X i 1 n1 n2

[Decimal] 27 105 88 105 49 nd1 nd2

[Hexadecimal] 1B 69 58 69 31 nh1 nh2

[Parameters] nh1:00h (Fixed)

nh2:00h (Fixed)

[Description]

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

[1]:01h (Fixed)

[2]:00h (Fixed)

[3]: Setting

00h: ESC/P mode

01h: Raster mode

03h: P-touch Template mode

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

[Example]

When the setting is for raster mode:

ESC i X i 1 00h 00h

(1Bh 69h 58h 69h 31h 00h 00h)

The following is returned from the machine.

01h 00h 01h

ESC iXn1	Retrieve template selection number
----------	------------------------------------

[ASCII]	ESC i X n 1 n1 n2
[Decimal]	27 105 88 110 49 nd1 nd2
[Hexadecimal]	1B 69 58 6E 31 nh1 nh2
[Parameters]	nh1:00h (Fixed) nh2:00h (Fixed)

[Description]

- Retrieves the template number selected from the machine.
- 3-byte data is returned from the machine.
 - [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:
If ESC i X n 1 00h 00h (1Bh 69h 58h 6Eh 31h 00h 00h) is sent to the machine, the following is returned from the machine.
01h 00h 63h

ESC iXc1	Retrieves machine settings (cut options)
----------	--

[ASCII] ESC i X c 1 n1 n2
 [Decimal] 27 105 88 99 49 nd1 nd2
 [Hexadecimal] 1B 69 58 63 31 nh1 nh2
 [Parameters] nh1:00h (Fixed)
 nh2:00h (Fixed)

[Description]

- Retrieves the various cut settings.
- 3-byte data is returned from the machine.
- [1]:01h (Fixed)
- [2]:00h (Fixed)
- [3]: Setting
 - 00h: No cutting
 - 01h: Automatically cuts
- The retrieved value is a value specified by a static command.

[Example]

- When the auto cut setting is set to ON:
 If ESC i X c 1 00h 00h (1Bh 69h 58h 63h 31h 00h 00h) is sent to the machine, the following is returned from the machine.
 01h 00h 01h

ESC iXy1	Retrieve machine settings (cut options—specify cutting after a number of labels)
----------	--

[ASCII] ESC i X y 1 n1 n2

[Decimal] 27 105 88 121 49 nd1 nd2

[Hexadecimal] 1B 69 58 79 31 nh1 nh2

[Parameters] nh1:00h (Fixed)

nh2:00h (Fixed)

[Description]

- Retrieves the setting for the cut after a fixed number of labels.
- 3-byte data is returned from the machine.

[1]:01h (Fixed)

[2]:00h (Fixed)

[3]: Setting

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

[Example]

- When cutting is specified for every five labels:

If ESC i X y 1 00h 00h (1Bh 69h 58h 79h 31h 00h 00h) is sent to the machine, the following is returned from the machine.

01h 00h 05h

ESC iXm1	Retrieve character code set
----------	-----------------------------

[ASCII]	ESC i X m 1 n1 n2
[Decimal]	27 105 88 109 49 nd1 nd2
[Hexadecimal]	1B 69 58 6D 31 nh1 nh2
[Parameters]	nh1:00h (Fixed) nh2:00h (Fixed)

[Description]

- Retrieves the specified character code set. (For details on the character code sets, refer to the character code tables.)

- 3-byte data is returned from the machine.

[1]:01h (Fixed)

[2]:00h (Fixed)

[3]: Setting

00h: Brother standard

01h: Windows1250 (Eastern Europe)

02h: Windows1252 (Western Europe)

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

[Example]

- When the character code set is set to the Brother standard:

If ESC i X m 1 00h 00h (1Bh 69h 58h 6Dh 31h 00h 00h) is sent to the machine, the following is returned from the machine.

01h 00h 00h

ESC iXj1	Retrieve international character set setting
----------	--

[ASCII] ESC i X j 1 n1 n2
 [Decimal] 27 105 88 106 49 nd1 nd2
 [Hexadecimal] 1B 69 58 6A 31 nh1 nh2
 [Parameters] nh1:00h (Fixed)
 nh2:00h (Fixed)

[Description]

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

[1]:01h (Fixed)

[2]:00h (Fixed)

[3]: Setting

- 00h: USA
- 01h: France
- 02h: Germany
- 03h: Britain
- 04h: Denmark
- 05h: Sweden
- 06h: Italy
- 07h: Spain
- 08h: Japan
- 09h: Norway
- 0Ah: Denmark II
- 0Bh: Spain II
- 0Ch: Latin America
- 0Dh: Korea
- 40h: Legal

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

[Example]

- When the international character setting is set to that for Japan:

If ESC i X j 1 00h 00h (1Bh 69h 58h 6Ah 31h 00h 00h) is sent to the machine, the following is returned from the machine.

01h 00h 08h

ESC iXf1	Retrieve the prefix character
----------	-------------------------------

[ASCII] ESC i X f 1 n1 n2

[Decimal] 27 105 88 102 49 nd1 nd2

[Hexadecimal] 1B 69 58 66 31 nh1 nh2

[Parameters] nh1:00h (Fixed)

nh2:00h (Fixed)

[Description]

- Retrieves the prefix character code.
- 3-byte data is returned from the machine.
 - [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 “_”:

If ESC i X f 1 00h 00h (1Bh 69h 58h 66h 31h 00h 00h) is sent to the machine, the following is returned from the machine.

01h 00h 5Fh

(“_”)

ESC iXR1	Retrieve line return command setting text string
[ASCII]	ESC i X R 1 n1 n2
[Decimal]	27 105 88 82 49 nd1 nd2
[Hexadecimal]	1B 69 58 52 31 nh1 nh2
[Parameters]	nh1:00h (Fixed) nh2:00h (Fixed)

[Description]

- Retrieves the text string specified for the line return command.
- 2- to 22-byte data is returned from the machine. (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 return command is specified as "0Dh 0Ah":

If ESC i X R 1 00h 00h (1Bh 69h 58h 52h 31h 00h 00h) is sent to the machine, 02h 00h 0Dh 0Ah is returned from the machine.

ESC iXC1	Retrieve number of copies
[ASCII]	ESC i X C 1 n1 n2
[Decimal]	27 105 88 67 49 nd1 nd2
[Hexadecimal]	1B 69 58 43 31 nh1 nh2
[Parameters]	nh1:00h (Fixed) nh2:00h (Fixed)

[Description]

- Retrieves the number of copies specified to be printed.
- 4-byte data is returned from the machine.
 - [1]: 02h (Fixed)
 - [2]: 00h (Fixed)
 - [3, 4]: nh3 nh4 Settings
 - nh3+(nh4*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:
If the command ESC i X C 1 00h 00h (1Bh 69h 58h 43h 31h 00h 00h) is sent to the machine, 02h 00h F4h 01h is returned from the machine. $244 (F4h) + (1 (01h) * 256) = 500$

ESC iXN1	Retrieve number of Numbering copies setting
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[ASCII] ESC i X N 1 n1 n2

[Decimal] 27 105 88 78 49 nd1 nd2

[Hexadecimal] 1B 69 58 4E 31 nh1 nh2

[Parameters] nh1: 00h (fixed)

nh2: 00h (fixed)

[Description]

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

[1]: 02h (fixed)

[2]: 00h (fixed)

[3, 4]: nh3 nh4 settings

nh3+(nh4*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:

If the command ESC i X N 1 00h 00h (1Bh 69h 58h 4Eh 31h 00h 00h) is sent to the machine,

02h 00h F4h 01h is returned from the machine. $244 (F4h) + (1 (01h) * 256) = 500$

ESC iXF1	Retrieve FNC1 replacement setting
----------	-----------------------------------

[ASCII] ESC i X F 1 n1 n2
 [Decimal] 27 105 88 70 49 nd1 nd2
 [Hexadecimal] 1B 69 58 46 31 nh1 nh2
 [Parameters] nh1: 00h (fixed)
 nh2: 00h (fixed)

[Description]

- Retrieves the FNC1 replacement setting.
- 3-byte data is returned from the machine.
- [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:
 If ESC i X F 1 00h 00h (1Bh 69h 58h 46h 31h 00h 00h) is sent to the machine, the following is returned from the machine.
 01h 00h 00h

ESC iXq1	Retrieve print options
----------	------------------------

[ASCII] ESC i X q 1 n1 n2

[Decimal] 27 105 88 113 49 nd1 nd2

[Hexadecimal] 1B 69 58 71 31 nh1 nh2

[Parameters] nh1:00h (Fixed)

 nh2:00h (Fixed)

[Description]

- Retrieves the print option settings.
- 3-byte data is returned from the machine.
 - [1]: 01h (Fixed)
 - [2]: 00h (Fixed)
 - [3]: nh3 Settings
- The retrieved value is a value specified by a static command.

[Example]

- When the print options are set to give priority to print quality:
 If the command ESC i X q 1 00h 00h (1Bh 69h 58h 71h 31h 00h 00h) is sent to the machine, 01h 00h 01h is returned from the machine.

Character code table

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	ò
1			!	1	A	Q	a	q	~	'	i	±	Á	Ñ	á	ñ
2			”	2	B	R	b	r	,	'	ç	²	Â	Ò	â	ò
3			#	3	C	S	c	s	f	“	£	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	^	~	¨	¸	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

“■” indicates that a space is printed.

“■” indicates that the character will change if the international character set is switched.

Character code table

Windows1250 (Eastern Europe)

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

“■” indicates that a space is printed.

“■” indicates that the character will change if the international character set is switched.

Character code table

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	☼	L		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	ˆ				μ	÷
7			,	7	G	W	g	w	ç	ù	ˆ					
8			(	8	H	X	h	x	ê	ÿ	ı	©	ℒ			°
9			)	9	I	Y	i	y	ë	Ö	®	‡	℞	⌋		.
A			*	:	J	Z	j	z	è	Ü	€	‡	ℒ	⌋	Ω	
B			+	;	K	[	k	{	ï	ç	½	‡	‡	✓	δ	
C			,	<	L	\	l	!	î	£	¼	‡	‡	☑		³
D			-	=	M	]	m	}	ì	¥	ı	TEL	=		ø	²
E			.	>	N	^	n	~	Ä	Pts	«	FAX	‡			
F			/	?	O	_	o	DEL	Å	f	»	‡		□		

“■” indicates that a space is printed.

“■” indicates that the character will change if the international character set is switched.

International character set table

Compatible characters in each language when the international character set is switched

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