

PT-9500PC Command Reference

CBP-RASTER Mode (PTCBP Mode) Volume

August 29, 2003 Version 1.0

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1. Introduction

This material provides the necessary information for directly controlling PT-9500PC. This information is provided assuming that the user has full understanding of the operating system being used and basic mastery of RS-232C and USB in a developer's environment.

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

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2. Overview

The printing procedure is described below. For details on each command, refer to "5. Command Reference".

2.1 With a serial port connection

(1) Specify baud rate

First, specify the baud rate (communication speed). The manufacturer's default baud rate is 115,200 bps. If the baud rate cannot be changed, or if the baud rate cannot be changed after changing it with the Change Baud Rate Wizard (Windows), this step can be omitted. A special procedure is required to specify the baud rate. For details, refer to "Specify baud rate" and "6. Flowchart for the Baud Rate Setting Procedure".

(2) Check machine status

Open the RS-232C port, and then check the status of the port. Since this procedure differs depending on the operating system being used, refer to the manual for the developer's tool being used. In addition, specify the DTR/DSR hardware flow as the handshake. In addition, the CD can be used in checking if the unit is turned on.

Next, the "status information request" command is sent to the P-touch, the status information received from the P-touch is analyzed, and then the status of the P-touch is determined. For details on the "status information request" command and on the definition of "status", refer to "Status information request" in "Command Reference".

(3) Send print data

If the status analysis concludes that a tape cassette corresponding to the print data is loaded into the P-touch and that no error has occurred, the print data is sent. The structure of the print data is explained in the next section, "3. Print Data".

Note:

No command can be sent to the P-touch after the print data is transmitted and until the completion of printing is confirmed. Since the P-touch cannot process commands while it is printing, sending a command during this time may damage the P-touch.

Even the "status information request" command cannot be sent during printing.

(4) Confirmation of printing completion

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

The procedure differs slightly when printing a page that exceeds approximately 30 cm. For details on this case, refer to "4. Status".

2.2 With a USB port connection

Access to a USB port exceeds the range of these command references and is not covered in this material.

3. Print Data

3.1 Print data overview

The print data is constructed of the following: (1) job data, (2) page data, and (3) print command. If the print job consists of multiple pages, (2) and (3) are repeated.

(1) Job data

The beginning of the job is specified only once.

Sequence	Command Name	Description/Example
1	Initialize	1B H, 40 H
2	Print information command	Sets the print information in the PT-9500PC.
3	Set each mode	With a 4 mm feed and Auto Cut set to "ON": 1B H, 69 H, 4D H, 44 H
4	Set expanded mode	With Half Cut: 1B H, 69 H, 4B H, 08 H
5	Select compression mode	With compression: 4D H, 02 H
5	Select graphics transfer mode	1B H, 69 H, 52 H, 01H

(2) Page data

Repeat for each page in the print job.

Sequence	Command Name	Description/Example
.	Raster graphics transfer	Sends a raster line that contains data with a pixel set to "ON". For one perpendicular line on 24-mm-wide tape: 47 H, 2C H, 00 H, 00 H, ..., 00 H, FF H, ..., FF H
.	Zero raster graphics	Sends a raster line with all pixels set to "OFF". 5A H

(3) Print command

Specified at the end of the page.

Sequence	Command Name	Description/Example
.	Print command	Specified at the end of a page that is not the last page. 0C H
.	Print command with feeding	Specified at the end of the last page. 1A H

3.2 Page data details

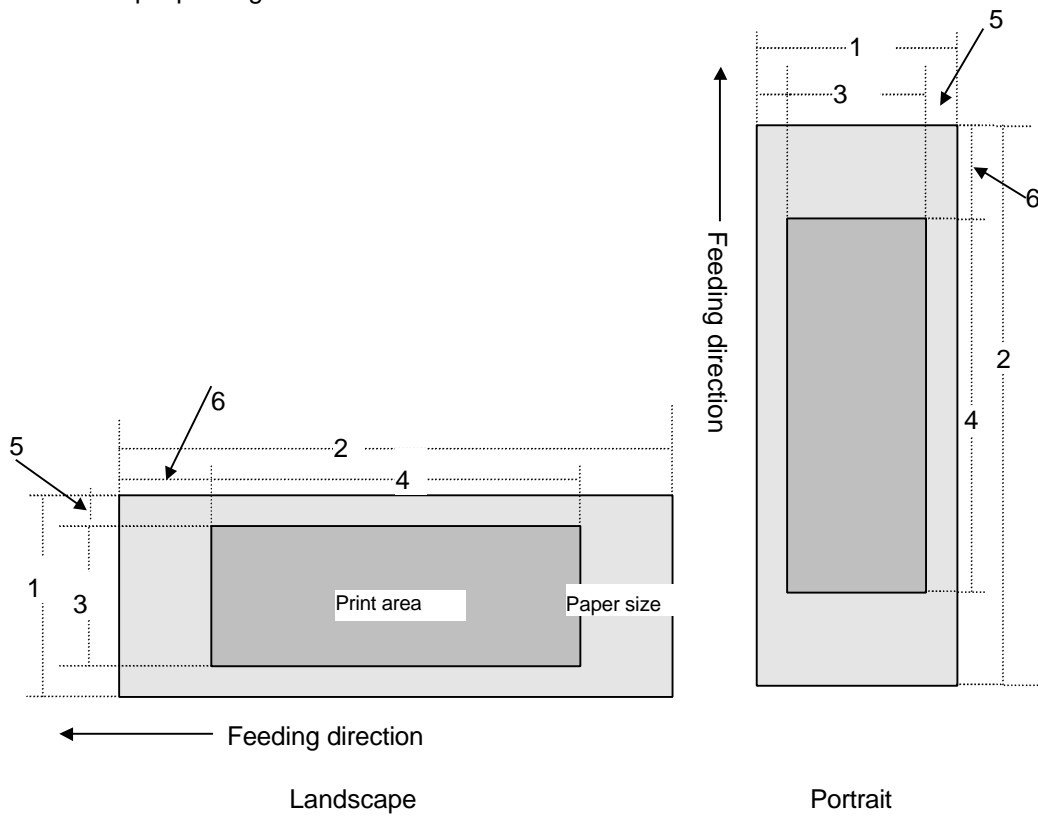
2.3.1 Resolution

Resolution	Height-to-Width Proportion
Normal: 360 dpi high, 360 dpi wide	1:1
Normal (High Resolution): 720 dpi high, 360 dpi wide	1:2

High-resolution printing can only be used with HG tape. HG tape may not be available in some areas.

3.2.2 Paper size

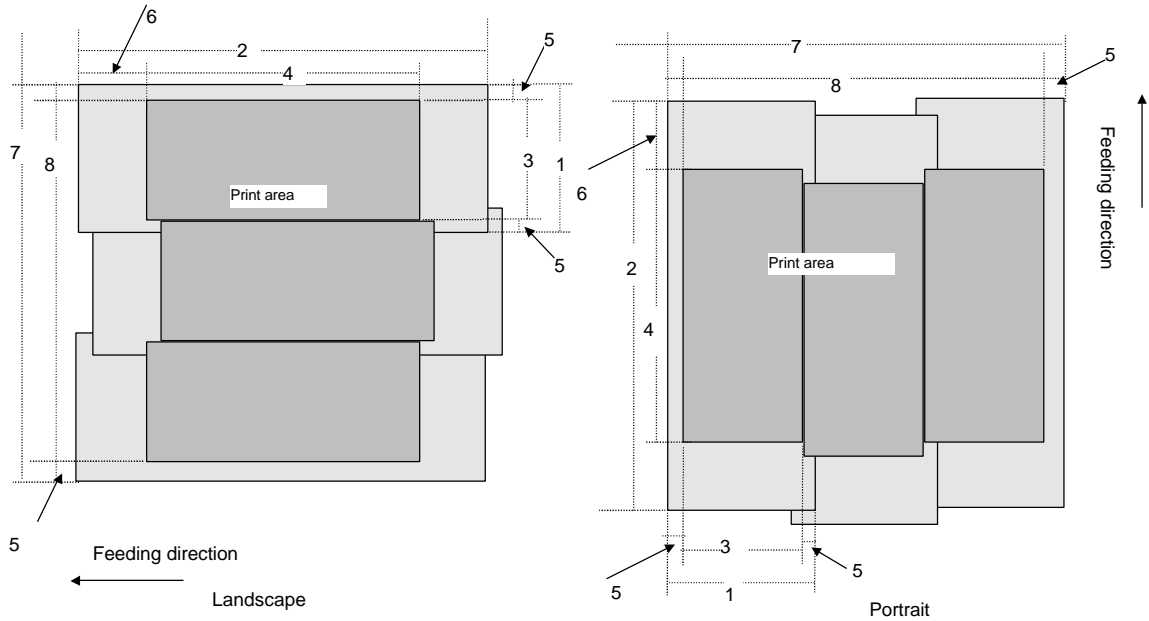
A. No split printing



Number 1 Width 2 Length
 3 Print area width (maximum printing width) 4 Print area length
 5 Width offset 6 Length offset

Tape Type	Designation	1	2	3	4	5	6
6 mm	6 mm 1/4 "	6.0 mm 84 dots	.2.3.4	4.52 mm 64 dots	.2.3.4	0.74 mm 10 dots	.2.3.3.
9 mm	9 mm 3/8 "	9.0 mm 128 dots	.2.3.4	7.48 mm 106 dots	.2.3.4	0.76 mm 11 dots	.2.3.3.
12 mm	12 mm 1/2 "	12.0 mm 170 dots	.2.3.4	10.58 mm 150 dots	.2.3.4	0.71 mm 10 dots	.2.3.3.
18 mm	18 mm 3/4 "	18.01 mm 256 dots	.2.3.4	16.51 mm 234 dots	.2.3.4	0.75 mm 11 dots	.2.3.3.
24 mm	24 mm 1 "	24.0 mm 340 dots	.2.3.4	22.58 mm 320 dots	.2.3.4	0.71 mm 10 dots	.2.3.3.
36 mm	36 mm 1 1/2 "	36.09 mm 512 dots	.2.3.4	27.09 mm 384 dots	.2.3.4	4.5 mm 64 dots	.2.3.3.

B. With split printing

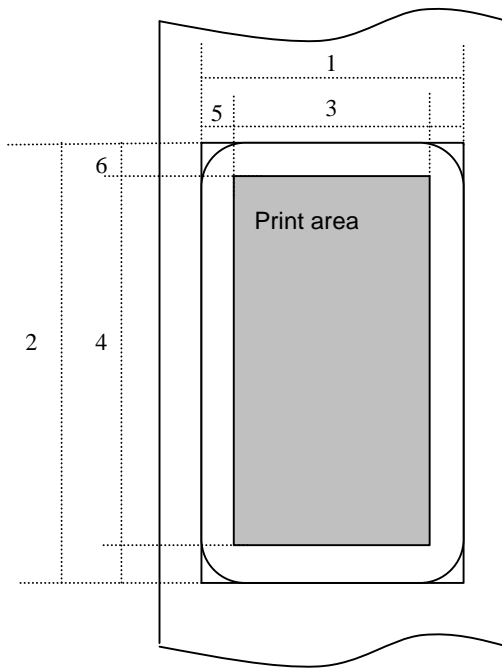


- Number** 1 Width 2 Length
 3 Print area width (maximum printing width) 4 Print area length
 5 Width offset 6 Length offset
 7 Overall width 8 Width of overall print area

Tape Type	Designation	1	3	5	7 = [3] × split number + [5] × 2	8 = [3] × split number
6 mm	6 mm 1/4 "	6.0 mm 86 dots	5.93 mm 84 dots	0.04 mm 1 dots	x2: 84x2+1x2 x3: 84x3+1x2 x4: 84x4+1x2	x2: 84x2 x3: 84x3 x4: 84x4
9 mm	9 mm 3/8 "	9.0 mm 128 dots	8.89 mm 126 dots	0.06 mm 1 dots	x2: 128x2+1x2 x3: 128x3+1x2 x4: 128x4+1x2	x2: 128x2 x3: 128x3 x4: 128x4
12 mm	12 mm 1/2 "	12.0 mm 170 dots	11.99mm 170 dots	0.00 mm 0 dots	x2: 170x2+0x2 x3: 170x3+0x2 x4: 170x4+0x2	x2: 170x2 x3: 170x3 x4: 170x4
18 mm	18 mm 3/4 "	18.01 mm 256 dots	17.92 mm 254 dots	0.04 mm 1 dots	x2: 254x2+1x2 x3: 254x3+1x2 x4: 254x4+1x2	x2: 254x2 x3: 254x3 x4: 254x4
24 mm	24 mm 1 "	24.0 mm 340 dots	23.99 mm 340 dots	0.01 mm 0 dots	x2: 340x2+0x2 x3: 340x3+0x2 x4: 340x4+0x2	x2: 340x2 x3: 340x3 x4: 340x4
36 mm	36 mm 1 1/2 "	36.09 mm 512 dots	27.09 mm 384 dots	4.5 mm 64 dots	x2: 384 x2+64x2 x3: 384 x3+64x2 x4: 384 x4+64x2	x2: 384 x2 x3: 384 x3 x4: 384 x4

C. AV tape

AV tape is only available in certain areas.



- Number 1 Width 2 Length
 3 Print area width (maximum printing width) 4 Print area length
 5 Width offset 6 Length offset
 9 Background length offset

24-mm-wide tape

ID (Designation)	Dimensions	1	2	3	4	5	6
AV1789 FILE FOLDER	17 mm x 89 mm 5/8" x 3-1/2"	16.9 mm 240	89.1 mm 1263	13.5 mm 192	78.9 mm 1119	1.69 mm 24 dots	5.1 mm 72 dots
AV1957 RETURN ADDRESS	19 mm x 57 mm 3/4" x 2-1/4"	19.2 mm 272	57.3 mm 812	15.8 mm 224	47.1 mm 668	1.69 mm 24 dots	5.1 mm 72 dots
AV2067 ADDRESS	20 mm x 67 mm 3/4" x 2-5/8"	20.3 mm 288	66.9 mm 948	16.9 mm 240	56.7mm 804	1.69 mm 24 dots	5.1 mm 72 dots

3.2.3 Feed amount

The feed amount (left and right margins) can be specified.

Tape Type	Minimum Margin Setting	Maximum Margin Setting	Minimum Margin Setting With No Precut
Normal	mm setting: 1 mm Inch setting: 0.04" 360dpi: 14 dots 720dpi: 28 dots	mm setting: 127 mm Inch setting: 5" 360dpi: 1800 dots 720dpi: 3600 dots	mm setting: 27 mm Inch setting: 1.06" 360dpi: 382 dots 720dpi: 764 dots
Stamp	25 mm 177 dots 354 dots (setting for margins)		None
AV	However, set the command for specifying the margin to "0". Printing starts from the beginning of the print area.		

3.2.4 Maximum and minimum lengths

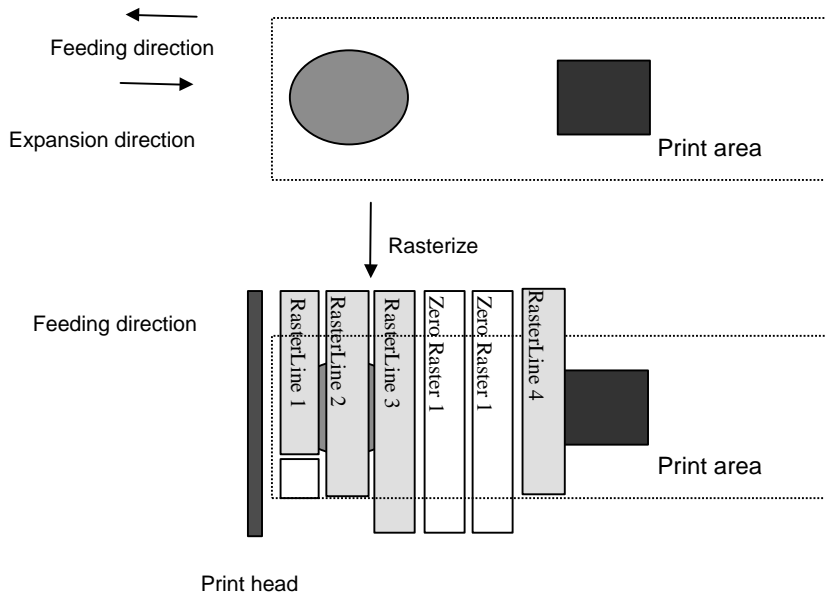
The maximum and minimum lengths can be specified.

Tape Type	Minimum Length	Maximum Length
Normal	4 mm 360dpi: 57 dots 720dpi: 114 dots	1000 mm 360dpi: 14173 dots 720dpi: 28346 dots
AV	Not available	Not available

Do not print labels less than 4 mm long, otherwise problems, such as tape misfeeds, may occur.

3.2.5 Raster line

As shown below, convert the parts with data to be printed to "raster graphics transfer", and convert the parts with no data to "zero raster graphics". On the actual tape, margins (feed) are added specified with "set each mode" at the beginning and the end.

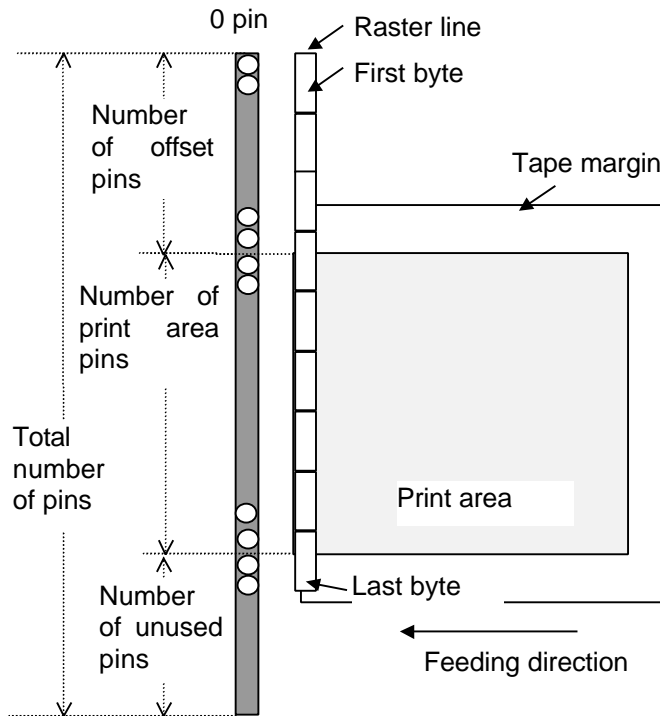


The following shows the relationship between the raster graphics parameters and the pixels.



3.2.6 Data in the raster line

The following shows how the raster line is arranged on the pins of the print head according to "raster graphics transfer". The bits for the part equivalent to the number of offset pins must be "0". In addition, the bits for the part equivalent to the number of unused pins for the last byte must be "0". Furthermore, the tape margins (in all directions) in the figure shown below have no effect on the raster line.



Pins on print head

With "raster graphics transfer", you can freely set which pins of the print head to use. However, printing at the edge of the tape or at places where there is no tape shortens the life of the print head and causes an error message to appear, stating that there is no more tape. The following table shows the values that the attached Windows driver is using.

Total number of pins (normal printing): 384

Tape Type	Number of Offset Pins	Number of Print Area Pins	Number of Unused Pins	Number of Raster Graphics Transfer Bytes
6 mm	160	64	160	28
9 mm	139	106	139	31
12 mm	117	150	117	34
18 mm	75	234	75	39
24 mm	32	320	32	44
36 mm	0	384	0	48

Total number of pins (with split printing): 384

Tape Type	Number of Offset Pins	Number of Print Area Pins	Number of Unused Pins	Number of Raster Graphics Transfer Bytes
6 mm	150	84	150	30
9 mm	129	126	129	32
12 mm	107	170	107	35
18 mm	65	254	65	40
24 mm	22	340	22	46
36 mm	0	384	0	48

Total number of pins (AV tape): 384

Tape Type	Number of Offset Pins	Number of Print Area Pins	Number of Unused Pins	Number of Raster Graphics Transfer Bytes
AV1789	96	192	96	36
AV1957	80	224	80	38
AV2067	72	240	72	39

4. Status

4.1 Overview

The status is sent from the P-touch to the computer as a reply to the "status information request" command or as an error message. The size is fixed at 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	Reserved	Fixed at "'B' Char (42 Hex)"
4	3	1	Reserved	Fixed at "'0' Char (30 Hex)"
5	4	1	Reserved	Fixed at "'J' Char (4A Hex)"
6	5	1	Reserved	Fixed at "'0' Char (30 Hex)"
7	6	1	Reserved	Fixed at "00 Hex"
8	7	1	Reserved	Fixed at "00 Hex"
9	8	1	Error information 1	Refer to section 4.2.1.
10	9	1	Error information 2	Refer to section 4.2.1.
11	10	1	Media width	Refer to section 4.2.2.
12	11	1	Media type	Refer to section 4.2.3.
13	12	1	Reserved	Not set
14	13	1	Reserved	Not set
15	14	1	Reserved	Not set
16	15	1	Reserved	Not set
17	16	1	Reserved	Not set
18	17	1	Media length	Refer to section 4.2.2.
19	18	1	Status type	Refer to section 4.2.4.
20	19	1	Phase type	Refer to section 4.2.5.
21	20	1	Higher order bytes of phase number	Refer to section 4.2.5.
22	21	1	Lower order bytes of phase number	Refer to section 4.2.5.
23	22	1	Notification number	Refer to section 4.2.6.
24	23	1	Reserved	Not set
25	24	8	Reserved	Not set

4.2 Definitions of each part

4.2.1 Error information 1 and error information 2

Error information 1

Flag	Mask	Definition
Bit 0	0x01	No media
Bit 1	0x02	End of media
Bit 2	0x04	Tape cutter jam
Bit 3	0x08	Not used
Bit 4	0x10	Not used
Bit 5	0x20	Not used
Bit 6	0x40	Not used
Bit 7	0x80	Not set

Error information 2

Flag	Mask	Definition
Bit 0	0x01	Replace the media.
Bit 1	0x02	Expansion buffer is full.
Bit 2	0x04	Transmission error
Bit 3	0x08	Transmission buffer is full.
Bit 4	0x10	The cover is open.
Bit 5	0x20	Not used
Bit 6	0x40	Not used
Bit 7	0x80	Not defined

4.2.2 Media width and length

The width and length of the media is described in units of millimeters. Be careful since the hexadecimal values for the lengths 18 mm through 36 mm are confusing.

TZ tape/HG tape

Paper	Media Width	Media Length
6 mm	6	0
9 mm	9	0
12 mm	12	0
18 mm	18	0
24 mm	24	0
36 mm	36	0

AV tape

Paper	Media Width	Media Length
AV1789	17	89
AV1957	19	57
AV2067	20	67

4.2.3 Media type

Media Type	Value	Designation
Unknown	00 Hex	.
Laminated tape, stamp tape and security tape (tape for sealing)	01 Hex	Laminated
Instant lettering tape and iron-on transfer tape	02 Hex	Lettering
Non-laminated tape/rolls and thermal tape	03 Hex	Non-Laminated
AV tape	08 Hex	AV Tape
HG tape	09 Hex	HG Tape

Only the 18-mm-wide lettering tape returns "0x02".

4.2.4 Status type

Status Type	Value
Reply to status request	00 Hex
Printing completed	01 Hex
Error occurred (error status)	02 Hex
Phase change	06 Hex

If an error occurred during printing, the unit returns the error status.

4.2.5 Phase type and phase number

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

Phase Type	Value
Receiving state	00 Hex
Printing state	01 Hex

Receiving state

Phase Number	Value (Dec.)	Higher Order Bytes	Lower Order Bytes
Waiting to receive	0	00 Hex	00 Hex
Feeding	0	00 Hex	01 Hex

Printing state

Phase Number	Value (Dec.)	Higher Order Bytes	Lower Order Bytes
Printing	0	00 Hex	00 Hex
Cover open while receiving	20	00 Hex	14 Hex

When the machine is turned on, it is in the receiving state. When printing begins, it changes to the "printing" phase (phase type: printing state; phase number: printing) and the machine sends the phase status to the computer. When printing has finished, the machine sends the "receiving state" phase status (phase type: receiving state; phase number: waiting to receive) to the computer. Unless an error occurs during printing, the machine sends the "printing completed" status.

Since the buffer of this machine is only about 30 cm, printing begins as soon as the buffer becomes full, even if a print command is not sent by the computer. Also, at this time, "printing" phase and "receiving state" phase statuses are sent.

In addition, if the machine's cover is open while it is receiving data, the "cover open while receiving" phase is sent. If the timeout is being controlled, this length of time must be deducted.

5. Command Reference

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

Name	Specify baud rate
Syntax	ESC + 'i' + 'B'+{n1} + {n2} 1B H + 69 H + 42H + {n1} + {n2}
Description	Changes the communication baud rate of the P-touch. The manufacturer’s default setting is 115,200 bps. Definition of {n1} and {n2} Setting = n1 + n2 *256 Setting 96: 9600 bps 576: 57600 bps 1152: 115200 bps For details on the procedure, refer to “6. Flowchart for the Baud Rate Setting Procedure”.

Name	Status information request
Syntax	ESC + i + S 1B H + 69 H + 53 H
Description	Status information is transmitted. For details on the status, refer to the previous section. Note: Before sending print data to the unit, this command should be sent once. Since error information is automatically sent by the unit during printing, do not send this command while printing.

Name	Initialize
Syntax	ESC + @ 1B H + 40 H
Description	The print buffer is cleared, and the arrangement position is returned to the origin on the page.


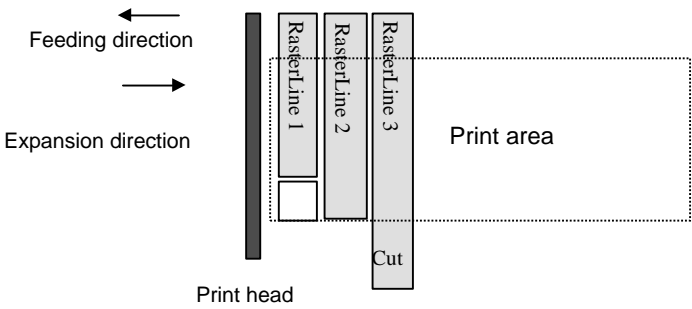
Name	Set each mode
Syntax	ESC + i + M + {n} 1B H + 69 H + 4D H + {n}
Description	<p>Definition of {n}</p> <p>The meaning of each bit in a 1-byte parameter is described below.</p> <p>Bit 6 Auto tape cut 0: No 1: Yes</p> <p>Bit 7 Mirror printing 0: No 1: Yes</p>

Name	Set margin amount (feed amount)
Syntax	ESC + i + d + {n1} + {n2} 1B H + 69 H + 64 H + {n1} + {n2}
Description	<p>Specifies the amount of the margins.</p> <p>Margin amount (dots) = $n1 + 256 * n2$</p> <p>With this model, the amount of feed cannot be set for each mode.</p> <p>The amount of margins with AV tape cassettes is set to "0".</p>

Name	Set expanded mode
Syntax	ESC + i + K + {n} 1B H + 69 H + 4B H + {n}
Description	<p>Definition of {n}</p> <p>The meaning of each bit in a 1-byte parameter is described below.</p> <p>Bit 2 Half cut (multiple half cut) Half cut is effective only with laminated tape.</p> <p>Bit 3 No chain printing When printing multiple copies, the labels are fed after the last one is printed. ON: No chain printing (feeding and cutting the last label); default OFF: Chain printing (no feeding and cutting of the last label)</p> <p>Bit 5 Label end cut When printing multiple copies, the end of the last label is cut. ON: Cutting the end of the label OFF: No cutting the end of the label</p> <p>Bit 6 High-resolution printing ON: High-resolution printing (360 dpi × 720 dpi) OFF: Normal printing (360 dpi × 360 dpi)</p> <p>Bit 7 No buffer clearing when printing Copy printing function</p>

The expansion buffer of the P-touch is not cleared with the “no buffer clearing when printing” command. If this command is sent when the data of the first label is printed (it is specified between the “initialize” command and the print data), printing is possible only if a print command is sent with the second or later label. However, this is possible only when printing extremely small labels.

Name	Select graphics transfer mode
Syntax	ESC + i + R + {n1} 1B H + 69 H + 52 H + {n1}
Description	Specifies the graphics transfer mode. Definition of {n1} 1: Raster graphics mode

Name	Raster graphics transfer
Syntax	G + {n1} + {n2} + {d1} + ... + {dk} 47 H + {n1} + {n2} + {d1} + ... + {dk}
Description	<p>Transfers the specified number of bytes (k) of data. The data is expanded by overwriting from the position where the margin was added. If the expanded data does not reach the end of the expansion buffer, the remainder is filled with 0 data. If the expanded data exceeds the end of the expansion buffer, the excess is cut off.</p> <p>Definition of {n1} and {n2}</p> <p>Specified number of bytes (k) = $n1 + n2 * 256$ 0000 H . Specified number of bytes (k) . First positive number that exceeds the value of the number of print head pins divided by 8</p> <p>The bit arrangement for each data is as follows.</p> <div style="text-align: center;">  </div> <p>The expansion order of the raster is as follows.</p> <div style="text-align: center;">  </div> <p>The data should be created so that it does not start from the beginning of the print area, but instead corresponds to the print head pin arrangement.</p>

Name	Zero raster graphics
Syntax	Z 5A H
Description	The raster line is filled with 0 data.

Name	Print command
Syntax	FF 0C H
Description	Prints the data in the expansion buffer. The tape is not fed.

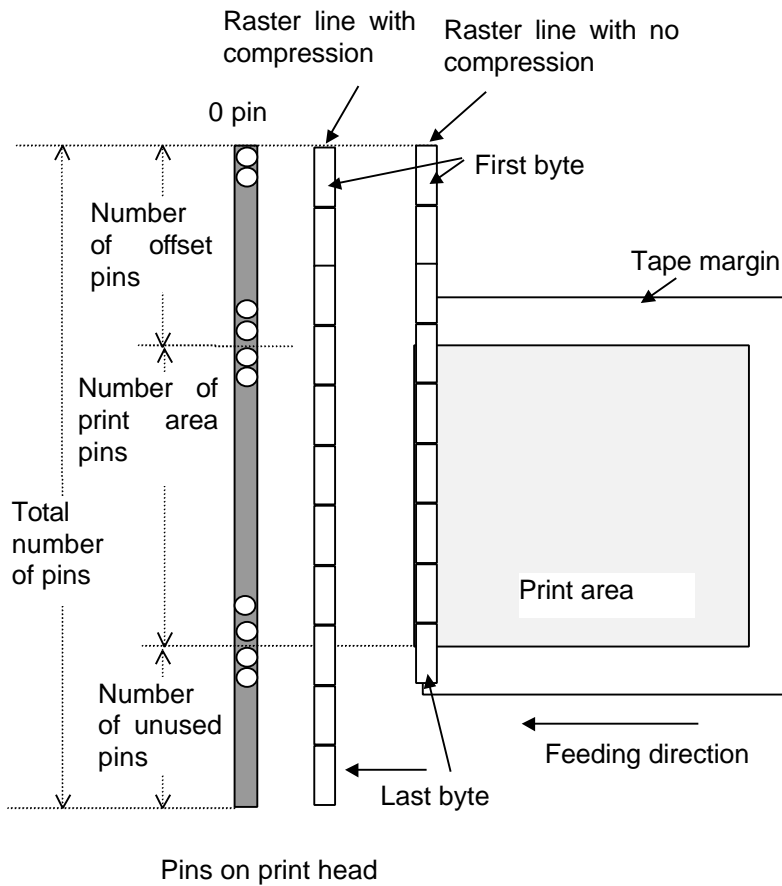
Name	Print command with feeding
Syntax	Control-Z 1A H
Description	Prints the data in the expansion buffer. The tape is fed after printing.

Name	Print information command
Syntax	ESC + 'i' + 'c' + {n1} + {n2} + {n3} + {n4} + {n5} 1B H + 69 H + 63H + {n1} + {n2} + {n3} + {n4} + {n5}
Description	<p>Specifies the print information.</p> <p>Definition of {n1} through {n5}</p> <p>{n1}: Valid flag; specifies which values are valid</p> <pre> #define PI_KIND 0x02 // Paper type #define PI_WIDTH 0x04 // Paper width #define PI_LENGTH 0x08 // Paper length #defene PI_RECOVER 0xF0 // Recovers the P-touch </pre> <p>Normally, "print energy" is valid. However, this has no effect if HG tape is not installed.</p> <p>{n2}: Paper type</p> <p>{n3}: Paper width; units: mm</p> <p>{n4}: Paper length; units: mm</p> <p>{n5}: Print energy; 0: Normal, 1: Weak</p> <p>If the media is not correctly loaded into the P-touch when the valid flag for PI_KIND, PI_WIDTH and PI_LENGTH are set to "ON", an error status is returned (Bit 0 of "error information 2" is set to "ON".)</p>

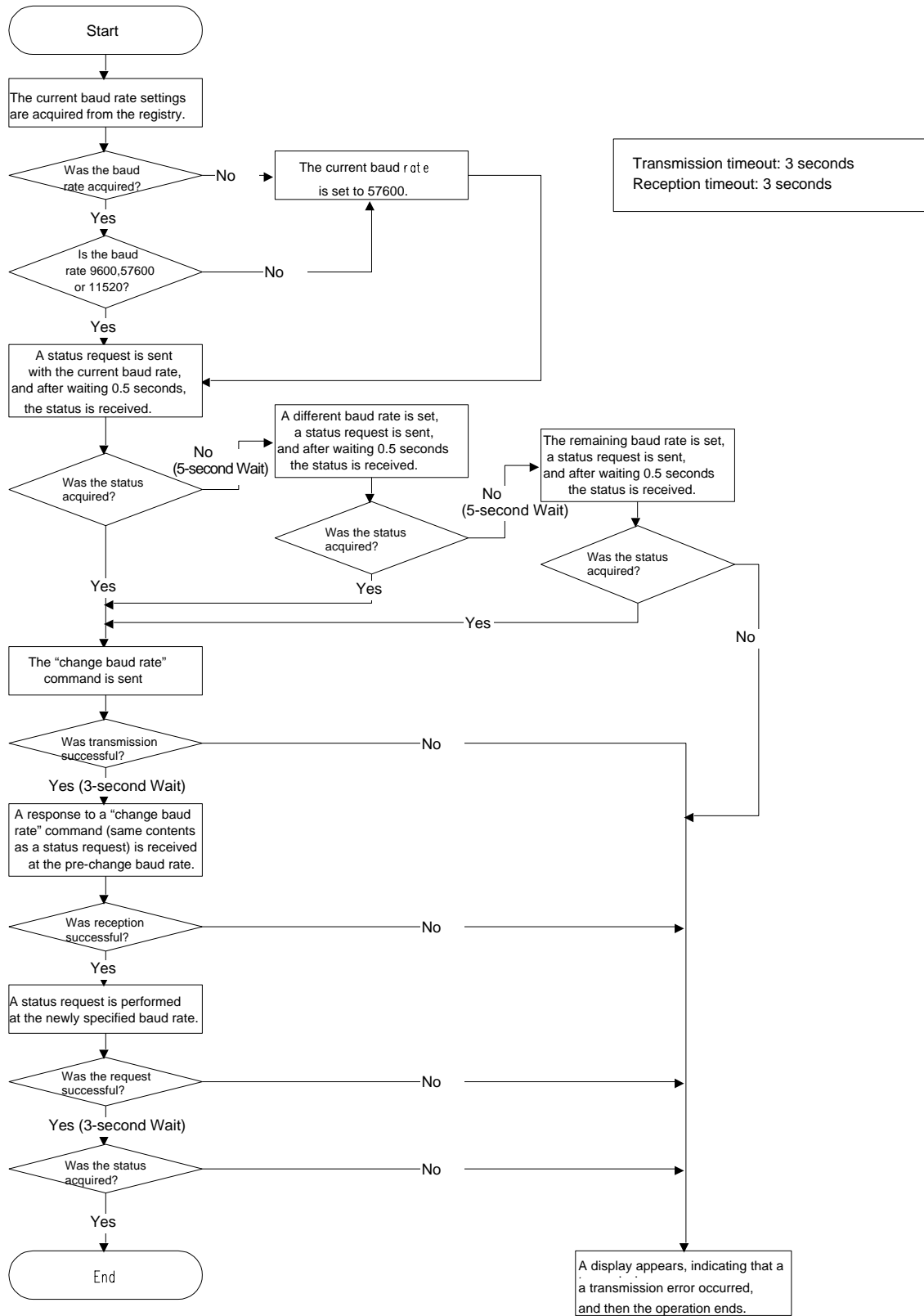
Name	Select compression mode														
Syntax	M + {n} 4D H+ {n}														
Description	<p>Selects the compression mode. Data compression is available only in data for raster graphics transfer.</p> <p>Definition of {n}</p> <table> <tr> <td>0</td> <td>No compression mode</td> <td>(Valid)</td> </tr> <tr> <td>1</td> <td>Reserved</td> <td>(Invalid)</td> </tr> <tr> <td>2</td> <td>TIFF</td> <td>(Invalid)</td> </tr> </table> <p>.TIFF (Pack Bits).</p> <ul style="list-style-type: none"> . Units of 1 byte . When the same data is repeated, specify the number of data units and the data of 1 byte. When different data is in a series, specify the number of that data and all different data. . When specifying the same data, the number of data should be specified as a negative number of "the actual number - 1". <p>When specifying different data, the number of data should be specified as a positive number of "the number of bytes - 1".</p> <ul style="list-style-type: none"> . If the compressed data exceeds 48 bytes after following the above procedure, all data is regarded as different. As a result, the data will be 49 bytes, including 1 byte that specifies the length. <p>Example: 1 raster of raster graphics transfer (6 mm tape)</p> <p style="text-align: center;">00 01 02 03 04 05 06 07 08 09 0A 0B 0C 0D 0E 0F</p> <p>Not compressed 47 1C 00 22 22 23 BA BF A2 22 2B</p> <p>Compressed <u>47 0D 00 ED 00 FF 22 05 23 BA BF A2 22 2B ED 00</u></p> <table> <tr> <td>(1)</td> <td>(2)</td> <td>(3)</td> <td>(4)</td> <td>(5)</td> </tr> </table> <ul style="list-style-type: none"> (1) "Raster graphics transfer" header (2) "00H" is repeated for 20 bytes. (3) "22H" is repeated for 2 bytes. (4) The following 6 bytes are expanded as is. (5) "00" is repeated for 2 bytes. This part is excluded if there is no compression. 	0	No compression mode	(Valid)	1	Reserved	(Invalid)	2	TIFF	(Invalid)	(1)	(2)	(3)	(4)	(5)
0	No compression mode	(Valid)													
1	Reserved	(Invalid)													
2	TIFF	(Invalid)													
(1)	(2)	(3)	(4)	(5)											

Explanation of "TIFF compression mode"

With compression, the data for the "raster graphics transfer" command is based on 48 bytes of the total number of pins (384). As shown below, with no compression, the sum of the number of offset pins and the number of pins within the print is the byte data. However, with compression, the number of unused pins is also added to the data. In other words, with compression, this becomes 48 bytes when it is expanded by the P-touch, regardless of the tape width.



6. Flowchart for the Baud Rate Setting Procedure



7. USB Specifications

USB specifications 1.1

Item	Description
Vendor ID	0x04F9
Product ID	0x200F
Class	Printer
Character string for manufacturer	Character string descriptor: 0x01 0x0409: "Brother"
Character string for product	Character string descriptor: 0x02 0x0409: "PT-9500PC"
Character string for serial number	Character string descriptor: 0x03 0x0409: "000000001" Last nine digits of the unit's serial number
Device speed	Full
Number of interfaces	1 (No alternate interfaces)
Power supply	Self-powered (As a printer class, Bus power is also set to "ON".)
End point 1	In bulk (Sends the status from the unit to the computer.) Maximum packet size: 16 bytes
End point 2	Out bulk (Sends print commands and data from the computer to the unit.) Maximum packet size: 64 bytes

History of Changes

Change Number	Created/Modified	Changed Page	Details of Change
...	2003.08.29		Created version 1.0