

PROGRAMMER'S MANUAL

PZPL language for

D4 102

D4 202

D4 302-K

CUSTOM[®]

PZPL PROGRAMER'S MANUAL

Table of Contents

1. Introduction	4
1.1 Command Conventions	5
1.2 Basic Command Syntax	5
1.3 Coordinate Description	7
1.4 Fonts	8
1.5 File	11
3. Commands	12
^A — Select scalable/ bitmapped font	12
^A@ — Select font by the font name	14
^B1 — Bar Code: Code 11	16
^B2 — Bar Code: interleaved 2 of 5	17
^B3 — Bar code: Code39 (3 of 9)	18
^B7 — Bar code: PDF-417	20
^B8 — Bar code: EAN-8	22
^B9 — Bar code: UPC-E	23
^BA — Bar code: Code 93	25
^BC — Bar code: Code 128 (with subset A, B and C)	26
^BE — Bar code: EAN-13	29
^BK — Bar code: Coda bar	31
^BQ — Bar code: QR code	32
^BS — Bar code: UPC/EAN Extensions	34
^BU — Bar code: UPC A	35
^BX — Bar code: Data Matrix	37
^BY — Bar code field default	38
^CC or ~CC — Change Caret character	39
^CD or ~CD — Change Delimiter character	40
^CF — Change Default font	41
^CI — Change International Symbol Set	42
^CT ~CT — Change Tilde character	44
^CW — Font identifier	45
~DB — Download Bitmap Font	46
^DF — Download format	48
~DG — Download graphics	49
~DU — Download unbounded TrueType font	50
~EF — Erases all stored forms	51
~EG — Erases all stored graphics	52
^FB — Field block	53
^FC — Field clock	54
^FD — Field data	57
^FH — Set Field Hexadecimal Indicator	58
^FN — Field number	59

PZPL PROGRAMER'S MANUAL

^FO — Field Origin	60
^FR — Field reverse print.....	61
^FS — Field Separator	62
^FT — Define Field Type	63
^FV — define field variable.....	64
^FW — define field orientation	65
^FX — non-printing informational comment	66
^GB — Graphic line or box.....	67
^GC — Graphic Circle.....	68
^GD — Graphic Diagonal line	69
^GE — Graphic ellipse.....	70
^GF — Graphic Field	71
^GS — Graphic symbol	73
^HF — Host Format	74
^HH — Return label configuration.....	75
~HI — Host Identification	76
~HM — Host memory status	77
~HQ — Host query	78
~HS — Return Host status.....	80
^HW — Directory list	82
^ID — Delete object.....	83
^IL — Load image.....	84
^IM — Move image	85
^IS — Save image.....	86
~JA — Cancel All.....	87
^JB — Initialize Flash Memory Board	88
~JB — reset optional memory	89
~JC — Media Sensor Calibration.....	90
~JD — Diagnose Communications.....	91
~JE — End Communications Diagnosing.....	92
~JK — Delay Cut	93
~JL — Feed labels.....	94
~JP — Pause	95
~JR — Reset Power	96
~JS — Select Sensor	97
^JU — Update Configuration	98
^JZ — Recovery Printing	99
^KL — Select Language	100
^KN — Define Printer Name	101
^KP — Define LCD password.....	102
^LH — Label Home	103
^LL — Label Length.....	104
^LR — Print Reversed Label	105

PZPL PROGRAMER'S MANUAL

^LS — Shift Label	106
^LT — Shift Label Vertically.....	107
^MC — Clear the image frame buffer.....	108
^MD — Set the darkness of media	109
^MF — Media feed	110
^ML — Set maximum length of label	111
^MM — Determine the print mode	112
^MN — track media type.....	113
^MP — Mode Protection	114
^MT — Set media transferred mode	115
^MU — set units of measurement	116
^PH — Slew to home position	117
^PM — Print mirror image.....	118
^PO — Print Orientation	119
^PP — Programmable Pause	120
^PQ — Print Quantity Control	121
^PR — Print Rate.....	122
~PS — Start printing.....	123
^PW — Print Width.....	124
^SC — Set Serial Communication (RS 232Serial Converter).....	125
~SD — Set Darkness.....	126
^SL — Set Time Mode for Real-Time Clock.....	127
^SN — Set Counter Value	128
^SO — Set Offset of the Real-Time Clock	129
^ST — Set Date and Time of the Real-Time Clock	130
~TA — Sets tear-off adjust position	131
^TO — Copy Object.....	132
~WC — Prints Configuration Information.....	133
^WD — Print Directory	134
^XA — Start Format	135
^XB — Suppress Backfeed	136
^XF — Recall Form	137
^XG — Recall Graphic	138
^XY — Set labels and gap height	139
^XZ — End Format	140
Appendix A — Barcode Summary Data	141
Bar code format	141
Appendix B — Memory Identifiers	142
Appendix C — Speed Ranges	143

PZPL PROGRAMER'S MANUAL

1. Introduction

This manual describes command syntax of PZPL (Printer Z Programming Language). All commands can be sent from PC to your label printer through the USB device or serial (RS232) ports.

In this introduction section, there are five parts to introduce basic concept and structure of PZPL:

- 1.1 Command conventions
- 1.2 Basic command syntax
- 1.3 Coordinate Description
- 1.4 Fonts
- 1.5 File

PZPL PROGRAMER'S MANUAL

1.1 Command Conventions

This section offers basic command syntax of PZPL which is typographic conventions and this manual uses those to describe commands.

Name	Code	Description
Caret	^	Command prefix /Lead character
Tilde	~	control prefix/lead character
Comma	,	Delimiter prefix/ separate two parameters

Glossary: Command: use for job control in computing.

Description: define the function of corresponding command.

Format: the form of the command i.e. how the command is arranged and what can be insert into.

Parameters: the value that determines the specific form of the function. For different output purpose, parameters can be used to correspond to different command.

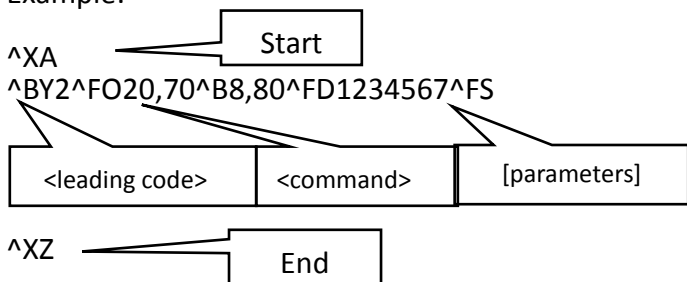
Note: Accepted values: 1~32000

Default values: set by ^BY command.

1.2 Basic Command Syntax

This section offers basic command syntax of PZPL.

Example:



Explanation:

- The PZPL commands always start with ^ .
- Each format based on PZPL has to start with the command ^XA and order the ^XZ command in the end of it.

PZPL PROGRAMER'S MANUAL

- The line separator and space codes can be used for convenience purpose. They will not printed by the machine.
- All characters can be printed.
- Note:<CR> and <LF>are exception. They are used to end command line.
- Only capital letters for command are acceptable.
- Once the parameters in the command are deleted, the default settings or parameters saved in the permanent memory (E2PROM or flash) will be used.

PZPL PROGRAMER'S MANUAL

1.3 Coordinate Description

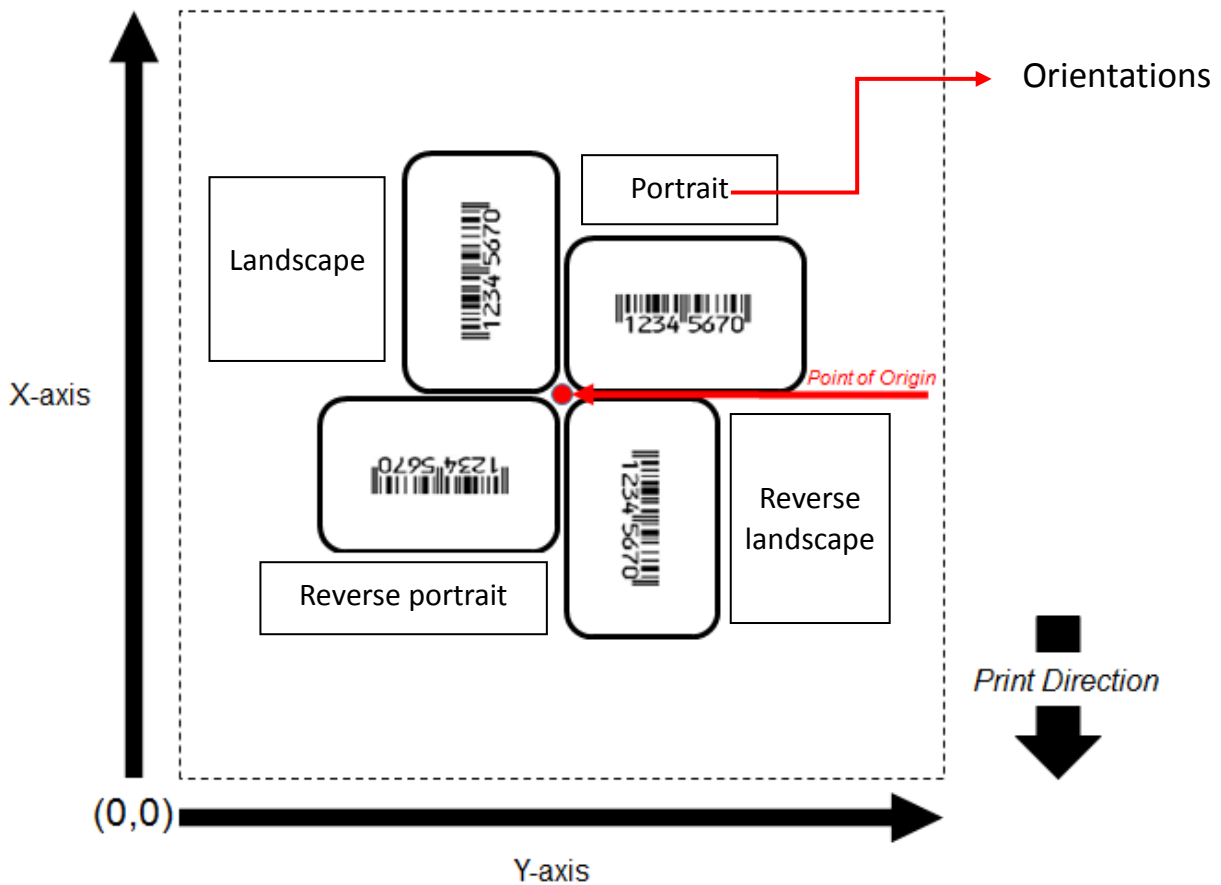


Figure: Coordinate description.

- The point of origin (0, 0) for 0 degree object is the lower left corner.
- All coordinate value is positive and measured in dot.
Remember that 203 DPI: 1mm = 8 dots. 300 DPI: 1mm = 12 dots.
- If an object rotates, the point of origin rotates with the object.
- The measurement of coordinate value is in inchmm.

NOTE: The range of acceptable X coordinates is between 0~4 inches.

Y coordinates is between 0~48 inches.

(The printer model may influence the actual value.)

- Four kinds of oritations in total (see figure):

N=normal R= rotation 90 degrees(clockwise) I= inverted 180 degrees b= rotation 270 degrees (clockwise)

N for protrait I for reverse portrait, B for landscape and R for reverse landscap

PZPL PROGRAMER'S MANUAL

1.4 Fonts

The printer language has several types of fonts, the characters size and density according to their stored media and the density of printhead. Under a 203 DPI printer, 1 point = 1/72 inch = 2.8 pixels for character cell height.

The two-byte fonts(ex: Chinese) cannot be erased because they are made as "font card".

The following are fonts categories of PZPL:

Internal Fonts

These internal fonts are always resident in FLASH ROM and can't be deleted.

Storage device: FLASH ROM

Symbol Set: The printer language supports the Latin based language if symbol set is correct.

Scale / Rotate / Reversed: The internal fonts support text scale, rotate or reversed.

Soft Fonts

The soft fonts can be downloaded from host by utility or application software. The soft fonts can be erased.

Storage device: you can select storage device type by command to save soft font. But one soft font just only stored one storage device in printer.

Storage device type: SDRAM, Internal FLASH ROM or SD Card.

Soft Font number: The soft font ID number may be from A ~ Z or 0 ~ 9.

Scale / Rotate / Reversed: The soft fonts support text scale, rotate or reversed.

Scalable fonts:

There is one kind of internal scalable font

The standard font type of Microsoft Windows

What You See Is What You Get.

The format of scalable fonts is also called "TrueType."

All fonts can be expanded but only scalable fonts can expand smoothly.

By using the smooth-scaling algorithm, user can set up balanced characters.

(Height=Width)

Additional scalable font scan be downloaded from host by utility or application software.

Note:

1. Internal fonts (1scalable font+15bitmap fonts) can be used by the command ^CF ^A

PZPL PROGRAMER'S MANUAL

2. All parameters used in scalable fonts have to be point sizes. When it comes to calculate how many dots can formulate a point size, user can use this formula:

$$\text{Dots} = [(\text{point size}) \times (\text{dots/ per inch})] \div 72$$

3. Remember that the height or width of characters may not specifically equal to the actual dot size. They depend on the corresponding font style.

Bitmap fonts:

There are 15 kind of bitmap fonts are internal.

The balanced characters are already be built into fonts.

Additional bitmap fonts

can be downloaded from host by utility or applicationsoftware.

Note:

1. Internal fonts (1scalable font+15bitmap fonts) can be used by the command ^CF ^A
2. There are zigzag phenomenon while scaling.

Spacing Fixed fonts:

Spacing that between any two characters is always the same.

Spacing proportional fonts:

The spacing has to depend on the characters.

The following chart shows that the intercharacter gap (ICG) of different fonts.

U= Uppercase L=Lowercase D= Descender

Font	A	B	C	D	E	F	G	H	GS	0
Height x Weight	9x5	11x7	18x10	18x10	28x15	26x13	60x40	21x13	24x24	15x12 (default)
Type	U-L-D	U	U-L-D	OCR-B	OCR-B	U-L-D	U-L-D	OCR-A	SYMB OL	CG Triumvirate Bold Condensed
ICG	1	2	2	2	5	3	8	6	Propo tiona l	Propo tio nal

PZPL PROGRAMER'S MANUAL

Baseline	7	11	14	14	23	21	48	21	3xh/4	3xh/4
----------	---	----	----	----	----	----	----	----	-------	-------

Explanation:

The baseline (the bottom of the character). The baseline of font A is 7dots which means that of the matrix, there are 7dots down from the top.

PZPL PROGRAMER'S MANUAL

1.5 File

When saving the program in memory, user has to follow below format:

Store <filename\$>

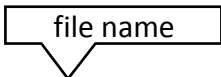
Remember that file name has to be contained by <>

File name under Disk Operating System must has to conform to 8.3 rule, i.e. made up of:

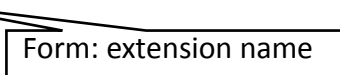
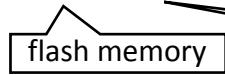
1 character (drive location)

<8 character file name

<3 character-extension (optional)



EX: E:123.ZPL



PZPL PROGRAMER'S MANUAL

3. Commands

^A — Select scalable/ bitmapped font

<p>Description</p>	<p>This command is used to specifies the font which collocated with command ^FD. Note that command ^A only can be used once, which means that if it isn't specified again, in the next entry, the default font (defined by command ^CF) will be used automatically by command ^FD. As for the matrix (height x width), there are standard built inside each font. The height will be adjust according to width and vice versa. Even if you did not give the value, the system still set the standard matrix of height or width.</p>														
<p>Syntax</p>	<p>^Afo, h, w</p> <table border="1" data-bbox="325 857 1259 1960"> <thead> <tr> <th data-bbox="325 857 489 920">Parameter</th> <th data-bbox="489 857 895 920">Description</th> <th data-bbox="895 857 1259 920">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 920 489 1256">f</td> <td data-bbox="489 920 895 1256"> Font name All kinds of fonts in the printer can be applied for by the use of this parameter. It is necessary for the command ^A. Otherwise, it will defaults to the last value used by ^CF command </td> <td data-bbox="895 920 1259 1256"> A~Z 0~9 Default: 0 </td> </tr> <tr> <td data-bbox="325 1256 489 1547">o</td> <td data-bbox="489 1256 895 1547"> Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description) </td> <td data-bbox="895 1256 1259 1547"> NIBR Default: N </td> </tr> <tr> <td data-bbox="325 1547 489 1960">h in pixels</td> <td data-bbox="489 1547 895 1960"> Character height Scalable font: no need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original height: $(h + \text{original height}) / \text{original height}$ </td> <td data-bbox="895 1547 1259 1960"> Always be an integer. Minimum value is 1. </td> </tr> </tbody> </table>			Parameter	Description	Range	f	Font name All kinds of fonts in the printer can be applied for by the use of this parameter. It is necessary for the command ^A. Otherwise, it will defaults to the last value used by ^CF command	A~Z 0~9 Default: 0	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: N	h in pixels	Character height Scalable font: no need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original height: $(h + \text{original height}) / \text{original height}$	Always be an integer. Minimum value is 1.
Parameter	Description	Range													
f	Font name All kinds of fonts in the printer can be applied for by the use of this parameter. It is necessary for the command ^A. Otherwise, it will defaults to the last value used by ^CF command	A~Z 0~9 Default: 0													
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: N													
h in pixels	Character height Scalable font: no need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original height: $(h + \text{original height}) / \text{original height}$	Always be an integer. Minimum value is 1.													

PZPL PROGRAMER'S MANUAL

	<p>w in pixels</p>	<p>Character width Scalable font: no need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original width: $(h + \text{original width} / 2) / \text{original width}$</p>	<p>Always be an integer. Minimum value is 1.</p>	
<p>Example</p>		<p>^XA ^FO150,100^A0,30,30^FDPZPL^FS ^FO150,150^A0,30,30^FDscalable font^FS ^XZ</p>	<p>PZPL scalable font</p>	

PZPL PROGRAMER'S MANUAL

^A@ — Select font by the font name

Description	In command ^A, a character can be used to specify font. However, the complete font name have to be used in command ^A@ to select font.		
Syntax	^A@o,h,w,n		
	Parameter	Description	Range
	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: N
	h in pixels	Character height Scalable font: not need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original height: (h+ original height/2)/ original height	Always be an integer. Minimum value is 1.
	w in pixels	Character width Scalable font: not need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original width: (h+ original width/2)/ original width	Always be an integer. Minimum value is 1.
	n	file name EX: R:123.FNT It contains: drive location (1 character) file name (<8 characters) extension name (optional) (<3 characters)	Default value for drive location: R: for font name: if no value is given, ^CF will set the default font "A"

PZPL PROGRAMER'S MANUAL**Example**


```
^XA  
^A@,25,25,B:FONTTYPE.FNT  
^FO100,100^FDFONT^FS  
^A@,15,15^FO100,150^FDsaved in FONTTYPE.FNT^FS  
^XZ
```

FONT

saved in FONTTYPE.FNT

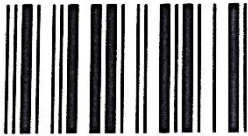
PZPL PROGRAMER'S MANUAL

^B1 — Bar Code: Code 11

<p>Description</p>	<p>This command is used for generating code 11 bar code. Code 11: used primarily at the aspect of labeling telecommunications equipment. The character set includes the digits 0 ~ 9, a dash (-), and a start/stop code. Each character is encoded with three bars and two spaces. Among these five elements, there may be two wide (binary 1) and three narrow (binary 0), or one wide (binary 1) and four narrow (binary 0). Two check digits (C and K) are used, too.</p>																				
<p>Syntax</p>	<p>^B1o,e,h,f,g</p> <table border="1" data-bbox="325 719 1265 1731"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: N,I,B,R (Refer to 1.3. Coordinate Description)</td> <td>NIBR Default: ^FW</td> </tr> <tr> <td>e</td> <td>Check digit</td> <td>Y for yes (1 digit) N for no (2digits) Default: N</td> </tr> <tr> <td>h (in pixels)</td> <td>Bar code height</td> <td>1~999 Default: ^BY</td> </tr> <tr> <td>f</td> <td>Print interpretation line or not Interpretation line is used for human to read easily.</td> <td>Y for yes N for no Default: Y</td> </tr> <tr> <td>g</td> <td>Position for print interpretation line: Whether to print text above barcode above code</td> <td>Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> </tbody> </table>			Parameter	Description	Range	o	Orientation There are four kinds of different degree of orientations: N,I,B,R (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW	e	Check digit	Y for yes (1 digit) N for no (2digits) Default: N	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N
Parameter	Description	Range																			
o	Orientation There are four kinds of different degree of orientations: N,I,B,R (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW																			
e	Check digit	Y for yes (1 digit) N for no (2digits) Default: N																			
h (in pixels)	Bar code height	1~999 Default: ^BY																			
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																			
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																			
<p>Valid character</p>	<p>0~9</p>																				
<p>Example</p>	<p>^XA ^FO100,150^B1,N,75,Y,N^FD01010101^FS ^XZ</p> <div style="text-align: right;">  <p>^0101010153^</p> </div>																				

PZPL PROGRAMER'S MANUAL

^B2 — Bar Code: interleaved 2 of 5

<p>Description</p>	<p>This command is for generating interleaved 2 of 5 bar code. Interleaved 2 of 5 is numeric-only. It widely used in warehouse and industrial applications. The data must consist of an even number of digits. If an odd number be entered, the printer will add a zero in front of that odd number. Each data character is composed of 5 elements, either 5 bars or 5 spaces. Among these 5 elements, two are wide and three are narrow. Adjacent characters are interleaved, alternating the spaces from one character with the bars of the other.</p>																				
<p>Syntax</p>	<p>^B2o,h,f,g,e</p> <table border="1" data-bbox="325 804 1265 1812"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td>NIBR Default: ^FW</td> </tr> <tr> <td>h (in pixels)</td> <td>Bar code height</td> <td>1~999 Default: ^BY</td> </tr> <tr> <td>f</td> <td>Print interpretation line or not Interpretation line is used for human to read easily.</td> <td>Y for yes N for no Default: Y</td> </tr> <tr> <td>g</td> <td>Position for print interpretation line: Whether to print text above barcode above code</td> <td>Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> <tr> <td>e</td> <td>Check digit by mod 10 check digit scheme</td> <td>Y for yes N for no Default: N</td> </tr> </tbody> </table>			Parameter	Description	Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N	e	Check digit by mod 10 check digit scheme	Y for yes N for no Default: N
Parameter	Description	Range																			
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW																			
h (in pixels)	Bar code height	1~999 Default: ^BY																			
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																			
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																			
e	Check digit by mod 10 check digit scheme	Y for yes N for no Default: N																			
<p>Valid character</p>	<p>0~9</p>																				
<p>Example</p>	<p>^XA ^FO100,150^B2,70,Y,N,Y^FD12345^FS ^XZ</p> <div style="text-align: center;">  <p>123457</p> </div>																				

PZPL PROGRAMER'S MANUAL

^B3 — Bar code: Code39 (3 of 9)

<p>Description</p>	<p>This command is for generating code 39 bar code. Code 39 is widely used in many industries and is the standard for many government barcode specifications, including the U.S. Department of Defense. Each character consists of 9 elements: 5 bars and 4 spaces. Each character includes 3 wide and 6 narrow elements. Characters are separated by an inter-character gap which is the same width as a narrow bar. The ratio of wide: narrow bar width may be in the range of 1.8 to 3.4. Barcodes with a narrow bar width of less than 0.020 inches (0.508mm) should have a ratio of at least 2.5. A ratio of 3.0 is recommended. Every Code 39 barcode should be preceded and followed by a quiet zone the width of at least 10 narrow bars. Code 39 does not require a checksum, but mod 43 can be used optional.</p>																		
<p>Syntax</p>	<p>^B3o,e,h,f,g</p> <table border="1" data-bbox="325 927 1265 1904"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td>Default: ^FW</td> </tr> <tr> <td>e</td> <td>Check digit by mod 43 check digit scheme</td> <td>Y for yes N for no Default: N</td> </tr> <tr> <td>h (in pixels)</td> <td>Bar code height</td> <td>1~999 Default: ^BY</td> </tr> <tr> <td>f</td> <td>Print interpretation line or not Interpretation line is used for human to read easily.</td> <td>Y for yes N for no Default: Y</td> </tr> <tr> <td>g</td> <td>Position for print interpretation line: Whether to print text above barcode above code</td> <td>Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> </tbody> </table>	Parameter	Description	Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW	e	Check digit by mod 43 check digit scheme	Y for yes N for no Default: N	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N
Parameter	Description	Range																	
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW																	
e	Check digit by mod 43 check digit scheme	Y for yes N for no Default: N																	
h (in pixels)	Bar code height	1~999 Default: ^BY																	
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																	
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																	
<p>Valid character</p>	<p>digits 0-9, the letters A-Z (upper case only), and the following symbols: space, minus (-), plus (+), period (.), dollar sign (\$), slash (/), and percent (%). A special start/stop character is placed at the beginning and end of each barcode.</p>																		

PZPL PROGRAMER'S MANUAL

Example

^XA
^FO100,150^B3N,N,100,Y^FD12345^FS
^XZ



PZPL PROGRAMER'S MANUAL


^B7 — Bar code: PDF-417

Description

This command is used for generating PDF-417 bar code.


PDF-417 is a two-dimensional barcode which can store up to about 1,800 printable ASCII characters or 1,100 binary characters per symbol. The symbol is rectangular; the shape of the symbol can be adjusted to some extent by setting the width and allowing the height to grow with the data. It is also possible to break large amounts of data into several PDF-417 symbols which are logically linked. There is no theoretical limit on the amount of data that can be stored in a group of PDF-417 symbols. The maximum data density is determined by the smallest elements which can be reliably printed and scanned. Using the smallest recommended element size of 0.0075 inch wide and 0.010 inch high, the maximum data density in the binary mode is 686 bytes per square inch (106.2 bytes per square centimeter). In the printable ASCII mode the density is 1,144 characters per square inch (177.2 characters per square centimeter). PDF-417 symbols require a 2-D scanner; or a standard CCD or laser scanner and special decoding software (a wand scanner will not work).

PZPL PROGRAMER'S MANUAL

Syntax	^B7o,h,s,c,r,t		
	Parameter	Description	Range
	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW
	h (in pixels)	Bar code height for individual row	1 to 999 Default: ^BY Note: try to avoid use 1 as a value.
	s	Level of security level	1~8 Default: 0 Note: There is only error dectation in level 0. As for 2~8, there are not only error dectacion, but correction. Along with increasing value, the level of error correction is enhanced.
	c	Number of data columns to encode.	1 ~ 30. Default: 1:2 row to column aspect ratio.
	r	Number of rows to encode.	3~90 Default: 1:2 row to column aspect ratio.
t	Truncate indicators which determine whether printer performs truncation or not.	y= truncation n=no truncation Default: N	
Example	<p>^XA ^FO100,150^B7,5,,,,Y^FD123456789^FS ^XZ</p> 		

PZPL PROGRAMER'S MANUAL

^B8 — Bar code: EAN-8

Description	<p>This command is for generating EAN-8 bar code. EAN-8 is a shortened version of the EAN-13 code. It includes a 2 or 3 digit country code, 4 of 5 data digits (depending on the length of the country code), and a checksum digit. While it is possible to add a 2-digit or 5-digit extension barcode, the primary purpose of the EAN-8 code is to use as little space as possible.</p>																	
Syntax	<p>^B8o, h, f, g</p> <table border="1" data-bbox="325 719 1273 1592"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td>Default: ^FW</td> </tr> <tr> <td>h (in pixels)</td> <td>Bar code height</td> <td>1~999 Default: ^BY</td> </tr> <tr> <td>f</td> <td>Print interpretation line or not Interpretation line is used for human to read easily.</td> <td>Y for yes N for no Default: Y</td> </tr> <tr> <td>g</td> <td>Position for print interpretation line: Whether to print text above barcode above code</td> <td>Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> </tbody> </table>			Parameter	Description	Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N
Parameter	Description	Range																
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW																
h (in pixels)	Bar code height	1~999 Default: ^BY																
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																
Valid character	<p>0~9 precise 7 or 8 characters</p>																	
Example	<pre data-bbox="325 1854 890 1973">^XA ^BY3^FO100,150^B8,100^FD12345670^FS ^XZ</pre> <div style="text-align: right; margin-right: 100px;">  </div>																	

PZPL PROGRAMER'S MANUAL

^B9 — Bar code: UPC-E

Description


This command is for generating UPC-E Bar code.

UPC-E is a variation of the UPC-A symbol that is used for number system 0. By suppressing zeroes, UPC-E codes can be printed in a very small space and are used for labeling small items.

In addition to the requirement that the first digit of the barcode (number system) must be zero, there are four rules that determine what UPC codes can be printed using the compressed UPC-E format:


- If the last 3 digits of the manufacturer's number are 000, 100, or 200, the valid product code numbers are 00000 - 00999 (1,000 numbers).
- If the last 3 digits of the manufacturer's number are 300, 400, 500, 600, 700, 800, or 900, the valid product code numbers are 00000 - 00099 (100 numbers).
- If the last 2 digits in the manufacturer's number are 10, 20, 30, 40, 50, 60, 70, 80, or 90, the valid product code numbers are 00000 - 00009 (10 numbers).
- If the manufacturer's number does not end in zero, the valid product code numbers are 00005 - 00009 (5 numbers).

PZPL PROGRAMER'S MANUAL

<p>Syntax</p>	<p>^B9o, h, f, g, e</p> <table border="1" data-bbox="325 430 1273 1438"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td>NIBR Default: ^FW</td> </tr> <tr> <td>h (in pixels)</td> <td>Bar code height</td> <td>1~999 Default: ^BY</td> </tr> <tr> <td>f</td> <td>Print interpretation line or not Interpretation line is used for human to read easily.</td> <td>Y for yes N for no Default: Y</td> </tr> <tr> <td>g</td> <td>Position for print interpretation line: Whether to print text above barcode above code</td> <td>Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> <tr> <td>e</td> <td>Print check digit</td> <td>Y for yes N for no Default: Y</td> </tr> </tbody> </table>	Parameter	Description	Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N	e	Print check digit	Y for yes N for no Default: Y
Parameter	Description	Range																	
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW																	
h (in pixels)	Bar code height	1~999 Default: ^BY																	
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																	
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																	
e	Print check digit	Y for yes N for no Default: Y																	
<p>Valid characters</p>	<p>0~9 Precise 10 characters</p>																		
<p>Example</p>	<p>^XA ^BY3 ^FO100,150^B9,100,Y,N,Y^FD1234567890^FS ^XZ</p> <div style="text-align: right;">  <p>0 123455 8</p> </div>																		

PZPL PROGRAMER'S MANUAL

^BA — Bar code: Code 93

Description	<p>This command is for generating code93 bar code. Code 93 is a more compact version of Code 39. It encodes exactly the same characters as Code 39, but uses 9 barcode elements per character instead of 15. The Modulus 43 checksum is optional, just as with Code 39.</p>																				
Syntax	<p>^BAo, h, f, g, e</p> <table border="1" data-bbox="325 638 1273 1648"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td>Default: ^FW</td> </tr> <tr> <td>h (in pixels)</td> <td>Bar code height</td> <td>1~999 Default: ^BY</td> </tr> <tr> <td>f</td> <td>Print interpretation line or not Interpretation line is used for human to read easily.</td> <td>Y for yes N for no Default: Y</td> </tr> <tr> <td>g</td> <td>Position for print interpretation line: Whether to print text above barcode above code</td> <td>Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> <tr> <td>e</td> <td>Print check digit.</td> <td>Y for yes N for no Default: N</td> </tr> </tbody> </table>			Parameter	Description	Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N	e	Print check digit.	Y for yes N for no Default: N
Parameter	Description	Range																			
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW																			
h (in pixels)	Bar code height	1~999 Default: ^BY																			
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																			
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																			
e	Print check digit.	Y for yes N for no Default: N																			
Valid character	<p>digits 0-9, the letters A-Z (upper case only), and the following symbols: space, minus (-), plus (+), period (.), dollar sign (\$), slash (/), and percent (%). A special start/stop character is placed at the beginning and end of each barcode.</p>																				
Example	<pre>^XA ^FO100,150^BA,50,Y,N,Y^FD000-AAA-0001^FS ^XZ</pre> <div style="text-align: center;">  <p>0000-AAA-0001A0</p> </div>																				

PZPL PROGRAMER'S MANUAL

^BC — Bar code: Code 128 (with subset A, B and C)

<p>Description</p>	<p>This command is for generating code 128 bar code (with subset A, B and C). Code 128 provides excellent density for all-numeric data and good density for alphanumeric data. It is often selected over Code 39 in new applications because of its density and because it offers a much larger selection of characters. The Code 128 standard is maintained by AIM (Automatic Identification Manufacturers). Each character consists of 3 bars and 3 spaces, each of which may be 1, 2, or 3 elements wide (1 element = 1/11th of the character width). The bars always use an even number of elements and the spaces use an odd number. This provides the basis for a character-by-character consistency check during scanning. In addition, each Code 128 barcode includes a Modulo 103 checksum.</p>																				
<p>Syntax</p>	<p>^BCo, h, f, g, e, m</p> <table border="1" data-bbox="327 929 1273 2085"> <thead> <tr> <th data-bbox="327 929 502 992">Parameter</th> <th data-bbox="502 929 909 992">Description</th> <th data-bbox="909 929 1273 992">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="327 992 502 1283">o</td> <td data-bbox="502 992 909 1283"> Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description) </td> <td data-bbox="909 992 1273 1283"> NIBR Default: ^FW </td> </tr> <tr> <td data-bbox="327 1283 502 1422">h (in pixels)</td> <td data-bbox="502 1283 909 1422">Bar code height</td> <td data-bbox="909 1283 1273 1422"> 1~999 Default: ^BY </td> </tr> <tr> <td data-bbox="327 1422 502 1590">f</td> <td data-bbox="502 1422 909 1590"> Print interpretation line or not Interpretation line is used for human to read easily. </td> <td data-bbox="909 1422 1273 1590"> Y for yes N for no Default: Y </td> </tr> <tr> <td data-bbox="327 1590 502 1798">g</td> <td data-bbox="502 1590 909 1798"> Position for print interpretation line: Whether to print text above barcode above code </td> <td data-bbox="909 1590 1273 1798"> Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N </td> </tr> <tr> <td data-bbox="327 1798 502 2085">e</td> <td data-bbox="502 1798 909 2085"> Check digit Note: When using this parameter, Mod 10 show up along with Mod103. (Mod 103 cannot be removed under any circumstances). </td> <td data-bbox="909 1798 1273 2085"> Y for yes N for no Default: N </td> </tr> </tbody> </table>			Parameter	Description	Details/ Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N	e	Check digit Note: When using this parameter, Mod 10 show up along with Mod103. (Mod 103 cannot be removed under any circumstances).	Y for yes N for no Default: N
Parameter	Description	Details/ Range																			
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW																			
h (in pixels)	Bar code height	1~999 Default: ^BY																			
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																			
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																			
e	Check digit Note: When using this parameter, Mod 10 show up along with Mod103. (Mod 103 cannot be removed under any circumstances).	Y for yes N for no Default: N																			

PZPL PROGRAMER'S MANUAL

	m	mode	<p>N= no selected mode A= auto mode (Judge which is the best packing method spontaneously.) U= UCC mode (In ^FD and ^SN, there are not existing of <19 digits so the printer will add 0 on the right side until it reach 19 digits.) Default: N</p>	
<p>Valid character/Invocation code</p>	<p>The Code 128 character set includes the digits 0-9, the letters A-Z (upper and lower case), and all standard ASCII symbols and control codes. (Subset A: the standard ASCII symbols, digits, upper case letters, and control codes. Subset B: standard ASCII symbols, digits, upper and lower case letters. Subset C: compresses two numeric digits into each character, providing excellent density.)</p> <p>Start characters: If invocation code >9 Start code A If invocation code >: Start code B If invocation code >; Start code C</p> <p>The codes are divided into three subsets A, B, and C. There are three separate start codes to indicate which subset will be used; in addition, each subset includes control characters to switch to another subset in the middle of a barcode. Here is a sample that contains 12 digits; compare its size to the sample at the top of the page that contains 12 assorted characters:</p> <p>Each character is 11 times the width of the narrowest bar; using a minimum bar width of 0.010" each character would be 0.11" wide. Using the 0.010" figure, 20 data characters plus start code, check digit, and stop code would measure 2.55" wide (the stop code is 13 times as wide as a narrow bar). Using Subset C with all-numeric data provides 2:1 compression of the data for a total width of 1.45".</p>			

PZPL PROGRAMER'S MANUAL

Example

```

^XA
^FO100,150^BC,50,Y,N,Y,A^FD12345678^FS
^FO100,75^BC,50,Y,N,Y,U^FD>:01010101^FS
^XZ
    
```



PZPL PROGRAMER'S MANUAL

^BE — Bar code: EAN-13

Description	<p>This command is for generating EAN-13 barcode. EAN-13 is used world-wide for marking retail goods. The symbol encodes 13 characters: the first two or three are a country code which identify the country in which the manufacturer is registered (not necessarily where the product is actually made). The country code is followed by 9 or 10 data digits (depending on the length of the country code) and a single digit checksum. 2-digit and 5-digit supplemental barcodes may be added for a total of 14 or 17 data digits.</p>																	
Syntax	<p>^BEo, h, f, g</p> <table border="1" data-bbox="325 801 1273 1675"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Details/ Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td>NIBR Default: ^FW</td> </tr> <tr> <td>h (in pixels)</td> <td>Bar code height</td> <td>1~999 Default: ^BY</td> </tr> <tr> <td>f</td> <td>Print interpretation line or not Interpretation line is used for human to read easily.</td> <td>Y for yes N for no Default: Y</td> </tr> <tr> <td>g</td> <td>Position for print interpretation line: Whether to print text above barcode above code</td> <td>Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> </tbody> </table>			Parameter	Description	Details/ Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N
Parameter	Description	Details/ Range																
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW																
h (in pixels)	Bar code height	1~999 Default: ^BY																
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																
Valid character	<p>0~9 Precise 12 or 13 characters</p>																	

PZPL PROGRAMER'S MANUAL


Example

```
^XA  
^FO100,150^BE,75^FD012345678901^FS  
^XZ
```



PZPL PROGRAMER'S MANUAL

^BK — Bar code: Coda bar

Description	This barcode is also known as USD-4, NW-7, and 2 of 7 code. Each character includes 4 bar and 3 space elements. Each element has two size narrow or wide.																									
Syntax	<p data-bbox="300 517 539 555">^BKo, e, h, f, g, k, l</p> <table border="1" data-bbox="323 595 1272 1695"> <thead> <tr> <th data-bbox="323 595 501 658">Parameter</th> <th data-bbox="501 595 908 658">Description</th> <th data-bbox="908 595 1272 658">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="323 658 501 952">o</td> <td data-bbox="501 658 908 952">Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td data-bbox="908 658 1272 952">NIBR Default: ^FW</td> </tr> <tr> <td data-bbox="323 952 501 1014">e</td> <td data-bbox="501 952 908 1014">Check digit</td> <td data-bbox="908 952 1272 1014">Default value: N</td> </tr> <tr> <td data-bbox="323 1014 501 1128">h (in pixels)</td> <td data-bbox="501 1014 908 1128">Bar code height</td> <td data-bbox="908 1014 1272 1128">1~999 Default: ^BY</td> </tr> <tr> <td data-bbox="323 1128 501 1294">f</td> <td data-bbox="501 1128 908 1294">Print interpretation line or not Interpretation line is used for human to read easily.</td> <td data-bbox="908 1128 1272 1294">Y for yes N for no Default: Y</td> </tr> <tr> <td data-bbox="323 1294 501 1503">g</td> <td data-bbox="501 1294 908 1503">Position for print interpretation line: Whether to print text above barcode above code</td> <td data-bbox="908 1294 1272 1503">Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> <tr> <td data-bbox="323 1503 501 1599">k</td> <td data-bbox="501 1503 908 1599">Determine a start code</td> <td data-bbox="908 1503 1272 1599">A, B, C, D Default: A</td> </tr> <tr> <td data-bbox="323 1599 501 1695">l</td> <td data-bbox="501 1599 908 1695">Determine a stop code</td> <td data-bbox="908 1599 1272 1695">A, B, C, D Default: A</td> </tr> </tbody> </table>		Parameter	Description	Details/ Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW	e	Check digit	Default value: N	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N	k	Determine a start code	A, B, C, D Default: A	l	Determine a stop code	A, B, C, D Default: A
Parameter	Description	Details/ Range																								
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	NIBR Default: ^FW																								
e	Check digit	Default value: N																								
h (in pixels)	Bar code height	1~999 Default: ^BY																								
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																								
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																								
k	Determine a start code	A, B, C, D Default: A																								
l	Determine a stop code	A, B, C, D Default: A																								
Valid number	digits 0 through 9, six symbols (-:.\$/+), and the start/stop characters A, B, C, D. The start/stop characters must be used in matching pairs and may not appear elsewhere in the barcode.																									
Example	<p data-bbox="316 1854 858 1966">^XA ^FO100,150^BK,N,75,Y,N,A,B^FD1234^FS ^XZ</p> <div data-bbox="948 1877 1264 2011" style="text-align: center;">  <p data-bbox="1034 1982 1184 2011">A1234B</p> </div>																									

PZPL PROGRAMER'S MANUAL

^BQ — Bar code: QR code



<p>Description</p>	<p>This command is for generating QR code. The QR Code (Quick Response Code) is a 2-dimensional matrix code. It can encode up to 2509 numeric or 1520 alphanumeric characters and offers three levels of error detection. The smallest QR Code measures 21 X 21 cells (each cell encodes one bit) and can grow in increments of 4 cells to a maximum size of 105 X 105 cells. The squares in the bottom left, top left, and top right corners are locator patterns.</p>																									
<p>Syntax</p>	<p>^BQo,e,f,n,k^FDn, m,c,<data string></p> <table border="1" data-bbox="323 763 1273 2085"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Details/ Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation</td> <td>Fixed Default: N</td> </tr> <tr> <td>e</td> <td>Model 1=original 2=enhanced</td> <td>Default: 2</td> </tr> <tr> <td>f</td> <td>Magnification factor</td> <td>1~10 Default: 2 on 203 DPI 3 on 300 DPI</td> </tr> <tr> <td>n</td> <td>Determine which level for error correction: H=ultra-high reliability level. Q=high reliability level. M=standard level. L=high density level.</td> <td>Default: Q (if empty) M (invalid value)</td> </tr> <tr> <td>k</td> <td>Mask value</td> <td>1~7 Default: 7</td> </tr> <tr> <td>m</td> <td>Determine which mode for data input A= automatic input M=manual input</td> <td>Default: A</td> </tr> <tr> <td>c</td> <td>Determine which mode for character: N=numeric A=alphanumeric B=form: Bxxxx; xxx is character number which is for 8-bits mode K=Kanji characters(Japanese)</td> <td></td> </tr> </tbody> </table>		Parameter	Description	Details/ Range	o	Orientation	Fixed Default: N	e	Model 1=original 2=enhanced	Default: 2	f	Magnification factor	1~10 Default: 2 on 203 DPI 3 on 300 DPI	n	Determine which level for error correction: H=ultra-high reliability level. Q=high reliability level. M=standard level. L=high density level.	Default: Q (if empty) M (invalid value)	k	Mask value	1~7 Default: 7	m	Determine which mode for data input A= automatic input M=manual input	Default: A	c	Determine which mode for character: N=numeric A=alphanumeric B=form: Bxxxx; xxx is character number which is for 8-bits mode K=Kanji characters(Japanese)	
Parameter	Description	Details/ Range																								
o	Orientation	Fixed Default: N																								
e	Model 1=original 2=enhanced	Default: 2																								
f	Magnification factor	1~10 Default: 2 on 203 DPI 3 on 300 DPI																								
n	Determine which level for error correction: H=ultra-high reliability level. Q=high reliability level. M=standard level. L=high density level.	Default: Q (if empty) M (invalid value)																								
k	Mask value	1~7 Default: 7																								
m	Determine which mode for data input A= automatic input M=manual input	Default: A																								
c	Determine which mode for character: N=numeric A=alphanumeric B=form: Bxxxx; xxx is character number which is for 8-bits mode K=Kanji characters(Japanese)																									

PZPL PROGRAMER'S MANUAL

<p>Example</p>	<pre> ^XA ^FO100,150^BQN,2,5^FDMM,C012345678 9^FS ^XZ ^XA ^FO100,150^BQN,2,5^FDMA,C0ABCDEFGG^ FS ^XZ </pre> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>
-----------------------	--

PZPL PROGRAMER'S MANUAL

^BS — Bar code: UPC/EAN Extensions

Description	This command is for generating UPC/EAN Extensions. These extensions are used as separator in order to generating ISBNs bar codes.																	
syntax	<p data-bbox="288 517 459 555">^BS o, h, f, g</p> <table border="1" data-bbox="325 555 1273 1424"> <thead> <tr> <th data-bbox="325 555 501 618">Parameter</th> <th data-bbox="501 555 908 618">Description</th> <th data-bbox="908 555 1273 618">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 618 501 909">o</td> <td data-bbox="501 618 908 909">Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td data-bbox="908 618 1273 909">Default: ^FW</td> </tr> <tr> <td data-bbox="325 909 501 1048">h (in pixels)</td> <td data-bbox="501 909 908 1048">Bar code height</td> <td data-bbox="908 909 1273 1048">1~999 Default: ^BY</td> </tr> <tr> <td data-bbox="325 1048 501 1216">f</td> <td data-bbox="501 1048 908 1216">Print interpretation line or not Interpretation line is used for human to read easily.</td> <td data-bbox="908 1048 1273 1216">Y for yes N for no Default: Y</td> </tr> <tr> <td data-bbox="325 1216 501 1424">g</td> <td data-bbox="501 1216 908 1424">Position for print interpretation line: Whether to print text above barcode above code</td> <td data-bbox="908 1216 1273 1424">Y for yes (printing text above barcode) N for no (printing text below barcode) Default: Y</td> </tr> </tbody> </table>			Parameter	Description	Details/ Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: Y
Parameter	Description	Details/ Range																
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW																
h (in pixels)	Bar code height	1~999 Default: ^BY																
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: Y																
Valid characters	0~9 Precise 2 or 5 characters																	
Example	<p data-bbox="325 1615 746 1727">^XA ^FO100,150^BS,75,Y,N^FD12^FS ^XZ</p> <div data-bbox="1142 1641 1273 1787" style="text-align: center;">  12 </div> <p data-bbox="325 1868 794 1980">^XA ^FO100,150^BS,75,Y,N^FD12345^FS ^XZ</p> <div data-bbox="1062 1888 1342 2033" style="text-align: center;">  12345 </div>																	

PZPL PROGRAMER'S MANUAL

^BU — Bar code: UPC A

Description	<p>This command is for generating UPC A barcode. UPC (technically refers to UPC-A) consists of 12 numeric digits (11 digits of data and 1 checksum digit and its valid character is from 0 to 9), that are uniquely assigned to each trade item. Along with the related EAN barcode, the UPC is the barcode mainly used for scanning of trade items at the point of sale.</p>																				
Syntax	<p>^BUo,h,f,g,e</p> <table border="1" data-bbox="325 680 1273 1688"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Details/ Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td>Default: ^FW</td> </tr> <tr> <td>h (in pixels)</td> <td>Bar code height</td> <td>1~999 Default: ^BY</td> </tr> <tr> <td>f</td> <td>Print interpretation line or not Interpretation line is used for human to read easily.</td> <td>Y for yes N for no Default: Y</td> </tr> <tr> <td>g</td> <td>Position for print interpretation line: Whether to print text above barcode above code</td> <td>Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N</td> </tr> <tr> <td>e</td> <td>Print check digit</td> <td>Y for yes N for no Default: Y</td> </tr> </tbody> </table>			Parameter	Description	Details/ Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW	h (in pixels)	Bar code height	1~999 Default: ^BY	f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y	g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N	e	Print check digit	Y for yes N for no Default: Y
Parameter	Description	Details/ Range																			
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW																			
h (in pixels)	Bar code height	1~999 Default: ^BY																			
f	Print interpretation line or not Interpretation line is used for human to read easily.	Y for yes N for no Default: Y																			
g	Position for print interpretation line: Whether to print text above barcode above code	Y for yes (printing text above barcode) N for no (printing text below barcode) Default: N																			
e	Print check digit	Y for yes N for no Default: Y																			
Valid characters	<p>0 ~ 9 Precise 11 or 12 characters.</p>																				

PZPL PROGRAMER'S MANUAL


Example

```
^XA  
^FO100,150^BU,75,Y^FD12345678901^FS  
^XZ
```




PZPL PROGRAMER'S MANUAL

^BX — Bar code: Data Matrix

<p>Description</p>	<p>This command is for generating data matrix barcode. Data Matrix is a two-dimensional matrix barcode, which encodes text or raw data in a pattern of black and white square modules. Usual data size is from a few bytes up to 2 kilobytes. By adding error correction codes (according to the ECC200 standard) the symbols can be read even if they are partially damaged. It's widely used in direct part marking and laser marking.</p>																												
<p>Syntax</p>	<p><code>^BXo,h,s,c,r,f,g,a</code></p> <table border="1" data-bbox="325 719 1323 1935"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Details/ Range</th> </tr> </thead> <tbody> <tr> <td>o</td> <td>Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)</td> <td>Default: ^FW</td> </tr> <tr> <td>h</td> <td>Dimensional height of separated elements. Be used to set up dimensions. Note: If no value or value zero are given, the parameter h will be set up to be the approximate symbol height.</td> <td>1~label width Set by command ^BY</td> </tr> <tr> <td>s</td> <td>Quality level</td> <td>200 There is no default value.</td> </tr> <tr> <td>c</td> <td>Columns to encode</td> <td>The number of columns is automatically selected.</td> </tr> <tr> <td>r</td> <td>Rows to encode</td> <td>The number of columns is automatically selected.</td> </tr> <tr> <td>f</td> <td>Format ID</td> <td>1~6 Default: 6</td> </tr> <tr> <td>g</td> <td>Escape sequence control character</td> <td>0x21~0x7F, don't use the format command prefix. Default: ~ (tilde)</td> </tr> <tr> <td>a</td> <td>Aspect ratio</td> <td>1 for square Default: 1</td> </tr> </tbody> </table>		Parameter	Description	Details/ Range	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW	h	Dimensional height of separated elements. Be used to set up dimensions. Note: If no value or value zero are given, the parameter h will be set up to be the approximate symbol height.	1~label width Set by command ^BY	s	Quality level	200 There is no default value.	c	Columns to encode	The number of columns is automatically selected.	r	Rows to encode	The number of columns is automatically selected.	f	Format ID	1~6 Default: 6	g	Escape sequence control character	0x21~0x7F, don't use the format command prefix. Default: ~ (tilde)	a	Aspect ratio	1 for square Default: 1
Parameter	Description	Details/ Range																											
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: ^FW																											
h	Dimensional height of separated elements. Be used to set up dimensions. Note: If no value or value zero are given, the parameter h will be set up to be the approximate symbol height.	1~label width Set by command ^BY																											
s	Quality level	200 There is no default value.																											
c	Columns to encode	The number of columns is automatically selected.																											
r	Rows to encode	The number of columns is automatically selected.																											
f	Format ID	1~6 Default: 6																											
g	Escape sequence control character	0x21~0x7F, don't use the format command prefix. Default: ~ (tilde)																											
a	Aspect ratio	1 for square Default: 1																											
<p>Example</p>	<p>^XA ^FO100,150^BXN,10,200,,,,^FDPZPL^FS ^XZ</p> 																												

PZPL PROGRAMER'S MANUAL

^BY — Bar code field default

Description	This command is used to set up the default value.														
Syntax	<p data-bbox="288 472 1466 555">^BYw,r,h</p> <table border="1" data-bbox="325 555 1382 1106"> <thead> <tr> <th data-bbox="325 555 539 624">Parameter</th> <th data-bbox="539 555 975 624">Description</th> <th data-bbox="975 555 1382 624">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 624 539 790">w (in pixels)</td> <td data-bbox="539 624 975 790">Module width of narrow bar</td> <td data-bbox="975 624 1382 790">1~10 Default: 2 (at start stage)</td> </tr> <tr> <td data-bbox="325 790 539 947">R</td> <td data-bbox="539 790 975 947">Bar ratio (wide to narrow) Note: no use when ratio is fixed.</td> <td data-bbox="975 790 1382 947">2.0~3.0 Default: 3.0 (at start stage)</td> </tr> <tr> <td data-bbox="325 947 539 1106">h (in pixels)</td> <td data-bbox="539 947 975 1106">height</td> <td data-bbox="975 947 1382 1106">1~999 Default: 10 (at start stage)</td> </tr> </tbody> </table>			Parameter	Description	Details/ Range	w (in pixels)	Module width of narrow bar	1~10 Default: 2 (at start stage)	R	Bar ratio (wide to narrow) Note: no use when ratio is fixed.	2.0~3.0 Default: 3.0 (at start stage)	h (in pixels)	height	1~999 Default: 10 (at start stage)
Parameter	Description	Details/ Range													
w (in pixels)	Module width of narrow bar	1~10 Default: 2 (at start stage)													
R	Bar ratio (wide to narrow) Note: no use when ratio is fixed.	2.0~3.0 Default: 3.0 (at start stage)													
h (in pixels)	height	1~999 Default: 10 (at start stage)													
Example	<p data-bbox="288 1196 1466 1339">^XA ^BY2,3.0,10^FO100,150^BI^FD12345^FS ^XZ</p> <div data-bbox="1023 1330 1246 1375" style="text-align: center;">  12345 </div>														

PZPL PROGRAMER'S MANUAL

^CC or ~CC — Change Caret character

Description	This command is used for changing the prefix of a command which is originally set as the caret (^).							
Syntax	^CCx or ~CCx							
	<table border="1"> <thead> <tr> <th data-bbox="288 573 478 633">Parameter</th> <th data-bbox="478 573 885 633">Description</th> <th data-bbox="885 573 1251 633">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="288 633 478 965">x</td> <td data-bbox="478 633 885 965">New caret character Note: a value has to be entered.</td> <td data-bbox="885 633 1251 965">ASCII character Specific range: 0x21 ~ 0x7E Don't use the PDPL Control Code (PDPL Control Code default: 0x01, 0x02, and 0x1B).</td> </tr> </tbody> </table>	Parameter	Description	Details/ Range	x	New caret character Note: a value has to be entered.	ASCII character Specific range: 0x21 ~ 0x7E Don't use the PDPL Control Code (PDPL Control Code default: 0x01, 0x02, and 0x1B).	
Parameter	Description	Details/ Range						
x	New caret character Note: a value has to be entered.	ASCII character Specific range: 0x21 ~ 0x7E Don't use the PDPL Control Code (PDPL Control Code default: 0x01, 0x02, and 0x1B).						

PZPL PROGRAMER'S MANUAL

^CD or ~CD — Change Delimiter character

Description	This command is used for changing the delimiter of a command which is originally set as the comma (,).											
Syntax	<table border="1"> <tr> <td colspan="3" data-bbox="288 512 1466 562">^CDx or ~CDx</td> </tr> <tr> <th data-bbox="288 562 478 622">Parameter</th> <th data-bbox="478 562 885 622">Description</th> <th data-bbox="885 562 1466 622">Details/ Range</th> </tr> <tr> <td data-bbox="288 622 478 916">x</td> <td data-bbox="478 622 885 916">New delimiter character Note: a value has to be entered.</td> <td data-bbox="885 622 1466 916">ASCII character Specific range: 0x21 ~ 0x7E Don't use the PDPL Control Code (PDPL Control Code default: 0x01, 0x02, and 0x1B).</td> </tr> </table>			^CDx or ~CDx			Parameter	Description	Details/ Range	x	New delimiter character Note: a value has to be entered.	ASCII character Specific range: 0x21 ~ 0x7E Don't use the PDPL Control Code (PDPL Control Code default: 0x01, 0x02, and 0x1B).
^CDx or ~CDx												
Parameter	Description	Details/ Range										
x	New delimiter character Note: a value has to be entered.	ASCII character Specific range: 0x21 ~ 0x7E Don't use the PDPL Control Code (PDPL Control Code default: 0x01, 0x02, and 0x1B).										
Example	~CD; Change the delimiter from ',' to ';											

PZPL PROGRAMER'S MANUAL

^CF — Change Default font

Description	This command is used for changing the default font.		
Syntax	^CFc,h,w		
	Parameter	Description	Details/ Range
	c	Default font ID	A~Z, 0~9 Default: A.
	h in pixels	Character height	0~999 Initial Value at Power Up: 9
	w in pixels	Character width	0~999 Initial Value at Power Up: 5
Response	None		
Example	<pre> ^XA^CFF^XZ ^XA ^FO100,150^AZ^FDPZPL !^FS ^XZ PZPL ! </pre>		

PZPL PROGRAMER'S MANUAL

^CI — Change International Symbol Set

Description	This command is used to change symbol set. With this command, you can call up international character set for the purpose of printing.								
Syntax	<p data-bbox="292 515 351 548">^CIc</p> <table border="1" data-bbox="295 593 1369 1326"> <thead> <tr> <th data-bbox="295 593 486 660">Parameter</th> <th data-bbox="488 593 683 660">Description</th> <th data-bbox="684 593 1369 660">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="295 663 486 1326">c</td> <td data-bbox="488 663 683 1326">Symbol set</td> <td data-bbox="684 663 1369 1326"> 0~13 Default: 0 (USA) 0 = U.S.A. Character Set 1 = U.S.A. 2 Character Set 2 = U.K. Character Set 3 = Holland Character Set 4 = Denmark/Norway Character Set 5 = Sweden/Finland Character Set 6 = Germany Character Set 7 = France 1 Character Set 8 = France 2 Character Set 9 = Italy Character Set 10 = Spain Character Set 11 = Miscellaneous Character Set 12 = Japan (ASCII with Yen symbol) Character Set 13 = Code Page 850 </td> </tr> </tbody> </table>			Parameter	Description	Details/ Range	c	Symbol set	0~13 Default: 0 (USA) 0 = U.S.A. Character Set 1 = U.S.A. 2 Character Set 2 = U.K. Character Set 3 = Holland Character Set 4 = Denmark/Norway Character Set 5 = Sweden/Finland Character Set 6 = Germany Character Set 7 = France 1 Character Set 8 = France 2 Character Set 9 = Italy Character Set 10 = Spain Character Set 11 = Miscellaneous Character Set 12 = Japan (ASCII with Yen symbol) Character Set 13 = Code Page 850
Parameter	Description	Details/ Range							
c	Symbol set	0~13 Default: 0 (USA) 0 = U.S.A. Character Set 1 = U.S.A. 2 Character Set 2 = U.K. Character Set 3 = Holland Character Set 4 = Denmark/Norway Character Set 5 = Sweden/Finland Character Set 6 = Germany Character Set 7 = France 1 Character Set 8 = France 2 Character Set 9 = Italy Character Set 10 = Spain Character Set 11 = Miscellaneous Character Set 12 = Japan (ASCII with Yen symbol) Character Set 13 = Code Page 850							

PZPL PROGRAMER'S MANUAL

	23H	30H	40H	5BH	5CH	5DH	5EH	60H	7BH	7CH	7DH	7EH	Country
CI0	#	Ø	@	[¢]	^	'	{		}	~	USA
CI1	#	0	@	¼	¢	¾	^	'	¼	½	¾	~	USA2
CI2	£	Ø	@	[¢]	^	'	{		}	~	UK
CI3	f	0	§	[IJ]	^	'	{	ij	}	~	Holland
CI4	#	0	@	Æ	Ø	Å	^	'	æ	ø	å	~	Den/Nor
CI5	Ü	0	É	Ä	Ö	Å	Û	é	ä	ö	å	ü	Swe/Fin
CI6	#	0	§	Ä	Ö	Û	^	'	ä	ö	ü	ß	German
CI7	£	Ø	à	[ç]	^	'	é		ù	è	France1
CI8	#	0	à	â	ç	ê	î	ô	é	ù	è	û	France2
CI9	£	Ø	§	[ç	é	^	ù	à	ò	è	ì	Italy
CI0	#	0	§	ì	Ñ	¿	^	'	{	ñ	ç	~	Spain
CI11	£	Ø	É	Ä	Ö	Û	^	ä	ö	ÿ	ö	ü	Misc.
CI12	#	Ø	@	[¥]	^	'	{		}	~	Japan
CI13	#	0	@	[\]	^	'	{		}	~	Page850

PZPL PROGRAMER'S MANUAL

^CT ~CT — Change Tilde character

Description	This command is used for changing the control command prefix which is originally set as the tilde (~).		
Syntax	^CTx or ~CTx		
	Parameter	Description	Details/ Range
	x	New tilde character Note: a value has to be entered.	ASCII character Specific range: 0x21 ~ 0x7E Don't use the PDPL Control Code (PDPL Control Code default: 0x01, 0x02, and 0x1B).
Example	~CT*		
	Changes the tilde from '~' to '*'.		

PZPL PROGRAMER'S MANUAL

^CW — Font identifier

Description	This command is used to identify which font should be printed. When using fonts that are built in, there are always an identifier (1 character) here. Note that if the character which identified = built-in font, the downloaded font will replace the built-in font. In addition, this command lasting														
Syntax	^CWc,d:f <table border="1" data-bbox="325 680 1453 1173"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Details/ Range</th> </tr> </thead> <tbody> <tr> <td>c</td> <td>New font name Note: a value has to be entered.</td> <td>A~Z, 0~9</td> </tr> <tr> <td>d</td> <td>Select device driver (optional)</td> <td>R=RAM E= flash memory Default: R:</td> </tr> <tr> <td>f</td> <td>File name EX: FONT.FNT (refer to 1.4 file)</td> <td></td> </tr> </tbody> </table>			Parameter	Description	Details/ Range	c	New font name Note: a value has to be entered.	A~Z, 0~9	d	Select device driver (optional)	R=RAM E= flash memory Default: R:	f	File name EX: FONT.FNT (refer to 1.4 file)	
Parameter	Description	Details/ Range													
c	New font name Note: a value has to be entered.	A~Z, 0~9													
d	Select device driver (optional)	R=RAM E= flash memory Default: R:													
f	File name EX: FONT.FNT (refer to 1.4 file)														
Example	<pre> ^XA^CWA ,E:FONT.FNT ^FO100,150^AA,30,25^FDPZPL Font A^FS ^XZ PZPL Font A </pre>														

PZPL PROGRAMER'S MANUAL

~DB — Download Bitmap Font

Description	This command is used for printer to use downloaded bitmap font. It can also set up structure of bitmap font, such as baseline and size of font or space.																																		
Syntax	<p>~DBd:f,o,h,w,base,hmi,#char,msg,data</p> <table border="1" data-bbox="325 598 1355 2101"> <thead> <tr> <th data-bbox="325 598 501 658">Parameter</th> <th data-bbox="501 598 908 658">Description</th> <th data-bbox="908 598 1355 658">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 658 501 790">d</td> <td data-bbox="501 658 908 790">Select device driver</td> <td data-bbox="908 658 1355 790">R=RAM B=flash memory Default: R</td> </tr> <tr> <td data-bbox="325 790 501 884">f</td> <td data-bbox="501 790 908 884">File name</td> <td data-bbox="908 790 1355 884">(refer to 1.4 file) Default extension name: .FNT</td> </tr> <tr> <td data-bbox="325 884 501 940">o</td> <td data-bbox="501 884 908 940">Orientation</td> <td data-bbox="908 884 1355 940">N (fixed)</td> </tr> <tr> <td data-bbox="325 940 501 1034">h in pixels</td> <td data-bbox="501 940 908 1034">Maximum cell height</td> <td data-bbox="908 940 1355 1034">1~999 A value has to be entered.</td> </tr> <tr> <td data-bbox="325 1034 501 1178">w in pixels</td> <td data-bbox="501 1034 908 1178">Maximum cell width</td> <td data-bbox="908 1034 1355 1178">1~999 A value has to be entered.</td> </tr> <tr> <td data-bbox="325 1178 501 1321">base in pixels</td> <td data-bbox="501 1178 908 1321">Set up place of baseline (count from top of cell)</td> <td data-bbox="908 1178 1355 1321">1~999 A value has to be entered.</td> </tr> <tr> <td data-bbox="325 1321 501 1489">hmi</td> <td data-bbox="501 1321 908 1489">Horizontal motion index This parameter can set up motion distance of a space or non-printable code.</td> <td data-bbox="908 1321 1355 1489">1~999 A value has to be entered.</td> </tr> <tr> <td data-bbox="325 1489 501 1632">#char</td> <td data-bbox="501 1489 908 1632">Character number in total</td> <td data-bbox="908 1489 1355 1632">1~256 A value has to be entered.</td> </tr> <tr> <td data-bbox="325 1632 501 1776">msg</td> <td data-bbox="501 1632 908 1776">Message</td> <td data-bbox="908 1632 1355 1776">Normally, a message consists of characters which less than 63. A value has to be entered.</td> </tr> <tr> <td data-bbox="325 1776 501 2101">data</td> <td data-bbox="501 1776 908 2101">Define each character data within the font(parameter &image)</td> <td data-bbox="908 1776 1355 2101">Data structure: #code.h.w.xoff.yoff.deltax.image #code =Character code. h =Character height in pixels. w =Character width in pixels. Xoff=Left offset in pixels. Yoff=Top offset in pixels. Deltax=Cursor movement in</td> </tr> </tbody> </table>		Parameter	Description	Details/ Range	d	Select device driver	R=RAM B=flash memory Default: R	f	File name	(refer to 1.4 file) Default extension name: .FNT	o	Orientation	N (fixed)	h in pixels	Maximum cell height	1~999 A value has to be entered.	w in pixels	Maximum cell width	1~999 A value has to be entered.	base in pixels	Set up place of baseline (count from top of cell)	1~999 A value has to be entered.	hmi	Horizontal motion index This parameter can set up motion distance of a space or non-printable code.	1~999 A value has to be entered.	#char	Character number in total	1~256 A value has to be entered.	msg	Message	Normally, a message consists of characters which less than 63. A value has to be entered.	data	Define each character data within the font(parameter &image)	Data structure: #code.h.w.xoff.yoff.deltax.image #code =Character code. h =Character height in pixels. w =Character width in pixels. Xoff=Left offset in pixels. Yoff=Top offset in pixels. Deltax=Cursor movement in
Parameter	Description	Details/ Range																																	
d	Select device driver	R=RAM B=flash memory Default: R																																	
f	File name	(refer to 1.4 file) Default extension name: .FNT																																	
o	Orientation	N (fixed)																																	
h in pixels	Maximum cell height	1~999 A value has to be entered.																																	
w in pixels	Maximum cell width	1~999 A value has to be entered.																																	
base in pixels	Set up place of baseline (count from top of cell)	1~999 A value has to be entered.																																	
hmi	Horizontal motion index This parameter can set up motion distance of a space or non-printable code.	1~999 A value has to be entered.																																	
#char	Character number in total	1~256 A value has to be entered.																																	
msg	Message	Normally, a message consists of characters which less than 63. A value has to be entered.																																	
data	Define each character data within the font(parameter &image)	Data structure: #code.h.w.xoff.yoff.deltax.image #code =Character code. h =Character height in pixels. w =Character width in pixels. Xoff=Left offset in pixels. Yoff=Top offset in pixels. Deltax=Cursor movement in																																	

PZPL PROGRAMER'S MANUAL

			pixels after the character is printed. Image= which is hexadecimal.	
--	--	--	--	--


PZPL PROGRAMER'S MANUAL

^DF — Download format

Description	This command is used for downloading format. With this command, the format can be saved as text strings which can lessen time at transmission.										
Syntax	^DFd:f <table border="1" data-bbox="325 613 1272 965"> <thead> <tr> <th data-bbox="325 613 501 678">Parameter</th> <th data-bbox="501 613 908 678">Description</th> <th data-bbox="908 613 1272 678">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 678 501 822">d</td> <td data-bbox="501 678 908 822">Select device driver</td> <td data-bbox="908 678 1272 822">R=RAM B=flash memory Default: R:</td> </tr> <tr> <td data-bbox="325 822 501 965">f</td> <td data-bbox="501 822 908 965">File name</td> <td data-bbox="908 822 1272 965">(refer to 1.4 file) Default extension name: .ZPL</td> </tr> </tbody> </table>		Parameter	Description	Details/ Range	d	Select device driver	R=RAM B=flash memory Default: R:	f	File name	(refer to 1.4 file) Default extension name: .ZPL
Parameter	Description	Details/ Range									
d	Select device driver	R=RAM B=flash memory Default: R:									
f	File name	(refer to 1.4 file) Default extension name: .ZPL									

PZPL PROGRAMER'S MANUAL

~DG — Download graphics

Description	This command used to download graphics which is hexadecimal.																		
Syntax	<p>~DGd:f,t,w,data</p> <table border="1" data-bbox="325 577 1273 1265"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Details/ Range</th> </tr> </thead> <tbody> <tr> <td>d</td> <td>Select device driver</td> <td>R=RAM B=flash memory Default: R:</td> </tr> <tr> <td>f</td> <td>File name</td> <td>(refer to 1.4 file) Default extension name: .GRF</td> </tr> <tr> <td>t</td> <td>Number of bytes (in total)</td> <td></td> </tr> <tr> <td>w</td> <td>Number of bytes (per row)</td> <td></td> </tr> <tr> <td>data</td> <td>Hex codes define data, this formula can calculate the total number of data: Total number of data= width of line x number of line.</td> <td></td> </tr> </tbody> </table>	Parameter	Description	Details/ Range	d	Select device driver	R=RAM B=flash memory Default: R:	f	File name	(refer to 1.4 file) Default extension name : .GRF	t	Number of bytes (in total)		w	Number of bytes (per row)		data	Hex codes define data, this formula can calculate the total number of data: Total number of data= width of line x number of line.	
Parameter	Description	Details/ Range																	
d	Select device driver	R=RAM B=flash memory Default: R:																	
f	File name	(refer to 1.4 file) Default extension name : .GRF																	
t	Number of bytes (in total)																		
w	Number of bytes (per row)																		
data	Hex codes define data, this formula can calculate the total number of data: Total number of data= width of line x number of line.																		
Example	<pre> ~DGTRIANGLX,42,6, FFFFFFFFFFFF FFFFFFFFFFFF0 FFFFFFFFFFFF00 FFFFFFFFFFFF000 FFFFFFFFFFFF0000 FFFFFFFFFFFF00000 FFFFFFFFFFFF000000 ^XA ^FO50,60^XGTRIANGLX,1,1^FS ^FO60,80^XGTRIANGLX,5,5^FS ^XZ </pre> 																		

PZPL PROGRAMER'S MANUAL

~DU — Download unbounded TrueType font

Description	This command is used to download unbounded true type font to the printer. They include fonts that are >256 characters															
Syntax	<p>~DUd:f,s,data</p> <table border="1" data-bbox="325 613 1272 1274"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Details/ Range</th> </tr> </thead> <tbody> <tr> <td>d</td> <td>Select device driver</td> <td>R=RAM B=flash memory Default: R:</td> </tr> <tr> <td>f</td> <td>File name</td> <td>(refer to 1.4 file) Default extension name: .FNT</td> </tr> <tr> <td>s</td> <td>Size of font It can decide how many memory bytes that are needed.</td> <td></td> </tr> <tr> <td>data</td> <td>True type data string value which is defined by hex code. (2 bytes)</td> <td></td> </tr> </tbody> </table>	Parameter	Description	Details/ Range	d	Select device driver	R=RAM B=flash memory Default: R:	f	File name	(refer to 1.4 file) Default extension name : .FNT	s	Size of font It can decide how many memory bytes that are needed.		data	True type data string value which is defined by hex code. (2 bytes)	
Parameter	Description	Details/ Range														
d	Select device driver	R=RAM B=flash memory Default: R:														
f	File name	(refer to 1.4 file) Default extension name : .FNT														
s	Size of font It can decide how many memory bytes that are needed.															
data	True type data string value which is defined by hex code. (2 bytes)															
Response	None															

PZPL PROGRAMER'S MANUAL**~EF — Erases all stored forms**

Description	This command is used to remove all the forms that stored in the printer originally.
Syntax	~EF

PZPL PROGRAMER'S MANUAL

~EG — Erases all stored graphics

Description	This command is used to remove all the graphics that stored in the printer originally.
Syntax	~EG

PZPL PROGRAMER'S MANUAL

^FB — Field block

Description	This command allows you to defined block. You can print text into this block.																				
Syntax	<p data-bbox="288 548 1473 627">^Fw,m,s,j,i</p> <table border="1" data-bbox="325 633 1273 1205"> <thead> <tr> <th data-bbox="325 633 501 696">Parameter</th> <th data-bbox="501 633 909 696">Description</th> <th data-bbox="909 633 1273 696">Details/ Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 696 501 790">w</td> <td data-bbox="501 696 909 790">Width of block (in dots)</td> <td data-bbox="909 696 1273 790">0~width of label Default: 0</td> </tr> <tr> <td data-bbox="325 790 501 887">m</td> <td data-bbox="501 790 909 887">Maximum number of text lines</td> <td data-bbox="909 790 1273 887">1~9999 Default: 1</td> </tr> <tr> <td data-bbox="325 887 501 983">s</td> <td data-bbox="501 887 909 983">Space between lines (in dots)</td> <td data-bbox="909 887 1273 983">-9999~9999 Default: 0</td> </tr> <tr> <td data-bbox="325 983 501 1108">j</td> <td data-bbox="501 983 909 1108">Text justification</td> <td data-bbox="909 983 1273 1108">L=left C=center R=right J=justified Default: L</td> </tr> <tr> <td data-bbox="325 1108 501 1205">i</td> <td data-bbox="501 1108 909 1205">Hanging indent (in dots)</td> <td data-bbox="909 1108 1273 1205">0~9999 Default: 0</td> </tr> </tbody> </table>			Parameter	Description	Details/ Range	w	Width of block (in dots)	0~width of label Default: 0	m	Maximum number of text lines	1~9999 Default: 1	s	Space between lines (in dots)	-9999~9999 Default: 0	j	Text justification	L=left C=center R=right J=justified Default: L	i	Hanging indent (in dots)	0~9999 Default: 0
Parameter	Description	Details/ Range																			
w	Width of block (in dots)	0~width of label Default: 0																			
m	Maximum number of text lines	1~9999 Default: 1																			
s	Space between lines (in dots)	-9999~9999 Default: 0																			
j	Text justification	L=left C=center R=right J=justified Default: L																			
i	Hanging indent (in dots)	0~9999 Default: 0																			

PZPL PROGRAMER'S MANUAL

^FC — Field clock

Description	This command is used to specify delimiters about clock and calculate the amount of the each label field command string /per time It has to collocate with real-time clock hardware.												
Syntax	<p>^FCa,b,c,</p> <table border="1" data-bbox="325 638 1273 1263"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Details/ Range</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Primary clock indicator character</td> <td>Any ASCII character Default: %</td> </tr> <tr> <td>b</td> <td>Second clock indicator character</td> <td>Any ASCII character Default: None Note that you must not enter the value which is equal to value a or c.</td> </tr> <tr> <td>c</td> <td>Third clock indicator character</td> <td>Any ASCII character Default: Default: None Note that you must not enter the value which is equal to value a or c.</td> </tr> </tbody> </table>	Parameter	Description	Details/ Range	a	Primary clock indicator character	Any ASCII character Default: %	b	Second clock indicator character	Any ASCII character Default: None Note that you must not enter the value which is equal to value a or c.	c	Third clock indicator character	Any ASCII character Default: Default: None Note that you must not enter the value which is equal to value a or c.
Parameter	Description	Details/ Range											
a	Primary clock indicator character	Any ASCII character Default: %											
b	Second clock indicator character	Any ASCII character Default: None Note that you must not enter the value which is equal to value a or c.											
c	Third clock indicator character	Any ASCII character Default: Default: None Note that you must not enter the value which is equal to value a or c.											
Response	None												
Example	<pre> ^XA ^FO10,90^A0N,50,50 ^FC{,#,% ^FDPrimary: {Y/{b/{d/{H/{M^FS ^FO10,180^A0N,50,50 ^FC!,#,% ^FDSecondary: #Y/#b/#d/#H/#M^FS ^FO10,270^A0N,50,50 ^FC!,#,% ^FDThird: %Y/%b/%d/%H/%M^FS ^XZ </pre> <p style="text-align: right;"> Primary: {Y/{b/{d/{H/{M Secondary: #Y/#b/#d/#H/#M Third: %Y/%b/%d/%H/%M </p>												

The following chart is listed some command characters which are used to set up name of day or time, AM/PM destination and so on. Users can use these parameters to collocate with command ^SO. It can set the data of clock or offset those which have been entered. When intend to offset the previous setting, make sure that there always have another ^SO command.

PZPL PROGRAMER'S MANUAL

Command Character	Description	Details/ Range
%a	The abbreviated weekday name	
%A	The weekday name	
%b	The abbreviated month name	
%B	The month name	
%d	The day of the month number	01~31
%H	The hour of the day (military)	00~23
%I	The hour of the day (civilian)	01~12
%j	The day of the year	001~366
%m	The month number	00~12
%M	The minute	00~59
%p	The AM or PM designation	
%S	The seconds	00~59
%U	The week of the year, Sunday is the first day. This parameter set Sunday as the first day of the year.	00~53
%W	The week of the year, Monday is the first day. This parameter set Monday as the first day of the year.	00~53
%w	The day of the week 0(Sunday)~6(Saturday)	
%y	The 2 digits of the year	00~99
%Y	The 4 digits of the year	

The difference between the first day of the week established by %U or %W.

We have known that the command %U and %W can be used to establish the first day of the week. In addition, the first full week (Mon~ Fri) of the year numbered as week 01. If there is any day before week 01 (It could be the day before Sunday or Monday depends on which command is used), it will be divided into the week00.

PZPL PROGRAMER'S MANUAL

NOVEMBER 2015						
SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

Download Free Printable November 2015 Calendar from www.calendars24.com



WEEK01

March 2017

SUN	MON	TUE	WED	THU	FRI	SAT
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



WEEK00



WEEK01

PZPL PROGRAMER'S MANUAL

^FD — Field data

Description	This command is for setting the frontier of data. It's used frequently in the PZPL. At the most of time, it collocates with the command ^FS. The format is: ^FDFIXED DATA^FS										
Syntax	<p data-bbox="300 562 411 591">^FDdata</p> <table border="1" data-bbox="325 638 1257 931"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>data</td> <td>Text/ barcode data to be printed</td> <td>data string up to 3072 bytes Default Value: none but it is necessary that a string of characters to be entered</td> </tr> </tbody> </table> <p data-bbox="300 981 1444 1014">If you need to use functions which are special, the following scheme can be applied for:</p> <table border="1" data-bbox="325 1016 908 1223"> <thead> <tr> <th>Parameter</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>\\</td> <td>backslash which function is the same as \</td> </tr> </tbody> </table> <p data-bbox="300 1232 1372 1384">Some characters (such as the same as command prefix ~ or ^) cannot be printed. In that case, you can change command by means of changing command prefix by command ^CD or ^CT. you can also use ^FH ^FD to print these characters.</p>	Parameter	Description	Range/Detail	data	Text/ barcode data to be printed	data string up to 3072 bytes Default Value: none but it is necessary that a string of characters to be entered	Parameter	Description	\\	backslash which function is the same as \
Parameter	Description	Range/Detail									
data	Text/ barcode data to be printed	data string up to 3072 bytes Default Value: none but it is necessary that a string of characters to be entered									
Parameter	Description										
\\	backslash which function is the same as \										




PZPL PROGRAMER'S MANUAL

^FH — Set Field Hexadecimal Indicator

Description	<p>This command is used to set up hexadecimal indicator. You can use it to enter the hexadecimal value into the command ^FD which allow you to print some character that was unprintable. Make sure the command ^FH is put before the command ^FD. Hexadecimal character: 0 1 2 3 4 5 6 7 8 9 A B C D E F a b c d e f</p>						
Syntax	<p>^FH<i>a</i></p> <table border="1" data-bbox="325 707 1315 949"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Hexadecimal Indicator which is set before hexadecimal code.</td> <td>Printable characters. Default: _</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Hexadecimal Indicator which is set before hexadecimal code.	Printable characters. Default: _
Parameter	Description	Range/Detail					
a	Hexadecimal Indicator which is set before hexadecimal code.	Printable characters. Default: _					
Response	None						
Example	<pre> ^XA ^FO50,100^AE^FH^FDTILDE_7e for HEX^FS ^FO50,150^AE^FH\^FDA\7e for HEX^FS ^XZ TILDE~ for HEX A~ for HEX </pre>						

PZPL PROGRAMER'S MANUAL

^FN — Field number

Description	This command is used to number the data field. You can use it with not only command ^DF but ^XF. As for stored format (^FD, field data), the ^command ^FN should replace where the command ^FD originally was. When it comes to the recalling of stored format, use command ^FN along with command ^FD.								
Syntax	^FN a <table border="1" data-bbox="325 707 1449 965"> <thead> <tr> <th data-bbox="325 707 496 792">Parameter</th> <th data-bbox="496 707 1126 792">Description</th> <th data-bbox="1126 707 1449 792">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 792 496 965">a</td> <td data-bbox="496 792 1126 965">ID Number to be assigned</td> <td data-bbox="1126 792 1449 965">0 ~ 999 Default: 0</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	ID Number to be assigned	0 ~ 999 Default: 0
Parameter	Description	Range/Detail							
a	ID Number to be assigned	0 ~ 999 Default: 0							
Example	<table border="0" data-bbox="325 1025 1165 1265"> <tr> <td data-bbox="325 1025 989 1265"> ^XA ^DFFMT^FS ^BY2,3,100 ^FO100,100^AF^FN1^FA9^FS ^FO100,150^B3^FN2^FA6^FS ^XZ </td> <td data-bbox="989 1025 1165 1265" style="text-align: center;"> example  </td> </tr> </table>			^XA ^DFFMT^FS ^BY2,3,100 ^FO100,100^AF^FN1^FA9^FS ^FO100,150^B3^FN2^FA6^FS ^XZ	example 				
^XA ^DFFMT^FS ^BY2,3,100 ^FO100,100^AF^FN1^FA9^FS ^FO100,150^B3^FN2^FA6^FS ^XZ	example 								


PZPL PROGRAMER'S MANUAL

^FO — Field Origin

Description	This command is used to set field origin which is related to the command ^LH. The latter one is represented the label home and the command ^FO is in charge of the upper-left corner area.														
Syntax	<p data-bbox="288 584 1466 667">^FOx,y,z</p> <table border="1" data-bbox="323 667 1441 1115"> <thead> <tr> <th data-bbox="323 667 512 712">Parameter</th> <th data-bbox="512 667 991 712">Description</th> <th data-bbox="991 667 1441 712">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="323 712 512 808">x</td> <td data-bbox="512 712 991 808">X coordinate (Horizontal)</td> <td data-bbox="991 712 1441 808">Default: 0. Others: 1 ~ 65535 printing width of the printer.</td> </tr> <tr> <td data-bbox="323 808 512 898">y</td> <td data-bbox="512 808 991 898">Y coordinate (Vertical)</td> <td data-bbox="991 808 1441 898">Default: 0. Others: 1 ~ 65535 printing length of the printer.</td> </tr> <tr> <td data-bbox="323 898 512 1115">z</td> <td data-bbox="512 898 991 1115">z-coordinate (Justification)</td> <td data-bbox="991 898 1441 1115">0= left justification 1= right justification 2= justification (script dependent) Default: 0</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	x	X coordinate (Horizontal)	Default: 0. Others: 1 ~ 65535 printing width of the printer.	y	Y coordinate (Vertical)	Default: 0. Others: 1 ~ 65535 printing length of the printer.	z	z-coordinate (Justification)	0= left justification 1= right justification 2= justification (script dependent) Default: 0
Parameter	Description	Range/Detail													
x	X coordinate (Horizontal)	Default: 0. Others: 1 ~ 65535 printing width of the printer.													
y	Y coordinate (Vertical)	Default: 0. Others: 1 ~ 65535 printing length of the printer.													
z	z-coordinate (Justification)	0= left justification 1= right justification 2= justification (script dependent) Default: 0													
Example	<pre data-bbox="288 1167 1466 1370"> ^XA ^FO100,100^AB^FD(100,100)^FS (100,100) ^FO150,150^AB^FD(150,150)^FS (150,150) ^XZ </pre>														

PZPL PROGRAMER'S MANUAL

^FR — Field reverse print

Description	This command is used to let the color of field reversed of its background. It means that when the background is black, then the font will be white, vice versa.
Syntax	^FR
Example	<pre data-bbox="327 611 869 768">^XA ^FO100,50^GB80,0,100^FS ^FO100,135^FR^A0,50,45^FDReverse^FS ^XZ</pre> 

PZPL PROGRAMER'S MANUAL

^FS — Field Separator

Description	This command denotes the end of a field. It can also be announce as an ASCII control code by a single control code (0FH).
Syntax	^FS
Response	None

PZPL PROGRAMER'S MANUAL

^FT — Define Field Type

Description	This command is used to set field origin which is related to the command ^LH. The latter one is represented the label home. The function of command ^FT close to the command ^FO. The different point between them is the object position.														
Syntax	<p data-bbox="288 584 1468 667">^FTx,y,z</p> <table border="1" data-bbox="323 667 1433 1205"> <thead> <tr> <th data-bbox="323 667 552 712">Parameter</th> <th data-bbox="552 667 933 712">Description</th> <th data-bbox="933 667 1433 712">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="323 712 552 837">x</td> <td data-bbox="552 712 933 837">X coordinate (Horizontal)</td> <td data-bbox="933 712 1433 837">0 ~ 65535 printing width of the printer Default: 0</td> </tr> <tr> <td data-bbox="323 837 552 963">y</td> <td data-bbox="552 837 933 963">Y coordinate (Vertical)</td> <td data-bbox="933 837 1433 963">0~ 65535 printing length of the printer. Default: 0.</td> </tr> <tr> <td data-bbox="323 963 552 1205">z</td> <td data-bbox="552 963 933 1205">z-coordinate</td> <td data-bbox="933 963 1433 1205">(Justification) 0= left justification 1= right justification 2= justification (script dependent) Default: 0</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	x	X coordinate (Horizontal)	0 ~ 65535 printing width of the printer Default: 0	y	Y coordinate (Vertical)	0~ 65535 printing length of the printer. Default: 0.	z	z-coordinate	(Justification) 0= left justification 1= right justification 2= justification (script dependent) Default: 0
Parameter	Description	Range/Detail													
x	X coordinate (Horizontal)	0 ~ 65535 printing width of the printer Default: 0													
y	Y coordinate (Vertical)	0~ 65535 printing length of the printer. Default: 0.													
z	z-coordinate	(Justification) 0= left justification 1= right justification 2= justification (script dependent) Default: 0													
Example	<pre data-bbox="288 1205 1468 1473"> ^XA ^FT100,150^A0,50,50^FDFT^FS ^FO100,150^GB100,0,2^FS ^FO100,150^A0,50,50^FDEXAMPLE^FS ^XZ </pre> <div data-bbox="1002 1308 1230 1400" style="text-align: right;"> <p>FT EXAMPLE</p> </div>														

PZPL PROGRAMER'S MANUAL

^FV — define field variable

Description	This command can replace the command ^FD at next label format when it comes the field which is variable. Note that after the process of printing, the field defined by command ^FV are always cleared. The one which ^FD defined are not.								
Syntax	<p data-bbox="288 566 1466 645">^FVa</p> <table border="1" data-bbox="325 651 1422 882"> <thead> <tr> <th data-bbox="325 651 523 696">Parameter</th> <th data-bbox="523 651 1018 696">Description</th> <th data-bbox="1018 651 1422 696">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 696 523 882">data</td> <td data-bbox="523 696 1018 882">Variable Text/ barcode field data to be printed</td> <td data-bbox="1018 696 1422 882">data string up to 3072 bytes Default Value: none but it is necessary that a string of characters to be entered</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	data	Variable Text/ barcode field data to be printed	data string up to 3072 bytes Default Value: none but it is necessary that a string of characters to be entered
Parameter	Description	Range/Detail							
data	Variable Text/ barcode field data to be printed	data string up to 3072 bytes Default Value: none but it is necessary that a string of characters to be entered							
Response	None								
Example	<pre data-bbox="288 952 1466 1196"> ^XA ^FT50,50^AA^FDFV EXAMPLE^FS ^FT50,80^A0,30,20^FVVARIABLE DATA^FS ^MCN ^XZ </pre> <div data-bbox="1034 1048 1257 1122" style="text-align: right;"> <small>FU EXAMPLE</small> VARIABLE DATA </div>								

PZPL PROGRAMER'S MANUAL

^FW — define field orientation

Description	There are orientation parameters in some commands. If degree of orientation is not specified, the default value will be entered. This command is used to set the default orientation of these fields.								
Syntax	<p data-bbox="300 595 379 629">^FWo</p> <table border="1" data-bbox="323 672 1259 1008"> <thead> <tr> <th data-bbox="323 672 496 712">Parameter</th> <th data-bbox="496 672 917 712">Description</th> <th data-bbox="917 672 1259 712">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="323 712 496 1008">o</td> <td data-bbox="496 712 917 1008"> Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description) </td> <td data-bbox="917 712 1259 1008">Default: N</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: N
Parameter	Description	Range/Detail							
o	Orientation There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description)	Default: N							
Example	<p data-bbox="300 1055 746 1211"> ^XA ^FWB ^FO100,150^AB^FDlandscape^FS ^XZ </p> <div data-bbox="997 1064 1157 1243" style="border: 1px solid black; padding: 5px; text-align: center; width: fit-content; margin: 0 auto;"> LANDSCAPE </div>								

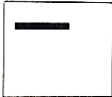
PZPL PROGRAMER'S MANUAL

^FX — non-printing informational comment

Description	This command sets the printer to print informational comment which is for human being read only. By this kind of information, you can add some comments or notes which can help you easily reading. Note that the caret (^) or tilde (~) commands should be avoid while using this command.				
Syntax	<table border="1" data-bbox="325 667 956 815"> <thead> <tr> <th>Parameter</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>d</td> <td>The data of non- printable comment.</td> </tr> </tbody> </table>	Parameter	Description	d	The data of non- printable comment.
Parameter	Description				
d	The data of non- printable comment.				
Response	None				
Example	<pre data-bbox="306 981 855 1133">^XA ^FO100,110^AB^FDCOMMENT^FS^FX!CO MMENT ^XZ</pre> <div data-bbox="1018 987 1230 1099" style="border: 1px solid gray; padding: 5px; display: inline-block; text-align: center;">COMMENT</div>				

PZPL PROGRAMER'S MANUAL

^GB — Graphic line or box

Description	This command is used to draw boxes and lines within the label field. These graphic can help to category or spotlight information. The command ^GB can enhance the level of legibility.															
Syntax	<p data-bbox="300 595 443 629">^GBw,h,t,c</p> <table border="1" data-bbox="325 672 1222 1093"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>w</td> <td>Defined width of line or box</td> <td>0~999 default:1</td> </tr> <tr> <td>h</td> <td>Defined height of line or box</td> <td>0~999 default: 1</td> </tr> <tr> <td>t</td> <td>Defined border thickness of line or box</td> <td>0~999 default:1</td> </tr> <tr> <td>c</td> <td>Defined color of line or box B= black W= white</td> <td>Default :B</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	w	Defined width of line or box	0~999 default:1	h	Defined height of line or box	0~999 default: 1	t	Defined border thickness of line or box	0~999 default:1	c	Defined color of line or box B= black W= white	Default :B
Parameter	Description	Range/Detail														
w	Defined width of line or box	0~999 default:1														
h	Defined height of line or box	0~999 default: 1														
t	Defined border thickness of line or box	0~999 default:1														
c	Defined color of line or box B= black W= white	Default :B														
Example	<p data-bbox="316 1173 689 1323"> ^XA ^FO100,100^GB100,90,1^FS ^FO110,120^GB50,0,7^FS ^XZ </p> 															

PZPL PROGRAMER'S MANUAL

^GC — Graphic Circle

Description	This command is used to draw circle													
Syntax	<p data-bbox="288 472 1469 555">^GCw,t,c</p> <table border="1" data-bbox="325 555 1406 844"> <thead> <tr> <th data-bbox="325 555 520 600">Parameter</th> <th data-bbox="520 555 1106 600">Description</th> <th data-bbox="1106 555 1406 600">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 600 520 689">w</td> <td data-bbox="520 600 1106 689">Circle diameter</td> <td data-bbox="1106 600 1406 689">3~4095</td> </tr> <tr> <td data-bbox="325 689 520 757">t</td> <td data-bbox="520 689 1106 757">Border thickness</td> <td data-bbox="1106 689 1406 757">2~4095</td> </tr> <tr> <td data-bbox="325 757 520 844">c</td> <td data-bbox="520 757 1106 844">Line color</td> <td data-bbox="1106 757 1406 844">B=black W= white</td> </tr> </tbody> </table>		Parameter	Description	Range	w	Circle diameter	3~4095	t	Border thickness	2~4095	c	Line color	B=black W= white
Parameter	Description	Range												
w	Circle diameter	3~4095												
t	Border thickness	2~4095												
c	Line color	B=black W= white												

PZPL PROGRAMER'S MANUAL

^GD — Graphic Diagonal line

Description	This command is used to draw diagonal line		
Syntax	^GDw,h,t,c,d		
	Parameter	Description	Range
	W	Box width	3~32000
	H	Box height	3~32000
	T	Border thickness	1~32000
	C	Line color	B =black W =white
	D	Direction of the diagonal	R (or /) = right-leaning diagonal L(or\)= left-leaning diagonal

PZPL PROGRAMER'S MANUAL

^GE — Graphic ellipse

Description	This command is used to draw ellipse																	
Syntax	^GEw,h,t,c <table border="1" data-bbox="325 555 1406 900"> <thead> <tr> <th data-bbox="325 555 521 600">Parameter</th> <th data-bbox="521 555 1106 600">Description</th> <th data-bbox="1106 555 1406 600">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 600 521 689">W</td> <td data-bbox="521 600 1106 689">Ellipse width</td> <td data-bbox="1106 600 1406 689">3~4095</td> </tr> <tr> <td data-bbox="325 689 521 768">H</td> <td data-bbox="521 689 1106 768">Ellipse height</td> <td data-bbox="1106 689 1406 768">3~4095</td> </tr> <tr> <td data-bbox="325 768 521 813">T</td> <td data-bbox="521 768 1106 813">Border thickness</td> <td data-bbox="1106 768 1406 813">2~4095</td> </tr> <tr> <td data-bbox="325 813 521 900">c</td> <td data-bbox="521 813 1106 900">Line color</td> <td data-bbox="1106 813 1406 900">B =black W =white</td> </tr> </tbody> </table>			Parameter	Description	Range	W	Ellipse width	3~4095	H	Ellipse height	3~4095	T	Border thickness	2~4095	c	Line color	B =black W =white
Parameter	Description	Range																
W	Ellipse width	3~4095																
H	Ellipse height	3~4095																
T	Border thickness	2~4095																
c	Line color	B =black W =white																

PZPL PROGRAMER'S MANUAL

^GF — Graphic Field


Description	This command is used to load graphic field data into the area where stores bitmap in the printer. This kind of graphic follow the rules of other fields and can be put anywhere within the bitmap area. Name of graphic is no need to be entered.		
Syntax	^GFf,b,t,w,data		
	Parameter	Description	Range
	f	Format	A= ASCII hexadecimal format which follows other command B= binary. Default: A
	b	Binary byte count This parameter represents the total number of bytes which is to be transferred for corresponding to the parameter d. In ASCII download, b should be equal to t.	1~99999 If not enter any value, this parameter will be skipped by the printer.
	t	Total graphic field byte count It represents the bytes amount of graphic format. This parameter represent the bytes of whole graphic area.	1~99999 If not enter any value, this parameter will be skipped by the printer.
	w	Byte count of a row	1~99999 if not enter any value, this parameter will be skipped by the printer.
	data	Raster data It can be ASCII Hexadecimal or binary data. ASCII data: The number of number pairs have to be as the same as the above parameters. (One image byte consists of 2 digits) Note that caret or tilde character can lead to interruption. Binary data: Not until the total number is transmitted are any control prefixes	

PZPL PROGRAMER'S MANUAL

		admitted.	
Response	None		

PZPL PROGRAMER'S MANUAL

^GS — Graphic symbol

Description	This command is used to generate special symbol, such as copyright, trademark underwriter's laboratories approval and so on. Note that there are only five appropriate character (A, B, C, D and E) that can be used to make symbols.														
Syntax	<p data-bbox="288 555 446 593">^GS_{o,h,w}</p> <table border="1" data-bbox="325 638 1409 1865"> <thead> <tr> <th data-bbox="325 638 523 683">Parameter</th> <th data-bbox="523 638 971 683">Description</th> <th data-bbox="971 638 1409 683">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 683 523 974">o</td> <td data-bbox="523 683 971 974">Orientation</td> <td data-bbox="971 683 1409 974">There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description) Default: N</td> </tr> <tr> <td data-bbox="325 974 523 1391">h in pixels</td> <td data-bbox="523 974 971 1391">Character height Scalable font: not need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original height: $(h + \text{original height}/2) / \text{original height}$</td> <td data-bbox="971 974 1409 1391">For scalable font: Default: last ^CF For bitmapped font: 1~10 times the original height. Always be an integer. Default: last ^CF</td> </tr> <tr> <td data-bbox="325 1391 523 1865">w in pixels</td> <td data-bbox="523 1391 971 1865">Character width Scalable font: not need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original width: $(w + \text{original width}/2) / \text{original width}$</td> <td data-bbox="971 1391 1409 1865">For scalable font: Default: last ^CF For bitmapped font: 1~10 times the original width. Always be an integer. Default: last ^CF</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	o	Orientation	There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description) Default: N	h in pixels	Character height Scalable font: not need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original height: $(h + \text{original height}/2) / \text{original height}$	For scalable font: Default: last ^CF For bitmapped font: 1~10 times the original height. Always be an integer. Default: last ^CF	w in pixels	Character width Scalable font: not need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original width: $(w + \text{original width}/2) / \text{original width}$	For scalable font: Default: last ^CF For bitmapped font: 1~10 times the original width. Always be an integer. Default: last ^CF
Parameter	Description	Range/Detail													
o	Orientation	There are four kinds of different degree of orientations: NIBR (Refer to 1.3. Coordinate Description) Default: N													
h in pixels	Character height Scalable font: not need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original height: $(h + \text{original height}/2) / \text{original height}$	For scalable font: Default: last ^CF For bitmapped font: 1~10 times the original height. Always be an integer. Default: last ^CF													
w in pixels	Character width Scalable font: not need to calculate the magnification. bitmapped font: Formula which can calculate how many times of original width: $(w + \text{original width}/2) / \text{original width}$	For scalable font: Default: last ^CF For bitmapped font: 1~10 times the original width. Always be an integer. Default: last ^CF													
Response	None														
Example	<p data-bbox="288 1910 367 1948">^XA</p> <p data-bbox="288 1948 718 1986">^FO100,150^GS^FDABCDE^FS</p> <p data-bbox="288 1986 367 2024">^XZ</p> <div data-bbox="973 2004 1149 2049" style="text-align: right;">  </div>														

PZPL PROGRAMER'S MANUAL

^HF — Host Format

Description	This command is used to send formats to the host. These formats were stored in RAM or Flash.												
Syntax	<p data-bbox="300 521 419 555">^HFd,o,x</p> <table border="1" data-bbox="325 598 1241 1104"> <thead> <tr> <th data-bbox="325 598 496 640">Parameter</th> <th data-bbox="496 598 900 640">Description</th> <th data-bbox="900 598 1241 640">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 640 496 768">d</td> <td data-bbox="496 640 900 768">Device to recall file</td> <td data-bbox="900 640 1241 768">R=(RAM) E =(Flash) Default: R</td> </tr> <tr> <td data-bbox="325 768 496 976">o</td> <td data-bbox="496 768 900 976">File name Note: if you do not enter a value, printer will use UNKNOWN as file name automatically.</td> <td data-bbox="900 768 1241 976">Alphanumeric characters</td> </tr> <tr> <td data-bbox="325 976 496 1104">x</td> <td data-bbox="496 976 900 1104">Extension (in this command, ZPL is set to be fixed extension.)</td> <td data-bbox="900 976 1241 1104">.ZPL</td> </tr> </tbody> </table>	Parameter	Description	Range	d	Device to recall file	R=(RAM) E =(Flash) Default: R	o	File name Note: if you do not enter a value, printer will use UNKNOWN as file name automatically.	Alphanumeric characters	x	Extension (in this command, ZPL is set to be fixed extension.)	.ZPL
Parameter	Description	Range											
d	Device to recall file	R=(RAM) E =(Flash) Default: R											
o	File name Note: if you do not enter a value, printer will use UNKNOWN as file name automatically.	Alphanumeric characters											
x	Extension (in this command, ZPL is set to be fixed extension.)	.ZPL											
Example	<p data-bbox="300 1124 957 1158">The following are steps of applying this command:</p> <p data-bbox="300 1205 1187 1238">Step1 Open emulator, and then download this code to the printer.</p> <pre data-bbox="376 1249 671 1485">^XA ^DFB:PZPL.ZPL ^FO100,150 ^A100,100 ^FDHF COMMAND^FS ^XZ</pre> <p data-bbox="300 1496 793 1529">Step2 Send this code to the printer:</p> <pre data-bbox="376 1541 571 1653">^XA ^HFB:PZPL.ZPL ^XZ</pre> <p data-bbox="300 1664 979 1697">Step3 The terminal emulator will return this code:</p> <pre data-bbox="367 1709 957 1821">^XA^DFB:PZPL.ZPL ^FO100,150^A100,100^FDHF COMMAND^FS ^XZ</pre>												

PZPL PROGRAMER'S MANUAL**^HH — Return label configuration**

Description	By using the com port, this command can return configuration of label to the host.
Syntax	^HH
Example	^HH

PZPL PROGRAMER'S MANUAL

~HI — Host Identification

Description	Use this command to let printer acquire information from the host. Printer can correspond with host means that printer can retrieve data once the latter one sets them, for instance, memory size, firmware version and RAM size.
Syntax	~HI
Response	
	<p>XXXZIP;V1.1.0,7,2048KB,X</p> <p>XXXZIP model name.</p> <p>V1.1.0 firmware version.</p> <p>7 resolution, 8 pixels per millimeter.</p> <p>2048KB standard RAM size.</p> <p>512KB = 1/2 MB 1024KB = 1 MB 2048KB = 2 MB 4096KB = 4 MB 8192KB = 8 MB</p> <p>X=recognizable objects</p>

PZPL PROGRAMER'S MANUAL

~HM — Host memory status

Description	This command is used to send real time status of memory from the host to the printer. The information which printer gets are a string of word separated as three parts by comma. They are the total amount of RAM, the maximum amount of RAM and the amount of RAM available at present. Note that when downloading fonts, image or storing bitmap, only the total amount of RAM and the maximum amount of RAM will be changed.
Syntax	~HM
Response	
	2048,1324,1324 2048 The total amount of RAM (in KB). 1324 The maximum amount of RAM (in KB) which are available. 1324 The amount of RAM available at present.

PZPL PROGRAMER'S MANUAL

~HQ — Host query

Description	This command is used to send information back to the host from the printer.																																																																																																																	
Syntax	<p>~HQ query-type</p> <p>ES= requests the printer's status</p> <p>HA=hardware address of the internal wired print server</p> <p>SN=printer's serial number</p> <p>UI=USB product ID and BDC release version</p> <p>PP=printer's Plug and Play string</p>																																																																																																																	
Response	<p style="text-align: center;">Table of Error Flag</p> <table border="1" data-bbox="288 819 1450 1612"> <thead> <tr> <th rowspan="2">Error flag</th> <th rowspan="2">Flag</th> <th>Array 1</th> <th colspan="8">Array 2</th> </tr> <tr> <th>Bit 16-9</th> <th>Bit 8</th> <th>Bit 7</th> <th>Bit 6</th> <th>Bit 5</th> <th>Bit 4</th> <th>Bit 3</th> <th>Bit 2</th> <th>Bit1</th> </tr> </thead> <tbody> <tr> <td>Head open</td> <td>1</td> <td>00000000</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>4</td> </tr> <tr> <td>Ribbon out</td> <td>1</td> <td>00000000</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>2</td> </tr> <tr> <td>Media out</td> <td>1</td> <td>00000000</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> </tr> <tr> <td>Print head over temperature</td> <td></td> <td></td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> <td></td> </tr> <tr> <td>Cutter fault</td> <td>1</td> <td>00000000</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td>8</td> </tr> <tr> <td>Pause</td> <td>1</td> <td>00000000</td> <td>X</td> <td>X</td> <td>X</td> <td>1</td> <td>X</td> <td>X</td> <td>X</td> <td>X</td> <td></td> </tr> </tbody> </table> <p>~HQES</p> <p>Example 1 Shows that the print head is opened.(value=4)</p> <table border="1" data-bbox="844 1671 1394 1798"> <tr> <th colspan="2">PRINTER STATUS</th> </tr> <tr> <td>ERRORS:</td> <td>1 00000000 00000004</td> </tr> <tr> <td>WARINGS:</td> <td>0 00000000 00000000</td> </tr> </table> <p>Example2</p> <ul style="list-style-type: none"> • Shows that the print head is opened. (value=4) • Also shows the ribbon is out. (value=1) • Bit 1 equals to 5 since the value add together.(4+1) <table border="1" data-bbox="844 1888 1394 2016"> <tr> <th colspan="2">PRINTER STATUS</th> </tr> <tr> <td>ERRORS:</td> <td>1 00000000 00000005</td> </tr> <tr> <td>WARINGS:</td> <td>0 00000000 00000000</td> </tr> </table>										Error flag	Flag	Array 1	Array 2								Bit 16-9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit1	Head open	1	00000000	X	X	X	X	X	X	X	X	4	Ribbon out	1	00000000	X	X	X	X	X	X	X	X	2	Media out	1	00000000	X	X	X	X	X	X	X	X	1	Print head over temperature			X	X	X	X	X	X	X			Cutter fault	1	00000000	X	X	X	X	X	X	X	X	8	Pause	1	00000000	X	X	X	1	X	X	X	X		PRINTER STATUS		ERRORS:	1 00000000 00000004	WARINGS:	0 00000000 00000000	PRINTER STATUS		ERRORS:	1 00000000 00000005	WARINGS:	0 00000000 00000000
Error flag	Flag	Array 1	Array 2																																																																																																															
		Bit 16-9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit1																																																																																																								
Head open	1	00000000	X	X	X	X	X	X	X	X	4																																																																																																							
Ribbon out	1	00000000	X	X	X	X	X	X	X	X	2																																																																																																							
Media out	1	00000000	X	X	X	X	X	X	X	X	1																																																																																																							
Print head over temperature			X	X	X	X	X	X	X																																																																																																									
Cutter fault	1	00000000	X	X	X	X	X	X	X	X	8																																																																																																							
Pause	1	00000000	X	X	X	1	X	X	X	X																																																																																																								
PRINTER STATUS																																																																																																																		
ERRORS:	1 00000000 00000004																																																																																																																	
WARINGS:	0 00000000 00000000																																																																																																																	
PRINTER STATUS																																																																																																																		
ERRORS:	1 00000000 00000005																																																																																																																	
WARINGS:	0 00000000 00000000																																																																																																																	

PZPL PROGRAMER'S MANUAL

Example 3

- Shows that the print head is opened.(value=4)
- Also The cutter has a fault.(value=8)
- Sum together equals to hexadecimal C.
(value=16)

PRINTER STATUS	
ERRORS:	1 00000000 0000000C
WARINGS:	0 00000000 00000000

~HQHA Example

Shows the hardware address of the internal wired print server.

MAC ADDRESS
00:90:E8:68:B4:A7

~HQSN Example

Shows the printer's serial number.

SERIAL NUMBER
412412414322

~HQUI Example

Shows printer's USB product ID and CUSTOM firmware version.

USB INFORMATION
PID: 0999
RELEASE VERSION: 3.0.02 18/11/26

~HQPP Example

Shows plug and play information.

PLUG AND PLAY MESSAGES
MFG:CUSTOM
CMD:
MDL:T4p2

PZPL PROGRAMER'S MANUAL

~HS — Return Host status

Description	This command is used to let printer send the data back to the host. These data strings include settings of printer. You can check the example part for detail information. Note that command ~HS will not work if the printer is under one of the condition which is not used for normal printing, such as RIBBON OUT, HEAD OPEN, HEAD OVER- TEMPERATURE and so on.																
Syntax	~HS																
Response	<p>There are three data strings in total: <STX> : for starting <CR><LF> for feeding line <ETX> for ending String1 <STX>aaa,b,c,dddd,eee,f,g,h,iii,j,k,l<ETX><CR><LF> aaa=communication interface (RS232) setting.</p> <p>This three digits decimal representation of an 8 bits binary number. While calculating this parameter, the first stage is to transfer number from decimal to binary. As for the 9 digits binary number, they follow the table below:</p> <table border="1" data-bbox="300 1016 1453 1525"> <tr> <td colspan="2">aaa = a8a7a6a5a4a3a2a1a0</td> </tr> <tr> <td>a8</td> <td>baud rate. 0 for less than or equal to 19200, 1 for 38400,57600,115200</td> </tr> <tr> <td>A7</td> <td>flow control. 0 for Xon/Xoff and 1 for DTR.</td> </tr> <tr> <td>A6</td> <td>Parity. 0 for odd parity and 1 for even parity.</td> </tr> <tr> <td>A5</td> <td>Parity control. 0 for no parity and 1 for parity enabled.</td> </tr> <tr> <td>A4</td> <td>Stop bit number. 0 for 2 bits and 1 for 1 bit.</td> </tr> <tr> <td>A3</td> <td>Data bit number. 0 for 7 bits and 1 for 8 data bits.</td> </tr> <tr> <td>A2A1A0</td> <td>Baud rate. 010-600, 011-1200, 100-2400, 101-4800, 110-9600, 111-19200. when a8=1,a2a1a0=001-38400,010-57600,100-115200</td> </tr> </table> <p>b= paper out flag. 0=normal c= pause flag. 1= pause mode dddd= label length(unit : dots) eee=Number of formats in the receive buffer f Buffer full flag. g Communication diagnostic mode. Always 0. h Reserved. Always 0. g Communication diagnostic mode. Always 0. h Reserved. Always 0. iii Reserved. Always 000. j Reserved. Always 0. k Reserved. Always 0. l Reserved. Always 0.</p>	aaa = a8a7a6a5a4a3a2a1a0		a8	baud rate. 0 for less than or equal to 19200, 1 for 38400,57600,115200	A7	flow control. 0 for Xon/Xoff and 1 for DTR.	A6	Parity. 0 for odd parity and 1 for even parity.	A5	Parity control. 0 for no parity and 1 for parity enabled.	A4	Stop bit number. 0 for 2 bits and 1 for 1 bit.	A3	Data bit number. 0 for 7 bits and 1 for 8 data bits.	A2A1A0	Baud rate. 010-600, 011-1200, 100-2400, 101-4800, 110-9600, 111-19200. when a8=1,a2a1a0=001-38400,010-57600,100-115200
aaa = a8a7a6a5a4a3a2a1a0																	
a8	baud rate. 0 for less than or equal to 19200, 1 for 38400,57600,115200																
A7	flow control. 0 for Xon/Xoff and 1 for DTR.																
A6	Parity. 0 for odd parity and 1 for even parity.																
A5	Parity control. 0 for no parity and 1 for parity enabled.																
A4	Stop bit number. 0 for 2 bits and 1 for 1 bit.																
A3	Data bit number. 0 for 7 bits and 1 for 8 data bits.																
A2A1A0	Baud rate. 010-600, 011-1200, 100-2400, 101-4800, 110-9600, 111-19200. when a8=1,a2a1a0=001-38400,010-57600,100-115200																

PZPL PROGRAMER'S MANUAL

String 2 <STX>mmm,n,o,p,q,r,s,t,uuuuuuuu,v,www<ETX><CR><LF>

mmm = function setting

This value is a 3 digit decimal representation of a 0 ~ 7 number.

This three digits decimal representation of an 8 bits binary number. While calculating this parameter, the first stage is to transfer number from decimal to binary.

As for the 9 digits binary number, they follow the table below:

m7 Media type. 0 for die-cut and 1 for continuous.

m6 reserved. Always 0.

m5 reserved. Always 0.

m0 Ribbon mode. 0 for Direct thermal and 1 for Thermal transfer.

m4m3m2m1 reserved. Always 000.

n Reserved. Always 0.

O Reserved. Always 0.

p Ribbon flag. 1 for ribbon out.

q Thermal transfer mode. 1 for TT(thermal transfer).

r Print mode. 0 rewind 1 peel off 2 tear off

s Print width.

t Label waiting flag. 1 for waiting in peel-off mode.

uuuuuuuu Number of labels left for printing.

v reserved. Always 1.

www Number of graphic objects in the printer.

String 3 <STX>xxx,y<ETX><CR><LF>

xxx Reserved. Always 0.

y Reserved. Always 0.

PZPL PROGRAMER'S MANUAL

^HW — Directory list

<p>Description</p>	<p>This command can send directory list which list files in an assigned memory area back to the host (RS232). Note that there is specific rules of file name: <STX> : for starting <CR><LF> for feeding line <ETX> for ending Format for file name: * name. ext (3 option flag) Explanation: each line which listed object has to begin with asterisk *and a blank space after it and the file name has to less than 8 spaces, 3 spaces for extension name and 3 spaces for option flags. Format for extension name: .ext (2 spaces for blank spaces)(6 spaces for object size) (2 spaces for blank spaces)(three spaces for option flags)</p>												
<p>Syntax</p>	<p>HWd:o.e</p> <table border="1" data-bbox="325 804 1449 1061"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>d</td> <td>Driver device R= RAM E= flash memory</td> <td>Default: R</td> </tr> <tr> <td>o</td> <td>Object name</td> <td>Default:*</td> </tr> <tr> <td>e</td> <td>Extension name</td> <td>Default:.*</td> </tr> </tbody> </table>	Parameter	Description	Range	d	Driver device R= RAM E= flash memory	Default: R	o	Object name	Default:*	e	Extension name	Default:.*
Parameter	Description	Range											
d	Driver device R= RAM E= flash memory	Default: R											
o	Object name	Default:*											
e	Extension name	Default:.*											
<p>Response</p>													
<p>Example</p>													

PZPL PROGRAMER'S MANUAL

^ID — Delete object

Description	This command is used to delete graphics, formats, fonts and objects which are stored in the storage area. You can delete them one by one or in groups. Note that if an objects stored in the RAM is deleted, the memory will be available for storage. In the other hand, if an object was storing in the flash memory, after you deleted it and the automatic defragmentation come up with, the memory space will be recovered.												
Syntax	<p data-bbox="300 674 416 701">^IDd:o.e</p> <table border="1" data-bbox="325 748 1453 1003"> <thead> <tr> <th data-bbox="325 748 496 790">Parameter</th> <th data-bbox="496 748 1015 790">Description</th> <th data-bbox="1015 748 1453 790">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 790 496 916">d</td> <td data-bbox="496 790 1015 916">Driver device</td> <td data-bbox="1015 790 1453 916">R= RAM E= flash memory Default: R</td> </tr> <tr> <td data-bbox="325 916 496 958">o</td> <td data-bbox="496 916 1015 958">Object name</td> <td data-bbox="1015 916 1453 958">Default :UNKNOWN</td> </tr> <tr> <td data-bbox="325 958 496 1003">e</td> <td data-bbox="496 958 1015 1003">Extension name</td> <td data-bbox="1015 958 1453 1003">Default: .GRF</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	d	Driver device	R= RAM E= flash memory Default: R	o	Object name	Default :UNKNOWN	e	Extension name	Default: .GRF
Parameter	Description	Range/Detail											
d	Driver device	R= RAM E= flash memory Default: R											
o	Object name	Default :UNKNOWN											
e	Extension name	Default: .GRF											
Example	<p data-bbox="300 1167 512 1193">^XA^IDE:*. *^XZ</p> <p data-bbox="300 1205 922 1232">Delete all of object files stored in flash memory.</p>												

PZPL PROGRAMER'S MANUAL

^IL — Load image

Description	This command is used to load stored image and combine it with additional data. By this command, you can cover variable data on the stored image and it can help enhance the throughput of the label format.												
Syntax	<p data-bbox="300 577 411 607">^ILd:o.e</p> <table border="1" data-bbox="325 651 1450 907"> <thead> <tr> <th data-bbox="325 651 496 696">Parameter</th> <th data-bbox="496 651 1015 696">Description</th> <th data-bbox="1015 651 1450 696">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 696 496 819">d</td> <td data-bbox="496 696 1015 819">Driver device</td> <td data-bbox="1015 696 1450 819">R= RAM E= flash memory Default: R</td> </tr> <tr> <td data-bbox="325 819 496 864">o</td> <td data-bbox="496 819 1015 864">Object name</td> <td data-bbox="1015 819 1450 864">Default :UNKNOWN</td> </tr> <tr> <td data-bbox="325 864 496 907">e</td> <td data-bbox="496 864 1015 907">Extension name</td> <td data-bbox="1015 864 1450 907">Default: .GRF</td> </tr> </tbody> </table>	Parameter	Description	Range	d	Driver device	R= RAM E= flash memory Default: R	o	Object name	Default :UNKNOWN	e	Extension name	Default: .GRF
Parameter	Description	Range											
d	Driver device	R= RAM E= flash memory Default: R											
o	Object name	Default :UNKNOWN											
e	Extension name	Default: .GRF											
Response	None												
Example	<pre data-bbox="325 1016 1134 1167"> ^XA ^ILR:EXAMPLE.GRF ^FO100,200^AB^FDNEW DATA^FS ^XZ NEW DATA </pre>												

PZPL PROGRAMER'S MANUAL

^IM — Move image

Description	This command performs a direct move of an image from storage area into the bitmap. This command is used similar to command ^XG (Recall Graphic), except there are no scale parameters.														
Syntax	^IMd:o.e <table border="1" data-bbox="325 647 1453 902"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>d</td> <td>Driver device</td> <td>R= RAM E= flash memory Default: R</td> </tr> <tr> <td>o</td> <td>Object name</td> <td>Default: UNKNOWN</td> </tr> <tr> <td>e</td> <td>Extension name</td> <td>Default: .GRF</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	d	Driver device	R= RAM E= flash memory Default: R	o	Object name	Default: UNKNOWN	e	Extension name	Default: .GRF
Parameter	Description	Range/Detail													
d	Driver device	R= RAM E= flash memory Default: R													
o	Object name	Default: UNKNOWN													
e	Extension name	Default: .GRF													
Response	None														
Example	^XA ^FO50,10^IMR:EXAMPLE.GRF^FS ^XZ <p style="text-align: right;">NEW DATA</p>														

PZPL PROGRAMER'S MANUAL

^IS — Save image

Description	When you finish editing the label format pattern, this command is used to save the draft as the graphic image file so that you can recall this file or overlay variable data in the future. By this command, you can cover variable data on the stored image and it can help enhance the throughput of the label format.															
Syntax	<p data-bbox="300 629 435 663">^ISd:o.e,p</p> <table border="1" data-bbox="323 707 1449 1088"> <thead> <tr> <th data-bbox="323 707 493 752">Parameter</th> <th data-bbox="493 707 1015 752">Description</th> <th data-bbox="1015 707 1449 752">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="323 752 493 880">d</td> <td data-bbox="493 752 1015 880">Driver device</td> <td data-bbox="1015 752 1449 880">R= RAM E= flash memory Default: R</td> </tr> <tr> <td data-bbox="323 880 493 920">o</td> <td data-bbox="493 880 1015 920">Object name</td> <td data-bbox="1015 880 1449 920">Default:*</td> </tr> <tr> <td data-bbox="323 920 493 963">e</td> <td data-bbox="493 920 1015 963">Extension name</td> <td data-bbox="1015 920 1449 963">Default: .GRF</td> </tr> <tr> <td data-bbox="323 963 493 1088">p</td> <td data-bbox="493 963 1015 1088">Whether to print image during storing or not.</td> <td data-bbox="1015 963 1449 1088">Y=yes N=no Default: Y</td> </tr> </tbody> </table>	Parameter	Description	Range	d	Driver device	R= RAM E= flash memory Default: R	o	Object name	Default:*	e	Extension name	Default: .GRF	p	Whether to print image during storing or not.	Y=yes N=no Default: Y
Parameter	Description	Range														
d	Driver device	R= RAM E= flash memory Default: R														
o	Object name	Default:*														
e	Extension name	Default: .GRF														
p	Whether to print image during storing or not.	Y=yes N=no Default: Y														
Response	None															

PZPL PROGRAMER'S MANUAL**~JA — Cancel All**

Description	This command is used to cancel all commands which originally stored in the buffer. It also cancels the batches which are under the printing process. If you send command ~JA, then after the current label is completed its printing process, All of the stored graphic, form and fonts will be deleted.
Syntax	~JA
Response	None

PZPL PROGRAMER'S MANUAL

^JB — Initialize Flash Memory Board

Description	This command is used to initialize flash memory board. After using this command, all data stored in the flash memory will be deleted. Note that since it may take a period of time to initialize memory, make sure that before sending this command, there are sufficient time reserved.								
Syntax	^JBA or ^JBE <table border="1" data-bbox="325 707 1356 920"> <thead> <tr> <th data-bbox="325 707 493 752">Parameter</th> <th data-bbox="493 707 997 752">Description</th> <th data-bbox="997 707 1356 752">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 752 493 920">a</td> <td data-bbox="493 752 997 920">Driver device</td> <td data-bbox="997 752 1356 920"> A= flash card E= internal flash Default: a value has to be entered </td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	Driver device	A= flash card E= internal flash Default: a value has to be entered
Parameter	Description	Range/Detail							
a	Driver device	A= flash card E= internal flash Default: a value has to be entered							
Response	None								

PZPL PROGRAMER'S MANUAL**~JB — reset optional memory**

Description	This command is used to delete all kinds of data stored in the external memory card. Make sure that the card cannot be write protected. This command is also can be applied for the condition about replacing battery. That is, when it comes to the failure of supplying power to the memory card and the battery need to be replaced, the command ~JB must have to be sent in the printer, otherwise, the memory card cannot work.
Syntax	~JB
Response	None

PZPL PROGRAMER'S MANUAL**~JC — Media Sensor Calibration**

Description	This command is used to adjust the media and ribbon sensor and measure the label length. When you send this command to the printer, it will feed some labels to accomplish above function.
Syntax	~JC
Response	None

PZPL PROGRAMER'S MANUAL**~JD — Diagnose Communications**

Description	After you send this commend to the printer, the dump mode will be entered. It can help you check out the hexadecimal value of each file.
Syntax	~JD

PZPL PROGRAMER'S MANUAL**~JE — End Communications Diagnosing**

Description	This command is used to end the command ~JD (Communications Diagnosing). After you send this command to the printer, it will leave the dump mode and then back to the normal printing mode.
Syntax	~JE
Response	None

PZPL PROGRAMER'S MANUAL

~JK — Delay Cut

Description	This command is used to let printer cut label under the delay cut mode. If the printer is under the delay cut mode which is set by command ^MM, the printer will enter pause mode after each label is printed out. Command ~JK has to be sent to let the cutter cut label. Make sure that you sent this command through separated file.
Syntax	~JK
Example	<pre> ^XA ^MMD ^FO100,150^A9,30,35^FDD&S^FS ^PQ3 ^XZ ^XA~JK^XZ </pre>

PZPL PROGRAMER'S MANUAL**~JL — Feed labels**

Description	After receiving this command, the printer will feed label.
Syntax	~JL
Response	None

PZPL PROGRAMER'S MANUAL**~JP — Pause**

Description	This command is used to pause before printing the next label. After receiving this command, the printer will enter in pause mode so that the printing process of the following format will be suspended. It is equal to use pause function.
Syntax	~JP
Response	None

PZPL PROGRAMER'S MANUAL

~JR — Reset Power

Description	This command is used to reset the power of printer with power-on self-test and after the process of reopening, all of the internal software, DRAM, parameters and default value will be cleared. After receiving this command, the printer is act like cold start. Power-on self-test (POST): A power-on self-test (POST) is a process performed by firmware or software routines immediately after a computer or other digital electronic device is powered on.
Syntax	~JR
Response	None

PZPL PROGRAMER'S MANUAL

~JS — Select Sensor

Description	After receiving this command, the printer will use the selected sensor according to the value specified by this command.								
Syntax	~JSa <table border="1" data-bbox="325 613 1358 826" style="margin-left: 40px;"> <thead> <tr> <th data-bbox="325 613 496 658">Parameter</th> <th data-bbox="496 613 999 658">Description</th> <th data-bbox="999 613 1358 658">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 658 496 826">a</td> <td data-bbox="496 658 999 826">Sensor selection</td> <td data-bbox="999 658 1358 826"> A= select automatically R= reflective sensor T= see through sensor Default: A </td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	Sensor selection	A= select automatically R= reflective sensor T= see through sensor Default: A
Parameter	Description	Range/Detail							
a	Sensor selection	A= select automatically R= reflective sensor T= see through sensor Default: A							
Response	None								

PZPL PROGRAMER'S MANUAL

^JU — Update Configuration

Description	After receiving this command, the printer will update configuration which specified by this command.							
Syntax	<p>~JUa</p> <table border="1" data-bbox="325 613 1358 869"> <thead> <tr> <th data-bbox="325 613 496 658">Parameter</th> <th data-bbox="496 613 938 658">Description</th> <th data-bbox="938 613 1358 658">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 658 496 869">a</td> <td data-bbox="496 658 938 869">Configuration which saved to permanent device</td> <td data-bbox="938 658 1358 869"> F: Reload factory defaults. R: Recall last saved settings. S: Save current settings. Default: a value has to be entered. </td> </tr> </tbody> </table>		Parameter	Description	Range/Detail	a	Configuration which saved to permanent device	F: Reload factory defaults. R: Recall last saved settings. S: Save current settings. Default: a value has to be entered.
Parameter	Description	Range/Detail						
a	Configuration which saved to permanent device	F: Reload factory defaults. R: Recall last saved settings. S: Save current settings. Default: a value has to be entered.						
Response	None							

PZPL PROGRAMER'S MANUAL

^JZ — Recovery Printing

Description	During the process of printing, sometimes, error condition may occur. At that time, After you remove the error, the command ^JZ can be used to recover the printing of label which was conducting before the wrong condition happened. This parameter is saved in permanent EEPROM or flash.								
Syntax	^JZa <table border="1" data-bbox="325 707 1356 878"> <thead> <tr> <th data-bbox="325 707 494 752">Parameter</th> <th data-bbox="494 707 997 752">Description</th> <th data-bbox="997 707 1356 752">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 752 494 878">a</td> <td data-bbox="494 752 997 878">Whether to reprint or not</td> <td data-bbox="997 752 1356 878">Y=yes N=no Default: Y</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	Whether to reprint or not	Y=yes N=no Default: Y
Parameter	Description	Range/Detail							
a	Whether to reprint or not	Y=yes N=no Default: Y							
Response	None								

PZPL PROGRAMER'S MANUAL

^KL — Select Language

Description	This command is used to define the language which will be shown on the LCD panel.		
Syntax	^KL a		
	Parameter	Description	Range/Detail
	a	Select language	1 = English 2 = Spanish 4 = German 7 = Portuguese 13 = Japanese 15 = Simplified Chinese 16 = Traditional Chinese 17 = Russian 50 = Thailand 51 = Turkish 52 = Farsi 53 = Malaysian

PZPL PROGRAMER'S MANUAL

^KN — Define Printer Name

Description	The command define printer name		
Syntax	^KNa,b		
Example			

Parameter	Description	Range/Detail
a	Printer name	Up to 16 alphanumeric Characters
b	Printer description	Up to 35 alphanumeric Characters

PZPL PROGRAMER'S MANUAL

^KP — Define LCD password

Description	Define LCD password								
Syntax	^KPa <table border="1" data-bbox="325 613 1358 741"> <thead> <tr> <th data-bbox="325 613 496 656">Parameter</th> <th data-bbox="496 613 995 656">Description</th> <th data-bbox="995 613 1358 656">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 656 496 741">a</td> <td data-bbox="496 656 995 741">password</td> <td data-bbox="995 656 1358 741">Any four-digit numeric sequence</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	password	Any four-digit numeric sequence
Parameter	Description	Range/Detail							
a	password	Any four-digit numeric sequence							
Example									

PZPL PROGRAMER'S MANUAL

^LH — Label Home

Description	As we mentioned before, both command ^FO and ^FT are used to set origin. The function of command ^FT is close to the command ^FO. The different point between them is the object position. The latter one is in charge of the upper-left corner area. As for command ^LH, its function is to define the new origin represented the label home (reference point for label). Note that this command is better to be used at the beginning of constructing label format and has to be put before the 1 ST command ^FS.									
Syntax	<p data-bbox="300 725 399 757">^LHx, y</p> <table border="1" data-bbox="325 801 1356 1099"> <thead> <tr> <th data-bbox="325 801 496 846">Parameter</th> <th data-bbox="496 801 995 846">Description</th> <th data-bbox="995 801 1356 846">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 846 496 972">x</td> <td data-bbox="496 846 995 972">x-axis (horizontal) position For the printer with left justification will ignore the x parameter.</td> <td data-bbox="995 846 1356 972">0~max printing width of the printer. Default: 0</td> </tr> <tr> <td data-bbox="325 972 496 1099">y</td> <td data-bbox="496 972 995 1099">y-axis (vertical) position 0~ max printing length of the printer.</td> <td data-bbox="995 972 1356 1099">Default: 0.</td> </tr> </tbody> </table> <p data-bbox="336 1106 1294 1182">The default home position of a label is the upper-left corner (position 0,0 along the x and y axis).</p>	Parameter	Description	Range/Detail	x	x-axis (horizontal) position For the printer with left justification will ignore the x parameter.	0~max printing width of the printer. Default: 0	y	y-axis (vertical) position 0~ max printing length of the printer.	Default: 0.
Parameter	Description	Range/Detail								
x	x-axis (horizontal) position For the printer with left justification will ignore the x parameter.	0~max printing width of the printer. Default: 0								
y	y-axis (vertical) position 0~ max printing length of the printer.	Default: 0.								
Example	<pre data-bbox="300 1234 983 1348">^XA ^LH30,50^FO100,100^A0,30,35^FDLABEL HOME^FS ^XZ</pre>									


PZPL PROGRAMER'S MANUAL

^LL — Label Length

Description	This command is used to define the label length and it is prerequisite when printing continuous media which does not have separator. Without this command, printer cannot identify the actual length of this kind of media. Note that this command has to be put before the 1 ST command ^FS				
Syntax	<p>^LLa</p> <table border="1" data-bbox="325 680 995 808"> <thead> <tr> <th>Parameter</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>a in pixels</td> <td>Length</td> </tr> </tbody> </table> <p>The value of y: For 6 dot/mm print head... Label length in inches x 152.4 (dots/inch) = y For 8 dot/mm print head... Label length in inches x 203.2 (dots/inch) = y For 12 dot/mm print head... Label length in inches x 304.8 (dots/inch) = y For 24 dot/mm print head... Label length in inches x 609.6 (dots/inch) = y</p>	Parameter	Description	a in pixels	Length
Parameter	Description				
a in pixels	Length				
Example	<pre>^XA^MNN^LL300 ^FO100,100^AF^FD300 Length^FS ^XZ</pre>				

PZPL PROGRAMER'S MANUAL

^LR — Print Reversed Label

Description	This command is used to reverse the label and then print it. In addition, command ^LR is valid of all fields in the label format. After using this, the outcome will appear as white over black/ black over white. Note that when using command ^LR, command ^GB must be used along with and command ^FR has to be put in all current and subsequent fields.						
Syntax	<p data-bbox="300 651 368 680">^LRa</p> <table border="1" data-bbox="325 728 1358 898"> <thead> <tr> <th data-bbox="325 728 496 770">Parameter</th> <th data-bbox="496 728 995 770">Description</th> <th data-bbox="995 728 1358 770">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 770 496 898">a</td> <td data-bbox="496 770 995 898">Whether to print reversed label or not</td> <td data-bbox="995 770 1358 898">Y=yes N=no Default: Y</td> </tr> </tbody> </table>	Parameter	Description	Range	a	Whether to print reversed label or not	Y=yes N=no Default: Y
Parameter	Description	Range					
a	Whether to print reversed label or not	Y=yes N=no Default: Y					
Response	None						
Example	<p data-bbox="304 1032 424 1061">^XA^LRY</p> <p data-bbox="304 1077 663 1106">^FO100,50^GB80,0,100^FS</p> <p data-bbox="304 1122 820 1151">^FO100,135^A0,50,45^FDEXAMPLE^FS</p> <p data-bbox="304 1167 360 1196">^XZ</p> 						

PZPL PROGRAMER'S MANUAL

^LS — Shift Label

Description	<p>Since there are different kinds of printer, the centralization and/ or left justification of which may not be totally compatible with others, command ^LS is used to adjust all of field positions to the left area to make variable printers all concurred. Note that this command has to be put before the 1ST command ^FS.</p>								
Syntax	<p data-bbox="288 629 363 663">^LSa</p> <table border="1" data-bbox="325 707 1358 960"> <thead> <tr> <th data-bbox="325 707 496 752">Parameter</th> <th data-bbox="496 707 995 752">Description</th> <th data-bbox="995 707 1358 752">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 752 496 960">a</td> <td data-bbox="496 752 995 960"> <p data-bbox="496 759 699 792">Shift left value</p> <p data-bbox="496 799 967 954">The value is assumed as positive, if you intend to use negative value, put symbol minus “-“before number.</p> </td> <td data-bbox="995 752 1358 960"> <p data-bbox="995 759 1134 792">-999~999</p> <p data-bbox="995 799 1134 833">Default: 0</p> </td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	<p data-bbox="496 759 699 792">Shift left value</p> <p data-bbox="496 799 967 954">The value is assumed as positive, if you intend to use negative value, put symbol minus “-“before number.</p>	<p data-bbox="995 759 1134 792">-999~999</p> <p data-bbox="995 799 1134 833">Default: 0</p>
Parameter	Description	Range/Detail							
a	<p data-bbox="496 759 699 792">Shift left value</p> <p data-bbox="496 799 967 954">The value is assumed as positive, if you intend to use negative value, put symbol minus “-“before number.</p>	<p data-bbox="995 759 1134 792">-999~999</p> <p data-bbox="995 799 1134 833">Default: 0</p>							
Example	<p data-bbox="288 1023 496 1057">^XA^LS150^XZ</p>								

PZPL PROGRAMER'S MANUAL

^LT — Shift Label Vertically

Description	This command is used to move label vertically. It bases on the apogee position of the label format. If you want to move whole label toward the top, enter the negative value. Vice versa. Its function is to trim the position of label without changing the rest media position.						
Syntax	$\text{^LT}a$ <table border="1" data-bbox="325 728 1353 857"> <thead> <tr> <th data-bbox="325 728 493 772">Parameter</th> <th data-bbox="493 728 991 772">Description</th> <th data-bbox="991 728 1353 772">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 772 493 857">a (in pixels)</td> <td data-bbox="493 772 991 857">Shift down value</td> <td data-bbox="991 772 1353 857">-120~120</td> </tr> </tbody> </table>	Parameter	Description	Range	a (in pixels)	Shift down value	-120~120
Parameter	Description	Range					
a (in pixels)	Shift down value	-120~120					
Example	^XA^LT150^XZ						

PZPL PROGRAMER'S MANUAL

^MC — Clear the image frame buffer

Description	This command is used to keep the current bitmap which used to be cleared after printed. Make sure use it together with command ^FV for making a label template. Note that when you using command ^MC, it will run in the background of the next label printed.						
Syntax	<p data-bbox="300 633 379 663">^MCa</p> <table border="1" data-bbox="325 707 1358 960"> <thead> <tr> <th data-bbox="325 707 496 752">Parameter</th> <th data-bbox="496 707 999 752">Description</th> <th data-bbox="999 707 1358 752">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 752 496 960">a</td> <td data-bbox="496 752 999 960">Whether to clear or not</td> <td data-bbox="999 752 1358 960">Y=yes N=no. (The printer will keep it.) Default: Y (initial value at power- up)</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Whether to clear or not	Y=yes N=no. (The printer will keep it.) Default: Y (initial value at power- up)
Parameter	Description	Range/Detail					
a	Whether to clear or not	Y=yes N=no. (The printer will keep it.) Default: Y (initial value at power- up)					
Response	None						
Example	<pre data-bbox="325 1122 868 1480"> ^XA ^FO100,200^A0,30,25^FDCLEAR DATA^FS ^MCY ^XZ ^XA ^FO100,150^A0,30,25^FDKEEP DATA^FS ^MCN ^XZ </pre> <p data-bbox="1118 1173 1262 1202">CLEAR DATA</p> <p data-bbox="1118 1391 1262 1420">KEEP DATA</p>						

PZPL PROGRAMER'S MANUAL

^MD — Set the darkness of media

Description	This command is used to set the darkness of media according to the current darkness setting. It won't be saved to the permanent memory. Note that command ~SD may be used together with command ^MD only if the former one is applicable.								
Syntax	<p data-bbox="300 577 384 607">^MDa</p> <table border="1" data-bbox="325 651 1358 1196"> <thead> <tr> <th data-bbox="325 651 496 696">Parameter</th> <th data-bbox="496 651 1106 696">Description</th> <th data-bbox="1106 651 1358 696">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 696 496 1196">a</td> <td data-bbox="496 696 1106 1196"> <p data-bbox="507 705 628 734">darkness</p> <p data-bbox="507 743 1046 860">If current darkness value is 10, and you enter the command ^MD 5, the outcome value will be 15 (10+5).</p> <p data-bbox="507 869 1054 985">If current darkness value is 10, and you enter the command ^MD -5, the outcome value will be 5 (10-5).</p> <p data-bbox="507 994 1070 1151">If current darkness value is 10, and you enter the command ^MD -50, the outcome value will be -30. (the range of acceptable values is from -30 to 30).</p> </td> <td data-bbox="1106 696 1358 1196"> <p data-bbox="1117 705 1214 734">-30~30</p> <p data-bbox="1117 743 1251 772">Default: 0</p> </td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	<p data-bbox="507 705 628 734">darkness</p> <p data-bbox="507 743 1046 860">If current darkness value is 10, and you enter the command ^MD 5, the outcome value will be 15 (10+5).</p> <p data-bbox="507 869 1054 985">If current darkness value is 10, and you enter the command ^MD -5, the outcome value will be 5 (10-5).</p> <p data-bbox="507 994 1070 1151">If current darkness value is 10, and you enter the command ^MD -50, the outcome value will be -30. (the range of acceptable values is from -30 to 30).</p>	<p data-bbox="1117 705 1214 734">-30~30</p> <p data-bbox="1117 743 1251 772">Default: 0</p>
Parameter	Description	Range/Detail							
a	<p data-bbox="507 705 628 734">darkness</p> <p data-bbox="507 743 1046 860">If current darkness value is 10, and you enter the command ^MD 5, the outcome value will be 15 (10+5).</p> <p data-bbox="507 869 1054 985">If current darkness value is 10, and you enter the command ^MD -5, the outcome value will be 5 (10-5).</p> <p data-bbox="507 994 1070 1151">If current darkness value is 10, and you enter the command ^MD -50, the outcome value will be -30. (the range of acceptable values is from -30 to 30).</p>	<p data-bbox="1117 705 1214 734">-30~30</p> <p data-bbox="1117 743 1251 772">Default: 0</p>							
Example	^XA^MD15^XZ								

PZPL PROGRAMER'S MANUAL

^MF — Media feed

Description	This command is used to indicate what happens to the media when power is turned on and off after the error is cleared. Remember ,if you select the N setting, the printer considers the media and its position relative to the print head to be the same position as before turning off the power or opening the print head. Save your changes by using the ^JU command.											
Syntax	<table border="1" data-bbox="325 680 1358 1267"> <thead> <tr> <th data-bbox="325 680 496 723">Parameter</th> <th data-bbox="496 680 1106 723">Description</th> <th data-bbox="1106 680 1358 723">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 723 496 1014">p</td> <td data-bbox="496 723 1106 1014">The media at power-up.</td> <td data-bbox="1106 723 1358 1014">F=feed a label C=no use L=no use N=no media feed S=calibration Default: N</td> </tr> <tr> <td data-bbox="325 1014 496 1267">h</td> <td data-bbox="496 1014 1106 1267">The media at head-close.</td> <td data-bbox="1106 1014 1358 1267">F=feed a label C= no use L= no use N= no media S=feed a label Default: F</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	p	The media at power-up.	F=feed a label C=no use L=no use N=no media feed S=calibration Default: N	h	The media at head-close.	F=feed a label C= no use L= no use N= no media S=feed a label Default: F
Parameter	Description	Range/Detail										
p	The media at power-up.	F=feed a label C=no use L=no use N=no media feed S=calibration Default: N										
h	The media at head-close.	F=feed a label C= no use L= no use N= no media S=feed a label Default: F										
Response												

PZPL PROGRAMER'S MANUAL

^ML — Set maximum length of label

Description	This command is used to set maximum label length. Note that you had better to set this command \geq actual label length in order to work smoothly.								
Syntax	^MLa <table border="1" data-bbox="325 658 1358 786"> <thead> <tr> <th data-bbox="325 658 496 701">Parameter</th> <th data-bbox="496 658 995 701">Description</th> <th data-bbox="995 658 1358 701">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 701 496 786">a (in pixels)</td> <td data-bbox="496 701 995 786">maximum label length</td> <td data-bbox="995 701 1358 786">Default: 0</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a (in pixels)	maximum label length	Default: 0
Parameter	Description	Range/Detail							
a (in pixels)	maximum label length	Default: 0							
Response	None								

PZPL PROGRAMER'S MANUAL

^MM — Determine the print mode

Description	<p>This command is used to decide what print mode will be used after label(s)has/have been printed. In general, there are four kinds of print mode. They are: 1. Tear off: after whole printing process, there are labels with liner attached can be torn off manually. 2. Peel off mode: the label available sensor is started so printing stops by the end you removed the label. 3. Cut mode: the labels are cut by printer one by one automatically. 4. Delay cut mode: while receiving this mode, printer will pause cut function until the end of the whole printing process which causes many labels was not cut automatically. Enter the command ^JK to activate cut mode and make sure it is sent in a separate file.</p>						
Syntax	<p>^MDa</p> <table border="1" data-bbox="325 880 1358 1256"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Select mode</td> <td> T= tear off mode P= peel off mode C= cut mode D= delay cut mode (used together with command ^JK. Make sure it is sent in a separate file.) Default: T </td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Select mode	T= tear off mode P= peel off mode C= cut mode D= delay cut mode (used together with command ^JK. Make sure it is sent in a separate file.) Default: T
Parameter	Description	Range/Detail					
a	Select mode	T= tear off mode P= peel off mode C= cut mode D= delay cut mode (used together with command ^JK. Make sure it is sent in a separate file.) Default: T					
Response	None						

PZPL PROGRAMER'S MANUAL

^MN — track media type

Description	<p>There are variable type of media according to their function. This command is used to track media by sending different value so that the printer can be relayed to what kind of media is being used. They are introduction of media which are commonly used: 1. continuous media: this kind of media has no physical characteristic, such as a web or notch, to separate label, so you have to use command ^LL to define Label length. 2. Non-continuous media: this media has physical characteristic, such as web or notch, to separate the labels.</p>								
Syntax	<p>^MNa</p> <table border="1" data-bbox="325 822 1356 1032"> <thead> <tr> <th data-bbox="325 822 496 864">Parameter</th> <th data-bbox="496 822 995 864">Description</th> <th data-bbox="995 822 1356 864">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 864 496 1032">a</td> <td data-bbox="496 864 995 1032">Media type is being used.</td> <td data-bbox="995 864 1356 1032"> Y= non-continuous media/ die-cut N= continuous media Default: Y </td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	Media type is being used.	Y= non-continuous media/ die-cut N= continuous media Default: Y
Parameter	Description	Range/Detail							
a	Media type is being used.	Y= non-continuous media/ die-cut N= continuous media Default: Y							
Example	<p>^XA^MNN^XZ</p>								

PZPL PROGRAMER'S MANUAL

^MP — Mode Protection

Description	The ^MP command is used to disable the various mode functions on the control panel								
Syntax	^MPa <table border="1" data-bbox="325 613 1358 1032"> <thead> <tr> <th data-bbox="325 613 496 658">Parameter</th> <th data-bbox="496 613 836 658">Description</th> <th data-bbox="836 613 1358 658">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 658 496 1032">a</td> <td data-bbox="496 658 836 1032">Mode to protect</td> <td data-bbox="836 658 1358 1032"> D = disable Darkness Mode P =disable Position Mode C =disable Calibration Mode E =enable all modes S =disable all modes W =disable Pause F =disable Feed X=disable Cancel M=disable menu </td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	Mode to protect	D = disable Darkness Mode P =disable Position Mode C =disable Calibration Mode E =enable all modes S =disable all modes W =disable Pause F =disable Feed X=disable Cancel M=disable menu
Parameter	Description	Range/Detail							
a	Mode to protect	D = disable Darkness Mode P =disable Position Mode C =disable Calibration Mode E =enable all modes S =disable all modes W =disable Pause F =disable Feed X=disable Cancel M=disable menu							
Example	^XA ^MPF ^XZ								

PZPL PROGRAMER'S MANUAL

^MT — Set media transferred mode

Description	This command is used to set what kind of media transfer mode is being used currently in the printer. There are two kinds of mode: 1. Thermal Transfer Mode –The ink on the ribbon is necessary to the media of this kind of mode. It can use black or colored ribbon. 2. Direct Thermal Mode – the media of this kind of mode is heat sensitive. It does not require ribbon.						
Syntax	<p data-bbox="300 674 379 701">^MTa</p> <table border="1" data-bbox="325 748 1358 918"> <thead> <tr> <th data-bbox="325 748 496 790">Parameter</th> <th data-bbox="496 748 1002 790">Description</th> <th data-bbox="1002 748 1358 790">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 790 496 918">a</td> <td data-bbox="496 790 1002 918">Select Media Transfer mode</td> <td data-bbox="1002 790 1358 918">T= thermal transfer D= direct thermal Default: T</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Select Media Transfer mode	T= thermal transfer D= direct thermal Default: T
Parameter	Description	Range/Detail					
a	Select Media Transfer mode	T= thermal transfer D= direct thermal Default: T					
Example	^XA^MTD^XZ						

PZPL PROGRAMER'S MANUAL

^MU — set units of measurement

Description	This command is used to set the measure unit used by the printer. It should be entered at the beginning of label format. After you send this command to the printer, it will affect all of the commands that have length parameter and will be carried one field by one field. It also can be used for printing under lower resolutions condition than the original setting of printer. For example, you can print label which resolution is 200 dpi with the 300 dpi printer.						
Syntax	<p data-bbox="300 707 384 741">^MDa</p> <table border="1" data-bbox="325 786 1358 994"> <thead> <tr> <th data-bbox="325 786 496 824">Parameter</th> <th data-bbox="496 786 995 824">Description</th> <th data-bbox="995 786 1358 824">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 824 496 994">a</td> <td data-bbox="496 824 995 994">Unit</td> <td data-bbox="995 824 1358 994"> D = pixels. I = inches M = millimeters Default: D </td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Unit	D = pixels. I = inches M = millimeters Default: D
Parameter	Description	Range/Detail					
a	Unit	D = pixels. I = inches M = millimeters Default: D					
Response	None						

PZPL PROGRAMER'S MANUAL

^PH — Slew to home position

Description	This command is used to let printer slew to home position by the means of feeding one blank label. There are two format of this command and they have common function (feed one blank label) but different timing to do this. After receiving command ^PH, the label will be fed after the current format prints. As for receiving command ~PH, the label will be fed before the current format prints or while the printer is in the pause mode condition.
Syntax	^PH ~PH
Response	None

PZPL PROGRAMER'S MANUAL

^PM — Print mirror image

Description	This command is used to print the whole field of label as an image, in the meanwhile, flip it from the left side to the right so that the image will become a mirror image. Note that this command will be skip if the parameter misses.						
Syntax	<p data-bbox="300 595 379 629">^PMa</p> <table border="1" data-bbox="325 672 1358 842"> <thead> <tr> <th data-bbox="325 672 496 712">Parameter</th> <th data-bbox="496 672 997 712">Description</th> <th data-bbox="997 672 1358 712">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 712 496 842">a</td> <td data-bbox="496 712 997 842">Direction</td> <td data-bbox="997 712 1358 842"> N= normal Y= flip printing Default: N </td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Direction	N= normal Y= flip printing Default: N
Parameter	Description	Range/Detail					
a	Direction	N= normal Y= flip printing Default: N					
Response	None						
Example	<pre data-bbox="325 1016 1220 1339"> ^XA^PMY ^FO500,40^AF^FDREVERSE^FS ^XZ REVERSE ^XA^PMN ^FO100,150^AF^FDNORMAL^FS ^XZ NORMAL </pre>						

PZPL PROGRAMER'S MANUAL

^PO — Print Orientation

Description	This command is used to print the label which will be inverted with the top at the bottom and the bottom at the top (180 degrees). Note that if you have already sent the command ^LL, ^LS or ^LT in the printer, the outcome of command ^PO will be influenced by them.								
Syntax	^POa <table border="1" data-bbox="325 707 1358 880"> <thead> <tr> <th data-bbox="325 707 496 752">Parameter</th> <th data-bbox="496 707 858 752">Description</th> <th data-bbox="858 707 1358 752">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 752 496 880">a</td> <td data-bbox="496 752 858 880">Direction</td> <td data-bbox="858 752 1358 880"> N= normal. I= printing the label upside down. Default: N </td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	Direction	N= normal. I= printing the label upside down. Default: N
Parameter	Description	Range/Detail							
a	Direction	N= normal. I= printing the label upside down. Default: N							
Response	None								
Example	<pre data-bbox="325 1003 1174 1122"> ^XA^POI ^FO500,40^AF^FDINVERT^FS ^XZ </pre> <p style="text-align: right; margin-right: 100px;">IИΛEБI</p>								

PZPL PROGRAMER'S MANUAL

^PP — Programmable Pause

Description	This command is used to conduct programmable pause by means of entering pause mode to the printer. There are two format of this command and they have common function (doing programmable pause) but different timing to do so. After receiving command ^PP, the printer will pause after the 1 st label is printed. If you want to return to normal printing mode, you can press FEED button on control panel of the printer.
Syntax	^PP
Example	<pre> ^XA ^PP ^FO0,0^A8,20,20^FDPZPL^FS ^PQ2^FS ^XZ ^XA ^FO0,0^A8^FD01010^FS ^PQ3^FS ^XZ </pre>

PZPL PROGRAMER'S MANUAL

^PQ — Print Quantity Control

Description	This command is used to control over the printing operations which involve printing quantity. Such as how many labels should be printed during the normal printing mode or before the printing pause mode and the number of label copies.															
Syntax	<p data-bbox="300 595 464 629">^PQq, p, r, o</p> <table border="1" data-bbox="325 672 1358 1055"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>q</td> <td>Total Quantity of labels to print</td> <td>1~32767 Default: 1</td> </tr> <tr> <td>p</td> <td>Pause count (labels between pauses)</td> <td>0~32767 Default: 0 = no pause</td> </tr> <tr> <td>r</td> <td>Copies for each set</td> <td>0~ 32767. Default: 0 for single copy.</td> </tr> <tr> <td>o</td> <td>Override pause count</td> <td>N =no Default: N.</td> </tr> </tbody> </table> <p data-bbox="300 1099 1442 1173">If you set Y to parameter o, then the printer does not pause after all the group count of labels has been printed.</p>	Parameter	Description	Range/Detail	q	Total Quantity of labels to print	1~32767 Default: 1	p	Pause count (labels between pauses)	0~32767 Default: 0 = no pause	r	Copies for each set	0~ 32767. Default: 0 for single copy.	o	Override pause count	N =no Default: N.
Parameter	Description	Range/Detail														
q	Total Quantity of labels to print	1~32767 Default: 1														
p	Pause count (labels between pauses)	0~32767 Default: 0 = no pause														
r	Copies for each set	0~ 32767. Default: 0 for single copy.														
o	Override pause count	N =no Default: N.														
Response	None															
Example	<pre data-bbox="331 1402 842 1559"> ^XA ^FO140,79^A0,40,35^FR^SN98,1,N^FS ^PQ2,0,2 ^XZ </pre> <p data-bbox="1066 1406 1118 1458">98</p> <p data-bbox="1066 1518 1118 1570">98</p>															

PZPL PROGRAMER'S MANUAL

^PR — Print Rate

Description	This command is used to set printing speed. The speed which you determined will be valid until you turn off the printer or reset different printing speed. Note that since there are many factors that affect the printing process, the actual printing speed is based on what type of printer or media that you use.												
Syntax	<p data-bbox="300 613 432 645">^PRa, b, c</p> <table border="1" data-bbox="325 689 1353 987"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Print speed</td> <td>2 ~6 IPS Default: 2 IPS.</td> </tr> <tr> <td>b</td> <td>Feed Speed</td> <td>2 ~ 6 IPS Default: 2 IPS.</td> </tr> <tr> <td>c</td> <td>Backfeed speed</td> <td>2 ~ 6 IPS. Default: 2 IPS.</td> </tr> </tbody> </table> <ul data-bbox="300 994 1378 1151" style="list-style-type: none"> ● Ips= inches per seconds ● Note that there are speed limitation based on different type of printer, you can enter the value that over the maximum but printer only works with its own acceptable maximum speed. 	Parameter	Description	Range	a	Print speed	2 ~6 IPS Default: 2 IPS.	b	Feed Speed	2 ~ 6 IPS Default: 2 IPS.	c	Backfeed speed	2 ~ 6 IPS. Default: 2 IPS.
Parameter	Description	Range											
a	Print speed	2 ~6 IPS Default: 2 IPS.											
b	Feed Speed	2 ~ 6 IPS Default: 2 IPS.											
c	Backfeed speed	2 ~ 6 IPS. Default: 2 IPS.											
Example	<pre data-bbox="300 1189 884 1709"> ^XA ^MUD ^LH0,0 ^MNY ^LL600 ^PW800 ^PR3,3,3 ~TA0 ~SD0 ^MTT ^MMT ^FO77,79^GB686,438,438^FS ^PQ1,1,0,Y^FS ^XZ </pre>												

PZPL PROGRAMER'S MANUAL**~PS — Start printing**

Description	This command is used to return to the normal printing mode from the pause mode. When the printer is during pause mode, you can press FEED or PAUSE button on control panel of the printer to continue printing.
Syntax	~PS
Response	None
Example	^XA~PS^XZ

PZPL PROGRAMER'S MANUAL

^PW — Print Width

Description	This command is used to set the printing width of label. Note that If the value that you entered is over the width of the label, then width will be set to the maximum size of label.						
Syntax	<p data-bbox="300 577 379 607">^PWa</p> <table border="1" data-bbox="325 651 1358 781"> <thead> <tr> <th data-bbox="325 651 496 696">Parameter</th> <th data-bbox="496 651 995 696">Description</th> <th data-bbox="995 651 1358 696">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 696 496 781">a (in dots)</td> <td data-bbox="496 696 995 781">Label width</td> <td data-bbox="995 696 1358 781">Default: N</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a (in dots)	Label width	Default: N
Parameter	Description	Range/Detail					
a (in dots)	Label width	Default: N					
Response	None						

PZPL PROGRAMER'S MANUAL

^SC — Set Serial Communication (RS 232Serial Converter)

Description	This command is used to set the parameter of RS232 serial converter to meet use's need. The parameters set by command ^SC will be saved to the permanent memory.		
Syntax	^SCa,b,c,d,e		
	Parameter	Description	Range/Detail
	a	Baud rate	1200 ~ 115200.
	b	Data length	Default: 8 data bits (fixed)
	c	Parity	Default: N=none parity (fixed)
	d	Stop bits	1 or 2
	e	Handshake	X= Xon/Xoff D= hardware
Response	None		
Example	^XA^SC4800^XZ Set the baud rate 4800		

PZPL PROGRAMER'S MANUAL

~SD — Set Darkness

Description	This command is used to set the printing darkness. It also can allow darkness compensate without updating software version. The parameters set by this command will be saved to the permanent memory. Note that command ^MD may be used together with command ~SD only if the former one is applicable.						
Syntax	<p>~SDa</p> <table border="1" data-bbox="325 707 1356 837"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Base darkness</td> <td>1~30 Default: 16</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Base darkness	1~30 Default: 16
Parameter	Description	Range/Detail					
a	Base darkness	1~30 Default: 16					
Response	None						

PZPL PROGRAMER'S MANUAL

^SL — Set Time Mode for Real-Time Clock

Description	This command is used to set up the operation mode of printer's RTC. Once you created the image, the time is started read immediately. If the time of image which stays in the sequence of messages or jobs held in temporary storage awaiting transmission or processing is longer than the time mode that you already set up, the time will be recount as a new time automatically. Note that you have to send the command ^FO after you use this command.								
Syntax	^SLa <table border="1" data-bbox="325 763 1358 1227"> <thead> <tr> <th data-bbox="325 763 496 808">Parameter</th> <th data-bbox="496 763 687 808">Description</th> <th data-bbox="687 763 1358 808">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 808 496 1227">a</td> <td data-bbox="496 808 687 1227">Time mode</td> <td data-bbox="687 808 1358 1227"> S= start time mode This parameter represents the time read from RTC when label formatting with ^XA. The time of first and the last label will be the same. T= time now mode This parameter represents the time that read from RTC when label to be printed in queue. That means each printed label may has its own different time. Default: S </td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	Time mode	S= start time mode This parameter represents the time read from RTC when label formatting with ^XA. The time of first and the last label will be the same. T= time now mode This parameter represents the time that read from RTC when label to be printed in queue. That means each printed label may has its own different time. Default: S
Parameter	Description	Range/Detail							
a	Time mode	S= start time mode This parameter represents the time read from RTC when label formatting with ^XA. The time of first and the last label will be the same. T= time now mode This parameter represents the time that read from RTC when label to be printed in queue. That means each printed label may has its own different time. Default: S							
Response	None								

PZPL PROGRAMER'S MANUAL

^SN — Set Counter Value

Description	This command is used to set increment/ decrement data of counter. After defined these value, when printer prints a label, the counter will follow these specific values you've set.												
Syntax	<p data-bbox="300 595 432 629">^SNa, b, c</p> <table border="1" data-bbox="325 672 1358 1010"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Start value</td> <td>12-digit maximum Default: 1</td> </tr> <tr> <td>b</td> <td>increment/ decrement value</td> <td>12-digit maximum Default: 1.</td> </tr> <tr> <td>c</td> <td>Whether to add Leading zeros or not</td> <td>Y= yes N= no Default: N</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Start value	12-digit maximum Default: 1	b	increment/ decrement value	12-digit maximum Default: 1.	c	Whether to add Leading zeros or not	Y= yes N= no Default: N
Parameter	Description	Range/Detail											
a	Start value	12-digit maximum Default: 1											
b	increment/ decrement value	12-digit maximum Default: 1.											
c	Whether to add Leading zeros or not	Y= yes N= no Default: N											
Response	None												
Example	<p data-bbox="316 1243 807 1435"> ^XA ^FO100,50^GB200,150,3^FS ^FO100,100^A0,40,35^SN100,1,N^FS ^PQ2 ^XZ </p> <div data-bbox="986 1249 1195 1406" style="border: 1px solid black; padding: 5px; display: inline-block; margin: 10px;">100</div> <div data-bbox="963 1518 1177 1675" style="border: 1px solid black; padding: 5px; display: inline-block; margin: 10px;">101</div>												

PZPL PROGRAMER'S MANUAL

^SO — Set Offset of the Real-Time Clock

Description	This command is used to set 2 nd or 3 rd offset besides the main Real-Time Clock. Note that one label can merely fit one command (SO2). If exceeds that, the extra offset is needed. It can be set by command (SO3).																										
Syntax	^SOa,b, c, d, e, f, g <table border="1" data-bbox="325 672 1356 1346"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Clock set</td> <td>2 = secondary 3 = third Default: Value must be entered</td> </tr> <tr> <td>b</td> <td>Months offset</td> <td>-32000~32000 Default: 0</td> </tr> <tr> <td>c</td> <td>Days offset</td> <td>-32000~32000 Default: 0</td> </tr> <tr> <td>d</td> <td>Years offset</td> <td>-32000~32000 Default: 0</td> </tr> <tr> <td>e</td> <td>Hours offset</td> <td>-32000~32000 Default: 0</td> </tr> <tr> <td>f</td> <td>Minutes offset</td> <td>-32000~32000 Default: 0</td> </tr> <tr> <td>g</td> <td>Seconds offset</td> <td>-32000~32000 Default: 0</td> </tr> </tbody> </table>			Parameter	Description	Range/Detail	a	Clock set	2 = secondary 3 = third Default: Value must be entered	b	Months offset	-32000~32000 Default: 0	c	Days offset	-32000~32000 Default: 0	d	Years offset	-32000~32000 Default: 0	e	Hours offset	-32000~32000 Default: 0	f	Minutes offset	-32000~32000 Default: 0	g	Seconds offset	-32000~32000 Default: 0
Parameter	Description	Range/Detail																									
a	Clock set	2 = secondary 3 = third Default: Value must be entered																									
b	Months offset	-32000~32000 Default: 0																									
c	Days offset	-32000~32000 Default: 0																									
d	Years offset	-32000~32000 Default: 0																									
e	Hours offset	-32000~32000 Default: 0																									
f	Minutes offset	-32000~32000 Default: 0																									
g	Seconds offset	-32000~32000 Default: 0																									
Response	None																										

PZPL PROGRAMER'S MANUAL

^ST — Set Date and Time of the Real-Time Clock

Description	This command is used to set the date and time of the Real-Time Clock. Note that there are no default values for parameter a to f.																								
Syntax	<p data-bbox="300 555 534 591">^STa,b, c, d, e, f, g</p> <table border="1" data-bbox="325 633 1179 1104"> <thead> <tr> <th data-bbox="325 633 493 678">Parameter</th> <th data-bbox="493 633 799 678">Description</th> <th data-bbox="799 633 1179 678">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 678 493 723">a</td> <td data-bbox="493 678 799 723">Month</td> <td data-bbox="799 678 1179 723">01~12</td> </tr> <tr> <td data-bbox="325 723 493 768">b</td> <td data-bbox="493 723 799 768">Day</td> <td data-bbox="799 723 1179 768">01~31</td> </tr> <tr> <td data-bbox="325 768 493 813">c</td> <td data-bbox="493 768 799 813">Year</td> <td data-bbox="799 768 1179 813">2000~2099</td> </tr> <tr> <td data-bbox="325 813 493 857">d</td> <td data-bbox="493 813 799 857">Hour</td> <td data-bbox="799 813 1179 857">00~23</td> </tr> <tr> <td data-bbox="325 857 493 902">e</td> <td data-bbox="493 857 799 902">Minutes</td> <td data-bbox="799 857 1179 902">00~59</td> </tr> <tr> <td data-bbox="325 902 493 947">f</td> <td data-bbox="493 902 799 947">Seconds</td> <td data-bbox="799 902 1179 947">00~59</td> </tr> <tr> <td data-bbox="325 947 493 1104">g</td> <td data-bbox="493 947 799 1104">Format</td> <td data-bbox="799 947 1179 1104"> A= A.M. P= P.M. M= 24 hours military Default: M </td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a	Month	01~12	b	Day	01~31	c	Year	2000~2099	d	Hour	00~23	e	Minutes	00~59	f	Seconds	00~59	g	Format	A= A.M. P= P.M. M= 24 hours military Default: M
Parameter	Description	Range/Detail																							
a	Month	01~12																							
b	Day	01~31																							
c	Year	2000~2099																							
d	Hour	00~23																							
e	Minutes	00~59																							
f	Seconds	00~59																							
g	Format	A= A.M. P= P.M. M= 24 hours military Default: M																							
Response	None																								

PZPL PROGRAMER'S MANUAL

~TA — Sets tear-off adjust position

Description	After you printed a label, this command can be used to adjust position of the rest media (where the label is being cut or tore off). Note that if you do not define parameter, then this command will be ignored by printer.						
Syntax	<p>~TAa</p> <table border="1" data-bbox="325 672 1356 801"> <thead> <tr> <th>Parameter</th> <th>Description</th> <th>Range/Detail</th> </tr> </thead> <tbody> <tr> <td>a (in pixels)</td> <td>Adjustment value</td> <td>-64 ~ 64 Default: 0</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	a (in pixels)	Adjustment value	-64 ~ 64 Default: 0
Parameter	Description	Range/Detail					
a (in pixels)	Adjustment value	-64 ~ 64 Default: 0					
Response	None						

PZPL PROGRAMER'S MANUAL

^TO — Copy Object

Description	This command is used to copy object(s) between storage devices. Note that both the source and destination devices have to be accessible, and the destination device driver has enough storage; otherwise, this command will be ignored by printer.															
Syntax	<p data-bbox="300 595 488 629">^Tos:o.e,d:o.e</p> <table border="1" data-bbox="325 672 1358 1010"> <thead> <tr> <th data-bbox="325 672 496 712">Parameter</th> <th data-bbox="496 672 995 712">Description</th> <th data-bbox="995 672 1358 712">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 712 496 797">d</td> <td data-bbox="496 712 995 797">Destination device driver name</td> <td data-bbox="995 712 1358 797">Default: a value has to be entered.</td> </tr> <tr> <td data-bbox="325 797 496 925">s</td> <td data-bbox="496 797 995 925">Source device driver name</td> <td data-bbox="995 797 1358 925">R= RAM E= flash memory. Default: R</td> </tr> <tr> <td data-bbox="325 925 496 967">o</td> <td data-bbox="496 925 995 967">Object name</td> <td data-bbox="995 925 1358 967"></td> </tr> <tr> <td data-bbox="325 967 496 1010">e</td> <td data-bbox="496 967 995 1010">Extension name</td> <td data-bbox="995 967 1358 1010"></td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	d	Destination device driver name	Default: a value has to be entered.	s	Source device driver name	R= RAM E= flash memory. Default: R	o	Object name		e	Extension name	
Parameter	Description	Range/Detail														
d	Destination device driver name	Default: a value has to be entered.														
s	Source device driver name	R= RAM E= flash memory. Default: R														
o	Object name															
e	Extension name															
Example	^XA^TOR:OBJECT.GRF,123.GRF^XZ															

PZPL PROGRAMER'S MANUAL

~WC — Prints Configuration Information

Description	When you need to check out setting information about the printer, you can use command ~WC to reach your purpose by means of printing various setting data in labels, such as firmware version, printing setting and so on. You can find more details in the syntax part below. Note that the configuration information can be printed only when the printer is under idle condition.
Syntax	<p>~WC</p> <p>Configuration information includes following data:</p> <p>Font List</p> <ul style="list-style-type: none"> --Symbol set <p>Firmware</p> <ul style="list-style-type: none"> --Version <p>--Checksum data</p> <p>Hardware</p> <ul style="list-style-type: none"> --Memory size --Accessories --RS232 protocol --Sensor type <p>Media</p> <ul style="list-style-type: none"> --Media type --Ribbon mode --Printing length <p>Printer Settings</p> <ul style="list-style-type: none"> --Printing speed --Printing darkness --Printing mode --Printing selection <p>Control code definition</p> <ul style="list-style-type: none"> --Reprint control
Response	None

PZPL PROGRAMER'S MANUAL

^WD — Print Directory

Description	This command is used to print the file list of various storage media, such as objects or bar codes which stored in fonts or DRAM. All data list will be surrounded by double line box. The list includes: 1. The name of bar codes. 2. The name and size of font and the number of font which used with command ^A. 3. The name, size, extension and flags (optional) of objects stored in DRAM.												
Syntax	<p data-bbox="300 674 435 701">^WDd:o.e</p> <table border="1" data-bbox="325 748 1358 1003"> <thead> <tr> <th data-bbox="325 748 496 790">Parameter</th> <th data-bbox="496 748 995 790">Description</th> <th data-bbox="995 748 1358 790">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 790 496 916">d</td> <td data-bbox="496 790 995 916">Device driver name</td> <td data-bbox="995 790 1358 916">R= RAM E= flash memory. Default: R</td> </tr> <tr> <td data-bbox="325 916 496 958">o</td> <td data-bbox="496 916 995 958">Object name (optional)</td> <td data-bbox="995 916 1358 958"></td> </tr> <tr> <td data-bbox="325 958 496 1003">e</td> <td data-bbox="496 958 995 1003">Extension name (optional)</td> <td data-bbox="995 958 1358 1003"></td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	d	Device driver name	R= RAM E= flash memory. Default: R	o	Object name (optional)		e	Extension name (optional)	
Parameter	Description	Range/Detail											
d	Device driver name	R= RAM E= flash memory. Default: R											
o	Object name (optional)												
e	Extension name (optional)												
Response	None												

PZPL PROGRAMER'S MANUAL**^XA — Start Format**

Description	This command is widely used in all of the PZPL command. It must be put at the beginning, representing the start of a new label format. Note that each command should be started with this command. Besides, end with command ^XZ.
Syntax	^XA
Response	None

PZPL PROGRAMER'S MANUAL**^XB — Suppress Backfeed**

Description	This command is used to forbid printer to backfeed. For the purpose of enhancing throughput, this command can help suppress the tear-off mode which is forward feeding. If there is no forward feeding happened, then a backfeed is no need to be used. Note that this command cannot be put in the last label while you printing a bunch of labels. Besides, in order to prevent jam from occurring in cutter mode, command ^XB suppresses backfeed and cutting in the meanwhile.
Syntax	^XB
Response	None

PZPL PROGRAMER'S MANUAL

^XF — Recall Form

Description	This command is used to recall form which is originally stored in the printer in order to combining it with other data. As for the part of combining, you should use command ^FN. Note that command ^XF can be put anywhere or put more than just one time within the command.												
Syntax	<p data-bbox="300 629 416 663">^XFd:o.e</p> <table border="1" data-bbox="323 707 1358 965"> <thead> <tr> <th data-bbox="323 707 496 752">Parameter</th> <th data-bbox="496 707 995 752">Description</th> <th data-bbox="995 707 1358 752">Range/Detail</th> </tr> </thead> <tbody> <tr> <td data-bbox="323 752 496 880">d</td> <td data-bbox="496 752 995 880">Device driver name</td> <td data-bbox="995 752 1358 880">R= RAM E= flash memory. Default: R</td> </tr> <tr> <td data-bbox="323 880 496 920">o</td> <td data-bbox="496 880 995 920">Form name</td> <td data-bbox="995 880 1358 920"></td> </tr> <tr> <td data-bbox="323 920 496 965">e</td> <td data-bbox="496 920 995 965">Extension name</td> <td data-bbox="995 920 1358 965">Default: “.ZPL”.</td> </tr> </tbody> </table>	Parameter	Description	Range/Detail	d	Device driver name	R= RAM E= flash memory. Default: R	o	Form name		e	Extension name	Default: “.ZPL”.
Parameter	Description	Range/Detail											
d	Device driver name	R= RAM E= flash memory. Default: R											
o	Form name												
e	Extension name	Default: “.ZPL”.											
Response	None												
Example	<pre data-bbox="312 1133 1121 1285"> ^XA ^XFA.PZPL^FS ^FN1^FDCOMMAND XF^FS ^XZ COMMAND XF </pre>												

PZPL PROGRAMER'S MANUAL

^XG — Recall Graphic

Description	This command is used to recall image(s) from different types of storage without limited number of times. You can combine graphic images with texts by this command.																		
Syntax	<p data-bbox="300 539 480 573">^XGd:o.e, x, y</p> <table border="1" data-bbox="325 613 1358 1039"> <thead> <tr> <th data-bbox="325 613 496 658">Parameter</th> <th data-bbox="496 613 995 658">Description</th> <th data-bbox="995 613 1358 658">Range</th> </tr> </thead> <tbody> <tr> <td data-bbox="325 658 496 786">d</td> <td data-bbox="496 658 995 786">Device driver name</td> <td data-bbox="995 658 1358 786">R= RAM E= flash memory. Default: R</td> </tr> <tr> <td data-bbox="325 786 496 831">o</td> <td data-bbox="496 786 995 831">Graphic name</td> <td data-bbox="995 786 1358 831"></td> </tr> <tr> <td data-bbox="325 831 496 875">e</td> <td data-bbox="496 831 995 875">Extension name</td> <td data-bbox="995 831 1358 875">Default: ".GRF".</td> </tr> <tr> <td data-bbox="325 875 496 954">x</td> <td data-bbox="496 875 995 954">Scale factor along horizontal axis</td> <td data-bbox="995 875 1358 954">1 ~ 10 Default: 1.</td> </tr> <tr> <td data-bbox="325 954 496 1039">y</td> <td data-bbox="496 954 995 1039">Scale factor along vertical axis</td> <td data-bbox="995 954 1358 1039">1~ 10 Default: 1.</td> </tr> </tbody> </table>	Parameter	Description	Range	d	Device driver name	R= RAM E= flash memory. Default: R	o	Graphic name		e	Extension name	Default: ".GRF".	x	Scale factor along horizontal axis	1 ~ 10 Default: 1.	y	Scale factor along vertical axis	1~ 10 Default: 1.
Parameter	Description	Range																	
d	Device driver name	R= RAM E= flash memory. Default: R																	
o	Graphic name																		
e	Extension name	Default: ".GRF".																	
x	Scale factor along horizontal axis	1 ~ 10 Default: 1.																	
y	Scale factor along vertical axis	1~ 10 Default: 1.																	
Example	<p data-bbox="300 1102 1374 1180">Using the ^XG command to recall the image from DRAM, and then print it in three different sizes and locations on the same label:</p> <pre data-bbox="300 1227 687 1424"> ^XA ^FO100,150^XGA.GRF,1,1^FS ^FO100,250^XGA.GRF,3,3^FS ^FO100,350^XGA.GRF,5,5^FS ^XZ </pre>																		

PZPL PROGRAMER'S MANUAL

^XY — Set labels and gap height

Description	This command is used when there are big gap between labels (over 5mm). Since they might not be detected, you can use this command to set gap type manually.						
Syntax	$\wedge Xy a, b$ <table border="1" data-bbox="319 622 986 945"> <thead> <tr> <th data-bbox="322 622 679 667">Parameter</th> <th data-bbox="683 622 983 667">Description</th> </tr> </thead> <tbody> <tr> <td data-bbox="322 667 679 806">a (in millimeter)</td> <td data-bbox="683 667 983 806">length in total</td> </tr> <tr> <td data-bbox="322 806 679 945">b (in millimeter)</td> <td data-bbox="683 806 983 945">Gap length</td> </tr> </tbody> </table>	Parameter	Description	a (in millimeter)	length in total	b (in millimeter)	Gap length
Parameter	Description						
a (in millimeter)	length in total						
b (in millimeter)	Gap length						
Example	$\wedge X A \wedge X Y 40, 5 \wedge X Z$						

PZPL PROGRAMER'S MANUAL**^XZ — End Format**

Description	This command is used for ending format. Note that each command should be started with command ^XA. Besides, end with command ^XZ.
Syntax	^XZ

PZPL PROGRAMER'S MANUAL

Appendix A — Barcode Summary Data

Bar code format

Barcode type	ID	Length	Checksum	Valid codes	Bar ratio
Code 11	1	Variable	Yes 1 or 2 digits	0 ~ 9, -	2 : 1 ~ 3 : 1
Code 3 of 9	3	Variable	No	0 ~ 9, A ~ Z, \$%*+-. / and space	2 : 1 ~ 3 : 1
UPC-A	U	12 digits	Yes	0 ~ 9	2 : 3 : 4
UPC-E	9	7 digits	Yes	0 ~ 9	2 : 3 : 4
Data Matrix	X	Variable	Yes	All 8-bit values	
Code 128 including UCC/EAN, subset A, B and C	C	Variable	Yes	00 _H ~ 7F _H UCCEAN: 0~9	2 : 3 : 4
EAN-13	E	13 digits	Yes	0 ~ 9	2 : 3 : 4
EAN-8	8	8 digits	Yes	0 ~ 9	2 : 3 : 4
Coda bar	K	Variable	No	0 ~ 9, A ~ D, \$+-. And /	2 : 1 ~ 3 : 1
Interleaved 2 of 5	2	Variable	Yes modulo 10 checksum	0 ~ 9	2 : 1 ~ 3 : 1
Code 93	A	Variable	Yes	0 ~ 9, A ~ Z, \$%*+-. / and space	2 : 3 : 4
UPC/EAN extensions	S	2 or 5 digits	No	0 ~ 9	2 : 3 : 4
PDF-417	7	Specified	Yes	All	
QR Code	Q	Variable	Yes	Numeric, Alphanumeric, 8-bit byte mode, or Kanji double-byte	

PZPL PROGRAMER'S MANUAL

Appendix B — Memory Identifiers

Memory ID	Description
R	DRAM, Default
E	FLASH ROM

PZPL PROGRAMER'S MANUAL

Appendix C — Speed Ranges

Parameter	Speed (IPS)	Applicable models
1	1	All models
A or 2	2	All models
B or 3	3	All models
C or 4	4	All models
5	5	High speed 4" Desktop models
D or 6	6	High speed 4" Desktop models

CUSTOM®

CUSTOM S.p.A.

World Headquarters

Via Berettine, 2/B - 43010 Fontevivo, Parma ITALY

Tel. +39 0521 680111 - Fax +39 0521 610701

info@custom.biz - www.custom.biz

All rights reserved

www.custom.biz