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1.Enum

1.1 PTZplOrientation

- Code

```
typedef NS_ENUM(UInt8, PTZplOrientation) {  
    PTZplOrientation_N = 'N',  
    PTZplOrientation_R = 'R',  
    PTZplOrientation_I = 'I',  
    PTZplOrientation_B = 'B'  
};
```

- Specification

Enum Name	Enum Value	Description
PTZplOrientation_N	'N'	normal
PTZplOrientation_R	'R'	rotate 90 degrees (clockwise)
PTZplOrientation_I	'I'	inverted 180 degrees
PTZplOrientation_B	'B'	read from bottom up, 270 degrees

1.2 PTZplFont

- Code

```
typedef NS_ENUM(UInt8, PTZplFont) {

    PTZplFont0   = '0',
    PTZplFont1   = '1',
    PTZplFontA   = 'A',
    PTZplFontB   = 'B',
    PTZplFontC   = 'C',
    PTZplFontD   = 'D',
    PTZplFontE   = 'E',
    PTZplFontF   = 'F',
    PTZplFontG   = 'G',
    PTZplFontH   = 'H',
    PTZplFontI   = 'I'

};
```

1.3 PTZplFileLocation

- Code

```
typedef NS_ENUM(UInt8, PTZplFileLocation) {

    PTZplFileLocation_R = 'R',
    PTZplFileLocation_E = 'E',
    PTZplFileLocation_B = 'B',
    PTZplFileLocation_A = 'A'

};
```

- Specification

Enum Name	Enum Value	Description
PTZplFileLocation_R	'R'	file location R:
PTZplFileLocation_E	'E'	file location E:
PTZplFileLocation_B	'B'	file location B:
PTZplFileLocation_A	'A'	file location A:

1.4 PTZplBool

- Code

```
typedef NS_ENUM(UInt8, PTZplBool) {
    PTZplBool_Y = 'Y',
    PTZplBool_N = 'N'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplBool_Y	'Y'	yes
PTZplBool_N	'N'	no

1.5 PTZplCodeBlockBarcodeMode

- Code

```
typedef NS_ENUM(UInt8, PTZplCodeBlockBarcodeMode) {
    PTZplCodeBlockBarcodeMode_A = 'A',
    PTZplCodeBlockBarcodeMode_F = 'F',
    PTZplCodeBlockBarcodeMode_E = 'E'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplCodeBlockBarcodeMode_A	'A'	use Code 39 character set
PTZplCodeBlockBarcodeMode_F	'F'	use Code 128 character set
PTZplCodeBlockBarcodeMode_E	'E'	use the Code 128 character set and automatically adds FNC1.

1.6 PTZplCode128Mode

- Code

```
typedef NS_ENUM(UInt8, PTZplCode128Mode) {
    PTZplCode128Mode_N = 'N',
    PTZplCode128Mode_U = 'U',
    PTZplCode128Mode_A = 'A',
    PTZplCode128Mode_D = 'D'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplCode128Mode_N	'N'	no selected mode
PTZplCode128Mode_U	'U'	UCC Case Mode
PTZplCode128Mode_A	'A'	Automatic Mode
PTZplCode128Mode_D	'D'	UCC/EAN Mode

1.7 PTZplJustification

- Code

```
typedef NS_ENUM(UInt8, PTZplJustification) {
    PTZplJustificationLeft = '0',
    PTZplJustificationRight = '1',
    PTZplJustificationAuto = '2'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplJustificationLeft	'0'	left justification
PTZplJustificationRight	'1'	right justification
PTZplJustificationAuto	'2'	auto justification

1.8 PTZplColor

- Code

```
typedef NS_ENUM(UInt8, PTZplColor) {
    PTZplColorBlack = 'B',
    PTZplColorWhite = 'W'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplColorBlack	'B'	black color
PTZplColorWhite	'W'	white color

1.9 PTZplDiagonalOrientation

- Code

```
typedef NS_ENUM(UInt8, PTZplDiagonalOrientation) {
    PTZplDiagonalOrientationLeaningRight = 'R',
    PTZplDiagonalOrientationLeaningLeft = 'L'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplDiagonalOrientationLeaningRight	'R'	right leaning diagonal
PTZplDiagonalOrientationLeaningLeft	'L'	left leaning diagonal

1.10 PTZplMediaType

- Code

```
typedef NS_ENUM(UInt8, PTZplMediaType) {
    PTZplMediaTypeThermalTransfer = 'T',
    PTZplMediaTypeDirectThermal = 'D'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplMediaTypeThermalTransfer	'T'	thermal transfer media
PTZplMediaTypeDirectThermal	'D'	direct thermal media

1.11 PTZplQrReliabilityLevel

- Code

```
typedef NS_ENUM(UInt8, PTZplQrReliabilityLevel) {
    PTZplQrReliabilityLevel_H = 'H',
    PTZplQrReliabilityLevel_Q = 'Q',
    PTZplQrReliabilityLevel_M = 'M',
    PTZplQrReliabilityLevel_L = 'L'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplQrReliabilityLevel_H	'H'	ultra-high reliability level
PTZplQrReliabilityLevel_Q	'Q'	high reliability level
PTZplQrReliabilityLevel_M	'M'	standard level
PTZplQrReliabilityLevel_L	'L'	high density level level

1.12 PTZplQrModel

- Code

```
typedef NS_ENUM(UInt8, PTZplQrModel) {
    PTZplQrModel_1 = '1',
    PTZplQrModel_2 = '2'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplQrModel_1	'1'	original
PTZplQrModel_2	'2'	enhanced

1.13 PTZplTextPrintDirection

- Code

```
typedef NS_ENUM(UInt8, PTZplTextPrintDirection) {
    PTZplTextPrintDirection_H = 'H',
    PTZplTextPrintDirection_V = 'V',
    PTZplTextPrintDirection_R = 'R'
};
```


- Specification

Enum Name	Enum Value	Description
PTZplTextPrintDirection_H	'H'	horizontal printing (left to right)
PTZplTextPrintDirection_V	'V'	vertical printing (top to bottom)
PTZplTextPrintDirection_R	'R'	reverse printing (right to left)

1.14 PTZplPrintOrientation

- Code

```
typedef NS_ENUM(UInt8, PTZplPrintOrientation) {
    PTZplPrintOrientation_N = 'N',
    PTZplPrintOrientation_I = 'I'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplPrintOrientation_N	'N'	normal
PTZplPrintOrientation_I	'I'	invert

1.15 PTZplUpsMaxiCodeMode

- Code

```
typedef NS_ENUM(UInt8, PTZplUpsMaxiCodeMode) {
    PTZplUpsMaxiCodeMode_2 = '2',
    PTZplUpsMaxiCodeMode_3 = '3',
    PTZplUpsMaxiCodeMode_4 = '4',
    PTZplUpsMaxiCodeMode_5 = '5',
    PTZplUpsMaxiCodeMode_6 = '6'
};
```

- Specification

Enum Name	Enum Value	Description
PTZplUpsMaxiCodeMode_2	'2'	structured carrier message: numeric postal code (U.S.)
PTZplUpsMaxiCodeMode_3	'3'	structured carrier message: numeric postal code (non-U.S.)
PTZplUpsMaxiCodeMode_4	'4'	standard symbol, secretary
PTZplUpsMaxiCodeMode_5	'5'	full EEC
PTZplUpsMaxiCodeMode_6	'6'	reader program, secretary

1.16 PTCode49InterpretationLineStyle

- Code

```
typedef NS_ENUM(UInt8, PTCode49InterpretationLineStyle) {
    PTCode49InterpretationLineStyle_N = 'N',
    PTCode49InterpretationLineStyle_A = 'A',
    PTCode49InterpretationLineStyle_B = 'B'
};
```

- Specification

Enum Name	Enum Value	Description
PTCode49InterpretationLineStyle_N	'N'	no line printed.
PTCode49InterpretationLineStyle_A	'A'	print interpretation line above code.
PTCode49InterpretationLineStyle_B	'B'	print interpretation line below code.

2.Property

2.1 cmdData

- Code

```
@property (nonatomic, strong, readonly) NSMutableData *cmdData;
```

- Specification

Data sent to the printer.

2.2 encoding

- Code

```
@property (nonatomic, assign) NSStringEncoding encoding;
```

- Specification

encode, default is GBK.

3.Method

3.1 generate a printer configuration label

- Description

generate a printer configuration label

- Code

```
- (void)printSelfTest;
```

3.2 feed a line

- Description

feed a line

- Code

```
- (void)zpLineFeed;
```

3.3 set font orientation and size with font name

- Description

specifies the font to use in a text field.

- Paramater

Paramater	Description
fontName	font name.
fieldOrientation	field orientation.
characterHeight	font height in dots. 10~3200
width	font width in dots. 10~3200

- Code

```
- (void)A_SetFont:(PTZplFont)fontName  
  fieldOrientation:(PTZplOrientation)fieldOrientation  
  characterHeight:(NSInteger)characterHeight  
  width:(NSInteger)width;
```

3.4 set font orientation with font name

- Description

specifies the font to use in a text field.

- Paramater

Paramater	Description
fontName	font name.
fieldOrientation	field orientation.

- Code

```
- (void)A_SetFont:(PTZplFont)fontName fieldOrientation:  
  (PTZplOrientation)fieldOrientation;
```

3.5 set font size with font name

- Description

specifies the font to use in a text field.

- Paramater

Paramater	Description
fontName	font name.
characterHeight	font height in dots. 10~3200
width	font width in dots. 10~3200

- Code

```
- (void)A_SetFont:(PTZplFont)fontName  
  characterHeight:(NSInteger)characterHeight  
  width:(NSInteger)width;
```

3.6 set font with font name

- Description

specifies the font to use in a text field.

- Paramater

Paramater	Description
fontName	font name.

- Code

```
- (void)A_SetFont:(PTZplFont)fontName;
```

3.7 set font orientation and size with file

- Description

specifies the font by the complete name of a font.

- Paramater

Paramater	Description
orientation	text orientation.
height	charcter heigt in dots (10~32000).
width	charcter width in dots (10~32000).
location	location of font file.
fontName	font name.
extension	font file extension name.

- Code

```
- (void)A_SetFontWithOrientation:(PTZplOrientation)orientation
    height:(NSInteger)height
    width:(NSInteger)width
    location:(PTZplFileLocation)location
    fontName:(NSString *)fontName
    extension:(NSString *)extension;
```

3.8 set font orientation and size

- Description

specifies the font by the complete name of a font.

- Paramater

Paramater	Description
orientation	text orientation.
height	charcter heigt in dots (10~32000).
width	charcter width in dots (10~32000).

- Code

```
- (void)A_SetFontWithOrientation:(PTZplOrientation)orientation
    height:(NSInteger)height
    width:(NSInteger)width;
```

3.9 Aztec Bar Code

- Description



- Paramater

Paramater	Description
orientation	orientation.
magnificationFactor	magnification factor.
isContainECIC	whether data contains ECICs.
errorAndSymbol	error control and symbol size/type indicator. 0,01~99,101~104,201~232,300.
isMenuSymbol	whether this symbol is to be a menu (bar code reader initialization) symbol.
appendSymbolNumber	number of symbols for structured append. 1~26
appendOptionalID	optional ID field for structured append.

- Code

```
- (void)B0_BacodeAztecWithOrientation:(PTZplOrientation)orientation
    magnificationFactor:(NSInteger)magnificationFactor
    isContainECIC:(PTZplBool)isContainECIC
    errorAndSymbol:(NSInteger)errorAndSymbol
    isMenuSymbol:(PTZplBool)isMenuSymbol
    appendSymbolNumber:(NSInteger)appendSymbolNumber
    appendOptionalID:(NSString *)appendOptionalID;
```

3.10 Code 11 Bar Code

- Description

 Code 11 Bar Code

- Paramater

Paramater	Description
orientation	orientation.
checkDigit	check digit Y->1 N->2.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)B1_BacodeCode11WithOrientation:(PTZplOrientation)orientation
    checkDigit:(PTZplBool)checkDigit
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode;
```

3.11 Code 39 Bar Code

- Description

 Code 39 Bar Code

- Paramater

Paramater	Description
orientation	orientation.
checkDigit	Mod-43 check digit.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)B3_BacodeCode39WithOrientation:(PTZplOrientation)orientation
    checkDigit:(PTZplBool)checkDigit
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode;
```

3.12 Code 49 Bar Code

- Description

 Code 49 Bar Code

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
style	interpretation line style.

- Code

```
- (void)B4_BacodePlanetCodewithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLineStyle:
    (PTCode49InterpretationLineStyle)style;
```

3.13 PDF417 Bar Code

- Description

 PDF417 Bar Code

- Paramater

Paramater	Description
orientation	orientation
barcodeHeight	bar code height for individual rows (in dots).1 is not a recommended value.
securityLevel	security level, 1~8.
columns	number of data columns to encode, 1~30.
rows	number of rows to encode, 3~90.
truncation	whether truncate right row indicators and stop pattern.

- Code

```
- (void)B7_BarcodePDF417CodewithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    securityLevel:(NSInteger)securityLevel
    columns:(NSInteger)columns
    rows:(NSInteger)rows
    truncation:(PTZplBool)truncation;
```

3.14 EAN-8 Bar Code

- Description

EAN-8 Bar Code

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)B8_BacodeEAN8withOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode;
```

3.15 UPC-E Bar Code

- Description

UPC-E Bar Code

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)B9_BarcodeUPCE8CodewithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode
    checkDigit:(PTZplBool)checkDigit;
```

3.16 Code 93 Bar Code

- Description

 Code 93 Bar Code

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)BA_BarcodeCode93withOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode
    checkDigit:(PTZplBool)checkDigit;
```

3.17 CODABLOCK Bar Code.

- Description

 CODABLOCK Bar Code.

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height for individual rows in dots, 1~32000.
securityLevel	security.
perRowCharacters	number of characters per row, 2-62.
rows	number of rows to encode.
mode	mode.

- Code

```
- (void)BB_BarcodeCodeBlockWithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    securityLevel:(PTZplBool)securityLevel
    perRowCharacters:(NSInteger)perRowCharacters
    rows:(NSInteger)rows
    mode:
    (PTZplCodeBlockBarcodeMode)mode;
```

3.18 Code 128 Bar Code (Subsets A, B, and C)

- Description

Code 128 Bar Code (Subsets A, B, and C).

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.
checkDigit	UCC check digit.
mode	mode.

- Code

```
- (void)BC_BarcodeCode128WithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode
    checkDigit:(PTZplBool)checkDigit
    mode:(PTZplCode128Mode)mode;
```

3.19 UPS MaxiCode Bar Code

- Description

UPS MaxiCode Bar Code

- Paramater

Paramater	Description
mode	mode.
symbolNumber	symbol number, 1~8.
totalSymbolNumbers	total number of symbols, 1~8.

- Code

```
- (void)BD_BarcodeUPSMaxiCodewithMode:(PTZplUpsMaxiCodeMode)mode
    symbolNumber:(NSInteger)symbolNumber
    totalSymbolNumbers:(NSInteger)totalSymbolNumbers;
```

3.20 EAN-13 Bar Code

- Description

EAN-13 Bar Code

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)BE_BacodeEAN13WithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode;
```

3.21 MicroPDF417 Bar Code

- Description

MicroPDF417 Bar Code.

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~9999.
mode	mode, 0~33.

- Code

```
- (void)BF_BarcodeMicroPDF417WithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    mode:(NSInteger)mode;
```

3.22 Industrial 2 of 5 Bar Codes

- Description

Industrial 2 of 5 Bar Codes.

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)BI_BacodeIndustrial2of5withOrientation:
(PtZplOrientation)orientation
                barcodeHeight:(NSInteger)barcodeHeight
                interpretationLine:
(PtZplBool)interpretationLine
                aboveCode:(PtZplBool)aboveCode;
```

3.23 Standard 2 of 5 Bar Code

- Description

Standard 2 of 5 Bar Code.

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)BJ_BacodeStandard2of5withOrientation:(PtZplOrientation)orientation
                barcodeHeight:(NSInteger)barcodeHeight
                interpretationLine:(PtZplBool)interpretationLine
                aboveCode:(PtZplBool)aboveCode;
```

3.24 ANSI Codabar Bar Code

- Description

ANSI Codabar Bar Code.

- Paramater

Paramater	Description
orientation	orientation.
checkDigit	check digit.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.
startCharacter	designates a start character. (A,B,C,D)
stopCharacter	designates stop character. (A,B,C,D)

- Code

```
- (void)BK_BarcodeANSICodebarWithOrientation:(PTZplOrientation)orientation
    checkDigit:(PTZplBool)checkDigit
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode
    startCharacter:(NSString *)startCharacter
    stopCharacter:(NSString *)stopCharacter;
```

3.25 LOGMARS Bar Code

- Description

 LOGMARS Bar Code.

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
isPrint	whether print interpretation line above code.

- Code

```
- (void)BL_BacodeLOGMARSWithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    printInterpretationLineAboveCode:(PTZplBool)isPrint;
```

3.26 QR Code Bar Code

- Description

QR Code Bar Code.

- Paramater

Paramater	Description
orientation	orientation.
model	orientation.
magnification	magnification factor.
reliabilityLevel	reliability level.

- Code

```
- (void)BQ_BarcodeQRcodewithOrientation:(PTZplOrientation)orientation
                                model:(PTZplQrModel)model
                                magnification:(NSInteger)magnification
                                reliabilityLevel:
                                (PTZplQrReliabilityLevel)reliabilityLevel;
```

3.27 UPC/EAN Extensions

- Description

UPC/EAN Extensions.

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~32000.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.

- Code

```
- (void)BS_BacodeUPCEANExtensionswithOrientation:
(PTZplOrientation)orientation
                                barcodeHeight:(NSInteger)barcodeHeight
                                interpretationLine:
                                (PTZplBool)interpretationLine
                                aboveCode:(PTZplBool)aboveCode;
```

3.28 UPC/EAN Extensions

- Description

UPC/EAN Extensions.

- Paramater

Paramater	Description
orientation	orientation.
barcodeHeight	bar code height in dots,1~9999.
interpretationLine	whether print interpretation line.
aboveCode	whether print interpretation line above code.
checkDigit	whether print check digit.

- Code

```
- (void)BU_BarcodeUPCAwithOrientation:(PTZplOrientation)orientation
    barcodeHeight:(NSInteger)barcodeHeight
    interpretationLine:(PTZplBool)interpretationLine
    aboveCode:(PTZplBool)aboveCode
    checkDigit:(PTZplBool)checkDigit;
```

3.29 change the default values of barcode size and narrow bar width ratio

- Description

command is used to change the default values for the module width (in dots), the wide bar to narrow bar width ratio and the bar code height (in dots).

- Paramater

Paramater	Description
moduleWidth	module width in dots.
ratio	wide bar to narrow bar width ratio, 2.0~3.0.
barcodeHeight	bar code height in dots.

- Code

```
- (void)BY_BarcodeFieldDefaultwithModulewidth:(NSInteger)modulewidth
    ratio:(float)ratio
    barcodeHeight:(NSInteger)barcodeHeight;
```

3.30 change the default values of module width

- Description

command is used to change the default values for the module width (in dots), the wide bar to narrow bar width ratio and the bar code height (in dots).

- Paramater

Paramater	Description
moduleWidth	module width in dots.

- Code

```
- (void)BY_BarcodeFieldDefaultwithModulewidth:(NSInteger)modulewidth;
```

3.31 change the format command prefix

- Description

change the format command prefix, The default prefix is the caret (^).

- Paramater

Paramater	Description
character	character change, any ASCII character is accepted.

- Code

```
- (void)CC_ChangeCaret:(NSString *)character;
```

3.32 change the delimiter character

- Description

change the delimiter character, The default delimiter is a comma (,).

- Paramater

Paramater	Description
character	character change, any ASCII character is accepted.

- Code

```
- (void)CD_ChangeDelimiter:(NSString *)charactor;
```

3.33 change alphanumeric default font and size

- Description

Change Alphanumeric Default Font

- Paramater

Paramater	Description
font	specified default font.
width	character width in dots, 0~32000.
height	character height in dots, 0~32000.

- Code

```
- (void)CF_ChangeDefaultFont:(PTZplFont)font  
    width:(NSInteger)width  
    height:(NSInteger)height;
```

3.34 change alphanumeric default font

- Description

Change Alphanumeric Default Font

- Paramater

Paramater	Description
font	specified default font.

- Code

```
- (void)CF_ChangeDefaultFont:(PTZplFont)font;
```

3.35 change alphanumeric default font size

- Description

Change Alphanumeric Default Font

- Paramater

Paramater	Description
width	character width in dots, 0~32000.
height	character height in dots, 0~32000.

- Code

```
- (void)CF_ChangeDefaultFontWidth:(NSInteger)width height:
(NSInteger)height;
```

3.36 set character set

- Description

command enables you to call up the international character set you want to use for printing. You can mix character sets on a label.

- Paramater

Paramater	Description
characterSet	desired character set, 0-36.

- Code

```
- (void)CI_ChangeInternationalCharacterSet:(NSString *)characterSet;
```

3.37 change the control command prefix

- Description

change the control command prefix,The default delimiter is a tilde (~).

- Paramater

Paramater	Description
character	character change, any ASCII character is accepted.

- Code

```
- (void)CT_ChangeTilde:(NSString *)character;
```

3.38 turn the code validation function on or off

- Description

acts as a switch to turn the code validation function on or off.

- Paramater

Paramater	Description
codeValidation	turn on or off the code validation.

- Code

```
- (void)CV_CodeValidation:(PTZplBool)codeValidation;
```

3.39 assigns a single alphanumeric character to a font

- Description

assigns a single alphanumeric character to a font stored in DRAM, memory card, EPROM, or Flash.

- Paramater

Paramater	Description
fontName	letter of existing font to be substituted, or new font to be added.
fontDriveLocation	device to store font in (optional).
downloadedFont	name of the downloaded font to be substituted for the built-in, or as an additional font.
extension	extension (FNT,TTF,TTE)

- Code

```
- (void)CW_FontIdentifier:(PTZplFont)fontName  
    fontDriveLocation:(PTZplFileLocation)fontDriveLocation  
    downloadedFont:(NSString *)downloadedFont  
    extension:(NSString *)extension;
```

3.40 saves ZPL II format commands

- Description

command saves ZPL II format commands as text strings.

- Paramater

Paramater	Description
deviceToStoreImage	device to store image.
imageName	name(1 to 8 alphanumeric characters).
extension	extension (.ZPL)

- Code

```
- (void)DF_DownloadFormatWithDevice:(PTZplFileLocation)deviceToStoreImage  
    imageName:(NSString *)imageName  
    extension:(NSString *)extension;
```

3.41 Erase Download Graphics

- Description

Erase Download Graphics

- Code

```
- (void)EG_EraseDownloadGraphics;
```

3.42 defines the data string for the field

- Description

defines the data string for the field. The field data can be any printable character except those used as command prefixes (^ and ~).

- Paramater

Paramater	Description
fieldData	data to be printed.

- Code

```
- (void)FD_FieldData:(NSString *)fieldData;
```

3.43 define Field Hexadecimal Indicator

- Description

define Field Hexadecimal Indicator.

- Paramater

Paramater	Description
hexadecimalIndicator	Field Hexadecimal Indicator.

- Code

```
- (void)FH_FieldHexadecimalIndicator:(NSString *)hexadecimalIndicator;
```

3.44 define Field Hexadecimal Indicator

- Description

define Field Hexadecimal Indicator '_'.

- Paramater

Paramater	Description
hexadecimalIndicator	Field Hexadecimal Indicator.

- Code

```
- (void)FH_FieldHexadecimal;
```

3.45 numbers the data fields optionally

- Description

command numbers the data fields.

- Paramater

Paramater	Description
fieldNumber	number to be assigned to the field
optional	optional parameter

- Code

```
- (void)FN_FieldNumber:(NSInteger)fieldNumber
    optional:(NSString *)optional;
```

3.46 command numbers the data fields

- Description

command numbers the data fields.

- Paramater

Paramater	Description
fieldNumber	number to be assigned to the field.

- Code

```
- (void)FN_FieldNumber:(NSInteger)fieldNumber;
```

3.47 set a field origin and justification

- Description

set a field origin, relative to the label home (LH) position.

- Paramater

Paramater	Description
XAxis	x-axis location in dots. (0~32000)
YAxis	x-axis location (in dots). (0~32000)
justification	justification.

- Code

```
- (void)FO_FieldOriginWithXAxis:(NSInteger)XAxis
    YAxis:(NSInteger)YAxis
    justification:(PTZplJustification)justification;
```

3.48 set a field origin

- Description

set a field origin, relative to the label home (LH) position.

- Paramater

Paramater	Description
XAxis	x-axis location in dots. (0~32000)
YAxis	x-axis location (in dots). (0~32000)

- Code

```
- (void)FO_FieldOriginWithXAxis:(NSInteger)XAxis
    YAxis:(NSInteger)YAxis;
```

3.49 set text print direction

- Description

set vertical and reverse formatting of the font field, commonly used for printing Asian fonts.

- Paramater

Paramater	Description
direction	print direction.
characterGap	additional inter-character gap in dots. (0~9999)

- Code


```
- (void)FP_FieldParameterWithDirection:(PTZp1TextPrintDirection)direction
    characterGap:(NSInteger)characterGap;
```

3.50 reverse print

- Description

When printing a field and the this command has been used, the color of the output is the reverse of its background.

- Code

```
- (void)FR_FieldReversePrint;
```

3.51 append field separator

- Description

this command denotes the end of the field definition.

- Code

```
- (void)FS_FieldSeparator;
```

3.52 set a field origin and justification

- Description

set a field origin, relative to the label home (LH) position.

- Paramater

Paramater	Description
XAxis	x-axis location in dots. (0~32000)
YAxis	x-axis location (in dots). (0~32000)
justification	justification.

- Code

```
- (void)FT_FieldTypesetWithXAxis:(NSInteger)XAxis
    YAxis:(NSInteger)YAxis
    justification:(PTZp1Justification)justification;
```

3.53 set a field origin

- Description

set a field origin, relative to the label home (LH) position.

- Paramater

Paramater	Description
XAxis	x-axis location in dots. (0~32000)
YAxis	x-axis location (in dots). (0~32000)

- Code

```
- (void)FT_FieldTypesetWithXAxis:(NSInteger)XAxis  
    YAxis:(NSInteger)YAxis;
```

3.54 FT_FieldTypeset

- Description

When a coordinate is missing, the position following the last formatted field is assumed. This remembering simplifies field positioning with respect to other fields. Once the first field is positioned, other fields follow automatically.

- Code

```
- (void)FT_FieldTypeset;
```

3.55 field variable

- Description

FV replaces the FD (field data) command in a label format when the field is variable.

- Paramater

Paramater	Description
variableFieldData	(0~3072 byte string)

- Code

```
- (void)FV_FieldVariable:(NSString *)variableFieldData;
```

3.56 set default orientation and justification

- Description

command sets the default orientation for all command fields that have an orientation (rotation) parameter,

- Paramater

Paramater	Description
fieldOrientation	field orientation.
justification	justification.

- Code

```
- (void)FW_FieldOrientation:(PTZplOrientation)fieldOrientation
    justification:(PTZplJustification)justification;
```

3.57 set default orientation

- Description

command sets the default orientation for all command fields that have an orientation (rotation) parameter.

- Paramater

Paramater	Description
fieldOrientation	field orientation.

- Code

```
- (void)FW_FieldOrientation:(PTZplOrientation)fieldOrientation;
```

3.58 comment

- Description

command is useful when you want to add non-printing informational comments or statements within a label format.

- Paramater

Paramater	Description
comment	non printing comment.

- Code

```
- (void)FX_FieldComment:(NSString *)comment;
```

3.59 draw boxes and lines with color and corner round

- Description

draw boxes and lines

- Paramater

Paramater	Description
width	box width in dots. thickness~32000
height	box height in dots. thickness~32000
thickness	border thickness in dots. 1~32000
lineColor	line color.
cornorRoundingDegree	degree of corner-rounding. 0~8

- Code

```
- (void)GB_GraphicBoxWithwidth:(NSInteger)width
    height:(NSInteger)height
    thickness:(NSInteger)thickness
    lineColor:(PTZplColor)lineColor
    cornorRoundingDegree:(NSInteger)cornorRoundingDegree;
```

3.60 draw boxes and lines with corner round

- Description

draw boxes and lines

- Paramater

Paramater	Description
width	box width in dots. thickness~32000
height	box height in dots. thickness~32000
thickness	border thickness in dots. 1~32000
cornorRoundingDegree	degree of corner-rounding. 0~8

- Code

```
- (void)GB_GraphicBoxWithwidth:(NSInteger)width
    height:(NSInteger)height
    thickness:(NSInteger)thickness
    cornorRoundingDegree:(NSInteger)cornorRoundingDegree;
```

3.61 draw boxes and lines

- Description

draw boxes and lines

- Paramater

Paramater	Description
width	box width in dots. thickness~32000
height	box height in dots. thickness~32000
thickness	border thickness in dots. 1~32000

- Code

```
- (void)GB_GraphicBoxWithWidth:(NSInteger)width
    height:(NSInteger)height
    thickness:(NSInteger)thickness;
```

3.62 draw circle

- Description

draw circle

- Paramater

Paramater	Description
diameter	circle diameter in dots. 3~4095
thickness	border thickness in dots. 1~4095
lineColor	line color.

- Code

```
- (void)GC_GraphicCircleWithDiameter:(NSInteger)diameter
    thickness:(NSInteger)thickness
    lineColor:(PTZplColor)lineColor;
```

3.63 draw a straight diagonal line

- Description

draw a straight diagonal line.

- Paramater

Paramater	Description
width	box width in dots. thickness~32000
height	box height in dots. thickness~32000
thickness	border thickness in dots. 1~32000
lineColor	line color.
orientation	direction of the diagonal.

- Code

```
- (void)GD_GraphicDiagonalLinewithwidth:(NSInteger)width
    height:(NSInteger)height
    thickness:(NSInteger)thickness
    lineColor:(PTZplColor)lineColor
    orientation:
    (PTZplDiagonalOrientation)orientation;
```

3.64 draw Ellipse

- Description

draw Ellipse.

- Paramater

Paramater	Description
width	Ellipse width in dots. thickness~32000
height	Ellipse height in dots. thickness~32000
lineColor	line color.
orientation	direction of the diagonal.

- Code

```
- (void)GE_GraphicEllipsewithwidth:(NSInteger)width
    height:(NSInteger)height
    thickness:(NSInteger)thickness
    lineColor:(PTZplColor)lineColor;
```

3.65 generate the registered trademark, copyright symbol, and other symbols

- Description

this command enables you to generate the registered trademark, copyright symbol, and other symbols. Use the ^GS command followed by ^FD and the appropriate character (A through E) within the field data to generate the desired character.

- Paramater

Paramater	Description
orientation	field orientation.
height	character height proportional to width (in dots). 0~32000
width	character width proportional to width (in dots). 0~32000

- Code

```
- (void)GS_GraphicsSymbolWithOrientation:(PTZplOrientation)orientation
                                height:(NSInteger)height
                                width:(NSInteger)width;
```

3.66 generate character has default orientation, height and width

- Description

generate character has default orientation, height and width.

- Code

```
- (void)GS_GraphicsSymbol;
```

3.67 deletes file

- Description

deletes objects, graphics, fonts, and stored formats from storage areas.

- Paramater

Paramater	Description
objectLocation	location of stored object
objectName	object name. 1~8 characters
extension	extension.

- Code

```
- (void)ID_ImageDelete withObjectLocation:(PTZplFileLocation)objectLocation  
    objectName:(NSString *)objectName  
    extension:(NSString *)extension;
```

3.68 load a stored image

- Description

command is used at the beginning of a label format to load a stored image of a format and merge it with additional data. The image is always positioned at FO 0,0.

- Paramater

Paramater	Description
objectLocation	location of stored object
objectName	object name. 1~8 characters
extension	extension. (.GRF,.PNG)

- Code

```
- (void)IL_ImageLoadWithObjectLocation:(PTZplFileLocation)objectLocation  
    objectName:(NSString *)objectName  
    extension:(NSString *)extension;
```

3.69 performs a direct move of an image from storage area into the bitmap

- Description

command performs a direct move of an image from storage area into the bitmap.

- Paramater

Paramater	Description
objectLocation	location of stored object
objectName	object name. 1~8 characters
extension	extension. (.GRF,.PNG)

- Code

```
- (void)IM_ImageMoveWithObjectLocation:(PTZplFileLocation)objectLocation  
    objectName:(NSString *)objectName  
    extension:(NSString *)extension;
```


3.70 save that format as a graphic image

- Description

command is used within a label format to save that format as a graphic image,

- Paramater

Paramater	Description
objectLocation	location of stored object
objectName	object name. 1~8 characters
extension	extension. (.GRF,.PNG)
printAfterSorting	whether print image after storing.

- Code

```
- (void)IS_ImageSaveWithObjectLocation:(PTZplFileLocation)objectLocation
    objectName:(NSString *)objectName
    extension:(NSString *)extension
    printAfterSorting:(PTZplBool)printAfterSorting;
```

3.71 cancels all format commands in the buffer

- Description

cancels all format commands in the buffer.

- Code

```
- (void)JA_CancelAll;
```

3.72 initiates Diagnostic Mode

- Description

initiates Diagnostic Mode.

- Note

command initiates Diagnostic Mode, which produces an ASCII printout (using current label length and full width of printer) of all characters received by the printer. This printout includes the ASCII characters, the hexadecimal value, and any communication errors.

- Code

```
- (void)JD_EnableCommunicationsDiagnostics;
```

3.73 Disable Diagnostics

- Description

Disable Diagnostics

- Code

```
- (void)JE_DisableDiagnostics;
```

3.74 whether reprint after error

- Description

whether reprint after error.

- Note

reprints a partially printed label caused by a Ribbon Out, Media Out, or Head Open error condition. The label is reprinted as soon as the error condition is corrected. This command remains active until another ^JZ command is sent to the printer or the printer is turned off.

- Code

```
- (void)JZ_SetReprintAfterError:(PTZp1Bool)enable;
```

3.75 sets the label home position

- Description

sets the label home position.

- Paramater

Paramater	Description
XPos	x-axis position in dots. (0~32000)
YPos	y-axis position in dots. (0~32000)

- Code

```
- (void)LH_LabelHomeWithXPos:(NSInteger)XPos  
YPos:(NSInteger)YPos;
```

3.76 defines the length of the label

- Description

defines the length of the label.

- Paramater

Paramater	Description
length	the length of the label.

- Code

```
- (void)LL_LabelLength:(NSInteger)length;
```

3.77 trun on/off color reverse print

- Description

reverse the printing of all fields in the label format.

- Paramater

Paramater	Description
reverse	whether reverse print all fields.

- Code

```
- (void)LR_LabelReversePrint:(PTzp1Bool)reverse;
```

3.78 shift all field positions to the left

- Description

shift all field positions to the left.

- Paramater

Paramater	Description
shift	shift left value in dots.

- Code

```
- (void)LS_LabelShift:(NSInteger)shift;
```

3.79 moves the entire label format

- Description

command moves the entire label format a maximum of 120 dot rows up or down from its current position, in relation to the top edge of the label.

- Paramater

Paramater	Description
top	label top (in dot rows) -120~120.

- Code

```
- (void)LT_LabelTop:(NSInteger)top;
```

3.80 retain the current bitmap

- Description

In normal operation, the bitmap is cleared after the format has been printed. The command with false is used to retain the current bitmap. This applies to current and subsequent labels until cleared with true.

- Paramater

Paramater	Description
clear	whether clear bitmap.

- Code

```
- (void)MC_MapClear:(PTZplBool)clear;
```

3.81 set the maximum label length

- Description

let you adjust the maximum label length.

- Paramater

Paramater	Description
length	maximum label length.

- Code

```
- (void)ML_MaximumLabelLength:(NSInteger)length;
```

3.82 set type of media

- Description

select the type of media being used in the printer.

- Paramater

Paramater	Description
type	media type used.

- Code

```
- (void)MT_SetMediaType:(PTZplMediaType)type;
```

3.83 change network settings

- Description

change network settings.

- Paramater

Paramater	Description
ipAddress	IP address.
subnetMask	subnet mask.

- Code

```
- (void)ND_SetNetworkSettingwithIP:(NSString *)ipAddress
                          SubnetMask:(NSString *)subnetMask;
```

3.84 turn on/off mirrir print

- Description

prints the entire printable area of the label as a mirror image. This command flips the image from left to right.

- Paramater

Paramater	Description
mirror	media type used.

- Code

```
- (void)PM_PrintLabelMirrorImage:(PTZplBool)mirror;
```

3.85 setting print orientation

- Description

setting print orientation.

- Paramater

Paramater	Description
orientation	print orientation.

- Code

```
- (void)PO_PrintOrientation:(PTZplPrintOrientation)orientation;
```

3.86 stops printing after the current label is complete

- Description

command stops printing after the current label is complete (if one is printing) and places the printer in Pause Mode.

- Code

```
- (void)PP_ProgrammablePause;
```

3.87 gives control over several printing operations

- Description

command gives control over several printing operations.

- Paramater

Paramater	Description
quantity	total quantity of labels to print.
pauseValue	pause and cut value (labels between pauses).
replicateValue	replicates of each serial number.
overrided	override pause count.

- Code

```
- (void)PQ_PrintQuantity:(NSInteger)quantity
    pauseValue:(NSInteger)pauseValue
    replicateValue:(NSInteger)replicateValue
    overrided:(PTZplBool)overrided;
```

3.88 set print quantity

- Description

total quantity of labels to print

- Paramater

Paramater	Description
quantity	total quantity of labels to print.

- Code

```
- (void)PQ_PrintQuantity:(NSInteger)quantity;
```

3.89 set the print width

- Description

set the print width.

- Paramater

Paramater	Description
width	label width in dots.

- Code

```
- (void)PW_PrintWidth:(NSInteger)width;
```

3.90 change the serial communications parameters

- Description

change the serial communications parameters you are using.

- Paramater

Paramater	Description
baudRate	baud rate
dataBits	word length, 7 or 8.
parity	parity, N(none), E(even), orO(odd).
stopBits	stop bits, 1 or 2.
protocolMode	protocol mode.

- Code

```
- (void)SC_SetSerialCommunicationswithBaudRate:(NSString *)baudRate
DataBits:(NSString *)dataBits
Parity:(NSString *)parity
StopBits:(NSString *)stopBits
ProtocolMode:(NSString *)protocolMode;
```

3.91 set the darkness of printing

- Description

set the darkness of printing.

- Paramater

Paramater	Description
darkness	darkness 0~30.

- Code

```
- (void)SD_SetDarkness:(NSInteger)darkness;
```

3.92 serialization field

- Description

serialization field (with a standard ^FD string).

- Note

Mask String placeholders: D or d -> Decimal numeric 0-9; H or h -> Hexadecimal 0-9 plus a-f or A-F; O or o -> Octal 0-7; A or a -> Alphabetic A-Z or a-z; N or n -> Alphanumeric 0-9 plus A-Z or a-z; % -> Ignore character or skip.

- Paramater

Paramater	Description
maskString	mask string.
incrementString	increment string.

- Code

```
- (void)SF_SerializationFieldwithMaskString:(NSString *)maskString  
incrementString:(NSString *)incrementString;
```

3.93 copy an object

- Description

command is used to copy an object or group of objects from one storage device to another.

- Paramater

Paramater	Description
sourceDevice	source device of stored object.
sourceObjectName	stored object name. 1~8 characters.
sourceExtension	source object extension.
destinationDevice	destination device of stored object.
destinationObjectName	destination object name. 1~8 characters.
destinationExtension	destination object extension.

- Code

```
- (void)TO_TransferObjectWithSourceDevice:(PTZplFileLocation)sourceDevice
    sourceObjectName:(NSString *)sourceObjectName
    sourceExtension:(NSString *)sourceExtension
    destinationDevice:
(PTZplFileLocation)destinationDevice
    destinationObjectName:(NSString
*)destinationObjectName
    destinationExtension:(NSString
*)destinationExtension;
```

3.94 start a new label format

- Description

| open bracket and indicates the start of a new label format.

- Code

```
- (void)XA_FormatStart;
```

3.95 XF_RecallFormat

- Description

| command recalls a stored format to be merged with variable data.

- Paramater

Paramater	Description
sourceDevice	location of stored object
imageName	object name. 1~8 characters
extension	.GRF
XAxisMagnification	magnification factor on the x-axis. 1~10
YAxisMagnification	magnification factor on the y-axis. 1~10

- Code

```
- (void)XF_RecallFormatWithSourceDevice:(PTZplFileLocation)sourceDevice
    imageName:(NSString *)imageName
    extension:(NSString *)extension;
```

3.96 XG_RecallGraphic

- Description

command is used to recall one or more graphic images for printing.

- Paramater

Paramater	Description
sourceDevice	location of stored object
imageName	object name. 1~8 characters
extension	.GRF
XAxisMagnification	magnification factor on the x-axis. 1~10
YAxisMagnification	magnification factor on the y-axis. 1~10

- Code

```
- (void)XG_RecallGraphicWithSourceDevice:(PTZplFileLocation)sourceDevice
    imageName:(NSString *)imageName
    extension:(NSString *)extension
    XAxisMagnification:(NSInteger)XAxisMagnification
    YAxisMagnification:(NSInteger)YAxisMagnification;
```

3.97 end a label format

- Description

indicates the end of a label format.

- Code

```
- (void)XZ_FormatEnd;
```

3.98 set speed during printing

- Description

determine the media and slew speed (feeding a blank label) during printing.

- Paramater

Paramater	Description
speed	print speed (inch per second). 1~14
slewSpeed	slew speed (inch per second). 2~14
backfeedSpeed	backfeed speed (inch per second). 2~14

- Code

```
- (void)PR_SetSpeed:(NSInteger) speed  
    slewSpeed:(NSInteger) slewSpeed  
    backfeedSpeed:(NSInteger) backfeedSpeed;
```