POS_SDK Development Manual

(V 1.3)

Content

Version illustration

Version	SDK version	Amendment record	Write	Time
V1.0	V1007 and higher	This document is the assort document of V1007 version and higher, which don't compatible with previous versions	Wang Xin	2016-6-30
V1.1	V1008 and higher	This document is based on development manual V1.0, adding TSPL command description.	Zhang Tongli	2017-1-20
V1.2	V1010 and higher	1 Modify the serial port of POS_Port_OenA/W interface to support flow control 2 Add SetTimeOut interface to set timeout time (except download bitmap interface) 3 Add SetDownLoadBmp to set the download bitmap timeout interface 4AddPOS_Output_PrintBmpDirect A_POS76 pin printer type direct print bitmap interface	Su Bo	2020-4-27
V1.3	V1011 and higher	1 In the POS function part, add POS_Status_ASB to set the automatic status return; add POS_Control_SetFontSize to set the font magnification; add POS_Control_SetTabs to set the horizontal tab position; add POS_Control_ExcuteTabs to execute tabs. 2 Added CPCL commands description	Zhang Xiang Rang	2022-3-18

Abstract

POS_SDK is printer quadratic element development package provided for our POS printer and label printer model, which bases on Windows platform, including printer interface dynamic link library POS_SDK.ddl、Demo routine source code、POS_SDK development manual. POS_SDK is interface calling function and printing solution provided for development of third-party software.

Printer interface dynamic link library POS_SDK.ddl mainly package the on/off operate performance function of serial interface, parallel interface, USB interface and Ethernet interface. It also packages the ESC/POS instruction set performance function and performance function of sending and receiving data, uploading local file and printing .

Demo routine source code provide routine source code of POS_SDK.dll for users to refer in secondary development.

POS_SDK development manual is used in POS_SDK application illustration. Please read user's manual carefully for your convenience use.

Chapter 1. Printer Relevant Knowledge

1.1 Nouns Explanation

- **Printing Width**:The maximum horizontal print range that printer supports, decided by printer itself. For example, as for 80mm printer, the printing width is 72mm(576 dots), while as for 58mm printer, the printing width is 48(384 dots).
- **Printing Area**: Printing area can be set by commands, and it must be less than or equal to printing width.
- **Line Height**: The height of characters line. Line Height = Characters Height + Lines Space.
- **Black Mark Paper**: Black mark is black patch pre-printed on the paper, users can use it to locate printing position.
- **Dpi(dots per inch)**: Printing dots on each inch paper
- **Vertical or Horizontal Moving Units:** A moving unit is a printing dot by default, the horizontal distance is 1/8mm and the vertical distance is 1/8mm.

1.2 Relevant Knowledge

- **Western Language Printing**: Western characters we called including ASCII characters and Codepages by default. The ASCII characters range is 0x20~0x7F, the Codepage range is 0x80~0xFF. Western language (such as German and Spanish) have their own single byte codepage. Because Codepage code and Chinese code have overlapping part, please print Codepage content in Western language printing mode. Common Western language characters fonts are: Font A: 12x24 Font B: 9x17.
- **Chinese Printing**: The Chinese characters including simplified Chinese and traditional Chinese by default. The common simplified Chinese character set we use is GB2312 and GB18030, while the common traditional Chinese character set we use is BIG5. Common Chinese character font: 24x24 (dots).
- **Twice Height Printing**: In this printing mode, the height of character is twice of normal height of character.
- **Twice Width Printing**: In this printing mode, the width of character is twice of normal width of character.
- **TSPL command:** Feature of the models support TSPL command is that buffer similar with canvas will be built in the printer, the printed content could specify coordinate on the canvas, only call printer method will make the printer print content, otherwise does not print.

Chapter 2. Function illustration

2.1 POS Constant definition list

Classification	Statement	Value	Illustration
Function returned status	#define POS_ES_PAPERENDING	6L	Paper will run out
	#define POS_ES_DRAWERHIGH	5L	High level signal of cash draw
	#define POS_ES_CUT	4L	Cutter non-recover
	#define POS_ES_DOOROPEN	3L	Paper case open
	#define POS_ES_HEAT	2L	Print head overheat
	#define POS_ES_PAPEROUT	1L	Paper out
	#define POS_ES_SUCCESS	0L	successfully/send successfully/status normally/printing finished

	#define POS_ES_INVALIDPARA	-1L	Parameter error
	#define POS_ES_WRITEFAIL	-2L	Failed to write
	#define POS_ES_READFAIL	-3L	Failed to read
	#define POS_ES_NONMONOCHROMEBITMAP	-4L	not monochrome bitmap
	#define POS_ES_OVERTIME	-5L	overtime/write overtime/read overtime/printing unfinished
	#define POS_ES_FILEOPENERROR	-6L	Failed to open pic/file
	#define POS_ES_OTHERERRORS	-100L	Error caused by other reason
1D barcode	#define POS_BT_UPCA	4001L	UPC-A
	#define POS_BT_UPCE	4002L	UPC-E
	#define POS_BT_JAN13	4003L	JAN13 (EAN13)
	#define POS_BT_JAN8	4004L	JAN 8 (EAN8)
	#define POS_BT_CODE39	4005L	CODE39
	#define POS_BT_ITF	4006L	ITF
	#define POS_BT_CODABAR	4007L	CODABAR
	#define POS_BT_CODE93	4073L	CODE93
	#define POS_BT_CODE128	4074L	CODE128
2D barcode	#define POS_BT_PDF417	4100L	PDF417
	#define POS_BT_DATAMATRIX	4101L	Data Matrix
	#define POS_BT_QRCODE	4102L	QR Code
Barcode character position	#define POS_HT_NONE	4011L	Not print
	#define POS_HT_UP	4012L	Print above the barcode
	#define POS_HT_DOWN	4013L	Print under the barcode
	#define POS_HT_BOTH	4014L	Print both above and under the barcode

2.2 TSPL Constant definition list

Function returned status	#define TSPL_SUCCESS	0L	Normal
	#define TSPL_IDERROR	-1L	Printer handle error
	#define TSPL_PARAM_LESS_EQUAL_ZERO	-2L	Parameter under or equal to zero
	#define TSPL_PARAM_GREAT_RANGE	-3L	Parameter above specified range
	#define	1L	Printer out of paper

	TSPL_PRINTER_STATUS_OUTPAPER		
	#define TSPL_PRINTER_STATUS_WORK	2L	Printing
	#define TSPL_PRINTER_STATUS_ENCLOSURENOCLOSE	3L	Printer case open
	#define TSPL_PRINTER_STATUS_ERROR	4L	Printer internal error

2.3 CPCL Constant definition list

Function returned status	#define CPCL_SUCCESS	0L	Normal
	#define CPCL_IDERROR	-1L	Printer handle error
	#define CPCL_WRITEFAIL	-2L	WRITEFAIL
	#define CPCL_READFAIL	-3L	READFAIL
	#define CPCL_PARAM_INVALID	-4L	Parameter Invalid
	#define CPCL_OVERTIME	-5L	Overtime
	#define CPCL_OTHERERRORS	-100L	Other errors
2D barcode type	#define CPCL_BT_PDF417	4100L	PDF417
	#define CPCL_BT_DATAMATRIX	4101L	DATAMATRIX
	#define CPCL_BT_QRCODE	4102L	QRCODE

2.4 POS Function list

Function classification	Functional function	Illustration
Port operation	1. POS_Port_OpenA/W	Open port
	2. POS_Port_Close	Close port
Print	1. POS_Output_PrintFontStringA/W	print formatting character
	2. POS_Control_SetRotaryPrint	Rotating printing
	3. POS_Control_SetInvertedPrint	Invert printing
	4. POS_Control_OppositeColor	Reverse printing
	5. POS_Control_AlignType	Align type
	6. POS_Output_PrintOneDimensionalBarcodeA/W	1D barcode printing
	7. POS_Output_PrintTwoDimensionalBarcodeA/W	2D barcode printing
	8. POS_Output_SendLocalFileA/W	Print local file

	9. POS_Output_DownloadRamBmpA/W	Bitmap download
	10. POS_Output_PrintRamBmp	Print downloaded bitmap
	11. POS_Output_PrintBmpDirectA/W	Drive mode printing
	12.POS_Output_PrintBmpDirectA_POS76	Dot Matrix type drive printing
	13. POS_Output_PrintStringA/W	Print character string
	14. POS_Output_PrintFlashBmp	Print pre-downloaded bitmap
	15. POS_Control_PrintTestpage	Print test page
	16. POS_Output_PrintData	Print buffer data
	17. POS_Control_SetPrintPosition	Set print position
	18. POS_Control_SetLineSpace	Set line space
	19. POS_Control_SetPrintFontE	Western font print format
	20. POS_Control_SetPrintFontC	Chinese font print format
	21.POS_Control_SetFontSize	Set character size
Machine control	1. POS_Control_CutPaper	Control printer cut paper
	2. POS_Control_FeedLines	Paper feeding
	3. POS_Control_CashDraw	Control printer cash draw
	4. POS_Control_BlackMark	Black mark position
Status query	1. POS_Status_RTQueryStatus	paper status checking
	2. POS_Status_RTQueryTypeStatus	printer status checking
	3. POS_Status_QueryTaskStatus	Printing finished demonstration
	4. POS_Input_PrinterId	Get printer ID
	5.ASBCallback	User-provided callback function
	6.POS_Status_ASB	Set automatic status return
others	1. POS_Control_ReSet	Initialize printer
	2. Color24_GrayBW	24 bitmap convert to monochrome bitmap
	3.SetTimeOut	Set the timeout time (except bit download bitmap interface)
	4.SetDownLoadBmpTimeOut	Set the download bitmap timeout
illustration	The functions which have “A/W” in the rear of function name support Unicode character encoded mode. If using ANSI encode mode standard, please use function with “A”; if using Unicode encode mode, please use function with	

	“W”

2.5 TSPL Function list

Function classification	Functional function	Illustration
Print	1. LONG PageSetupTSPL	Set page width and page height
	2. LONG DrawLineTSPL	Draw line
	3. LONG PrintTSPL21	TL21 print buffer
	4. LONG PrintTSPL51	TL51 print buffer
	5. LONG DrawBorderTSPL	Draw rectangle
	6. LONG DrawTextTSPL	Print words
	7. LONG DrawBarCodeTSPL	1D barcode print
	8. LONG Draw2DBarCodeTSPL	2D barcode print(TL21 not supported now)
	9. LONG ClearBuffTSPL	Clear printer buffer
	10. LONG DownLoadBitMapTSPL	Bitmap download(TL21 not supported now)
	11. LONG PutBitMapTSPL	Put downloaded bitmap into printer buffer (TL21 not supported now)
	12. LONG ReverseAreaTSPL	Reverse printing on specified area
	13. LONG SetGAPTSPL	Set the vertical spacing between labels
	14. LONG SetLabelReferenceTSPL	Defines the origin position of the label
	15. LONG SetCharsetNameTSPL	Set the international character set (TL21not supported now)
	16. LONG SelectCodePageTSPL	Choose characters codepage(TL51 not supported now)
Machine control	1. LONG DriveBeepTSPL	Drive buzzer beep for one sound
	2. LONG SetPaperbackOrPaperFeedTSPL	Feed and back paper
Status query	1. LONG GetPrinterStatusTSPL	Status Check
illustration	1. LONG SetIs21	Used to confirm it is TL21 model or not, for convenience to distinguish command and related condition

2.6 CPCL Function list

Function classification	Functional function	Illustration
	1.LONG CPCL_Print	Print buffer

Print	2.LONG CPCL_Form	The printer feeds the paper to the beginning of the next label page
	3.LONG CPCL_PageSetup	Set parameters such as label size
	4.LONG CPCL_DrawLine	Line drawing commands
	5.LONG CPCL_DrawBox	Frame commands
	6.LONG CPCL_DrawText	Print text
	7.LONG CPCL_InverseLine	Inverted area (in the way of drawing a line, the area that the line passes through is inversely displayed)
	8.LONG CPCL_SetAlign	Set the alignment of the current line content
	9.LONG CPCL_SetBold	Set font bold
	10.LONG CPCL_SetInverseText	Set the characters to be highlighted
	11.LONG CPCL_SetSpacing	Set character spacing
	12.LONG CPCL_SetUnderLineText	Set whether to print underline
	13.LONG CPCL_DrawBarcode	Printing 1D barcodes
	14.LONG CPCL_SetHRI	HRI character command (set 1D barcode text to print automatically)
	15.LONG CPCL_Draw2Barcode_QR	Print QR code
	16.LONG CPCL_Draw2Barcode_PDF417	Print PDF417 QR code
	17.LONG CPCL_PrintBMP	Printing Monochrome Bitmaps
	18.LONG CPCL_SetPageRotate	Rotate the entire page 90 degrees clockwise
illustration	When you want to call the CPCL_SetPageRotate function, you must set the width parameter in the CPCL_PageSetup function, otherwise the rotation will not work.	

2.7 Function invoking example

- POS Function invoking example

```
//take USB interface printer as example
//invoking procedure:open port→send printing content→close port:
…
LONG    m_hPrinter;//efine port return handle
LONG    ret;//efine port print function return value variable
…
//invoke POS_Port_OpenA to open print port

m_hPrinter = POS_Port_OpenA("SP-USB1", 1002, false,null);
//identify opening port successfully or not
    if(m_hPrinter < 0)
    {
        POS_Port_Close(m_hPrinter);
        MessageBox(_T("open failed"));
        return;
```

```
        }
        else
        {
            MessageBox(_T("open successfully"));
            return;
        }
    …
   //send printing content
    ret = POS_Output_PrintFontStringA(m_hPrinter,0,1,1,1,0, “Hi, thank you for choosing our printer, We will get your the best experience!\r\n”);
  //identify sending printing content successfully or not

        switch (ret)
        {
        case POS_ES_SUCCESS:
            MessageBox(_T("sending successfully"));
            break;
        case POS_ES_INVALIDPARA:
            MessageBox(_T("Parameter error"));
            break;
        case POS_ES_WRITEFAIL:
            MessageBox(_T("sending failed"));
            break;
        case POS_ES_OVERTIME:
            MessageBox(_T("overtime"));
            break;
        case POS_ES_OTHERERRORS:
            MessageBox(_T("other error"));
            break;
        }
    …
    POS_Port_Close(m_hPrinter); //close printing port
```

- TSPL function invoking example

Description: When use TSPL model printing, need to call ageSetupTSPL method tob build a printing buffer in the printer, then call methods like DrawTextTSPL after this will write the data into printer buffer, but will not print immediately, only print after received the print command (TL21 model call PrintTSPL21 method, TL51 model call PrintTSPL51 method), or will not print.

```
    //take USB interface printer as example
    //invoking procedure:open port→send printing content→close port；
    …
   LONG    m_hPrinter;//define port return handle
```

```
LONG    ret;//define port print function return value variable
 …
//invoke POS_Port_OpenA to open print port
 m_hPrinter = POS_Port_OpenA(“SP-USB1”, 1002, false,null);
 //identify opening port successfully or not
      if(m_hPrinter < 0)
      {
           POS_Port_Close(m_hPrinter);
           MessageBox(_T("open failed"));
           return;
      }
      else
      {
           MessageBox(_T("open successfully"));
           return;
      }
 …
 CString info;
     SetIs21();//If TL21 model, need to invoke this method,to confirm the model is TL21, for convenience to distinguish command and related condition.
      ret = ClearBuffTSPL(m_hPrinter);//Clear the buffer in printer
      if(ret < 0)
      {
           info.Format("ClearBuffTSPL Parameter,m_hPrinter error:%d",ret);
           MessageBox(info);
      }
 //Set page width, page height, equal to set buffer in the internal printer
      ret = PageSetupTSPL(m_hPrinter,45,56);
      switch(ret)
      {
           case TSPL_IDERROR:
                info.Format("PageSetupTSPL Parameter m_hPrinter Error:%d",ret);
                MessageBox(info);
                break;
           case TSPL_PARAM_LESS_EQUAL_ZERO:
                info.Format("PageSetupTSPL Parameter PageWidth or PageHeight under or equal,error code:%d",ret);
                MessageBox(info);
                break;
           case TSPL_PARAM_GREAT_RANGE:
                info.Format("PageSetupTSPL Parameter PageWidth or PageHeight above spefified range, error code:%d",ret);
                MessageBox(info);
                break;
      }
```

```
//Send text content to previous internal buffer in printer invoked by PageSetupTSPL,
but will not print immediately
ret = DrawTextTSPL(m_hPrinter,0,0,TRUE,1,1,0,"DrawTextTSPL");
switch(ret)
{
    case TSPL_IDERROR:
        info.Format("DrawTextTSPL Parameter m_hPrinter Error:%d",ret);
        MessageBox(info);
        break;
    case TSPL_PARAM_LESS_EQUAL_ZERO:
        info.Format("DrawTextTSPL Parameter start_x < 0 or start_y < 0 or xMultiplication < 1 or
yMultiplication < 1 or content == NULL,error code:%d",ret);
        MessageBox(info);
        break;
    case TSPL_PARAM_GREAT_RANGE:
        info.Format("DrawTextTSPL Parameter xMultiplication or yMultiplication above error
code:%d",ret);
        MessageBox(info);
        break;
    }
…
PrintTSPL21(m_hPrinter,1);//If TL21 invoked this method, only invoked this method will the printer carry
out printing action.
POS_Port_Close(m_hPrinter); //close printing window
```

2.8 POS Function illustration

LONG POS_Port_OpenA/W(LPSTR szName, INT iPort, BOOL bFile, LPSTR szFilePath)

Function

Open port

Parameter

- szName:Port Name, For example
  Serial port:
  No flow control "COM1:9600,N,8,1",
  RTS/CTS flow control "COM1:9600,N,8,1:R",
  DSR/DTR flow control "COM1:9600,N,8,1:D",
  xon/xoff flow control "COM1:9600,N,8,1:X",
  Parallel port: "LPT1",
  USB: "SP-USB001",
  network port: "192.168.1.114:9001";

- iPort: Port Type, 1000 is serial port, 1001 is parallel port, 1002 is USB port, 1003is Ethernet port;
- bFile: choose Whether to save the printing content as the local document
- szFilePath: when bFile is the really numerical value, it is the path of local document saving, otherwise this parameter will be ignored.

Return Numerical Value

- True: Printer handle;
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_OVERTIME(-5)
  POS_ES_FILEOPENERROR(-6)
  POS_ES_OTHERERRORS(-100)

LONG POS_Port_Close(LONG iPrinterID)

Function

Close Port

Parameter

- IPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port

Return Numerical Value

- True: POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

LONG POS_Output_PrintFontStringA/W(LONG iPrinterID, INT iFont, INT iThick, INT iWidth, INT iHeight, INT iUnderLine, LPCSTR lpString)

Function

Printing formatted characters string

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- iFont:when it is 0, printer choose standard ASCII Font A (12 × 24); when it is 1, printer choose compressed ASCII Font B (9 × 17);
- iThick:when it is 0, printer cancel over-striking mode; when it is 1, printer is over-striking mode
- iWidth:when it is 0, printer cancel the double width mode; when it is 1, printer is double width mode
- iHeight:when it is 0, printer cancel the double height mode; when it is 1, printer is double height mode
- iUnderLine:when it is 0, printer cancel the underline mode; when it is 1, printer is underline mode
- lpString:Character string ended with empty byte

Return Value:

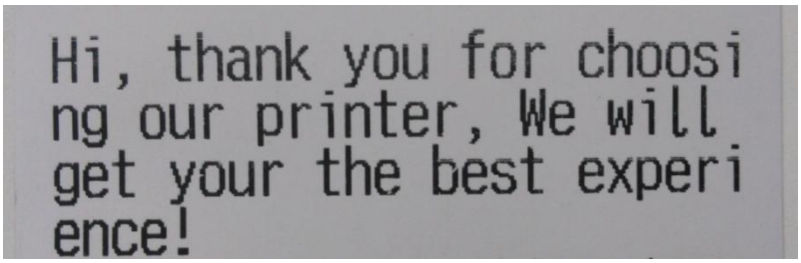
- True: POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- Over striking mode is available for character and Chinese character, other mode are only available for character except over striking mode
- when choose twice width and twice height mode at the same time, the character will be magnified twice horizontally and vertically
- the content less then one row should end with “\r\n”to be printed

Printing Effect

POS_Output_PrintFontStringA(m_hPrinter,0,1,1,1,0, “Hi, thank you for choosing our printer, We will get your the best experience!\r\n”);// Printing character string in iThick, iHeight, iWidth mode



LONG POS_Control_SetRotaryPrint(LONG iPrinterID,INT n)

Function

Choose/Cancel 90° rotation printing mode

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port
- n: when it is 0, printer cancel rotate 90 degree clockwise mode; when it is 1, printer choose rotate 90 degree clockwise mode

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

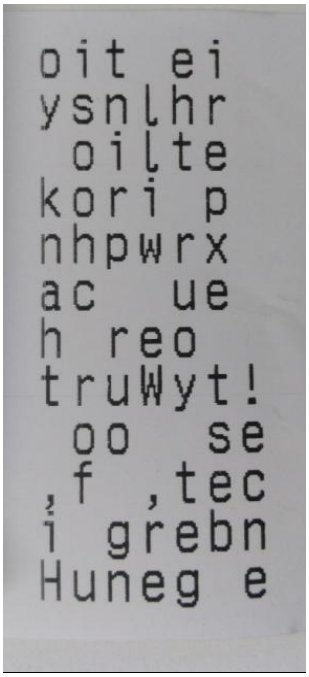
- 90° rotation printing mode is effective for character and Chinese charater, while is

noneffective for 1D barcode, 2D barcode and bitmap.

- This function doesn't support POS76 series printer

Printing Effect

POS_Control_SetRotaryPrint(m_hPrinter,1);// choose 90° rotation printing mode



LONG POS_Control_SetInvertedPrint(LONG iPrinterID,INT n)

Function

Choose/Cancel inversion printing mode

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- n:when it is 0, printer cancel inversion printing mode; when it is 1, printer choose inversion printing mode

Return Numerical Value

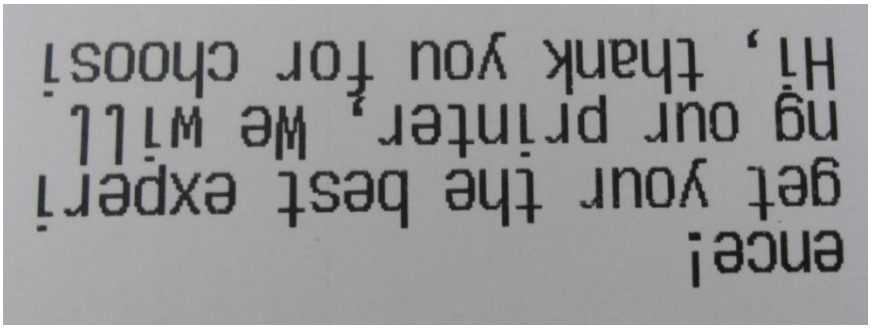
- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- inversion printing mode is effective for character, Chinese character, 1D code, 2D code and bitmap.

Printing Effect

- *POS_Control_SetInvertedPrint(m_hPrinter,1);//choose inversion printing mode*



LONG POS_Control_OppositeColor(LONG iPrinterID, BOOL bOppsite)

Function

Choose/cancel reverse printing mode

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port
- bOppsite:0 means cancel reverse printing, 1 means choose reverse printing

Return Numerical Value

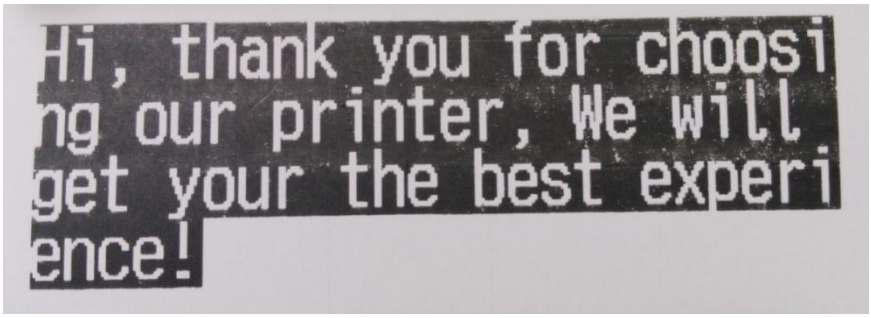
- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- Reverse printing mode is available for all character(except barcode character)
- Reverse printing mode in precedence to underline mode.Underline mode is ineffective in the reverse printing mode, the set underline will be effective after canceling the reverse printing mode
- Reverse printing mode hasn't influence on the space between the lines.
- The function don't support POS76 series printers

Printing Effect

POS_Control_OppositeColor(m_hPrinter,TRUE);//set reverse white printing mode



LONG POS_Control_AlignType(LONG iPrinterID, LONG iAlignType)

Function

Setting character alignment method(left alignment/middle alignment/right alignment)

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- iAlignType:Method of alignment, “0” Left alignment “1” Middle alignment “2” Right alignment

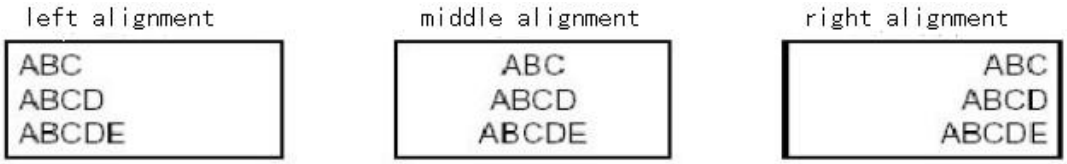
Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- If have set printing area, then align in the printing area

Printing Effect



LONG POS_Output_PrintOneDimensionalBarcodeA/W(LONG iPrinterID, INT iType, INT iWidth, INT iHeight, INT hri, LPCSTR lpString)

Function

Printing 1D barcode

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- iType:choose one dimensional barcode type. The types which can be chosen refer to constant definition list
- iWidth:choose barcode width，2 ≤iWidth≤ 6；
- iHeight:choose barcode height，1 ≤iHeight≤ 255；
- hri:choose the printing position of barcode character, which can be chosen are below
  - POS_HT_NONE:not print；
  - POS_HT_DOWN:print under the barcode
  - POS_HT_UP:print above the barcode
  - POS_HT_BOTH:print both under the barcode and above the barcode
- lpString:barcode data, please refer to the illustration of requirement for barcode data

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)

POS_ES_WRITEFAIL(-2)
POS_ES_OVERTIME(-5)
POS_ES_OTHERERRORS(-100)

Illustration

- When choose POS_BT_UPCA、POS_BT_UPCE、POS_BT_JAN13、POS_BT_JAN8、POS_BT_CODE39、POS_BT_ITF、POS_BT_CODABAR，barcode data should end with “0”
- This function doesn’t support POS76 series printers
- Barcode data requirement

Barcode type	Number of amount(n)	Data (d)
POS_BT_UPCA	11 ≤ n ≤ 12	48 ≤ d ≤ 57
POS_BT_UPCE	11 ≤ n ≤ 12	48 ≤ d ≤ 57
POS_BT_JAN13	12 ≤n ≤ 13	48 ≤ d ≤ 57
POS_BT_JAN8	7 ≤n ≤ 8	48 ≤ d ≤ 57
POS_BT_CODE39	1 ≤ n ≤ 255	45 ≤ d ≤ 57, 65 ≤ d ≤ 90, 32, 36, 37,43
POS_BT_ITF	1 ≤ n≤ 255	48 ≤ d ≤ 57
POS_BT_CODABAR	1 ≤ n≤ 255	48 ≤ d ≤ 57 65 ≤ d ≤ 68, 36, 43,45,46,47 58
POS_BT_CODE93	1 ≤ n≤ 255	0 ≤ d ≤ 127
POS_BT_CODE128	2 ≤ n≤ 255	0 ≤ d ≤ 127

Printing Effect

POS_Output_PrintOneDimensionalBarcodeA(m_hPrinter,POS_BT_CODE128,2,50,4013,“NO.123456”);//Printing CODE128 barcode

LONG POS_Output_PrintTwoDimensionalBarcodeA/W(LONG iPrinterID, INT iType, INT parameter1, INT parameter2, INT parameter3, LPCSTR lpString)

Function

Printing 2D barcode

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port

- iType:choose two dimensional barcode type, two dimensional barcode types which can be chosen refer to constant definition list
- parameter1:
  - POS_BT_PDF417:means the character number of each row. The max value of v should less than the max value of model permit because different modes have different paper width
  - POS_BT_DATAMATRIX:means the height of figure
  - POS_BT_QRCODE:means the version number of figure
- parameter2:
  - POS_BT_PDF417:means the class of error correction
  - POS_BT_DATAMATRIX:means the width of figure
  - POS_BT_QRCODE:means the class of error correction (L:7%, M:15%,Q:25%,H:30%)；
- parameter3:means the magnification times in lengthways，1 ≤parameter3 ≤ 6；
- lpString:barcode data, please refer to the illustration of requirement for barcode data

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- This function doesn't support POS76 series printers
- Barcode data requirement

Barcode type	Data length(n)	parameter1(v)	parameter2(r)	parameter3(k)	Data content(d)
QR Code	1 ≤n ≤ 65535	1 ≤v≤ 16	r=76,77,81,72	1 ≤k≤ 6	0 ≤d≤ 255
Data Matrix	1 ≤n ≤ 65535	0 ≤v≤ 144	8 ≤r≤ 144	1 ≤k≤ 6	0 ≤d≤ 255
PDF417	1 ≤n ≤ 65535	1 ≤v≤ 30	0 ≤r≤ 8	1 ≤k≤ 6	0 ≤d≤ 255

Printing Effect

POS_Output_PrintTwoDimensionalBarcodeA(m_hPrinter,POS_BT_PDF417,2,6,6,"www.test.com");//Print PDF417 barcode

LONG POS_Output_SendLocalFileA/W(LONG iPrinterID, LPCSTR lpFilePath)

Function

Print local TXT document

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- lpFilePath: local TXT document store path

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_FILEOPENERROR(-6)
  POS_ES_OTHERERRORS(-100)

LONG POS_Output_DownloadRamBmpA/W(LONG iPrinterID, LPCSTR lpFilePath)

Function

Download local monochrome bitmap to printer RAM

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port；
- lpFilePath: Local single color bitmap storage path

Returned value

- True: POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_NONMONOCHROMEBITMAP(-4)
  POS_ES_OVERTIME(-5)
  POS_ES_FILEOPENERROR(-6)
  POS_ES_OTHERERRORS(-100)

Illustration

- The size of downloaded pic should not beyond the printer RAM area, printer will exit directly if oversize and the data will be regarded as ordinary data.
- The horizontal width of pic should less than the max printable width, the width of 80mm paper is 576dots, the width of 58mm paper is 384dots
- This function can download pic (such as LOGO, digital signature) into the printer RAM before printing, Invoking POS_Output_PrintRamBmp function for printing, it can reduce the waiting time of data transmission when printing pics.
- This function doesn’t support POS76 series printers and POS58 series printers

LONG POS_Output_PrintRamBmp(LONG iPrinterID,INT n)

Function

Print local monochrome bitmap downloaded to printer RAM according to the chosen mode

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port;
- n:choose bitmap printing mode，0 ≤ n ≤ 3;

n	mode	vertical resolution (DPI)	lateral resolution (DPI)
0	normal	203	203
1	Twice width	203	101
2	Twice height	101	203
3	Twice width&Twice height	101	101

Illustration

- This function doesn't support POS76 series printers and POS58 series printers

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

LONG POS_Output_PrintBmpDirectA/W(LONG iPrinterID, LPCSTR lpFilePath)

Function

Print local single color bitmap

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port;
- lpFilePath: local monochrome bitmap store path

Illustration

This function doesn't support POS76 series printers

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_NONMONOCHROMEBITMAP(-4)
  POS_ES_OVERTIME(-5)

POS_ES_FILEOPENERROR(-6)
POS_ES_OTHERERRORS(-100)

LONG POS_Output_PrintBmpDirectA_POS76(LONG iPrinterID, LPCSTR lpFilePath)

Function

Dot matrix type printing local single color bitmap

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port;
- lpFilePath: local monochrome bitmap store path

Illustration

This function support POS76 series dot matrix printers, not support thermal printers.

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_NONMONOCHROMEBITMAP(-4)
  POS_ES_OVERTIME(-5)
  POS_ES_FILEOPENERROR(-6)
  POS_ES_OTHERERRORS(-100)

LONG POS_Output_PrintStringA/W(LONG iPrinterID, LPSTR lpString)

Function

Print characters string

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port;
- lpString: characters string which end with the empty byte

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- the content less than one row should end with “\r\n”to be printed

LONG POS_Output_PrintFlashBmp(LONG iPrinterID,INT n)

Function

Print pr-downloaded bitmap

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port；
- n:bitmap store number，1 ≤ n ≤ 8；

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- This function should be used with printer setting tool, firstly download bitmap in specific position by setting tool, then use the function to print

LONG POS_Control_PrintTestpage(LONG iPrinterID)

Function

Print test page

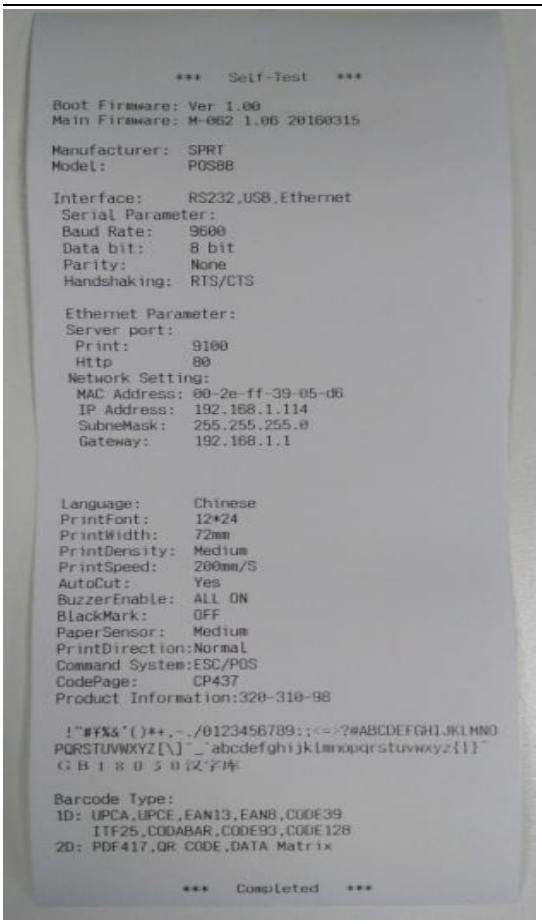
Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port；

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Print Effect



LONG POS_Output_PrintData(LONG iPrinterID, LPCSTR lpBuffer, INT iLength)

Function

Send hexadecimal data to printer

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port;
- lpBuffer:The date will be sent in the buffer;
- iLength:the size of buffer

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)

POS_ES_OTHERERRORS(-100)

Invoking example

```
POS_Output_PrintStringA(m_hPrinter, “Hello world!\r\n”);Print“Hello world!”
byte[] cmd1 = { 0x48,0x65,0x6C,0x6C,0x6F,0x20,0x77,0x6F,0x72,0x6C,0x64,0x21, 0x0A};
POS_Output_PrintData(m_hPrinter, cmd1, 13);Print“Hello world!”
…
byte[] cmd2 = { 0x1d, 0x56, 0x42, 0x00 };//cutting paper instruction
LONG ret = POS_Output_PrintData(m_hPrinter, cmd2, 4);//Sent hex data
//identify sending printing content successfully or not
    switch (ret)
    {
    case POS_ES_SUCCESS:
        MessageBox(_T("sending successfully"));
        break;
    case POS_ES_INVALIDPARA:
        MessageBox(_T("Parameter error"));
        break;
    case POS_ES_WRITEFAIL:
        MessageBox(_T("sending failed"));
        break;
    case POS_ES_OVERTIME:
        MessageBox(_T("overtime"));
        break;
    case POS_ES_OTHERERRORS:
        MessageBox(_T("other error"));
        break;
    }
...
```

LONG POS_Control_SetPrintPosition(LONG iPrinterID, LONG iLeftMargin, LONG iWidth)

Function

Set the printing left margin and printing width

Parameter

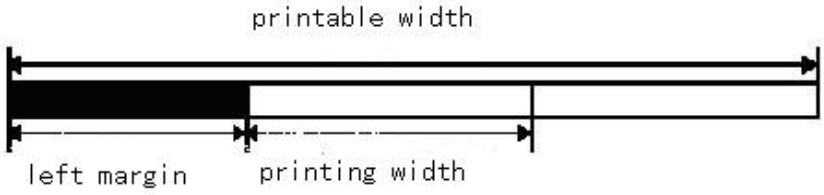
- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port；
- iLeftMargin:left margin, default is “0”
- iWidth:set printing area, default is “0”

Return Numerical Value

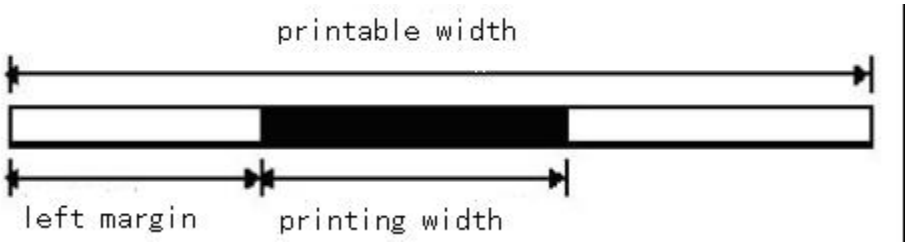
- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- Use iLeftMargin to set left margin, iLeftMargin is the left margin printing dots which need to be set



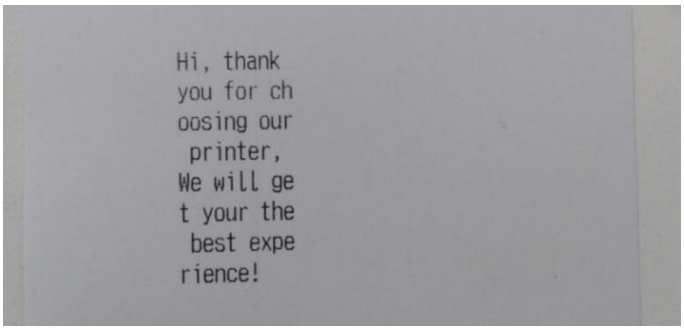
- Use iWidth to set printing area, iWidth is the printing dots which need to be set in printing area. If [left margin+printing width] is over the printable area, the printing area = the printable area -left margin



- the max printing area of 80mm paper is 576 dots, the max printing area of 58mm paper is 384 dots, the max printing area of 76mm paper is 420dots,
- This function doesn't support POS76 series printers and POS58 series printers

Print Effect

POS_Control_SetPrintPosition(m_hPrinter, 80, 80);//set print left margin to 80dots, then printable width is 80dots



LONG POS_Control_SetLineSpace(LONG iPrinterID, INT iSpace)

Function

Setting printing height of line(the height of character+line space)

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port;
- iSpace:set height of line，0 ≤ n ≤ 255；

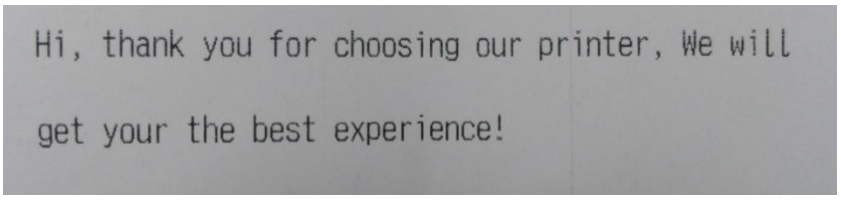
Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)

POS_ES_OVERTIME(-5)
POS_ES_OTHERERRORS(-100)

Print Effect

POS_Control_SetLineSpace(m_hPrinter, 80);//set the height of line to 80 dots



LONG POS_Control_SetPrintFontE(LONG iPrinterID,BOOL iFont,BOOL iBold,BOOL iDoubleWidth,BOOL iDoubleHeight, BOOL iUnderLine)

Function

Set the print format of western characters font

Parameter

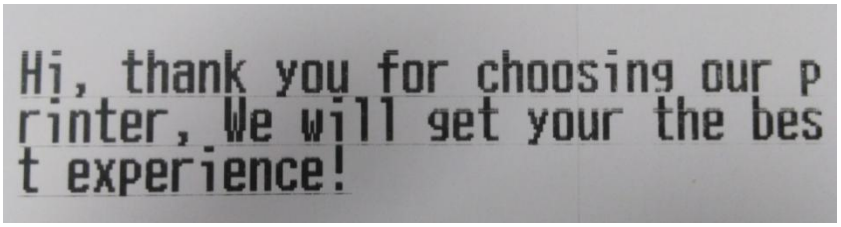
- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port；
- iFont: Font: true=Normal font(12x24), false=Compressed font(9x17);
- iBold: Over striking; true=over striking, false=normal;
- iDoubleWidth: Twice width: true=twice width, false=normal；
- iDoubleHeigh: Twice height: true=twice height, false=normal；
- iUnderLine: Underline: true=underline，false=non-underline；

Return Numerical Value

- Ture:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Print effect

POS_Control_SetPrintFontE(m_hPrinter,true,true,true,true,true);//Set the print format of western character font



LONG POS_Control_SetPrintFontC(LONG iPrinterID,BOOL iDoubleWidth,BOOL iDoubleHeight,BOOL iUnderLine)

Function

Set the print format of Chinese character font

Parameter

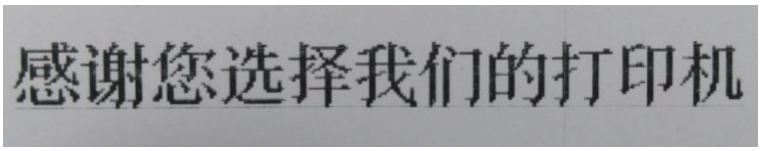
- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port；
- iFont:Font:true=Normal font(12x24)，false=Compressed font(9x17)；
- iDoubleWidth:Twice width:true=twice width，false=normal；
- iDoubleHeight:Twice height:true=twice height，false=normal；
- iUnderLine:Underline:true=underline，false=non-underline；

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Print Effect

POS_Control_SetPrintFontC(m_hPrinter, true, true, true);//Set the print format of Chinese character font



LONG POS_Control_CutPaper(LONG iPrinterID, LONG iType, LONG iLines)

Function

Content of printing buffer, feeding paper line which set by ilines and cutting paper

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- iType:Cutter type, 1 “Full Cut” 0 “Partial Cut”
- iLines:The line of paper feeding；

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- full cut/partial cut need the support of cutter
- This function doesn’t support POS58 series printer

LONG POS_Control_FeedLines(LONG iPrinterID, LONG iLines)

Function

feeding paper line which is set by parameter ilines

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- iLines: The line of feeding paper forward, 0 ≤iLines≤ 255；

Return Numerical Value

- True: POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

LONG POS_Control_CashDraw(LONG iPrinterID, LONG iPort, LONG iTime1, LONG iTime2)

Function

Open cash drawer

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port
- iPort: Cash drawer number: 1 means to open 1# cash drawer, 2 means to open 2# cash drawer, 3 means to open cash drawer 1# 2# cash drawers.
- iTime1: Time of open cash drawer [iTime1 × 2 ms], 0 ≤iTime1≤ 255;
- iTime2: Time of close cash drawer [iTime2× 2 ms], 0 ≤iTime2≤ 255;

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- the time of opening cash drawer should be determined by the used cash draw parameter

LONG POS_Control_BlackMark(LONG iPrinterID)

Function

Feeding paper to black mark position

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port

Return Numerical Value

- True: POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

LONG POS_Status_RTQueryStatus(LONG iPrinterID)

Function

Checking status of printer paper

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port

Return Numerical Value

- True: POS_ES_SUCCESS(0)
  POS_ES_PAPEROUT(1)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_READFAIL(-3)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- This function is to check status of printer paper, paper in return POS_ES_SUCCESS (0), paper out return POS_ES_PAPEROUT(1)

Invoking example

```
…
LONG ret = POS_Status_RTQueryStatus(m_hPrinter);
switch (ret)
{
case POS_ES_SUCCESS:
    MessageBox(_T("paper in"));
    break;
case POS_ES_PAPEROUT:
    MessageBox(_T("paper out"));
```

```
        break;
    case POS_ES_INVALIDPARA:
        MessageBox(_T("Parameter error"));
        break;
    case POS_ES_WRITEFAIL:
        MessageBox(_T("writing failed"));
        break;
    case POS_ES_READFAIL:
        MessageBox(_T("reading failed"));
        break;
    case POS_ES_OVERTIME:
        MessageBox(_T("overtime"));
        break;
    case POS_ES_OTHERERRORS:
        MessageBox(_T("other error"));
        break;
    }
    …
```

LONG POS_Status_RTQueryTypeStatus(LONG iPrinterID,INT n)

Function

Check status of printer status

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port
- n: check type number, 1、2、3、4;

Return Numerical Value

- True:POS_ES_SUCCESS(0)
  POS_ES_PAPEROUT(1)
  POS_ES_DOOROPEN(3)
  POS_ES_CUT(4)
  POS_ES_DRAWERHIGH(5)
  POS_ES_PAPERENDING(6)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_READFAIL(-3)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- Parameter n means: n=1, printer status; n=2, off-line status; n=3， error status; n=4, paper sensor status;

Invoking example

```
…
//take parameter n=2, check printer off-line status as example

int nDoorOpen = 0;     //paper case open

LONG ret = POS_Status_RTQueryTypeStatus(m_hPrinter,2);
switch (ret)
{
case POS_ES_INVALIDPARA:
      MessageBox(_T("Parameter error"));
      return;
      break;
case POS_ES_WRITEFAIL:
      MessageBox(_T("writing failed"));
      return;
      break;
case POS_ES_READFAIL:
      MessageBox(_T("Reading failed"));
      return;
      break;
case POS_ES_OVERTIME:
      MessageBox(_T("over time"));
      return;
      break;
case POS_ES_OTHERERRORS:
      MessageBox(_T("other error));
      return;
      break;
}
if (ret == POS_ES_DOOROPEN)
{
      nDoorOpen = 1;
}

CString strMessage;
strMessage = _T("#");

if (nDoorOpen == 1)
{
      strMessage = strMessage + _T("paper case open") + _T("#");
}
else
{
      strMessage = strMessage + _T("paper case close") + _T("#");
```

```
}
MessageBox(strMessage);
...
```

LONG POS_Status_QueryTaskStatus(LONG iPrinterID,INT second)

Function

Check the printing task finished or not

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- Second: it is unit second, that is over time value set by users, which should be more than the time of printing task; if the time of printing task is more than the time function set by user, which lead to printing task unfinished, at this time, if the setting time value is less than 5seconds, printer will regard it as 5 seconds.

Return Numerical Value

- True: POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_READFAIL(-3)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- The function is to check the printer execute this command or not, that is to check the print task before this command is finished or not.
- This function doesn't support POS76 series printers

Invoking example

```
…
Send printing task
…
//overtime valuesecond 为 5s
LONG ret = POS_Status_QueryTaskStatus(m_hPrinter,5);
    switch (ret)
    {
    case POS_ES_SUCCESS:
        MessageBox(_T("printing finished"));
        break;
    case POS_ES_READFAIL:
        MessageBox(_T("reading data error"));
        break;
    case POS_ES_INVALIDPARA:
        MessageBox(_T("parameter error"));
        break;
    case POS_ES_WRITEFAIL:
```

```
        MessageBox(_T("sending failed"));
        break;
    case POS_ES_OVERTIME:
        MessageBox(_T("task printing…"));
        break;
    case POS_ES_OTHERERRORS:
        MessageBox(_T("other error"));
        break;
    }
...
```

LONG POS_Input_PrinterId(LONG iPrinterID, char *buf)

Function

Get printer factory information

Parameter

- iPrinterID: Printer handle, it will be confirmed by the return Numerical Value from the opened port
- char *buf: receiving data buf defined by user

Return Numerical Value

- True: POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_READFAIL(-3)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Illustration

- The function returned factory information is “_” + “factory name”

LONG POS_Control_ReSet(LONG iPrinterID)

Function

Initialize the printer

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port

Return Numerical Value

- True: POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_OVERTIME(-5)

POS_ES_OTHERERRORS(-100)

Illustration

- The function is to initialize the printer, and to clear the data of printing buffer. The printer mode will be set in the default mode when power on.

LONG Color24_GrayBW(LPCTSTR szSourceFile,LPCTSTR szTargetFile)

Function

To convert the 24bit bitmap into monochrome bitmap

Parameter

- szSourceFile: The store path of bitmap needed to be converted
- szTargetFile: The store path of converted bitmap

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_READFAIL(-3)
  POS_ES_FILEOPENERROR (-6)
  POS_ES_OTHERERRORS(-100)

VOID ASBCallback(int ASBStatus[POS_ASB_STATUS_NUM], void * param)

Function

User-provided callback function

Parameter

- ASBStatus: Save the status reported by the printer. The state corresponding to each bit of the array is as follows.

Array Index	Value	Status
0	0	Cash drawer Vil
	1	Cash drawer Vih
1	0	Printer Online
	1	Printer Offline
2	0	Cover Closed
	1	Cover Open
3	0	Paper is not fed with the feed button
	1	Feeding paper with the feed button

4	0	No cutter errors
	1	Cutter errors
5	0	No unrecoverable errors
	1	Unrecoverable errors
6	0	No auto-recovery errors
	1	Auto-recovery errors
7	0	Paper is enough
	1	Paper will run out
8	0	Paper available
	1	Out of paper

- Param: dialog pointer

Return Numerical Value

- None

LONG POS_Status_ASB(LONG iPrinterID, INT n, ASBCallBack p, void * pDlgOwer)

Function

Set automatic status return

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- n:0: Disable automatic status return. 1: Turn on automatic status return.
- p: callback function pointer
- pDlgOwer: dialog pointer

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_READFAIL(-3)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Call Instance

```
void ASBCallBack(int ASBStatus[POS_ASB_STATUS_NUM],void* pDlgOwner)
{
    CString strMessage;
    strMessage = _T("#");
```

```
if (ASBStatus[POS_Drawer_Heigh] == 1)
{
    strMessage = strMessage + _T("Cash drawer Vih") + _T("#");
}
else
{
    strMessage = strMessage + _T("Cash drawer Vil") + _T("#");
}
if (ASBStatus[POS_Offline] == 1)
{
    strMessage = strMessage + _T("Printer offline") + _T("#");
}
    else
{
    strMessage = strMessage + _T("Printer online") + _T("#");
}
  if (ASBStatus[POS_Door_Open] == 1)
{
    strMessage = strMessage + _T("Cover open") + _T("#");
    }
  else
{
    strMessage = strMessage + _T("Cover closed") + _T("#");
}
if (ASBStatus[POS_Feed] == 1)
{
    strMessage = strMessage + _T("Feeding paper with the feed button") + _T("#");
}
else
{
    strMessage = strMessage + _T("Paper is not fed with the feed button") + _T("#");
}
if (ASBStatus[POS_Cut] == 1)
{
    strMessage = strMessage + _T("Cutter errors") + _T("#");
}
else
{
    strMessage = strMessage + _T("No cutter errors") + _T("#");
}
if (ASBStatus[POS_Unrecoverable_Error] == 1)
{
    strMessage = strMessage + _T("Unrecoverable errors") + _T("#");
}
else
{
```

```
    strMessage = strMessage + _T("No unrecoverable errors") + _T("#");
}
if (ASBStatus[POS_AutoRecoverable_Error] == 1)
{
    strMessage = strMessage + _T("Auto-recovery errors") + _T("#");
}
else
{
    strMessage = strMessage + _T("No auto-recovery errors") + _T("#");
}
if (ASBStatus[POS_PaperEnding] == 1)
{
    strMessage = strMessage + _T("Paper will run out") + _T("#");
}
else
{
    strMessage = strMessage + _T("Paper is enough") + _T("#");
}
if (ASBStatus[POS_PaperOut] == 1)
{
    strMessage = strMessage + _T("Out of paper") + _T("#");
}
else
{
    strMessage = strMessage + _T("Paper available") + _T("#");
}
if (pDlgOwner)
{
    CDialogESPOS* p = (CDialogESPOS *)pDlgOwner;
    p->m_ASBStatus.SetWindowText(strMessage);
    if (m_hPrinter == 0)
    {
        CString prompt;
                                    p->m_ASBButton.GetWindowText(prompt);
        if (prompt == IDS_ASB_Close)
        {
            prompt.LoadString(IDS_ASB_Open);
            p->m_ASBButton.SetWindowText(prompt);
            p->MessageBox("Close ASB");
        }
    }
}
return;
}
 .....
```

```
    LONG ret = POS_Status_ASB(m_hPrinter,1, ASBCallBack, (void *)this);
switch (ret)
{
case POS_ES_INVALIDPARA:
    MessageBox(_T("Parameter error"));
    break;
case POS_ES_WRITEFAIL:
    MessageBox(_T("Failed to send"));
    break;
case POS_ES_OVERTIME:
    MessageBox(_T("Timeout"));
    break;
case POS_ES_OTHERERRORS:
    MessageBox(_T("Other errors"));
    break;
}
```

LONG POS_Control_SetFontSize (LONG iPrinterID, INT iWidthSize,INT iHeightSize)

Function

Set character size

Parameter

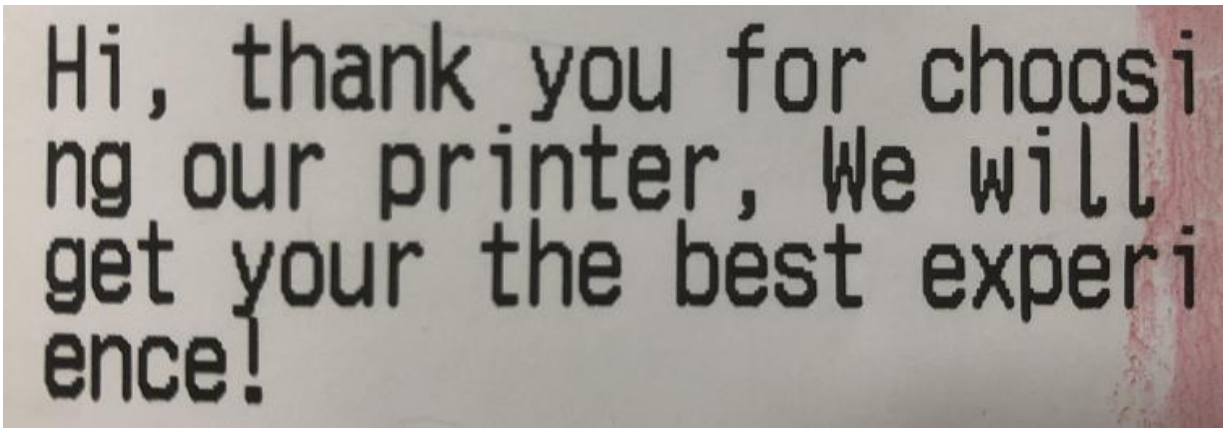
- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- iWidthSize: Horizontal magnification.
- iHeightSize: Vertical magnification.

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False:POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_READFAIL(-3)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Print Result

POS_Control_SetFontSize(m_hPrinter,2,2); //The length and width of the font are enlarged twice
POS_Output_PrintStringA(m_hPrinter,” Hi, thank you for choosing our printer,We will get your the best experience!\r\n”);



LONG POS_Control_SetTabs (LONG iPrinterID ,LPCSTR pszPosition,INT count)

Function

Set the tab position

Parameter

- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port
- pszPosition: This parameter points to the tab position of the buffer storage, terminated by 0.
- count: Set the number of tab positions, 0 <= nCount <= 32.

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_READFAIL(-3)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

LONG POS_Control_ExecuteTabs (LONG iPrinterID)

Function

Execute tab

Parameter

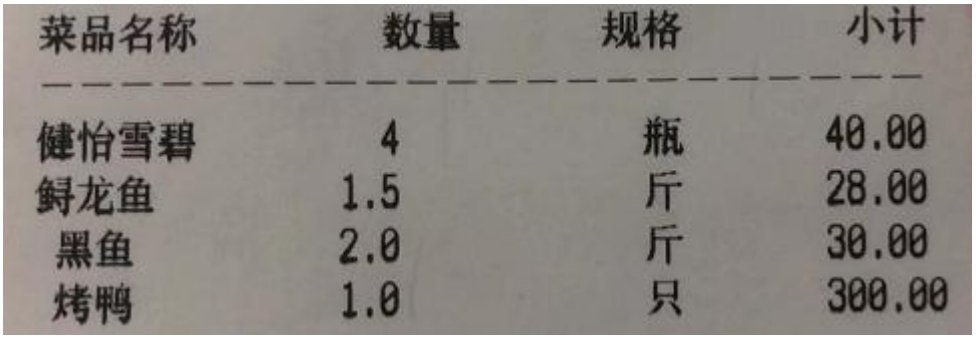
- iPrinterID:Printer handle, it will be confirmed by the return Numerical Value from the opened port

Return Numerical Value

- True:POS_ES_SUCCESS (0)
- False: POS_ES_INVALIDPARA(-1)
  POS_ES_WRITEFAIL(-2)
  POS_ES_READFAIL(-3)
  POS_ES_OVERTIME(-5)
  POS_ES_OTHERERRORS(-100)

Print Result

```
....
//Normal printing
POS_Output_PrintFontStringA(m_hPrinter,0,0,0,0,0,"菜品名称　　数量　　规格　　小计\r\n");
POS_Output_PrintFontStringA(m_hPrinter,0,0,0,0,0,"————————————————————————————\r\n");
POS_Output_PrintFontStringA(m_hPrinter,0,0,0,0,0,"健怡雪碧　　4　　瓶　　40.00\r\n");
POS_Output_PrintFontStringA(m_hPrinter,0,0,0,0,0,"鲟龙鱼　　1.5　　斤　　28.00\r\n");
//Tabbed printing
char position[] = {0x01,0x0f,0x1e,0x27,0x00};    //指定每格的位置
POS_Control_SetTabs(m_hPrinter,position,4);
POS_Control_ExecuteTabs(m_hPrinter);
POS_Output_PrintStringA(m_hPrinter,"黑鱼");
POS_Control_ExecuteTabs(m_hPrinter);
POS_Output_PrintStringA(m_hPrinter,"2.0");
POS_Control_ExecuteTabs(m_hPrinter);
POS_Output_PrintStringA(m_hPrinter,"斤");
POS_Control_ExecuteTabs(m_hPrinter);
POS_Output_PrintStringA(m_hPrinter,"30.00\r\n");
POS_Control_ExecuteTabs(m_hPrinter);
POS_Output_PrintStringA(m_hPrinter,"烤鸭");
POS_Control_ExecuteTabs(m_hPrinter);
POS_Output_PrintStringA(m_hPrinter,"1.0");
POS_Control_ExecuteTabs(m_hPrinter);
POS_Output_PrintStringA(m_hPrinter,"只");
POS_Control_ExecuteTabs(m_hPrinter);
POS_Output_PrintStringA(m_hPrinter,"300.00\r\n");
char end = 0x00;
POS_Control_SetTabs(m_hPrinter,&end,0); //结束跳格
```



2.9 TSPL Function illustration

LONG SetIs21();

Function

To confirm the model is TL21, to distinguish internal command and related condition

Parameter

- None

Returned value

- True: TSPL_SUCCESS(0)
- False: None(no error returned value for the method)

Invoked example

SetIs21();//If it is TL21, printer will need this method

LONG PageSetupTSPL(LONG iPrintID, INT PageWidth, INT PageHeight);

Function

Set page width and page height, build buffer in internal printer

Parameter

- iPrintID: printer handle is decided by returned value which open port
- PageWidth: Page width
- PageHeight: Page height

Returned value

- True: TSPL_SUCCESS(0)
- False: TSPL_IDERROR(-1): iPrintID Return this error when got error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): When using TL21, return this error when ParameterPageWidth < 1 or PageHeight < 1. When using TL51, return this error when ParameterPageWidth < 1 or PageHeight < 1.
  TSPL_PARAM_GREAT_RANGE (-3): When using TL21, return this error when ParameterPageWidth > 45 or PageHeight > 56. When using TL51, return this error when ParameterPageWidth > 100or PageHeight > 225.
- Others: TL51printer max label square is length*width= 225X100mm
  TL21printer max label square is length*width= 56X45mm

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//If TL21, the printer will need this method
ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
{
        info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
        MessageBox(info);
}
```

```
ret = PageSetupTSPL(m_hPrinter,45,56);
switch(ret)
    {
        case TSPL_IDERROR:
            info.Format("PageSetupTSPL error:%d",ret);
            MessageBox(info);
            break;
        case TSPL_PARAM_LESS_EQUAL_ZERO:
            info.Format("PageSetupTSPLParameterPageWidth or PageHeight under or equal 0，error code:%d",ret);
            MessageBox(info);
            break;

        case TSPL_PARAM_GREAT_RANGE:
            info.Format("PageSetupTSPLParameterPageWidth or PageHeight above specified range, error code:%d",ret);
            MessageBox(info);
            break;
    }
```

LONG DrawLineTSPL(LONG iPrintID,INT StartX, INT StartY, INT LineWidth, INT LineHeight);

Function

Draw line

Parameter

- iPrintID: Printer handle, is decided by returned value which open port
- startX: Start at left above level direction, in dots(cannot exceed page width)
- startY: Start at left top corner in vertical direction, in dots(cannot exceed page height)
- lineHeight: Line height, in dots(cannot exceed page height)
- lineLength: Line width, in dots(cannot exceed page width)

Returned value

- True: TSPL_SUCCESS(0)
- False: TSPL_IDERROR(-1): iPrintID Return this error when error occur
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): Parameter StartX under 0 or StartY under 0 or LineWidth under 0 or LineHeight under 0 return this error

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//TL21 need this method
ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
```

```
    {
        info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
        MessageBox(info);
    }
    ret = PageSetupTSPL(m_hPrinter,45,56);
    switch(ret)
        {
            case TSPL_IDERROR:
                info.Format("PageSetupTSPLParameterm_hPrinter error:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
                info.Format("PageSetupTSPLParameterPageWidth 或 PageHeight under or equal to 0，
error code:%d",ret);
                MessageBox(info);
                break;

            case TSPL_PARAM_GREAT_RANGE:
                info.Format("PageSetupTSPLParameterPageWidth or PageHeight above or equal to
zero，error code:%d",ret);
                MessageBox(info);
                break;
        }

    ret = DrawLineTSPL(m_hPrinter,10,10,100,100);
    switch(ret)
    {
            case TSPL_IDERROR::
                info.Format("DrawLineTSPLParameterm_hPrinter error:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
                info.Format("DrawLineTSPLParameter StartX under 0 or StartY under 0 or LineWidth
under 0 or LineHeight under 0 return this error，error code:%d",ret);
                MessageBox(info);
                break;

    }
    PrintTSPL21(m_hPrinter,1);
    //PrintTSPL(m_hPrinter,1,1);//TL51 need this method
```

LONG PrintTSPL21(LONG iPrintID,INT Set);

Function

Only received PRINT order will the printer carry out printing action, otherwise do not print

Parameter

- iPrintID: Printer handle, is decided by returned value which opened the port
- Set: Specify the printing pieces(set)

Returned value

- True: TSPL_SUCCESS(0)
- Error: TSPL_IDERROR(-1): Parameter iPrintID returned this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): Parameter Set returned this value when the value is under 1
  TSPL_PARAM_GREAT_RANGE(-3): Parameter Set above 65535

说明

- TL21 model printing method

LONG PrintTSPL51(LONG iPrintID,INT Set,INT Copy);

Function

Only received PRINT order will the printer carry out printing action, otherwise do not print

Parameter

- iPrintID: Printer handle, is decided by returned value which opened the port
- Set:Specify the printing pieces(set)
- Copy: Print how many pieces for every barcode page on every piece

Returned value

- True: TSPL_SUCCESS(0)
- Error: TSPL_IDERROR(-1): ParameteriPrintID return this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): ParameterSet or Copy under 1 return this value
  TSPL_PARAM_GREAT_RANGE(-3): ParameterSet or Copy above 65535 return this value

Description

- TL51 model printing method

LONG DrawBorderTSPL(LONG iPrintID,INT LineWidth, INT top_left_x, INT top_left_y, INT bottom_right_x, INT bottom_right_y);

Function

Draw frame

Parameter

- iPrintID: printer handle, is decided by Returned value of opened port
- lineWidth: rectangle line width, in dots (cannot exceed label width)
- top_left_x: the start position x on up left corner on horizontal direction of rectangle, in dots(cannot exceed page width)
- top_left_y: start position y at up left corner in vertical direction of rectangle, in dots(cannot exceed page height)
- bottom_right_x: the end position x on right bottom corner on horizontal direction of rectangle, in dots(cannot exceed page width)
- bottom_right_y: the end position y on right bottom corner on vertical direction of rectangle, in dots(cannot exceed page height)

Returned value

- True: TSPL_SUCCESS(0)
- False: TSPL_IDERROR(-1): ParameteriPrintID return this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): 当 ParameterLineWidth < 0 or top_left_x < 0 or top_left_y < 0 or bottom_right_x < 0 or bottom_right_y < 0, return this error

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//TL21 need this method
ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
{
    info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
    MessageBox(info);
}
ret = PageSetupTSPL(m_hPrinter,45,56);
switch(ret)
    {
        case TSPL_IDERROR::
            info.Format("PageSetupTSPL error:%d",ret);
            MessageBox(info);
            break;
        case TSPL_PARAM_LESS_EQUAL_ZERO:
            info.Format("PageSetupTSPLParameterPageWidth 或 PageHeight under or equal to 小于或 0，error code:%d",ret);
            MessageBox(info);
            break;

        case TSPL_PARAM_GREAT_RANGE:
            info.Format("PageSetupTSPLParameterPageWidth or PageHeight above specified range, error code:%d",ret);
            MessageBox(info);
            break;
```

```
    }

ret = DrawBorderTSPL(m_hPrinter,5,20,20,200,200);
    switch(ret)
    {
        case TSPL_IDERROR::
            info.Format("DrawBorderTSPL error:%d",ret);
            MessageBox(info);
            break;
        case TSPL_PARAM_LESS_EQUAL_ZERO:
            info.Format("DrawBorderTSPLParameterLineWidth < 1 or top_left_x < 1 or top_left_y < 1
or bottom_right_x < 1 or bottom_right_y < 1，error code:%d",ret);
            MessageBox(info);
            break;
     }
PrintTSPL21(m_hPrinter,1);
//PrintTSPL(m_hPrinter,1,1);//TL51 printer need this method
```

LONG DrawTextTSPL(LONG iPrintID,INT start_x, INT start_y, BOOL isSimplifiedChinese, INT xMultiplication,INT yMultiplication, INT rotate, CString content);

Function

Print text

Parameter

- iPrintID: printer handle, is decided by returned value of opened port.
- start_x: Starting position coordinate of words on x direction, in dots(cannot exceed page width)
- start_y:Starting position coordinate of words on y direction,(cannot exceed page height)
- isSimplifiedChinese: true simplified Chinese24×Font(GB Code);false traditional Chinese 24×Font(BIG 5)
- xMultiplication: Magnification times range on X direction 1—4
- yMultiplication: Magnification times range on Y direction 1—4
- rotate: rotate angle of text, clockwise is 0, not rotate 90, clockwise 180, clockwise 270, value is 0,90,180,270
- content: The content which is going to be printed, please use \[“] to print double quotes mark in the program.
  Please use \[R] to print CR in program if print D(hex) characters Please use \[A] to print LF in program if print D(hex) characters

Returned value

- True: TSPL_SUCCESS(0)
- Error: TSPL_IDERROR(-1): ParameteriPrintID , return this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): when Parameterstart_x < 0 or start_y < 0 or

xMultiplication < 1 or yMultiplication < 1 or content == NULL, return this error

TSPL_PARAM_GREAT_RANGE(-3): ParameterxMultiplication or yMultiplication is above 4，or rotate Parameter value is among 0,90,180,270, return this error

Invoke example:

```
LONG ret =0；
CString info;
SetIs21();//TL21 printer need this method
ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
{
info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
    MessageBox(info);
}
ret = PageSetupTSPL(m_hPrinter,45,56);
switch(ret)
    {
        case TSPL_IDERROR:
            info.Format("PageSetupTSPLParameterm_hPrinter error:%d",ret);
            MessageBox(info);
            break;
        case TSPL_PARAM_LESS_EQUAL_ZERO:
            info.Format("PageSetupTSPLParameterPageWidth 或 PageHeight under or equal to 0，error code:%d",ret);
            MessageBox(info);
            break;

        case TSPL_PARAM_GREAT_RANGE:
            info.Format("PageSetupTSPLParameterPageWidth or PageHeight is above specified range, error code，error code:%d",ret);
            MessageBox(info);
            break;
    }

ret = DrawTextTSPL(m_hPrinter,0,0,TRUE,1,1,0,"DrawTextTSPL");
switch(ret)
{
    case TSPL_IDERROR:
        info.Format("DrawTextTSPLParameterm_hPrinter error code:%d",ret);
        MessageBox(info);
        break;
    case TSPL_PARAM_LESS_EQUAL_ZERO:
info.Format("DrawTextTSPL Parameterstart_x < 0 or start_y < 0 or xMultiplication < 1 or yMultiplication < 1 or content == NULL,error code:%d",ret);
```

```
            MessageBox(info);
            break;
        case TSPL_PARAM_GREAT_RANGE:
            info.Format("DrawTextTSPL ParameterxMultiplication or yMultiplication above 4
              Error code:%d",ret);
            MessageBox(info);
            break;
    }
    PrintTSPL21(m_hPrinter,1);
    //PrintTSPL(m_hPrinter,1,1);//TL51 printer use this method
```

LONG DrawBarCodeTSPL(LONG iPrintID,INT start_x, INT start_y, CString type, INT height, BOOL isReadable,INT rotate, INT narrowWidth, INT wideWidth, CString content);

Function

Print 1D barcode

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- start_x: Upper left corner position on horizontal direction of barcode, in dots(cannot exceed page width)
- start_y: Upper left corner position on vertical direction of barcode, in dots(cannot exceed page height)
- type: barcode type, including “UPCA”，”UPCE”，”EAN13”，”EAN8”，”39”，”CODABAR”，”93”，”128”
- height: barcode hright, in dots, (cannot exceed page height)
- isReadable: FALSE, cannot be seen by human eyes, TRUE，can be seen by human eyes
- rotate: text rotate angle, clockwise is 0, not rotate 90, clockwise 180, clockwise 270, value is 0,90,180,270
- narrowWidth: width of narrow strip of barcode, in dots
- wideWidth: width of wide strip of barcode, in dots
- content: Barcode content, can only be number numeric string, otherwise will print error.

Returned value

- True: TSPL_SUCCESS(0)
- False: TSPL_IDERROR(-1): ParameteriPrintID, returned this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): start_x < 0 or start_y < 0 or height < 0 or rotate < 0 or narrowWidth < 0 or wideWidth < 0 or content == NULL, return this error
  TSPL_PARAM_GREAT_RANGE(-3): rotate Parameter value is not among 0,90,180,270 or type is not “UPCA”，”UPCE”，”EAN13”，”EAN8”，”39”，”CODABAR”，”93”，”128”, return this error.

Invoke example

```
    LONG ret =0；
    CString info;
   SetIs21();//TL21 printer need this method
```

```
        ret = ClearBuffTSPL(m_hPrinter);
        if(ret < 0)
        {
            info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
            MessageBox(info);
        }
    ret = PageSetupTSPL(m_hPrinter,45,56);
    switch(ret)
        {
            case TSPL_IDERROR:
                info.Format("PageSetupTSPLParameterm_hPrinter error:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
                info.Format("PageSetupTSPLParameterPageWidth or PageHeight under or equal to 0，
error code:%d",ret);
                MessageBox(info);
                break;

            case TSPL_PARAM_GREAT_RANGE:
                info.Format("PageSetupTSPLParameterPageWidth 或 PageHeight above specified range,
error code:%d",ret);
                MessageBox(info);
                break;
        }

        ret = DrawBarCodeTSPL(m_hPrinter,10,10,"128",30,TRUE,0,2,4,"123456");
        switch(ret)
        {
            case TSPL_IDERROR:
                info.Format("DrawBarCodeTSPLParameterm_hPrinter error:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
    info.Format("DrawBarCodeTSPL Parameter"start_x < 0 or start_y < 0 or height < 0 or rotate < 0 or
    narrowWidth < 0 or wideWidth < 0 orcontent == NULL

                error code:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_GREAT_RANGE:
                info.Format("DrawBarCodeTSPL ParameterrotateParameter value is not among
            0,90,180,270, or type is not “UPCA”，”UPCE”，”EAN13”，”EAN8”，”39”，”CODABAR”，”93”，”128”
            error code:%d",ret);
                MessageBox(info);
```

```
            break;
        }
        PrintTSPL21(m_hPrinter,1);
    //PrintTSPL(m_hPrinter,1,1);//TL51 printer need to use this method
```

LONG ClearBuffTSPL(LONG iPrintID);

Function

Clear the printer buffer

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port

Returned value

- True:TSPL_SUCCESS(0)
- Error:TSPL_IDERROR(-1): ParameteriPrintID , return this error

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//TL21 printer need this method
ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
{
    info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
    MessageBox(info);
}
```

LONG GetPrinterStatusTSPL(LONG iPrintID)

Function

Gain printer status

Parameter

iPrintID: Printer handle, is confirmed by returned value of opened port

Returned value

- True: TSPL_SUCCESS(0)
- False: TSPL_IDERROR(-1): ParameteriPrintID, return this value
  TSPL_PRINTER_STATUS_OUTPAPER(1): printer is paper out
  TSPL_PRINTER_STATUS_WORK(2): printing
  TSPL_PRINTER_STATUS_ENCLOSURENOCLOSE(3): paper house opened
  TSPL_PRINTER_STATUS_ERROR(4): printer internal error

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//TL21 printer need this method
ret = GetPrinterStatusTSPL(m_hPrinter);
switch(ret)
{
    case TSPL_IDERROR:
        info.Format("GetPrinterStatusTSPLParameterm_hPrinter error:%d",ret);
        MessageBox(info);
        break;
case TSPL_PRINTER_STATUS_OUTPAPER:
        info.Format("GetPrinterStatusTSPL, printer is paper out:%d",ret);
        MessageBox(info);
        break;
case TSPL_PRINTER_STATUS_WORK:
        info.Format("GetPrinterStatusTSPL,printing:%d",ret);
        MessageBox(info);
        break;
case TSPL_PRINTER_STATUS_ENCLOSURENOCLOSE:
        info.Format("GetPrinterStatusTSPL, paper house opened:%d",ret);
        MessageBox(info);
        break;
case TSPL_PRINTER_STATUS_ERROR:
        info.Format("GetPrinterStatusTSPL,printer internal error:%d",ret);
        MessageBox(info);
        break;
}
```

LONG DriveBeepTSPL(LONG iPrintID)

Function

Drive the buzzer beep one sound

Parameter

iPrintID: Printer handle, is confirmed by returned value of opened port

Returned value

- True:TSPL_SUCCESS(0)
- False:TSPL_IDERROR(-1): ParameteriPrintID , return this value

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//TL21 printer need this method
```

```
ret = DriveBeepTSPL(m_hPrinter);
if(ret < 0)
{
    info.Format("DriveBeepTSPLParameterm_hPrinter error:%d",ret);
    MessageBox(info);
}
```

LONG SetPaperbackOrPaperFeedTSPL(LONG iPrintID,BOOL isFeedBack, INT mDot)

Function

Control paper feeding or back

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- isFeedBack: whether back paper, true back paper
- mDot: 1≤mDot≤1000

Returned value

- True: TSPL_SUCCESS(0)
- False: TSPL_IDERROR(-1): ParameteriPrintID, return this error
  TSPL_PARAM_GREAT_RANGE(-3): when ParametermDot less than 1 or more than 1000, return this error

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//TL21 printer need to use this method
ret = SetPaperbackOrPaperFeedTSPL(m_hPrinter,TRUE,50);
switch(ret)
{
    case TSPL_IDERROR:
        info.Format("SetPaperbackOrPaperFeedTSPLParameterm_hPrinter error:%d",ret);
        MessageBox(info);
        break;
    case TSPL_PARAM_GREAT_RANGE:


    info.Format("SetPaperbackOrPaperFeedTSPL when ParametermDot is under 1 or above1000,
    return this value:%d",ret);
    MessageBox(info);
    break;
}
```

LONG ReverseAreaTSPL(LONG iPrintID,INT start_x, INT start_y, INT width, INT height)

Function

Reverse printing in specified area

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- start_x: Top left corner X coordinate in the area, in dots,(can't exceed the page width)
- start_y : Top left corner Y coordinate in the area, in dots,(can't exceed the page height)
- width:area width ,in dots(can't exceed page width)
- height: area height ,in dots(can't exceed page height)

Returned value

- True: TSPL_SUCCESS(0)
- Error: TSPL_IDERROR(-1): ParameteriPrintID , return this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): start_x < 0 or start_y < 0 or height < 0 or width < 0

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//TL21 printer need to use this method
ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
{
    info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
    MessageBox(info);
}
ret = PageSetupTSPL(m_hPrinter,45,56);
switch(ret)
    {
        case TSPL_IDERROR:
            info.Format("PageSetupTSPLParameterm_hPrinter error:%d",ret);
            MessageBox(info);
            break;
        case TSPL_PARAM_LESS_EQUAL_ZERO:
            info.Format("PageSetupTSPLParameterPageWidth or PageHeight is under or equal to 0，error code:%d",ret);
            MessageBox(info);
            break;

        case TSPL_PARAM_GREAT_RANGE:
            info.Format("PageSetupTSPLParameterPageWidth or PageHeight is above specified scope，error code:%d",ret);
```

```
                MessageBox(info);
                break;
        }

    ret = ReverseAreaTSPL(m_hPrinter,10,10,45,56);
        switch(ret)
        {
            case TSPL_IDERROR:
                info.Format("ReverseAreaTSPLParameterm_hPrinter error:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
                        info.Format("ReverseAreaTSPLParameterstart_x < 0 or start_y < 0 or height
        < 0 or width < 0，error code:%d",ret);
                MessageBox(info);
                break;
    }
  PrintTSPL21(m_hPrinter,1);//TL21 printer need to use this method
  //PrintTSPL(m_hPrinter,1,1);//TL51 printer need to use this method
```

LONG SetGAPTSPL(LONG iPrintID,DOUBLE value)

Function

Set the vertical distance between labels

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- value: 0≦value≤25.4(mm)

Returned value

- True:TSPL_SUCCESS(0)
- Fault:TSPL_IDERROR(-1): ParameteriPrintID , return this error
  TSPL_PARAM_GREAT_RANGE(-3): when Parametervalue is under or equal to 1, or above or equal to 25.4, return this error

Invoke example

```
    LONG ret =0；
    CString info;
   SetIs21();//TL21 need to use this method
    ret = SetGAPTSPL(m_hPrinter,10);
    switch(ret)
    {
        case TSPL_IDERROR:
```

```
            info.Format("SetGAPTSPLParameterm_hPrinter error:%d",ret);
            MessageBox(info);
            break;
        case TSPL_PARAM_GREAT_RANGE:
            info.Format("SetGAPTSPL when Parametervalue is under or equal to 1, or above or equal
        to 25.4, return this error error:%d",ret);
            MessageBox(info);
        break;
    }
```

LONG SetLabelReferenceTSPL(LONG iPrintID,INT x,INT y)

Function

Define original reference coordinate of label

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- X: Coordinate position on horizontal direction, in dots(cannot exceed page width)
- y: Coordinate position on vertical direction, in dots(cannot exceed page height)

Returned value

- True:TSPL_SUCCESS(0)
- Fault:TSPL_IDERROR(-1): ParameteriPrintID, return this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): x < 0 || y < 0 , return this error

Invoke example

```
    LONG ret =0；
    CString info;
   SetIs21();//TL21 printer need to use this method
    ret = SetLabelReferenceTSPL(m_hPrinter,10,10);
    switch(ret)
        {
            case TSPL_IDERROR:
                info.Format("SetLabelReferenceTSPLParameterm_hPrinter error:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
                    info.Format("SetLabelReferenceTSPLParameterx < 0 || y < 0 返回此 error，error
        code:%d",ret);
                MessageBox(info);
                break;
    }
```

LONG DownLoadBitMapTSPL(LONG iPrintID,BOOL isMoveFlash,CString PathName)

Function

Download bitmap to printer

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- isMoveFlash: false: download bitmap to printer memory(data in printer memory will lost if loose power)；true: download to flash
- PathName: Download to memory or FLASH, path or name, name could contain 8 characters at most.

Returned value

- True:TSPL_SUCCESS(0)
- Fault:TSPL_IDERROR(-1): ParameteriPrintID got error or failed to open file, return this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): ParameterPathName==NULL return this error

Description

- TL21 model does not support this method at present, TL51 support.

Invoke example

```
LONG ret =0；
CString info;

ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
{
    info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
    MessageBox(info);
}
ret = PageSetupTSPL(m_hPrinter,100,225);
switch(ret)
{
    case TSPL_IDERROR:
        info.Format("PageSetupTSPLParameterm_hPrinter error:%d",ret);
        MessageBox(info);
        break;
    case TSPL_PARAM_LESS_EQUAL_ZERO:
        info.Format("PageSetupTSPLParameterPageWidth or PageHeight is under or equal to 0，
error code:%d",ret);
        MessageBox(info);
        break;

    case TSPL_PARAM_GREAT_RANGE:
        info.Format("PageSetupTSPLParameterPageWidth or PageHeight is above specified
range，error code:%d",ret);
```

```
                MessageBox(info);
                break;
        }

        ret = DownLoadBitMapTSPL(m_hPrinter,FALSE,”D://LOG.bmp”);
        switch(ret)
        {

            case TSPL_IDERROR:
                info.Format("DownLoadBitMapTSPLParameterm_hPrinter error or failed to open file:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
                info.Format("DownLoadBitMapTSPLParameterPathName==NULL:%d",ret);
                MessageBox(info);
                break;

        }

        ret = PutBitMapTSPL(m_hPrinter,10,10,”D://LOG.BMP”);
        switch(ret)
        {

            case TSPL_IDERROR:
                info.Format("PutBitMapTSPLParameterm_hPrinter error:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
                info.Format("PutBitMapTSPLParameterfileName==NULL:%d",ret);
                MessageBox(info);
                break;

        }

        PrintTSPL(m_hPrinter,1,1);
```

LONG Draw2DBarCodeTSPL(LONG iPrintID,INT start_x, INT start_y, CString Max ,CString content)

Function

Print 2D barcode

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- start_x: coordinate position on horizontal direction, in dots(cannot exceed page widht)
- start_y: coordinate position on vertical direction, in dots(cannot exceed page height)
- Max: module size，range(“x1” ~ “x6”) string
- Content: 2D Barcode content

Returned value

- True:TSPL_SUCCESS(0)
- False:TSPL_IDERROR(-1): ParameteriPrintID got error, return this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): Parameterstart_x < 0 or start_y < 0 orcontent == NULL
  TSPL_PARAM_GREAT_RANGE(-3): when max Parameter value is not among string”x1” ~ ”x6” range, then return this error.

Description

- TL21 model does not support this method, TL51 supported.

Invoke example

```
LONG ret =0；
CString info;

ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
{
    info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
    MessageBox(info);
}
ret = PageSetupTSPL(m_hPrinter,100,225);
switch(ret)
{
    case TSPL_IDERROR:
        info.Format("PageSetupTSPLParameterm_hPrinter error:%d",ret);
        MessageBox(info);
        break;
    case TSPL_PARAM_LESS_EQUAL_ZERO:
        info.Format("PageSetupTSPLParameterPageWidth or PageHeight is under or equal to 0，
error code:%d",ret);
        MessageBox(info);
        break;

    case TSPL_PARAM_GREAT_RANGE:
        info.Format("PageSetupTSPLParameterPageWidth or PageHeight is above specified
range，error code:%d",ret);
        MessageBox(info);
```

```
            break;
        }


        ret = Draw2DBarCodeTSPL(m_hPrinter,10,10,”x1”,”12345”);
        switch(ret)
        {

            case TSPL_IDERROR:
                info.Format("Draw2DBarCodeTSPLParameterm_hPrinter error:%d",ret);
                MessageBox(info);
                break;
            case TSPL_PARAM_LESS_EQUAL_ZERO:
                info.Format("Draw2DBarCodeTSPLParameterstart_x < 0 or start_y < 0 or
    content==NULL，error code:%d",ret);
                MessageBox(info);
                break;

            case TSPL_PARAM_GREAT_RANGE:
                        info.Format("Draw2DBarCodeTSPL when max Parameter value is not among
            string x1 ~ x6 range, then return this error，error code:%d",ret);
                MessageBox(info);
                break;

        }
        PrintTSPL(m_hPrinter,1,1);
```

LONG PutBitMapTSPL(LONG iPrintID,INT start_x, INT start_y,CString fileName)

Function

Put downloaded bitmap to print buffer area

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- start_x: coordinate position in horizontal position, in dots(cannot exceed page width)
- start_y: coordinate position in vertical position, in dots(cannot exceed page height)
- fileName: Downloaded bitmap name in printer memory, must be same with bitmap downloaded in printer memory or flash, need to add suffix name and in capital format, otherwise probably cannot print out. DownLoadBitmap method downloaded bitmap in printer, then PutBitmap method put bitmap into printer buffer.

Returned value

- True:TSPL_SUCCESS(0)
- Fault:TSPL_IDERROR(-1): ParameteriPrintID got error, return this error
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): Parameterstart_x < 0 or start_y < 0 or

fileName== NULL

Description

- TL21 model does not support this method for now, TL51 supported.

Invoke example

```
LONG ret =0；
CString info;

ret = ClearBuffTSPL(m_hPrinter);
if(ret < 0)
{
    info.Format("ClearBuffTSPLParameterm_hPrinter error:%d",ret);
    MessageBox(info);
}
ret = PageSetupTSPL(m_hPrinter,100,225);
switch(ret)
{
    case TSPL_IDERROR:
        info.Format("PageSetupTSPLParameterm_hPrinter error:%d",ret);
        MessageBox(info);
        break;
    case TSPL_PARAM_LESS_EQUAL_ZERO:
        info.Format("PageSetupTSPLParameterPageWidth or PageHeight is less or equal to 0，
error code:%d",ret);
        MessageBox(info);
        break;

    case TSPL_PARAM_GREAT_RANGE:
        info.Format("PageSetupTSPLParameterPageWidth or PageHeight is more than or equal
to specified scope，error code:%d",ret);
        MessageBox(info);
        break;
}

ret = DownLoadBitMapTSPL(m_hPrinter,FALSE,"D://LOG.bmp");
switch(ret)
{

    case TSPL_IDERROR:
        info.Format("DownLoadBitMapTSPLParameterm_hPrinter got error or failed to open
file:%d",ret);
        MessageBox(info);
        break;
    case TSPL_PARAM_LESS_EQUAL_ZERO:
        info.Format("DownLoadBitMapTSPLParameterPathName==NULL:%d",ret);
```

```
            MessageBox(info);
            break;

    }

    ret = PutBitMapTSPL(m_hPrinter,10,10,"D://LOG.BMP");
    switch(ret)
    {

        case TSPL_IDERROR:
            info.Format("PutBitMapTSPLParameterm_hPrinter error:%d",ret);
            MessageBox(info);
            break;
        case TSPL_PARAM_LESS_EQUAL_ZERO:
            info.Format("PutBitMapTSPLParameterfileName==NULL:%d",ret);
            MessageBox(info);
            break;

    }

    PrintTSPL(m_hPrinter,1,1);
```

LONG SetCharsetNameTSPL(LONG iPrintID,CString CharsetName)

Function

Set international Characters Set

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- CharsetName: Optional character range is among below string: "U.S.A","France","Germany","U.K","Denmark","Sweden","Italy","Spain","Japan","Norway","Denmark","Spain","Latin","Korea","Slovenia","China"

Returned value

- True: TSPL_SUCCESS(0)
- Fault: TSPL_IDERROR(-1): when ParameteriPrintID got error, return this error.
  TSPL_PARAM_LESS_EQUAL_ZERO(-2): when CharsetNameParameter is NULL, return this error
  TSPL_PARAM_GREAT_RANGE(-3): when CharsetNameParameter is not at above range, return this error

Description

- TL21 model does not support this method, TL51 supported.

Invoke example

```
LONG ret =0;
CString info;
```

```
ret = SetCharsetNameTSPL(m_hPrinter,"U.S.A");
 switch(ret)
 {
      case TSPL_IDERROR:
          info.Format("SetCharsetNameTSPLParameterm_hPrinter error:%d",ret);
          MessageBox(info);
          break;
      case TSPL_PARAM_LESS_EQUAL_ZERO:
          info.Format("SetCharsetNameTSPL when CharsetNameParameter is NULL, return this
error，error code:%d",ret);
          MessageBox(info);
          break;

      case TSPL_PARAM_GREAT_RANGE:
                  info.Format("SetCharsetNameTSPL when CharsetNameParameter is not at
      above range, return this error，error code:%d",ret);
          MessageBox(info);
          break;

 }
```

LONG SelectCodePageTSPL(LONG iPrintID,INT value)

Function

Choose characters codepage

Parameter

- iPrintID: Printer handle, is confirmed by returned value of opened port
- value: Choose the NO.n page from below character codes pages.

N	代码页	Code Page
0	CP437 [美国，欧洲标准]	CP437 [U.S.A., Standard Europe]
1	KataKana [片假名]	Katakana
2	PC850 [多语言]	PC850 [Multilingual]
3	PC860 [葡萄牙]	PC860 [Portuguese]
4	PC863 [加拿大-法语]	PC863 [Canadian-French]
5	PC865 [北欧]	PC865 [Nordic]
6	WCP1251 [斯拉夫语]	WCP1251 [Cyrillic]
7	CP866 斯拉夫2	CP866 Cyrilliec #2
8	MIK[斯拉夫/保加利亚]	MIK[Cyrillic /Bulgarian]
9	CP755 [东欧，拉脱维亚 2]	CP755 [East Europe，Latvian 2]
10	[伊朗，波斯]	Iran
11	保留	reserve
12	保留	reserve
13	保留	reserve

14	保留	reserve
15	CP862 [希伯来]	CP862 [Hebrew]
16	₩CP1252 [拉丁语 1]	₩CP1252 Latin I
17	WCP1253 [希腊]	WCP1253 [Greek]
18	CP852 [拉丁语 2]	CP852 [Latina 2]
19	CP858 [多种语言拉丁语 1+欧元符]	CP858 Multilingual Latin Ⅰ+Euro)
20	伊朗Ⅱ[波斯语]	Iran II
21	拉脱维亚	Latvian
22	CP864 [阿拉伯语]	CP864 [Arabic]
23	ISO-8859-1 [西欧]	ISO-8859-1 [West Europe]
24	CP737 [希腊]	CP737 [Greek]
25	WCP1257 [波罗的海]	WCP1257 [Baltic]
26	[泰文1]	Thai 1
27	CP720[阿拉伯语]	CP720[Arabic]
28	CP855	CP855
29	CP857[土耳其语]	CP857[Turkish]
30	WCP1250[中欧]	WCP1250[Central Eurpoe]
31	CP775	CP775
32	WCP1254[土耳其语]	WCP1254[Turkish]
33	WCP1255[希伯来语]	WCP1255[Hebrew]
34	WCP1256[阿拉伯语]	WCP1256[Arabic]
35	WCP1258[越南语]	WCP1258[Vietnam]
36	ISO-8859-2[拉丁语2]	ISO-8859-2[Latin 2]
37	ISO-8859-3[拉丁语3]	ISO-8859-3[Latin 3]
38	ISO-8859-4[波罗的语]	ISO-8859-4[Baltic]
39	ISO-8859-5[斯拉夫语]	ISO-8859-5[Cyrillic]
40	ISO-8859-6[阿拉伯语]	ISO-8859-6[Arabic]
41	ISO-8859-7[希腊语]	ISO-8859-7[Greek]
42	ISO-8859-8[希伯来语]	ISO-8859-8[Hebrew]
43	ISO-8859-9[土耳其语]	ISO-8859-9[Turkish]
44	ISO-8859-15[拉丁语9]	ISO-8859-15 [Latin 3]
45	[泰文2]	Thai2
46	CP856	CP856

Returned value

- True: TSPL_SUCCESS(0)
- Fault: TSPL_IDERROR(-1): when ParameteriPrintID got error, return this error.
  TSPL_PARAM_GREAT_RANGE(-3): when valueParameter is not at above range, return this error

Description

- TL51 model does not support this method now,TL21 supported

Invoke example

```
LONG ret =0；
CString info;
SetIs21();//TL21 need to use this method
ret = SelectCodePageTSPL(m_hPrinter,21);
switch(ret)
{
    case TSPL_IDERROR:
        info.Format("SelectCodePageTSPLParameterm_hPrinter error:%d",ret);
        MessageBox(info);
        break;

    case TSPL_PARAM_GREAT_RANGE:
                info.Format("SelectCodePageTSPL when CharsetNameParameter is not at
    above range, return this error，error code:%d",ret);
        MessageBox(info);
        break;

}
```

2.10 CPCL Function illustration

LONG CPCL_Print(LONG iPrinterID)

Function

CPCL print command

Parameter

- iPrintID: printer handle is decided by returned value which open port

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Illustration

- In the CPCL command mode, the print command terminates and prints the file, which is the last command; after the print command is executed, the printer exits the control section, and a carriage return and line feed must be followed after the print command. If an error occurs during printing, wait for the error to recover and then print again.

LONG CPCL_Form(LONG iPrinterID)

Function

CPCL Find the gap command

Parameter

- iPrintID: printer handle is decided by returned value which open port

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Illustration

- After using the FORM command, the printer will feed the paper to the starting position of the next label. The starting position of the printer to find the next label is judged according to the gap between the two labels.

LONG CPCL_PageSetup(LONG iPrinterID,INT offset, INT height, INT qty, INT width)

Function

Set parameters such as label size

Parameter

- iPrintID: printer handle is decided by returned value which open port
- offset: offset relative to the zero point of the nose
- height: the maximum height of the label, in dots
- qty: the number of printed labels
- width: The maximum width of the label, in dots.

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Illustration

- The width parameter is usually not set, and width=0 means not set. But if you need to rotate, that is, call CPCL_SetPageRotate, you must set this parameter, otherwise the rotation will not work.

Invoke example

```
    ret = CPCL_PageSetup(m_hPrinter,0,800,1,0);
switch(ret)
{
case CPCL_IDERROR:
    info.Format("%s function parameter m_hPrinter error:%d", "PageSetup",ret);
    MessageBox(info);
    return;
case CPCL_PARAM_INVALID:
    info.Format("%sfunction parameter is invalid,error code:%d","PageSetup",ret);
    MessageBox(info);
    return;
        case CPCL_OVERTIME:
    info.Format("%s  function read and write timeout, error code:%d", "PageSetup",ret);
    MessageBox(info);
    return;
case CPCL_OTHERERRORS:
    info.Format("%s function returned other errors:%d", "PageSetup",ret);
    MessageBox(info);
    return;
case CPCL_WRITEFAIL:
    info.Format("%s Failed to write the %s function. Error code:%d", "PageSetup",ret);
    MessageBox(info);
    return;
}
```

LONG CPCL_DrawLine(LONG iPrinterID, INT x0, INT y0, INT x1, INT y1, INT width)

Function

Line drawing commands.

Parameter

- iPrintID: printer handle is decided by returned value which open port
- x0: The horizontal (x) coordinate of the upper left corner
- y0: The vertical (y) coordinate of the upper left corner
- x1: The horizontal (x) coordinate of the upper right corner
  The vertical horizontal (x) coordinate of the lower left corner
- y1: The vertical (y) coordinate of the upper right corner
  The vertical (y) coordinate of the lower left corner
- width: line width

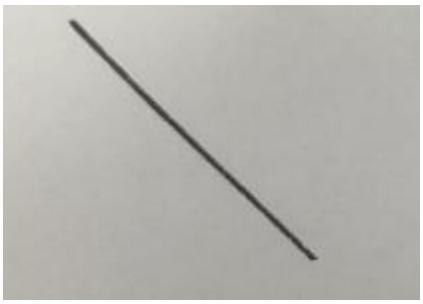
Returned value

- True: CPCL_SUCCESS(0)

- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
//line drawing
CPCL_DrawLine(m_hPrinter,10,10,100,100,2);
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```



LONG CPCL_DrawBox(LONG iPrinterID, INT x0, INT y0, INT x1, INT y1, INT width)

Function

Frame commands

Parameter

- iPrintID: printer handle is decided by returned value which open port
- x0: Top left corner x coordinate
- y0: Top left corner y coordinate
- x1: Bottom right corner x coordinate
- y1: Bottom right corner y coordinate
- width: Frame width

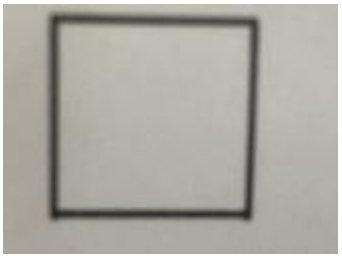
Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
//draw rectangle
CPCL_DrawBox(m_hPrinter,10,10,100,100,2);
```

```
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```



LONG CPCL_DrawText(LONG iPrinterID, INT value, INT font, INT vsize, INT hsize, INT x, INT y, LPCSTR data)

Function

Text commands

Parameter

- iPrintID: printer handle is decided by returned value which open port
- Value: print text direction.
  0: level;
  1: Rotate 90 degrees counterclockwise;
  2: Rotate 180 degrees counterclockwise;
  4: Rotate 270 degrees counterclockwise.
- Font: Select the font size. Value is 0 or 1.
  0 corresponds to font 24, indicating characters (12*24), Chinese characters (24*24)
  1 corresponds to font 55, representing characters (8*16), Chinese characters (16*16)
- Vsize: Vertical magnification. The range of values is 0~8
- Hsize: Horizontal magnification. The range of values is 0~8
- x: The starting position of horizontal printing.
- y: vertical print start position
- data: The printed text content.

Returned value

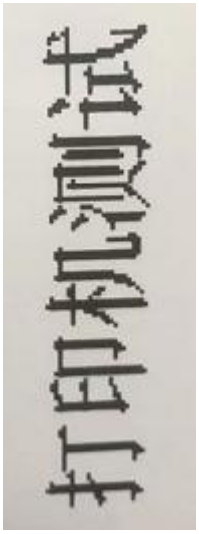
- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

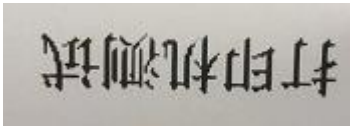
```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
//draw text print horizontally
CPCL_DrawText(m_hPrinter,0,0,2,2,10,110,”Printer test”);
CPCL_Form(m_hPrinter);
```

CPCL_Print(m_hPrinter);

CPCL_DrawText(m_hPrinter,1,0,3,3,10,600,”Printer test”); //90 degree rotation printing



CPCL_DrawText(m_hPrinter,2,0,1,1,1000,600,”Printer test”); //180 degree rotation printing



CPCL_DrawText(m_hPrinter,3,0,1,1,100,200,”Printer test”); //270 degree rotation printing

LONG CPCL_InverseLine(LONG iPrinterID, INT x0, INT y0, INT x1, INT y1, INT width)

Function

Invert command

Parameter

- iPrintID: printer handle is decided by returned value which open port

- x0: The X coordinate of the upper left corner.
- y0: Y coordinate of the upper left corner
- x1: The horizontal X coordinate of the upper right corner.
  The vertical X coordinate of the lower left corner
- y1: The horizontal Y coordinate of the upper right corner.
  The vertical Y coordinate of the lower left corner.
- Width: Invert content width

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Illustration

- In the area selected by the inverse display, the content generated in the area is drawn in white, and the white area is drawn in black.

Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
    // draw text
    CPCL_DrawText(m_hPrinter,0,0,2,2,10,300,”Printer test”);
//Invert
     CPCL_InverseLine(m_hPrinter,10,300,800,300,90);
    CPCL_Form(m_hPrinter);
    CPCL_Print(m_hPrinter);
```

LONG CPCL_SetAlign(LONG iPrinterID, INT align)

Function

Set the alignment of the current line content

Parameter

- iPrintID: printer handle is decided by returned value which open port
- align: 0: left; 1: center; 2: right.

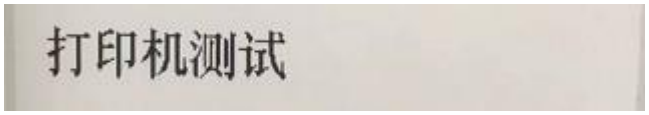
Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.

CPCL_WRITEFAIL(-2): Printer write failed
CPCL_PARAM_INVALID(-4): Invalid parameter
CPCL_OVERTIME(-5): timeout
CPCL_OTHERERRORS(-100): other errors

Invoke example

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
        CPCL_SetAlign(m_hPrinter,0);    //left
         //Draw text
CPCL_DrawText(m_hPrinter,0,0,1,1,10,10,"printer test");
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```




```
CPCL_SetAlign(m_hPrinter,1);    //center
```


```
CPCL_SetAlign(m_hPrinter,2);    //right
```

LONG CPCL_SetBold(LONG iPrinterID, INT value)

Function

Set font bold

Parameter

- iPrintID: printer handle is decided by returned value which open port
- Value: 1: bold; 0: cancel bold.

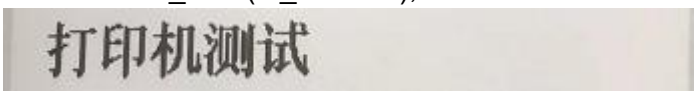
Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
```

```
        CPCL_SetBold(m_hPrinter,1);    //bold
    //draw text
    CPCL_DrawText(m_hPrinter,0,0,1,1,10,10,”printer test”);
    CPCL_Form(m_hPrinter);
    CPCL_Print(m_hPrinter);
```



LONG CPCL_SetInverseText(LONG iPrinterID, INT value)

Function

Set the characters to be highlighted

Parameter

- iPrintID: printer handle is decided by returned value which open port
- Value: Indicates whether to highlight characters
  1: Inverted display;
  0: Cancel the reverse display.

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

```
    CPCL_PageSetup(m_hPrinter,0,800,1,0);
        CPCL_SetInverseText(m_hPrinter,1);
    //draw text
    CPCL_DrawText(m_hPrinter,0,0,1,1,10,10,”printer test”);
    CPCL_Form(m_hPrinter);
    CPCL_Print(m_hPrinter);
```

LONG CPCL_SetSpacing(LONG iPrinterID, INT spacing)

Function

Set character spacing

Parameter

- iPrintID: printer handle is decided by returned value which open port
- spacing: The distance between characters, the default character spacing is 0.

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
        CPCL_SetSpacing(m_hPrinter,2);
//draw text
CPCL_DrawText(m_hPrinter,0,0,1,1,10,10,”printer test”);
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```

LONG CPCL_SetUnderLineText(LONG iPrinterID, INT value)

Function

Set whether to print underline

Parameter

- iPrintID: printer handle is decided by returned value which open port
- Value: The value is 0, 1, 2.
  0: Cancel printing underline;
  1: print 1 dot underline;
  2: print 2 dots underline;

Returned value

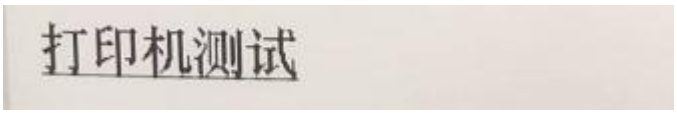
- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout

CPCL_OTHERERRORS(-100): other errors

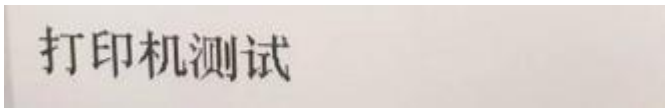
Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
        CPCL_SetUnderLineText(m_hPrinter,1); //1 dot underline
//draw text
CPCL_DrawText(m_hPrinter,0,0,1,1,10,10,"printer test");
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```


```
CPCL_SetUnderLineText(m_hPrinter,2); //2 dots underline
```




```
CPCL_SetUnderLineText(m_hPrinter,0); //no underline
```



LONG CPCL_DrawBarcode(LONG iPrinterID, INT value, LPCSTR type, INT width, INT ratio, INT height, INT x, INT y, LPCSTR data)

Function

Printing 1D barcodes

Parameter

- iPrintID: printer handle is decided by returned value which open port
- Value: print barcode orientation.
  0: Print horizontal barcode
  1: Print vertical barcodes
- type: barcode type.

type value	barcode type
UPCA	UPC-A
UPCE	UPC-E
EAN13	JAN13 (EAN13)
EAN8	JAN 8 (EAN8)
39	CODE39
CODABAR	CODABAR
93	CODE93
128	CODE128(Auto)

- width: the width of the narrow bar of the barcode

- ratio: the ratio of the width of the wide bar and the width of the narrow bar, the range is 0~30
- height: barcode height
- x: the starting position of the barcode in the horizontal direction
- y: the starting position of the barcode in the vertical direction
- data: barcode content

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
        CPCL_DrawBarCode(m_hPrinter,0,”128”,2,1,30,10,10,”NO.123456”);
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```

LONG CPCL_SetHRI(LONG iPrinterID, LPCSTR offset)

Function

HRI character command (set 1D barcode text to print automatically)

Parameter

- iPrintID: printer handle is decided by returned value which open port
- offset: The upper and lower relative displacement of the HRI character and the barcode. Value is a numeric string or "OFF".

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
CPCL_SetHRI(m_hPrinter,”50”);
        CPCL_DrawBarCode(m_hPrinter,0,”128”,2,1,30,10,10,”NO.123456”);
CPCL_SetHRI(m_hPrinter,”OFF”);
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```

LONG CPCL_Draw2Barcode_QR(LONG iPrinterID, INT x, INT y, INT Mn, INT Un, LPCSTR Sn, LPCSTR data)

Function

Print QR code

Parameter

- iPrintID: printer handle is decided by returned value which open port
- x: The starting position of the barcode in the horizontal direction.
- y: The starting position in the vertical direction of the barcode.
- Mn: QR barcode mode. Value is 1 or 2, default is 2.
- Un: magnification. The range of values is 1~6, the default is 6.
- Sn: Error correction level.

  Sn value Corresponding grade
  H Ultra-high reliability level
  Q high reliability level
  M standard grade
  L high density grade
- data: barcode data

Returned value

- True: CPCL_SUCCESS(0)
- False:

  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

```
CPCL_PageSetup(m_hPrinter,0,800,1,0);
CPCL_Draw2Barcode_QR(m_hPrinter,10,100,2,6,”M”,”www.test.com”);
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```

LONG CPCL_Draw2Barcode_PDF417(LONG iPrinterID, INT x, INT y, INT XDn, INT YDn, INT Cn, INT Sn, LPCSTR content)

Function

Print PDF417 2D barcode

Parameter

- iPrintID: printer handle is decided by returned value which open port
- x: The starting position of the barcode in the horizontal direction.
- y: The starting position in the vertical direction of the barcode.
- XDn: Minimum unit horizontal width. The range of values is 1~32, the default is 2.
- YDn: Minimum unit vertical height. The range of values is 1~32, the default is 6.
- Cn: Number of characters per line. The range of values is 1~30, the default is 3.
- Sn: Error correction level. The range of values is 1~8, the default is 1.
- data: barcode data

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

CPCL_PageSetup(m_hPrinter,0,800,1,0);
CPCL_Draw2Barcode_PDF417(m_hPrinter,10,20,3,12,3,2,”www.test.com”);
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);

LONG CPCL_PrintBMP(LONG iPrinterID, INT type,INT x, INT y, LPCSTR lpFilePath)

Function

Printing Monochrome Bitmaps

Parameter

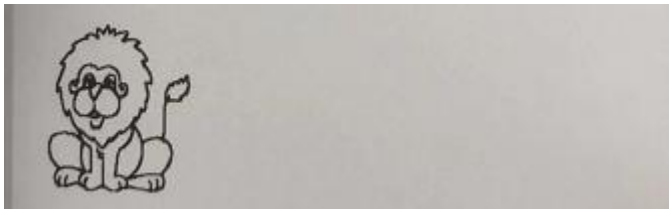
- iPrintID: printer handle is decided by returned value which open port
- type: A value of 0 or 1.0 means printing extended graphics; 1 means printing compressed graphics
- x: The starting position in the horizontal direction.
- y: The starting position in the vertical direction.
- lpFilePath: Image path and file name.

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Print Effect

CPCL_PageSetup(m_hPrinter,0,800,1,0);
CPCL_PrintBMP(m_hPrinter,1,10,20,"E://test.bmp");
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);



LONG CPCL_SetPageRotate(LONG iPrinterID, INT value)

Function

Rotate the entire page 90 degrees clockwise

Parameter

- iPrintID: printer handle is decided by returned value which open port
- value: Indicates whether the entire page is rotated 90 degrees clockwise
  1: rotate;
  0: Do not rotate.

Returned value

- True: CPCL_SUCCESS(0)
- False:
  CPCL_IDERROR(-1): This error is returned when the parameter iPrinterID is wrong.
  CPCL_WRITEFAIL(-2): Printer write failed
  CPCL_PARAM_INVALID(-4): Invalid parameter
  CPCL_OVERTIME(-5): timeout
  CPCL_OTHERERRORS(-100): other errors

Illustration

- When calling the CPCL_SetPageRotate function, you need to set the width parameter in the CPCL_PageSetup function, otherwise it will not work

Print Effect

CPCL_PageSetup(m_hPrinter,0,800,1,100);
CPCL_PrintBMP(m_hPrinter,1,10,400,"E://test.bmp");
CPCL_SetPageRotate(m_hPrinter,1);

```
CPCL_Form(m_hPrinter);
CPCL_Print(m_hPrinter);
```

Appendix

1. CODE128 summarize

CODE128 can use character set A、character set B and character set C interchangeably, and can encode 128 characters of ASCII, 100 numbers 00~99 and some special characters. The code character of each character set are below:

· Character set A: ASCII characters 00H~5FH

· Character set B: ASCII characters 20H~7FH

· Character set C: 100 numbers 00~99

CODE128 can encode below special character

· SHIFT Character

“SHIFT” can convert the first character after SHIFT character from character set A to character set B or from character set B to character set A. From the second character, it will return to the character set which is used by SHIFT previously. “SHIFT” characters can only be used alternatively between character set A and character set B. It can’t make the encoding character enter or exit the status of character set C.

·Character set chosen character（CODE A、CODE B、CODE C）

These characters can convert the rear code characters to character A、B or C

· Function character（FNC1、FNC2、FNC3、FNC4）

The use of functional characters depends on the application software. In character set C, only FNC1 is available.

2. Character set

Character set A

chara cter	send data		charac ter	send data		charac ter	send data	
	Hex	**Decimal**		**Hex**	**Decimal**		**Hex**	**Decimal**
NULL	00	0	&	26	38	L	4C	76
SOH	01	1	'	27	39	M	4D	77
STX	02	2	(	28	40	N	4E	78
ETX	03	3	)	29	41	O	4F	49
EOT	04	4	*	2A	42	P	50	80
ENQ	05	5	+	2B	43	Q	51	81
ACK	06	6	,	2C	44	R	52	82
BEL	07	7	-	2D	45	S	53	83
BS	08	8	.	2E	46	T	54	84
HT	09	9	/	2F	47	U	55	85
LF	0A	10	0	30	48	V	56	86
VT	0B	11	1	31	49	W	57	87
FF	0C	12	2	32	50	X	58	88
CR	0D	13	3	33	51	Y	59	89
SO	0E	14	4	34	52	Z	5A	90
SI	0F	15	5	35	53	[	5B	91
DLE	10	16	6	36	54	\	5C	92
DC1	11	17	7	37	55	]	5D	93
DC2	12	18	8	38	56	^	5E	94
DC3	13	19	9	39	57	_	5F	95
DC4	14	20	:	3A	58	FNC1	7B,31	123,49
NAK	15	21	;	3B	59	FNC2	7B,32	123,50
SYN	16	22	<	3C	60	FNC3	7B,33	123,51
ETB	17	23	=	3D	61	FNC4	7B,34	123,52
CAN	18	24	>	3E	62	SHIFT	7B,53	123,83
EM	19	25	?	3F	63	CODEB	7B,42	123,66
SUB	1A	26	@	40	64	CODEC	7B,43	123,67
ESC	1B	27	A	41	65			
FS	1C	28	B	42	66			
GS	1D	29	C	43	67			
RS	1E	30	D	44	68			
US	1F	31	E	45	69			
SP	20	32	F	46	70			
!	21	33	G	47	71			
"	22	34	H	48	72			
#	23	35	I	49	73			
$	24	36	J	4A	74			
%	25	37	K	4B	75			

Character set B

chara cter	send data		charac ter	send data		charac ter	send data	
	Hex	**Decimal**		**Hex**	**Decimal**		**Hex**	**Decimal**
SP	20	32	F	46	70	l	6C	108
!	21	33	G	47	71	m	6D	109
"	22	34	H	48	72	n	6E	110
#	23	35	I	49	73	o	6F	111
$	24	36	J	4A	74	p	70	112
%	25	37	K	4B	75	q	71	113
&	26	38	L	4C	76	r	72	114
'	27	39	M	4D	77	s	73	115
(	28	40	N	4E	78	t	74	116
)	29	41	O	4F	79	u	75	117
*	2A	42	P	50	80	v	76	118
+	2B	43	Q	51	81	w	77	119
,	2C	44	R	52	82	x	78	120
-	2D	45	S	53	83	y	79	121
.	2E	46	T	54	84	z	7A	122
/	2F	47	U	55	85	{	7B,7B	123,123
0	30	48	V	56	86	|	7C	124
1	31	49	W	57	87	}	7D	125
2	32	50	X	58	88	—	7E	126
3	33	51	Y	59	89	DEL	7F	127
4	34	52	Z	5A	90	FNC1	7B,31	123,49
5	35	53	[	5B	91	FNC2	7B,32	123,50
6	36	54	\	5C	92	FNC3	7B,33	123,51
7	37	55	]	5D	93	FNC4	7B,34	123,52
8	38	56	^	5E	94	SHIFT	7B,53	123,83
9	39	57	_	5F	95	CODE	7B,41	123,65
:	3A	58	`	60	96	A	7B,43	123,67
;	3B	59	a	61	97	CODE		
<	3C	60	b	62	98	C		
=	3D	61	c	63	99			
>	3E	62	d	64	100			
?	3F	63	e	65	101			
@	40	64	f	66	102			
A	41	65	g	67	103			
B	42	66	h	68	104			
C	43	67	i	69	105			
D	44	68	j	6A	106			
E	45	69	k	6B	107			

Character set C

chara cter	send data		Charact er	send data		charac ter	send data	
	Hex	**Decimal**		**Hex**	**Decimal**		**Hex**	**Decimal**
0	00	0	38	26	38	76	4C	76
1	01	1	39	27	39	77	4D	77
2	02	2	40	28	40	78	4E	78
3	03	3	41	29	41	79	4F	79
4	04	4	42	2A	42	80	50	80
5	05	5	43	2B	43	81	51	81
6	06	6	44	2C	44	82	52	82
7	07	7	45	2D	45	83	53	83
8	08	8	46	2E	46	84	54	84
9	09	9	47	2F	47	85	55	85
10	0A	10	48	30	48	86	56	86
11	0B	11	49	31	49	87	57	87
12	0C	12	50	32	50	88	58	88
13	0D	13	51	33	51	89	59	89
14	0E	14	52	34	52	90	5A	90
15	0F	15	53	35	53	91	5B	91
16	10	16	54	36	54	92	5C	92
17	11	17	55	37	55	93	5D	93
18	12	18	56	38	56	94	5E	94
19	13	19	57	39	57	95	5F	95
20	14	20	58	3A	58	96	60	96
21	15	21	59	3B	59	97	61	97
22	16	22	60	3C	60	98	62	98
23	17	23	61	3D	61	99	63	99
24	18	24	62	3E	62	FNC1	7B,31	123,49
25	19	25	63	3F	63	CODEA	7B,41	123,65
26	1A	26	64	40	64	CODEB	7B,42	123,66
27	1B	27	65	41	65			
28	1C	28	66	42	66			
29	1D	29	67	43	67			
30	1E	30	68	44	68			
31	1F	31	69	45	69			
32	20	32	70	46	70			
33	21	33	71	47	71			
34	22	34	72	48	72			
35	23	35	73	49	73			
36	24	36	74	4A	74			
37	25	37	75	4B	75			