BIXOLON

## Application Programming Guide

# OPOS Driver

**Ver. 1.17**

www.bixolon.com

# Copyright

© BIXOLON Co., Ltd. All rights reserved.

This user manual and all property of the product are protected under copyright law.
It is strictly prohibited to copy, store, and transmit the whole or any part of the manual and any property of the product without the prior written approval of BIXOLON Co., Ltd.
The information contained herein is designed only for use with this BIXOLON product.
BIXOLON is not responsible for any direct or indirect damages, arising from or related to use of this information.

• The BIXOLON logo is the registered trademark of BIXOLON Co., Ltd.
• All other brand or product names are trademarks of their respective companies or organizations.

BIXOLON Co., Ltd. maintains ongoing efforts to enhance and upgrade the functions and quality of all our products.
In the following, product specifications and/or user manual content may be changed without prior notice.

# Caution

Some semiconductor devices are easily damaged by static electricity. You should turn the printer “OFF”, before you connect or remove the cables on the rear side, in order to guard the printer against the static electricity. If the printer is damaged by the static electricity, you should turn the printer “OFF”.

# Introduction

This is a manual about how to set and configure device and to develop applications to use BIXOLON label printer with BIXOLON OPOS driver.

Before use BIXOLON label printer, set and configure printer by using BIXOLON OPOS driver Setup Utility.

Throughout this manual, “OLE for Retail POS” is called “OPOS”.
Throughout this manual, “Unified for Retail POS” is called “UPOS”.

[Further Source]
OLE for Retail POS committee available from http://monroecs.com/opos.htm
Driver Update from http://www.bixolon.com

# Table of Contents

**Copyright** ..... **2**

**1. Development environment** ..... **6**
1-1 Communication Configuration ..... 6

**2. Properties / Methods** ..... **7**
2-1 Printer Type ..... 7
2-2 Properties Range / Default Value ..... 8
2-2-1 Capability properties setting value ..... 8
2-2-2 Properties default value / range ..... 9
2-2-3 Description of Main Properties ..... 11
2-2-4 Methods ..... 13
2-2-5 Description of Main Methods ..... 14
2-2-6 Escape Sequences ..... 20

**3. Extended Functions** ..... **22**
3-1 Direct IO Method ..... 22
3-1-1 BIXOLON OPOS Direct IO Commands Description ..... 22
3-2 Direct IO Command ..... 23
3-2-1 Direct Output ..... 23
3-2-2 International character set setting ..... 24
3-3 Direct IO Event ..... 24

**4. Error Information** ..... **25**
4-1 Result Code List ..... 25
4-1-1 Claim Device method ..... 25
4-1-2 Check Health method ..... 25
4-1-3 Clear Output method ..... 25
4-1-4 Direct IO method ..... 26
4-1-5 Print Normal method ..... 26
4-1-6 Print Immediate method ..... 27
4-1-7 Cut Paper method ..... 27
4-1-8 Rotate Print method ..... 28
4-1-9 Print Bitmap method ..... 28
4-1-10 Set Bitmap method ..... 29
4-1-11 Set Logo method ..... 29
4-1-12 Transaction Print method ..... 30

**5. Resources** ..... **31**
5-1 OPOS Value (defines) ..... 31
5-1-1 Barcode type ..... 31

5-1-2 Barcode alignment ..... 31
5-1-3 Barcode HRI alignment ..... 32
5-1-4 Image alignment ..... 32
5-1-5 Transaction Print ..... 32
5-2 Code page ..... 33
5-2-1 Basic code page ..... 33
5-2-2 International character set code table ..... 34
5-2-3 Examples of international character set ..... 35

# 1. Development environment

## 1-1 Communication Configuration

• Communication Configuration for serial interface.

• You will set communication configuration in BIXOLON OPOS Setup Utility.

| Printer Model | Baud Rate | Printer Type | etc |
|---|---|---|---|
| SLP-TX220, SLP-TX400,<br>SLP-TX420, XT5-40, XD3-40t<br>XD5-40t, XD5-40IIt<br>XT3-40, XT6-40, XT6-60<br>BT3-40, BT5-40, BD5-40t | 9600/19200/38400/57600/115200 | Thermal Transfer | 203 dpi |
| SLP-TX223, SLP-TX403,<br>SLP-TX423, XT5-43<br>XD5-43t, XD5-43IIt<br>XT3-43, XT6-43, XT6-63<br>BT3-43, BT5-43, BD5-43t | 9600/19200/38400/57600/115200 | Thermal Transfer | 300 dpi |
| XT5-46, XT6-46, BT5-46 | 9600/19200/38400/57600/115200 | Thermal Transfer | 600 dpi |
| SLP-DX220, SLP-DX420,<br>SLP-DL410,<br>SRP-770III, SRP-E770III<br>XD3-40d<br>XD5-40d, XD5-40IId<br>XL5-40CT<br>SRP-S3000_LABEL<br>BD5-40d, XC5-40d | 9600/19200/38400/57600/115200 | Direct Thermal | 203 dpi |
| SLP-DX223,<br>SLP-DX423, SLP-DL413<br>XD5-43d, XD5-43IId<br>XL5-43CT, BD5-43d<br>XD7-23d, XC5-43d | 9600/19200/38400/57600/115200 | Direct Thermal | 300 dpi |
| SPP-L310, SPP-L410<br>XM7-40, XM7-30, XM7-20<br>XD7-20d | 9600/19200/38400/57600/115200 | Direct Thermal | 203 dpi |

- Check the default communication setting.
  For more details refer to the user manual included in the printer package.
- A printer which does not support Serial Interface is not indicated.

# 2. Properties / Methods

## 2-1 Printer Type

• Property value will be determined by the printer type, as shown in the below table.
(Some property values related to Receipt may be different depending on printer model.)

| | |
|---|---|
| Thermal transfer printer list | SLP-TX220, SLP-TX223,<br>SLP-TX400, SLP-TX403,<br>SLP-TX420, SLP-TX423,<br>XT5-40, XT5-43, XT5-46<br>XT6-40, XT6-43, XT6-46<br>XD3-40t, XD5-40t, XD5-43t<br>XD5-40IIt, XD5-43IIt<br>XT3-40, XT3-43, XT6-60, XT6-63<br>BT3-40, BT3-43, BT5-40, BT5-43, BT5-46<br>BD5-40t, BD5-43t |
| Direct thermal printer list | SLP-DX220, SLP-DX223,<br>SLP-DX420, SLP-DX423,<br>SLP-DL410, SLP-DL413,<br>SPP-L3000,<br>SRP-770III, SRP-E770III<br>SPP-L310, SPP-L410<br>XD3-40d, XD5-40d, XD5-43d<br>XD5-40IId, XD5-43IId, XD7-20d, XD7-23d<br>XL5-40CT, XL5-43CT<br>XM7-40, XM7-30, XM7-20, XM5-30<br>SRP-S3000_LABEL, BD5-40d, BD5-43d<br>XC3-40d, XC5-40d, XC5-43d |

## 2-2 Properties Range / Default Value

2-2-1 Capability properties setting value

| Capability Property | Label Printer |
|---|---|
| CapCompareFirmwareVersion | FALSE |
| CapPowerReporting | TRUE |
| CapStatisticsReporting | FALSE |
| CapUpdateFirmware | FALSE |
| CapUpdateStatistics | FALSE |
| CapTransaction | TRUE |
| CapCoverSensor | TRUE |
| CapConcurrentRecSlp | FALSE |
| CapConcurrentJrnSlp | FALSE |
| CapConcurrentJrnRec | FALSE |
| CapCharacterSet | TRUE |
| CapRecUnderline | FALSE |
| CapRecPageMode | TRUE |
| CapCuncurrentPageMode | FALSE |
| CapRecStamp | FALSE |
| CapRecRotate180 | TRUE |
| CapRecRight90 | TRUE |
| CapRecPapercut | TRUE |
| CapRecNearEndSensor | FALSE |
| CapRecMarkFeed | TRUE |
| CapRecLeft90 | TRUE |
| CapRecItalic | TRUE |
| CapRecEmptySensor | TRUE |
| CapRecDwideDhigh | TRUE |
| CapRecDwide | TRUE |
| CapRecDhigh | TRUE |
| CapRecColor | FALSE |
| CapRecCartridgeSensor | FALSE |
| CapRecBold | TRUE |
| CapRecBitmap | TRUE |
| CapRecBarCode | TRUE |
| CapRec2Color | FALSE |
| CapRecPresent | TRUE |

May be capability setting values are different depending on the printer model.

2-2-2 Properties default value / range

1) List Properties

| Property | Label Printer |
|---|---|
| FontTypefaceList | 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22 |
| RecBitmapRotationList | 0,L90,R90,180 |
| RecBarCodeRotationList | 0,L90,R90,180 |
| CharactersetList | 437,850,852,860,863,865,1252,8651252 (Combined),857,737,1250,1253,1254,855,862,866,1251,1255,928,864,775,1257,858,949,932,950,936 |

2) Paper width properties

| Model | Max Width |
|---|---|
| XM7-20 | 384 |
| SLP-TX220, SLP-DX220,<br>XD7-20d | 432 |
| SLP-TX223, SLP-DX223<br>XD7-23d | 672 |
| SLP-TX400, SLP-TX420,<br>SLP-DX420, SLP-DL410,<br>XD5-40d, XL5-40CT, XD5-40t<br>XD5-40IId, XD5-40IIt<br>XT3-40, BT3-40, BD5-40d, BD5-40t<br>XC3-40d, XC5-40d | 864 |
| SLP-TX403, SLP-TX423<br>SLP-DX423, SLP-DL413<br>XC5-43d | 1248 |
| SRP-770III, SRP-E770III | 832 |
| SPP-L3000<br>SPP-L310<br>SRP-S3000_LABEL<br>XM7-30, XM5-30 | 576 |
| SPP-L410, XM7-40 | 832 |
| XT5-40, XT6-40<br>XD3-40d, XD3-40t, BT5-40 | 832 |
| XT5-43, XT6-43<br>XD5-43d, XL5-43CT<br>XD5-43t, XT3-43<br>XD5-43IId, XD5-43IIt<br>BT3-43, BT5-43, BD5-43d, BD5-43t | 1248 |
| XT5-46, XT6-46, BT5-46 | 2496 |

| | |
|---|---|
| XT6-60 | 1344 |
| XT6-63 | 1984 |

2-2-3 Description of Main Properties

1) Device Enabled
- Description: Indicates whether to use the printer. You should set this value to TRUE to use the printer after calling the Open, ClaimDevice method.
- Related method: void SetDeviceEnabled(BOOL)

2) Async Mode
- Description: When it is set to TRUE, the print-related method operates in asynchronous mode.
  If set to FALSE, the print-related method operates in synchronous mode.
  In asynchronous mode, you can check the completion of printing with OutputCompleteEvent.
- Related method: void SetAsyncMode(BOOL)

3) Character Set List
- Description: Gets a list of the character sets supported by the printer.
- Related method: CString GetCharacterSetList()

4) Character Set
- Description: The character set to use when printing the printer.
  You can set any of the values in the CharacterSetList list.
  Set after setting DeviceEnabled to TRUE.
- Related method: void SetCharacterSet(long)
- Examples

```
posPrinter.SetCharacterSet(932);          // Shift-JIS – Set to Japanese

posPrinter.SetCharacterSet(949);          // KSC5601 – Set to Korean

posPrinter.SetCharacterSet(936);          // GB2312 – Set of Simplified Chinese

posPrinter.SetCharacterSet(950);          // BIG5 – Set to Traditional Chinese
```



Refer to '5-2-1 Basic Code Page' for information on supported code pages.

5) Rec Line Chars List
- Description: Gets a list of the number of characters that can be printed on one line.
- Related method: CString GetRecLineCharsList()

6) Rec Line Chars
- Description: The number of characters printed on one line
  If the value is less than or equal to the preceding value in the list of RecLineCharsList, it is set to A Font(12x24), and if it is greater than the preceding value, it is set to B Font (9x17).
  You should set after setting DeviceEnabled to TRUE.
- Related method: void SetRecLineChars(long)
- Examples

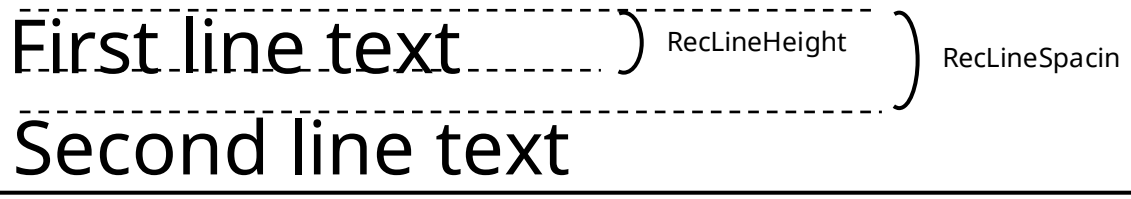
```
//Gets a list of the number of characters that can be printed on one line.
CString strRecLineCharsList = posPrinter.GetRecLineCharsList();

//If RecLineCharsList value is 48,64
posPrinter.SetRecLineChars(48);                    //Set to A Font

posPrinter.SetRecLineChars(64);                    //Set to B Font
```

7) Rec Line Spacing
- Description: You can set the interval between line and line.
  This value can change depending on the MapMode or the selected font.
- Related method: long GetRecLineSpacing(), long SetRecLineSpacing(int)

※ Rec Line Height vs. Rec Line Spacing



2-2-4 Methods

| Method | Value |
|---|---|
| beginInsertion | X |
| beginRemoval | X |
| changePrintSide | X |
| clearPrintArea | O |
| cutPaper | O |
| drawRuledLine | X |
| endInsertion | X |
| endRemoval | X |
| markFeed | O |
| pageModePrint | O |
| printBarCode | O |
| printBitmap | O |
| printImmediate | O |
| printMemoryBitmap | O |
| printNormal | O |
| printTwoNormal | X |
| rotatePrint | O |
| setBitmap | O |
| setLogo | O |
| transactionPrint | O |
| validateData | O |

O: Supported X: Not supported

2-2-5 Description of Main Methods

1) cut Paper
- Description: In the model provided with Auto Cutter, this function cuts the paper.
- Method prototype: void CutPaper(int percentage)
- Example

```
posPrinter.CutPaper(90);                    //Cut the paper
```

2) print Barcode
- Description: Prints the barcode
- Method prototype: long PrintBarCode(long station, LPCTSTR data, long symbology, long height, long width, long alignment, long textPostition)
- parameter information
  - long station: The type of printer. Set to PTR_S_RECEIPT
  - LPCTSTR data: Sets the data of the barcode to be printed
  - long symbology: Specifies the type of barcode (See OPOS constant value)
  - long height: Specifies the height of the barcode
  - long width: Specifies the width of the barcode
  - long alignment: Specifies the alignment position of the bar code (See OPOS constant value)
  - long textPosition: Specifies the position of the Human Readable Interpretation (HRI). (See OPOS constant value)
- Example

```
//Print a 100 x 100 QR Code in the center of the paper
posPrinter.PrintBarCode(PTR_S_RECEIPT, "www.bixolon.com",
PTR_BCS_QRCODE, 100, 100, PTR_BC_CENTER, PTR_BC_TEXT_NONE);
```

3) print Normal

- Description: Prints the text. The Escape Sequence string is also available
- Method prototype: long PrintNormal(long station, LPCTSTR data)
- parameter information
  - long station: The type of printer. Set to PTR_S_RECEIPT.
  - LPCTSTR data: Sets the text to be printed
- Example

```
//Print Test Text print
CString CRLF = "\r\n";
posPrinter.PrintNormal(PTR_S_RECEIPT, “Print test” + CRLF);
```

4) transaction Print

- Description: Starts or ends transaction mode.
  A series of actions consisting of transactions are performed as if they were a single action.
- Method prototype: long TransactionPrint(long station, long control)
- parameter information
  - long station: The type of printer. Set to PTR_S_RECEIPT
  - long control: Sets the start and end of transaction mode (See OPOS constant value)
- Examples

```
//Transaction mode start
posPrinter.TransactionPrint(PTR_S_RECEIPT, PTR_TP_TRANSACTION);

// Stack text print, image print, paper cutting actions in transaction buffer
posPrinter.PrintNormal(PTR_S_RECEIPT, "Transaction test" + CRLF);
posPrinter.PrintBitmap(PTR_S_RECEIPT, (LPCTSTR)("Logo.bmp"),
PTR_BM_ASIS, PTR_BM_CENTER);
posPrinter.CutPaper(90);

//Transaction mode end. This time, all actions are performed
posPrinter.TransactionPrint(PTR_S_RECEIPT, PTR_TP_NORMAL);
```

5) print Bitmap

- Description: Prints the image
- Method prototype: long PrintBitmap(long station, LPCTSTR fileName, long width, long alignment)
- parameter information
  - long station: The type of printer. Set to PTR_S_RECEIPT
  - LPCTSTR fileName: Specifies the path to the image file to be printed
  - long width: Specifies the width of the image to be printed
  - long alignment: Specifies the alignment position of the image (See OPOS constant value)
- Example

```
// Print the image of Logo.bmp file in the center of the paper
//PTR_BM_ASIS: Print the image at the given size
posPrinter.PrintBitmap(PTR_S_RECEIPT, (LPCTSTR)("Logo.bmp"),
PTR_BM_ASIS, PTR_BM_CENTER);
```

6) print Memory Bitmap

- Description: Prints images stored in memory
- Method prototype : long PrintMemoryBitmap(long station, LPCTSTR data, long type, long width, long alignment)
- parameter information
  - long station: The type of printer. Set to PTR_S_RECEIPT
  - LPCTSTR data: Specifies the byte array where image information is stored. BinaryConversion must be used
  - long type: Specifies the format of the image stored in memory
  - long width: Specifies the width of the image to be printed
  - long alignment: Specifies the alignment position of the image (See OPOS constant value)
- Examples

```
CFile    BitmapFile;
BitmapFile.Open("Logo.bmp", CFile::modeRead);                    //Open Logo.bmp file

CString    strBitmapData;
strBitmapData.Empty();                                           //Initialize the buffer

// Read 1 byte at a time and apply BinaryConversion
while (BitmapFile.Read(&byBuffer, sizeof(BYTE)) == sizeof(BYTE))
{
        strBitmapData += TCHAR(0x30 + ((byBuffer >> 4) & 0x0F));
        strBitmapData += TCHAR(0x30 + (byBuffer & 0x0F));
}

BitmapFile.Close();

// Print images stored in memory at half the size of paper in the center of the paper
posPrinter.SetBinaryConversion(OPOS_BC_NIBBLE);
posPrinter.PrintMemoryBitmap(PTR_S_RECEIPT, strBitmapData,
PTR_BMT_BMP, posPrinter.GetRecLineWidth() / 2, PTR_BM_CENTER);
posPrinter.SetBinaryConversion(OPOS_BC_NONE);
```



Refer to the UPOS 1.14 protocol document for a detailed description of BinaryConversion.

7) set Bitmap

- Description: Stores the image information to be printed later
- Method prototype: long SetBitmap(long bitmapNumber, long station, LPCTSTR fileName, long width, long alignment)
- parameter information
  - long bitmap Number: Assigns a number to the image to be stored
  - long station: The type of printer. Set to PTR_S_RECEIPT
  - LPCTSTR file Name: Specifies the path to the image to be stored
  - long width: Specifies the width of the image
  - long alignment: Specifies the alignment position of the image (See OPOS constant value)
- Examples

```
CString CRLF = "\r\n";
CString ESC = "\x1b";

//Store Logo.bmpfile as no. 1
posPrinter.SetBitmap(1, PTR_S_RECEIPT, (LPCTSTR)("Logo.bmp"),
PTR_BM_ASIS, PTR_BM_CENTER);

// Print the image stored as no.1 using Escape Sequence
posPrinter.PrintNormal(PTR_S_RECEIPT, ESC + "|1B" + CRLF);
```

2-2-6 Escape Sequences

| Escape Sequence | Setting value | Description |
|---|---|---|
| [#]P | O<br>(value range: 0~100) | Cut the paper |
| [#]fP | O<br>(value range: 0~100) | Feed and cut the paper |
| [#]sP | X | This function is not supported |
| sL | X | This function is not supported |
| [#]B | O<br>(value range: 1~20) | Print images saved with the setBitmap method |
| tL | O | Print the saved logo with the setLogo method |
| bL | O | Print the saved logo with the setLogo method |
| [#]lF | O<br>(value range: 0~9999) | Feed the paper by the set value.<br>The # value is in line units |
| [#]uF Base Pitch [inch] | O | Feed the paper by the set value.<br>The # value is in dot units. |
| [#]rF Maximum [inch] | X | This function is not supported |
| #E | O | Transmit the data as long as the length of the # number. |
| #R | O | This function is not supported |
| #dL | X | This function is not supported |
| #fT | O | Select the font |
| [!]bC | O | Print in bold font (! for cancellation) |
| [!][#]uC | X | Print with underline (! for cancellation) |
| [!]iC | X | This function is not supported |
| [#]rC | O | Print using custom colors |
| [!]rvC | O | Print in reverse style (! for cancellation) |
| [#]sC | X | This function is not supported |
| 1C | O | Print in normal size |
| 2C | O | Print in double width |
| 3C | O | Print in double height |
| 4C | O | Print in double width and height |
| #hC | O | Prints in the width of the font at # times magnification |
| #vC | O | Prints in the height of the font at # times magnification |
| [#]fC | X | This function is not supported |

| | | |
|---|---|---|
| [!]tbC | X | This function is not supported |
| [!]tpC | X | This function is not supported |
| cA | O | Align in the center |
| rA | O | Align to the right |
| lA | O | Align to the left |
| [!][#]stC | X | This function is not supported |
| N | O | Initialize the status of the printer |

O: Supported X: Not supported

To know more about Escape Sequence, please refer to UPOS 1.14.

# 3. Extended Functions

This section is to explain Direct IO method.
This method will operate properly only with BIXOLON POS printer.

## 3-1 Direct IO Method

| Argument | Explanation | Type |
|---|---|---|
| Command | Pre-define constant | Long |
| pData | Number of output data / Value defined by command | Long |
| pString | Output Data | String |

### 3-1-1 BIXOLON OPOS Direct IO Commands Description

| Command | Constant | Description |
|---|---|---|
| PTR _DI_OUTPUT | 0 | Output the pString data |
| PTR _DI_INTERNATIONAL_CHAR | 1 | Define the international characterset |

* The constant of Command can be set at inf file of Printer model in BIXOLON OPOS Driver installation folder.

## 3-2 Direct IO Command

### 3-2-1 Direct Output

| | | |
|---|---|---|
| Argument | Command | PTR_DI_OUTPUT |
| | pData | Null |
| | pString | Output data |
| Description | Sends data without any process after checking printer status.<br>“pString” is not affected by “BinaryConversion” | |
| Return | Result Code | ResultCodeExtended |
| | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_BUSY | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | 0 |

3-2-2 International character set setting

| | | |
|---|---|---|
| Argument | Command | PTR _DI_INTERNATIONAL_CHAR |
| | pData | constant value which pre-defined<br>PRN_DI_CHAR_USA: 0<br>PRN_DI_CHAR_FRANCE: 1<br>PRN_DI_CHAR_GERMANY: 2<br>PRN_DI_CHAR_UK: 3<br>PRN_DI_CHAR_DENMARK1: 4<br>PRN_DI_CHAR_SWEDEN: 5<br>PRN_DI_CHAR_ITALY: 6<br>PRN_DI_CHAR_SPAIN: 7<br>PRN_DI_CHAR_JAPAN: 8<br>PRN_DI_CHAR_NORWAY: 9<br>PRN_DI_CHAR_DENMARK2: 10 |
| | pString | Empty string |
| Description | Sets International characterset.<br>Certain characters change according to the pData argument value.<br>Refer to International characterset code table and related method.<br>If CharacterSet property value is changed,<br>International character set will be reset. | |
| Return | Result Code | ResultCodeExtended |
| | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_BUSY | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | 0 |

## 3-3 Direct IO Event

• Not used.

# 4. Error Information

This section is to explain returned error information when use POS Printer methods.
For more details, please refer to the UPOS specifications.

## 4-1 Result Code List

### 4-1-1 Claim Device method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| ClaimDevice | OPOS_E_ILLEGAL | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_OVERHEAT |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_JRN_EMPTY |

### 4-1-2 Check Health method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| CheckHealth | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |

### 4-1-3 Clear Output method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| ClearOutput | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |

4-1-4 Direct IO method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| DirectIO | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |
| | OPOS_E_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |

4-1-5 Print Normal method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| PrintNormal | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |
| | OPOS_E_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |

4-1-6 Print Immediate method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| PrintImmediate | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |
| | OPOS_E_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |

4-1-7 Cut Paper method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| CutPaper | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |
| | OPOS_E_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |

4-1-8 Rotate Print method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| RotatePrint | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |
| | OPOS_E_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |

4-1-9 Print Bitmap method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| PrintBitmap | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |
| | OPOS_E_NOEXIST | 0 |
| | OPOS_E_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |
| | | OPOS_EPTR_TOOBIG |
| | | OPOS_EPTR_BADFORMAT |

4-1-10 Set Bitmap method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| SetBitmap | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |
| | OPOS_E_NOEXIST | 0 |
| | OPOS_E_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |
| | | OPOS_EPTR_TOOBIG |
| | | OPOS_EPTR_BADFORMAT |

4-1-11 Set Logo method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| SetLogo | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |

4-1-12 Transaction Print method

| Method | Result Code | ResultCodeExtended |
|---|---|---|
| TransactionPrint | OPOS_SUCCESS | 0 |
| | OPOS_E_CLOSED | 0 |
| | OPOS_E_CLAIMED | 0 |
| | OPOS_E_NOTCLAIMED | 0 |
| | OPOS_E_DISABLED | 0 |
| | OPOS_E_ILLEGAL | 0 |
| | OPOS_E_OFFLINE | 0 |
| | OPOS_E_FAILURE | OPOS_EPTR_UNRECOVERABLE |
| | | OPOS_EPTR_CUTTER |
| | | OPOS_EPTR_MECHANICAL |
| | | OPOS_EPTR_OVERHEAT |
| | OPOS_E_NOEXIST | 0 |
| | OPOS_E_EXTENDED | OPOS_EPTR_COVER_OPEN |
| | | OPOS_EPTR_JRN_EMPTY |
| | | OPOS_EPTR_REC_EMPTY |
| | | OPOS_EPTR_SLP_EMPTY |

# 5. Resources

## 5-1 **OPOS Value (defines)**

### 5-1-1 Barcode type

| Code define | Description |
|---|---|
| PTR_BCS_UPCA: | UPC-A |
| PTR_BCS_UPCE | UPC-E |
| PTR_BCS_JAN8 | JAN 8 (= EAN 8) |
| PTR_BCS_JAN13 | JAN 13 (= EAN 13) |
| PTR_BCS_ITF | Interleaved 2 of 5 |
| PTR_BCS_Codabar | Codabar |
| PTR_BCS_Code39 | Code 39 |
| PTR_BCS_Code93 | Code 93 |
| PTR_BCS_Code128 | Code 128 |
| PTR_BCS_Code128_Parsed | Code 128 with parsing |
| PTR_BCS_GS1DATABAR | GS1 DataBar Omnidirectional |
| PTR_BCS_GS1DATABAR_E | GS1 DataBar Expanded |
| PTR_BCS_GS1DATABAR_S | GS1 DataBar Stacked Omnidirectional |
| PTR_BCS_GS1DATABAR_E_S | GS1 DataBar Expanded Stacked |
| PTR_BCS_PDF417 | PDF 417 |
| PTR_BCS_MAXICODE | MAXI Code |
| PTR_BCS_DATAMATRIX | Data Matrix |
| PTR_BCS_QRCODE | QR Code |
| PTR_BCS_AZTEC | Aztec |

### 5-1-2 Barcode alignment

| Code define | Description |
|---|---|
| PTR_BC_LEFT | Left alignment |
| PTR_BC_CENTER | Center alignment |
| PTR_BC_RIGHT | Right alignment |

5-1-3 Barcode HRI alignment

| Code define | Description |
|---|---|
| PTR_BC_TEXT_NONE | Do not print HRI |
| PTR_BC_TEXT_ABOVE | Print HRI on top of barcode |
| PTR_BC_TEXT_BELOW | Print HRI at the bottom of barcode |

5-1-4 Image alignment

| Code define | Description |
|---|---|
| PTR_BM_LEFT | Left alignment |
| PTR_BM_CENTER | Center alignment |
| PTR_BM_RIGHT | Right alignment |

5-1-5 Transaction Print

| Code define | Description |
|---|---|
| PTR_TP_TRANSACTION | Initializes the buffer to empty and starts the transaction mode. |
| PTR_TP_NORMAL | Exit transaction mode and output the stacked data in Buffer. |

## 5-2 **Code page**

### 5-2-1 Basic code page

| Code page number | Description |
|---|---|
| PC437 | U.S.A |
| PC850 | LATIN 1 |
| PC852 | LATIN 2 |
| PC860 | PORTUGUESE |
| PC863 | CANADIAN FRENCH |
| PC865 | NORDIC |
| PC1252 | WINDOWS LATIN 1 |
| PC865 + PC1252 | EUROPEAN COMBINED |
| PC857 | TURKISH |
| PC737 | GREEK |
| PC1250 | WINDOWS LATIN 2 |
| PC1253 | GREEK |
| PC1254 | TURKISH |
| PC855 | CYRILLIC |
| PC862 | HEBREW |
| PC866 | CYRILLIC |
| PC1251 | CYRILLIC |
| PC1255 | HEBREW |
| PC928 | GREEK |
| PC864 | Arabic |
| PC775 | Baltic |
| PC1257 | Baltic |
| PC858 | Latin 1 + Euro |
| PC932 | Shift-JIS |
| PC936 | GB2312 |
| PC949 | KSC5601 |
| PC950 | BIG5 |

5-2-2 International character set code table

| | Country | ASCII code (hexadecimal number) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 23 | 24 | 40 | 5B | 5C | 5D | 5E | 60 | 7B | 7C | 7D | 7E |
| 0 | U.S.A. | # | $ | @ | [ | \ | ] | ^ | ‘ | { | \| | } | ~ |
| 1 | France | # | $ | à | ° | ç | § | ^ | ‘ | é | ù | è | ¨ |
| 2 | Germany | # | $ | § | Ä | Ö | Ü | ^ | ‘ | ä | ö | ü | ß |
| 3 | U.K. | £ | $ | @ | [ | \ | ] | ^ | ‘ | { | \| | } | ~ |
| 4 | Denmark I | # | $ | @ | Æ | Ø | Å | ^ | ‘ | æ | ø | å | ~ |
| 5 | Sweden | # | ¤ | É | Ä | Ö | Å | Ü | é | ä | ö | å | ü |
| 6 | Italy | # | $ | @ | ° | \ | é | ^ | ù | à | ò | è | ì |
| 7 | Spain | Pt | $ | @ | ¡ | Ñ | ¿ | ^ | ‘ | ¨ | ñ | } | ~ |
| 8 | Japan | # | $ | @ | [ | ¥ | ] | ^ | ‘ | { | \| | } | ~ |
| 9 | Norway | # | ¤ | É | Æ | Ø | Å | Ü | é | æ | ø | å | ü |
| 10 | Denmark II | # | $ | É | Æ | Ø | Å | Ü | é | æ | ø | å | ü |
| 11 | Spain II | # | $ | á | ¡ | Ñ | ¿ | é | ` | í | ñ | ó | ú |
| 12 | Latin America | # | $ | á | ¡ | Ñ | ¿ | é | ü | í | ñ | ó | ú |
| 13 | Korea | # | $ | @ | [ | ₩ | ] | ^ | ` | { | \| | } | ~ |

5-2-3 Examples of international character set

```
CString CRLF = _T("\r\n");
CString cStr = _T("");
BSTR pString = cStr.AllocSysString();

//Select French character code
long pData = PRN_DI_CHAR_FRANCE;
posPrinter.DirectIO(PTR_DI_INTERNATIONAL_CHAR, &pData, &pString);

// Print à character
posPrinter.PrintNormal(PTR_S_RECEIPT, _T("\x40") + CRLF);

// Select German character code
pData = PRN_DI_CHAR_GERMANY;
posPrinter.DirectIO(PTR_DI_INTERNATIONAL_CHAR, &pData, &pString);

// Print § character
posPrinter.PrintNormal(PTR_S_RECEIPT, _T("\x40") + CRLF);

// Select Italian character code
pData = PRN_DI_CHAR_ITALY;
posPrinter.DirectIO(PTR_DI_INTERNATIONAL_CHAR, &pData, &pString);

// Print @ character
posPrinter.PrintNormal(PTR_S_RECEIPT, _T("\x40") + CRLF);
```

# Revision history

| Ver. | Date | Description |
|---|---|---|
| 1.00 | 09-03-2018 | New |
| 1.01 | 25-05-2018 | Changing of the label printer model name and adding of contents |
| 1.02 | 10-01-2019 | Add model SPP-L310, SPP-L410 |
| 1.03 | 05-03-2019 | Add model XD3-40d |
| 1.04 | 21-06-2019 | Add model XD3-40t, XD5-40d, XD5-43d, XL5-40, XL5-43 |
| 1.05 | 24-10-2019 | Changing of the label printer model name |
| 1.06 | 21-11-2019 | Add model XD5-40t, XD5-43t, XM7-40 |
| 1.07 | 10-03-2020 | Add model XM7-20 |
| 1.08 | 16-09-2020 | 1. Add model SRP-S3000<br>2. Typo correction |
| 1.09 | 26-02-2021 | Change the font in the manual |
| 1.10 | 26-08-2021 | Add model XT3-40, XT3-43 |
| 1.11 | 26-04-2022 | Add model XM7-30 |
| 1.12 | 18-10-2024 | Add model XD5-40IId, XD5-43IId, XD5-40IIt, XD5-43IIt |
| 1.13 | 13-02-2025 | Add model XT6-60, XT6-63 |
| 1.14 | 21-03-2025 | Add model XM5-30 |
| 1.15 | 28-04-2025 | Add model BT3-40, BT3-43, BT5-40, BT5-43, BT5-46, BD5-40d, BD5-43d, BD5-40t, BD5-43t |
| 1.16 | 12-08-2025 | 1. Add model XD7-20d, XD7-23d<br>2. Add model XT6-40, XT6-43, XT6-46 |
| 1.17 | 27-05-2026 | Add model XC3-40d, XC5-40d, XC5-43d |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |