



OPOS Driver Manual

RJ-2035B/RJ-2055WB/RJ-3035B/RJ-3055WB

Version 3.00

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Important Notices

Note

This document provides information for the label printer RJ-2035B/RJ-2055WB/RJ-3035B/RJ-3055WB (RJ Printer) and is available for use only if you agree to the following conditions:

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Contact Information

For more information for mobile printer developers, visit

<https://support.brother.com/g/s/es/dev/en/index.html?navi=offall>

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1. Introduction

The OPOS driver allows RJ printers to interpret ESC/POS commands. To use this feature, change the printer settings as described in [Section 3](#).

2. Requirements

2.1 Software

- OPOS Driver (Visit <https://support.brother.com/g/s/es/dev/en/index.html?navi=offall> to download.)
- OPOS Application (Sample Program) (For more information, see [Section 10: Sample Program](#).)

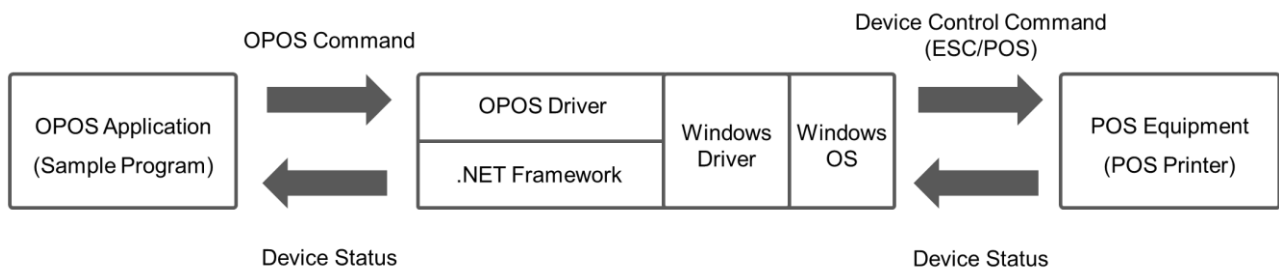
2.2 Supported POS Equipment

- RJ-2035B
- RJ-2055WB
- RJ-3035B
- RJ-3055WB

2.3 Operating Environment

Supported Operating System	Windows 7 / Windows 8.1 / Windows 10 / Windows 11 Windows Server 2012 / Windows Server 2012 R2	
System Requirements	.NET Framework 4.0 or later	
Supported Interface	USB/Bluetooth	RJ-2035B/RJ-2055WB/RJ-3035B/RJ-3055WB
	Wi-Fi	RJ-2055WB/RJ-3055WB
Development Tool	The OPOS Driver Sample Program supports the C# programming language.	

2.4 System Configuration



3. Printer Setup

The RJ-2035B/2055WB/3035B/3055WB is compatible with the OPOS driver by default (Windows only).

The OPOS Driver generates and sends device control commands (ESC/POS) to the printer.

To use the ESC/POS commands:

- Update the printer firmware to EZP firmware using the Brother Printer Management Tool (BPM).
- Install the print media and set the printer to Line Mode.

3.1 Perform Firmware Update

The EZP firmware supports the use of ESC/POS commands in the Brother Printer Management Tool (BPM).

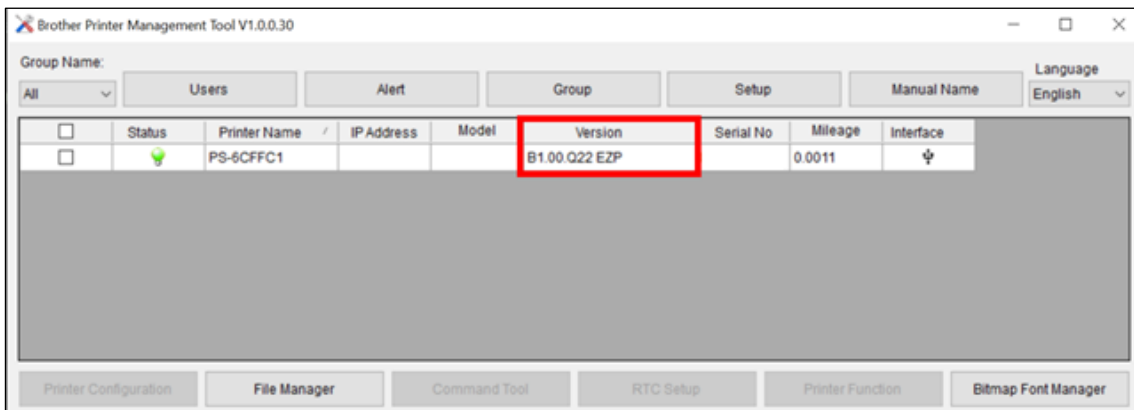
When you update the EZP firmware, the printer automatically enters Line Mode.

1. Download the EZP Firmware update kit.
2. Run the Brother Printer Management Tool (BPM).

Note:

You can download both the EZP Firmware update kit and the Brother Management Tool (BPM) from your model's **Downloads** page at support.brother.com.

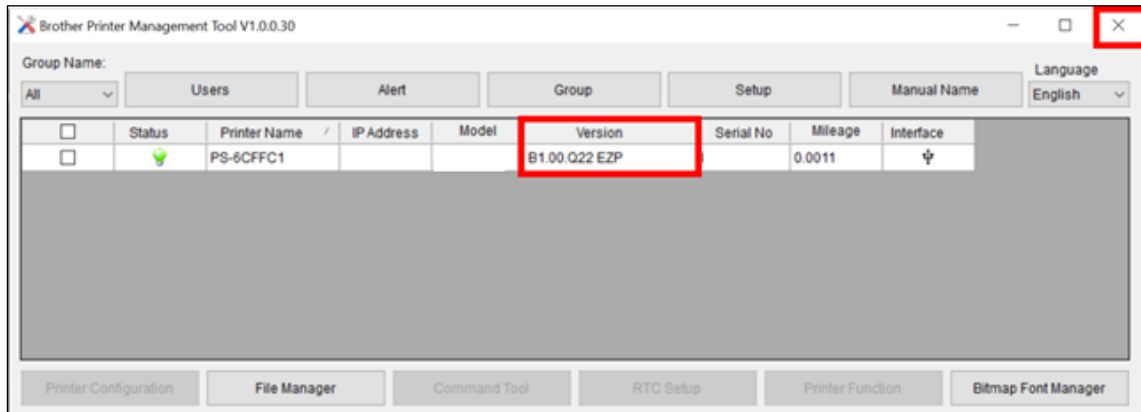
3. Click **File Manager**.
4. Select **FLASH** from the **Memory Device** drop-down list.
5. Select **Firmware File** from the **File Type** drop-down list. Click **Browse** to navigate to and select the EZP firmware file (*.NEW).
6. Click **Download**. The printer restarts.
7. Check the **Version** value to confirm that the firmware has been updated.



8. If the printer successfully updated the firmware, it enters Line Mode and starts the test print.

```
DIAGNOSTIC INTERFACE USB
DIAGNOSTIC REPORT VERSION
DIAGNOSTIC REPORT EDITION
DIAGNOSTIC REPORT NETNAME
DIAGNOSTIC REPORT WJFIPRINTNAME
DIAGNOSTIC REPORT MILAGE
DIAGNOSTIC INTERFACE NET
```

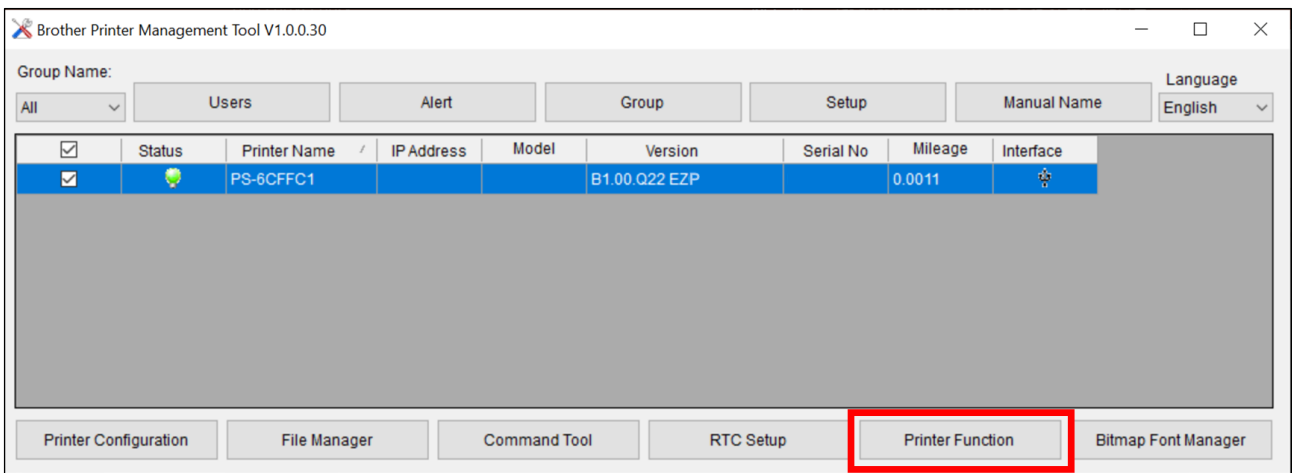
9. To stop the test print, close the BPM. Otherwise the BPM continues to send ESC/POS print commands to the printer.



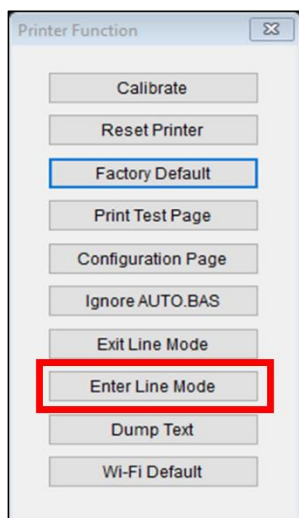
3.2 Enter Line Mode

When you update the EZP firmware, the printer enters Line Mode automatically. However, every time you launch the BPM, the printer automatically exits Line Mode and returns to Page Mode. Reset the printer to Line Mode again before using ESC/POS commands.

1. Run the Brother Printer Management Tool (BPM).
2. Click **Printer Function**.



3. Click **Enter Line Mode**.



4. When the printer enters Line Mode, it starts a test print. To stop the test print, close the BPM. Otherwise the BPM continues to send ESC/POS print commands to the printer.

```
DIAGNOSTIC INTERFACE USB
DIAGNOSTIC REPORT VERSION
DIAGNOSTIC REPORT EDITION
DIAGNOSTIC REPORT NETNAME
DIAGNOSTIC REPORT WIFIPRINTNAME
DIAGNOSTIC REPORT MILAGE
DIAGNOSTIC INTERFACE NET
```

3.3 Exit Line Mode

Exit Line Mode and return to Page Mode to change printer settings (such as print speed or density) using the BPM.

- The printer automatically exits Line Mode and returns to Page Mode every time you launch the BPM.
- If the BPM is already running in Line Mode, click **Printer Function > Exit Line Mode**.
- To resume printing with ESC/POS commands, click **Printer Function > Enter Line Mode**. (See [Section 3.2](#))

4. Configure the OPOS Driver

1. Visit support.brother.com, go to your model's **Downloads** page, and download the latest Windows printer driver.
2. Install the Windows printer driver for your model. For more information about the installation, see the “Printer Driver Installation” section in your model's User's Guide.

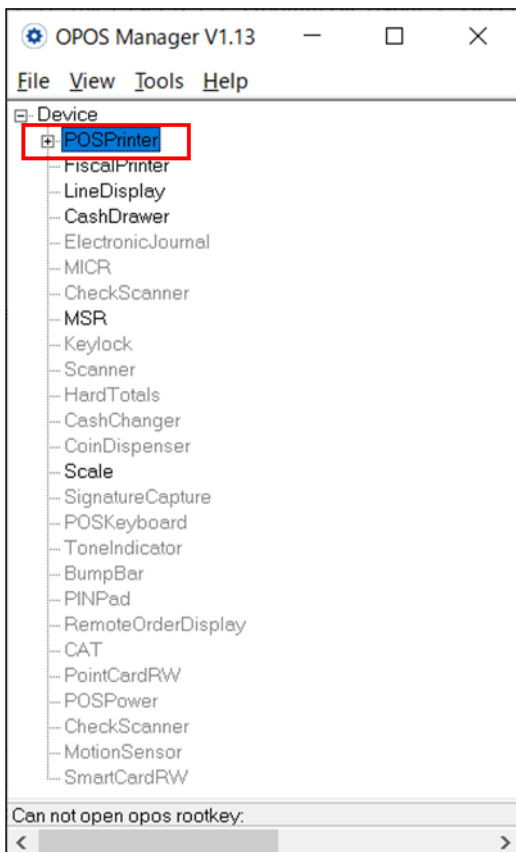
Make sure your printer is listed in **Control Panel > Hardware and Sound > Devices and Printers**.



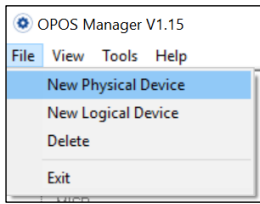
Brother RJ-2035B

3. Download the OPOS driver from www.brother.co.jp/eng/dev/.
4. Double-click **SetupOPOS.exe** in one of the following folders:
 - 32bit: C:\Program Files\OPOS\SetupOPOS.exe
 - 64bit: C:\Program Files (x86)\OPOS\SetupOPOS.exe
5. Select **POSPrinter**.

The RJ-2035B/RJ-2055WB/RJ-3035B/RJ-3055WB supports only the options listed in the “POSPrinter” section.



6. Click **File > New Physical Device**.

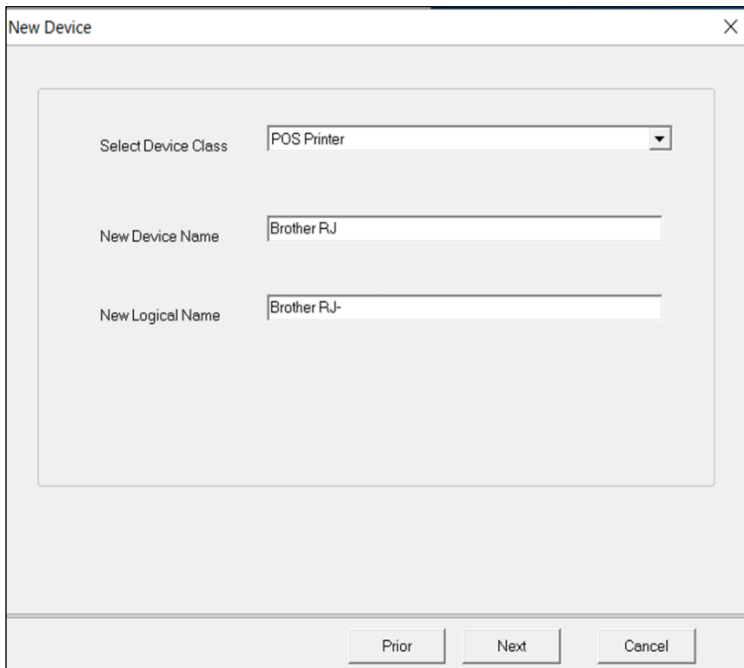


7. Select **POS Printer** from the **Select Device Class** drop-down list.

Type the device name in the **New Device Name** and **New Logical Name** fields.

Note:

- Make sure you use the device name listed in **Control panel > Hardware and Sound > Devices and Printers**.
- The **New Device Name** and **New Logical Name** must contain only single-byte characters (half-width alphanumeric and symbol characters) .



8. Click **Next**.

9. Select the **Communication Mode** type.

10. Do one of the following.

- If you selected TCP/IP:
Type your printer's **IP Address** and **Port** information.
- If you selected USB:
Select the correct USB setting (USB Virtual Serial Port, USB Printing Support, or USB HID).

11. Select your printer from the applicable drop-down list.

- For USB connection: **Select USB Device**

The 'New Device' dialog box is shown with the following settings:

- Communication Mode:** USB (selected)
- USB Options:** USB Printing Support (selected)
- IP Address:** (empty)
- Port:** (empty)
- Select USB Device:** USB\VID_04F9:PID_30CD\000001 (selected)
- Select Bluetooth Device:** (empty)
- Select LPT:** (empty)
- Support Image Printer:** (unchecked)

Buttons at the bottom: Prior, Finish, Cancel.

- For Bluetooth connection: **Select Bluetooth Device**

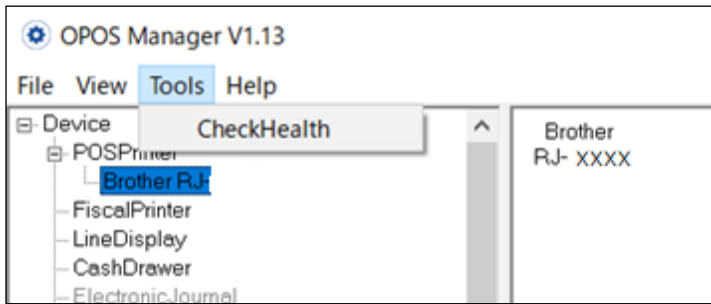
The 'New Device' dialog box is shown with the following settings:

- Communication Mode:** BLUE TOOTH (selected)
- USB Options:** (all unselected)
- IP Address:** 192.
- Port:** (empty)
- Port Name:** COM1
- Baudrate:** (empty)
- Outx Cts Flow:** (checked)
- Outx Dsr Flow:** (checked)
- Select USB Device:** (empty)
- Select Bluetooth Device:** PS- (selected)
- Select LPT:** (empty)
- Support Image Printer:** (unchecked)

Buttons at the bottom: Prior, Finish, Cancel.

12. Click **Finish**.

13. Select your printer name in **Device > POSPrinter** list, and then click **Tools > CheckHealth** in the main menu. Ensure the print media has been installed.



When configured successfully, the following pop-up message appears and the printer prints a test page containing the text “CheckHealth OK”.



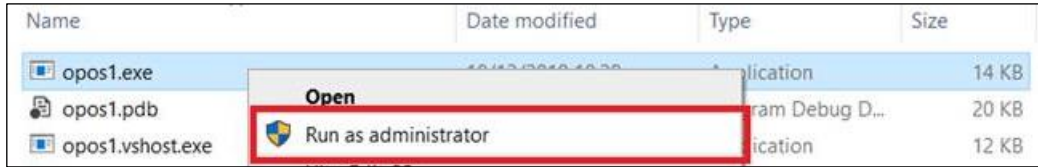
If the printer does not print the test page:

- Make sure the firmware is updated to EZP (ESC/POS) (See [Section 3.1](#))
 - Make sure the printer is set to Line Mode. (See [Section 3.2](#))
 - Make sure you use the device name listed in **Control Panel > Hardware and Sound > Devices and Printers**. (See step 7 in [Section 4](#))
 - Make sure the connection setting is correctly configured.
-

5. Run the Sample Program Using the OPOS Driver

The description here is based on OPOS Application (Sample Program). See We recommend running the Sample Program to test the printer's behavior in your environment. [Section 10](#).

1. Right-click the Sample Program, and then click **Run as administrator**.



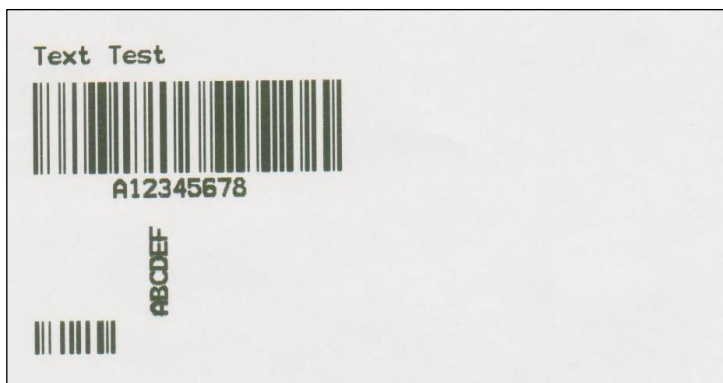
2. Type the model name in the **Driver NAME** field.



Note:

- Make sure you use the device name listed in **Control Panel > Hardware and Sound > Devices and Printers**.
- The **New Device Name** and **New Logical Name** must contain only single-byte characters (half-width alphanumeric and symbol characters) See step 7 in [Section 4](#).

3. Click **Print Receipt** to print the sample page.

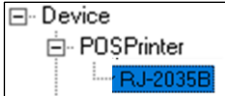


6. Supported Methods

1. Open (a)

Description: Open a device for later input/output processing.

Parameter:

	Type	Description	Value
a	String	OPOS Printer Driver Name	Example: "RJ-2035B" 

2. ClaimDevice (a)

Description: Request exclusive access to the device.

Parameter:

	Type	Description	Value
a	Integer	Timeout parameter (millisecond)	Example: 1000

Note:

You also need to set the **DeviceEnabled** property to "true".

3. CheckHealth (a)

Description: Test the state of a device.

Parameter:

	Type	Description	Value
a	Integer	Check if the printer is ready	OPOS_CH_INTERNAL=1

4. TransactionPrint (a,b)

Description: Enter or exit Transaction Mode.

Parameter:

	Type	Description	Value
a	Integer	The printer station to be used	PTR_S_RECEIPT=2
b	Integer	Transaction Mode control	PTR_TP_TRANSACTION=11 (Begin a transaction)
			PTR_TP_NORMAL =12 (End a transaction by printing the buffered data)

Note:

If the parameter "b" is set to PTR_TP_TRANSACTION, the printer enters Transaction Mode. The print data will be buffered until the **TransactionPrint** method is called again with the parameter "b" set to PTR_TP_NORMAL.

5. PageModePrint (a)

Description: Enter or exit Page Mode.

Parameter:

	Type	Description	Value
a	Integer	Page Mode control	PTR_PM_PAGE_MODE=1 (Enter Page Mode)
			PTR_PM_PRINT_SAVE=2 (Print PageModePrintArea and save the canvas. Page Mode is not exited. Use for printing of repeated pages)
			PTR_PM_NORMAL=3 (Print PageModePrintArea , clear the canvas, and exit the Page Mode)
			PTR_PM_CANCEL=4 (Clear the page and exit the Page Mode without printing anything)

Note:

- If the parameter "a" is set to PTR_PM_PAGE_MODE, Page Mode is enabled and the print data is buffered until the **PageModePrint** method is called again with the parameter "a" set to one of the following values:

- PTR_PM_PRINT_SAVE
- PTR_PM_NORMAL
- PTR_PM_CANCEL

- To specify the print area, set the **PageModePrintArea** method.

- To specify the print direction, set the **PageModePrintDirection** method to one of the following values:

- PTR_PD_LEFT_TO_RIGHT=1
- PTR_PD_BOTTOM_TO_TOP=2
- PTR_PD_RIGHT_TO_LEFT=3
- PTR_PD_TOP_TO_BOTTOM=4

For further information, see [Section 7](#).

6. RotatePrint (a,b)

Description: Enter or exit Rotated Print Mode.

Parameter:

	Type	Description	Value
a	Integer	The printer station to be used	PTR_S_RECEIPT=2
b	Integer	Direction of rotation	PTR_RP_RIGHT90=0x0101 (Start rotated printing 90° to the right (clockwise))
			PTR_RP_LEFT90=0x0102 (Start rotated printing 90° to the left (counter-clockwise))
			PTR_RP_ROTATE180=0x0103 (Start rotated printing 180° (upside-down))
			PTR_RP_BITMAP =0x2000 (Start rotated bitmap printing. This value is used after one of the above rotation values)
			PTR_RP_NORMAL =0x0001 (Exit Rotated Print Mode and print the buffered data)

Note:

For more information, see the **PageModePrint** method.

7. PrintNormal (a,b)

Description: Print data.

Parameter:

	Type	Description	Value
a	Integer	The printer station to be used	PTR_S_RECEIPT=2
b	String	The characters to be printed	Example: "TestData"

Note:

To print the stored bitmap, set the parameter "b" to ESC |#B (where # is the bitmap number). For more information, see the **SetBitmap** method.

8. PrintImmediate (a,b)

Description: Print data immediately.

Parameter:

	Type	Description	Value
a	Integer	The printer station to be used	PTR_S_RECEIPT=2
b	String	The characters to be printed	Example: "TestData"

Note:

To print the stored bitmap, set the parameter "b" to ESC | #B (where "#" is the bitmap number). For more information, see the **SetBitmap** method.

9. PrintBarCode (a,b,c,d,e,f,g)

Description: Print a barcode.

Parameter:

	Type	Description	Value
a	Integer	The printer station to be used	PTR_S_RECEIPT=2
b	String	The characters to be included in the barcode	Example: "1234567"
c	Integer	Barcode type	PTR_BCS_UPCA=101 (UPC-A)
			PTR_BCS_UPCE=102 (UPC-E)
			PTR_BCS_EAN8=103 (EAN 8)
			PTR_BCS_EAN13=104 (EAN 13)
			PTR_BCS_ITF =105 (Interleaved 2 of 5)
			PTR_BCS_Codabar=107 (Codabar)
			PTR_BCS_Code39=108 (Code39)
			PTR_BCS_Code93=109 (Code93)
			PTR_BCS_Code128=110 (Code128)
d	Integer	Barcode height (1/1000 inch)	Example: 100
e	Integer	Barcode width (1/1000 inch)	Example: 200
f	Integer	Barcode placement	PTR_BC_LEFT=-1 (Align with the left-most print column)
			PTR_BC_CENTER --2 (Align in the center of the column)
			PTR_BC_RIGHT ==-3 (Align with the right-most print column)

g	Integer	Placement of the readable character string	PTR_BC_TEXT_NONE=-11 (Print only the barcode. No text.)
			PTR_BC_TEXT_BELOW=-13 (Print the text below the barcode)

10. SetBitmap (a,b,c,d,e)

Description: Set a bitmap for later printing.

Parameter:

	Type	Description	Value
a	Integer	The number to be assigned to this bitmap. Valid bitmap numbers are 1 through 20.	Example: 1
b	Integer	The printer station to be used	PTR_S_RECEIPT=2
c	String	The name or URL of the bitmap file. Only monochrome bitmaps are supported.	Example: "Brother.bmp"
d	Integer	Printed width of the bitmap	PTR_BM_ASIS=-11 (Print the bitmap with one bitmap pixel per printer dot)
			Other Values (Bitmap width expressed in 1/1000 inch unit of measure) Example: 200
e	Integer	Bitmap placement	PTR_BM_LEFT=-1 (Align with the left-most print column)
			PTR_BM_CENTER =-2 (Align in the center of the column)
			PTR_BM_RIGHT =-3 (Align with the right-most print column)

Note:

To print a bitmap, use the **PrintNormal** or **PrintImmediate** method with the print bitmap escape sequence included in the print data. For more information, see the **PrintNormal** and **PrintImmediate** methods.

11. PrintBitmap (a,b,c,d)

Description: Print a bitmap.

Parameter:

	Type	Description	Value
a	Integer	The printer station to be used	PTR_S_RECEIPT=2
b	String	The name or URL of the bitmap file. Only monochrome bitmaps are supported.	Example: "Brother.bmp"

c	Integer	Printed width of the bitmap	PTR_BM_ASIS=-11 (Print the bitmap with one bitmap pixel per printer dot)
			Other Values (Bitmap width expressed in 1/1000 inch unit of measure) Example: 200
d	Integer	Bitmap placement	PTR_BM_LEFT=-1 (Align with the left-most print column)
			PTR_BM_CENTER =-2 (Align in the center of the column)
			PTR_BM_RIGHT =-3 (Align with the right-most print column)

12. PrintMemoryBitmap (a,b,c,d,e)

Description: Print a memory-stored bitmap by nibble array data.

Parameter:

	Type	Description	Value
a	Integer	The printer station to be used	PTR_S_RECEIPT=2
b	String	Memory byte array representation of the bitmap. Only nibble arrays are supported.	Example: Hex byte value 154 = 0x9A is converted into the nibble 0x39 0x3A.
c	Integer	Bitmap formats	PTR_BMT_BMP=1
d	Integer	Printed width of the bitmap	PTR_BM_ASIS=-11 (Print the bitmap with one bitmap pixel per printer dot)
			Other Values (Bitmap width expressed in 1/1000 inch unit of measure) Example: 200
e	Integer	Bitmap placement	PTR_BM_LEFT=-1 (Align with the left-most print column)
			PTR_BM_CENTER =-2 (Align in the center of the column)
			PTR_BM_RIGHT =-3 (Align with the right-most print column)

Note:

Make sure you set **BinaryConversion** to "1" before calling this function and to "0" after calling this function.

13. **ClearOutput ()**

Description: Clears all buffered outputs.

Parameter: None

14. **ClearPrintArea ()**

Description: Clear the area defined by the **PageModePrintArea** property.

Parameter: None

15. **ReleaseDevice ()**

Description: Release exclusive access to the device.

Parameter: None

Note:

Make sure you set the **DeviceEnabled** property to "false".

16. **Close ()**

Description: Releases the device and its resources.

Parameter: None

7. Supported Properties

Property	Type	Description
DeviceEnabled	Boolean	Set to "true" to enable the signature capture device. This property is set to "false" by the Open method.
CapRecBitmap	Boolean	Set to "true" to print bitmaps on receipts. This property is set by the Open method. Example: <pre> if (test.CapRecBitmap) { test.BinaryConversion = 1; result = test.PrintMemoryBitmap((int)OPOS_CONSTANTS.PTR _S_RECEIPT, Nibble_Str, (int)OPOS_CONSTANTS.PTR_BMT_BMP, (int)OPOS_CONSTANTS.PTR_BM_ASIS, Alignment); test.BinaryConversion = 0; } </pre>
PageModeStation	Integer	Set the print station for subsequent Page Mode properties. Available only if you specify the PTR_S_RECEIPT parameter for the TransationPrint method.
PageModePrintArea	String	Holds the print area for the selected PageModeStation property. The string consists of four ASCII numbers separated by commas, in the following order: horizontal start, vertical start, horizontal size, vertical size. Example: "0,0,400,100"
PageModeVerticalPosition	Integer	Holds the vertical start position offset within the print area for the selected PageModeStation property.
PageModeHorizontalPosition	Integer	Holds the horizontal start position offset within the print area for the selected PageModeStation property.

8. Common ResultCode Properties

Property	Value	Description
OPOS_SUCCESS	0	Operation successful.
OPOS_E_NOTCLAIMED	103	Attempt was made to access an exclusive-use device that must be claimed before the method or property set action can be used. If the device is already claimed by another process, then the OPOS_E_CLAIMED status is displayed instead.
OPOS_E_ILLEGAL	106	Attempt was made to perform an illegal or unsupported operation with the device, or an invalid parameter value was used.
OPOS_E_NOEXIST	109	The file name (or other specified value) does not exist. Make sure to register the correct device name at the OPOS Driver.

9. Common OPOS Controls

1	Open method	Call to link the control object to the service object
2	ClaimDevice method	Call to enable exclusive access to the device
3	DeviceEnabled	Set to "true" to enable the device
4	Use the device	
4-1	a) Print	PrintNormal
4-2	a) Enter Print Mode	TransactionPrint, PageModePrint, or RotatePrint
	b) Print	PrintNormal PrintImmediate PrintBarcode PrintBarcode PrintBitmap SetBitmap + PrintNormal SetBitmap + PrintImmediate PrintMemoryBitmap
	c) Exit Print Mode	TransactionPrint, PageModePrint, or RotatePrint
5	DeviceEnabled	Set to "false" to disable the device
6	ReleaseDevice	Call to clear exclusive access to the device
7	Close method	Call to release the service object from the control object

Note:

Make sure the OPOS Printer Driver is installed on your computer before you call the Dynamic Link Library (DLL) included with the OPOS Driver from custom programs.

10. Sample Program

C# SDK Example

```
using OposPOSPrinter_CCO;
OposPOSPrinter_CCO.OPOSPOSPrinter BROTHER = new
OposPOSPrinter_CCO.OPOSPOSPrinter();

string logoFileName = @System.IO.Directory.GetCurrentDirectory() + @"\Brother.bmp";
byte ESC = 0X1B, vbLf = 0X0A;

//===== " CheckHealth " Method Constants =====
int OPOS_CH_INTERNAL=1;
//===== Printer Station Constants =====
int PTR_S_RECEIPT=2;
//===== " TransactionPrint " Method Constants =====
int PTR_TP_TRANSACTION =11;
int PTR_TP_NORMAL=12;
//===== " PrintBarCode " Method Constants =====
int PTR_BCS_EAN8=103;
int PTR_BC_CENTER=-2
int PTR_BC_TEXT_BELOW=-13;
//===== " SetBitmap " Method Constants =====
int PTR_BM_ASIS=-11;
int PTR_BM_CENTER=-2;
//===== " PageModePrint " Method Constants =====
int PTR_PM_PAGE_MODE=1;
int PTR_PM_NORMAL=3;
//===== " PageModePrintDirection " Property Constants =====
int PTR_PD_LEFT_TO_RIGHT=1;
//===== " RotatePrint " Method Constants =====
int PTR_RP_RIGHT90=(int)0x0101;
int PTR_RP_NORMAL=(int)0x0001
```

```

BROTHER.Open("RJ-3035B");
BROTHER.ClaimDevice(2500);
BROTHER.DeviceEnabled = true;
BROTHER.CheckHealth(OPOS_CH_INTERNAL);

BROTHER.TransactionPrint(PTR_S_RECEIPT, PTR_TP_TRANSACTION);
BROTHER.PrintNormal(PTR_S_RECEIPT, "Normal" + (char)vbLf);
BROTHER.PrintImmediate(PTR_S_RECEIPT, "Immediate"+ (char)vbLf);
BROTHER.PrintBarCode(PTR_S_RECEIPT, "1234567", PTR_BCS_EAN8, 100, 640,
PTR_BC_CENTER, PTR_BC_TEXT_BELOW);
BROTHER.SetBitmap(1, PTR_S_RECEIPT, logoFileName, PTR_BM_ASIS, PTR_BM_CENTER);
BROTHER.PrintNormal(PTR_S_RECEIPT, (char)ESC + "[1B");
BROTHER.TransactionPrint(PTR_S_RECEIPT, PTR_TP_NORMAL);

BROTHER.PageModePrint(PTR_PM_PAGE_MODE);.
BROTHER.PageModePrintArea = "0, 0, 150, 150";
BROTHER.PageModePrintDirection = PTR_PD_LEFT_TO_RIGHT;
BROTHER.PrintNormal(PTR_S_RECEIPT, " PageMode" + (char)vbLf);
BROTHER.PageModePrint(PTR_PM_NORMAL);

BROTHER.RotatePrint(PTR_S_RECEIPT, PTR_RP_RIGHT90);
BROTHER.PageModePrintArea = "0, 0, 500, 500";
BROTHER.PrintNormal(PTR_S_RECEIPT, " Rotate" + (char)vbLf);
BROTHER.RotatePrint(PTR_S_RECEIPT, PTR_RP_NORMAL);

BROTHER.DeviceEnabled = false;
BROTHER.ReleaseDevice();
BROTHER.Close();

```



Note:

To debug the program in an integrated development environment, make sure you run the environment as an administrator.

