

## **ZPL & CPCL Printer Driver for OPOS**

## **Application Programmer's Guide**



P1014152-002

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# **About This Document**



This section provides you with contact information, document structure and organization, and additional reference documents.

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## **Who Should Use This Document**

The manual is targeted to an application developer who requires access to POS-specific peripheral devices.

## **OPOS Web Sites**

Refer to the following web sites for OPOS information:

- Reference implementation Common Control Objects: http://monroecs.com/opos.htm
- NRF-ARTS Standards Body: http://www.nrf-arts.org

## How This Document Is Organized

| Section  | Description   |
|--|---|
| OPOS Information on page 9                           | This chapter provides a general overview of the OPOS Printer Driver.  |
| Supported Bar Codes and Fonts<br>on page 11          | This chapter lists supported bar codes and fonts.   |
| Supported Specifications and<br>Printers on page 17  | This chapter lists the supported specifications and printers.   |
| Common Properties, Methods,<br>and Events on page 21 | This chapter provides the common and specific commands for properties, methods, and events.   |
| Device Manager on page 31                            | This chapter provides information about the Device<br>Manager and its uses.   |
| Test Application on page 59                          | This chapter provides steps and illustrations to prepare<br>your keyboard to use additional languages and to launch<br>and perform various operations using the OPOS Test<br>Application. |

The Application Programmer's Guide is set up as follows:

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## **Document Conventions**

The following conventions are used throughout this document to convey certain information.

**Alternate Color** (online only) Cross-references contain hot links to other sections in this guide. If you are viewing this guide online in.pdf format, you can click the cross-reference (blue text) to jump directly to its location.

**Command Line Examples** Command line examples appear in Courier New font. For example, type ZTools to get to the Post-Install scripts in the bin directory.

**Files and Directories** File names and directories appear in Courier New font. For example, the Zebra<version number>.tar file and the /root directory.

#### **Icons Used**



Important • Advises you of information that is essential to complete a task.



**Note** • Indicates neutral or positive information that emphasizes or supplements important points of the main text.

**Example** • Provides an example, often a scenario, to better clarify a section of text.



This chapter provides a general overview of the OPOS Printer Driver.

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## **OLE for Retail POS Controls**

The goal of this document is to provide an overview and programming guide for the Zebra ZPL & CPCL Printer Driver for OPOS driver implementation.

For full reference of OLE for Retail POS, please download the latest manual at:

http://www.nrf-arts.org/content/Unified-POS

## How an Application Uses an OPOS Control

The first action the application must take on the Control is to call its **Open** method. The parameter for this method selects a device name to associate with the Control. The **Open** method performs the following steps:

- Establishes a link to the device name that, in our case, is the Windows printer driver name.
- Initializes the properties **OpenResult**, **Claimed**, **DeviceEnabled**, **DataEventEnabled**, **FreezeEvents**, **AutoDisable**, **DataCount**, and **BinaryConversion**, as well as descriptions and version number of the OPOS Control layers. Additional class-specific properties may also be initialized.

Several applications may have an OPOS Control open at the same time. Therefore, after the device is opened, the application will need to call the **ClaimDevice** method to gain exclusive access to the device. The device must be claimed before the Control allows access to its methods and properties. Claiming the device ensures that other applications do not interfere with the use of the device. The application may call the **ReleaseDevice** method when the device can be shared by other applications—for instance, at the end of a transaction.

Before using the device, the application must set the **DeviceEnabled** property to TRUE. This value brings the device to an operational state, while FALSE disables the device.

After the application has finished using the device, the **DeviceEnabled** property should be set to FALSE, then the **ReleaseDevice** method, and finally the **Close** method should be called to release the device and associated resources. Before exiting, an application should close all open OPOS Controls.

In summary, the application follows this general sequence:

- Open method: Call to link the Control Object to the Service Object.
- **ClaimDevice** method: Call to gain exclusive access to the device. Required for exclusiveuse devices; optional for some sharable devices.
- DeviceEnabled property: Set to TRUE to make the device operational.
- Use the device.
- **DeviceEnabled** property: Set to FALSE to disable the device.
- ReleaseDevice method: Call to release exclusive access to the device.
- Close method: Call to release the Service Object from the Control Object.

# 2 Supported Bar Codes and Fonts



This chapter lists supported bar codes and fonts.

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## **Supported Bar Codes**

| Barcode<br>Symbology | Supported in ZPL | Supported in<br>CPCL |
|----------------------|------------------|----------------------|
| Codabar              | Yes              | Yes                  |
| Code 128             | Yes              | Yes                  |
| * Code 128 Parsed    | Yes              | Yes                  |
| Code 39              | Yes              | Yes                  |
| Code 93              | Yes              | Yes                  |
| * EAN 128            | Yes              | Yes                  |
| EAN 13s              | Yes              | Yes                  |
| EAN 8S               | Yes              | Yes                  |
| EANJan 13            | Yes              | Yes                  |
| EANJan 8             | Yes              | Yes                  |
| ltf                  | Yes              | Yes                  |
| * Maxicode           | Yes              | Yes                  |
| * PDF417             | Yes              | Yes                  |
| * RSS14              | Yes              | Yes                  |
| * RSSExpanded        | Yes              | Yes                  |
| TF                   | Yes              | No                   |
| UPC-A                | Yes              | Yes                  |
| * UPC-AS             | Yes              | Yes                  |
| UPC-D                | Yes              | Yes                  |
| UPC-D2               | Yes              | Yes                  |
| UPC-D3               | Yes              | No                   |
| UPC-D4               | Yes              | No                   |
| UPC-D5               | Yes              | Yes                  |
| * OCR-A              | Yes              | Yes                  |
| OCR-B                | No               | No                   |
| UPC-E                | Yes              | Yes                  |
| * UPC-ES             | Yes              | Yes                  |

**Note** • The asterisk (\*) above identifies those Barcodes that have no center and right alignments and the driver will return E\_ILLEGAL when used with PTR\_BC\_CENTER or PTR\_BC\_RIGHT.

## **Supported Fonts**

## **ZPL** Fonts

| Font Typeface<br>(Value for # in<br>ESC #fT) | Font Name | Font Size<br>(h x w) | Line<br>Height | Inter-Character<br>Gap (dots) | Total Width<br>(dots) |
|--|-----------|----------------------|----------------|-------------------------------|-----------------------|
| 0  | D         | 18 x 10              | 24             | 2                             | 12                    |
| 1  | F         | 26 x 13              | 30             | 3                             | 16                    |
| 2  | А         | 9 x 5                | 12             | 1                             | 6                     |

#### Font D

Font D will be the default font. If nothing is specified in the print command, this font will be used. The spacing between lines shall be 24 dots. Counting the inter-character gap of 2 dots the characters are 12 dots wide. In calculating the number of characters that can be placed on an 832 dot line, the result is 69 characters.

#### Example command:

PrintNormal "123456789ABCDEFGHIJKLMNOPQRSTUVWXYZ67890123456789012345678901234567890 PrintNormal "0987654321abcdefghijklmnopqrstuvwxyz654321098765432109876543210987654321 PrintNormal "1234567890123456789012345678901234567890123456789012345678901234567890 PrintNormal "0987654321098765432

Printed Image:

1234567890ABCDEFGHIJKLMNOPQRSTUVWXYZ789012345678901234567890123456789 0987654321abcdefghijklmnopqrstuvwxyz432109876543210987654321098765432 123456789012345678901234567890123456789012345678901234567890 09876543210987654321098765432109876543210987654321098765432

#### Font F

The spacing between lines shall be 28 dots. Counting the inter-character gap of 3 dots, the characters are 16 dots wide. In calculating the number of characters that can be placed on an 832 dot line, the result is 52 characters.

Example command:

Printed Image:

1234567890123456789012345678901234567890123456789012 0987654321098765432109876543210987654321098765432109 1234567890123456789012345678901234567890123456789012 0987654321098765432109876543210987654321098765432109

#### Font A

The spacing between lines shall be 12 dots. Counting the inter-character gap of 1 dots, the characters are 6 dots wide. In calculating the number of characters that can be placed on an 832 dot line, the result is 138 characters.

#### Example command:

#### Printed Image:

## **CPCL** Fonts

| Font Typeface<br>(Value for # in<br>ESC #fT) | Font Name | Font Size<br>(h x w) | Line<br>Height | Total Width<br>(dots) |
|--|-----------|----------------------|----------------|-----------------------|
| 0  | 7         | 0 (24 x 12)          | 24             | 12                    |
| 1  | 0         | 3 (18 x 16)          | 18             | 16                    |

#### Font for Typespace 0

The Font for typespace 0 will be CPCL font 7. If nothing is specified in the print command this font will be used. The spacing between lines shall be 24 dots. Counting the inter-character gap of 2 dots, the characters are 10 dots wide. In calculating the number of characters that can be placed on an 832 dot line, the result is 69 characters.

Example command:

Printed Image:

123456789012345678901234567890123456789012345678901234567890123456 098765432109876543210987654321098765432109876543210987654321098765 123456789012345678901234567890123456789012345678901234567890123456 098765432109876543210987654321098765432109876543210987654321098765

#### Font for Typespace 1

The spacing between lines shall be 28 dots. Counting the inter-character gap of 2 dots, the characters are 14 dots wide. In calculating the number of characters that can be placed on an 832 dot line, the result is 52 characters.

#### Example command:

#### **Printed Image:**

| NOTES • | <br>····· |  |
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|         |           |  |

# Supported Specifications and Printers



This chapter lists the supported specifications and printers.

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## **Specifications Supported**

- UPOS specification supported: v1.11
- ActiveX supported
- .net framework supported: 1.1

## **Supported Printers**

| Printer Name           | Maximum<br>Print Width<br>(in mm) |
|------------------------|-----------------------------------|
| MZ 220                 | 48                                |
| MZ 320                 | 73                                |
| QL220 Plus             | 48                                |
| QL320 Plus             | 73                                |
| QL420 Plus             | 103                               |
| QLn220                 | 48                                |
| QLn320                 | 72                                |
| RW220                  | 56                                |
| RW420                  | 104                               |
| 105SL (203 dpi)        | 104                               |
| 105SL (300 dpi)        | 104                               |
| 110PAX4 (203 dpi)      | 104                               |
| 110PAX4 (300 dpi)      | 104                               |
| 110XiIIIPlus (203 dpi) | 104                               |
| 110XiIIIPlus (300 dpi) | 104                               |
| 110XiIIIPlus (600 dpi) | 81                                |
| 140XiIIIPlus           | 128                               |
| 170PAX4 (203 dpi)      | 168                               |
| 170PAX4 (300 dpi)      | 168                               |
| 170XiIIIPlus (203 dpi) | 168                               |
| 170XiIIIPlus (300 dpi) | 168                               |
| 220XiIIIPlus (203 dpi) | 216                               |
| 220XiIIIPlus (300 dpi) | 216                               |
| LP2824-Z               | 56                                |
| LP2824 Plus (ZPL)      | 56                                |
| LP2844-Z               | 101                               |
| S4M (203 DPI)          | 104                               |
| S4M (300 DPI)          | 104                               |

| Printer Name        | Maximum<br>Print Width<br>(in mm) |
|---------------------|-----------------------------------|
| TLP2824-Z (203 dpi) | 56                                |
| TLP2824 Plus (ZPL)  | 56                                |
| TLP2844-Z (203 dpi) | 104                               |
| TLP3844-Z (300 dpi) | 104                               |
| ZM400 (203 dpi)     | 104                               |
| ZM400 (300 dpi)     | 104                               |
| ZM400 (600 dpi)     | 81                                |
| ZM600 (203 dpi)     | 168                               |
| ZM600 (300 dpi)     | 168                               |
| GK420d              | 104                               |
| GK420t              | 104                               |
| GX420d              | 104                               |
| GX420t              | 104                               |
| KR403               | 82.5                              |

J.

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# Common Properties, Methods, and Events



This chapter provides the common and specific commands for properties, methods, and events.

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## **Summary of Common Properties**

| Name                      | Type/Access  | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|---------------------------|--------------|---------------------------------------|--|
| AutoDisable               | Boolean /R/W | No                                    | No                                     |
| CapCompareFirmwareVersion | Boolean /R   | No                                    | No                                     |
| BinaryConversion          | Long R/W     | Yes                                   | Yes                                    |
| CapPower Reporting        | Long /R      | Yes                                   | Yes                                    |
| CapStatisticsReporting    | Boolean /R   | No                                    | No                                     |
| CapUpdateFirmware         | Boolean /R   | No                                    | No                                     |
| CapUpdateStatistics       | Boolean /R   | No                                    | No                                     |
| CheckHealthTest           | String /R    | Yes                                   | Yes                                    |
| Claimed                   | Boolean /R   | Yes                                   | Yes                                    |
| DataCount                 | Long /R      | No                                    | No                                     |
| DataEventEnabled          | Boolean /R/W | No                                    | No                                     |
| DeviceEnabled             | Boolean /R/W | No                                    | No                                     |
| FreezeEvents              | Boolean /R/W | Yes                                   | Yes                                    |
| OpenResult                | Long /R      | Yes                                   | Yes                                    |
| OutputID                  | Long /R      | Yes                                   | Yes                                    |
| PowerNotify               | Long /R/W    | Yes                                   | Yes                                    |
| PowerState                | Long /R      | Yes                                   | Yes                                    |
| ResultCode                | Long /R      | Yes                                   | Yes                                    |
| ResultCodeExtended        | Long /R      | Yes                                   | Yes                                    |
| State                     | Long /R      | Yes                                   | Yes                                    |
| ControlObjectDescription  | String /R    | Yes                                   | Yes                                    |
| ControlObjectVersion      | Long /R      | Yes                                   | Yes                                    |
| Service ObjectDescription | String /R    | Yes                                   | Yes                                    |
| ServiceObjectVersion      | Long /R      | Yes                                   | Yes                                    |
| DeviceDescription         | String /R    | Yes                                   | Yes                                    |
| DeviceName                | String /R    | Yes                                   | Yes                                    |

#### Table 1 • Common Properties

## **Summary of Common Methods**

| Name                   | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|------------------------|---------------------------------------|--|
| Open                   | Yes                                   | Yes                                    |
| Close                  | Yes                                   | Yes                                    |
| Claim                  | Yes                                   | Yes                                    |
| ReleaseDevice          | Yes                                   | Yes                                    |
| CheckHealth            | Yes                                   | Yes                                    |
| ClearInput             | No                                    | No                                     |
| ClearInputProperties   | No                                    | No                                     |
| ClearOutput            | Yes                                   | Yes                                    |
| DirectIO               | Yes                                   | Yes                                    |
| CompareFirmwareVersion | No                                    | No                                     |
| ResetStatistics        | No                                    | No                                     |
| RetrieveStatistics     | No                                    | No                                     |
| UpdateFirmware         | No                                    | No                                     |
| UpdateStatistics       | No                                    | No                                     |

#### Table 2 • Common Methods

## **Summary of Common Events**

| Name                | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|---------------------|---------------------------------------|--|
| DataEvent           | No                                    | No                                     |
| DirectIOEvent       | Yes                                   | Yes                                    |
| ErrorEvent          | Yes                                   | Yes                                    |
| OutputCompleteEvent | Yes                                   | Yes                                    |
| StatusUpdateEvent   | Yes                                   | Yes                                    |

#### Table 3 • Common Events

## **Summary of Specific Properties**

| Name                  | Type/Access | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|-----------------------|-------------|---------------------------------------|--|
| CapConcurrentJrnRec   | Boolean /R  | No                                    | No                                     |
| CapConcurrentJrnSlp   | Boolean /R  | No                                    | No                                     |
| CapConcurrentRecSlp   | Boolean /R  | No                                    | No                                     |
| CapCoverSensor        | Boolean /R  | Yes                                   | Yes                                    |
| CapTransaction        | Boolean /R  | Yes                                   | Yes                                    |
| CapConcurrentPageMode | Boolean /R  | No                                    | No                                     |
| CapMapCharacterSet    | Boolean /R  | No                                    | No                                     |
| CapJrnPresent         | Boolean /R  | Yes                                   | Yes                                    |
| CapJrn2Color          | Boolean /R  | No                                    | No                                     |
| CapJrnBold            | Boolean /R  | Yes                                   | Yes                                    |
| CapJrnCartridgeSensor | Long /R     | Yes                                   | Yes                                    |
| CapJrnColor           | Long /R     | Yes                                   | Yes                                    |
| CapJrnDhigh           | Boolean /R  | Yes                                   | Yes                                    |
| CapJrnDwide           | Boolean /R  | Yes                                   | Yes                                    |
| CapJrnDwideDhigh      | Boolean /R  | Yes                                   | Yes                                    |
| CapJrnEmptySensor     | Boolean /R  | Yes                                   | Yes                                    |
| CapJrnItalic          | Boolean /R  | No                                    | No                                     |
| CapJrnNearEndSensor   | Boolean /R  | No                                    | No                                     |
| CapJrnUnderline       | Boolean /R  | Yes                                   | Yes                                    |
| CapRecPresent         | Boolean /R  | Yes                                   | Yes                                    |
| CapRec2Color          | Boolean /R  | No                                    | No                                     |
| CapRecBarCode         | Boolean /R  | Yes                                   | Yes                                    |
| CapRecBitmap          | Boolean /R  | Yes                                   | Yes                                    |
| CapRecBold            | Boolean /R  | Yes                                   | Yes                                    |
| CapRecCartridgeSensor | Long /R     | Yes                                   | Yes                                    |
| CapRecColor           | Long /R     | Yes                                   | Yes                                    |
| CapRecDhigh           | Boolean /R  | Yes                                   | Yes                                    |
| CapRecDwide           | Boolean /R  | Yes                                   | Yes                                    |
| CapRecDhighDwide      | Boolean /R  | Yes                                   | Yes                                    |
| CapRecEmptySensor     | Boolean /R  | Yes                                   | Yes                                    |
| CapRecItalic          | Boolean /R  | No                                    | No                                     |
| CapRecLeft90          | Boolean /R  | Yes                                   | Yes                                    |
| CapRecMarkFeed        | Long /R     | Yes                                   | Yes                                    |
| CapRecNearEndSensor   | Boolean /R  | No                                    | No                                     |

#### Table 4 • Specific Properties

| Name                  | Type/Access  | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|-----------------------|--------------|---------------------------------------|--|
| CapRecPapercut        | Boolean /R   | Yes                                   | Yes                                    |
| CapRecRight90         | Boolean /R   | Yes                                   | Yes                                    |
| CapRecRotate180       | Boolean /R   | Yes                                   | Yes                                    |
| CapRecStamp           | Boolean /R   | No                                    | No                                     |
| CapRecUnderline       | Boolean /R   | Yes                                   | Yes                                    |
| CapRecPageMode        | Boolean /R   | Yes                                   | Yes                                    |
| CapSlpPageMode        | Boolean /R   | No                                    | No                                     |
| CapSlpPresent         | Boolean /R   | No                                    | No                                     |
| CapSlpFullslip        | Boolean /R   | No                                    | No                                     |
| CapSlp2Color          | Boolean /R   | No                                    | No                                     |
| CapSlpBarCode         | Boolean /R   | No                                    | No                                     |
| CapSlpBitmap          | Boolean /R   | No                                    | No                                     |
| CapSlpBold            | Boolean /R   | No                                    | No                                     |
| CapSlpBothSidesPrint  | Boolean /R   | No                                    | No                                     |
| CapSlpCartridgeSensor | Long /R      | No                                    | No                                     |
| CapSlpColor           | Long /R      | No                                    | No                                     |
| CapSlpDhigh           | Boolean /R   | No                                    | No                                     |
| CapSlpDwide           | Boolean /R   | No                                    | No                                     |
| CapSlpDhighDwide      | Boolean /R   | No                                    | No                                     |
| CapSlpEmptySensor     | Boolean /R   | No                                    | No                                     |
| CapSlpItalic          | Boolean /R   | No                                    | No                                     |
| CapSlpLeft90          | Boolean /R   | No                                    | No                                     |
| CapSlpNearEndSensor   | Boolean /R   | No                                    | No                                     |
| CapSlpRight90         | Boolean /R   | No                                    | No                                     |
| CapSlpRotate180       | Boolean /R   | No                                    | No                                     |
| CapSlpUnderline       | Boolean /R   | No                                    | No                                     |
| AsyncMode             | Boolean /R/W | Yes                                   | Yes                                    |
| CartridgeNotify       | Long /R/W    | Yes                                   | Yes                                    |
| CharacterSet          | Long /R/W    | Yes                                   | Yes                                    |
| CharacterSetList      | String /R    | Yes                                   | Yes                                    |
| CoverOpen             | Boolean /R   | No                                    | No                                     |
| ErrorLevel            | Long /R      | Yes                                   | Yes                                    |
| ErrorStation          | Long /R      | Yes                                   | Yes                                    |
| ErrorString           | String /R    | Yes                                   | Yes                                    |
| FontTypefaceList      | String /R    | Yes                                   | Yes                                    |
| FlagWhenIdle          | Boolean /R/W | No                                    | No                                     |
| MapCharacterSet       | Boolean /R/W | No                                    | No                                     |

| Name                       | Type/Access  | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|----------------------------|--------------|---------------------------------------|--|
| MapMode                    | Long /R/W    | Yes                                   | Yes                                    |
| PageModeArea               | String /R/W  | Yes                                   | Yes                                    |
| PageModeDescriptor         | Int32 R/W    | Yes                                   | Yes                                    |
| PageModeHorizontalPosition | Int32 R/W    | Yes                                   | Yes                                    |
| PageModePrintArea          | String /R/W  | Yes                                   | Yes                                    |
| PageModePrintDirection     | Int32 R/W    | Yes                                   | Yes                                    |
| PageModeStation            | Int32 R/W    | Yes                                   | Yes                                    |
| PageModeVerticalPosition   | Int32 R/W    | Yes                                   | Yes                                    |
| RotateSpecial              | Long /R/W    | Yes                                   | Yes                                    |
| JrnLineChars               | Long /R/W    | Yes                                   | Yes                                    |
| JrnLineCharsList           | String /R    | Yes                                   | Yes                                    |
| JrnLineHeight              | Long /R/W    | Yes                                   | Yes                                    |
| JrnLineSpacing             | Long /R/W    | Yes                                   | Yes                                    |
| JrnLineWidth               | Long /R      | Yes                                   | Yes                                    |
| JrnLetterQuality           | Boolean /R/W | Yes                                   | Yes                                    |
| JrnEmpty                   | Boolean /R   | Yes                                   | Yes                                    |
| JrnNearEnd                 | Boolean /R   | Yes                                   | Yes                                    |
| JrnCartridgeState          | Long /R      | Yes                                   | Yes                                    |
| JrnCurrentCartridge        | Long /R/W    | Yes                                   | Yes                                    |
| RecLineChars               | Long /R/W    | Yes                                   | Yes                                    |
| RecLineCharsList           | String /R    | Yes                                   | Yes                                    |
| RecLineHeight              | Long /R/W    | Yes                                   | Yes                                    |
| RecLineSpacing             | Long /R/W    | Yes                                   | Yes                                    |
| RecLineWidth               | Long /R      | Yes                                   | Yes                                    |
| RecLetterQuality           | Boolean /R/W | Yes                                   | Yes                                    |
| RecEmpty                   | Boolean /R   | No                                    | No                                     |
| RecNearEnd                 | Boolean /R   | No                                    | No                                     |
| RecSidewaysMaxLines        | Long /R      | Yes                                   | Yes                                    |
| RecSidewaysMaxChars        | Long /R      | Yes                                   | Yes                                    |
| RecLinesToPaperCut         | Long /R      | Yes                                   | Yes                                    |
| RecBarCodeRotationList     | String /R    | Yes                                   | Yes                                    |
| RecBitmapRotationList      | String /R    | No                                    | No                                     |
| RecCartridgeState          | Long /R      | Yes                                   | Yes                                    |
| RecCurrentCartridge        | Long /R/W    | Yes                                   | Yes                                    |
| SlpLineChars               | Long /R/W    | No                                    | No                                     |
| SlpLineCharsList           | String /R    | No                                    | No                                     |
| SlpLineHeight              | Long /R/W    | No                                    | No                                     |

| Name                   | Type/Access  | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|------------------------|--------------|---------------------------------------|--|
| SlpLineSpacing         | Long /R/W    | No                                    | No                                     |
| SlpLineWidth           | Long /R      | No                                    | No                                     |
| SlpLetterQuality       | Boolean /R/W | No                                    | No                                     |
| SlpEmpty               | Boolean /R   | No                                    | No                                     |
| SlpNearEnd             | Boolean /R   | No                                    | No                                     |
| SlpSidewaysMaxLines    | Long /R      | No                                    | No                                     |
| SlpSidewaysMaxChars    | Long /R      | No                                    | No                                     |
| SlpMaxLines            | Long /R      | No                                    | No                                     |
| SlpLinesNearEndToEnd   | Long /R      | No                                    | No                                     |
| SlpBarCodeRotationList | String /R    | No                                    | No                                     |
| SlpBitmapRotationList  | String /R    | No                                    | No                                     |
| SlpPrintSide           | Long /R      | No                                    | No                                     |
| SlpCartridgeState      | Long /R      | No                                    | No                                     |
| SlpCurrentCartridge    | Long /R/W    | No                                    | No                                     |

## **Summary of Specific Methods**

| Name              | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|-------------------|---------------------------------------|--|
| PrintNormal       | Yes                                   | Yes                                    |
| PrintTwoNormal    | No                                    | No                                     |
| PrintImmediate    | Yes                                   | Yes                                    |
| PrintMemoryBitmap | Yes                                   | Yes                                    |
| BeginInsertion    | No                                    | No                                     |
| EndInsertion      | No                                    | No                                     |
| BeginRemoval      | No                                    | No                                     |
| ClearPrintArea    | Yes                                   | Yes                                    |
| EndRemoval        | No                                    | No                                     |
| CutPaper          | Yes                                   | Yes                                    |
| RotatePrint       | Yes                                   | Yes                                    |
| PrintBarCode      | Yes                                   | Yes                                    |
| PrintBitmap       | Yes                                   | Yes                                    |
| TransactionPrint  | Yes                                   | Yes                                    |
| ValidateData      | Yes                                   | Yes                                    |
| SetBitmap         | Yes                                   | Yes                                    |
| SetLogo           | Yes                                   | Yes                                    |
| ChangePrintSide   | No                                    | No                                     |
| MarkFeed          | Yes                                   | Yes                                    |
| PageModePrint     | Yes                                   | Yes                                    |

#### Table 5 • Specific Methods

## **Summary of Events**

| Name                | May Use After        | Supported for<br>Zebra ZPL<br>Printer | Supported for<br>Zebra CPCL<br>Printer |
|---------------------|----------------------|---------------------------------------|--|
| DataEvent           | Not Supported        | No                                    | No                                     |
| DirectIOEvent       | Open, Claim & Enable | Yes                                   | Yes                                    |
| ErrorEvent          | Open, Claim & Enable | Yes                                   | Yes                                    |
| OutputCompleteEvent | Open, Claim & Enable | Yes                                   | Yes                                    |
| StatusUpdateEvent   | Open, Claim & Enable | Yes                                   | Yes                                    |

#### Table 6 • Events



This chapter provides information about the Device Manager and its uses.

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## **Using the Device Manager**

Use the Zebra OPOS Device Manager v1.0 to add a printer. First, make a cable or wireless connection to a supported printer with one of the following:

- Bluetooth
- IP/WiFi
- Parallel
- Serial
- USB

#### To connect to a supported printer, perform the following steps:

**1.** To run the Device Manager from the "Start" button on the PC, go to All Programs/Zebra Technologies/Zebra OPOS Device Manager.



**2.** When the program displays, click on the "Add" icon. The General tab is used to add a printer by selecting the printer model using the drop-down menu.

A logical device name for the printer must be defined, as this name will be used by the OPOS application.

| WW Zebra OPOS Device Manager 1.0 |  |
|----------------------------------|--|
| Add Delete Font About            |  |
| CPCL                             | General       Communication Interfaces       Configuration Settings         Add Zebra OPOS Printer Information |
|                                  |  |
|                                  | Update Cancel  |

**3.** Once these steps are complete click on Next.

The Communication Interfaces dialog will display.

- **4.** On this screen, select the port type by using the drop-down menu.
- **5.** Choose the interface to which the printer is connected.
- **6.** Click on Search and the printer model should populate the area under Available Printer(s).

| <ul> <li>Zebra OPOS Device Manager 1.</li> <li>X Aa ?</li> </ul> |  |               |
|--|--|---------------|
| Add Delete Font About  | General     Communication Interfaces     Configuration Settings       Port Type     USB       Bluetooth     Bluetooth       P/WiFi     Parallel       Serial     ZM400 203 dpi (ZPL) 1 | h             |
|  | Current node is ZM400  | Previous Next |
|  |  | Update Cancel |

## **Connecting Using Bluetooth**

With Bluetooth as a Port Type, you will need to make a serial cable connection and define the Bluetooth Configuration parameters to match the Bluetooth device.

| VIII Zebra OPOS Device Manager 1.0 |                                  |                        |        |
|------------------------------------|----------------------------------|------------------------|--------|
| Add Delete Font About              |                                  |                        |        |
| Zebra OPOS Printer                 | General Communication Interfaces | Configuration Settings |        |
| E 2PL<br>2M400                     | Port Type                        | Bluetooth              |        |
|                                    | Bluetooth Configuration          |                        |        |
|                                    | Port Name                        | COM3                   |        |
|                                    | Bits Per Second                  | 19200                  |        |
|                                    | Data Bits                        | 8                      |        |
|                                    | Stop Bits                        | 1                      |        |
|                                    | Parity                           | None                   |        |
|                                    | Flow Control                     | Xon / Xoff 🗨           |        |
|                                    |                                  |                        |        |
|                                    | Current node is ZM400            | Previous               | Vext   |
|                                    |                                  | Update                 | Cancel |

**Example** • Bluetooth configuration

## **Connecting Using an IP Address**

┢

With IP/WiFi as a Port Type, manually enter the IP Address of the device or click on the Search button. A search for devices that have the same subnet as the PC running the Device Manager will start and then populate the drop-down menu.

**Example** • IP address configuration

| WW Zebra OPOS Device Manager 1.0 |  |               |
|----------------------------------|--|---------------|
| Add Delete Font About            |  |               |
| E OVS Zebra OPOS Printer         | General Communication Interfaces Configuration | n Settings    |
| ZPL ZM400                        | Port Type IP/WiFi                              | •             |
|                                  | IP/WiFi Configuration                          |               |
|                                  | IP Address 105.95.65                           | 41 Search     |
|                                  | Port Number 9100                               |               |
|                                  | DNS Name                                       |               |
|                                  | ,  |               |
|                                  |  |               |
|                                  |  |               |
|                                  |  |               |
|                                  |  |               |
|                                  | Current node is ZM400                          | Previous Next |
| 1                                |  |               |
|                                  |  | Update Cancel |

## **Connecting Using a Parallel Cable**

A parallel cable can be used to connect to the printer. Configure Port Type to Parallel.

| - OPOS Zebra OPOS Printer | General Communication Interfaces Configuration Set | tings           |
|---------------------------|--|-----------------|
| ☐ ⑦ ZPL ZM400             | Port Type Parallel                                 | -  <br>-        |
| CPCL                      | Parallel Configuration                             |                 |
|                           | Port Name LPT1                                     | •               |
|                           | Output Buffer Size 4096                            |                 |
|                           |  |                 |
|                           |  |                 |
|                           |  |                 |
|                           |  |                 |
|                           |  |                 |
|                           |  | Descious   Next |

**Example** • Parallel cable configuration

## **Connecting Using a Serial Cable**

•

A serial cable can be used to connect to the printer. Configure Port Type to Serial, then configure Port Name, Bits Per Second, Data Bits, Stop Bits, Parity and Flow Control to match the settings on the printer.

| w Zebra OPOS Device Manager 1.0 |                                  |                        |               |
|---------------------------------|----------------------------------|------------------------|---------------|
| Add Delete Font About           |                                  |                        |               |
| Zebra OPOS Printer              | General Communication Interfaces | Configuration Settings |               |
| ZM400                           | Port Type                        | Serial                 | •             |
|                                 | Serial Configuration             |                        |               |
|                                 | Port Name                        | СОМЗ                   | •             |
|                                 | Bits Per Second                  | 19200                  | •             |
|                                 | Data Bits                        | 8                      | •             |
|                                 | Stop Bits                        | 1                      | •             |
|                                 | Parity                           | None                   | •             |
|                                 | Flow Control                     | Xon / Xoff             | -             |
|                                 |                                  |                        |               |
|                                 | Current node is ZM400            |                        | Previous Next |
|                                 |                                  |                        | Update Cancel |

**Example** • Serial cable configuration

## **Connecting Using a USB Cable**

- **1.** When using a USB cable, make the cable connection first.
- **2.** Then, click on Search button.

This will populate the Available Printer(s) area with found printers.

#### **Example** • USB cable configuration

| Zebra OPOS Device Manager 1.0 |   |               |
|-------------------------------|---|---------------|
| Add Delete Font About         |   |               |
| E Cres Zebra OPOS Printer     | General Communication Interfaces Configuration Settings |               |
| ZPL<br>ZM400<br>CPCL          | Port Type USB   | •             |
|                               | USB Configuration<br>Available Printer(s)               |               |
|                               | ZM400 203 dpi (ZPL) 1                                   | Search        |
|                               |   |               |
|                               | Current node is ZM400                                   | Previous Next |
|                               |   | Update Cancel |

- **3.** Click on the printer.
- 4. Click Next.

The Configurations Settings tab will display.

## **Configuration Settings**

## **Adding a Printer**

**1.** On the Configurations Settings tab, select the settings that will be used for the printer.

| Zebra OPOS Device Manager 1.0 |   |
|-------------------------------|---|
| CPCL                          | General       Communication Interfaces       Configuration Settings         Modify Configuration Settings Information       Image: Configuration Settings         Media Type       Thermal Transfer       Image: Configuration Settings         Tracking Mode       Non Continuous       Image: Configuration Settings         Operation Mode       Tear Off       Image: Configuration Settings         Units       Inches       Print Speed       2 inches/sec         Label Width       4       inches       Darkness       Image: Configuration Settings         Label Height       6       inches       Polling Interval 60 image: Sec(s)       Sec(s)         Label Home (Left)       0.05       inches       Sec(s)         Label Home (Top)       0       inches       Sec(s)         Current node is ZM400       Previous       Next |
| '                             | Update Cancel   |

**2.** Once complete, click on the Update button.

**3.** A message will appear asking if you are sure you want to add the printer, click Yes.

| Zebra OPOS Device Manager 1.0 |  |                    |
|-------------------------------|--|--------------------|
| Add Delete Font About         |  |                    |
| CPCL                          | General       Communication Interfaces       Configuration         Add Configuration Settings Information       Media Type       Direct Thermal         Tracking Mode       Non Continuous       Operation Mode       Tear Off         Units       Inches       Inches       Inches       Inches         Label Width       4       Label Height       6       Inches       Inches | iguration Settings |
|                               |  | Apply Cancel       |
|                               | Zebra OPOS Device Manager 1.0         Image: Are you sure you want to add 'Zeb         Yes       No  | ra333' ?           |

The printer will be added under the ZPL directory.

| WW Zebra OPOS Device Manager 1.0    |  |        |
|-------------------------------------|--|--------|
| Add Delete Font About               |  |        |
| CPCL                                | General       Communication Interfaces       Configuration Settings         Modify Zebra OPOS Printer Information       Printer Model       ZM400 203 dpi (ZPL)         Printer Model       ZM400 203 dpi (ZPL)       Image: Configuration Settings         Logical Device Name       Zebra333 | Next   |
| Zebra OPOS Printer 'Zebra333' added | Update   | Cancel |

## Adding a KR403 Kiosk Printer

- **1.** Open the Device Manager application, select ZPL under Zebra OPOS Printer. Click the Add Button.
- **2.** Select KR403 from the Printer Model drop-down menu and type in the logical device name.

| W Zebra OPOS Device Manager 1.0 |   |
|---------------------------------|---|
| Add Delete Font About           |   |
| CPCL                            | General       Communication Interfaces       Configuration Settings       Kiosk Printer Settings         Add Zebra OPOS Printer Information       Printer Model       KR403       •         Logical Device Name       KR       •       •         Logical Device Name       KR       •       •         Previous       Next       •       • |
| ,                               | Apply Cancel  |

- 3. Click Next.
- **4.** In the Communication Interfaces tab, select the Port Type and then click the Next button.

| WW Zebra OPOS Device Manager 1.0 |   |                        |
|----------------------------------|---|------------------------|
| Add Delete Font About            |   |                        |
| E CON Zebra OPOS Printer         | General Communication Interfaces Configuration Settings | Kiosk Printer Settings |
|                                  | Port Type USB   | •                      |
|                                  | USB Configuration                                       |                        |
|                                  | Available Printer(s)                                    |                        |
|                                  |   | Search                 |
|                                  | Current node is ZPL                                     | Previous Next          |
| ·                                |   | Apply Cancel           |

**5.** In the Configuration Settings tab, select the settings such as Media Type, Tracking Mode, etc. Check the Enable Audit Log box to enable event logging.

| WWW Zebra OPOS Device Manager 1.0 |  |
|-----------------------------------|--|
| Add Delete Font About             |  |
| E 0005 Zebra OPOS Printer         | General Communication Interfaces Configuration Settings Kiosk Printer Settings |
|                                   | Add Configuration Settings Information   |
| _                                 | Media Type Direct Themal 🔽 🔽 Enable Audit Log                                  |
|                                   | Tracking Mode Non Continuous Mark Sensing                                      |
|                                   | Printer has cutter   |
|                                   | Kiosk  |
|                                   | Units Mm   Print Speed 6 inches/sec  |
|                                   | Label Width 82.5 mm Darkness 20  |
|                                   | Label Height 0 mm Polling Interval 60 sec(s)                                   |
|                                   | Label Home (Left)  |
|                                   | Label Home (Top) 0 mm  |
|                                   | Current node is ZPL Previous Next  |
|                                   | Apply Cancel   |

6. Click the Next button and configure the Kiosk Printer Settings.

For a detailed explanation of the Kiosk Printer Settings, see *Kiosk Printer Settings* on page 53.

| Add Delete Font About     |   |                          |
|---------------------------|---|--------------------------|
| E OPOS Zebra OPOS Printer | General Communication Interfaces Configuration Setting  | s Kiosk Printer Settings |
| CPCL                      | Kiosk Properties         New Page         © Eject Upon New Page         Current Page         © Retract upon Timeout         Retract Timeout         © Clear Presenter | w Page C Do Nothing      |
|                           | Kiosk Values<br>Uncut Amount<br>Cut Margin  | 0 mm<br>9 mm             |
|                           | Presenter Loop Length<br>Present Length<br>Kiosk Wall Compensation  | 400 mm<br>0 mm<br>0 mm   |
|                           | Current node is ZPL   | Previous                 |

**7.** Click the Apply button.

**8.** Click Yes to add the printer.

The KR403 should now be listed in the Device Manager.

| <ul> <li>Eject Upon New Page</li> <li>Retract Upon</li> </ul>                        | on New Page C Do Nothing   |
|--|--|
| Current Page<br>© Retract upon Timeout Retract Time<br>Zebra OPOS Device Manager 1.0 | out 0 sec(s)   |
| Are you sure you want to add 'KR' ?  | 0 mm<br>9 mm   |
| Present Length<br>Kiosk Wall Compensation  | 0 mm   |
|  | Current Page<br>© Retract upon Timeout Retract Time<br>Zebra OPOS Device Manager 1.0<br>Are you sure you want to add 'KR' ?<br><u>Yes</u> <u>No</u><br>Present Length<br>Kiosk Wall Compensation |

## **Output Logging**

The Driver can log its printer command output for troubleshooting purposes. By default, this option is not turned on to keep the logs from consuming disk space. In the event that the Output Logs are needed, the feature can be activated from within the Device Manager.

#### To turn on Output Logging, perform the following:

- 1. Run the Device Manager and select the printer to be monitored.
- **2.** Click on the Configuration Settings tab and check Enable Audit Log.

| WWW Zebra OPOS Device Manager 1.0 |  |                                   |
|-----------------------------------|--|-----------------------------------|
| Add Delete Font About             |  |                                   |
| Zebra 333                         | General Communication Interfaces Configuration         | Settings                          |
| CPCL                              | Media Type Direct Thermal Tracking Mode Non Continuous | Enable Audit Log     Mirror Image |
|                                   | Operation Mode Tear Off                                | Printer has cutter                |
|                                   | Label Width 4 inches                                   | Darkness 0                        |
|                                   | Label Height 6 inches<br>Label Home (Left) 0.05 inches | Polling Interval 60 ÷ sec(s)      |
|                                   | Label Home (Top)                                       |                                   |
|                                   | Current node is Zebra333                               | Previous Next                     |
|                                   |  | Update Cancel                     |

The logs can be found at C:\Program Files\Zebra Technologies\ZebraOPOS\LOGS.

There are two logs:

- ZebraPOS\_Audit.txt contains a running log of the OPOS commands used and the resulting driver output.
- ZebraPOS\_Status\_Audit.txt contains a running log of when status queries were sent.

#### To turn off the logging, perform the following:

1. Uncheck the Enable Audit Log box in the Device Manager.



**Note** • If logging is turned off or on while a printer is in the "Claimed" state, the setting change will not take effect until the printer has been "Released".

## **Additional Font Handling**

In order to provide customers with the ability to add fonts to the printer and then use those in the OPOS driver, the Device Manager UI has the following functionality.



**Note** • Zebra offers two pre-converted fonts for use with ZPL-based printers. These are a monospaced font called "Mono1" and a scalable font called "Swiss721". Please contact your Zebra Reseller to obtain these fonts.

**Note** • Zebra offers a pre-converted fonts for use with CPCL-based printers. This is a monospaced font called "Mono1". Please contact your Zebra Reseller to obtain this font. As a convenience, "Mono1" is predefined as an Additional Font for the CPCL printer models.

## Adding a New Font in Device Manager

The following example demonstrates how to add the "Swiss721" font to a ZPL printer.

- **1.** Open the Device Manager Application and click the Font button.
- **2.** Right-click ZPL and click Add Font.

Fonts D, F and A will be listed under ZPL.

| VIII Zebra OPOS Device Manager 1.0 |                           |     |          |
|------------------------------------|---------------------------|-----|----------|
| Add Delete Printer About           |                           |     |          |
| E Font Type Face                   | Printer Font Information  |     |          |
|                                    | Printer Model             | ZPL | 7        |
|                                    | Character Set Number      |     | <b>T</b> |
|                                    | Font TypeFace (Font Name) |     |          |
| 7,0                                | Font Size                 |     |          |
| Mono1,0                            | Font Height               |     | dots     |
|                                    | Font Width                |     | dots     |
|                                    | Line Height               |     | dots     |
|                                    | Inter Character Gap       |     | dots     |
|                                    | Total Character Width     |     | dots     |
|                                    | Right To Left             | No  |          |
|                                    |                           | Sav | re Reset |
|                                    |                           |     |          |
|                                    |                           |     |          |

**3.** Select Character Set drop-down menu, verify selectable character sets (100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 113, 128, 129, 130) and select the character sets by clicking the corresponding boxes.

|                                  | Printer Font Information  |   |                                    |
|----------------------------------|---------------------------|---|------------------------------------|
| Font Type Face                   | Printer Model             | ZPL   | -                                  |
| D                                | Character Set Number      | 100 101 102 103 1   | 04 105 106 107 -                   |
|                                  | Font TypeFace (Font Name) | ▼ 100 ▼ 10<br>▼ 101 ▼ 10  | 05 <b>⊻</b> 110<br>06 <b>⊻</b> 113 |
| 7,0                              | Font Size                 | <ul> <li>✓ 102</li> <li>✓ 102</li> <li>✓ 103</li> <li>✓ 103</li> <li>✓ 103</li> </ul> | 07                                 |
| <b>1</b> 0,3<br><b>1</b> Mono1,0 | Font Height               | ✓ 104 ✓ 10  | 09 <b>v</b> 130<br>dots            |
|                                  | Font Width                |   | dots                               |
|                                  | Line Height               |   | dots                               |
|                                  | Inter Character Gap       |   | dots                               |
|                                  | Total Character Width     |   | dots                               |
|                                  | Right To Left             | No  | -                                  |
|                                  |                           |   |                                    |

- **4.** Enter Font Name, Font Height, and Width (in dots). If adding "Swiss721", use the name "TT0003M\_". If adding the "Mono1" font, use the name "Mono1".
- **5.** Enter Line Height, Inter Character Gap (in dots), Total Character Width, and select "Yes" or "No" to identify if your Font supports "Right to Left".

**6.** Click the Save button to save the Font.

(The user will be presented with a dialog box to confirm the adding of the font.)

| Add Delete Printer About     | Printer Font Information                   |                |                     |
|------------------------------|--|----------------|---------------------|
| E ZPL                        | Printer Model                              | ZPL            | •                   |
|                              | Character Set Number                       | 100,101,102,10 | 3,104,105,106,107 💌 |
| A                            | Font TypeFace (Font Name)                  | TT0003M_       |                     |
| B CPCL                       | Font Size                                  |                |                     |
| <b>3</b> 7,0<br><b>3</b> 0,3 | Font Height                                | 18             | dots                |
| Mono1.0                      | Manager 1.0                                | 10             | dots                |
|                              |  | 24             | dots                |
| Are you sure                 | you want to add Font TypeFace 'TT0003M_' ? | 2              | dots                |
|                              | Yes No                                     | 12             | dots                |
|                              | Right To Left                              | No             | -                   |
|                              |  |                | Save Reset          |

**7.** The new font should now be listed.

| WW Zebra OPOS Device Manager 1.0 |                           |                                   |
|----------------------------------|---------------------------|-----------------------------------|
| Add Delete Printer About         |                           |                                   |
| E-999 Font Type Face             | Printer Font Information  |                                   |
| E ZPL                            | Printer Model             | ZPL                               |
|                                  | Character Set Number      | 100,101,102,103,104,105,106,107 💌 |
| A<br>Swiss721                    | Font TypeFace (Font Name) | TT0003M_                          |
|                                  | Font Size                 |                                   |
| 7.0                              | Font Height               | 18 dots                           |
| 0,3                              | Font Width                | 10 dots                           |
|                                  | Line Height               | 24 dots                           |
|                                  | Inter Character Gap       | 2 dots                            |
|                                  | Total Character Width     | 12 dots                           |
|                                  | Right To Left             | No                                |
|                                  |                           | Update Reset                      |
|                                  |                           |                                   |
|                                  |                           |                                   |



**Note** • When using One Shot ESC commands, the index entry for the font will be assigned by the Device Manager to the next available font slot.

**Note** • 0, 1, 2 are built-in ZPL fonts and any new font will be assigned a following number, e.g., 3 for "Mono1" if it was loaded before "TT0003M\_" and 4 for "TT0003M\_" if this font was loaded after "Mono1".

## **Assigning Multiple Fonts**

1. In order to assign multiple fonts, repeat the steps in *Adding a New Font in Device Manager* on page 45 for every font you want to add.

## **Deleting a Font**

**1.** To delete a font from the list, simply right-click the Font you wish to delete and select "Delete Font".

(The user will be presented with a dialog box to confirm the deletion of the font.)

| 🚧 Zebra OPOS Device Manager 1.0                               |                           |                         |             |
|---|---------------------------|-------------------------|-------------|
| Add Delete Printer About                                      |                           |                         |             |
| - 90% Font Type Face  | Printer Font Information  |                         |             |
| D ZPL   | Printer Model             | ZPL                     | <b>~</b>    |
| F   | Character Set Number      | 100,101,102,103,104,105 | .106,107, 💌 |
| A<br>TT0003N<br>Delete Font<br>CPCL<br>CPCL<br>0,3<br>Mono1,0 | Font TypeFace (Font Name) | TT0003M                 |             |
|   | Font Size                 |                         |             |
|   | Font Height               | 18                      | dots        |
|   | Font Width                | 10                      | dots        |
|   | Line Height               | 24                      | dots        |
|   | Inter Character Gap       | 2                       | dots        |
|   | Total Character Width     | 12                      | dots        |
|   | Right To Left             | Yes                     |             |
|   |                           | Upo                     | late Reset  |
|   |                           |                         |             |
|   |                           |                         |             |

## **Programming Tips For Using Additional ZPL Fonts**

In order to print in other languages, it is necessary to load a new font Swiss721 into the printer and control it within the OPOS driver. See *Adding a New Font in Device Manager* on page 45 for more specific information.

An OPOS application developer has to select the proper font encoding by selecting the new codepage as described in the font definition.

In order to enable locale setting, we can check the currently selected language support in the OS and select the OPOS CharacterSet value according to the following selection:

| Zebra ^CI Values  | OPOS<br>CharacterSet<br>Value |
|---|-------------------------------|
| 0 = Single Byte Encoding - U.S.A. 1 Character Set                       | 100                           |
| 1 = Single Byte Encoding - U.S.A. 2 Character Set                       | 101                           |
| 2 = Single Byte Encoding - U.K. Character Set                           | 102                           |
| 3 = Single Byte Encoding - Holland Character Set                        | 103                           |
| 4 = Single Byte Encoding - Denmark/Norway Character Set                 | 104                           |
| 5 = Single Byte Encoding - Sweden/Finland Character Set                 | 105                           |
| 6 = Single Byte Encoding - Germany Character Set                        | 106                           |
| 7 = Single Byte Encoding - France 1 Character Set                       | 107                           |
| 8 = Single Byte Encoding - France 2 Character Set                       | 108                           |
| 9 = Single Byte Encoding - Italy Character Set                          | 109                           |
| 10 = Single Byte Encoding - Spain                                       | 110                           |
| 13 = Zebra Code Page 850  | 113 (default)                 |
| 28 = Unicode (UTF-8 encoding) - Unicode Character Set                   | 128                           |
| 29 = Unicode (UTF-16 Big-Endian encoding) - Unicode<br>Character Set    | 129                           |
| 30 = Unicode (UTF-16 Little-Endian encoding) - Unicode<br>Character Set | 130                           |



**Note** • If printing with a new font and character set shall occur, perform the steps in the next procedure shown on page 51.

#### If using Swiss721 font (with font index 3), perform the steps below.

**1.** Send the ESC|3fT. With the first use, the CharacterSetNumber value (128,129,130) (assigned to the Swiss721 font) will be appended to the default CharacterSetList property (100,101,102,103,104,105,106,107,108,109,110,113).

This will throw an exception as "Selected Font doesn't support character set". You will need to add the appropriate character set number within 128,129,130.

**2.** Assign the CharacterSetNumber within the CharacterSetNumber value (128,129,130) selected for Swiss721.

Now, the Service Object will change the CharacterSetNumber to the specified number and use it for future printing.

## **Use of OPOS Character Properties**

The **CharacterSetList** property will display all of the ASCII numeric set numbers associated with the currently loaded fonts. The default is:

"100,101,102,103,104,105,106,107,108,109,110,113".

If a new font is added, the new character set values will be added to the **CharacterSetList** so an application can choose the new values for the respective fonts.

The CharacterSet property will initialize with 113 on "open".

The CapMapCharacterSet property will be initialized with FALSE on "open".

**Note** • The above setting has the effect that the **MapCharacterSet** property will also always show FALSE regardless of what the user sets it to. If **MapCharacterSet** is set to TRUE, an error **E\_ILLEGAL** will be thrown.

The **CapCharacterSet** property will initialize with **DISP\_CCS\_ASCII** on "open". This property will change with a different selection of the CharacterSet property.

| CapCharacterSet  | CharacterSet |
|------------------|--------------|
| DISP_CCS_ASCII   | 100-110, 113 |
| DISP_CCS_UNICODE | 128,129,130  |

**Note • Error handling** - If a specific character set value is selected with the CharacterSet property and a font is selected that cannot support the character set, an error E\_ILLEGAL will be thrown.



**Note • OPOS Properties** - The driver does not support font mapping. The application is responsible for this task. **CapMapCharacterSet** is always FALSE, which will also cause MapCharacterSet to always be FALSE. If **MapCharacterSet** is set to TRUE, an error E\_ILLEGAL will be thrown.

## **KR403 Specific User Interface**

## **Kiosk Printer Settings**

The Kiosk Printer Settings tab will appear only after adding KR403 as a Printer Model under the General tab. The following information will assist configuring Kiosk properties.

| Zebra OPOS Device Manager 1.0 |  |
|-------------------------------|--|
| Add Delete Font About         |  |
|                               | Kiosk Properties         New Page         © Eject Upon New Page         © Retract Upon New Page         © Retract upon Timeout         Retract Timeout         © Clear Presenter         Kiosk Values         Uncut Amount         © Ut Margin         Presenter Loop Length         Kiosk Wall Compensation         © Current node is ZPL |
|                               | Apply Cancel   |

### **Kiosk Properties**

#### **New Page:**

There are three settings which you may select when a new page is printed:

- Eject Upon New Page
- Retract Upon New Page
- Do Nothing

These settings instruct the printer to change the presenter function mode.

**Eject Upon New Page** – Ejects the current page while the new page is printed.

**Retract Upon New Page** – Retracts current page while the new page is printed.

**Do Nothing** – The current page still remains in the printer neither ejects nor retracts.

#### Current Page:

**Retract upon Timeout** – If a label is not taken, you can define a timeout value when expired will retract the current page. Retract timeout can be defined from 0 - 300 seconds.

**Clear Presenter** – Will eject the current page before printing a new page.

#### **Kiosk Values:**

**Uncut Amount** – When a partial cut is made by the printer, the media left uncut can be defined from 10 to 60mm.

**Cut Margin** – This setting determines the margin between the cutter and the printhead. It is defined from 2 to 9mm. The default is 9mm.

**Presenter Loop Length** – Determines the length of the presenter loop. It is defined from 3 to 1023mm. The default gives a loop of approximately 400mm.

With this feature, we build a loop with the imaged receipt and keep the printout in the printer to prevent the kiosk user from taking the receipt while it is still being imaged. When the full receipt is imaged, we cut the receipt and present a portion of the receipt to the user for them to take. This reduces jamming and print image distortion of the receipt.

**Present Length** – Determines the amount of media to eject the page through the presenter module.

When the customer takes the receipt, the printer detects a movement and issues the rest of the receipt at 300 mm/s to help ensure receipt is removed undamaged. Value range from 0 to 255mm.

**Kiosk Wall Compensation** – By default, the printer will eject the paper 50 mm during a present cycle. The kiosk wall compensation setting allows the user to increase the distance that media is ejected during a present cycle. The additional distance can range from 0 to 255 mm.

## Details for Variable Continuous Mode vs. Continuous Mode

The KR403 printer supports two continuous modes. The "variable continuous mode" is different from the "continuous mode". Variable continuous mode allows the printer to print pages without length limitation.



Note • The minimum presenter length of 70 mm always applies.

- Variable continuous mode will print on continuous paper without page boundaries until a cut command is issued.
- Continuous mode requires a defined page length and will print a page that adheres to that set page length.

#### **Continuous Mode**

#### Example • Continuous Mode:

- You have a set label width
- You have a set label height (minimum length is 70 mm)
- You have a Label Home (left and top)

You print content that is not filling the page and you receive a cut command. The printer shall feed to the end of the page and cut there.



#### Variable Continuous Mode 1

#### Example • Variable Continuous Mode 1:

- You have a set label width
- You have a minimum label height of 70 mm
- You have a Label Home (left and top)

You print content that is not filling the page and you receive a cut command. The printer shall feed to the end of the page and cut there.



In this example, the minimum label length is not exceeded and is not different from Continuous mode.

#### Variable Continuous Mode 2

#### Example • Variable Continuous Mode 2:

- You have a set label width
- You have a minimum label height of 70 mm
- You have a Label Home (left and top)

You print content that is exceeding the minimum page and you receive a cut command. The printer shall not feed to the end of the page and cut right after the last print.

| This is a test<br>This is a test | PrintNormal(This is a test)<br>PrintNormal(This is a test)<br>PrintNormal(This is a test)<br>PrintNormal(This is a test)<br>PrintNormal(This is a test) |
|--|---|
| This is a test<br>This is a test   | Printivormal(This is a test)<br>PrintNormal(This is a test)   |
|  | insert a cut and cut here   |
|  |   |
|  |   |

In this example, only the minimum page length is honored and after the minimum length is exceeded the printer can cut at any location after the last print statement.

#### Implementation

To begin printing in variable continuous mode, we need to issue PrintNormal statements until the minimum page length is exceeded and the cut command is received.

This means we have to establish a hybrid. Using page mode and continuous mode, you will set up a requirement to cut at any location (other the end of the page), once the minimum page length is exceeded.

| 1 |  |
|---|--|
|   |  |
| ļ |  |

**Note** • This requirement is introduced due to a change in the original firmware behavior to the new minimum page length requirement.



Note • Variable mode is the default mode for the KR403.

When using variable mode, you need to also set a minimum page length in order to accomplish the desired effect. In this mode, the printer is feeding paper without length limitation (besides the minimum presenter length).

**J** 

| NOTES • | <br> | <br> |
|---------|------|------|
|         |      |      |
|         |      | <br> |
|         |      |      |
|         |      |      |
|         | <br> | <br> |
|         |      |      |
|         | <br> | <br> |
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|         | <br> | <br> |
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|         | <br> | <br> |
|         |      |      |
|         | <br> | <br> |
|         |      | <br> |
|         |      |      |

# **Test Application**



This chapter provides steps and illustrations to prepare your keyboard to use additional languages and to launch and perform various operations using the OPOS Test Application.

#### **Contents**

| Preparing Windows® and Printer for Unicode Printing | 60 |
|---|----|
| Zebra OPOS Test Application                         | 62 |
| Printing Unicode with the Test Application          | 66 |

## **Preparing Windows<sup>®</sup> and Printer for Unicode Printing**

In order to print in other languages, it is necessary to load a new font into the printer and control the font within the OPOS driver. See *Adding a New Font in Device Manager* on page 45 to add a new font. Before attempting to print, be sure that the new font is already loaded in the printer in the E: directory.



**Note** • To add language support to the PC, it may require Administrative rights. If you do not have Administrative rights, you may need to seek assistance from your IT organization.

- 1. Navigate to the Control Panel and click on "Regional and Language Options".
- 2. Click the Languages tab and check both boxes under "Supplemental language support".

| Regional and La  | nguage Op                               | tions                        |                  |                | ?   |
|--|---|------------------------------|------------------|----------------|-----|
| Regional Options   | Languages                               | Advanced                     |                  |                |     |
| Text services ar<br>To view or char<br>text, click Detai | nd input langua<br>nge the langua<br>s. | ages<br>ages and me          | thods you ca     | n use to enter |     |
|  |   |                              |                  | Details        |     |
| - Supplemental la  | nguage suppo                            | ort                          |                  |                |     |
| Most languages<br>select the appro                       | are installed b<br>priate check b       | oy default. To<br>box below. | o install additi | onal language  | es, |
| l <u>n</u> stall files<br>Thai)                          | for complex so                          | ript and righ                | t-to-left langua | ages (includin | g   |
| Install files  | for East Asian                          | languages                    |                  |                |     |
|  |   |                              |                  |                |     |
|  |   |                              |                  |                |     |
|  |   | ОК                           | Cance            |                | ply |

**3.** Windows may ask for the XP CD for the files.

If you do not have the CD, it will be necessary to obtain it from your IT Administrator.

| Insert D | isk   |              |
|----------|---|--------------|
|          | Please insert the Compact Disc labeled Windows XP<br>Professional Service Pack 2 CD' into your CD-ROM<br>drive (E:) and then click OK.<br>You can also click OK if you want files to be copied<br>from an alternate location, such as a floppy disk or a<br>network server. | OK<br>Cancel |

The installation will take a few minutes and a reboot will be required.

- **4.** Once the system has rebooted, navigate to the Control Panel and open "Regional and Language Options".
- **5.** Click the language tab and click the "Details..." button under "Text services and input languages".

- **6.** Under "Installed services", click the Add button.
- 7. Select the desired language from the drop-down menu and click OK.

| ext Ser          | vices and Input Lar                                 | iguages ?   | 🔟 🌯 🧋                           |
|------------------|---|---|---------------------------------|
| Settings         | Advanced  |   | Automatic Date a Updates        |
| Defau            | ult input language                                  |   | - 9                             |
| Selec            | at one of the installed inpu<br>uter.               | ut languages to use when you start your                               | <b>S</b>                        |
| Engl             | ish (United States) - US                            | ×   | Keyboard Mo                     |
| ~ Instal         | led services  |   |                                 |
| Selec<br>list. U | at the services that you w<br>se the Add and Remove | ant for each input language shown in the buttons to modify this list. | Scanners and Sche<br>Cameras Ta |
| EN               | English (United State                               | 25]   |                                 |
|                  | • US  |   | Liser Accounts VMwa             |
|                  |   | Add Input language  | ? 🔀                             |
|                  |   | Inout language:   |                                 |
|                  |   | Arabic (Saudi Arabia)   | ~                               |
|                  |   | Mable (Sation Mable)  |                                 |
| Prefe            | tences  | Keyboard layout/IME:  |                                 |
|                  |   | Arabic (101)  | ×                               |
| La               | nguage Bar  |   | OK Cancel                       |
|                  |   | OK Cancel Apply   |                                 |

## **Zebra OPOS Test Application**

Once the printer has been added using the Device Manager, you can test the driver with the Zebra OPOS Test Application utility.

**1.** From the Start menu, navigate to All Programs/Zebra Technologies/Zebra OPOS/Zebra OPOS Test Application.

| 🛅 Zebra Technologies 🛛 🛛 |      | Zebra Setup Utilities 🔸 | 1   |
|--------------------------|------|-------------------------|---|
| 🛅 ZebraDesigner          | 6    | Zebra OPOS 🔹 🕨          | 💮 Uninstall Zebra OPOS                    |
| 🛅 WinRAR                 |      |                         | 0003 Zebra OPOS Device Manager            |
| 🔎 Windows Search         |      |                         | Zebra OPOS Test Application               |
| Log Off 🛛 Shut           | Down |                         | 📩 Zebra OPOS ZPL & CPCL Programmers Guide |

- **2.** From the Printer Open section, choose a Printer Language from the Service Object Type drop-down menu.
- **3.** Choose CPCL or ZPL.
- 4. Select a printer in the Printer Logical Name drop-down menu.

The defined printers in the Device Manager should be available.

| Printer Open       Note : Unit is Dots only         Service Object Type       PI         Printer Logical Name       Zebra 333         Open       Claim         Release       Close         Printer Enabled       Printer Enabled         Print Options       Print Immediate         Print Options       Print Immediate         Print Normal       Print Immediate         Mark Feed       Character Set Number         Character Set Number       Bitmap Print         Direct IO       Print From File         Page Mode Test       Transaction Print         Barcode Print       Data         Data       Symbology         Vidth       1         Alignment       Left         Width       1         Height       60         Text Position       Above         Print       Y Pos         Print       Y Pos         Print       Y Pos         Position       Top         Bitmap Alignmen       Left         Position       Top         Set Logo       Set Bitmap         Rotate Print       Check Health         Check Health       Check Health   | K Zebra OPOS Test Application   |   |
|---|---|---|
| Print Options       Character Set Number       Bitmap Print         Print Normal       Print Immediate       Mark Feed       Character Set Number       Alignment       Left       Image: Character Set Number       Image: Cha | Printer Open     Status Upda       Service Object Type     ZPL       Printer Logical Name     Zebra 333       Open     Claim       Release     Close  | ate SO Version Printer Station Receipt Print Data Printer Enabled * Data may have Escape Sequence also  |
|   | Print Options       Print Immediate       Mark Feed         Validate Data       Cut Receipt       Clear Output         Direct IO       Print From File       Page Mode Test         Barcode Print       Data       Symbology       Codabar         Vidth       1       Alignment       Left       Vidth         Height       60       Text Position       Above       Print         Set Logo       & Bitmap Number       1       Print       Print         Set Logo       Set Bitmap       Set Bitmap       Set Bitmap         Logo | Character Set Number       Bitmap Print         CharacterSet       Alignment         Left       ▼         Print Bitmap       Print Bitmap         Transaction Print       ▼         Transaction On       Print         Page Mode Print       ▼         Page Mode Print       ▼         Page Mode On       ▼         Y Pos       0         Print Save       Width         Vidth       300         Cancel       Height       300         Clear PrintArea       Ver Pos       0         Check Health       Check Health       Check Health |

**5.** To gain exclusive access to the device, click the Open button, click the Claim button, and then check the Printer Enabled in the Printer Open section.

| 🔀 Zebra OPOS Test Application                       |  |
|---|--|
| Printer Open<br>Service Object Type ZPL Status Upda | te SO Version Printer Station Note : Unit is Dots only Receipt |
| Printer Logical Name Zebra 333                      | sync Mode Print Data   |
| Open Claim Release Close V P                        | * Data may have Escape Sequence also                           |
| Print Ontions                                       | Character Set Number - Ritman Print                            |
| Print Normal Print Immediate Mark Feed              | CharacterSet 113 Alignment Left                                |
| Validate Data Cut Receipt Clear Output              | Set CharacterSet Print Bitmap                                  |
| Direct IO Print From File Page Mode Test            | Transaction Print  |
| Barcode Print                                       |  |
| Data Symbology Codabar 💌                            | Page Mode Station Receipt                                      |
| Width 1 Alignment Left                              | Direction Left To Right  |
| Height 60 Text Position Above 💌                     | Page Mode On   |
| Print   | Print Y Pos 0  |
| Set Logo & Bitmap                                   | Print Save Width 800   |
| Logo Bitmap Number 1                                | Cancel Height 1200   |
| Position Top   Bitmap Alignment Left                | Hor Pos  |
| Set Logo Set Bitmap                                 | Clear PrintArea Ver Pos 0                                      |
| Rotate Print  | Check Health   |
| Rotation Mode Normal   Rotate Print                 | Check Health Level Internal Check Health                       |
| Printer Enabled                                     | ]  |

You can now begin using the Test Application.

On the next pages, two methods to run a test print are described.

#### Test One:

#### Example • Test one:

- **1.** Type some data into the Print Data field.
- **2.** Click on the Print Normal button found in the Print Options area then click the Mark Feed button.

The printer will print the contents from the Print Data field.

| 7 Zebra OPOS Test Application            |  |
|--|--|
|  |  |
| Service Object Type ZPL Status Upda      | te SO Version Printer Station Note : Unit is Dots only Receipt |
| Printer Logical Name Zebra 333 V         | orted Methods Print Data                                       |
| Open Claim Release Close P               | rinter Enabled   |
|  | * Data may have Escape Sequence also                           |
| Print Options                            | Character Set Number Bitmap Print                              |
| Print Normal Print Immediate Mark Feed   | CharacterSet 113 Alignment Left 💌                              |
| Validate Data Cut Receipt Clear Output   | Set CharacterSet Print Bitmap                                  |
| Direct IO Print From File Page Mode Test | Transaction Print  |
| Barcode Print                            |  |
| Data Symbology Codabar 💌                 | Page Mode Print<br>Page Mode Station                           |
| Width 1 Alignment Left                   | Direction Left To Right  |
| Height 60 Text Position Above -          | Page Mode On   |
| Print                                    | Print X Pos 0  |
|  | Print Save   |
| Set Logo & Bitmap Bitmap Number 1        | Width 800  |
| Position T                               | Cancel Height 1200   |
|  | Hor Pos 0  |
| Set Logo Set Bitmap                      | Ver Pos 0  |
| Rotate Print                             | Check Health   |
| Rotation Mode Normal   Rotate Print      | Check Health Level Internal Check Health                       |
| Printer Enabled                          |  |

#### Test Two:

#### Example • Test two:

- **1.** Type some data into the Data field in the Barcode Print area.
- **2.** Then select Code 39 from the drop-down menu next to Symbology.
- **3.** Now click on Print from the Barcode area and Mark Feed in the Print Options area. The printer will print the Code39 barcode and the data entered in the Data area.

| 🗱 Zebra OPOS Test Application   |   |
|---|---|
| Printer Open<br>Service Object Type ZPL V<br>Printer Logical Name Zebra 333 V | so Version     Printer Station     Note : Unit is Dots only       ported Methods     Print Data |
| Open Claim Release Close P  | rinter Enabled<br>* Data may have Escape Sequence also  |
| Print Options   | Character Set Number Bitmap Print   |
| Print Normal Print Immediate Mark Feed  | CharacterSet 113 Alignment Left -   |
| Validate Data Cut Receipt Clear Output  | Set CharacterSet Print Bitmap   |
| Direct IO Print From File Page Mode Test                                      | Transaction Print   |
|   | Transaction On Print  |
| Barcode Print   |   |
| Data 1234567890 Symbology Code39  | Page Mode Print Page Mode Station Page Mode Station   |
| Width 1 Alignment Left  | Direction Left To Right   |
| Height 60 Text Position Above 💌   | Page Mode On  |
| Print   | Print Y Pos 0   |
| Set Logo & Bitmap   | Print Save Width 800  |
| Logo Bitmap Number 1  | Height 1200   |
| Position Top  Bitmap Alignment  | Hor Pos 0   |
| Set Logo Set Bitmap   | Clear PrintArea Ver Pos 0   |
| Rotate Print  | Check Health  |
| Rotation Mode Normal  Rotate Print  | Check Health Level Internal Check Health  |
| Printer Enabled   |   |

## **Printing Unicode with the Test Application**

Before printing with the test application, please make sure that the font has been loaded in the printer and added in the Device Manager. (See *Adding a New Font in Device Manager* on page 45.)

- **1.** Open the Zebra OPOS Test Application, select the Service Object Type (ZPL or CPCL) and then the Printer Logical Name.
- 2. Click Open, Claim, and check the Printer Enabled box.

| Printer Open<br>Service Object Type ZPL V<br>Printer Logical Name KR V<br>Open Claim Release Close V   | ate SO Version Printer Station Receipt  Print Data * Data may have Escape Sequence also * Data may have Escape Sequence also   |
|--|--|
| Print Options       Print Immediate       Mark Eeed         Validate Data       Cut Receipt       Clear Output         Direct IO       Print From File       Page Mode Test         Barcode Print       Data       Symbology       Codabar         Data       Symbology       Codabar       Vidth         1       Alignment       Left       Vidth         Height       60       Text Position       Above       Print         Set Logo       & Bitmap Number       1         Position       Top       Bitmap Alignment       Left       Vidth         Rotate Print       Rotate Print       Rotate Print       Rotate Print | Character Set Number       Bitmap Print         CharacterSet       III         Set CharacterSet       Print Bitmap         Transaction Or       Print Bitmap         Transaction Or       Print         Page Mode Print       Page Mode Station         Page Mode Station       Receipt         Direction       Left ToRight         Page Mode On       X Pos         Print       Y Pos         Print Save       Width         Hor Pos       O         Clear PrintArea       Hor Pos         Ver Pos       O         Check Health       Level Internal |

- **3.** Select the new font by sending the correct OPOS one-shot command (example: ESC|3fT).
- 4. Type the one-shot command in the Print Data field and click the Print Normal button.

**5.** Change the Character Set value (Default is 113) by entering the correct Character Set value in the Character Set Number box, and then click the Set CharacterSet button below.

| Printer Open         |                       |                  | [ 1                  | 10              | Noto : Unit in Data or |
|----------------------|-----------------------|------------------|----------------------|-----------------|------------------------|
| Service Object Typ   | e ZPL -               | Status Upd       | ate SO Version       | Printer Station | Receipt                |
|                      |                       | Not Sup          | ported Methods       | Print Data      |                        |
| Printer Logical Ivan | ne KR                 |                  | Asvnc Mode           | ESCI3fT         |                        |
| Onen Clai            | m Release Clos        |                  | Printer Enabled      |                 |                        |
| - point - oran       |                       |                  | Tintor Enables       | * Data may hay  | re Fersne Semience al  |
|                      |                       |                  |                      | Data may na     |                        |
| Print Options        | Distance 1            |                  | Character Set Nu     | Imber Bitmap    | Print                  |
| Print Normal         | Print Immediate       | Mark Feed        | CharacterSet         | 129 Align       | iment Left <u> </u>    |
| Validate Data        | Cut Receipt           | Clear Output     | Set Character        | Set             | Print Bitmap           |
|                      |                       |                  | Transaction Prin     | t               |                        |
| Direct IO            | Print From File   Pag | e Mode   est     |                      |                 | Print                  |
| Barcode Print        | Zebra OP              | OS               |                      |                 |                        |
| Data                 | Symb                  | -                |                      |                 |                        |
| Width                |                       | Character Set F  | Property Updated Suc | ccessfully Rece | ipt 🔄                  |
|                      |                       |                  |                      | LeftT           | o Right 🔄              |
| Height               | 60 Text               |                  | OK                   |                 |                        |
|                      |                       | Print            | Print                | V Dec           | 0                      |
|                      |                       |                  | Drint Cours          |                 | 0                      |
| Set Logo & Bitmap    | Bitman Numbe          | r 🗖 1            |                      | Width           | 660                    |
| Desition [           | Ditrice All           |                  | Cancel               | Height          | 736                    |
| Top                  |                       | emµLeft <u>▼</u> | Clear PrintAre       | Hor Pos         | 0                      |
| Set L                | .ogo                  | Set Bitmap       |                      | Ver Pos         | 0                      |
| Rotate Print         |                       |                  | Check Health         |                 | · · · · · ·            |
| Totale I fint        | terms in the          |                  | Check Health I a     | and the second  | Charletter             |
| Rotation Mode        |                       | Kotate Print     | Check Health Le      | Vel Internal    | Check Health           |

The user will get a message showing that the Character Set was updated.

| Notes • _ |   | <br> | <br> |
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