

# Smart Form Device types and Device Driver for Zebra Printers

## Version 2.00

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### Welcome

Zebra Technologies has developed new device types for use in SAP Smart Forms. These device types contain enhanced user features as well as the ability to easily incorporate Unicode and Swiss721 character support. In addition to these new features, SAP has provided a Wizard to assist customers in choosing the correct Zebra printer model and associated device type.

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### General Information

Before you can begin using Zebra printers with SAP Smart Forms, one of the following device types must be uploaded to your SAP Instance. SAP Smart Forms only supports the Zebra Programming Language (ZPL II). The device types listed below are designed to support label printing from Smart Forms. Printing other types of documents, e.g. SAPscript forms or InteractiveForms by Adobe (IFBA) is not supported with these device types.

## SAP Smart Form Device Type Requirements

The following kernel patch levels and Support Packages are required for the support of the device drivers. Certain features of the device types become active only with the following releases and support package levels:

Additional print options: (see note 1049778)  
SAP\_BASIS 6.20 SP63 and higher  
SAP\_BASIS 6.40 SP21 and higher  
SAP\_BASIS 7.00 SP14 and higher  
SAP\_BASIS 7.10 standard

## IBM® Codepage 850 - CG Triumvirate Bold Condensed Scalable Font

YZB200 All 203 dpi ZPL-II printers  
YZB300 All 300 dpi ZPL-II printers  
YZB600 All 600 dpi ZPL-II printers

The above device types are designed to work with the internal CG Triumvirate Scalable font. In Smart Forms, the HELVE font is mapped to the CG Triumvirate font. Utilizing internal font's results in faster printing and less burden on the network since processing the font takes place on the printer.

## Unicode™ UTF-8 – Swiss Scalable Fonts:

YZB200U All 203 dpi ZPL-II printers  
YZB300U All 300 dpi ZPL-II printers  
YZB600U All 600 dpi ZPL-II printers

The above device types are primarily designed to work with Zebra's preloaded Swiss Scalable Font (EMEA Only). Containing 936 characters, this font includes support for Baltic, Central European, Cyrillic, Greek,

Turkish, Arabic, Hebrew and Western.

## Unicode UTF-8 - Andale Monospaced Scalable

YZB200U All 203 dpi ZPL-II printers  
YZB300U All 300 dpi ZPL-II printers  
YZB600U All 600 dpi ZPL-II printers

The above device types are primarily designed to work with Zebra's optional Andale Scalable Font. This font contains most of characters needed for the Asia Pacific, Americas, Western/Central/Eastern Europe and the Middle-Eastern regions. This font is delivered on a 32mb Linear PCMCIA card or on a CD for storing on the printers E: flash memory. Four flavors of this font are available; each contain the same number of characters but are tailored to the Japanese, Korean, Simplified Chinese or Traditional Chinese markets.

**NOTE:** In order to print Unicode fonts with the new device types, the printer must have X.14 or greater firmware. If downloading the font to the printer's memory is desired, the printer must have the 64Mb E: flash option installed since the Andale fonts are more than 20Mb in size. Printers not supporting the 64Mb will not have enough space to accommodate the large Andale fonts.

The Unicode fonts are available for either download (Swiss 721) or purchase (Andale) from Zebra.

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### Installation

The latest device types require that the Zebra Device Driver (PDL Driver) object is imported on the SAP system. Installing the Device Driver and the Device Types is usually performed by a systems administrator. The PDL Device Driver is imported using the STMS (Transport Management System) transaction in SAP. More details on the STMS transaction can be found by referencing SAP [Note 1103422 – SAP Printer Vendor Program: Installing device types, etc.](#) The new Zebra Device Types can be imported into SAP once the Zebra Device Driver is loaded and both are required for the system to work correctly with ZPL printers.

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### Supported Printers

All ZPL II (Zebra Programming Language) capable Zebra printers are supported by the Device Driver. New printers are periodically added to the SAP Printer Wizard after the printer is released for sale. If a printer is not listed in the wizard there are generic device types that can be used as an interim solution, all that is needed is the printer resolution.

EPL and CPCL printers are not supported in SAP Smart forms using the Zebra Device types.

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### Tips & Advice

**IMPORTANT:** When the wizard is used for the first time, it will be necessary to update the information database tables.

The relationship between printer models and device types are stored in table TSPOPIP, and the list of printer manufacturers is stored in table TSPOPIMAN. The version of the current data on your system is displayed at the top right corner of the window.

The latest data is provided as an attachment to SAP Note 1036961, 'Device type selection in transaction SPAD'. The file name is tspopi-yyyymmdd.xml where yyyymmdd is the date of the file creation. (The xml file is zipped so the actual attached file names are tspopyyyyymmdd.zip.)

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### Known Issues

1. There are no known issues with this release.

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### Change Log

Release Date	Version	Changes
12/20/2010	V1.00	<ol style="list-style-type: none"> <li>1. Initial release of the new device types</li> </ol>
1/6/2011	V1.02	<ol style="list-style-type: none"> <li>1. Added Smart Forms Solution Guide</li> </ol>
12/18/2020	V2.00	<p><b>Fixed Issues</b></p> <ol style="list-style-type: none"> <li>1. <b>Font naming issue</b> When multiple TrueType fonts are used in a Smart form the internal name for the last font that is downloaded will be used for all the TrueType Fonts used on the form. This means that the font will look incorrect and the font spacing may look incorrect and have unusual spaces in it.  <b>Note:</b> Zebra Printers do not support the Bold or Italic properties in a font and will only print with the fonts default property type. If you require a Bold, Italic or Bold Italic font to be printed to for must have that as the default property set for the font.</li> <li>2. <b>Graphics positioning with rotated label issue.</b> When using graphic images on a landscape smart form, the position on the printed label will be incorrect and uses the position information as if the label was portrait. This update allows the use of graphic in landscape mode and positions the graphic correctly. This does not imply that the content of the graphic will be rotated, that must be done using a graphic program and uploaded in a rotated form to SAP.</li> <li>3. <b>Bitmap code correction</b> Updated device driver to resolve bitmap handling changes made by SAP that caused a printing issue in multi-page SmartForms. <b>SAP Note 2858059</b></li> <li>4. <b>Text positioning correction</b> Rewrote the basic way that strings are printed due to a difference in the font metrics between the SAP system and Zebra printers. This was more noticeable when using Andale fonts</li> <li>5. <b>General Bug fixes</b> <ul style="list-style-type: none"> <li>• Changed ##NO_TEXT to #EC NOTEXT to prevent errors on older SAP systems</li> <li>• Remove CONDENSE from Command Node to address spaces being removed.</li> <li>• Added a filter for the Command Node error reporting</li> <li>• Added ^FH/ to PDF417 barcode to allow the inclusion of unprintable characters into the data</li> <li>• Fixed an error in the graphic function that results in a situation where no label is printed</li> <li>• Label height and width issue fixed</li> </ul> </li> </ol> <p><b>New Features</b></p> <ol style="list-style-type: none"> <li>1. <b>QR Code Barcode</b> Below is a description of the supported features for the Zebra SmartForms device type when using the QR Code barcode.  <b>Important Note:</b> All data that will be encoded into the barcode must be formatted to conform with the specific guidelines detailed in the ZPL 2 Programming Manual available on <a href="http://www.zebra.com">www.zebra.com</a>. No data manipulation is carried out by the device driver.  <b>Supported Features</b> <b>Module Size</b> This parameter is converted to magnification factor for the Zebra printer, this has a range of 1 – 10. Based on the range allowed by SAP the calculated value can be greater than 10 however the printer will currently limit to the max of 10.  <b>Mode</b> A - Automatic N - Numeric L - AlphaNumeric  <b>Error Correction</b> L – 7% Error Correction capability M – 15% Error Correction capability Q – 25% Error Correction capability H – 30% Error Correction capability</li> </ol>

**Rotation**

Only Normal rotation is supported.

**Unsupported Features****Mode**

B - Byte Latin  
 U - Byte UTF8  
 K - Kanji  
 1 - FNC1\_POS1  
 2 - FNC1\_POS2

**Invocation Codes**

Currently no invocation codes are supported.

**2. Datamatrix Barcode**

Below is a description of the supported features for the Zebra SmartForms device type when using the Datmatrix barcode.

**Important Note:** All data that will be encoded into the barcode must be formatted to conform with the specific guidelines detailed in the ZPL 2 Programming Manual available on [www.zebra.com](http://www.zebra.com). No data manipulation is carried out by the device driver.

**Supported Features****Barcode Alignment**

Normal (0 degrees), Rotated (90 Degrees), Inverted (180 Degrees), Bottomup (270 Degrees)

**Mode**

Automatic (Default)

**Module Size (1/600<sup>th</sup> Inch dot)**

Calculated based on the resolution of the printer

**Square**

Yes/No

**Rectangle**

Yes/No

**Note:** Only one of the above (Square and Rectangle) can be active. Device type checks the square value and sets the active one based on that. If both are set or Square is set Square will be used. If square is not set rectangle will be used.

**Invocation Codes**

The standard ASCII control characters below are supported:

\NUL\ \SOH\ \STX\ \ETX\ \EOT\ \ENQ\ \ACK\ \BEL\ \BS\ \HT\ \LF\ \VT\ \FF\ \CR\ \SO\ \SI\ \DLE\ \DC1\ \DC2\ \DC3\ \DC4\ \NAK\ \SYN\ \ETB\ \CAN\ \EM\ \SUB\ \ESC\ \FS\ \GS\ \RS\ \US\ \DEL\

**Unsupported Features****Mode**

Normal - (Not supported in ZPL)

**Invocation Codes**

The following invocation codes are currently not supported.

Invocation Codes to switch encodation modes (only allowed in Mode=NORMAL):

\ASCII\ - Switch to ASCII encodation

\TEXT\ - Switch to TEXT encodation

\C40\ - Switch to C40 encodation

\X12\ - Switch to ANSI X12 encodation

\EDIFACT\ - Switch to EDIFACT encodation

\BASE256\ - Switch to BASE256 encodation

\c###\ - ASCII character with decimal code ### (must use three digits! Example: \c010\ represents LINEFEED (decimal 10)

\n\ -ASCII character LINEFEED

**Invocation Codes for special functions:**

\05MACRO\ - represents the 05 MACRO function in Datamatrix ECC200

\06MACRO\ - represents the 06 MACRO function in Datamatrix ECC200

\ECI#####\ - specifies an ECI (Extended Channel Interpretation) number, where ##### stands for the 6-digit decimal ECI number. Must use six digits!

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### Technical Support

Worldwide Technical Support is available through your Reseller, or at: <https://www.zebra.com/contact>

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### Program Updates

SAP Device Types for Zebra printers can be updated and modified to take advantage of new developments. Updates will be available on our web site: <https://www.zebra.com/sap>

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### Licensing

[EULA for SAP Device Types.htm](#)

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