



A Zebra Technologies White Paper

# Zebra Printers and Fonts: The Basics

## Overview

This document goes over some general font information and tools that are relevant to fonts in regard to current Zebra printers.

### General Font Information

Zebra printers use a software font, or typeface to draw readable images for data printed on labels and tags. Fonts, particularly computer fonts, are original works that are copyrighted and their rights retained by organizations or individuals.

The Zebra printer comes with several typefaces already loaded and licensed for your use. However, if you require different fonts, you can license additional fonts and load them on your printer.

Go to <http://www.zebra.com/us/en/products-services/accessories/font-packs.html> in the US, or search for fonts at <http://www.zebra.com> to purchase ready-made font kits for your Zebra printer.

### Do I need a font on my Printer?

If you are printing through a driver, the driver software will render the typeface of the label or tag before sending to the printer. For instance, if you are printing through a Windows word processing program, and want to print a barcode, a barcode font will have to be installed on the machine running the word processor program. The printer will not require the font, because the Windows printer driver will render the font into an image, and then send the image to the printer.

### Font Names

Fonts can have any name that their creator gives them, you will notice many fonts look similar and may even have similar names. For instance view the following:

I am Arial typeface

I am Helvetica typeface

I am Calibri typeface

These all look similar to Swiss 721 or CG Triumvirate that may be available and/or loaded in your Zebra printer. Many times, specification writers will needlessly name a particular font, such as Arial, when they really require a Sans Serif typeface in a particular point size.

### Font Files

The Zebra printer is a Global printing solution that supports Unicode UTF-8 and UTF-16. This will do for most printing applications. The font file should come with documentation (code pages) that shows how text data maps to specific characters. However, you may have to consult the printer's documentation to print some special characters.

- Loading fonts take up memory space on your printer; your printer has limited space.
- Not every font has every character designed and mapped. Check your printer or font file documentation to see the character mapping.

Only certain types of font files are supported, consult your Zebra Programming guide, or your Font Tool's documentation for information.

## The Zebra Website does not have the font I need, I need XYZ font.

If you need different or more fonts, you will need to:

1. Obtain a software file of the font you need in the proper format (generally a TTF File).
2. License the font for use in a printer, for the number of printers you are loading.
3. Convert the font file to a format the printer can process (see “Font Tools” section below).
4. Load the font on your printer(s) (see “Font Tools” section below).

You are responsible for licensing the fonts and adding them to your printer.

## Font Licensing

Many fonts require proper licensing and restrictions. Please review these prior to using any additional fonts on Zebra printers.

When using fonts, there are two common ways that they are handled in terms of licensing. There are royalty based fonts, and there are royalty free fonts. Both kinds can be obtained from any number of sources such as [fonts.com](https://fonts.com), a site owned by Monotype Imaging, or [Google Web Fonts](https://Google Web Fonts).

## Font Tools

All of these tools assume that a font has been properly licensed before conversion and loading onto a Zebra printer. Visit <http://www.zebra.com> to download free and licensed versions of these tools.

### Font Conversion Tools\*

Name	Description
<a href="#">ZebraNet Bridge Enterprise</a>	This is the recommended tool, which offers a Font Wizard that can be used to convert TTF fonts into a ZPL file that can be loaded to Zebra printers that support ZPL.
<a href="#">Zebra Setup Utilities</a>	This set of Utilities contains a tool named ZebraDesigner Font and Graphic downloader. This tool offers a wide range of functions on top of allowing the downloading of font files from your system.

### Zebra Software Utilities\*

Name	Description
<a href="#">ZebraNet Bridge Enterprise</a>	This tool offers a Font Wizard that can be used to send local TTF fonts straight to connected printers.
<a href="#">Zebra Setup Utilities</a>	This set of Utilities contains a tool named ZebraDesigner Font and Graphic downloader. This tool offers a wide range of functions on top of allowing the downloading of font files from your system.
<a href="#">Embedded/Kiosk Toolbox</a>	This tool can be used to download fonts to Kiosk products.
<a href="#">Label Vista</a>	This tool can be used to download fonts to CPCL-compatible Zebra mobile printers.

## Appendix

### General Font\* Terms

Term	Description
Glyph	<i>The specific shape, design, or representation of a character.</i>
Serif	Fonts that have serifs. Serifs are the small details on the end of strokes of individual letters or symbols. Examples of this type of font include Courier New and Times New Roman.
Sans Serif	Fonts that do not have serifs. Examples of this type of font are Calibri or Arial.
Monospaced	Monospaced fonts have every character share the same width. For example, a W character would not take up any more horizontal space than an I. For printing purposes, many font vendors offer monospaced versions of some fonts.
Proportional	Proportional fonts have each character take only the amount of space that it requires. In this case, a character like a W would take up much more space than an I.
Descender	A descender is a portion of a character that extends below the baseline of a font. Examples of this are lower case j or y characters.
Unicode	The standard for digital representation of the characters used in writing all of the world's languages. See <a href="http://www.unicode.org">www.unicode.org</a> for additional details.
Code Page	A table of values that describes the character set for a particular language. Also known as character encoding.

\*Through much of this document, the word font is used interchangeably with typeface due to font being the more commonly referenced term for digital purposes.

### Zebra Printer Related Font Terms

Term	Description
Scalable	Fonts that can be resized to fit many specific size requirements. Height and width can be specified to many dot sizes.
Bitmapped	Fonts that have fixed sizes but that can be magnified in Height and Width to fit certain size ranges. Height and width can be set to many dot sizes, however the printer will actually divide the size to the font's base height or width to give a magnification of the nearest limit.

### Font Sizing

In most cases, font sizing is measured in Points. While the meaning of a Point has changed over time, it is currently defined as 1 point is equal to 1/72 inches or 25.4/72 mm.

In the case of Zebra printers, fonts are measured in dots. Dots are dependent on the resolution of the printer that you are printing to. For a 200dpi printer, there are 203 dots per inch (DPI), or 8 dots/mm. 300dpi printers have 300 dots per inch, or 12 dots/mm. 600 dpi printers have 600 dots per inch, or 24 dots/mm. For full information, refer to the Zebra Programming Manual,

To convert from Points to dots, you would want to do the following equation:  $dots = \left(\frac{DPI}{72}\right) (Size\ in\ Points)$   
where DPI is the Resolution of the printer that you wish to print to.

\*Fonts that are converted and downloaded to Zebra printers remain the exclusive property of their specific owners and require a license from their owners. By using one of these utilities to convert or download fonts, you agree that you are in compliance with all licensing requirements set forth by such owners. If you are not in compliance with such licensing requirements, you must cancel conversion or download of the font in question.

## Document Control

Version	Date	Description
1.0	2 <sup>nd</sup> October 2012	Initial release

## Disclaimer

*All links and information provided within this document are correct at time of writing*

*Created for Zebra Global ISV Program by Zebra Development Services*



**CORPORATE HEADQUARTERS**  
Zebra Technologies Corporation  
475 Half Day Road,  
Suite 500  
Lincolnshire  
IL 60069 USA  
T: +1 847 634 6700  
+1 800 268 1736  
F: +1 847 913 8766

[www.zebra.com](http://www.zebra.com)

**USA**  
Zebra Technologies Corporation  
333 Corporate Woods Parkway  
Vernon Hills, IL 60061-3109  
U.S.A.  
T: +1 847 793 2600 or  
+1 800 423 0442  
F: +1 847 913 8766

**LATIN AMERICA** Zebra Technologies International, LLC  
9800 NW 41st Street,  
Suite 200  
Doral, FL 33178 USA T:  
+1 305 558 8470  
F: +1 305 558 8485

**EMEA**  
Zebra Technologies Europe Limited  
Dukes Meadow  
Millboard Road Bourne  
End  
Buckinghamshire SL8 5XF, UK  
T: +44 (0)1628 556000  
F: +44 (0)1628 556001

**ASIA-PACIFIC**  
Zebra Technologies Asia Pacific, LLC  
120 Robinson Road  
#06-01 Parakou Building  
Singapore 068913  
T: +65 6858 0722  
F: +65 6885 0838

**OTHER LOCATIONS USA**  
California, Georgia, Rhode Island, Texas, Wisconsin

**EUROPE**  
France, Germany, Italy, Netherlands, Poland, Spain, Sweden

**ASIA-PACIFIC**  
Australia, China, Japan, South Korea

**LATIN AMERICA**  
Argentina, Brazil, Florida (USA), Mexico

**AFRICA/MIDDLE EAST** India, Russia, South Africa, United Arab Emirates

### Copyrights

©2010 ZIH Corp. Zebra and the Zebra head graphic are registered trademarks of ZIH Corp.  
All rights reserved. All other trademarks are the property of their respective owners.