FontCreator

Manual

FontCreator 7.5

FontCreator Manual

August 2013

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1.1   Welcome to FontCreator 7.5

Introduction

FontCreator allows you to create and edit TrueType, OpenType and Web Fonts.

The editor lets you easily select and modify the entire character set of any TrueType® font and fonts based on OpenType® font technology. Features include the ability to convert images to outlines, thus enabling you to create fonts with your own signature, logo and handwriting.

The intuitive interface makes FontCreator the perfect tool for both new and experienced users. The advanced validation features make the design process easy and help you avoid common mistakes.

Key features

- Create and edit TrueType and OpenType fonts
- Opening and exporting of fonts in WOFF file format
- OpenType Layout Features
- Redesign existing characters
- Add missing characters
- Convert vector and raster based images (e.g. a signature, logo or handwriting) to character outlines
- Edit or regenerate font names
- Fix character mappings
- Generate, modify and clean up kerning pairs
- Correct fonts that display incorrectly
- Add or correct composite glyphs
- Transform individual glyphs or an entire font (e.g. to make a bold version)
- Split TrueType Collection or Extract TrueType Fonts from TrueType Collection
- Preview fonts before installing
- Install fonts in Windows

Make sure you have the latest version of FontCreator:

     http://www.high-logic.com/ ☑

1.2   What's New in FontCreator 7.5

New features in this version of FontCreator 7.5 include:

- Scalable color glyph support

New features in this version of FontCreator include:

- Completely redesigned overview window
- Opening and exporting of fonts in WOFF file format
- OpenType Layout Features
- Project based font editing
- More operations have Undo/Redo support
- Support for Jumplists and Taskbar progress in Windows 7 and up
- Optical Metrics
- AutoHinting

1.3   Technical Support

Printed User Manual

If you prefer reading printed manuals, a PDF version of the entire help file is available through the main menu (**Help** -> **User Manual**).

Online User Manual

The user manual is also available online:

http://www.high-logic.com/fontcreator/manual/index.html

Forum

The forum is available to you for support and information about managing and designing fonts. This forum has become a place where all users of FontCreator can share their knowledge. Membership of the forum is free. There's a good chance other people have asked the same questions as you, so you may be able to find the answers you need. Feedback and suggestions are also welcome in the forum.

http://forum.high-logic.com/

Frequently Asked Questions

View the most frequently asked questions (and answers) about FontCreator here:

http://www.high-logic.com/fontcreator/faq.html

1.4   Registration

Evaluation

During the trial period, FontCreator runs in **Professional Edition** mode and most features

are enabled. After using FontCreator for a 30-day trial period, you must register and pay for it, or remove it from your system. Registering makes your copy legal and helps support our efforts to develop innovative products to best serve your needs. Thank you for your support of FontCreator!

Why Register?

Registration allows you to continue using FontCreator 7.5 and entitles you to the following benefits:

- All future versions of FontCreator 7.x.
- Direct e-mail support from the developers.

Three Editions

FontCreator is available in 3 editions. A home edition for personal use which can't be used for commercial use. A standard edition that will suit most font designers. And a professional edition to get the most out of your fonts. To view the differences between the FontCreator editions see the comparison chart:

http://www.high-logic.com/font-editor/fontcreator/comparison.html

To Register

The quickest and most convenient way to register is online via credit card. Other supported payment methods like checks and cash are also supported. For more details take a look at our registration page:

http://www.high-logic.com/register.html

1.5   Credits

FontCreator contains several unmodified libraries that are available under the MPL.

- VirtualShellUtilities from http://www.mustangpeak.net/;

- ADOM from http://philo.de/xml/

FontCreator also uses an unmodified version of TTFAutohint which is available under the FTL.

Portions of this software are copyright © 2013 The FreeType Project (www.freetype.org). All rights reserved.

Part II
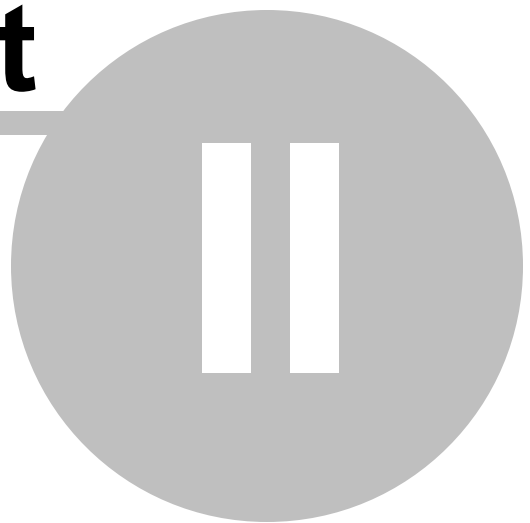
2   Quick Start Tutorial

2.1   Your First Font -- a Brief Tutorial

The quickest way to introduce yourself to FontCreator is to make a font. To make it personal we will describe how to make a font of your own handwriting.

On the **File** menu, click **New Project** to start a new font project and create a font.

It is important to give our handwriting font a personal name, otherwise we will not be able to identify (and install) the font properly. The font name is not the same as the filename (for example **timesbd.ttf** has **Time New Roman Bold** as the font name, where Times New Roman is the font family name and Bold is the font style).

To give our font a name we type "My Handwriting" in the Font family name field and press the **OK** button.
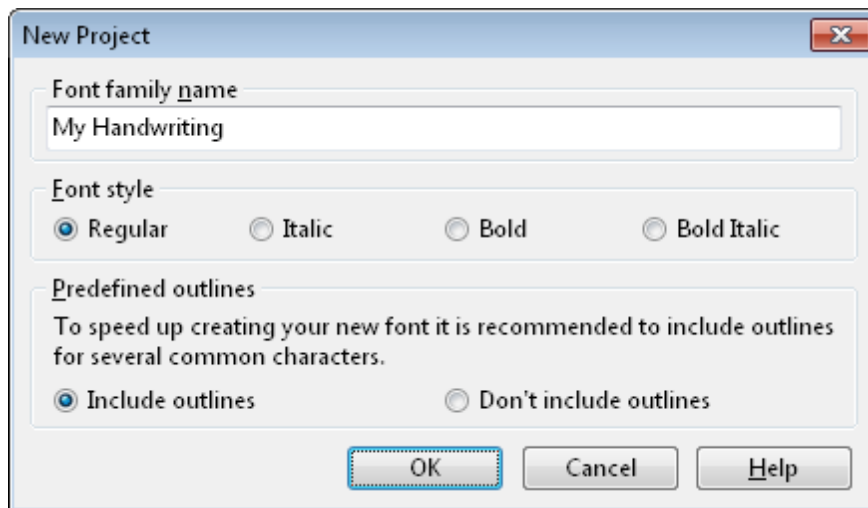
Now you will see the **Font Overview** window. All cells have a caption and to give you a visual guidance, most cells contain a sample character shown as light grey outlines. Sample characters don't really exist in the font, you have to add glyph data yourself. In this tutorial we will add this data for glyphs mapped to characters 3, A and B.

2.2   Edit a Glyph - Character 3

From the **Glyph Overview** window we double-click on the cell with the caption "3". Now we see the corresponding **Glyph Edit** window. Choose **Freedraw Contours** in the **Insert** menu. During this operation a left mouse-click draws and a right-click erases .

Press the **Convert to contours** button to convert the freedraw image to contours.
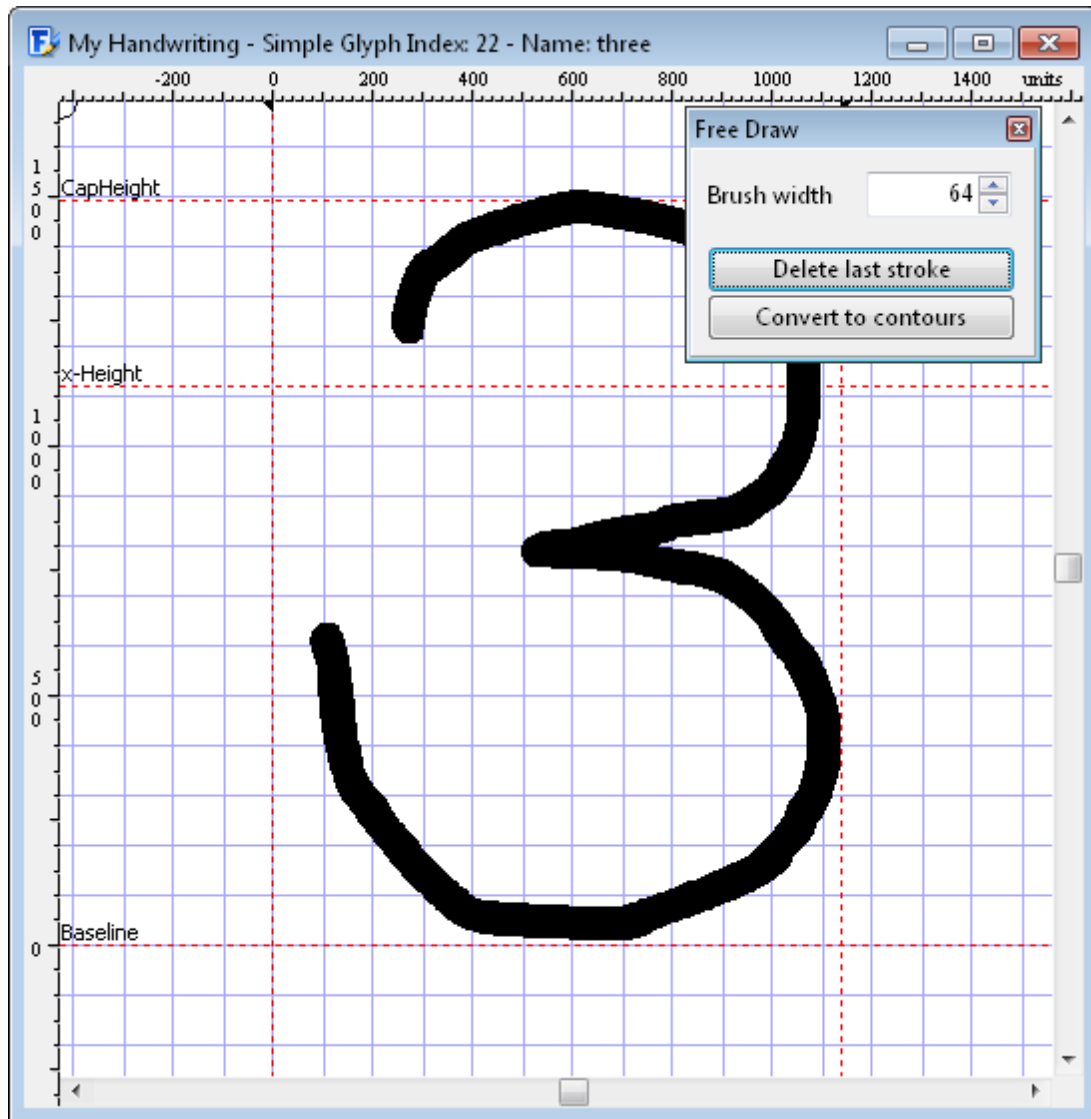
The contours should stay within the visible area, this area is defined by the WinAscent and WinDescent reference lines and the left and right bearings (vertical dashed lines). Make sure the glyph is within this area, parts outside this area will most likely be invisible. The left and right bearings can be changed by dragging them to their desired position. The glyph should be positioned between these lines, otherwise characters will overlap each other.

We close the **Glyph Edit** window to return to the **Glyph Overview** window.

2.3   Edit a Glyph - Character A

From the **Glyph Overview** window we double-click on the cell with the caption "A". Now we see the corresponding **Glyph Edit** window. Choose **Contour** in the **Insert** menu. During this operation a left mouse-click creates a point onto the contour and a right mouse-click creates a point off the contour (used to create a Bézier curve).

Press the **Apply** button (or click on the first point) to finish the contour. We create two contours in order to complete the glyph.
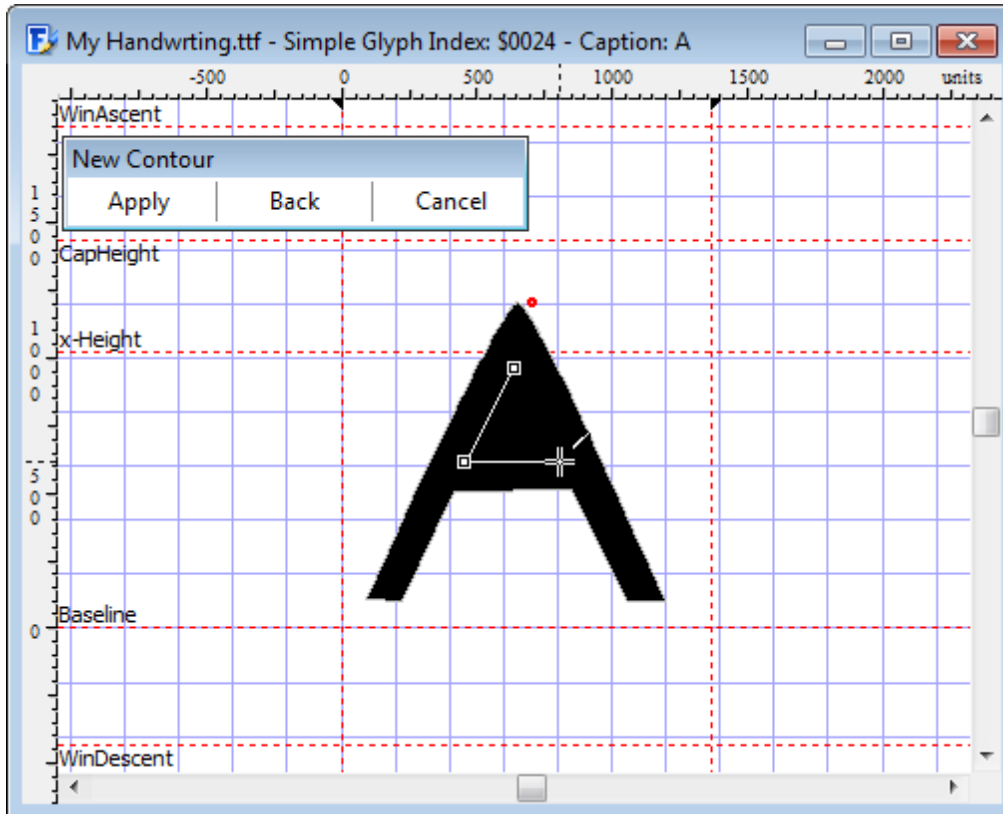
Contours that need to be filled black must have a clockwise direction. If we want to make a white area inside an existing contour we must make the direction of the new contour counter clockwise.

Finally make sure the contours are within the visible area (as described in the previous section); if necessary adjust the left and right bearings.

We close the **Glyph Edit** window to return to the **Glyph Overview** window.

2.4   Edit a Glyph - Character B

To personalize character "B" we want to import an image of our own handwritten "B". This image should not be too small or too large, we recommend an image dimension of 300x300 pixels. Bitmap, GIF, PNG and JPG images can be created with a paint program and if you

have a scanner you could also import an image of your character "B" into the appropriate software.
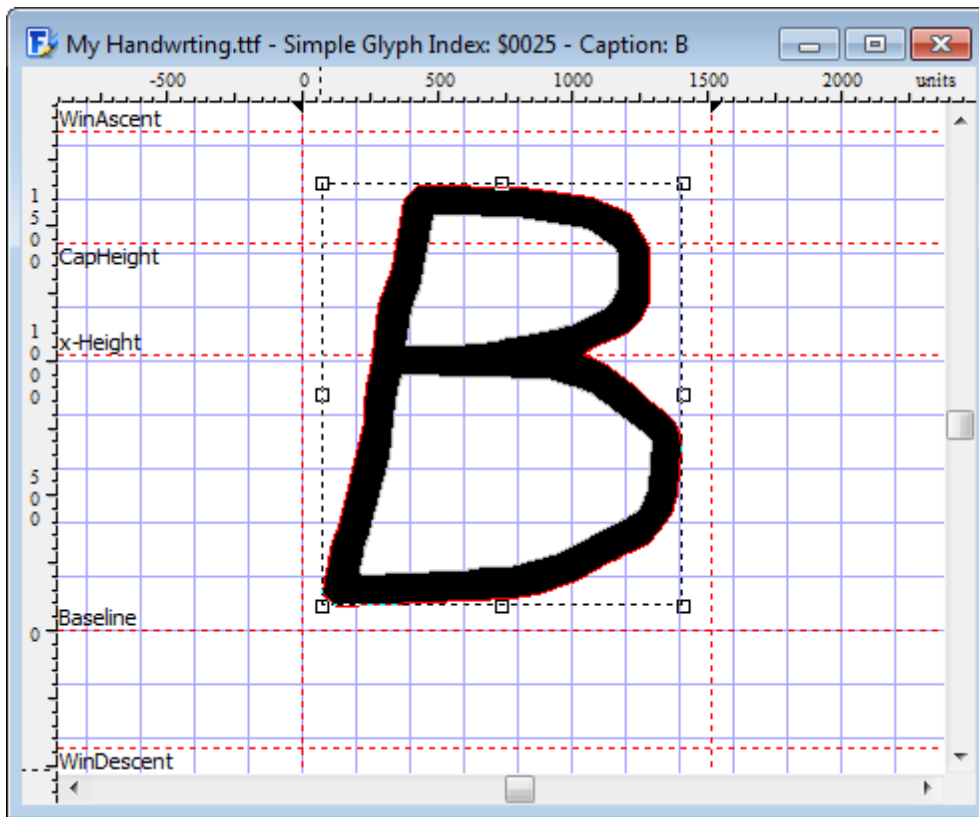
From the **Glyph Overview** window we double-click on the cell with the caption "B". Choose **Import Image** in the **Tools** menu. Press the **Load** button to select the image you want to use and press the **Generate** button. Now you will see your image in the **Glyph Edit** window. Finally make sure the contours are within the visible area (as described in the previous section); if necessary adjust the left and right bearings.

2.5   Test and Install the Font

Now we have finished the first three characters we want to see the result. We test the new font by selecting **Test** in the **Font** menu. Type upper case "A" and "B" and number "3" in the text field to see your creation.
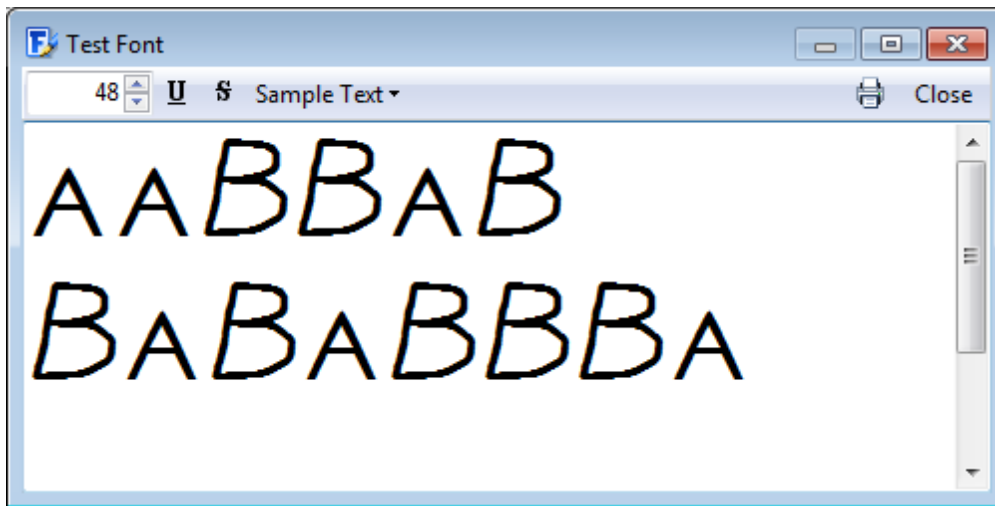
To make your font available to other applications select **Install** in the **Font** menu. The **Font Installation** wizard will guide you through the installation process.

At the end of the installation process you will be informed that the font is installed successfully. Almost all applications (like Word) immediately allow you to use the font, but sometimes an application requires a restart before they recognize the newly installed font.
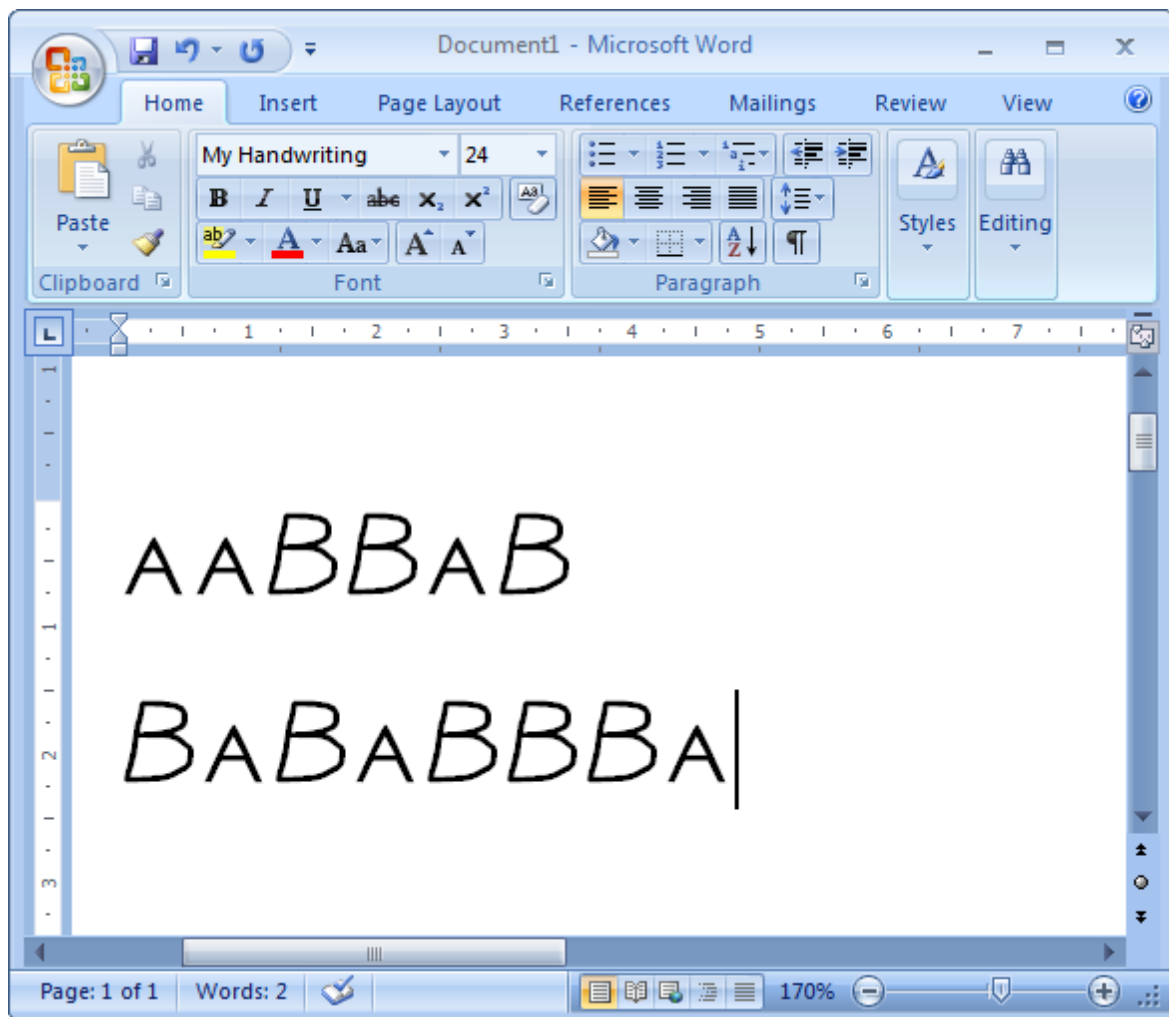
When you are satisfied with the font, you need to export and install it.

Part III
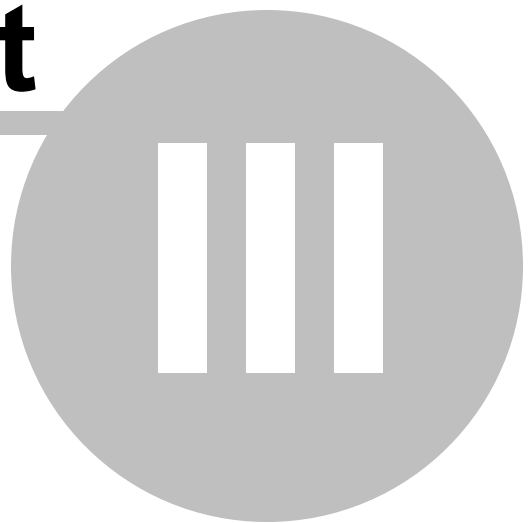
3 About Fonts

3.1 TrueType

TrueType is a scalable font technology designed by Apple Computer, and has been superseded by the OpenType format. However people still refer to TrueType fonts, while in fact 99.9% of all fonts that come with Windows are OpenType fonts.

See also:http://forum.high-logic.com/viewtopic.php?f=5&t=1619

A TrueType font file contains data, in table format, that comprises an outline font. Rasterizers use combinations of data from the tables contained in the font to render the glyph outlines.

3.2 OpenType

The OpenType font format is an extension of the TrueType font format, allowing support for PostScript font data. Technically there are two OpenType Font flavors; TrueType based (.ttf) and PostScript based (.otf). OpenType was developed jointly by Microsoft and Adobe to produce a hybrid between Type 1 and TrueType fonts, with additional features that work on Macintosh and Windows computers. OpenType fonts can include the OpenType Layout tables, which allow font designers to design better international and high-end typographic fonts.

Some descriptions (of various fields in this document) are copied from the specification available online at:

http://www.microsoft.com/typography/otspec/

3.3 Color Extension

As revealed at the Microsoft Build Developer Conference in June 2013, the Windows 8.1 Preview comes with a revolutionary extension to the OpenType font standard, which introduces multi-color fonts. The technology which is both simple and powerful uses multi-layer glyphs which are in essence scalable outlines that are rendered and processed like any other character, except each layer has its own color.

FontCreator is the first (and of this writing, the only) font editor to support the new multi-color fonts extension.

The beauty of the color extension, is that the fonts will continue to work like any other font on devices and systems that don't support the extension yet. That is why it is strongly recommended to always include the base outlines for each glyph (used as fallback in case color fonts are not supported, or not wanted in a particular situation).

3.4   Web Open Font Format (WOFF)

The Web Open Font Format (WOFF) is a font format based on the same principles as OpenType and TrueType fonts but has been optimized for use in web pages. WOFF is supported across all recent major browsers. Fonts that are used in webpages are also called "web fonts".

FontCreator supports both importing and exporting of WOFF fonts.

More information about Webfonts and how to use them:

http://www.webfonts.com

More information about the Web Open Font Format:

http://www.w3.org/TR/WOFF/

3.5   Font Copyright

Unless you know otherwise, you should assume all fonts to be copyrighted works that are someone's property and treat them as you would any other software. Fonts are software products in their own right, and are protected by international copyright law as well as individual license agreements. Even redistributing so-called 'freeware' or 'public domain' fonts is problematic. If you have created a font yourself (without using anything from other fonts), it is your property.

The use of any commercial font is governed by the terms of its manufacturer's End User License Agreement (EULA). Several major font vendors specifically allow altering a font, as long as the altered font is only used on machines for which you have licensed the original font. If you have questions about what can or can't be done with a font, you should contact that font's manufacturer.

The Copyright Notice field in the **Legal** tab on the **Font Properties** dialog may direct you to the copyright holder, but be aware that this field may be blank, or may have been altered. Also the License Agreement and the License Agreement Link fields from the might have important information.

Part IV

4 Opening, Creating and Saving Fonts

4.1 Working with Font Projects

FontCreator uses its own file format to store the font data, several other settings and configuration parameters:

- Font data
- Font properties
- Export settings
- Guideline, Grid and Metrics settings
- OpenType Layout Features
- User notes

This will make sure that regardless of the font format you export, all information about the font will remain available.

Opening existing project files

There are several ways to open existing project files:

- Select **Open project** from the **File** menu
- Select a recent project from the **Reopen** submenu in the **File** menu
- Select a recent project in the Windows Taskbar Jumplist (only available on Windows 7 and later)
- Double-click a project file in the Windows Explorer
- Drag a project file from the Windows Explorer onto FontCreator

4.2 Open a Font

There are several ways to open a font file.

Open fonts already installed on your system

To open an installed font file select **Open** from the **File** menu and choose **Installed Font**

option.
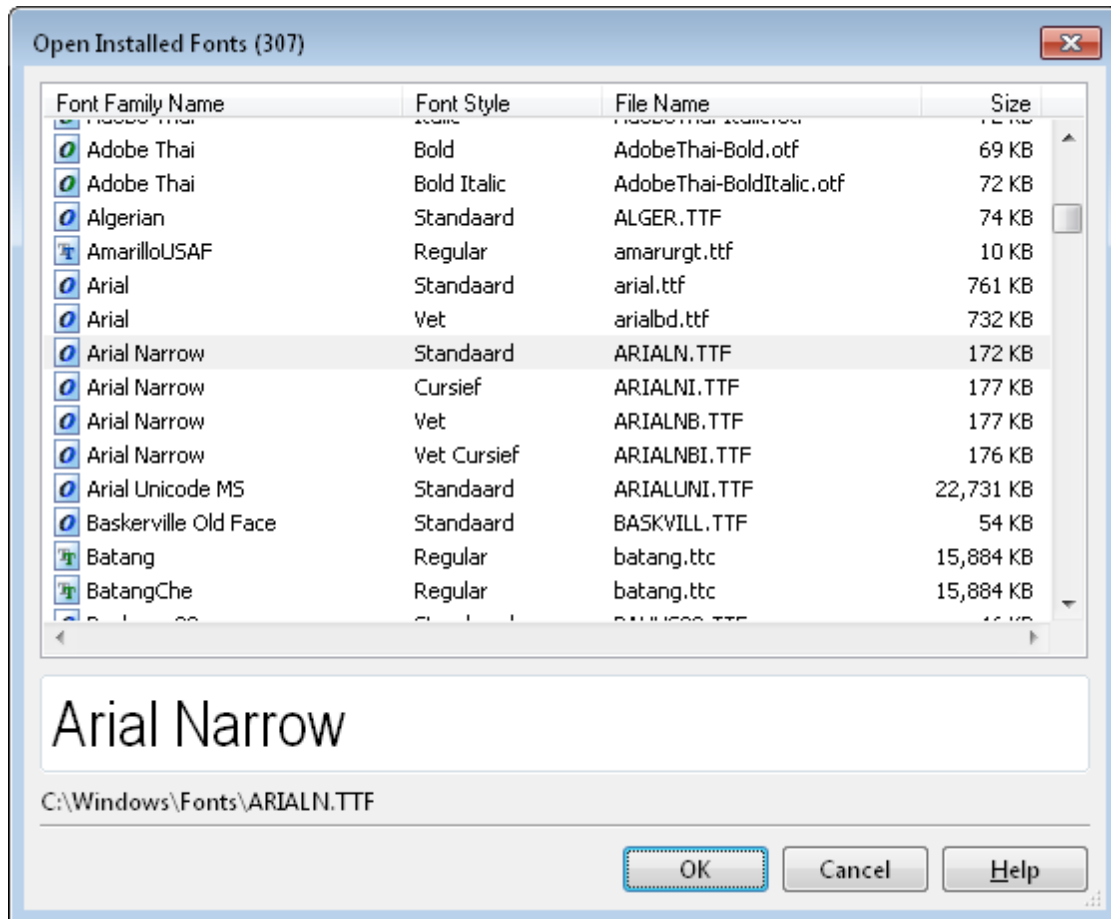
Open any font that is available

From the **File** menu, select **Open** and choose **Font File** option to open a font through Windows default open dialog box.

Drag and drop a font file

Another way to open a font, is to drag a font file from Windows Explorer and drop it onto FontCreator.

Reopen a font file

To open a font that you've used recently, choose **Reopen** from the **File** menu to display the names of the last ten used fonts. Click on the font you want to use.

Warning: If you want to open fonts that are located in Windows fonts folder you should use the **Installed Fonts** command (or drag and drop), because this folder is marked (by Windows) to be a special folder

and therefore behaves differently (e.g. it shows font names instead of file names).

Warning: Really large fonts can only be loaded when your system has enough internal memory.

4.3   Create a Font Project

On the **File** menu, click **New Project** to create a new font.
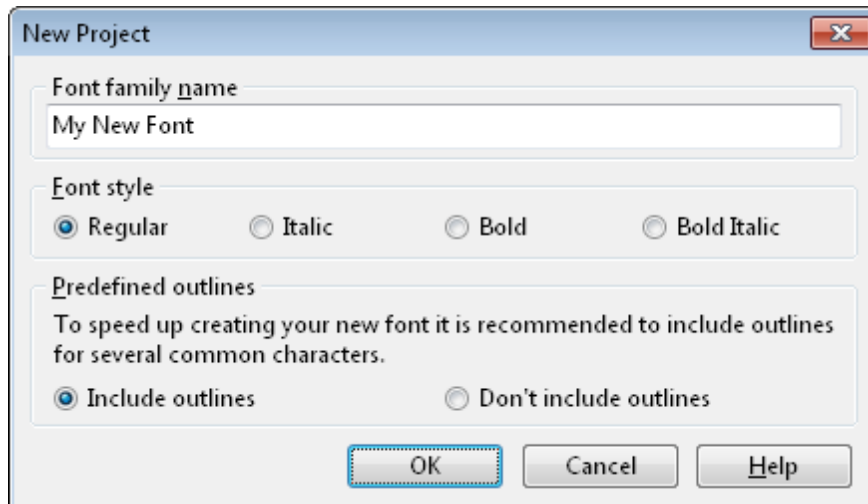
Font family name

In Windows, the Font family name is displayed in the font menu. The **Font family name** will appear as the font name when you select a font in a word-processing program, etc.

Font style

The font will be identified through its **Font family name** and the **Font style**. In order to create a full font family, you will need to create four fonts, each with a different **Font style**, but with the same **Font family name**.

Predefined outlines

Selecting "Include outlines" will add outlines for several common characters. This will speed up creating your new font. You can replace or modify these glyphs later. The outlines can be used royalty free in your own fonts.

Note: On the **Naming** tab, accessed by **Tools** -> **Options**, there are default naming values, that will be added to the new font.

See also:

Default Naming Values
Insert Characters

4.4   Save a Project

To save an active project select **Save Project** in the **File** menu. If you want to save the active project with a different name, or in a different location, select **Save Project As** in the **File** menu, choose a name and location and click **Save**.

4.5   Export a Font

To export an active project to a TTF/OTF or WOFF font select one of the export formats in the **Export** submenu in the **File** menu. The first time you export your font you will be asked to choose an output location and review the export settings.

Font Export Settings		
Feature	TrueType/OpenType	Web Font (WOFF)
Output File		
Glyph Names	Yes	No
OpenType Features	Default Script	Default Script
Kerning	KERN and GPOS	KERN and GPOS
Hinting	Auto Hinting	No
XML Metadata		Yes

OK   Cancel   Help
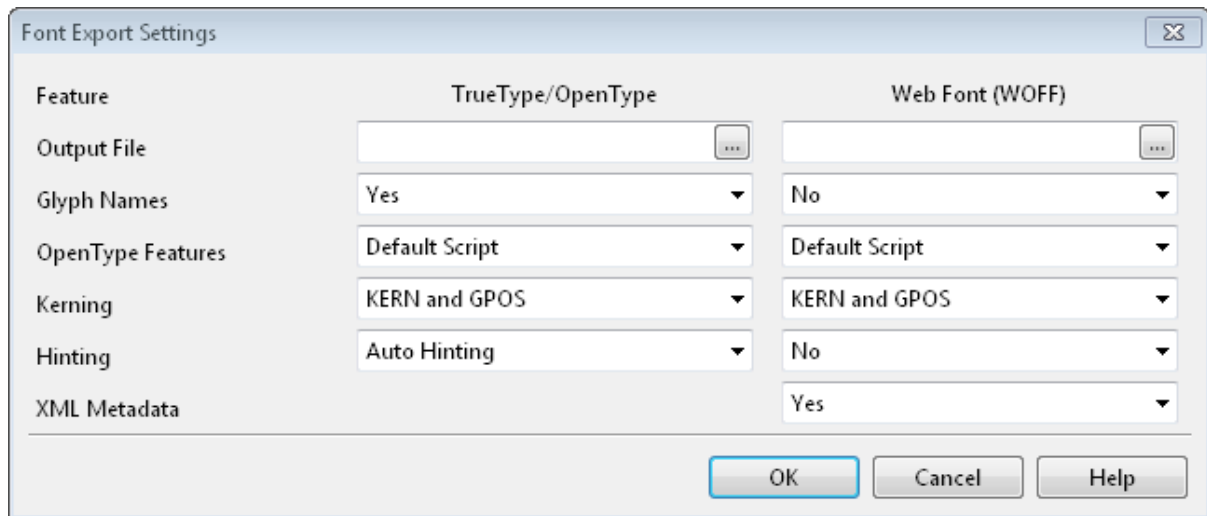
Output File
Location where the file will be exported. If this field is left blank, FontCreator will show a save dialog the first time you export the font.

Warning: It is not recommended to export your font directly into the Windows fonts folder. Warning: Files locked by Windows can't be saved. This happens when the Operating System keeps the font in memory. You could try to uninstall (delete) the font through the Windows fonts folder.

Include Glyph Names
Whether or not to include Glyph names in the font. It is recommended to include them in TrueType/OpenType fonts but they can be omitted in WOFF fonts to reduce the file size.

Include OpenType Features

No - No OpenType Layout Features are embedded in the font.
Default Script - Common OpenType Layout Features are automatically added to your font based on the available glyphs.
Custom Script - The features defined in the **OpenType Layout Features Editor** are embedded into the font.

Note: OpenType Layout Features are ignored for Symbol Fonts.
Note: Custom Script is not available in the Home Edition of FontCreator and will revert to **Default Template**

Include Kerning
No - No kerning information is added to the font
KERN - Kerning is added to the font using the legacy 'kern' table
GPOS - Kerning is added to the font using the newer 'gpos' table
KERN and GPOS - Kerning is added to the font using both the 'kern' and 'GPOS' table. Newer computer systems will use the 'GPOS' kerning while systems that do not support 'GPOS' can use the legacy 'kern' table.

Generate Hinting
Hinting information will improve readability on screen for smaller font sizes.
No Hinting - No hinting is added to the font
Autohinting - Hinting information is automatically generated
Keep Original - Stores hinting information that was originally available in the font.

Include Metadata (Web Font only)
If enabled, a small xml file is embedded in the font that allows web browsers to identify the font without having to load the entire font.

4.6 Close a Font

To close the current font or project select **Close** in the **File** menu. To close all active fonts and/or projects at once select **Close All** in the **File** menu.

Part V
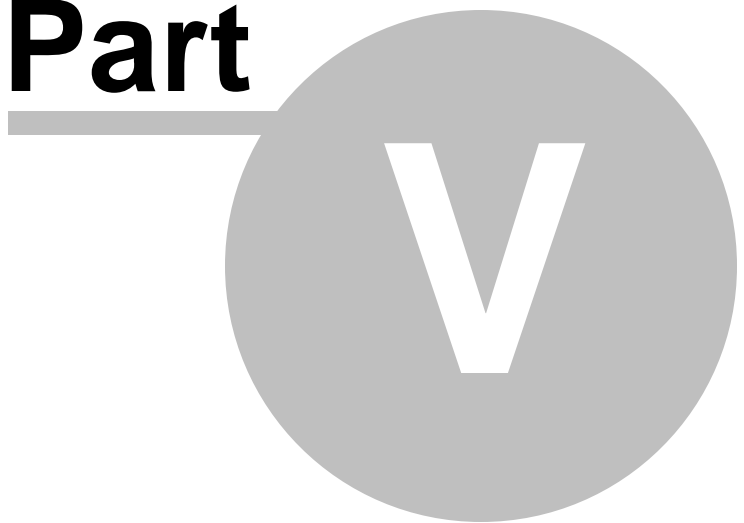
5　Editing Fonts

5.1　Editing Options

5.1.1　Undo Command

The Undo command from the **Edit** menu reverses the last action made to the active font.

Using Undo returns the font to its state prior to the most recent operation. The number of operations you can undo depends on the settings from the **Tools** menu in the **Edit** tab of the **Options** dialog box.

Note: The **Undo** button on the toolbar has a small arrow which allows you to pull down a menu and select multiple actions to be undone.

5.1.2　Redo Command

The **Redo** command from the **Edit** menu re-applies the actions or commands on which you have used the Undo command. FontCreator supports Multiple Redo, which is particularly useful if you have removed more edits and commands than you had intended. If this occurs, and you want to re-apply them, either choose the **Redo** command as many times as is necessary or use the drop arrow on the **Redo** button located on the **Standard** toolbar.

Note: The **Redo** button on the toolbar has a small arrow which allows you to pull down a menu and select multiple actions to be redone.

5.1.3　Repeat Your Last Action

When you select **Repeat** from the **Edit** menu the program will repeat the last action you have done. When the **Repeat** command can't be selected, you can't repeat the last action.

5.1.4　Finding a Glyph

You can search for glyphs and or characters by their glyph name and mappings. Select **Find** on the **Edit** menu to open the **Find** window or use the keyboard shortcut CTRL+F.
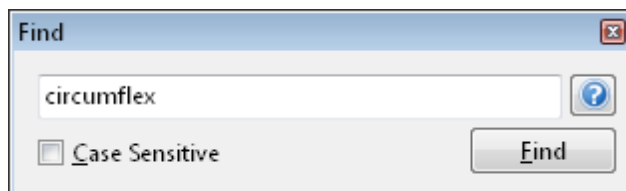
The input field accepts several kinds of keywords:

- Single character : Entering a single character will find the entered character if it exists in the font. (Example: "a") Note that this type of search is case-sensitive regardless of the case-sensitive checkbox!

- Part of glyph name

- Start with: "A*" will return Agrave Aacute etc.

- Ends with: "*grave" will return Agrave Ugrave etc.

- "#353" will show that exact Glyph ID

- Unicode ranges $0032-$0046, $0012 etc (can be entered in decimal or hexadecimal)

5.1.5 Tags

Tags allow you to mark glyphs so they appear with a small colored bar in the glyph overviews. To tag a glyph, right click on one or more selected glyphs and select one of the tags from the **Tag** submenu, use the keyboard shortcut keys (CTRL + 1-5) or drag and drop them from the glyph overview window onto one of the tag categories. You can view all glyphs that have a tag by selecting the **Tagged** category from the categories panel or select one of the tag subcategories to view all glyphs that have a specific tag assigned to them.

Note: Each glyph can only have 1 tag.

5.2 Editing Fonts

5.2.1 Using the Glyph Overview

In the **Font Overview** window there is a list of categories and a grid where all cells have a caption and a part that shows the glyph.
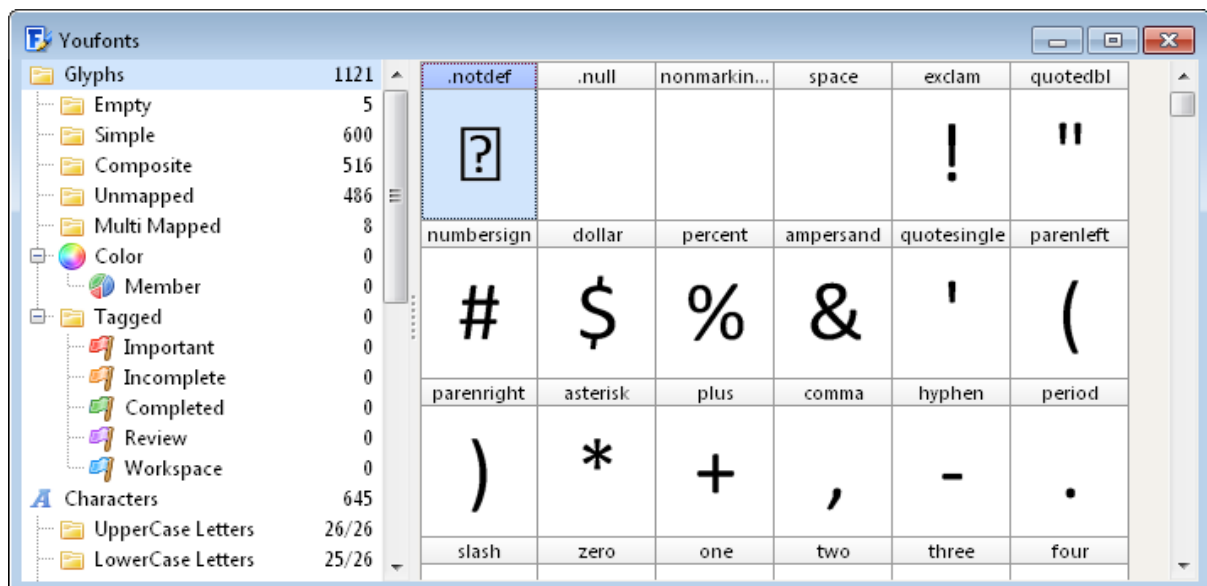
The categories panel is a convenient way to quickly show a subset of characters or glyphs and allows you to display them in several groupings and orderings. To change the current grouping and ordering use the **Overview Toolbar** on the main toolbar.

When creating Unicode fonts, the categories panel shows a convenient list of all Unicode blocks that contain at least one mapped glyph. When you add new characters through the **Add Characters** dialog or change character mappings the Unicode categories are automatically updated. If you are creating a symbol font, a symbol category will be shown instead.

Each cell has a caption that is used to display the glyph name, Unicode name, the code-points or the glyph index. To select the kind of caption, use the **Overview Toolbar** or right-click in the **Glyph Overview** window and select a specific caption. You can switch between decimal and hexadecimal values for the code-points and glyph indexes in the **Display Format** submenu of the **View** menu.

The **Autocaption** feature allows you to view the actual value of the current selected grouping. This means that when you group by **Advance Width**, the cell captions display the Advance Width value.

5.2.2   Used By

The **Used By** window (available by right-clicking a glyph in the **Glyph Overview** window or **Glyph Edit** window and selecting the **Used By** menu item) is used to display an overview of all glyphs that use the selected glyph. To jump directly to one of the displayed glyphs double-click it in the window or select it and click the **OK** button.

é	111	eacute
è	112	egrave
ê	113	ecircumflex
ë	114	edieresis
ē	269	emacron
ĕ	271	ebreve
ė	273	edotaccent
ě	277	ecaron

OK   Cancel   Help
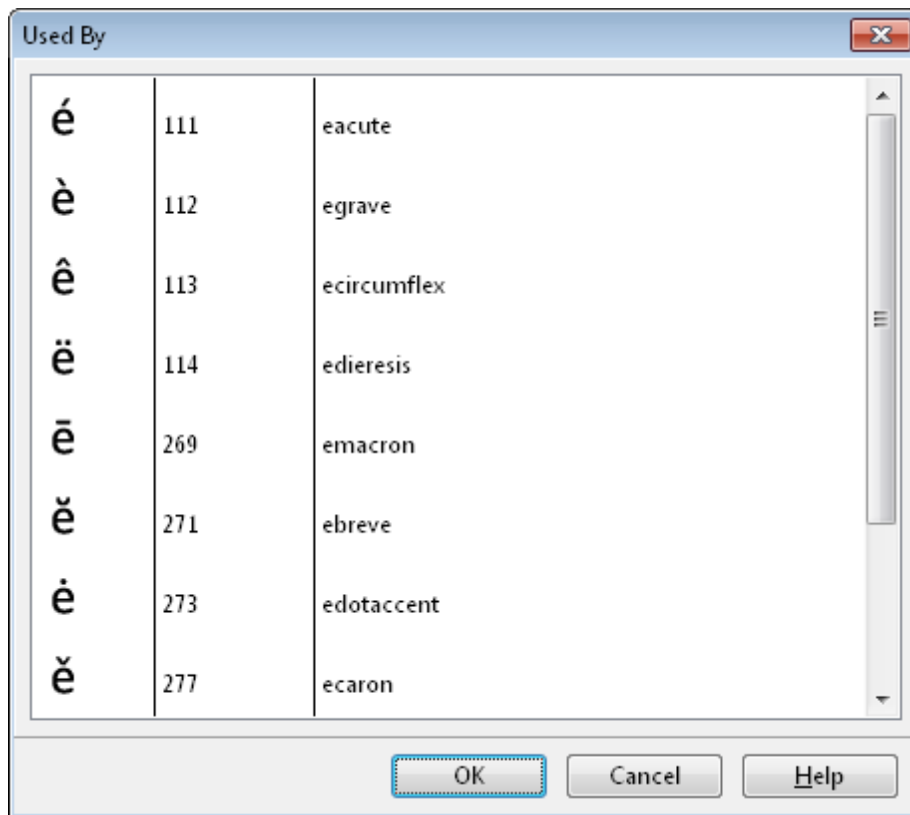
5.2.3   Insert Characters

Select **Characters** in the **Insert** menu to add glyphs with their character mappings and glyph names to the font. This option is available only when the **Glyph Overview** window is active.
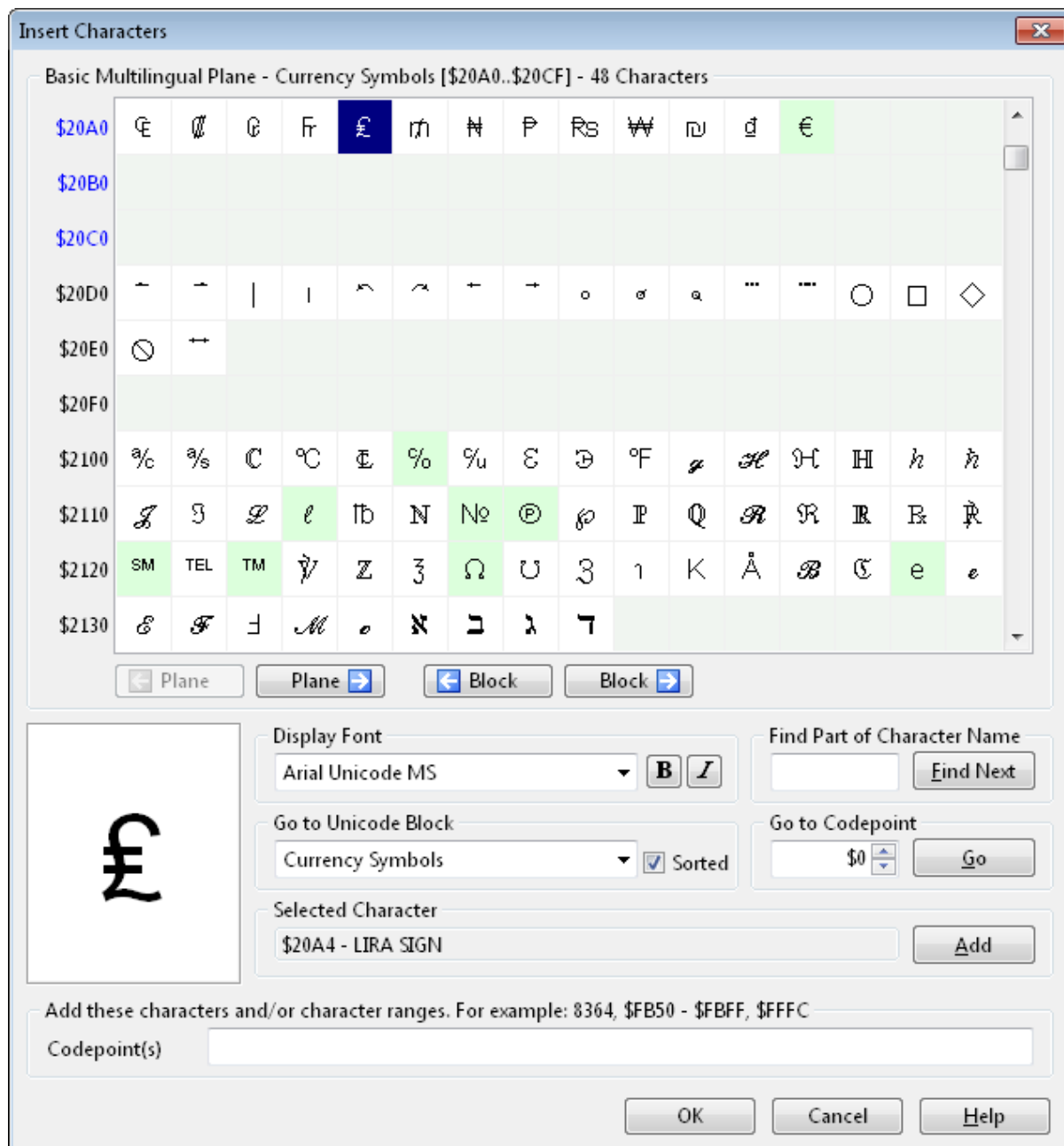
Select a Unicode block from the droplist, "Go to Unicode Block". Uncheck the "Sorted" field to sort the blocks in numerical code-point order instead of alphabetical order. if necessary, choose another installed font which includes the characters to be added. Characters can be added anyway, but it helps if the glyphs can be previewed.

Use the next and previous block or next and previous plane buttons to scroll through the font. The code point of the character to add can be found by entering the decimal value in the "Go to Code Point" field, or by entering the hexadecimal value preceded by a dollar sign. For example, enter 8364 or $20AC to find the Euro Sign (€). The Unicode name of the character can be used in the field, "Find Part of Character Name". For example, type "euro" to first find "EURO-CURRENCY SIGN," then "EURO SIGN" with Find Next.

Click on a character to select it and preview it in the glyph preview at bottom left. Double-click the character, or click the Add button, to add its code-point to the list of selected characters at the bottom of the dialog. Keep adding individual characters by double-clicking, or hold down the Shift key and double-click to add a range of characters. The code-points will be displayed in Hexadecimal or Decimal notation depending on the setting in **View -> Display**. You can also type code-points into the characters to add field, separated by commas (or hyphens to add a range of characters), or cut and paste a predefined list of characters from a text file. For example, pasting 256-383 then clicking OK would add the entire Latin Extended-A character set.

Click OK to dismiss the dialog and add the characters to the current font. If the glyphs exist in the overview sample font, and if "Show samples in empty glyphs" is on, grey outlines of the new characters will be displayed in the glyph overview.

Characters or entire character sets can also be added using Transform Scripts. See the topic: Glyph Transformer.

Note: The number of glyphs that may be included in one font is limited to 65535.

See also:

Glyph Transformer

5.2.4   Insert Glyphs

Select **Glyphs** in the **Insert** menu to add glyphs to the font. This option is available when the **Glyph Overview** window is active.
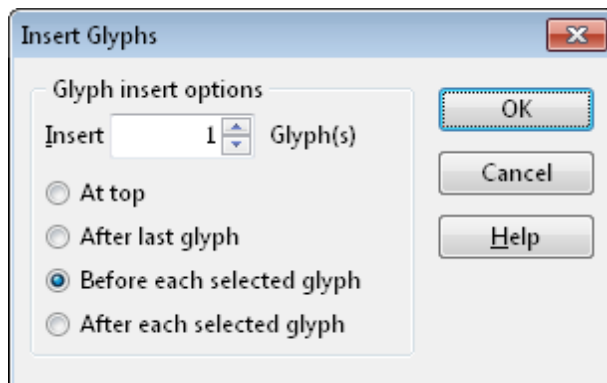
Note: The number of glyphs that may be included in one font is limited to 65535.

5.2.5 Copy and Paste Glyphs

The **Paste Special** command is used to specify what parts of a group of glyphs (already copied to the clipboard) should be pasted.

You can select any number of glyphs in the **Glyph Overview** window by clicking on them while holding down the **Ctrl** key. You can perform several operations on the selected glyphs. If you paste the selection to another font the glyphs will be pasted to the selected glyphs. If you want the pasted glyphs to be placed in another position you can select the same number of glyphs you copied prior to the paste action, or select just one glyph.
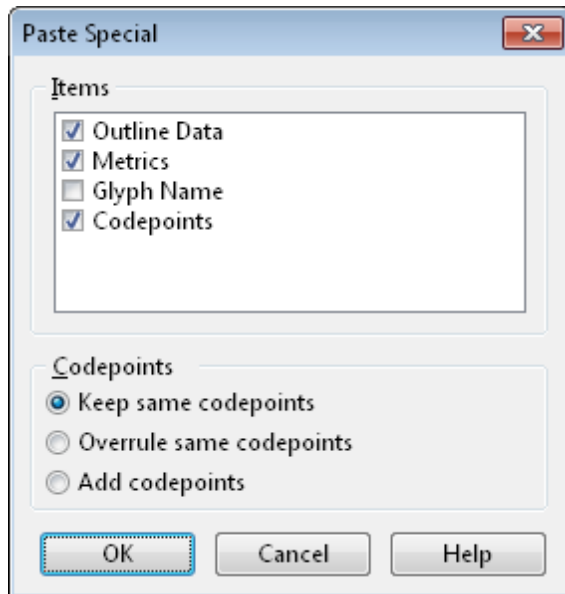
Outline Data will copy the outlines.

Metrics are the Left Side Bearing and Advance Width of each glyph

Glyph Name will paste all glyph names

Code-points will paste the mappings. **Keep same code-points** adds new mappings to the glyphs. Mappings that already exist will be reassigned to the pasted glyph(s) when the **Overrule same code-points** option is selected. You can also choose to add mappings. **Add code-points** adds all mappings. When mappings are already available, they will be reassigned to the pasted glyph(s).

5.2.6 Adding a New Character - the EURO Sign

Sometimes a font is missing one or more characters. This will explain how to add the EURO sign to an existing font.

There are two ways to add a character to a font. The easiest and recommended way is

explained first:

1a. **Add a character at the end of the glyph list (recommended)**
Select **Characters** from the **Insert** menu. Enter "EURO SIGN" into the **Find Part of Character Name** and press the **Find Next** button. Now select the **Add** button and press the **OK button**.

1b. **Add a glyph at the end of the glyph list**
Select **Glyphs** from the **Insert** menu and insert one glyph after the last glyph.

Give the glyph a proper Name and Code-point
Open the **Glyph Properties** tool window (View -> Glyph Properties or shortcut F3) and enter "Euro" as Glyph Name.

Click the **Generate** button 🖼 next to the code-points to automatically fill in the proper code-point.

Click the **Apply** button to assign the changes

2. **Edit the glyph**
Double-click the Euro glyph to open the **Glyph Edit** window. There are several ways to add contours to the glyph:
 ⃞ Freedraw contours (Insert -> Freedraw Contours...)
 ⃞ Import an image (Tools -> Import Image)
 ⃞ Add new contours (right-click and select "New Contour...")
 ⃞ Paste contours from other glyphs
 ⃞ Drag outlines from the **Samples** toolbar

3. **Adjust the right and left bearings**
Around the glyph there are four lines that represent the Bearings. These are shown by default but you can hide them through the **Show Bearings** button on the **Drawing** toolbar. The left and right bearings can be changed by dragging them to their desired position.

You could also adjust the bearings from the **Glyph Properties** tool window.

4. **Test the font.**
Select **Test** in the **Font** menu.
Add a Euro sign in the text area with Alt-0128 or use MainType utility to copy and paste the EURO character into the text area.

5.2.7 Font Name

Be careful not to confuse the font name with the file name. Windows uses the file name to install a font, while the font name is used to identify the font.

To change the font name select **Properties** from the **Font** menu.

5.2.8 Font Type

To change the font type (for example from Regular to Bold) you need to change a few settings on the **Font Properties** dialog:

- **Font Subfamily, Weight** on the **Identification** tab
- **Bold** and **Italic** checkboxes on the **Identification** tab
- **Italic Angle** on the **Identification** tab
- **PANOSE Weight** to on the **Characteristics** tab

5.2.9 Font Embedding

Select **Properties** from the **Font** menu and select the **Legal** tab page. Here you can alter the **Font Embedding Licensing Rights**.

Note: Embedding symbol fonts may not be possible in Word.
Note: In order to embed a font, the Glyph Names must be exported for some applications (like Adobe Acrobat).

5.2.10 Monospaced versus Proportional

A monospaced font is a font where all characters have the same width. These fonts are often used to emulate typewriter output for reports, tabular work and technical documentation.

In a proportional font the width of each character, including the space character, varies with the shape of the character. Proportional fonts are easier to read and are preferred for publishing applications.

From proportional to monospaced

To change a proportional spaced font into a monospaced font, follow these steps:

- Select the **AutoMetrics** command (**Tools** menu) to force the advance width to be the same for all glyphs (except for the second glyph normally called **.null** - this glyph's advance width should be zero).

- If necessary, change the outlines of glyphs that are too wide.

- In the **Properties** dialog (**Font** menu) on the **Characteristics** tab set **Family Kind** to 2 (Latin Text) and **Proportion** to 9 (Monospaced).

- The **Fixed Pitch** will be automatically set to the correct value.

5.2.11 Unicode versus Symbol

When a font has a **Windows Unicode BMP (UCS-2)** platform, the font is a normal font. When a font has a **Windows Symbol** platform, the font is a **Symbol** font.

Symbol character sets have a special meaning: all of the characters in the Unicode range 0xF000 - 0xF0FF (inclusive) will be used to enumerate the symbol character set. All glyphs in

this range are mapped to the range 0x0000 - 0x00FF.

Symbol fonts do not form words so line breaks can occur after any character code. A spell checker should not check symbol font-formatted material.

You can convert your font between Unicode and Symbol though the **Convert Font** menu item in the **Tools** menu.

Note: only the first 224 characters of symbol fonts will be accessible: a space and up to 223 printing characters.

5.2.12 Recommended Glyphs

In addition to script and language specific punctuation and native numbers, the following glyphs are highly recommended for inclusion in fonts.

First four glyphs

TrueType outline fonts should have the following four glyphs at the beginning of a font. These were listed in Apple's original TrueType specification. These glyphs are recommended to allow for the same version of the font to work on both Windows and Macintosh.
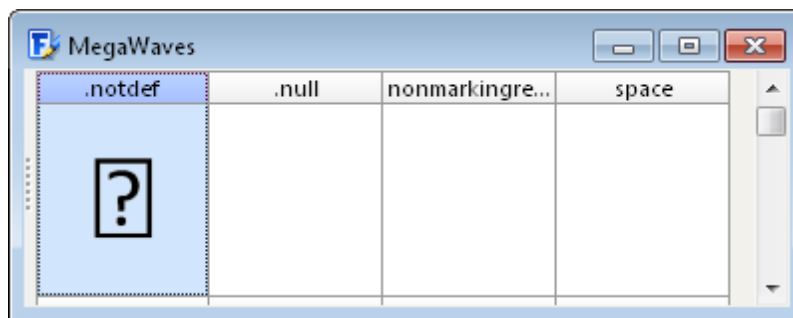
Glyph 0 is the .notdef (missing character) glyph.

Glyph 1 is the .null glyph; it has no contours and zero advance width.

Glyph 2 is the nonmarkingreturn glyph; it has no contours and positive advance width.

Glyph 3 is the space (and no-break space) glyph; it has no contours and positive advance width.

Index	Glyph Name	Unicode
0	.notdef	
1	.null	
2	nonmarkingreturn	
3	space	$0020

Glyph 2 and 3 should have the same advance width.

The .notdef glyph is very important for providing the user feedback that a glyph is not found in the font. This glyph should not be left without an outline as the user will only see what looks like a space if a glyph is missing and will not be aware of the active font's limitation.

It is recommended that the shape of the .notdef glyph be either an empty rectangle, a rectangle with a question mark inside of it, or a rectangle with an "X". Creative shapes, like swirls or other symbols, may not be recognized by users as indicating that a glyph is missing from the font and is not being displayed at that location.

General punctuation and 'Latin' numbers

Glyph Name	Descriptive Name	Sample	Unicode
space	space		$0020
exclam	exclamation mark	!	$0021
quotedbl	quotation mark	"	$0022
numbersign	number sign	#	$0023
dollar	dollar sign	$	$0024
percent	percentsign	%	$0025
ampersand	ampersand	&	$0026
quotesingle	apostrophe	'	$0027
parenleft	left parenthesis	(	$0028
parenright	right parenthesis	)	$0029
asterisk	asterisk	*	$002A
plus	plus sign	+	$002B
comma	comma	,	$002C
hyphen	hyphen-minus	-	$002D
period	period	.	$002E
slash	slash	/	$002F
zero	digit zero	0	$0030
one	digit one	1	$0031
two	digit two	2	$0032

three	digit three	3	$0033
four	digit four	4	$0034
five	digit five	5	$0035
six	digit six	6	$0036
seven	digit seven	7	$0037
eight	digit eight	8	$0038
nine	digit nine	9	$0039
colon	colon	:	$003A
semicolon	semicolon	;	$003B
less	less-than sign	<	$003C

Quotes and Ellipsis

Smart quotes (also known as curly quotes) are fancy characters which make text look better compared to the straight apostrophe (') and straight quote or inches character ("). Microsoft Word also automatically changes 3 periods to an ellipsis.

If your font does not support these characters, you can either turn the "Smart Quotes" and "Ellipsis" features off in the application (In Microsoft Word it's under Tools -> AutoCorrect) or make sure these glyphs and their mappings are available in the font.

Glyph Name	Descriptive Name	Sample	Unicode
quoteleft	left single quotation mark	'	$2018
quoteright	right single quotation mark	'	$2019
quotedblleft	left double quotation mark	"	$201C
quotedblright	right double quotation mark	"	$201D
ellipsis	horizontal ellipsis	…	$2026

Other suggested glyphs

Glyph Name	Descriptive Name	Sample	Unicode
nbspace *	no-break space		$00A0
currency	currency sign	¤	$00A4
section	section sign	§	$00A7

|			
logicalnot	not sign	¬	$00AC
degree	degree sign	°	$00B0
paragraph	paragraph sign	¶	$00B6
periodcentered	middle dot	•	$00B7
endash	en dash	–	$2013
emdash	em dash	—	$2014
bullet	bullet	•	$2022
euro	euro currency symbol	€	$20AC
bulletoperator **	bullet operator	•	$2219

* nbspace is usually mapped to the space glyph

** bulletoperator is usually mapped to the periodcentered glyph

5.3   Editing Glyphs

5.3.1   Introduction

From the **Glyph Overview** window you can double-click a glyph in order to open a **Glyph Edit** window and edit the selected glyph. You can also select a glyph, right-click it and select **Edit**.
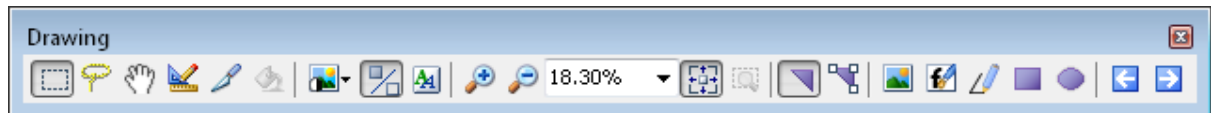
You can "zoom in" to get a close-up view of your glyph or "zoom out" to see more of the page at a reduced size. You can use the edit field located on the **Drawing** toolbar to change the zoom percentage. The **Zoom to Selected** button will be enabled as soon as contours or points are selected. Pressing this button will zoom into the current selection. When you press the **Fit to Window** button, the glyph will be shown with the largest zoom factor that also shows the ascender and descender lines.

There are three glyph types:

Empty glyphs

Some glyphs don't have any outlines, like the glyph that represents the space character. However empty glyphs, like all types, do have bearings (a space character has an advance width like any character).

Simple glyphs

A simple glyph consists of a series of contours. A contour is defined by a series of points. In order to distinguish between contour and point related operations, you can choose to work in contour or point mode. At any time you can change between Contour and Point mode; select the appropriate **Mode** from the **View** menu or press one of the triangle buttons on the **Drawing** toolbar.

Contours

To select an external contour of a black area of a glyph click within the black area. To select an internal contour of a black area click within the internal white area.

no selection   external   internal   both
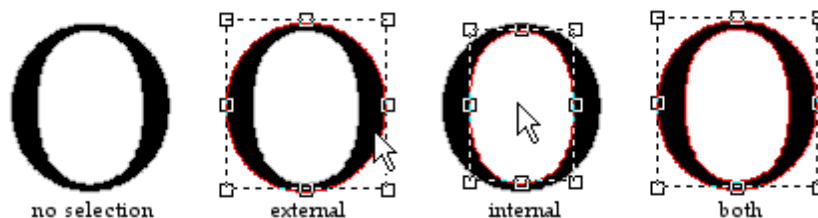
To select more than one contour, press and hold down the Shift key while selecting contours. Another way is to click on the workspace above and to the left of where the contours are and, while holding down the left mouse button, drag a rectangle around all contours you want to select simultaneously.

Use the Ctrl-A shortcut or select **Select All** from the **Edit** menu to select all contours. While holding down the Shift key and clicking a contour already selected, will remove that contour from the current selection.

Points

To select a single point click on it. To select more than one point hold down the Shift key while clicking on several points or another way is to hold down the left mouse button and drag a rectangle around the points you want to select simultaneously, whether a few or all points in the glyph. Use the Ctrl-A shortcut or select **Select All** from the **Edit** menu to select all points. Hold down the Shift key and select points you want to add to or remove from the current selection.

Composite glyphs

Composite glyphs are simply a combination of two or more other glyphs - usually, but not limited to, a base character and one or more diacritical marks that are placed above and/ or below the base character.

To select a composite member click on it. If you want to modify specific member data double-click a composite member to open the **Composite Glyph Properties** window.

Other parts of the manual have a comprehensive explanation of the three glyph types.

5.3.2   Glyph Metrics

Several horizontal and vertical lines, also known as glyph metrics, will help you with your font design. You can activate them through the Metrics Options window.

In order to change the metrics click **Properties** on the **Font** menu and then click the **Metrics** tab.

In the Glyph Edit window there are two vertical lines (normally the glyph outline lies in between these lines) that represent the left and right side bearings. These are shown by default but you can hide them through the Show Metrics button on the Drawing toolbar. The left and right side bearings can be changed by dragging them to their desired position. You can also adjust the bearings through the **Glyph Properties** tool window. White space should be evenly distributed between the left and right side bearings of glyphs except when font is specifically designed with ligatures for joining characters in a cursive script font.

Note: Lining numbers (i.e. the digits 0 - 9) should all have the same advance width.

Tip: In the **Glyph Edit** window you can step through with the **Back** and **Forward** blue arrows in the **Drawing** toolbar to make adjustments.

See also:

Metrics Options

5.3.3   Empty Glyphs

Empty glyphs (like the space glyph) don't have outlines but they do have an advance width. In a **Glyph Edit** window you can change an empty glyph into a simple glyph by adding contours. You can also change an empty glyph into a composite glyph by adding a **Composite Glyph Member**.

## 5.3.4   Simple Glyphs

5.3.4.1   Introduction

In a TrueType font, glyph shapes are described by their outlines. A glyph outline consists of a series of contours. Contours are composed of straight lines and curves. Curves are defined by a series of points that describe second order Bézier-splines. The TrueType Bézier-spline format uses two types of points to define curves, those that are on the curve and those that are off the curve. Any combination of off and on curve points is acceptable when defining a curve. Straight lines are defined by two consecutive on curve points.
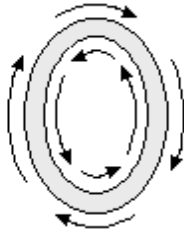
Contours that need to be filled black must have a **clockwise direction**. If we want to make a white area inside an existing contour we must make the direction of the new contour **counter clockwise**. Contour direction is determined by seeing in which direction the point index values increase or decrease. Contour direction is from the smaller point index to the larger. The general rule is that the contour direction should be such that "black is on the right". Using the glyph "O" as an example, the outer contour should travel clockwise, and the inner contour counter clockwise.

Click the **Correct contour directions** button on the **Validation** toolbar to correct the direction of all misoriented contours in a simple glyph or select **Direction** from the **Edit** menu to change the direction of the selected contour(s).

The character "4" is represented by a glyph with two contours. One contour you see as the black area and the white area within this glyph is the other contour.
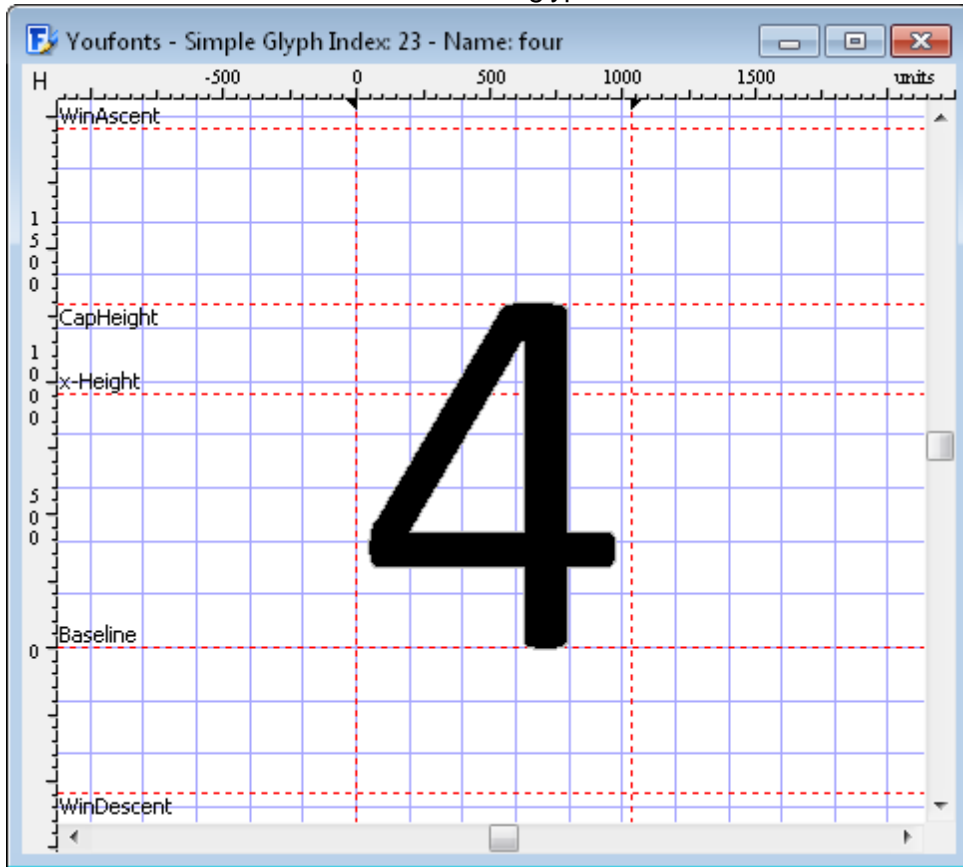
From the **Drawing** toolbar you can change the way you can modify the glyph. In the **Glyph Edit** window, you can change between Contour and Point mode by double clicking inside the edit area, select the **Mode** from the **View** menu or use the appropriate button on the **Drawing** toolbar. The main difference between **Contour mode** and **Point mode** is that in **Contour mode** all operations are related to the contours while in **Point mode** you can change parts of the contours (e.g. move, add and delete points).

Holding down the Shift key while dragging points or contours restricts movement so the selection moves only in the x or y direction.

In the **Glyph Edit** window (in **Point mode**) the rectangles represent on curve points and the circles off curve points.

Tip You can nudge the selected contour(s) or point(s) up, down, left, or right by pressing the arrow keys. By holding down the Ctrl key and pressing the arrow keys finer nudging is available. By holding down the Shift key and pressing the arrow keys bigger nudging is available.

5.3.4.2 Contours

You can perform several operations on contours while in **Contour mode**.

Select contours

To select more than one contour, hold down the Shift key while selecting contours. Another way is to click on the workspace where no contours are and, while holding down the left mouse button, drag a rectangle around all contours you want to select simultaneously. Use the Ctrl-A shortcut to select all contours.

Resize selected contours

When you select one or more contours, a box with "resizing handles" shows up around the selected contour(s). Click and drag one of those resizing handles to change the size of the selected contour(s). By default the selected contour(s) remain proportional to the original size, as you resize it. Press the Shift key while you drag one of the resizing handles located at the corners to resize freely.

Move selected contours

To constrain a selection so it moves only horizontally or vertically, press Shift as you drag the selection. Press Alt to ignore the snap to grid and snap to guidelines features.

Duplicate selected contours

To copy selected contours to a new position, hold down the Ctrl key as you drag the selection. Hold the Alt key to ignore the snap to grid and snap to guidelines features. Hold down the Shift key to move only in vertical or horizontal direction. Any combination of these keys is allowed.

Rotate selected contours

You can rotate by first selecting a contour (or more) and then select it again (don't double-click). The little rectangles on the corners have changed into circles. These can be used to rotate the selected contour(s). The other four rectangles are used to skew the selection. To change the origin for the rotation you can move the little cross in the middle of your selection.
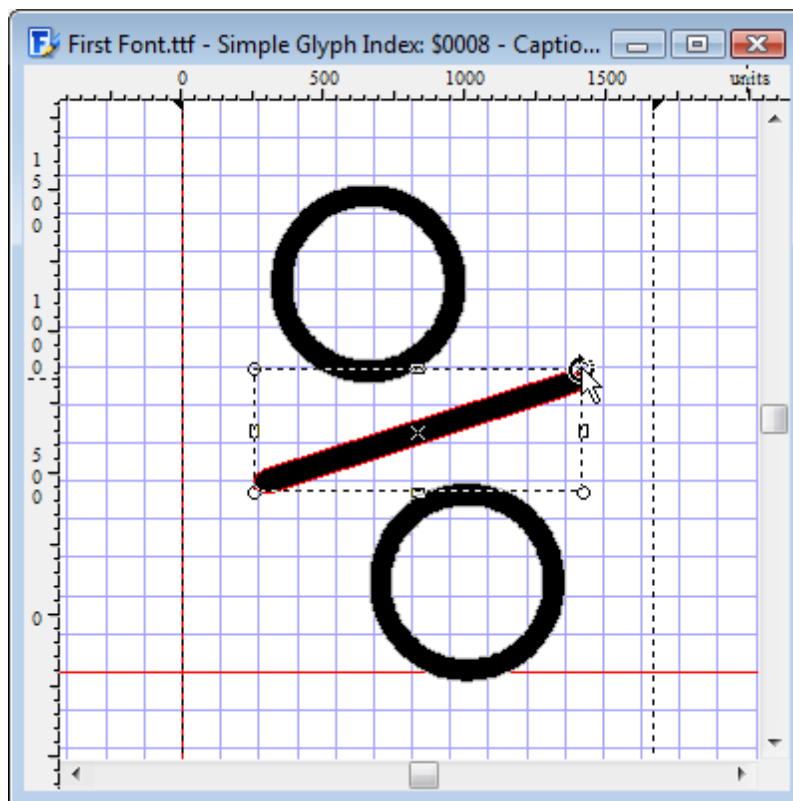
There are several ways to add outlines (contours) to a glyph:

- Using the Freedraw Contours tool
- Select the **Add rectangle** or **Add ellipse** button on the **Drawing** toolbar and place it on the Glyph Edit window.
- Draw a new contour
  First select **Contour** from the **Insert** menu. A left mouse click creates a point on the contour and a right mouse click creates a point off the contour for a bézier curve. Creating points while holding down the Ctrl key generates straight lines (horizontal or vertical). After you have created your contour you press the **Apply** button.
- **Samples** toolbar:
  Drag and drop a glyph from the **Samples** toolbar into a **Glyph Edit** window.
- Copy contours from other glyphs, even from other fonts and paste them. (These operations carried out in their respective **Glyph Overview** windows)
- Import a stored vector or bitmap file of an image of a glyph into a **Glyph Edit** window using **Import** in the **Tools** menu.
- Paste a Clipboard image of a glyph into the **Glyph Edit** window. The Clipboard image could be created in another application which has graphics editing capabilities e.g. a cropping function. This operation is performed using the **Paste** option in the **Edit** menu.

5.3.4.3 Points

In **Point mode** the rectangles represent on curve points and the circles off curve points.
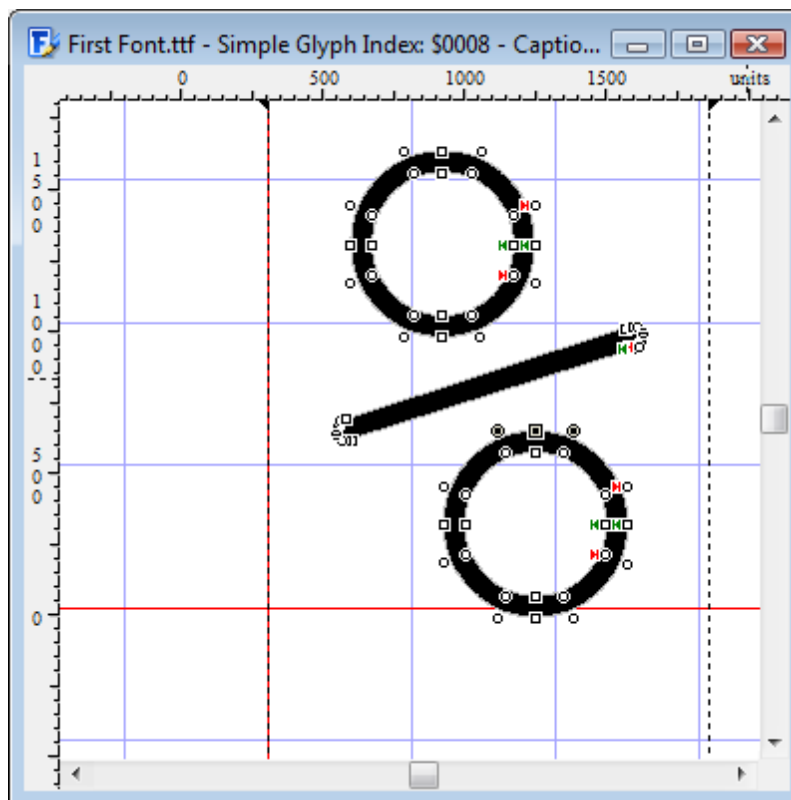
Select points

To select a single point click on it. To select more than one point hold down the Shift key while clicking on several points or another way is to hold down the left mouse button and drag a rectangle around the points you want to select simultaneously, whether a few or all points in the glyph. Use the Ctrl-A shortcut to select all points. Hold down the Shift key and select points you want to add or remove from the current selection.

Move selected points

To constrain a selection so it moves only horizontally or vertically, press Shift as you drag the selection. Press Alt to ignore the snap to grid and snap to guidelines features.

There are several operations related to points (move, add, delete, change points to on or off curve, etc.). Select one or more points and then right-click one of them to open a sub-menu with even more point related features.

Every contour has a start point with a green mark and an end point with a red mark. To

change the start point, right-click a point and select **First Point**.

5.3.4.4   **Join and Split Contours**

Both Contour mode and Point mode have ways to combine and split contours. Usually Union, Intersection and Exclusion, available in Contour mode, and Knife, available in both modes, are recommended. If these features don't give expected results the two remaining features (Join Contours and Split Contour) available in Points mode might help.

Union, Intersection and Exclusion in Contour mode

Use the **Union** feature to merge several overlapping contours.

Use the **Intersection** feature to keep all overlapping parts.

Use the **Exclusion** feature to remove all overlapping parts.

Knife in both modes

Use the **Knife** feature to split contours.

Join Contours and Split Contour in Point mode

When you want to combine two contours you have to select one point on each contour. Next right-click one of these points and click "Join Contours" on the shortcut menu.

To split a contour into two contours, select two points (these points should not be neighbors) on the same contour and then right-click one of these points and click "Split Contour" on the shortcut menu.

Note: Make sure the two combining contours have the same direction.

Note: **Union, Intersection, Exclusion and Knife** are not available in the Home Edition of FontCreator.

5.3.4.5   **Freedraw**

The **Freedraw** tool can be used to manually draw lines that can be converted into contours. To enter **Freedraw** mode select **Freedraw Contours** from the **Insert** menu, or select the **Freedraw** tool from the **Drawing Toolbar**.
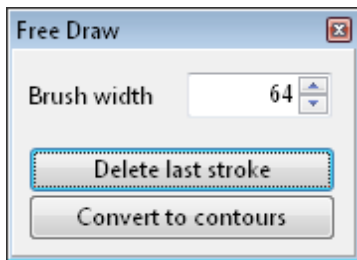
When the **Freedraw** tool is active, the Freedraw toolwindow will be visible. On this toolwindow you can set the Brush width, delete the last stroke or convert the drawn lines into contours.

To draw straight horizontal or vertical lines you can holding down the shift while drawing.

To erase part of the drawing, you can use the right mouse button as an eraser tool.

When you're satisfied, click on "Convert to contours" to add the contour to the currently displayed glyph (contours cannot be added to composite glyphs). To cancel, just close the Free Draw dialogue with the close button.

The new contour will not be joined to existing contours, even if it was drawn crossing them.

5.3.5   Composite Glyphs

5.3.5.1   Introduction

Composite glyphs are simply a combination of two or more other glyphs - usually, but not limited to, a base character and one or more diacritical marks that are placed above and/or below the base character.

Create composite glyphs

You can create a composite glyph when you are editing an empty glyph in a **Glyph Edit** window. To add a composite glyph member select **Glyph** from the **Insert** menu. To add one or more glyphs as composite glyph members first copy glyphs from the **Glyph Overview** window and then paste them into a **Glyph Edit** window that contains an empty glyph or a composite glyph.

Move selected glyph members

You can change the position of each of the used glyphs within the **Glyph Edit** window.

To constrain a selection so it moves only horizontally or vertically, press Shift as you drag the selection. Press Alt to ignore the snap to grid and snap to guidelines features.

Transformations

Besides moving glyph members, it is possible to perform operations like scale and rotation by

double-clicking on the glyph member or right-clicking and select **Glyph Member Properties**
.

Duplicate selected glyph members

To copy selected composite glyph members to a new position, hold down the Ctrl key as you
drag the selection. Hold the Alt key to ignore the snap to grid and snap to guidelines features.
Hold down the Shift key to move only in vertical or horizontal direction. Any combination of
these keys is allowed.

Convert to simple glyph

To convert a composite glyph to a simple glyph select the glyph in the **Glyph Overview**
window or in the **Glyph Edit** window and select **Make Simple** from the **Edit** menu.

Join composite glyph members

If composite glyph members intersect such as with C cedilla, **Get Union of Contours** on
the **Glyph** toolbar will convert the composite glyph to a simple glyph and join intersecting
contours into one contour.

5.3.5.2   Add Glyph Member

If you wish to edit an empty glyph or modify a composite glyph you can select **Glyph** from the **Insert** menu.
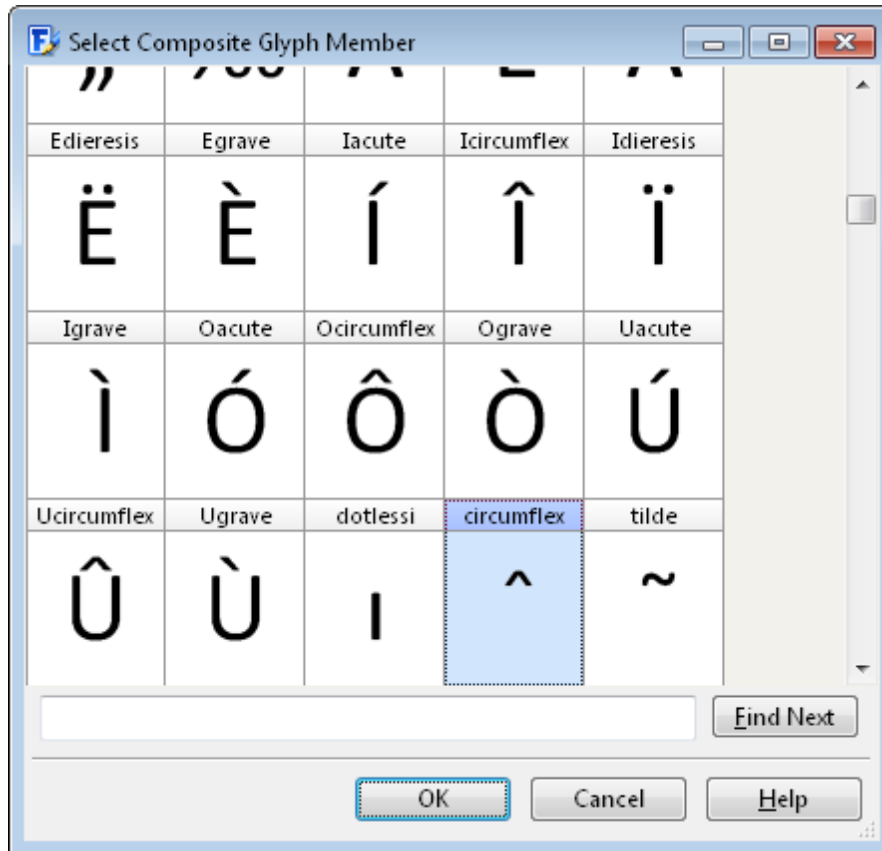
In the **Select Composite Glyph Member** window select the glyph you want to add to the composite glyph and press the **OK** button.

5.3.5.3 Glyph Member Properties

When you have opened a composite glyph in the **Glyph Edit** window, you can modify the properties of each composite glyph member. Either double-click a Glyph Member or right-click it and then select **Glyph Member Properties**.
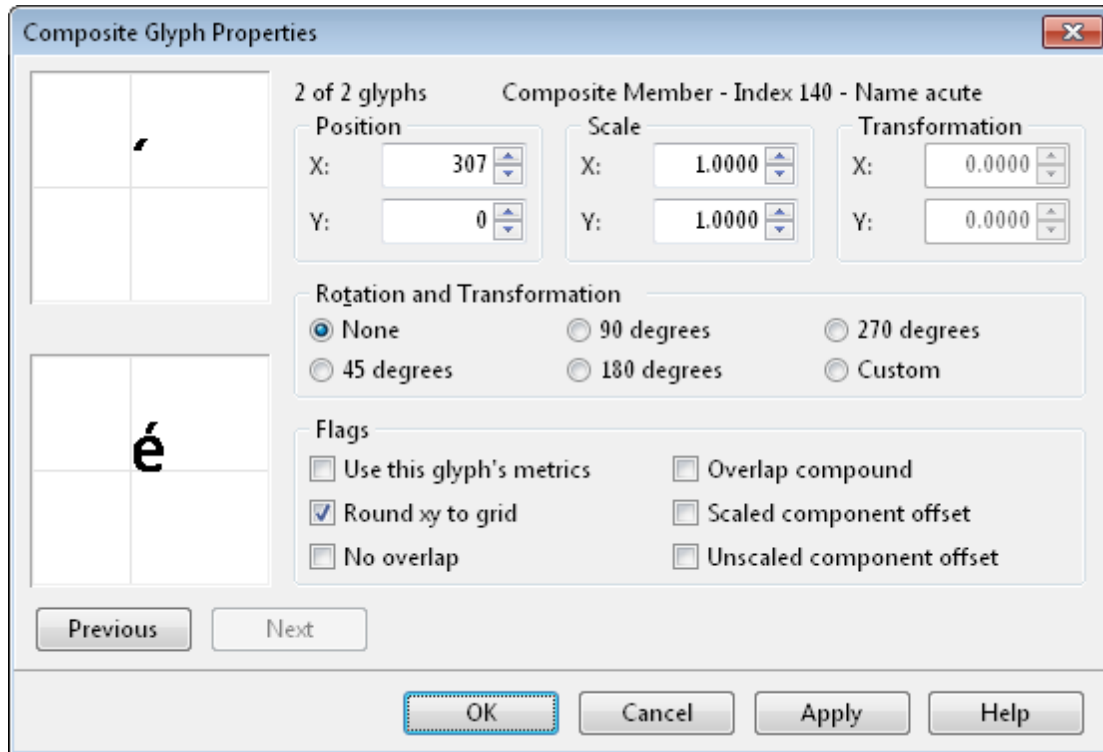
In the **Composite Glyph Properties** window you can modify the position, scale, rotation, transformation and special flags of the selected member. Use the **Previous** and **Next** buttons to walk through the members.

The Flags consist of a set of fields:

Use this glyph's metrics

If set, this forces the advance width and left side bearing (and right side bearing) for the composite to be equal to those from this original glyph. This works for hinted and unhinted characters. Only one member can have this option selected. Without this flag, the actual left side bearing and right side bearing of the composite glyph will be used.

Round xy to grid

Round the x and y offsets.

No overlap

This bit is reserved/obsolete. Do not set it.

Overlap compound

Used by Apple in GX fonts.

Scaled component offset

Composite designed to have the component offset scaled (designed for Apple rasterizer).

Unscaled component offset

Composite designed not to have the component offset scaled (designed for the Microsoft TrueType rasterizer).

Note that the behavior of the **Use this glyphs metrics** operation is undefined for rotated composite components.

5.3.5.4   **Complete Composites**

Use the **Complete Composites** feature to add composite glyph members to your glyphs. To use this powerful feature, select a glyph, or a range of glyphs, right-click and select **Complete Composites**. The selected glyphs will be composed using data in CompositeData.xml, which is read when FontCreator first uses the feature. This feature works with over two thousand glyphs that are defined in this file. To get the most out of this feature follow these guidelines:

- The selected glyph(s) must be mapped with a Windows Unicode mapping.
- If the selected glyph(s) are empty or simple they will be replaced wherever composites are defined. **Do not include simple glyphs in your selection if you don't wish to replace them with composites.**
- If the selected glyph(s) are already composites they will be replaced only if the composite glyph members are different, not if their positions or scale factors are different.
- All composite members must be present in the font. If any composite members are mapped, but still empty, the composite glyph will be completed, though obviously missing the contours that have not been defined yet.

Info: Read the documentation about the content of the file CompositeData.xml and an explanation about how to modify and add glyphs. This document is available from our website:

http://www.high-logic.com/fcptutorials.html

Note: **Complete Composites** is not available in the Home Edition of FontCreator.

5.3.6 Color Glyphs

5.3.6.1 Introduction

Each glyph can have it's own color information assigned to it. If a host application does not support the color font extension, the regular outlines will be shown. There are a couple of similarities with making a composite glyph, but there are also several differences.

Create a single color glyph

The easiest way to create a color version of a glyph, is to select the "Colorize" option from the right-click menu when editing a glyph. This will automatically add the current glyph and assign a single color to it.

Create a multi-color glyph

To make a multi-color glyph, you need to add other glyphs and then define a color for each of these color members. Unlike composite glyph members, you can't change the size or position of these color members. You will need to make sure the individual glyphs are all designed to fit into the color glyph. One other important requirement, is the fact that the metrics of the base glyph and the color members must be the same. So the offset (usually set to 0) as well as the advance width have to match.

Switching between color and normal mode

When editing a glyph, click the "Color Mode" button or select **Color Mode** from the **View** menu.

5.3.6.2 Add Glyph Member

To add one or more Color Glyph members, make sure you are in **Color Mode** and right-click in the Glyph Edit window and select **Add** or click the Add icon .
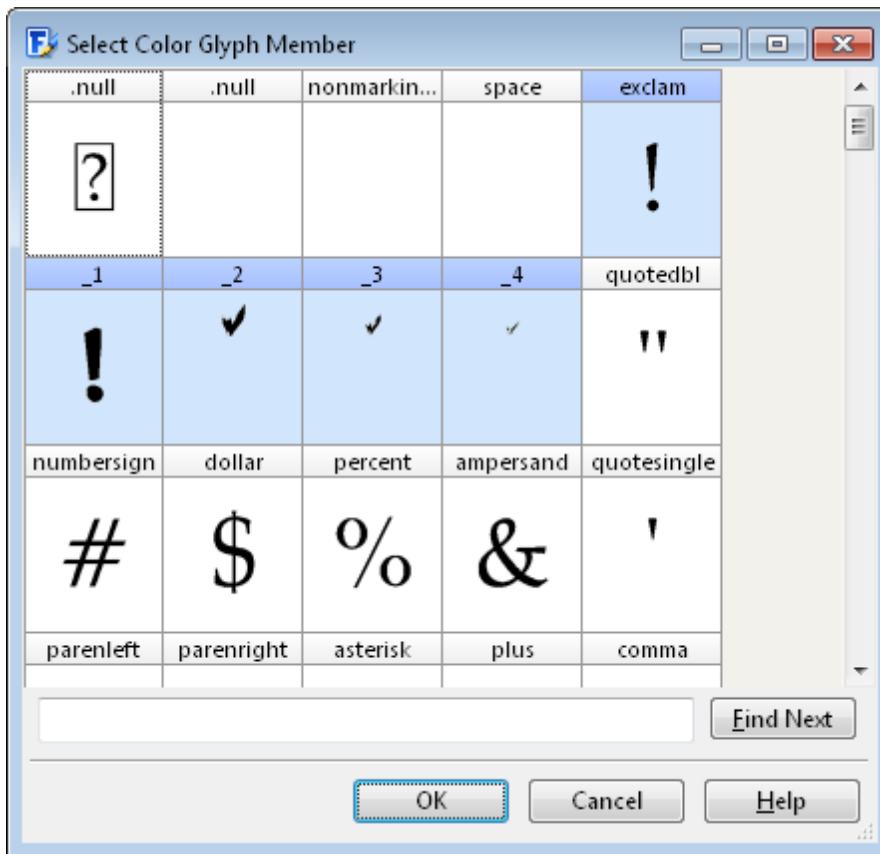
In the **Select Color Glyph Member** window select the glyphs you want to add to the color glyph and press the **OK** button.

You can change the order of the color glyph members via the up and down buttons on the **Color Glyph Member** toolbar, the **Order** options in the right-click menu or via the **Alignment** toolbar. To show and/or hide toolbars, select **Toolbars** on the **View** menu.

5.3.6.3 Palettes and Colors

A font can contain one or more palettes that allow a host application to quickly change the color scheme. By using palettes you can make different color schemes that allow your font to use different colors with, for example a different background color.

The palette colors are global, so if you change a color which is assigned to several color members, then all those members will use the updated color.If you want a unique color for a specific color glyph member, then add a color to the palette and use that instead.

When in **Color Mode** you can assign colors to specific members, by selecting the **Paint Bucket** tool from the **Drawing Toolbar** and click on one of the color glyph members in the Glyph Edit window. You can change the current color by clicking on one of the palette entries in the **Palette Toolbar**.

See also:

Palette

5.4 Format

5.4.1 Properties

5.4.1.1 Identification

Global and horizontal layout information about the font is found on the **Identification** page (**Font Properties** window). On the **Font** menu, click **Properties**, and then click the **Identification** tab.

Font Family

The name the user sees. Maximum length is 31 characters.

Font Subfamily

The name of the style.

Width

Indicates a relative change from the normal aspect ratio (width to height ratio) as specified by a font designer for the glyphs in a font.

Note: Although every character in a font may have a different numeric aspect ratio, each character in a font of normal width has a relative aspect ratio of one. When a new type style is created of a different width class (either by a font designer or by some automated means) the relative aspect ratio of the characters in the new font is some percentage greater or less than those same characters in the normal font -- it is this difference that this parameter specifies.

Weight

Indicates the visual weight (degree of blackness or thickness of strokes) of the characters in the font.

Italic Angle

Italic angle in degrees from the vertical. Zero for upright text, positive for text that leans to the right (forward).

Font revision

Set by the font manufacturer.

Note: For historical reasons, the **Font revision version** is not used by Windows to determine the version of a font. Instead, Windows evaluates the version string from the **Version String** field.

Created

The date and time the font was created, press the **Now** button to set these fields to the current date and time.

Modified

The date and time the font was last modified, press the **Now** button to set these fields to the current date and time.

Automatically update modified timestamp when exporting font

When checked, the timestamp will be automatically set to the current date and time when you export a font.

Generate the following naming fields automatically (recommended)

When checked, the **Full Font Name**, **Version String**, **Unique Font Identifier** and **PostScript Name** fields are automatically updated

5.4.1.2   Extended

The **Extended** page is used to alter the **Additional Naming** and **Additional Font Styles** fields. On the **Font** menu, click **Properties**, and then click the **Extended** tab.

Preferred Family (Windows only)

In Windows, the Family name is displayed in the font menu; the Subfamily name is presented

as the Style name. For historical reasons, font families have contained a maximum of four styles, but font designers may group more than four fonts to a single family. The Preferred Family and Preferred Subfamily IDs allow font designers to include the preferred family/ subfamily groupings. These IDs are only present if they are different from fields Font Family name and Font Subfamily name.

Preferred Subfamily (Windows only)

In Windows, the Family name is displayed in the font menu; the Subfamily name is presented as the Style name. For historical reasons, font families have contained a maximum of four styles, but font designers may group more than four fonts to a single family. The Preferred Family and Preferred Subfamily fields allow font designers to include the preferred family/ subfamily groupings. These fields are only present if they are different from fields Font Family name and Font Subfamily name.

WWS Family

The WWS Family name *

WWS Subfamily

The WWS Subfamily name *

PostScript CID Findfont Name

Its presence in a font means that the Postscript name field in the Naming window holds a PostScript font name that is meant to be used with the "composefont" invocation in order to invoke the font in a PostScript interpreter.

This field must be restricted to the printable ASCII subset, codes 33 through 126, except for the 10 characters: '[', ']', '(', ')', '{', '}', '<', '>', '/', '%'.

Compatible Full (Macintosh only)

On the Macintosh, the menu name is constructed using the FOND resource. This usually matches the Full Name. If you want the name of the font to appear differently than the Full Name, you can insert the Compatible Full Name in this field.

Sample Text

This can be the font name, or any other text that the designer thinks is the best sample to display the font in.

*) For more information about WWS please visit our forums at http://forum.high-logic.com or visit this website: http://blogs.msdn.com/b/text/archive/2007/04/23/wpf-font-selection-model. aspx

5.4.1.3   Legal

The **Legal** page is used to enter the Copyright, Trademark and Licensing information. On the **Font** menu, click **Properties**, and then click the **Legal** tab.
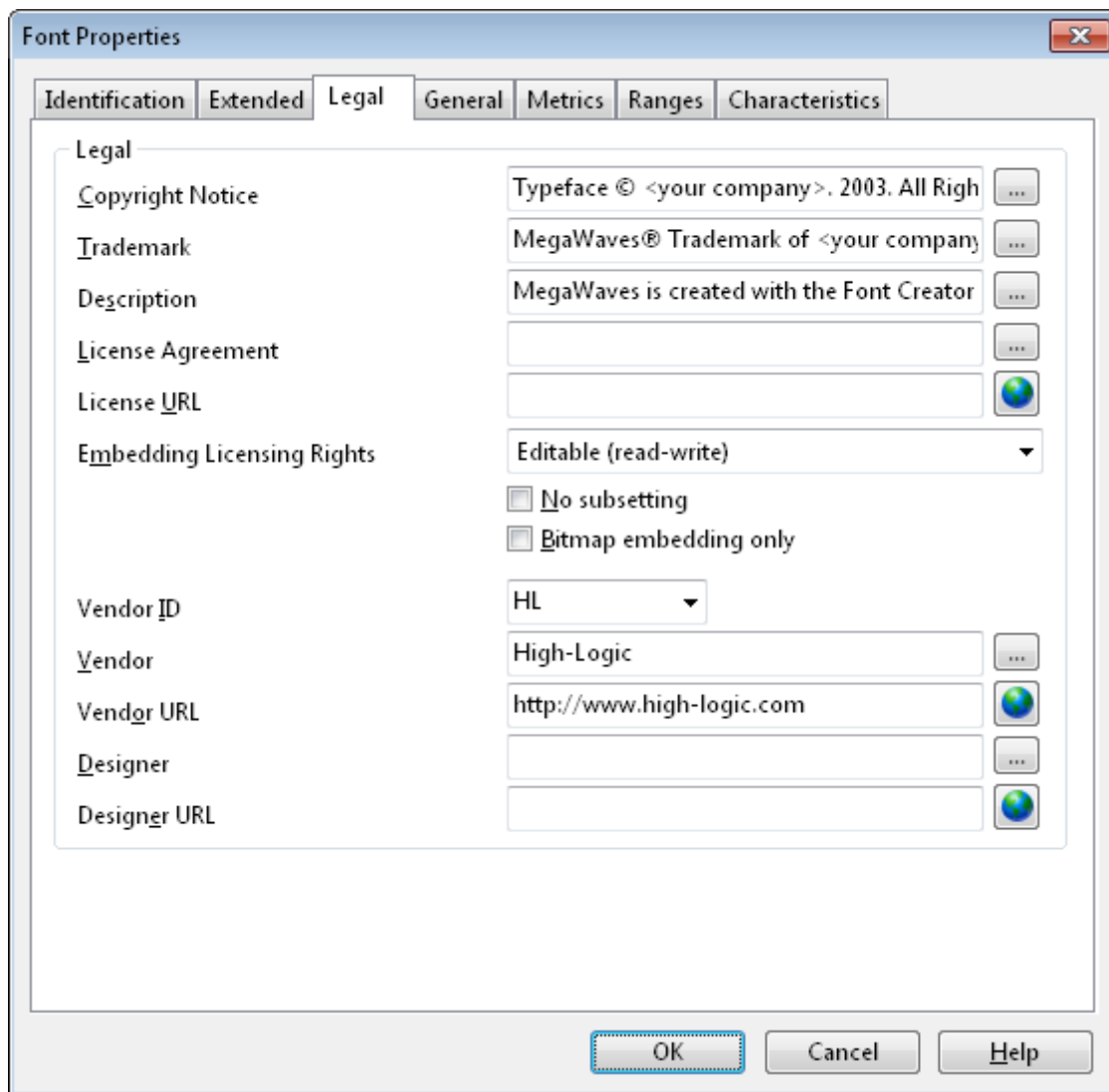
Some Naming fields can be modified within the **Edit Naming Field** window accessed by pressing the **[...]** button.

5.4.1.4 General

5.4.1.4.1 General

This page consists of a set of metrics. On the **Format** menu, click **Settings**, and then click the **General** tab.
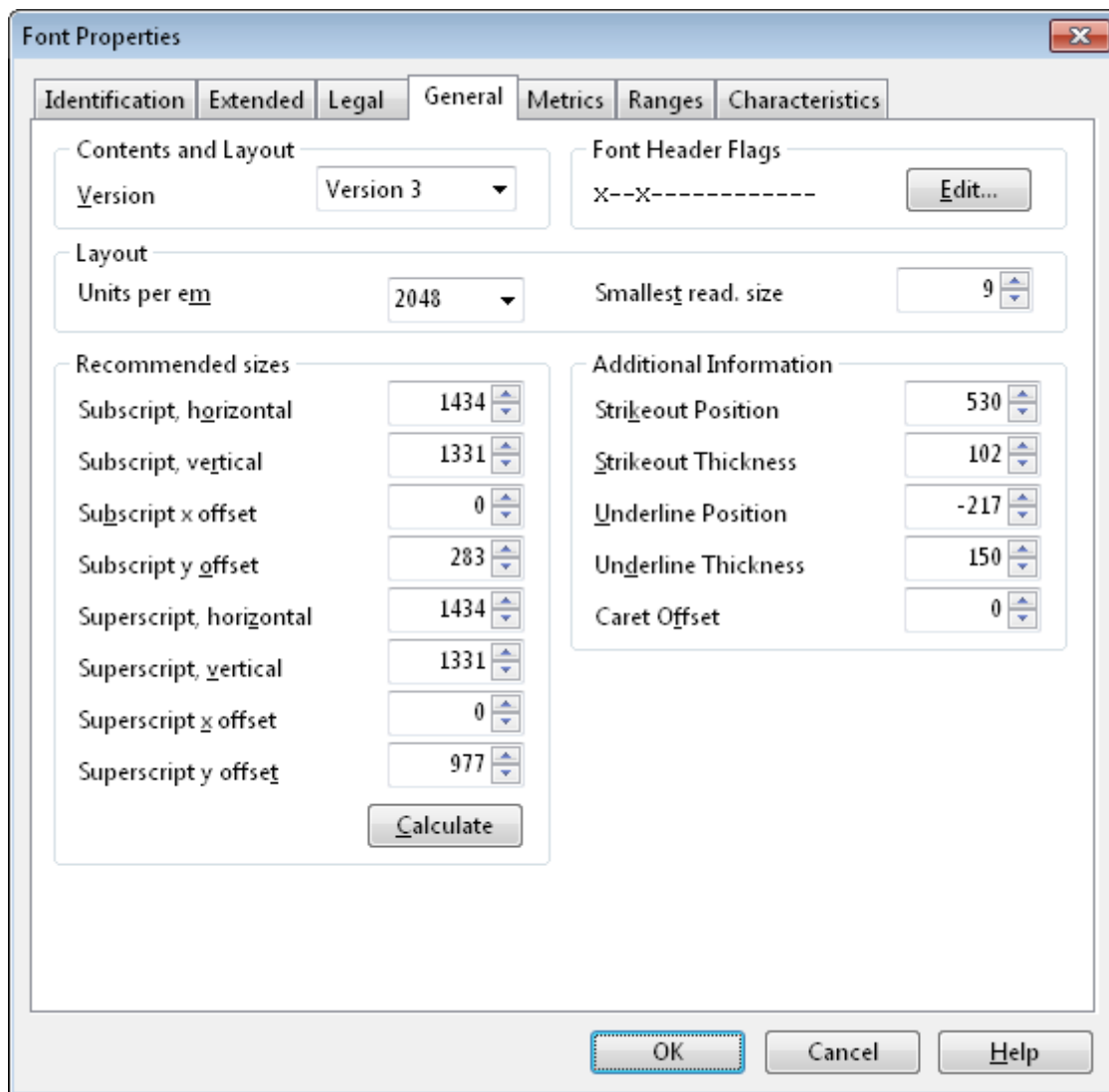
Contents and Layout Version

Version 3 updated **Unicode Character Ranges**.

Version 4 changed deprecated **font direction hint**.

Font Header Flags

This field is used to specify the global information about the font. Press the Edit button to modify this field through the Font Header Flags window.

Units Per Em

Valid range is from 16 to 16384. This value should be a power of 2 for fonts that have TrueType outlines. Nowadays 2048 units per em value is the best value for all fonts of any size including large Latin or non-Latin script fonts.

This value is used to convert values in the pixel coordinate system by multiplying them by a scale. This scale is:

pointSize * resolution / (72 points per inch * units_per_em)

Smallest read. size

Smallest readable size in pixels. Most fonts have this value set to 9.

Subscript, horizontal

The recommended horizontal size in font design units for subscripts for this font.

Subscript, vertical

The recommended vertical size in font design units for subscripts for this font.

Subscript x offset

The recommended horizontal offset in font design units for subscripts for this font.

Subscript y offset

The recommended vertical offset in font design units from the baseline for subscripts for this font.

Superscript, horizontal

The recommended horizontal size in font design units for superscripts for this font.

Superscript, vertical

The recommended vertical size in font design units for superscripts for this font.

Superscript x offset

The recommended horizontal offset in font design units for superscripts for this font.

Superscript y offset

The recommended vertical offset in font design units from the baseline for superscripts for this font.

Calculate

It is up to word-processing software to use these values for superscript and subscript effects. However, be aware not all software use these values uniformly, so when the default superscripts and subscripts look correct in one application, they might look wrong in another application. The calculate button calculates the values so that they look correct in Microsoft Word 2010.

Strikeout size

Width of the strikeout stroke in font design units. This field should normally be the width of the em dash for the current font. If the size is one, the strikeout line will be the line represented by the strikeout position field. If the value is two, the strikeout line will be the line represented by the strikeout position and the line immediately above the strikeout position. For a Roman font with a 2048 em square, 102 is suggested.

Strikeout position

The position of the strikeout stroke relative to the baseline in font design units. The value of strikeout position should not interfere with the recognition of standard characters, and therefore should not line up with crossbars in the font. For a Roman font with a 2048 em square, 460 is suggested.

Underline Position

Suggested values for the underline position (negative values indicate below baseline).

Underline Thickness

Suggested values for the underline thickness.

Note: Word processing applications decide whether they use these underlinePosition and underlineThickness values or use their own defaults.
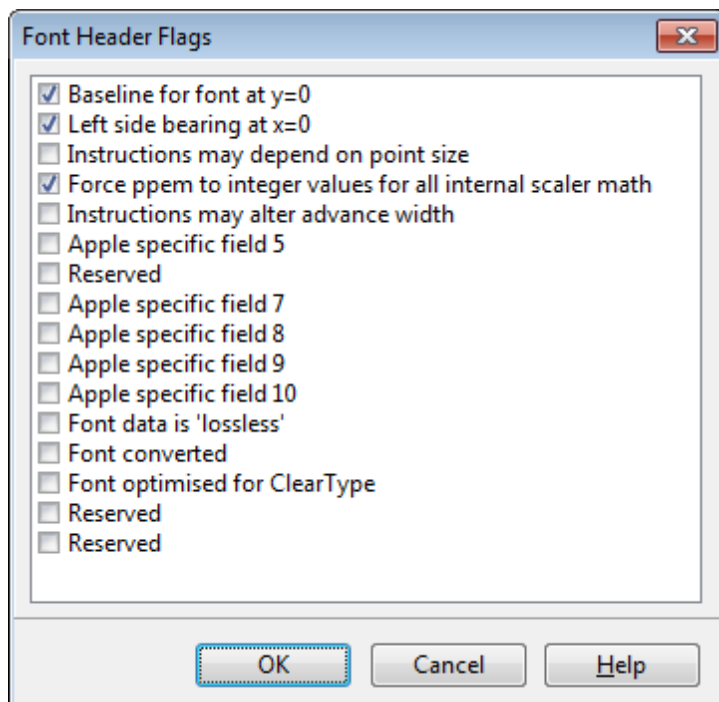Warning: Some Word processors may crash when this value is set to zero.

Caret Offset

The amount by which a slanted highlight on a glyph needs to be shifted to produce the best appearance. Set to 0 for non-slanted fonts.

5.4.1.4.2 Font Header Flags

The Font Header Flags give global information about the font.

Baseline for font at y=0

Set this field when the baseline for all glyphs is at y= 0 (that is, the x-axis).

Left side bearing point at x=0

Set this field when the x-position of the leftmost black bit is assumed to be the left side bearing.

Instructions may depend on point size

Set this flag when there are instructions that depend on point size. Instructions may use point size explicitly in place of pixels per em. This means that scaling a 12 point screen font to obtain the equivalent printer font may not produce the identical result as requesting a 12 point printer font.

Force ppem to integer values for all internal scaler math

When this field is selected integer scaling will be used instead of fractional scaling. Fractional ppem sizes may be used if this field is not selected.

Instructions may alter advance width

When this field is set it allows the font to alter device dependent widths (the advance widths might not scale linearly).

Apple specific field 5

This field should be set in fonts that are intended to be laid out vertically, and in which the glyphs have been drawn such that an x-coordinate of 0 corresponds to the desired vertical baseline.

Reserved

Reserved, do not check this field

Apple specific field 7

This field should be set if the font requires layout for correct linguistic rendering (e.g. Arabic fonts).

Apple specific field 8

This field should be set for a GX font which has one or more metamorphosis effects designated as happening by default.

Apple specific field 9

This field should be set if the font contains any strong right-to-left glyphs.

Apple specific field 10

This field should be set if the font contains Indic-style rearrangement effects.

Font data is 'lossless'

Set this flag when font data is 'lossless', as a result of having been compressed and decompressed with the Agfa MicroType Express engine.

Font converted

Set this flag when the font is converted (produce compatible metrics).

Font optimised for ClearType

Set this field if the font is optimised for ClearType

Reserved

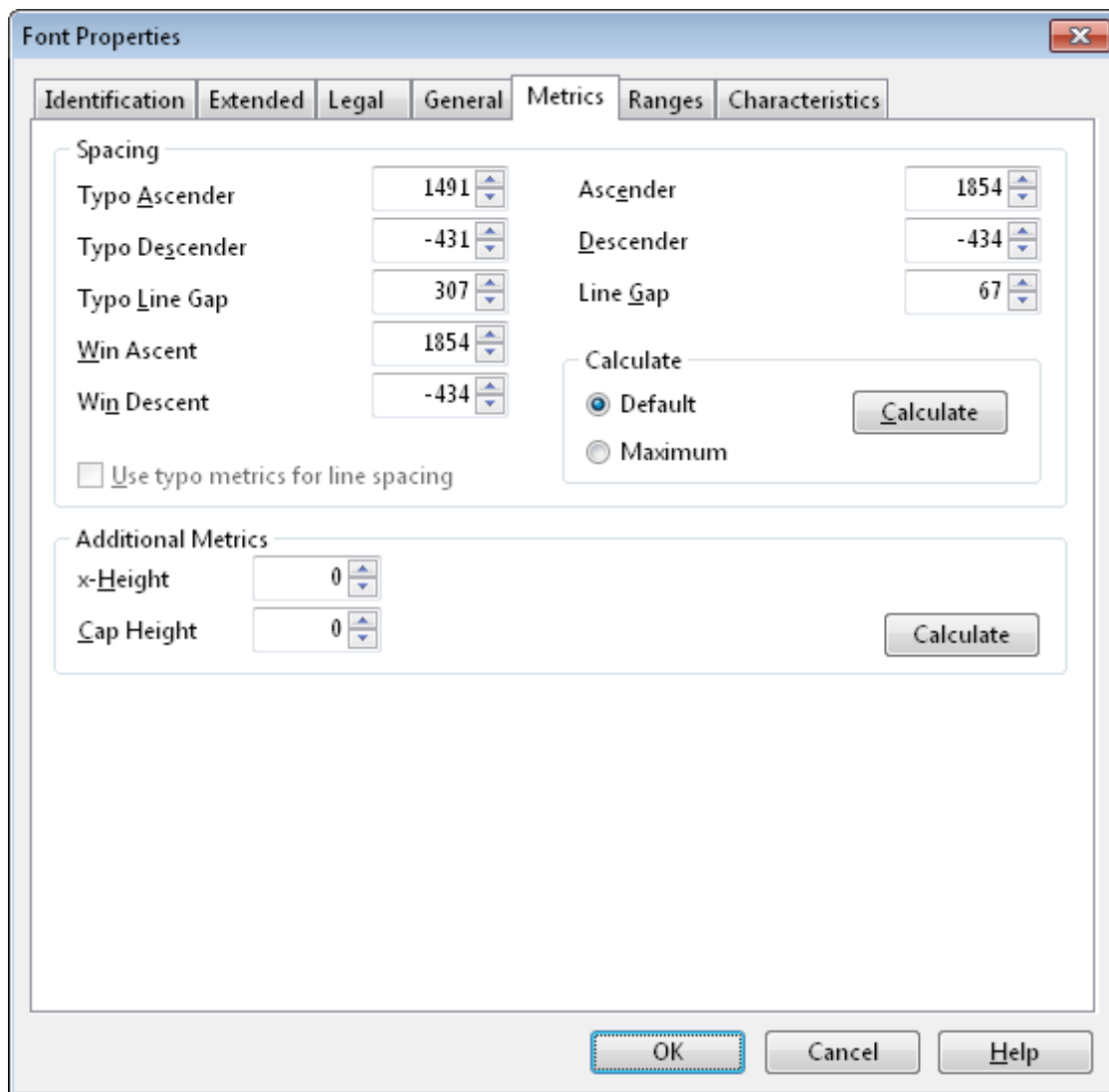Reserved, do not check this field

Reserved

Reserved, do not check this field

Note: The Apple specific fields should be set according to Apple's specification. However, they are not implemented in OpenType.

5.4.1.5   Metrics

This page consists of a set of spacing fields and font design flags. On the **Format** menu, click **Settings**, and then click the **Metrics** tab.

Typo Ascender

The typographic ascender for this font. Remember that this is not the same as the **Ascender** value in the **Metrics** tab, which Apple defines in a far different manner.

The suggested usage for **TypoAscender** is that it be used in conjunction with unitsPerEm to compute a typographically correct default line spacing. The goal is to free applications from Macintosh or Windows-specific metrics which are constrained by backward compatibility requirements. These new metrics, when combined with the character design widths, will allow applications to lay out documents in a typographically correct and portable fashion.

For CJK (Chinese, Japanese, and Korean) fonts that are intended to be used for vertical writing (in addition to horizontal writing), the required value for **TypoAscender** is that which describes the top of the design space (aka, em-square). For example, if the design space of

the font extends from coordinates 0,-120 to 1000,880 (that is, a 1000x1000 box set 120 design units below the Latin baseline), then the value of **TypoAscender** must be set to 880. Failing to adhere to these requirements will result in incorrect vertical layout.

Typo Descender

The typographic descender for this font. Remember that this is not the same as the **Descender** value in the **Metrics** tab, which Apple defines in a far different manner.

The suggested usage for **Typo Descender** is that it be used in conjunction with unitsPerEm to compute a typographically correct default line spacing. The goal is to free applications from Macintosh or Windows-specific metrics, which are constrained by backward compatibility requirements. These new metrics, when combined with the character design widths, will allow applications to lay out documents in a typographically correct and portable fashion.

For CJK (Chinese, Japanese, and Korean) fonts that are intended to be used for vertical writing (in addition to horizontal writing), the required value for **Typo Descender** is that which describes the bottom of the design space (aka, em-square). For example, if the design space of the font extends from coordinates 0,-120 to 1000,880 (that is, a 1000x1000 box set 120 design units below the Latin baseline), then the value of **Typo Descender** must be set to -120. Failing to adhere to these requirements will result in incorrect vertical layout.

Typo Line Gap

The typographic line gap for this font. Remember that this is not the same as the **Line Gap** value, which Apple defines in a far different manner.

The suggested usage for **Typo Line Gap** is that it be used in conjunction with **Units per em** to compute a typographically correct default line spacing. Typical values average 7-10% of units per em.

Win Ascent

The ascender metric for Windows. This, too, is distinct from Apple's Ascender value and from the **Typo Ascender** value. **Win Ascent** is computed as the yMax for all characters in the Windows ANSI character set. **Win Ascent** is used to compute the Windows font height and default line spacing. For **Symbol fonts**, it is the same as yMax.

Win Descent

The descender metric for Windows. This, too, is distinct from Apple's Descender value and from the **Typo Descender** value. **Win Descent** is computed as the -yMin for all characters

in the Windows ANSI character set. **Win Descent** is used to compute the Windows font height and default line spacing. For **Symbol fonts**, it is the same as -yMin.

Use typo metrics for line spacing

If set, it is strongly recommended to use **Typo Ascender** - **Typo Descender** + **Typo Line Gap** as a value for default line spacing for this font.

Ascender (Macintosh-specific)

Typographic ascent

Descender (Macintosh-specific)

Typographic descent

Line Gap (Macintosh-specific)

Typographic line gap. Negative Line Gap values are treated as zero.

Tip: To automatically calculate ascender and descender values press the **Calculate** button.

Additional Metrics

x-Height

This metric specifies the distance between the baseline and the approximate height of non-ascending lowercase letters measured in Funits. This value would normally be specified by a type designer but in situations where that is not possible, for example when a legacy font is being converted, the value may be set equal to the top of the unscaled and unhinted glyph bounding box of the glyph encoded at U+0078 (LATIN SMALL LETTER X). If no glyph is encoded in this position the field should be set to 0.

This metric, if specified, can be used in font substitution: the xHeight value of one font can be scaled to approximate the apparent size of another.

CapHeight

This metric specifies the distance between the baseline and the approximate height of uppercase letters measured in Funits. This value would normally be specified by a type designer but in situations where that is not possible, for example when a legacy font is being

converted, the value may be set equal to the top of the unscaled and unhinted glyph bounding box of the glyph encoded at U+0048 (LATIN CAPITAL LETTER H). If no glyph is encoded in this position the field should be set to 0.

This metric, if specified, can be used in systems that specify type size by capital height measured in millimeters. It can also be used as an alignment metric; the top of a drop capital, for instance, can be aligned to the CapHeight metric of the first line of text.

5.4.1.6 Ranges

5.4.1.6.1 Overview

The **Ranges** page on the **Font Properties** window has several fields related to character ranges and additional metrics. On the **Font** menu, click **Properties**, and then click the **Ranges** tab.
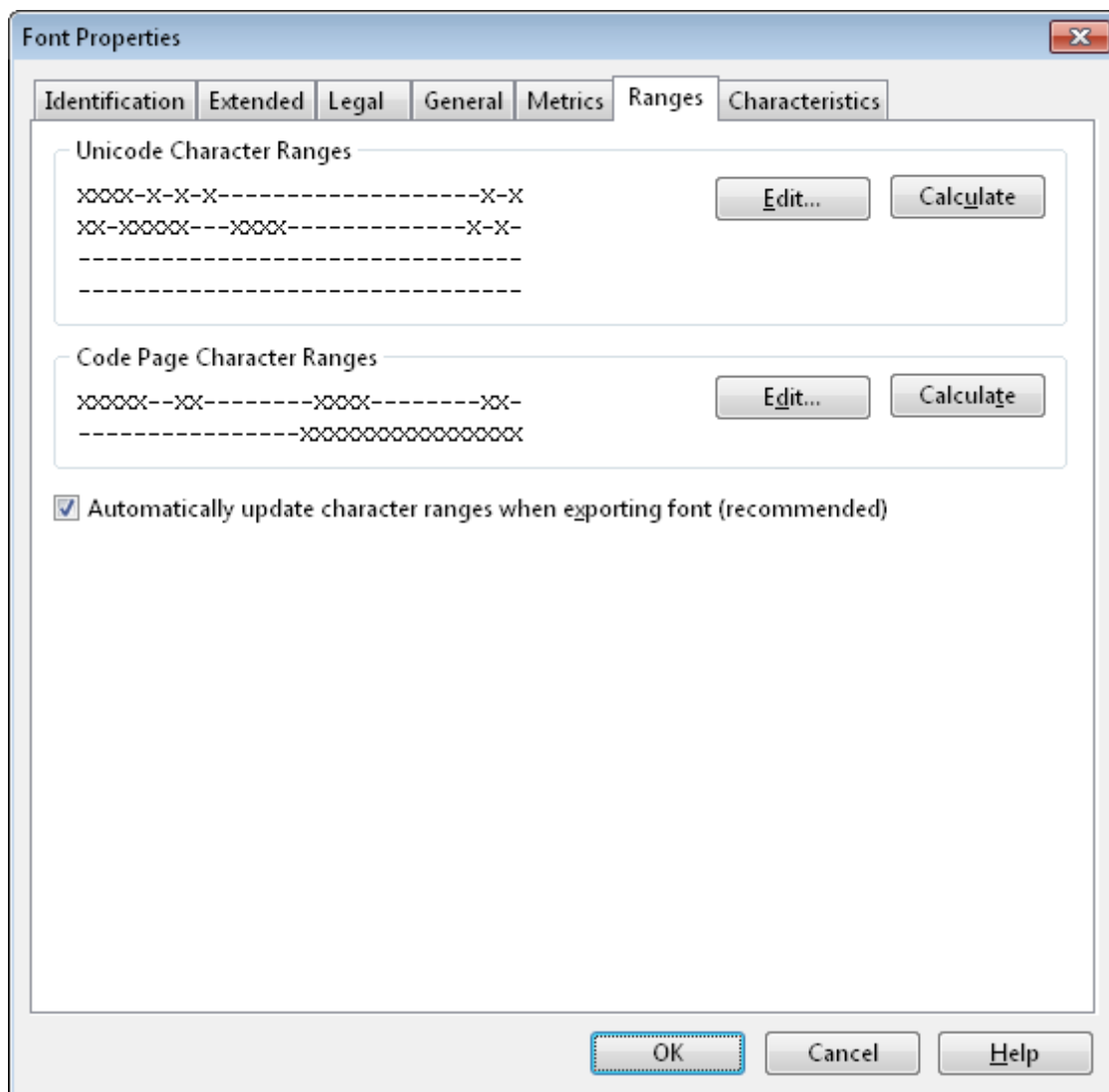
Unicode Character Ranges

This field is used to specify the Unicode blocks or ranges encompassed by the font file in the **mappings** for the **Windows platform**. The Ranges depend on the selected Content and Layout version. Press the **Edit** button to modify this field through the **Unicode Character Range window** or press the **Calculate** button the generate the value.
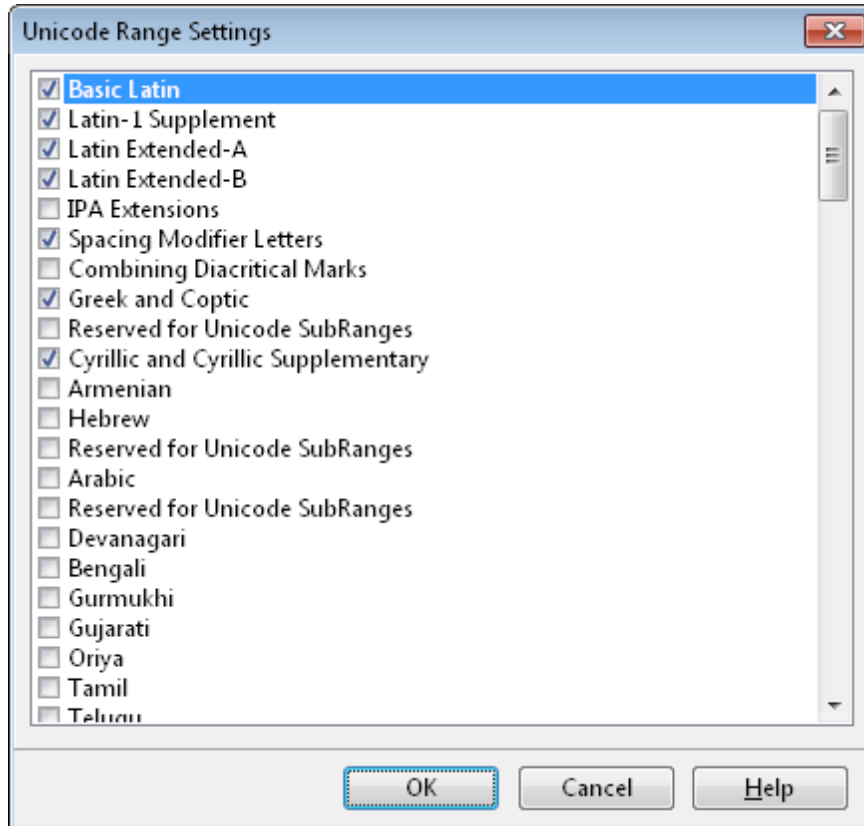
Code Page Character Ranges

This field is used to specify the code pages encompassed by the font file in the **mappings** for the **Windows platform**. Press the **Edit** button to modify this field through the **Code Page Character Range window** or press the **Calculate** button the generate the value.

Automatically update character ranges when exporting font (recommended)

When enabled the character ranges will be updated when the font is exported. This will make sure that the ranges are always correct.

5.4.1.6.2 Unicode Character Range

This field is used to specify the Unicode blocks or ranges encompassed by the font file in the **mappings** for the **Windows platform**. If a Unicode range is selected it is considered functional. The determination of "functional" is left up to the font designer, although character set selection should attempt to be functional by ranges if at all possible.

5.4.1.6.3 Code Page Character Range

This field is used to specify the code pages encompassed by the font file in the **mappings** for the **Windows platform**. If the Windows platform is **Windows Symbol**, then the Symbol Character Set should be selected.

If a code page is selected then the code page is considered functional. The determination of "functional" is left up to the font designer, although character set selection should attempt to be functional by code pages if at all possible.
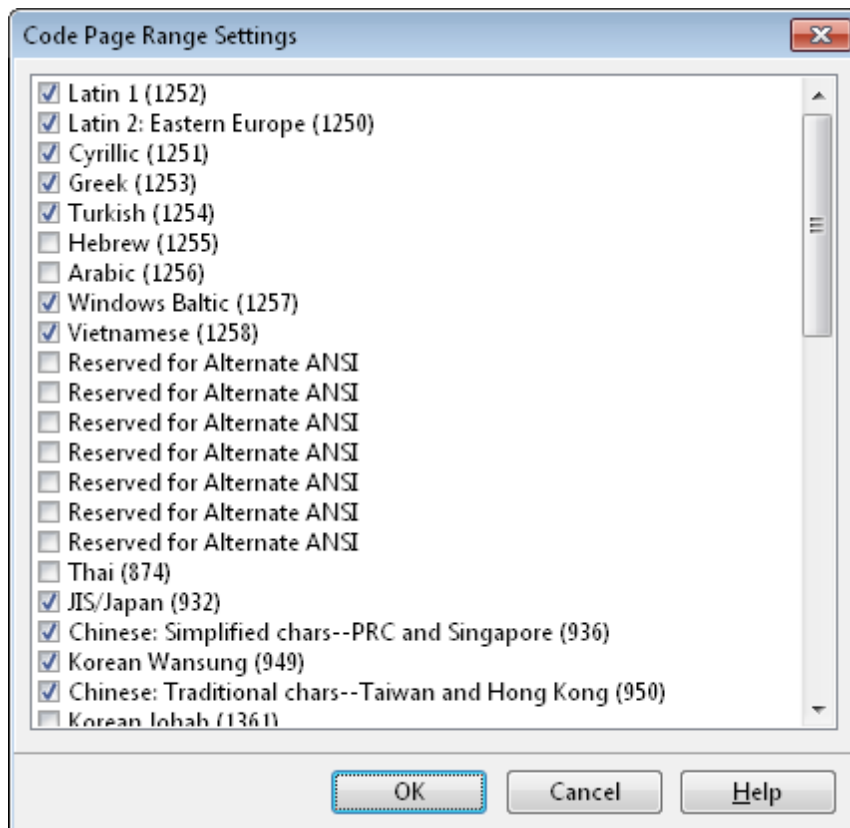
Note: Symbol character sets have a special meaning. If the Symbol Character Set is selected, and the font file contains a Windows Symbol platform, then all of the characters in the Unicode range 0xF000 - 0xF0FF (inclusive) will be used to enumerate the symbol character set. If this code page is not selected, any characters present in that range will not be enumerated as a symbol character set.

5.4.1.7 Characteristics

PANOSE

These fields are used to describe the visual characteristics of a given typeface. These characteristics are then used to associate the font with other fonts of similar appearance having different names. The PANOSE evaluation document details the specifications for assigning PANOSE numbers.

http://www.panose.com/

Font Family Classification

These fields are a classification of the font-family design.

The font class and font subclass are registered values assigned by IBM to each font family. These fields are intended for use in selecting an alternate font when the requested font is not available. The font class is the most general and the font subclass is the most specific. More
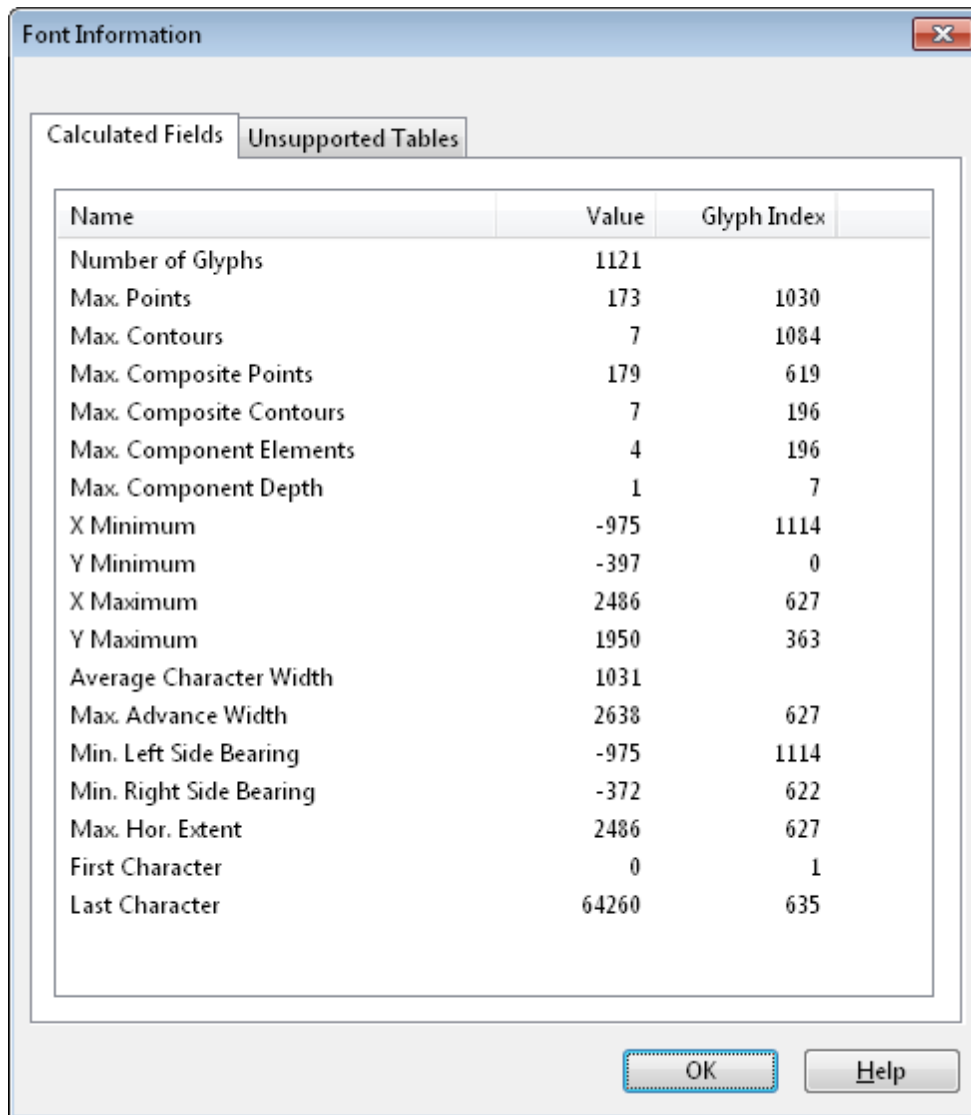
information about this field is available online:

http://www.microsoft.com/typography/otspec/ibmfc.htm ⬈

5.4.2   Font Information

5.4.2.1   Calculated Fields

Information about the font is found on the **Font Information** dialog (from the **Font** menu).

Font Information		
Calculated Fields	Unsupported Tables	

Name	Value	Glyph Index
Number of Glyphs	1121	
Max. Points	173	1030
Max. Contours	7	1084
Max. Composite Points	179	619
Max. Composite Contours	7	196
Max. Component Elements	4	196
Max. Component Depth	1	7
X Minimum	-975	1114
Y Minimum	-397	0
X Maximum	2486	627
Y Maximum	1950	363
Average Character Width	1031	
Max. Advance Width	2638	627
Min. Left Side Bearing	-975	1114
Min. Right Side Bearing	-372	622
Max. Hor. Extent	2486	627
First Character	0	1
Last Character	64260	635

OK   Help

These fields can't be modified directly as they are calculated and depend on other font related data, but you can double-click a row, to jump to the specific glyph.

NumGlyphs

The number of glyphs in the font.

maxPoints

Maximum points in a non-composite glyph.

maxContours

Maximum contours in a non-composite glyph.

maxCompositePoints

Maximum points in a composite glyph.

maxCompositeContours

Maximum contours in a composite glyph.

maxZones

1 if instructions do not use the twilight zone (Z0), or 2 if instructions do use Z0; should be set to 2 in most cases.

maxTwilightPoints

Maximum points used in Z0.

maxStorage

Number of Storage Area locations.

maxFunctionDefs

Number of FDEFs.

maxInstructionDefs

Number of IDEFs.

maxStackElements

Maximum stack depth. This includes Font and CVT Programs, as well as the instructions for each glyph.

maxSizeOfInstructions

Maximum byte count for glyph instructions.

maxComponentElements

Maximum number of components referenced at "top level" for any composite glyph.

maxComponentDepth

Maximum levels of recursion; 1 for simple components.

X Minimum for all glyph bounding boxes

Y Minimum for all glyph bounding boxes

X Maximum for all glyph bounding boxes

Y Maximum for all glyph bounding boxes

The bounding box values computed using *only* glyphs that have contours.

advanceWidthMax

Maximum advance width value

minLeftSideBearing

Minimum left side bearing value

minRightSideBearing

Minimum right side bearing value

xMaxExtent

Maximum extent value

usFirstCharIndex

The minimum Unicode index (character code) in this font, according to the Windows Unicode BMP (UCS-2) or Windows Symbol mapping table. For most fonts supporting Win-ANSI or other character sets, this value would be 0x0020.

usLastCharIndex

The maximum Unicode index (character code) in this font, according to the Windows Unicode BMP (UCS-2) or Windows Symbol mapping table. This value depends on which character sets the font supports.

5.4.2.2 Unsupported Tables

Over the years the TrueType and OpenType font specifications have been updated with new tables. FontCreator supports all common font tables

The preferred table ordering is defined in the file *TableOffsetOrder.txt*. Although this is the recommended order for OpenType fonts with TrueType outlines in the Windows operating system, you can add, remove and change the order of these tables.
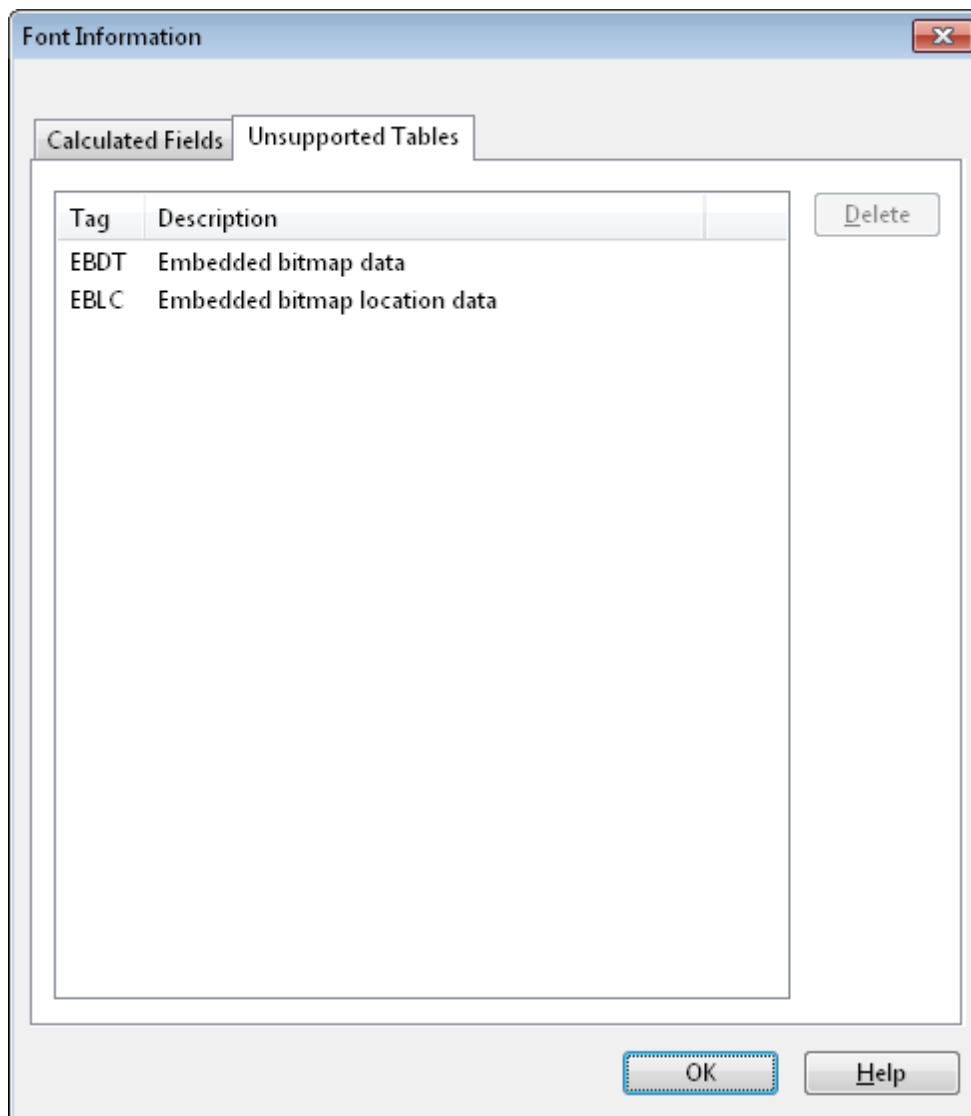
If you want to delete an unsupported table, select the table on the **Unsupported Tables** page and press the **Delete** button.

5.4.3 OpenType Layout Features

5.4.3.1 Automatic OpenType Layout Features

FontCreator can automatically add a lot of common ligatures and other OpenType Layout Features to your font. The only requirement is that your glyph names are properly set. For a full list of features and their required glyph names please see the following website:

http://www.high-logic.com/fontcreator/otlf/features.xml

5.4.3.2 OpenType Layout Feature Editor

The **OpenType Layout Feature Editor** allows you to take full control over all the supported OpenType Layout Features in your font. Because adding features can be very time consuming the editor uses a scripting language that is very easy to use and understand.
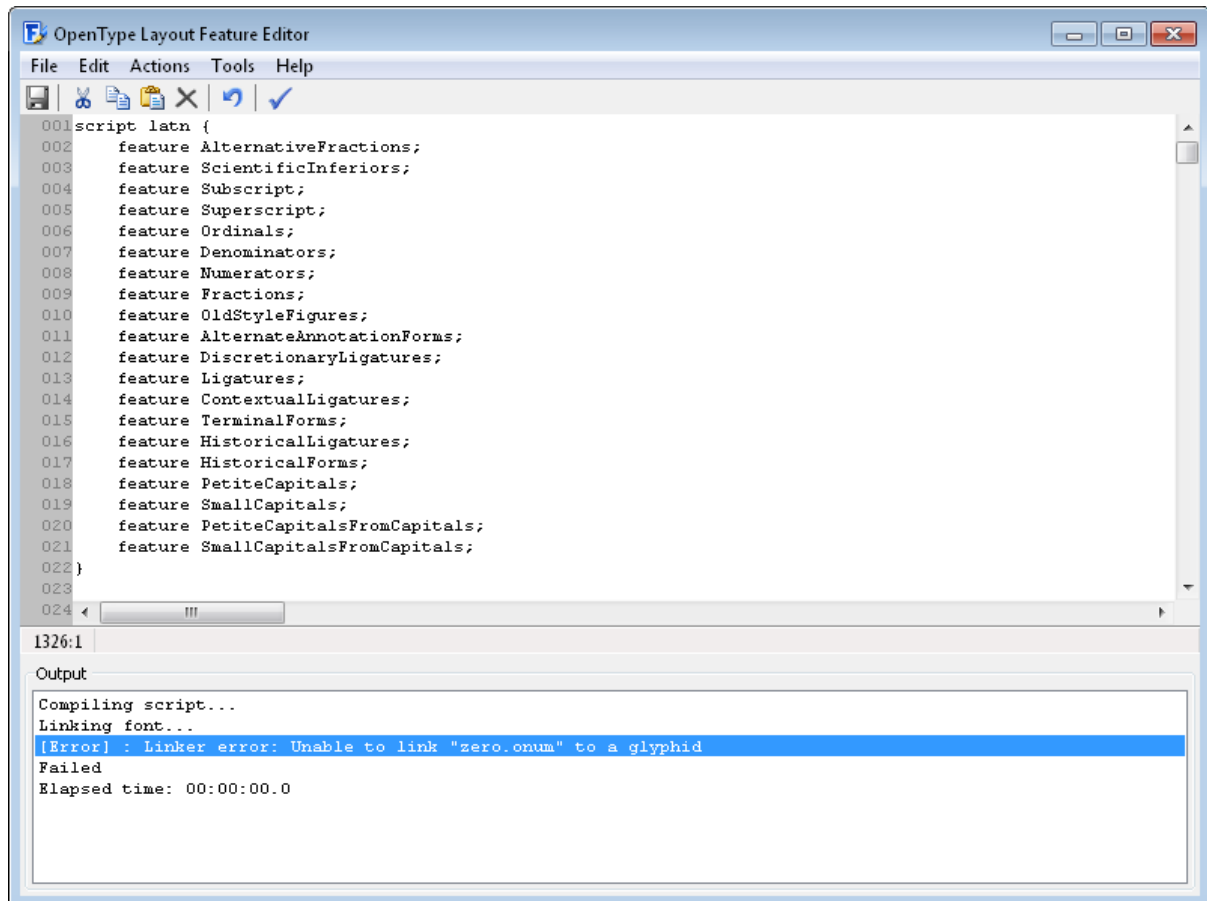
To test if the syntax is correct and all **Glyph** names are valid, select **Compile** in the **Actions** menu, use the shortcut key F9, or click the button on the toolbar. If there are any syntax errors or glyph names that could not be resolved the **Output** window will list them. You can double-click on the error to quickly jump to the line where the error occurred.

The script is saved in your project file, but if you wish to save it to a separate file you can choose **Export Script...** from the **File** menu.

Note: The OpenType Layout Feature Editor is not available in the Home Edition of FontCreator

5.4.3.3 Advanced Editing

When a font is opened, the OpenType Layout Features are automatically decompiled and stored as a script in your project. You can edit this script by opening the OpenType Layout

Features editor via the **Font** -> **OpenType Layout Features** menu item.

You can extract the OpenType Layout Features from another font by choosing **Extract script from font...** from the Tools menu in the OpenType Layout Features editor.

Note: Advanced Editing Features are only available in the **Professional** Edition of FontCreator

5.4.3.4 Examples and Help

For example scripts and help with creating custom scripts, please visit our forums at:

http://forum.high-logic.com/ ⟋

5.4.3.5 Syntax

5.4.3.5.1 Basics

A script consist of several "blocks" containing declarations for scripts, features, lookups and groups. A block is started by the keyword and optional name and/or tag following a left curly bracket "{" a block is closed by a right curly bracket "}".

It is not possible to nest these blocks with the exception of the language block which has to be nested into a script block. Names of blocks must be unique across the script and they are case sensitive. It is possible to reference a block before it is declared. A compiler error will be generated when a feature is referenced that does not exist and when a feature is declared, but not referenced.

Basic layout of a script:

```
script <tag> {
  <feature references>
}

feature <name> <tag> {
  <lookup references>
}

lookup <name> {
  [featureflags <flags>]
  <substitution declarations>
}
```

5.4.3.5.2 Supported substitutions

The OpenType Layout Feature specification describes 8 types of substitution. The following table shows which ones are currently supported by FontCreator:

#	Type	Supported	Description

1	Single	Yes	Substitute a single glyph by another single glyph (a -> b)
2	Multiple	Yes	Substitute a single glyph by other multiple glyphs (a -> xyz)
3	Alternate	Yes	Substitute a single glyph by one of multiple alternates (a -> x or y or z)
4	Ligature	Yes	Substitute multiple glyphs by a single ligature (f f i -> ffi)
5	Context	No	
6	Chaining Context	Partially	Substitute context specific glyphs (3rd -> 3rd)

| 7 | Extension Substitution | No |
| 8 | Reverse chaining context single | No |

5.4.3.5.3 Comments

To add comments to your script, simply add a # (number sign) in front of it:

```
# This is comment
```

5.4.3.5.4 Feature

The feature keyword is used in 2 ways: To reference a feature and to declare a feature. A feature is referenced from a script block to indicate the specified feature is available in that script.

Referencing a feature:

```
script <tag> {
  feature MyLigatures; # referencing feature "MyLigatures"
}
```

Declaring a feature:

```
feature <name> <tag> {
```

```
    <feature declaration>
}
```

Where:

- **name** is a name you can create yourself. You may only only use a-z, A-Z, 0-9 and "_" in your name. Names are case-sensitive, and may only be declared once.

- **tag** is one of the feature tags defined on the Microsoft list of feature tags. A full list of available tags can be found at http://www.microsoft.com/typography/otspec/featurelist.htm ⬀

5.4.3.5.5 Group

The group keyword is used to declare a group of glyphs to be used for Chained Context Substitution.

```
group @<group name> [ <glyphs> ];
```

Where:

- **name** is a name you can create yourself. You may only only use a-z, A-Z, 0-9 and "_" in your name and it must start with an @ (at) sign. Names are case-sensitive, and may only be declared once.

5.4.3.5.6 Language

The language keyword is used to include a feature into a specific language. All languages not assigned to a specific language are available to ALL languages. The language keyword can only be used inside a script block. Assigning a feature to a specific language:

```
script <scripttag> {
  language <tag> {
    <features>  # only available in this language
  }
  <features> # available in all languages
}
```

Where:

- **tag** is one of the language tags defined on the Microsoft list of language tags (deprecated languages are not supported). A full list of supported languages can be found at http://www.microsoft.com/typography/otspec/languagetags.htm ⬀

5.4.3.5.7 Lookup

The lookup keyword is used in 2 ways: To reference a lookup and to declare a lookup. A lookup is referenced from a feature block to indicate the specified lookup should be used for

that feature. Lookups can also be referenced from Chained context lookups

Referencing a lookup from a feature:

```
feature MyLigatures liga {
  lookup <name>;
}
```

Referencing a lookup from a chained context lookup:

```
lookup MyChainedContextLookup {
  context (@BackTrackGroups) @InputGroups (@LookAheadGroups);
  sub 0 <lookup name>;
}
```

Declaring a lookup:

```
lookup <name> <tag> {
  <lookup declarations>
}
```

Note: It is possible to set optional lookup flags (properties) via the **lookupflags** keyword.

5.4.3.5.8 LookupFlags

The **lookupflags** keyword is used to modify several flags (properties) of a **lookup**. The current supported flags are:

RightToLeft	This bit relates only to the correct processing of the cursive attachment lookup type (GPOS lookup type 3). When this bit is set, the last glyph in a given sequence to which the cursive attachment lookup is applied, will be positioned on the baseline.
IgnoreBaseGlyphs	Skips over base glyphs
IgnoreLigatures	Skips over ligatures
IgnoreMarks	Skips over combining marks
UseMarkFilteringSet	Indicates that the lookup table structure is followed by a MarkFilteringSet field. The layout engine skips over all mark glyphs not in the mark filtering set indicated.

Applying lookupflags to a lookup:

```
lookup MyLookupTable {
  lookupflags <flags>;
}
```

When you want to apply more than one flag to a lookup, simply separate them by spaces.

Note: Lookup flag names are case sensitive.

The script keyword is used to declare a block of features for a specific script. When the features are to be used for all scripts, the script "dflt" (default) should be used.

```
script <tag> {
  feature <featurename>;
}
```

☐ **tag** is one of the script tags defined on the Microsoft list of script tags. The proposed script tags on that list are also supported. A full list of script tags can be found at: http://www.microsoft.com/typography/otspec/scripttags.htm ↗

The **sub** keyword declares a substitute. As explained in the supported substitution types section there are several substitution types. Substitution declarations can only declared in lookups. It is not possible to declare a substitution directly in a feature. Each lookup can only have 1 type of substitution, this means that if you want to use several substitution types in a single feature, multiple lookups have to be declared.

Declaring Single (Type 1) substitutions

```
lookup MyLookupTable {
  sub A -> a.smcp;
}
```

Declaring Multiple (Type 2) substitutions

```
lookup MyLookupTable {
  sub ffi -> f f i;
}
```

Declaring Alternate (Type 3) substitutions

```
lookup MyLookupTable {
  sub asterisk -> [asterisk asteriskmath uni2051 uni2042 uni203B uni273B];
}
```

Declaring Ligature (Type 4) substitutions

```
lookup MyLookupTable {
  sub f f i -> ffi;
}
```

Declaring Chained Context (Type 6) substitutions

```
lookup MyLookupTable {
  context (@<backtrackgroups>) @<inputgroups (@<lookaheadgroups);
  sub 0 <substitution table>;
}
```

IMPORTANT: The order in which substitute declarations appear are also the the way they are processed by applications supporting OpenType Layout Features. This means that in the case of ligatures that:

```
lookup MyLookupTable {
```

```
   sub f i -> fi;
   sub f f i -> ffi;
}
```

is not the same as:

```
lookup MyLookupTable {
   sub f f i -> ffi;
   sub f i -> fi;
}
```

and the latter declaration will have the proper result. Why? when the sequence "f i" is encountered it will be replaced by the fi character and will no longer match the f f i sequence. In the latter example "f f i" is matched before "f i" and the result is as expected.

5.4.4 Kerning

5.4.4.1 Overview

Kerning is the reducing/increasing of the space allocated between two glyphs to make them fit more comfortably. Sometimes you want the bearings to be different in special situations. When you want to change the distance between two characters you could use kerning pairs. For example the A and the V could be closer (AV) together than TV.

Not all Operating Systems and applications support kerning. If they don't support kerning they simply ignore the kerning pairs. Many sophisticated word processors and most DTP applications have kerning support.

You can use the Preview toolbar to test the kerning pairs. You can also install the font and use an application that supports kerning.

Tip: Although the Test Font window doesn't support kerning, it does temporarily install the font. The name of the temporarily installed font looks like **FC Test Font 012345**. So while the **Test Font** window is open, you will be able to use the font in any application (e.g. Word). However, when you open the **Test Font** window again you'll have to change the font's name in the application, because the temporary font name always changes.

In Microsoft Office Word select **Font** from the **Format** menu and select the **Character Spacing** tab. There you can turn on kerning in Word by checking the **kerning for fonts** field.

Note: Kerning in Symbol fonts won't be used in Microsoft Word.

Select **Kerning** from the **Format** menu to open the **Kerning** window. Show or hide the grid and bearing lines, or change the colors from the buttons at the top of the dialog. The advance width of each glyph of the current kerning pair is shown with the side bearing lines.
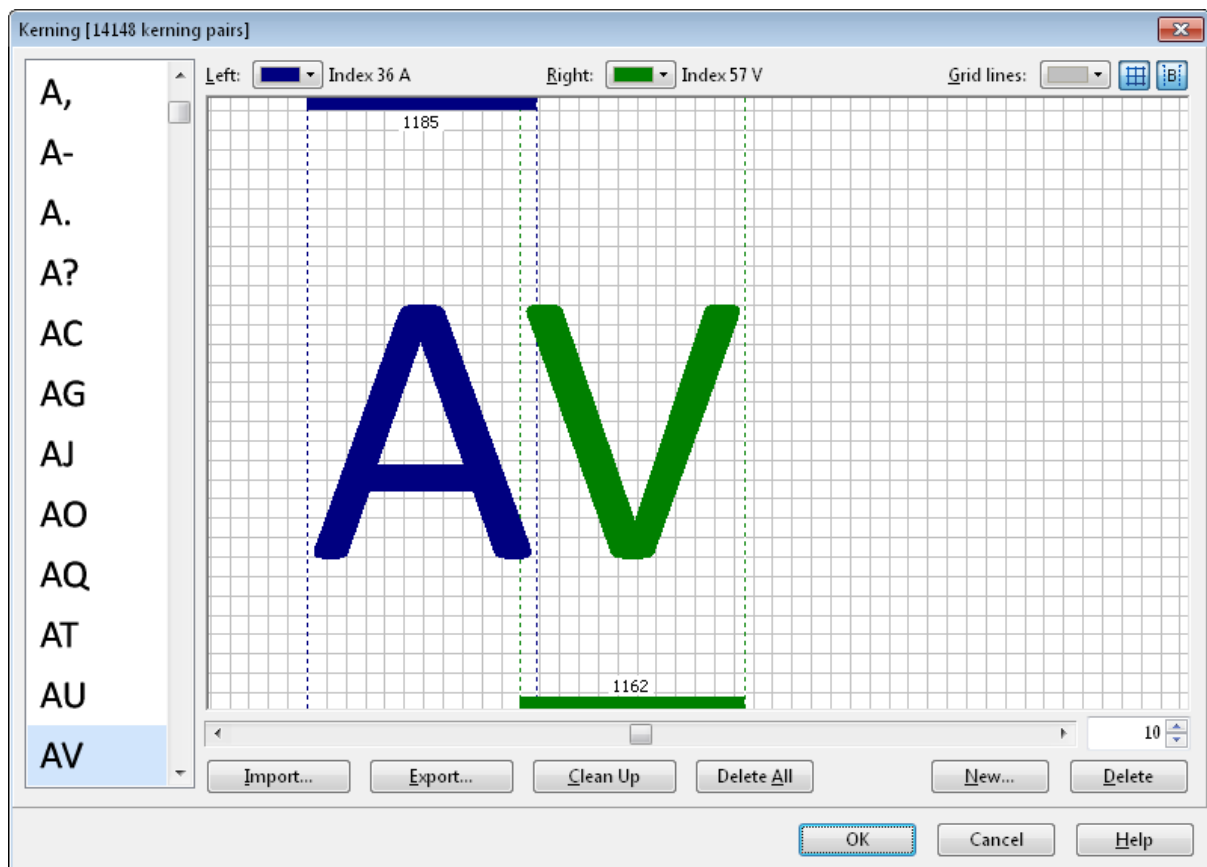
On the left side you can select a kerning pair from the list of already assigned kerning pairs. Type a letter to go to the first kerning pair using that letter (this is case-sensitive). To change the kerning value use the left/right cursor keys. Hold down Shift to increase the step from 10 funits to 100 funits, hold down Control to reduce the step to 1 funit. To use the mouse, drag the second glyph of the kerning pair to the left or right with the hand cursor. You can also use the scrollbar or change the value in the edit field. Using the scrollbar slider handle moves along in units of 192. Clicking on the scrollbar between slider handle and end arrows moves along in units of 10. Clicking on the end arrows moves along in units of 1.

Use the **Import** and **Export** buttons to load and save kerning pair information.

Press the **Clean Up** button, to remove all kerning pairs that have a kerning value of 0 as well as all pairs that are made up with glyphs that are not connected to the Windows Unicode BMP (UCS-2) platform.

To delete all kerning pairs at once, right-click on the list view and select **Delete all** or press the **Delete All** button .

Press the **New** button to add new kerning pairs. Click the **Delete** button to remove the selected kerning pair.

Note: According to the official TrueType and OpenType specifications, the maximum number of kerning pairs is 10920, but FontCreator does allow up to 65535 kerning pairs.

See also:

Automatic Kerning

5.4.4.2 New Kerning Pair

In the **New Kerning Pair** window select both left and right glyphs and press the **OK** button. Now you can alter the kerning value for this new pair in the **Kerning** window.
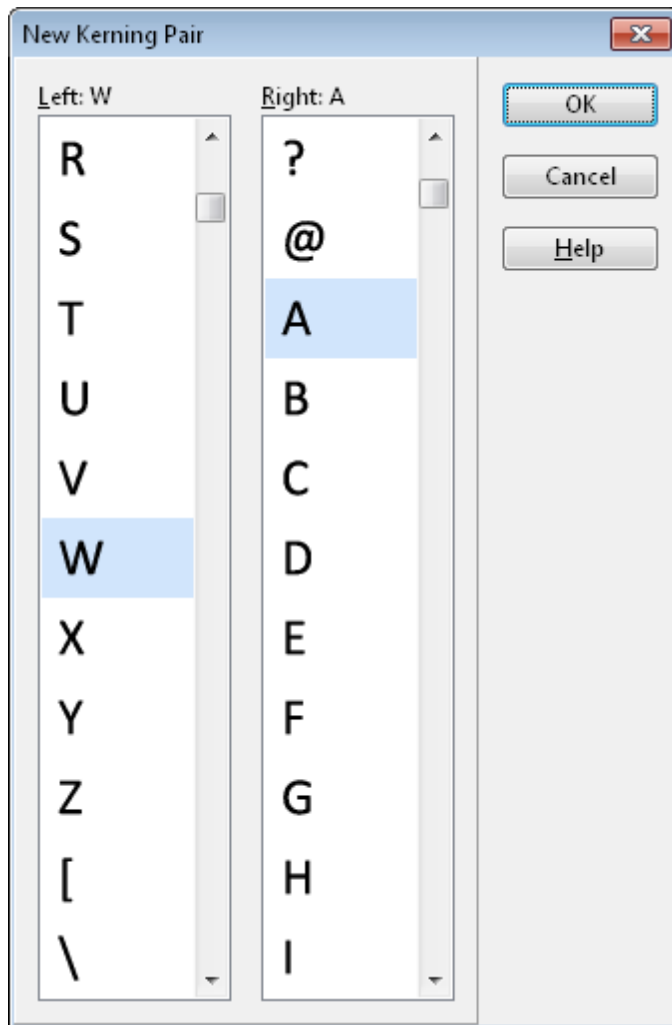
See also:

Kerning - Overview
Automatic Kerning

5.4.5 Smoothing

5.4.5.1 Overview

The **Smoothing** window contains information which describes the preferred rasterization techniques for the typeface when it is rendered on grayscale-capable devices. It also has some use for monochrome devices, which may use the table to turn off hinting at very large or small sizes, to improve performance.

If there are no ranges defined in a typeface, the rasterizer may apply default rules to decide how to render the glyphs on grayscale devices. The rasterizer will use the ClearType related values, if ClearType is enabled.

Note: Grayscale rendering and smoothing was invented for screen output and will not be used by printer drivers.
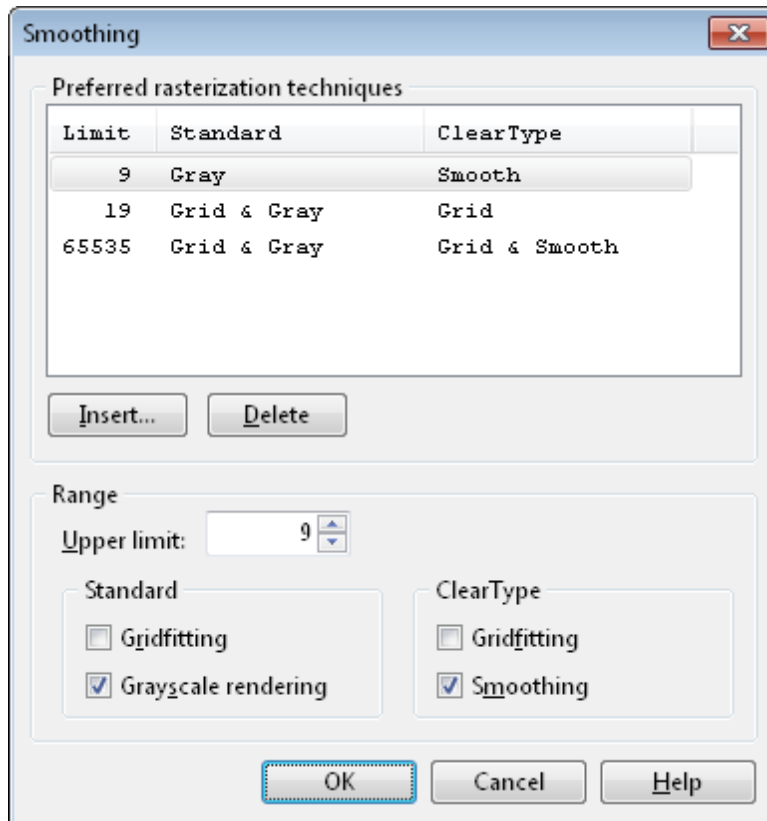
At very small sizes, the best appearance on grayscale devices can usually be achieved by rendering the glyphs in grayscale without gridfitting. At intermediate sizes, gridfitting (also known as hinting) and monochrome rendering will usually produce the best appearance. At large sizes, the combination of gridfitting and grayscale rendering will typically produce the best appearance.

To add a new range, press the **Insert** button. To remove a range, select it and press the **Delete** button. To remove all ranges, right-click the list view and select **Delete All**.

5.4.5.2   Insert Range

In the **Insert Range** window set the **Upper limit** and optionally check the **Standard** and **ClearType** fields and press the **OK** button.
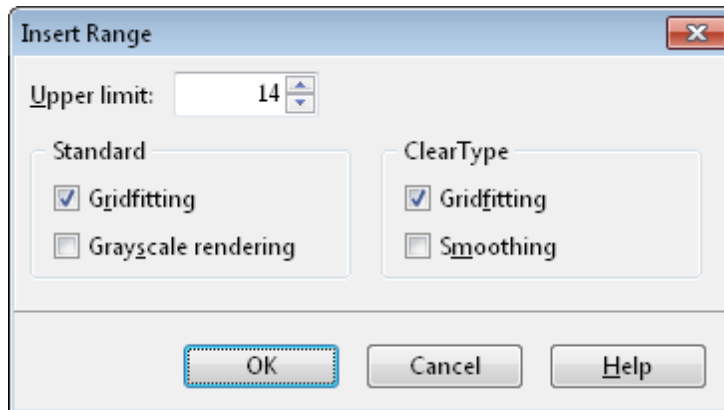
See also:

Smoothing - Overview

5.5   Tools

5.5.1   Glyph Transformer

The **Glyph Transformer** wizard can be selected from the **Tools** menu. Glyph transformations are scripts for changing the shape and size of glyphs, and for automating other repetitive tasks.
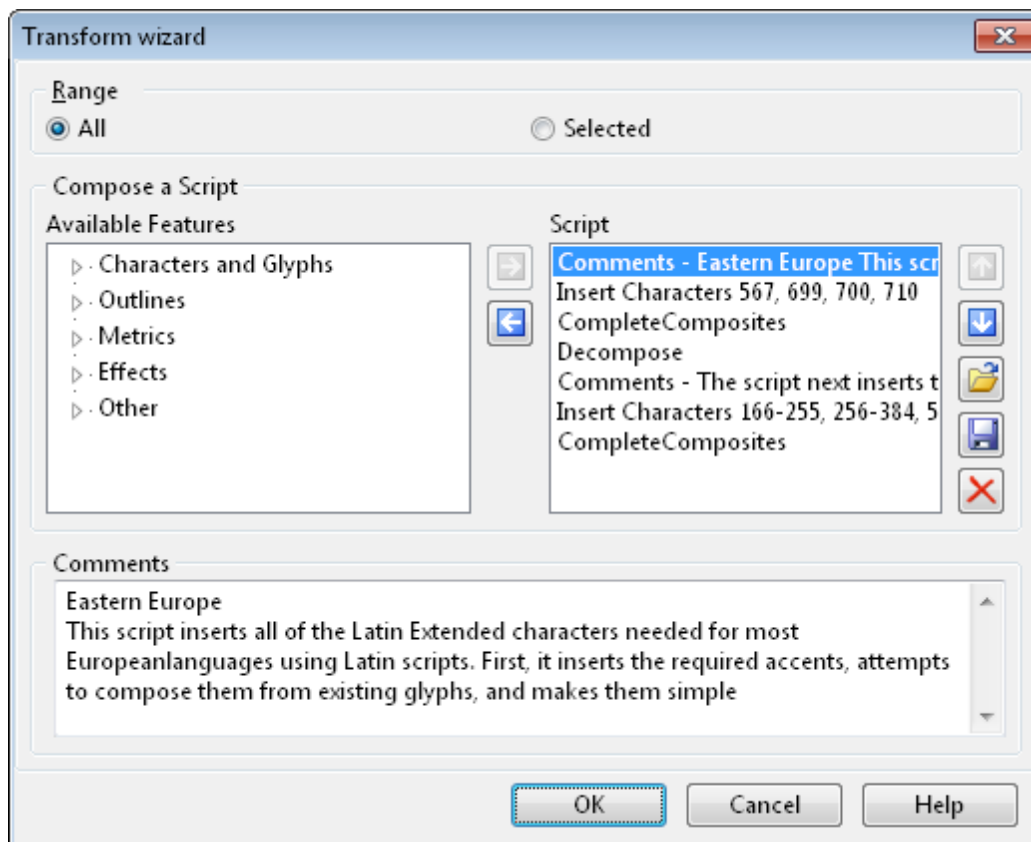
FontCreator comes with more than 40 powerful scripts. There are scripts that allow you to change a font into an italic or bold version. Other scripts extend a font's range by adding characters for Greek Extended, Eastern Europe, Vietnamese, Ligatures, Small Capitals, and more. Each script contains descriptive comments and advice on how to use it.

These scripts can be modified to suit your needs, and you can compose custom scripts by adding commands from the list of available features on the left. Save them to use again later using the save icon, and load a saved script using the folder icon. Press the **OK** button to execute the currently loaded script on the current glyph in the glyph edit window, on the selected glyphs, or on the entire font.

Tip: Save the font and copy the selected glyphs before using the Transform wizard, as this operation is not undoable.

Info: If you really want to take the most out of this feature, we encourage you to read the document **Using Glyph Transformations**, available from our website:

     http://www.high-logic.com/fcptutorials.html

Note: The **Transform** wizard is not available in the Home Edition of FontCreator.

5.5.2 AutoMetrics

5.5.2.1 Metrics

With the **Automatic Metrics** wizard (select **AutoMetrics** from the **Tools** menu), you can generate the bearings for a selection of glyphs.
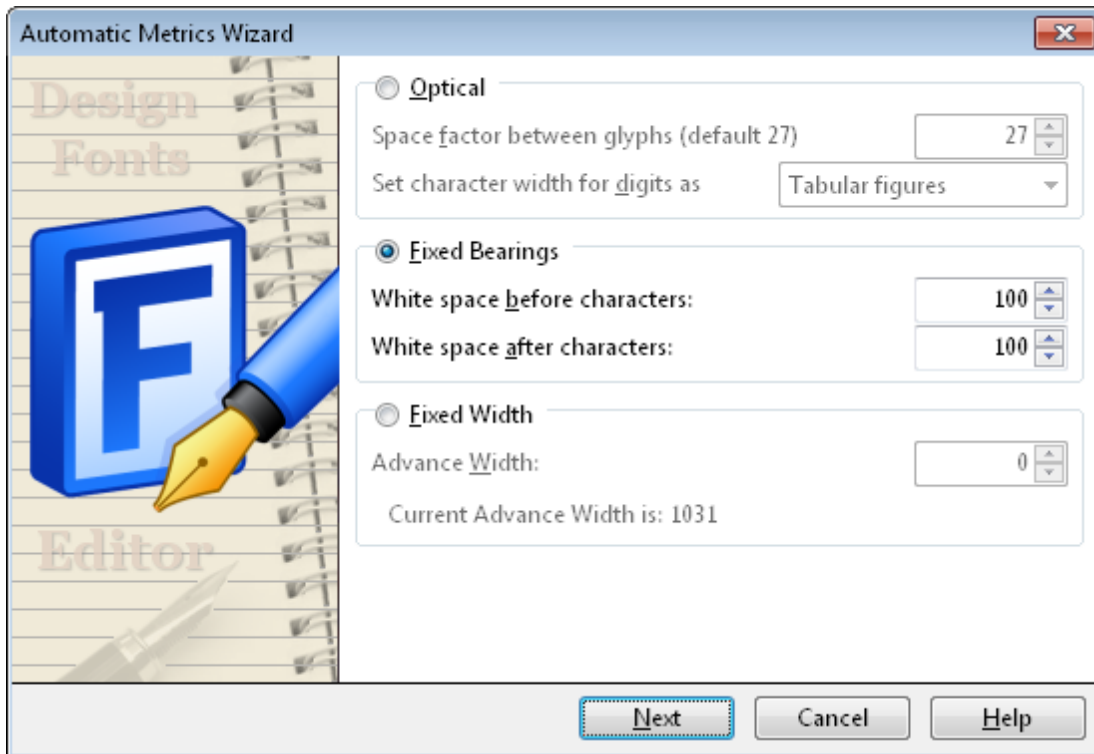
Optical

In Optical mode most common character pairs are analyzed to find the best optical space before and after each character. Please note that this process can take between several minutes up to several hours.

The advance width for digits can be calculated in 2 modes:

Tabular

All digits have the same advance width

Proportional

All digits have their own advance width

This feature is not available in the Home and Standard editions of FontCreator.

Fixed Bearings

In Fixed Bearings mode the white spaces before and after the selected glyphs will be modified. You can select the glyphs in step 2.

Fixed Width

In Fixed Width mode the advance width will be modified so all selected glyphs have the exact same with. This is especially useful to convert a proportional font into a monospaced font. You can select the glyphs in step 2.

Note: **Fixed** is also useful for the digit characters (0 to 9), which should all have the same advance width.

5.5.2.2 Glyph Selection

In the left hand panel you see the glyphs which are present in your font. The right hand panel will contain the glyphs which you select for modification of bearings.
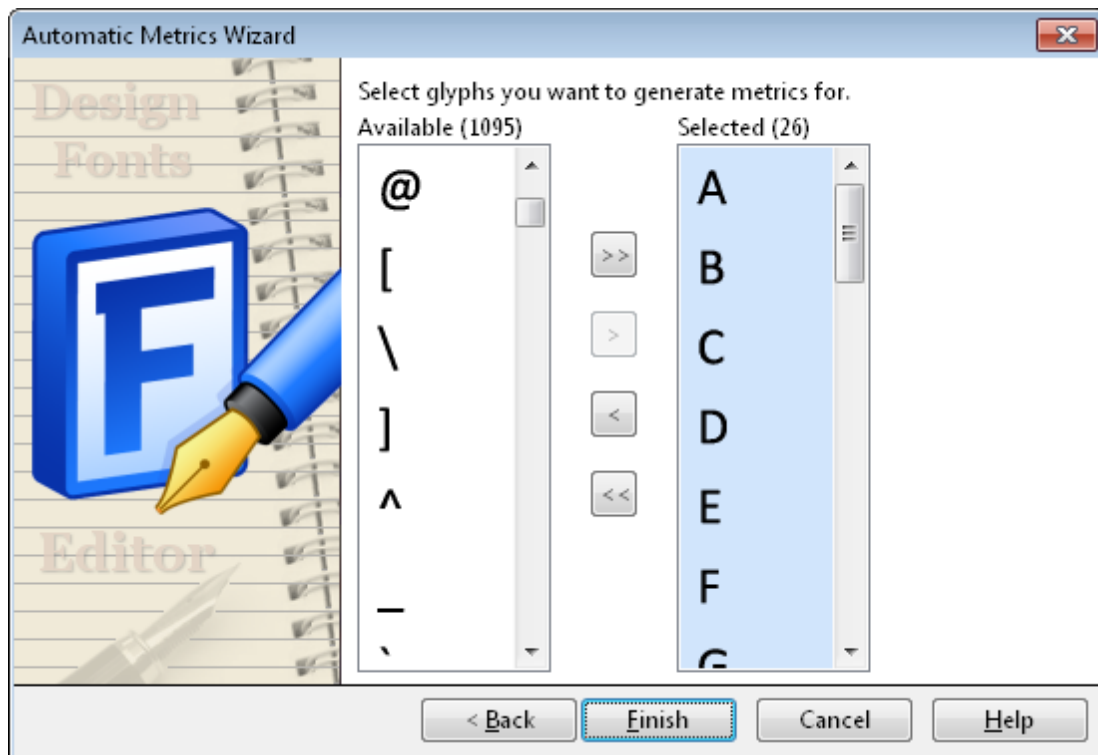
Use the buttons located between the two panels of glyphs to move glyphs:

☐ The top button will transfer **all glyphs** from the left hand panel to the right hand panel. This is useful if many glyphs need modification. The unwanted can be selected and returned to the left panel.

- The second button transfers only **selected glyphs** from the left panel to the right panel for modification.
- The third button returns only **selected glyphs** from the right panel to the left panel. These glyph bearings, perhaps, require no modification.
- The bottom button will transfer **all glyphs** from the right panel to the left panel.

Press the **Finish** button to return to the **Glyph Overview** window to check the result.

5.5.3   AutoKern

5.5.3.1   Setup

With the **Automatic Kerning** wizard (select **AutoKern** from the **Tools** menu), you can generate kerning pairs for a selection of glyphs.

Warning: Although it is possible to add kerning pairs to a symbol font, it is not recommended.
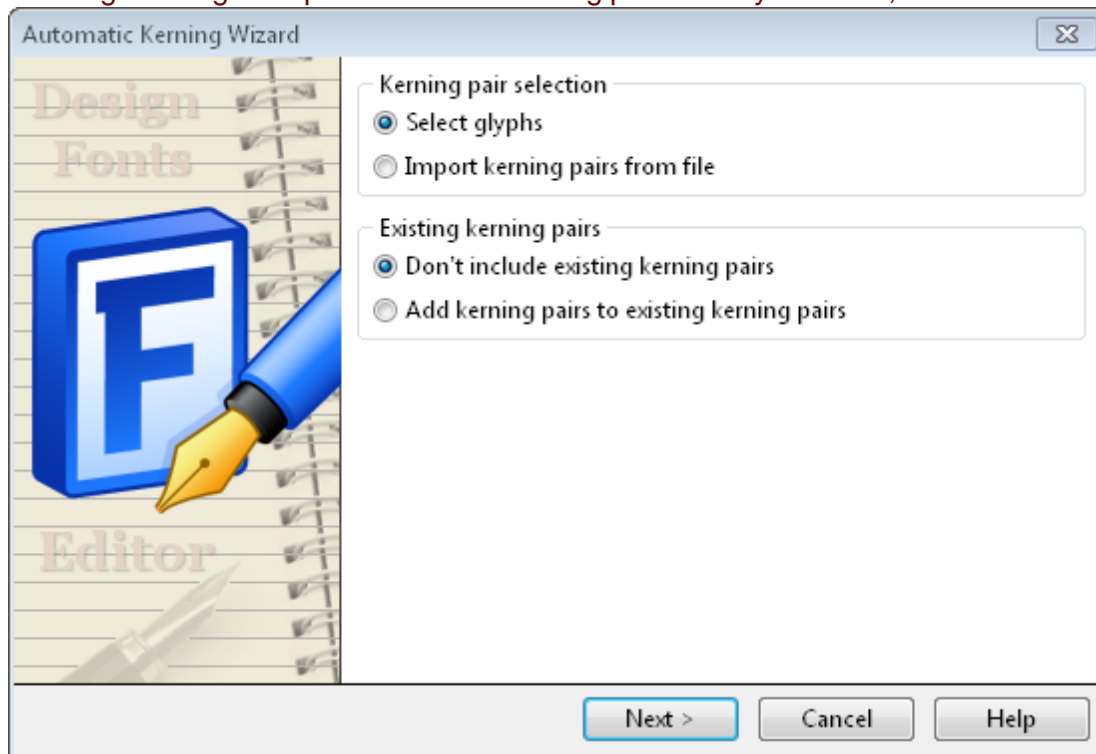
Kerning pair selection

Select glyphs to be used for the **Automatic Kerning** wizard manually, or load them from file.

Note: The Import kerning pairs from file option is not available for symbol fonts.

Existing kerning pairs

Select the appropriate field.

The **Next** button takes you to the next where you can select glyphs or import kerning pairs from file.

Note: The **Automatic Kerning** wizard is not available in the Home Edition of FontCreator.

See also:

Kerning - Overview

5.5.3.2 **Import**

This step is used to import kerning pairs from file. Press the **[...]** button to select the file with the kerning pairs.

Two kerning pair files are available from the kerning folder. If you are editing a basic font (mostly ASCII characters) then you can use the standard kerning definition (KerningStandard. txt) and more advanced fonts should use the extended one (KerningExtended.txt).

You can also create a kerning definition file from an existing font by opening the font and export the kerning pair information through the Kerning dialog.

Format should be <First Glyph ASCII Character or Unicode Value><Second Glyph ASCII Character or Unicode Value><carriage return or space><The rest of the line is ignored>

Because Character \ is used as prefix for hexadecimal Unicode values, the ASCII character \ should be placed twice to distinguish between them. For example:

\\\2019 is a \ followed by a quoteright

\20195 is a quoteright followed by digit 5.
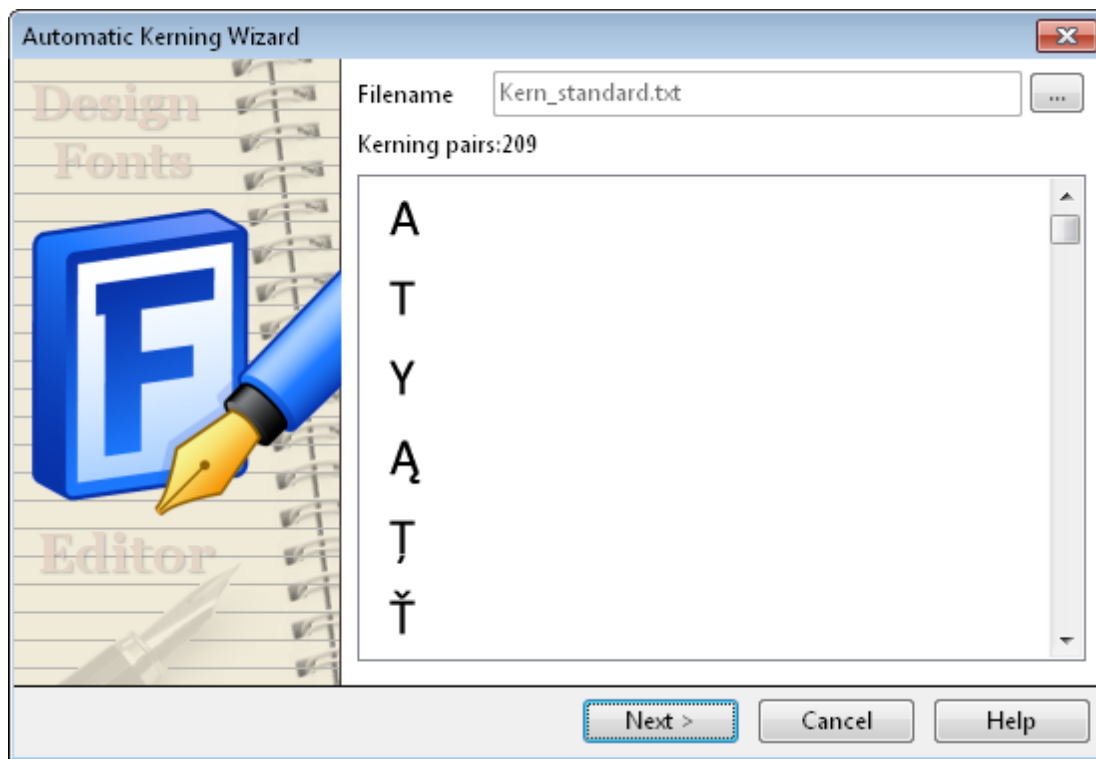
Tip: To generate a kerning pair file with a list of kerning pairs from another font, open this particular font and go to **Kerning** window from the **Format** menu and press the **Save as Text** button.

The **Next** button takes you to the next page.

5.5.3.3 Glyph Selection

This step is used to manually select glyphs used by the next steps in this wizard. In the left hand panel you see the glyphs which are present in your font. The right hand panel will contain the glyphs which you select for modification of the kerning pairs.
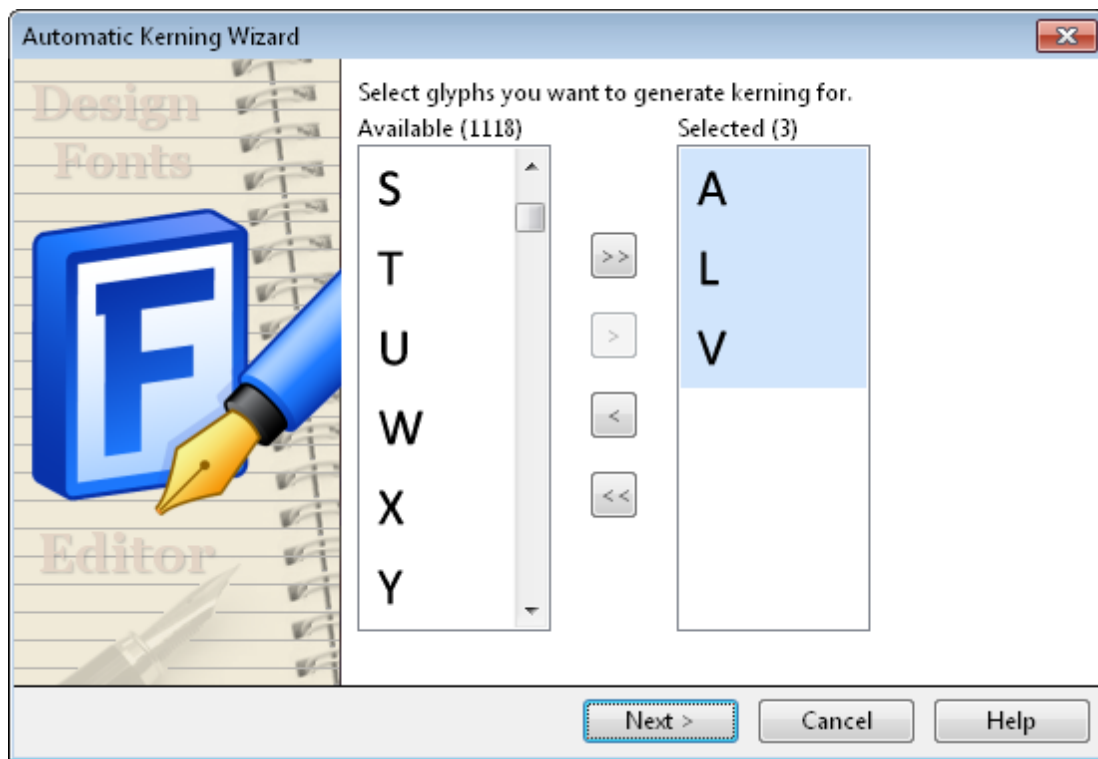
Use the buttons located between the two panels of glyphs to move glyphs:

- The top button will transfer **all glyphs** from the left hand panel to the right hand panel. This is useful if many glyphs need modification. The unwanted can be selected and returned to the left panel.
- The second button transfers only **selected glyphs** from the left panel to the right panel for modification.
- The third button returns only **selected glyphs** from the right panel to the left panel. These glyph bearings, perhaps, require no modification.
- The bottom button will transfer **all glyphs** from the right panel to the left panel.

The **Next** button takes you to the next page where changes to the automatic kerning settings can be made.

5.5.3.4   Kern

In this step, enter the values for white space between glyphs and the minimum absolute kerning value.
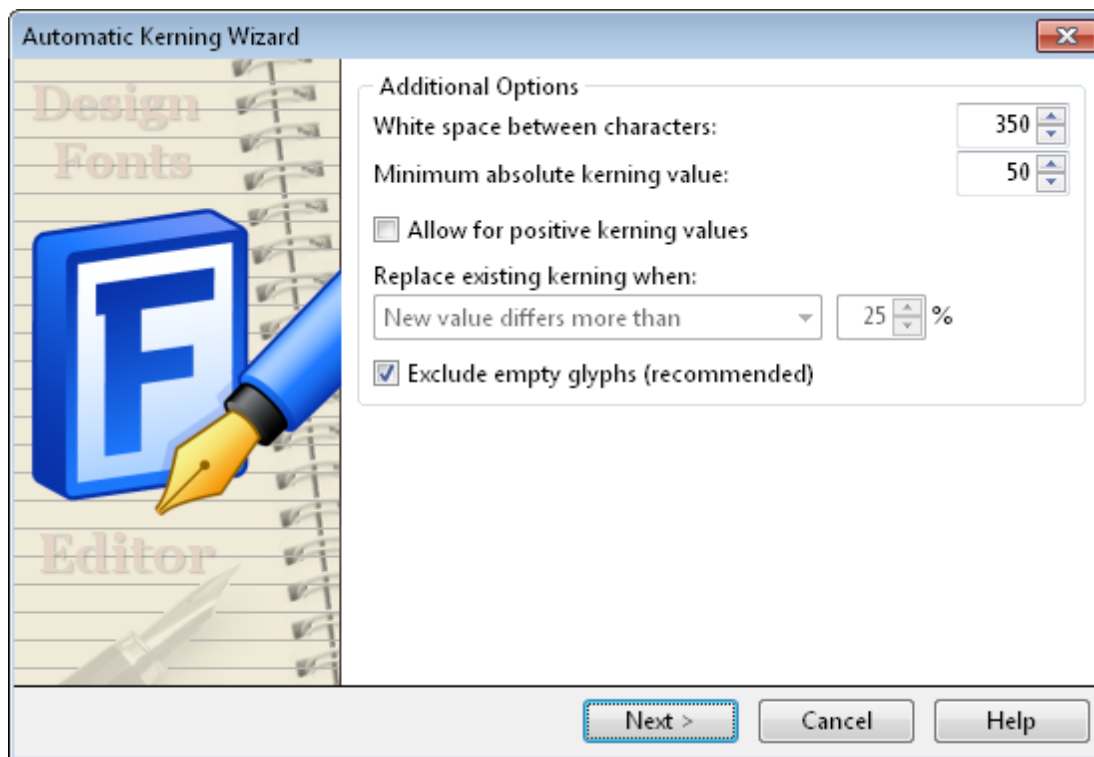
The White space between glyphs value is the recommended distance between two glyphs. The minimum absolute kerning value is used to ignore kerning pair values less than this value. Select **Allow for positive kerning values** if you also accept positive kerning pair values. On this page you can also decide when existing kerning pairs should be changed.

Press the **Next** button to see a preview of the result.

5.5.3.5 **Preview**

On this page there is a summary of the calculated kerning pairs.
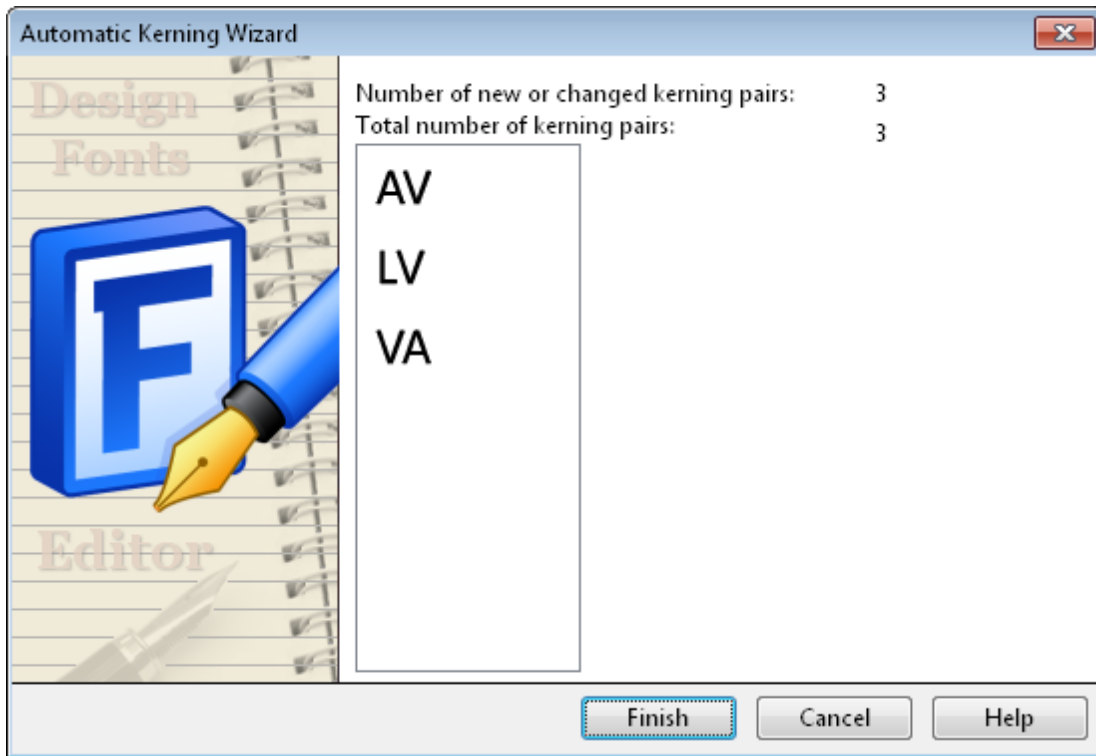
Click the **Finish** button when you to accept the new kerning pairs, otherwise click the **Back** or **Cancel** button.

Note: The **Automatic Kerning** wizard is not available in the Home Edition of FontCreator.

5.5.4 Import Images

5.5.4.1 **Import Raster Image**

Import image can be selected from the **Tools** menu when you have activated a **Glyph Edit** window or it can be selected from the context menu after right-clicking in the window.
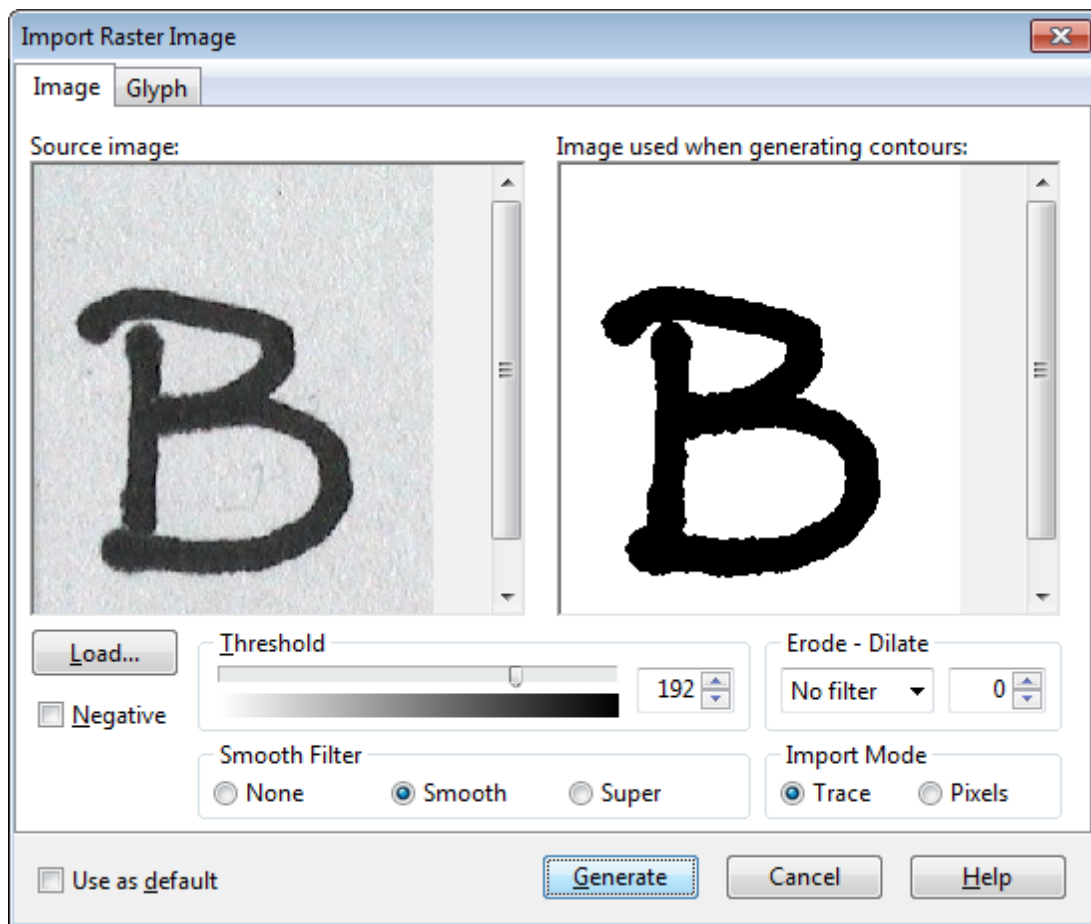
When you click on the **Load** button you get an open dialog box where you can open an image file (recommended image dimension between 100x100 and 500x500 pixels). The image will be displayed on the left and there will be a bitmap that is going to be used for the conversion on the right. There are some filters and other operations you can apply to the source image before starting the conversion.

The **Threshold** level is used to convert a color image into a black and white image. The **Threshold** level is the lightness value above which colors are turned black. All colors with lightness values above the level are turned into black. At a Threshold level of 1, all colors except white change to black.

Check the **Negative image** field to invert the image.

Dilation causes objects to grow in size and **erosion** causes objects to shrink. The amount that they grow or shrink depends upon the value specified on the right of the selection box.

Use the Smooth Filter to smooth the image. This will usually reduce the number of generated points.

When the **Import Mode** is set to **Trace**, the image will be converted with curves. This is the recommended setting. In case you don't want curves (especially useful for bar code fonts and pixel fonts), set the **Import Mode** to **Pixels**.

Check the **Default** field to save the current settings as the default for each new import. These settings are also used when pasting an image from the clipboard. Choosing to press the **Cancel** button will retain these default settings.

Use the settings on the **Glyph** tab to position and resize the generated contours.

When you press the **Generate** button the conversion will start.

Tip: You can also paste an image from the clipboard or drag and drop image(s) from explorer into the **Glyph Overview** and **Glyph Edit** windows.

Note: You can't import images into composite glyphs.

5.5.4.2   Import Vector Image

Import image can be selected from the **Tools** menu when you have activated a **Glyph Edit** window or it can be selected from the context menu after right-clicking in the window. When you open a vector based image file, the file will be instantly imported.

Tip: You can also paste an image from the clipboard or drag and drop image(s) from explorer into the **Glyph Overview** and **Glyph Edit** windows.

Note: You can't import images into composite glyphs.

5.5.5   Sorting Glyphs

To change the order of the glyphs within a font select one of the options from the **Sort Glyphs** submenu in the in the **Tools** menu.

No matter which option you select, these glyphs (if available) will always come first in the new order.

 .notdef
 .null

▯ .nonmarkingreturn

Unicode Code-points

Glyphs will be sorted by these rules:

▯ Glyphs are sorted by their Windows mappings
▯ Then all remaining glyphs are sorted by their glyph names

The Unicode code points are retrieved from the Windows Character to Glyph Index Mappings.

Glyph names

Glyphs will be sorted by these rules:

▯ The glyphs are sorted by their Glyph names
▯ Then all remaining glyphs are sorted by their Windows mappings

Glyph type (empty, simple, composite)

Glyphs will be sorted by these rules:

▯ The glyphs are sorted by their glyph type
▯ Then all remaining glyphs are sorted by their Windows mappings

Alphanumeric

Glyphs will be sorted by these rules:

▯ The glyphs are sorted by their mapped character. This features uses default compare functions as used in Windows.
▯ Then all remaining glyphs are sorted by their Windows mappings

5.5.6 Generate Glyph Names

Generate Glyph Names will generate glyph names for all glyphs with a known code-point.

Note: You can manually add your own glyph names by editing the "glyphnames.dat" file in your application data folder: "%appdata%\FontCreator\glyphnames.dat"

5.5.7 TrueType Collection

A TrueType Collection file is one or more fonts (TrueType or OpenType) combined into one file. The **Extract TrueType Fonts from TrueType Collection** wizard, available from the **Tools** menu, can extract those fonts.
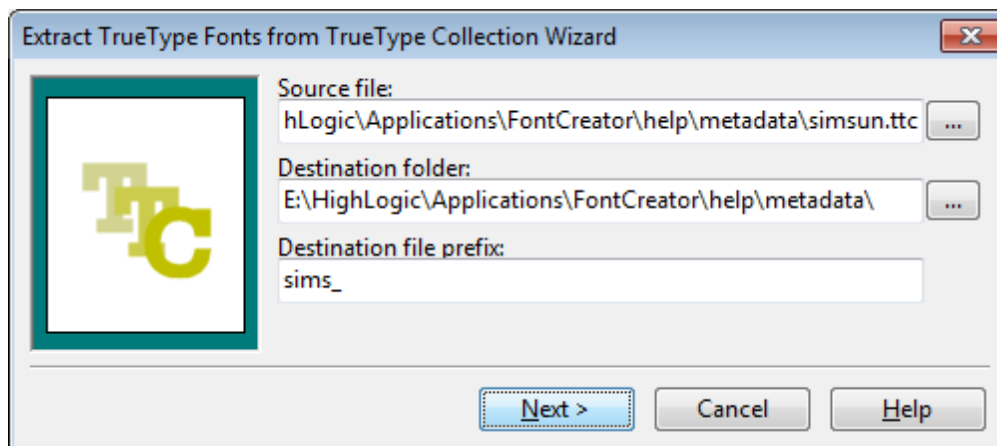
Source file

Select the TrueType Collection file.

Destination folder

The extracted font files will be saved in this folder.

Destination file prefix

The extracted files start with this prefix.
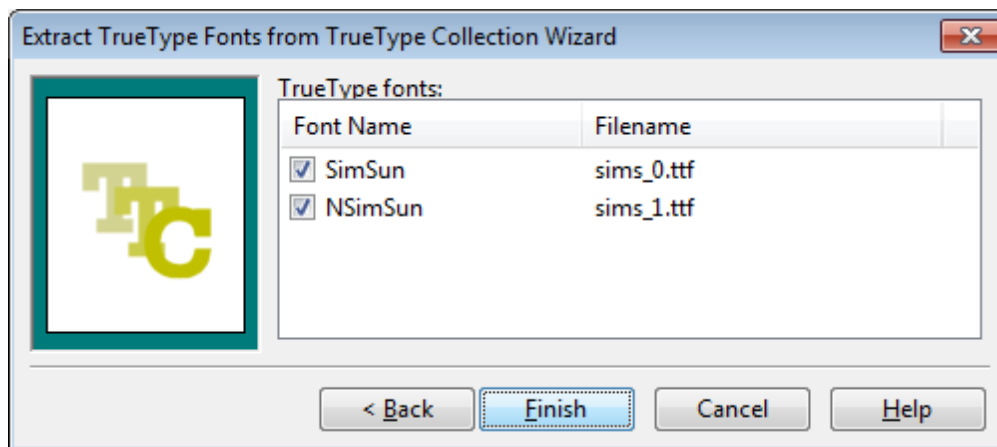
Here you will see all fonts available in the TrueType Collection. Select the fonts you want to extract and press the **Finish** button.

5.5.8   External Tools

To quickly access MainType, Windows Fonts folder and Character Map select **Launch Externals** from the **Tools** menu and select the tool you want to open.

5.6   Printing

5.6.1   Print Font

This option (select **Print** in the **File** menu) is available when the **Glyph Overview** window is active. If a **Glyph Edit** window is active you will be able to print a glyph.
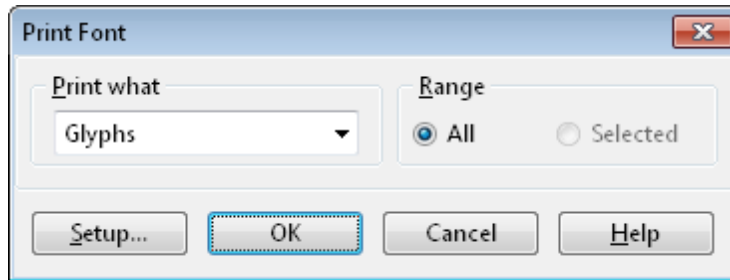
You can choose what kind of font information you want to print:

- Glyphs
- Properties
- Kerning pairs

Print Glyphs

Print all or the selected glyphs.

Print Properties

Print all fields from the Font Properties window.

Print Kerning pairs

Print all kerning pairs, also available from the Kerning window.

5.6.2   Print Glyph

Select **Print** in the **File** menu to print a single glyph. This option is available when a **Glyph Edit** window is active. If the **Glyph Overview** window is active you will be able to print the font.
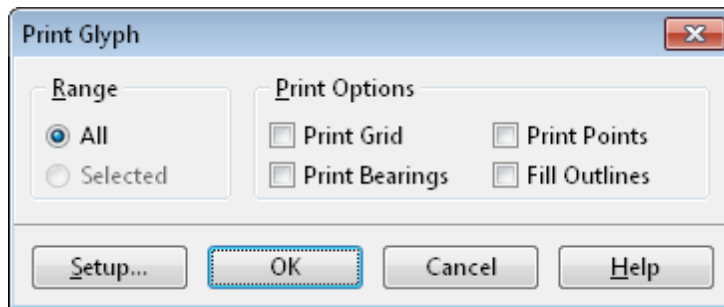
The print options allow you to print the grid, points and bearings, and you can choose to fill the outlines.

5.7 Font Validation

5.7.1 Setup

Designing glyphs can be very complicated. The **Font Validation** wizard, available from the **Font** menu, identifies common potential problems and if possible points you to the specific item (e.g. glyphs, contours and coordinates). It validates all glyphs and optionally fixes detected problems.
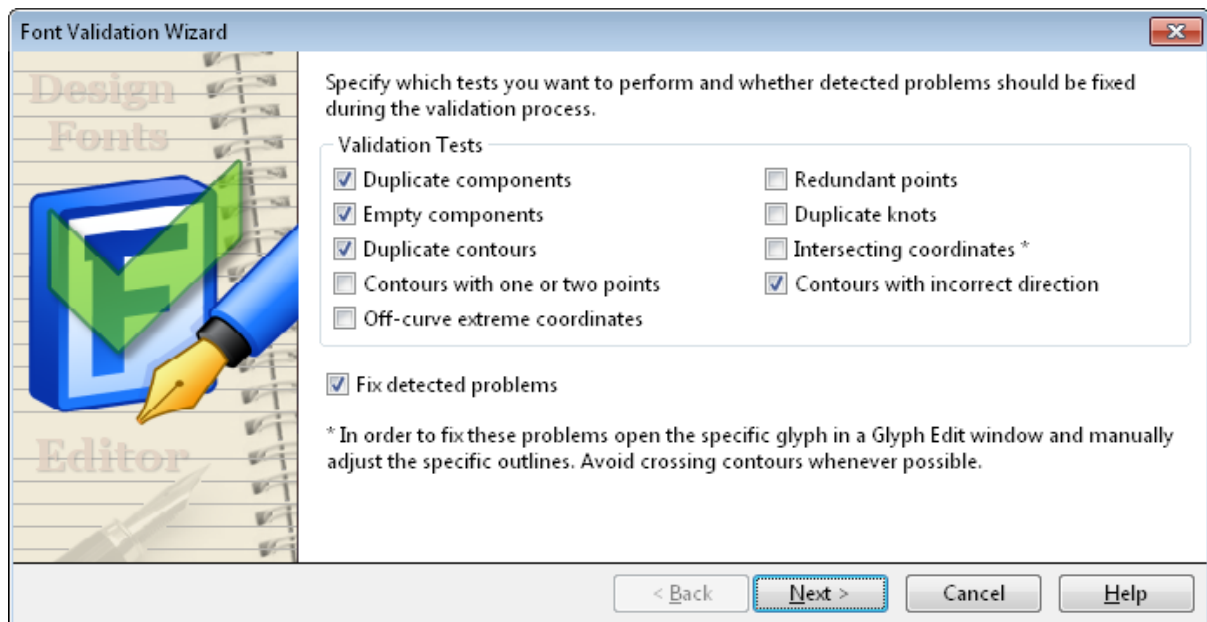
The specific validation test are explained here:

Duplicate components

This problem will be reported when validating composite glyphs with two or more identical glyph members.

Empty components

This problem will be reported when validating composite glyphs with empty glyph members.

Duplicate contours

This problem will be reported when validating simple glyphs with two or more identical contours.

Contours with one or two points

This problem will be reported when validating simple glyphs with contours with one or two points.

Off-curve extreme coordinates

This test checks whether all off-curve points are inside the global bounding box (and optionally their local bounding box). You can customize this feature through the **Options** window.
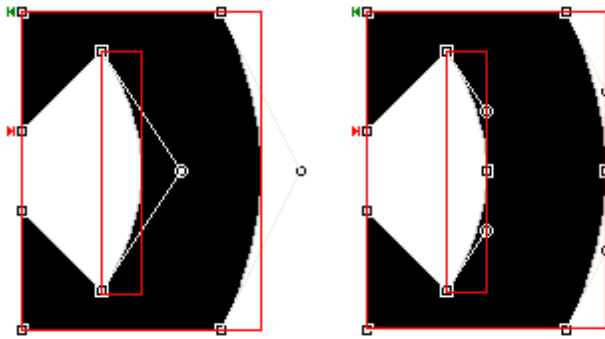
The left image shows two red rectangles. The large one is the global bounding box and the smaller rectangle is a local bounding box between an on-off-on curve sequence. Both off-curve points lie outside their bounding box. With local detection enabled, the right image shows the result of clicking the **Add on-curve extremes** button on the **Validation** toolbar.

Redundant points

This problem will be reported when validating simple glyphs with contours with redundant points.

Duplicate knots

This problem will be reported when validating simple glyphs with contours with two adjacent points that have the same coordinates but one is on-curve and the other is off-curve.

Intersecting coordinates

This problem will be reported when validating composite glyphs with intersecting glyph members and when validating simple glyphs with (self-)intersecting contours. Avoid crossing contours whenever possible.

Note: Older PostScript Level 2 drivers do not support overlapping contours.

Contours with unknown direction

This problem will be reported when validating simple glyphs with contours that have an unknown direction.

Contours with incorrect direction

This problem will be reported when validating simple glyphs with contours that have an incorrect direction (Contours that need to be filled black must have a clockwise direction. If we want to make a white area inside an existing contour we must make the direction of the new contour counterclockwise.).

Note: This test will not be performed when **Duplicate contours**, **Intersecting coordinates** or **Contours with unknown direction** have been reported.

Note: The **Validation** features are not available in the Home Edition of FontCreator.

5.7.2 Results

After the validation process the (remaining) problems are shown for all glyphs. Optionally the report can be saved.
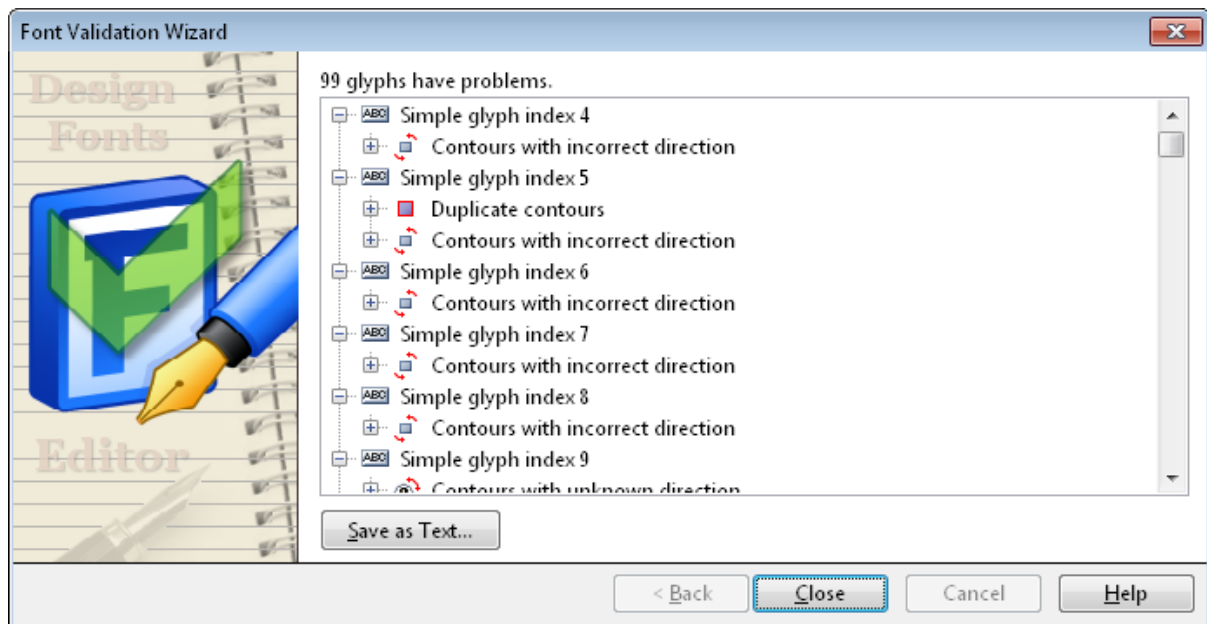
Note: The **Validation** features are not available in the Home Edition of FontCreator.

5.8 Testing and Installing Fonts

5.8.1 MainType

MainType is a powerful font manager for Windows that helps you maintain your fonts. Although its main purpose is installing and uninstalling fonts, it also allows you to insert special characters into documents and the **Test** window.

You can download MainType from here:

> http://www.high-logic.com/ ⬈

5.8.2 International Keyboard

Instead of memorizing a long list of Alt number combinations, or using the Character Map, you could change your language and layout from English-US to United States-International (or any other available language on your system).

Here's how:

- Single-click the Start menu, mouse over Settings, and then single-click the Control Panel.
- Double-click the Keyboard icon and then click the Language tab
- Click Add.
- Under "Keyboard layout," place a checkmark next to United States-International.
- Click OK.
- Click Apply. You may be asked to insert your Windows system disk to finish loading the process.

You can type in other languages without knowing the Alt codes for a non-English alphabet. For example, type ~ followed by N to get Ñ. A tilde followed by any letter will place the appropriate accent on the letter you choose.

5.8.3 Test Your Font

5.8.3.1 Test TrueType/OpenType

Test TrueType/OpenType font

If you want to know how your font is going to look you can test it any time during the development process. Choose **Test TTF/OTF...** from the **Font** menu or use the hotkey **F5**
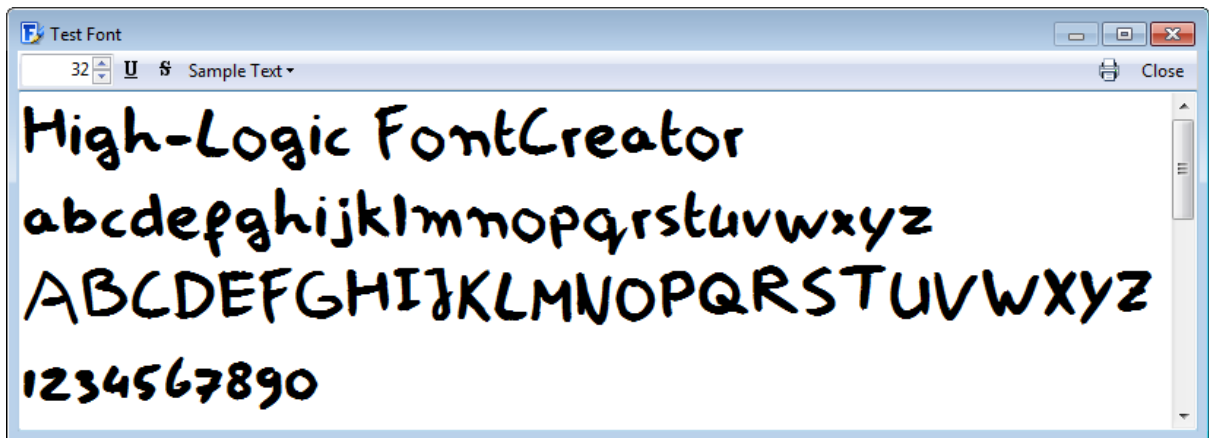
You can enter your own text into the **Test** window. FontCreator will remember this text so you can always test your fonts with your preferred text.

If you want to test how your font will look when it's printed you press the **Print** button.

Note for Windows XP users: The Test Font dialog uses a standard Window text control, that unfortunately doesn't support Kerning and OpenType Layout Features on Windows XP. However all modern web browsers support both so you can use the **Test WOFF...** option to test them.

5.8.3.2 Test Font - Edit Text Samples

You can edit the text samples used on the test TrueType/OpenType dialog by right-clicking on the test area and select **Edit Text Samples**.
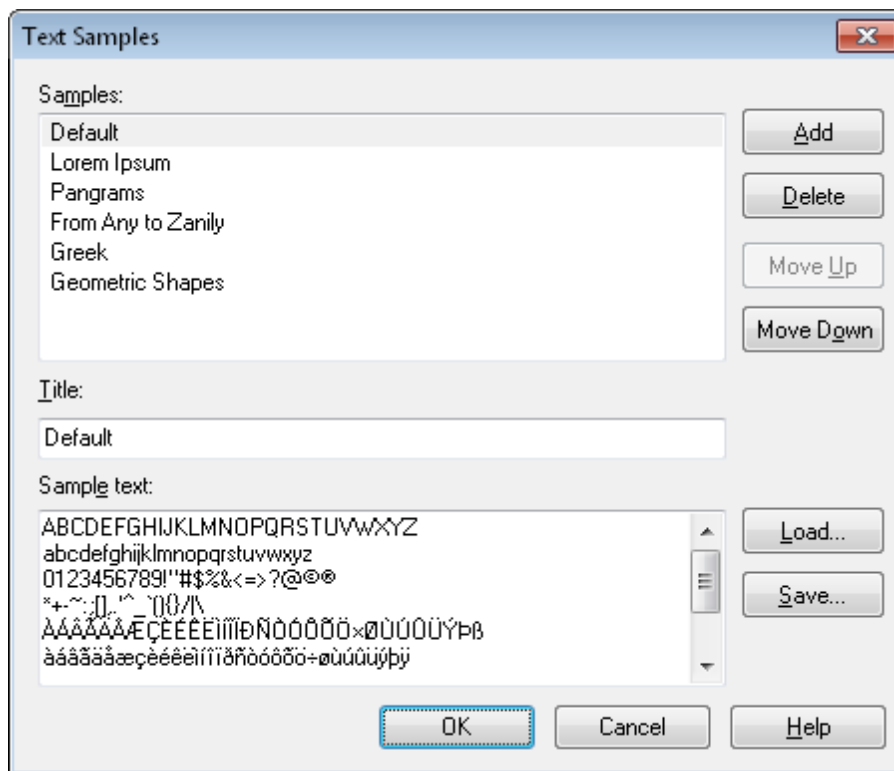
Here you can add, delete and change the order of the text-samples.

5.8.3.3   **Test Web font**

You can also test your font and **OpenType Layout Features** as a web font on a locally generated web page. Choose **Test WOFF** from the **Font** menu or use the hotkey **CTRL+F5**
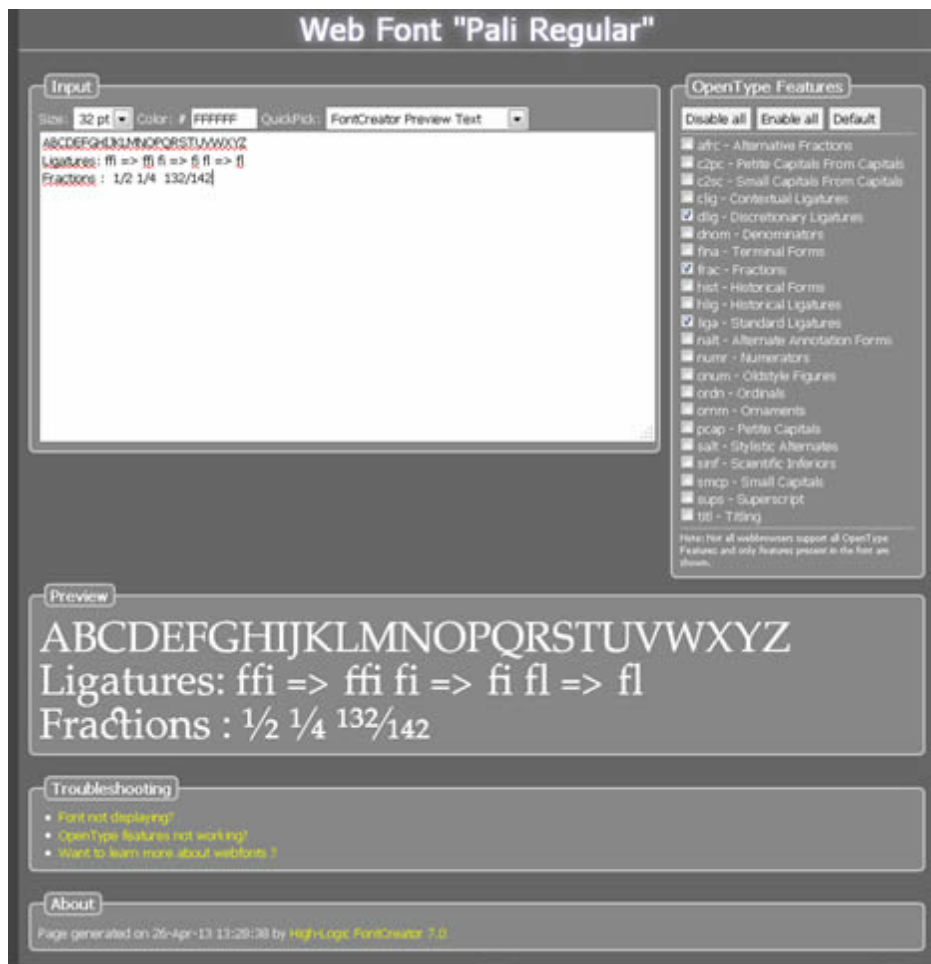
If OpenType Layout Features are present, you can toggle them using the checkboxes on the right.

5.8.4   Installing Fonts

Although it is possible to install a font through Windows fonts folder, FontCreator has its own **Font Installation** wizard. To make your font available to other applications select **Install** in the **Font** menu.

The **Font Installation** wizard will guide you through the installation process. At the end of the installation process you will be informed that the font is installed successfully. Now you will be able to select the font in any program that supports TrueType fonts.

Note: In order to install a modified font, the font must be exported to file.
Note: It is not recommended to export font files directly into Windows Fonts folder.
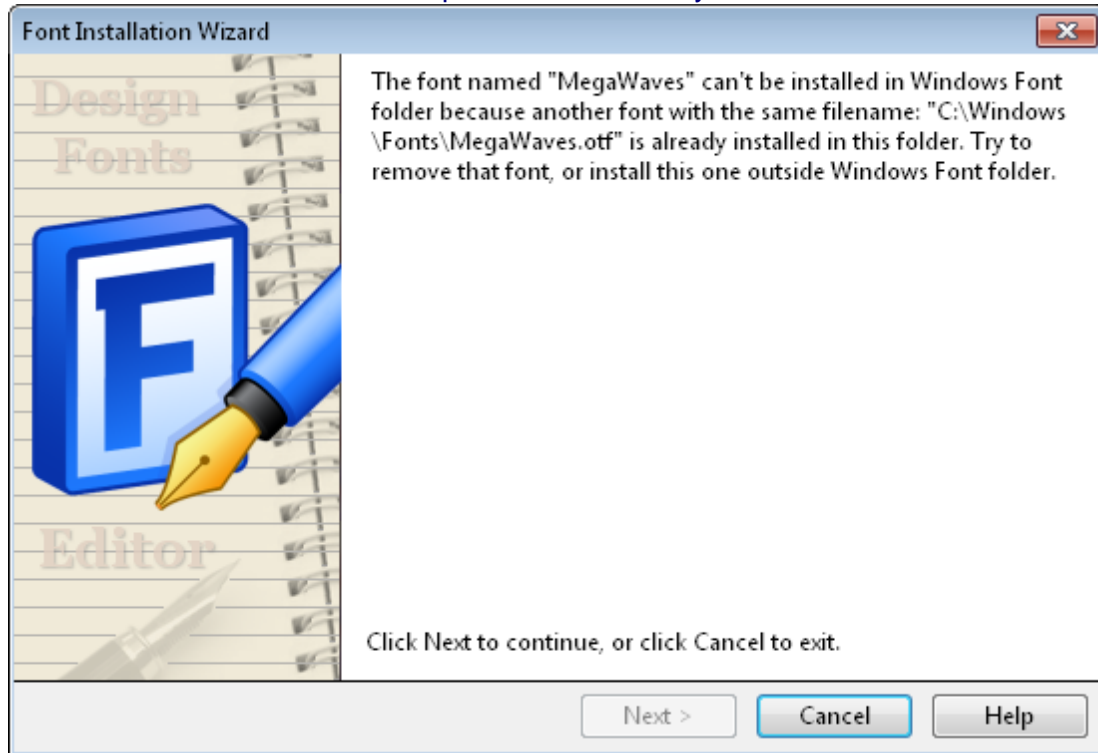
Note: If you are reinstalling the font, it is recommended you delete the font BEFORE installing the new version.
Note: Don't just drop the font into Windows Fonts folder!

Part VI

6 Toolbars

6.1 Overview

The toolbars give you one-click access to many of the commands on the menus. Some menu items have toolbar icons next to them so that you can quickly associate the command with that icon.

FontCreator's toolbars can be shown or hidden as needed. By default the **Standard**, **Drawing**, **Grid**, **Glyph**, **Font Overview** and the **Align or Distribute** toolbars are docked below the menu bar. Choose **Toolbars** from the **View** menu to select toolbars to display or hide, or right-click on any toolbar to get the same submenu.

The window tab bar cannot be moved or undocked. You can however close it through the **Toolbars** item from the **View** menu.

Tips: Toolbars can be rearranged by dragging, docked on the left, right, top, or bottom of the FontCreator window, or made floating. In the **Glyph Edit** Window, to quickly close a floating toolbar, click the **Close** button on that toolbar, or use its shortcut key.

To undock a docked toolbar, double-click its grab handle where the four-arrow cursor is displayed. To dock it again, double-click the floating toolbar's title bar. The **Transformation**, **Validation**, **Preview**, **Background Image** and **Comparison** toolbars cannot be docked, but they can be toggled on/off with shortcut keys F6, F7, F8, F9, and F11 respectively.

6.2 User Notes

The **User Notes** toolbar can be used to write down some text that will be saved with your project. The User notes will not be exported to your fonts.

User notes - MegaWaves

You can use this toolwindow to write notes about your font, maintain todo items, use it as a temporary clipboard for text or write down values etc etc.

The notes are saved within your project file so you can write down different notes for each font you are designing/editing.
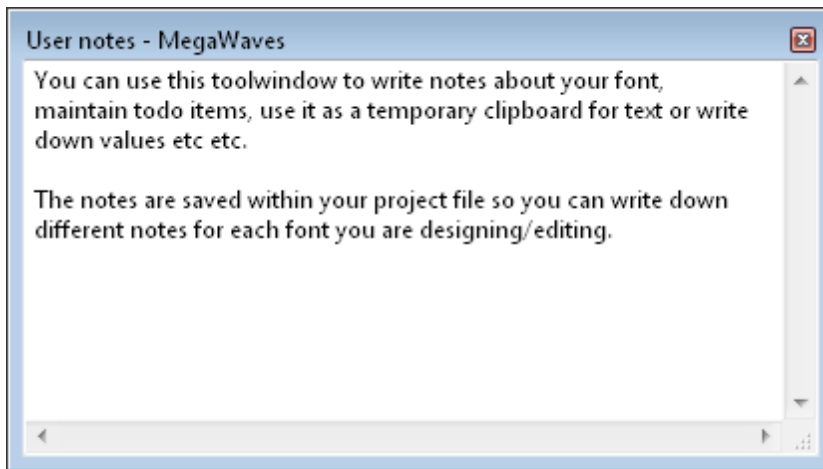
6.3 Transform

The **Transform** toolbar contains powerful tools for editing simple glyphs. Contours can be precisely repositioned, resized, moved, skewed, scaled, rotated, or mirrored. Nodes can be repositioned or moved by precise increments. The glyph's bearings can also be set.

Transform

| Mirror | Size | Skew | Bearings |
| Position | Movement | Rotation | Scale |

X position   385
Y position   1055

☐ On curve

Apply
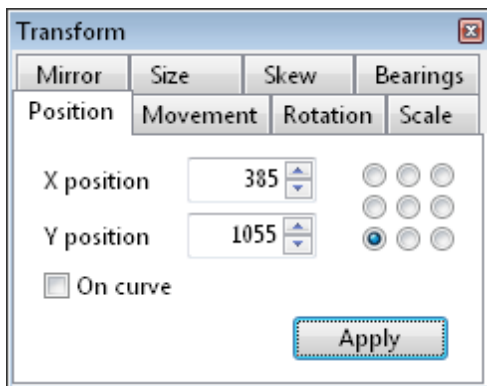
The Transform toolbar can be toggled on and off using the **F6** shortcut key, but is only available in the **Glyph Edit** Window.

6.4 Glyph Properties

6.4.1 Glyph Properties

The **Glyph Properties** toolbar provides a quick way to view and edit some of the most common glyph properties.

Glyph Name

The Glyph Name of the glyph. Press the **Generate Name** button to let FontCreator fill in the field.

Code-points

The code-points assigned to this glyph. Press the **Select Unicode Character** button to select a character from the Unicode Character list. Press the **Generate Code-point** button

 to let FontCreator fill in the field automatically. It is possible to enter multiple code points by separating them by commas, but it's common to have only 1 character mapped to each glyph.

Unicode name

The Unicode name of the first code-point

Left Side Bearing

The (horizontal) start position of the glyph.

Right Side Bearing

The (horizontal) end position of the glyph.

Advance Width

The width of the glyph and its surrounding space.

Offset

The horizontal offset between x=0 and the **Left Side Bearing**
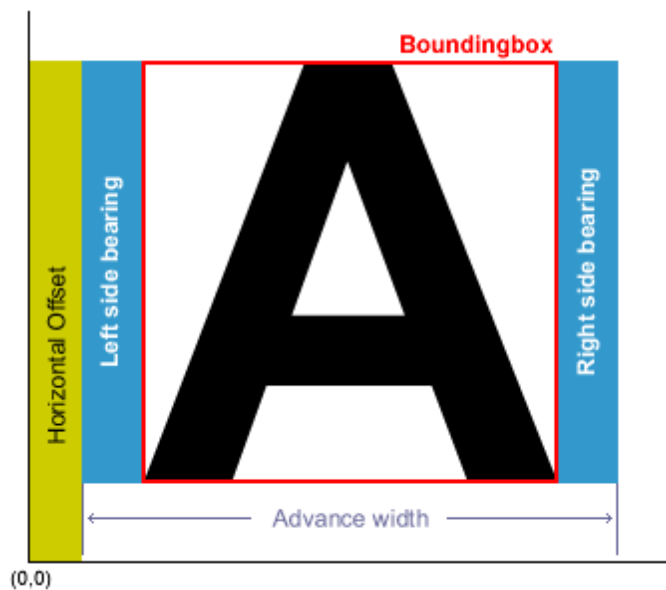
Tip: You could also adjust the **Left Side Bearing** and **Advance Width** in the **Glyph Edit** window, by changing the vertical bearings.

6.4.2 Select Character

The **Select Character** dialog provides a quick way to change a character mapping. This dialog is available through the **Glyph Properties** tool window by clicking the **Select Character** button .
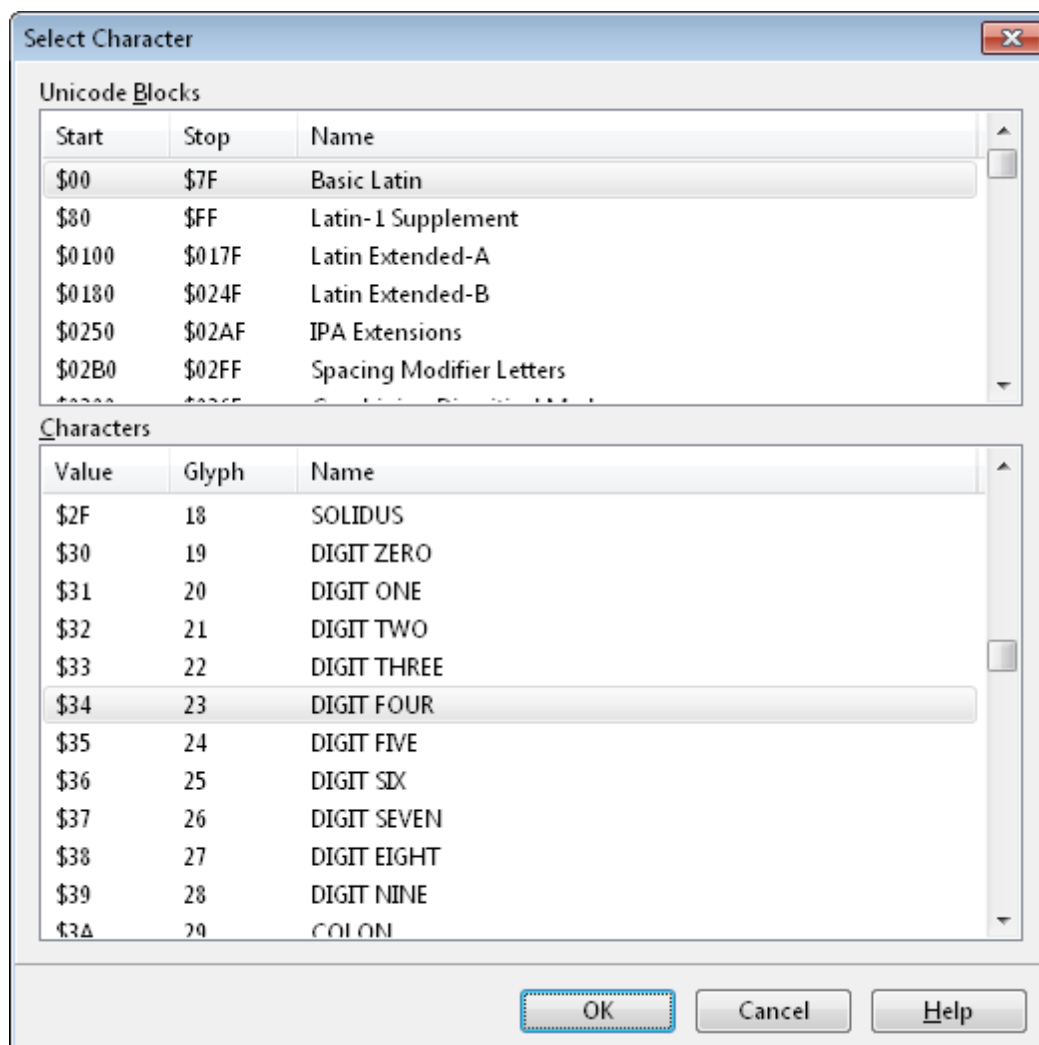
6.5 Validation

Use the **Validation** toolbar to locate and solve common glyph problems. It can be toggled on and off using the **F7** shortcut key (or **Show glyph validation report** button on the **Glyph** toolbar), but is only available in the **Glyph Edit** window.

Red marks in the **Glyph Edit** window will show the position of the located problems.
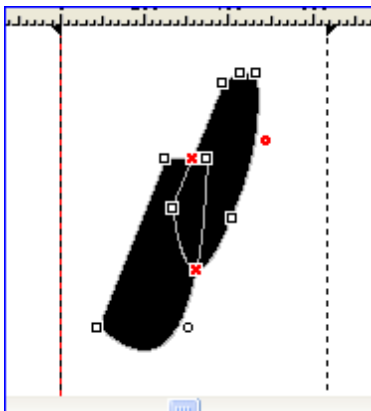
Not every problem should be classified as an error, it is the designer's decision to correct or ignore potential problems. Double-click on a reported problem to focus the problematic point

or contour. There are several buttons on the **Validation** toolbar that will perform actions that will automatically solve some specific problems.

Enable real-time glyph problem detection

Use this button to enable and disable real-time glyph problem detection.

Refresh

When real-time validation is not enabled, use this button to revalidate the glyph.

Save report

Use this button to save the report to file.

Show intersecting components and contours

Intersections will be shown when this button is enabled and is down. Red crosses in the **Glyph Edit** window will show the position of the intersections.

Show warning points

Warning points will be shown when this button is enabled and is down. Red bullets in the **Glyph Edit** window will show the position of the located problems.

Correct contour directions

Use this button to correct the direction of all misoriented contours in a simple glyph. This button is only enabled when contour direction problems are detected.

Note: This test will not be performed when **Duplicate contours** or **Intersecting coordinates** have been reported.

Remove duplicate components and contours

This button will remove duplicate components from a composite glyph and will remove duplicate contours from a simple glyph.

Remove empty components and contours with one and two points

This button will remove empty components from a composite glyph and will remove contours with one and two points from a simple glyph.

Remove redundant points

Press this button to remove all redundant points.

Note: This feature won't remove duplicate knots as this would affect the outline.

Add on-curve extremes

Press this button to add on-curve extremes. This feature will add global or local extremes, as customized through the **Options** window.

Note: As this feature generates new points, this could lead to new redundant points.

Note: The **Validation** features are not available in the Home Edition of FontCreator.

Font Validation

6.6   Preview

While editing a font, you can preview the results with the **Preview** toolbar. You can choose a standard text sample from the drop-down list or enter your own text. It can be toggled on and off using the **F8** shortcut key and is available in both the **Font Overview** window and the **Glyph Edit** window.

Selected glyphs in the overview window can be displayed in the **Preview** toolbar by pressing the **"P"** shortcut key.
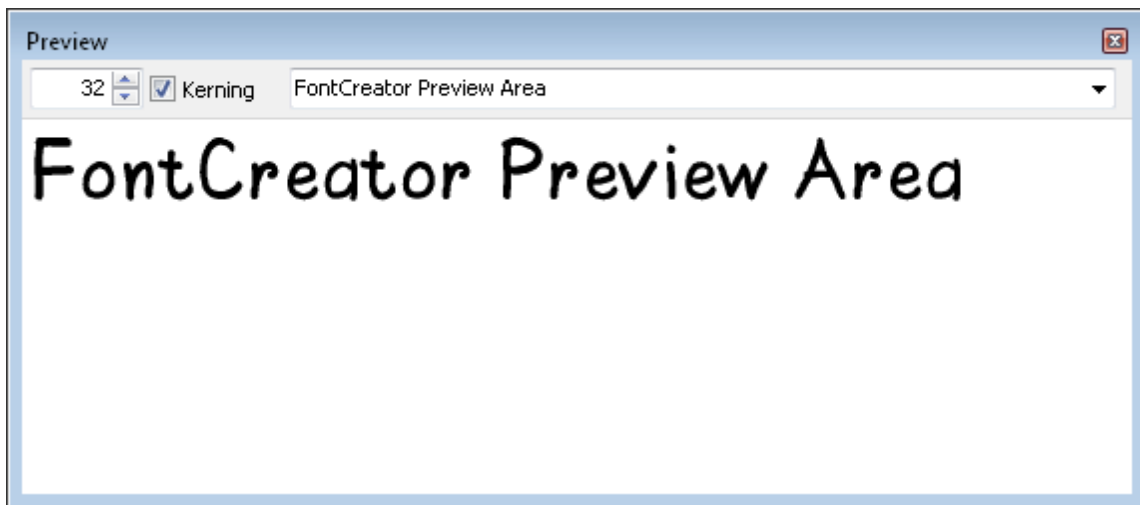
Change the value of the **Font Size field** to change the size of the text. Check the kerning box to include kerning support. The **Preview** toolbar can be resized to show more text.

6.7   Background Image

You can add a background image on a **Glyph Edit** window through the **Background** toolbar. It can help you with your glyph design. It can be toggled on and off using the **F9** shortcut key, but is available only in the **Glyph Edit** window.
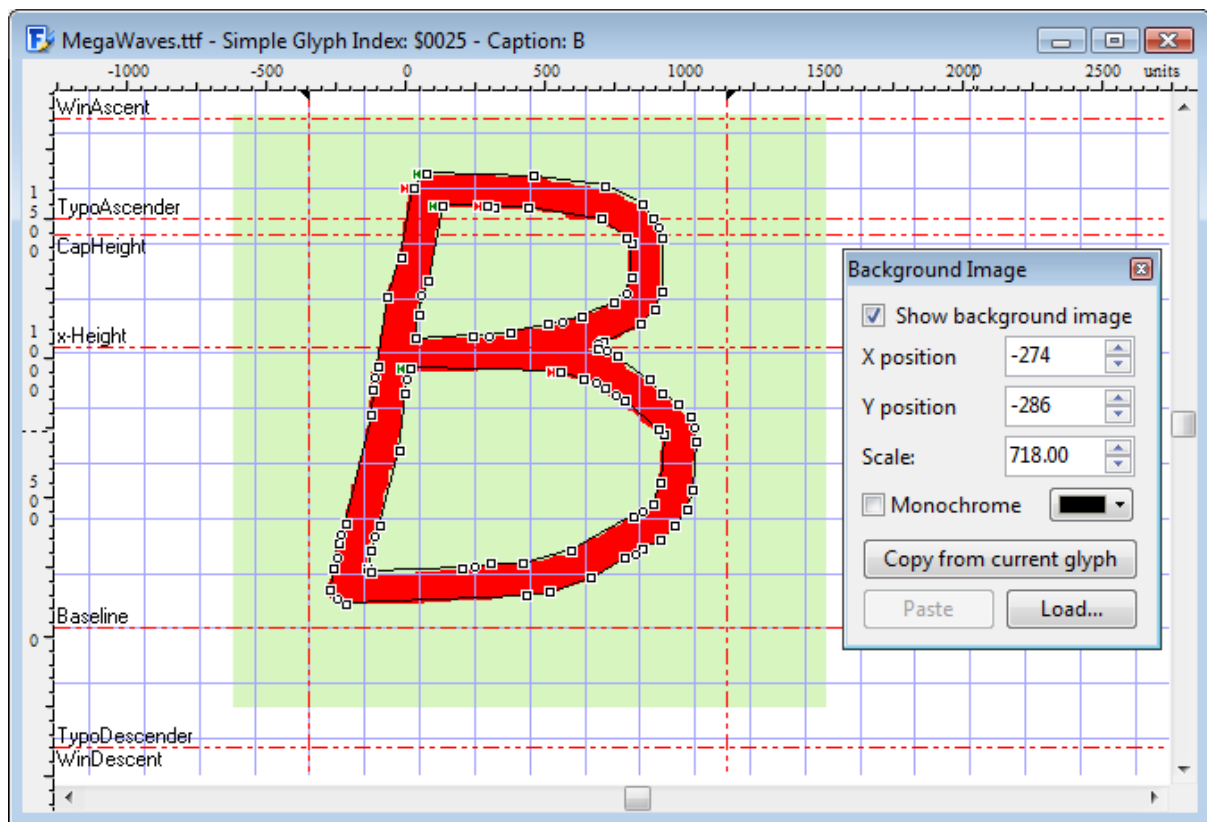
Click the **Copy from current glyph** button to place a copy of the current outline as background image. To add a background image paste an image from the clipboard, or click the **Load** button and select the image you want to use. Use the position and scale fields to move and scale the image. Check the **Monochrome** box, to show the background image in one color.

6.8 Comparison

You can show glyphs (with kerning) before and after the current glyph in a **Glyph Edit** window through the **Comparison** toolbar. It can help you accurately position composite glyph members such as diacritics and help you with aligning flowing scripts and other aspects of your glyph design..
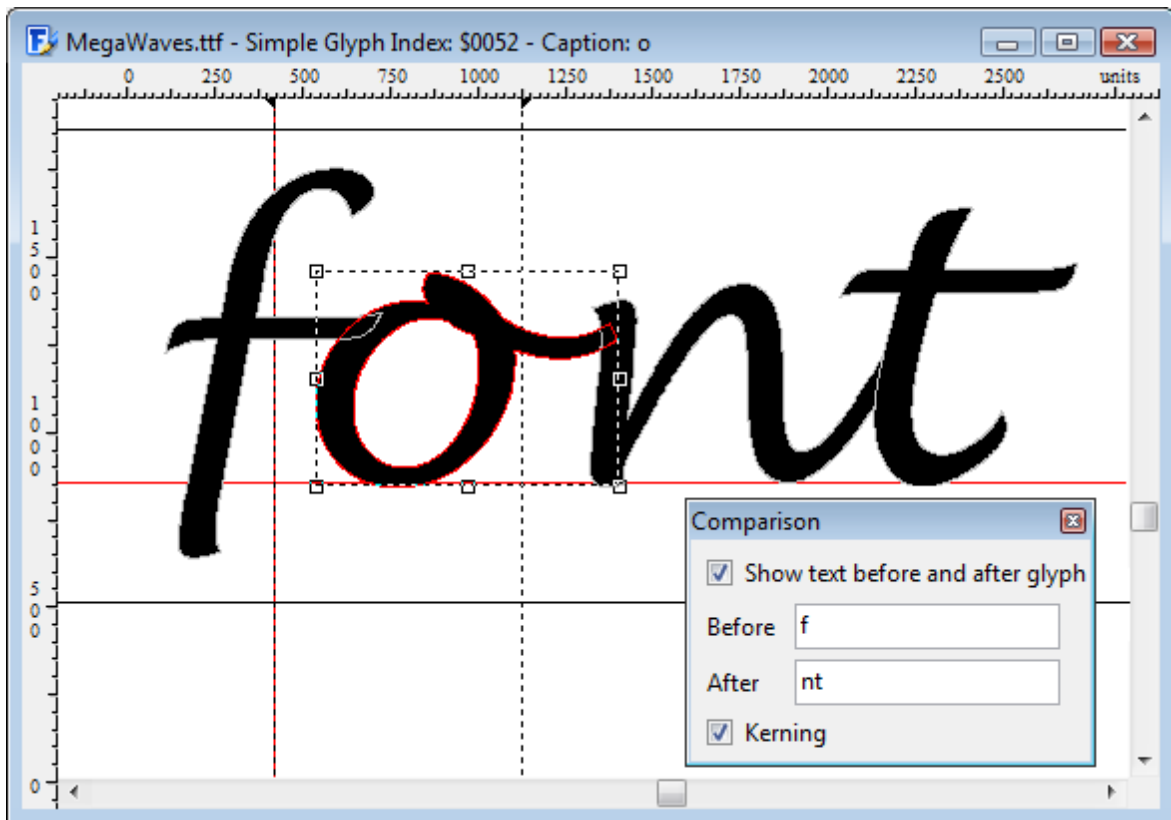
6.9   Samples

The **Samples** toolbar provides a powerful way of adding some contours you may frequently want to use in fonts or in glyphs. With the **Samples** toolbar you can drag and drop a sample glyph to a cell on the **Font Overview** or **Glyph Edit** window. The toolbar can be docked or floating, and can be toggled on and off using the **F12** shortcut key.

Note: When you drop a sample onto a composite glyph on the Font Overview window it will be converted to a Simple Glyph first.
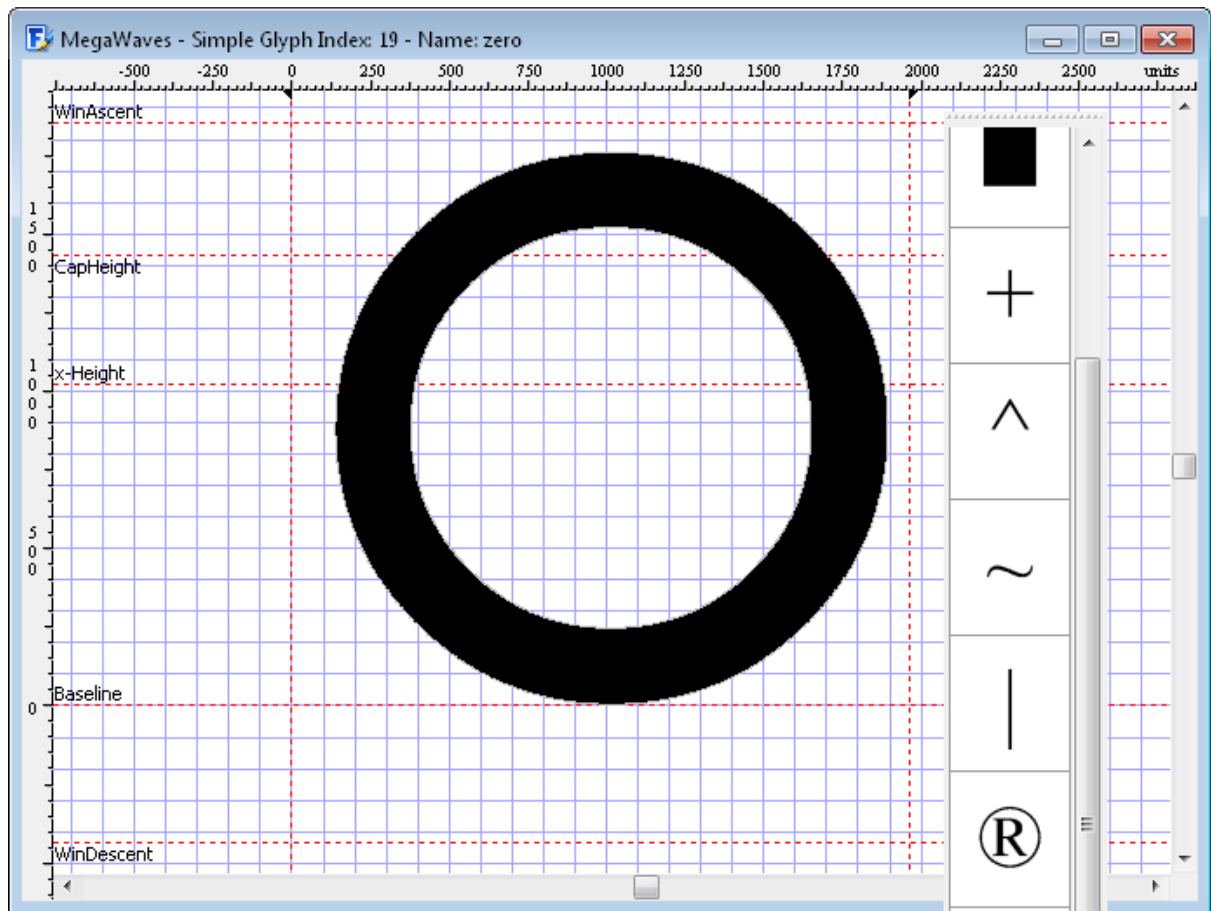
You can change the samples by making a special samples font, which includes your own samples. From the **Tools** menu you go to **Options** and go to the **Samples** page. Here you can select the font filename to be used in the **Samples** toolbar.

6.10   Color Glyph Members

The Color Glyph Members toolbar gives you a quick overview of the glyphs used in a color glyph and allows you to add and remove glyphs. When glyph members overlap then the order in which they appear becomes important. You can change the glyph member order by using the **Move Up** and **Move Down** buttons.
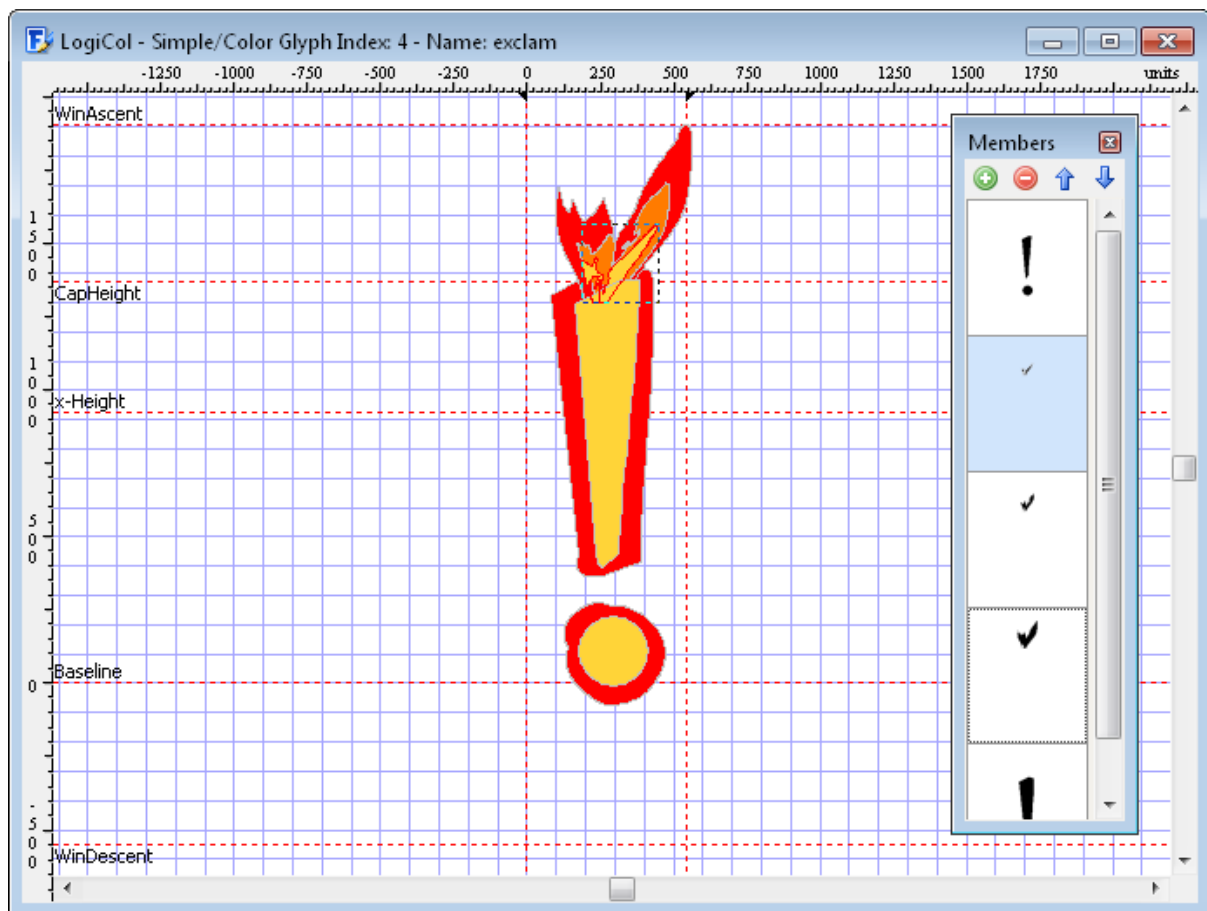
6.11 Palette

The Palette toolbar allows you to edit the palettes and the colors used in your font.
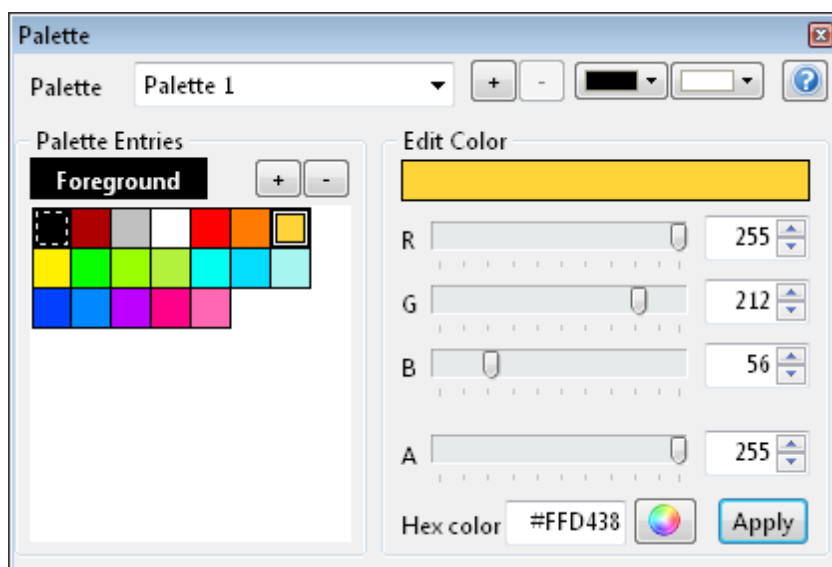
The palette drop down list shows the active palette. You can add and/or remove palettes by clicking the + and - buttons. Note that there must be at least 1 palette.

The foreground and background color selectors allow you to set the fore- and background colors that will be used in FontCreator's Glyph Edit windows, Preview toolbar and Font Overview. Note that each palette has it's own fore- and background colors.

The Palette entries list the current available colors for the active palette. You can modify a color by selecting the color and using the sliders, edit fields or the color chooser. Use the but **Apply** button to process the changes. You can use the + and - buttons to add or remove colors. Note that only unused colors can be removed.

The **Foreground** palette color is a special color that depends on the font color that the user or host application has set as active font color.

Part VII

7   Customizing FontCreator

7.1   Options

7.1.1   General

You can customize the way fonts are loaded, saved and shown with the **Options** window (Select **Options** from the **Tools** menu).
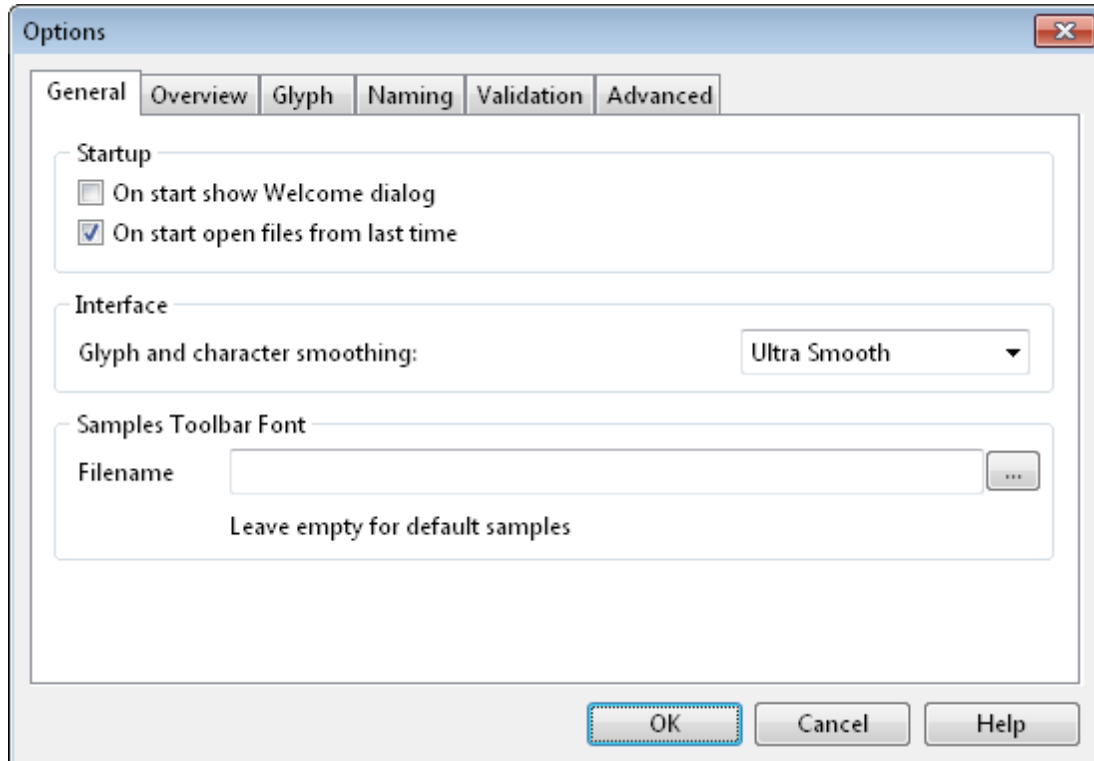
Use the fields on the **General** page when you want to change the welcome dialog, the interface settings or the **Sample Toolbar** font.

7.1.2   Overview

On the **Tools** menu, click **Options**, and then click the **Overview** tab. Here you can adjust the **Font Overview** settings.
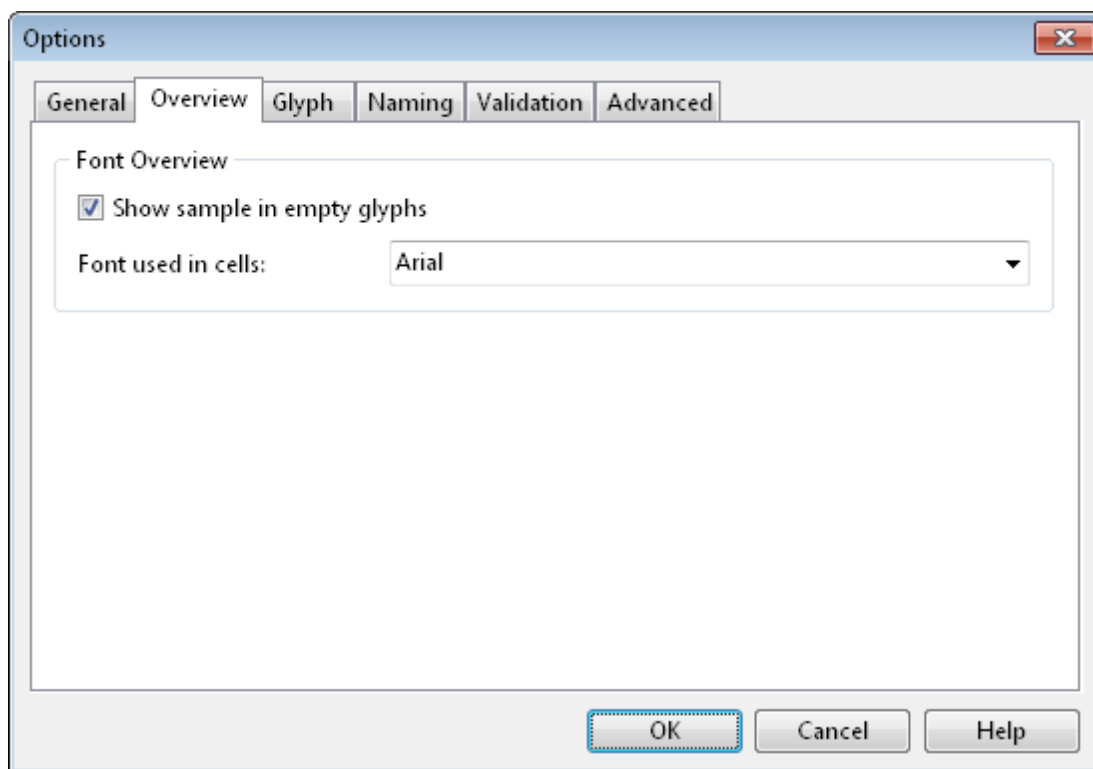
Show sample in empty glyphs

Will show a grey sample glyph for empty glyphs in the font overview. You can change the font to use by selecting one from the installed fonts list.

7.1.3 Glyph

On the **Tools** menu, click **Options**, and then click the **Glyph** tab.
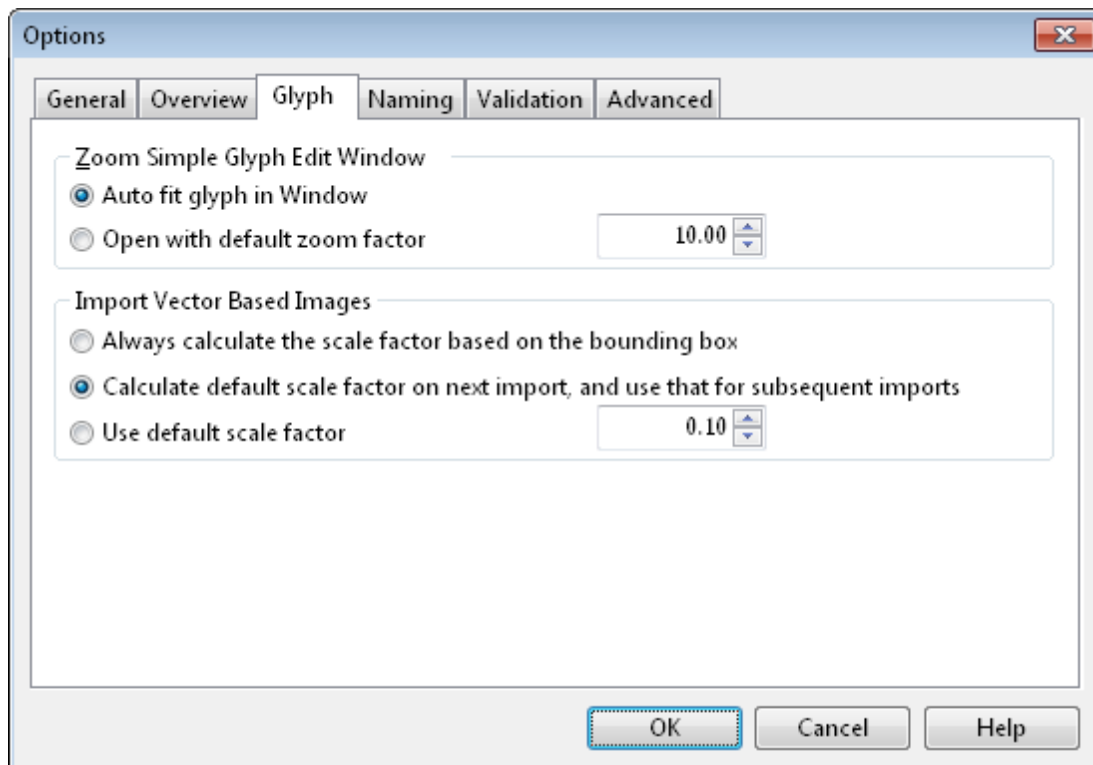
Here you can set the way a **Glyph Edit** window will show the glyph and how Vector Based Images are imported.

7.1.4 Naming

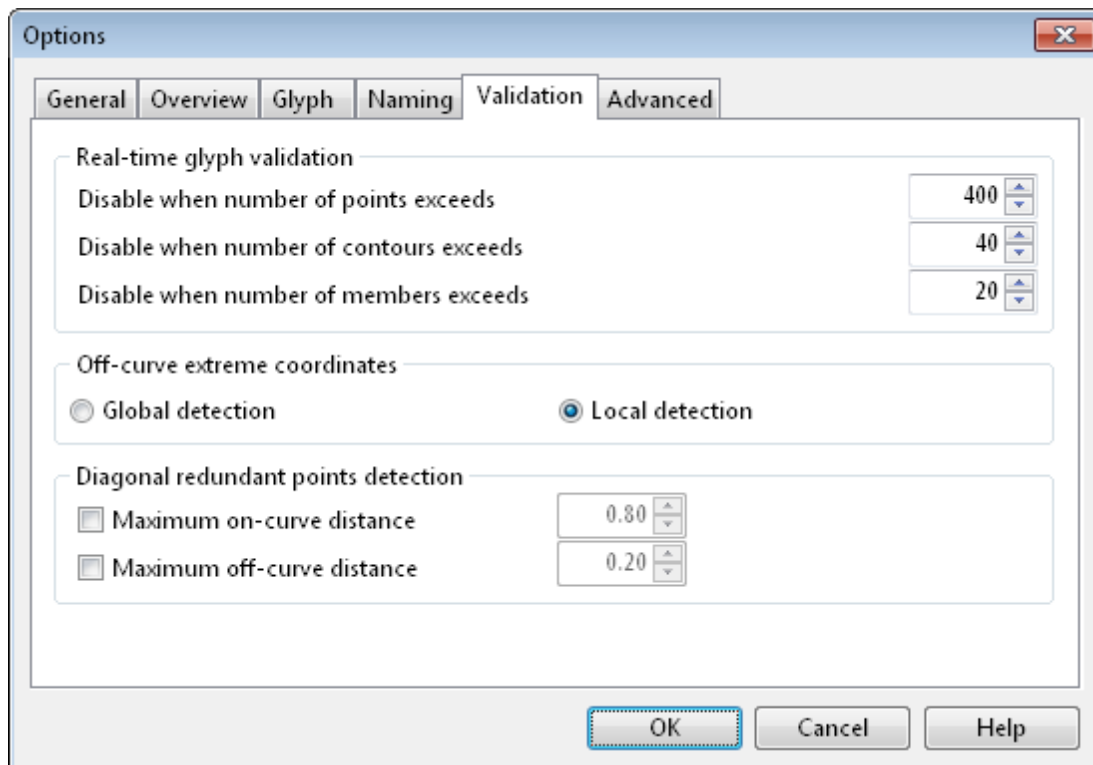On the **Tools** menu, click **Options**, and then click the **Naming** tab.
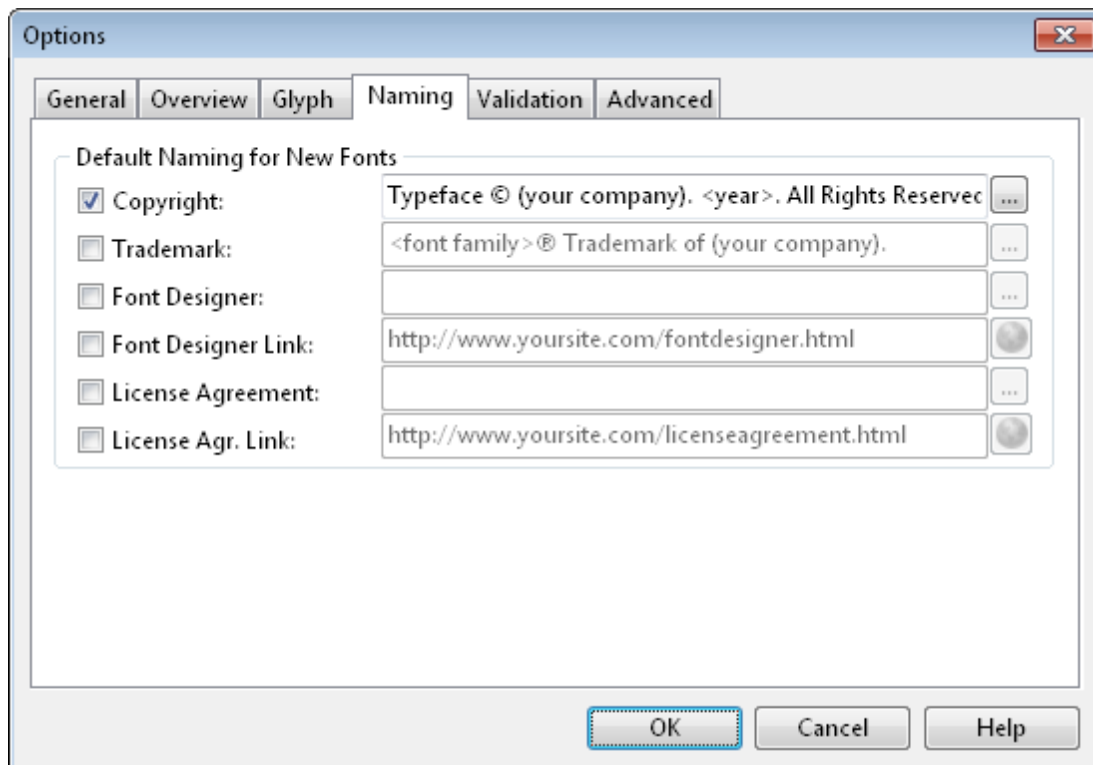
Default Naming for New Fonts

These fields are used as initial naming fields when a new font is created. <year> will be replaced by the current year and <font family> will be replaced by the actual font family name.

7.1.5   Validation

On the **Tools** menu, click **Options**, and then click the **Validation** tab.

The Real-time glyph validation settings are used to determine whether the real-time glyph problem detection should be disabled as it would be too time consuming. These settings are only used by the real-time glyph problem detection. When disabled, use the **Show glyph problem report** to open the **Glyph Problem Report** window.
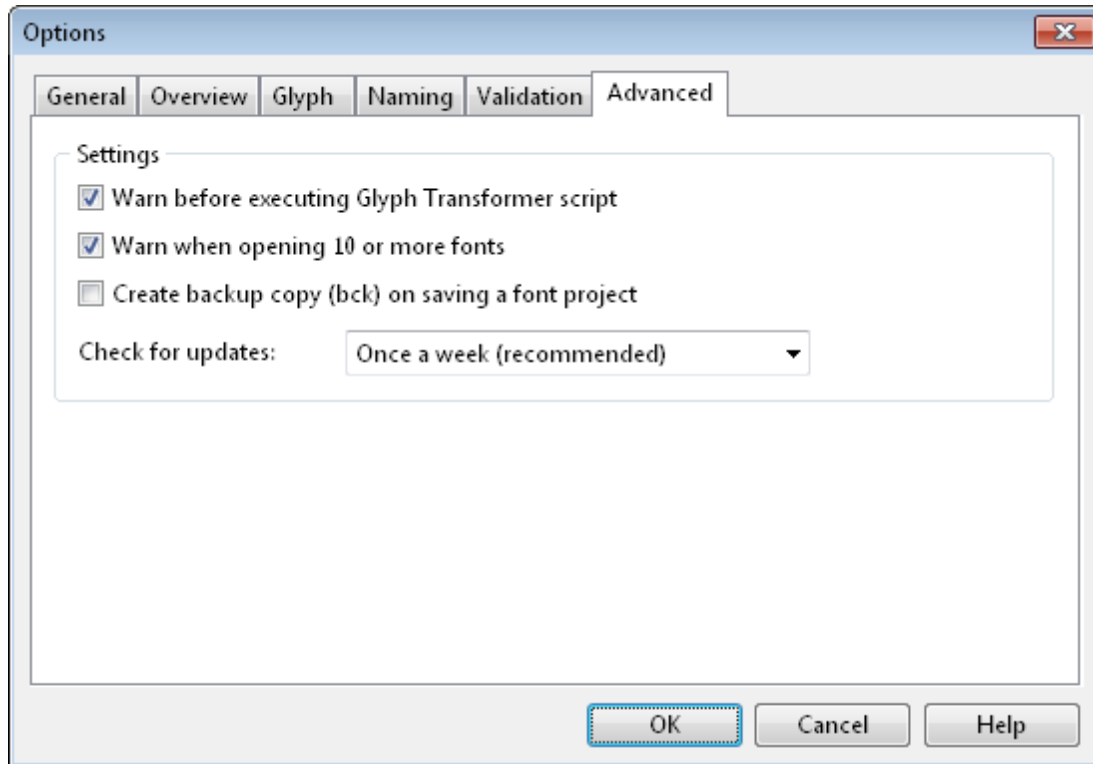
Off-curve extreme coordinates detection can be performed global or local.

Note: The **Validation** features are not available in the Home Edition of FontCreator.

See also:

Font Validation

7.1.6 Advanced

On the **Tools** menu, click **Options**, and then click the **Advanced** tab.

Warn before executing Glyph Transformer script

This indicates and determines if a warning will be issued when the **Transform wizard** is finalized. If this is not checked, no warning will be given.

Warn when opening 10 or more fonts

This indicates and determines if a warning will be issued when opening 10 or more fonts. Opening a lot of fonts at the same time will require a lot of system resources.

Create backup copy (bck) on saving a font project

Copies the previous version of a font project as a backup copy every time you save a font project. Each new backup copy replaces the previous backup copy. FontCreator saves the backup copy (with a file name extension .bck) in the same folder as the original.

Check for updates

Set the interval that FontCreator uses to check for updates. An interval of Once a week will ensure you are always working with the latest version of FontCreator.

7.2   Grid Options

You can adjust the way the grid in the **Glyph Edit** window is drawn in the **Grid Options** window (select **Grid Options** from the **Tools** menu).
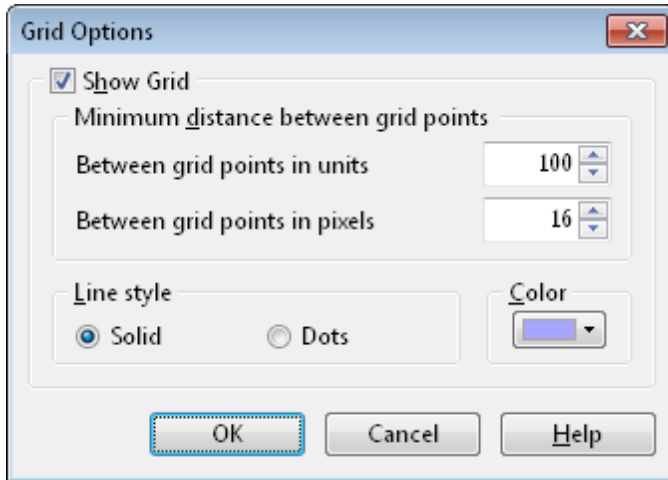
Here you can change the minimum distance, color and style.

The **Snap to Grid** function automatically places selected glyphs, contours and points along the grid. When you release a selection, FontCreator moves it until the edges are aligned with the nearest grid lines.

You must choose the Show Grid command before you can use the Snap to Grid function. To activate the **Snap to Grid** function, click the **Snap to Grid** button on the toolbar or choose Snap to Grid from the **View** menu.

When the Snap to Grid function is active, its button on the menu and toolbar appears pressed in. Choose the command or click the button again to turn off the function.

Note: Grid options are project specific. This means you can have different grid settings for each of your projects.

7.3   Metrics Options

To open the **Metrics Options** window click **Metrics Options** on the **Tools** menu. Here you can specify what metrics and reference lines should be shown in the Glyph Edit window.
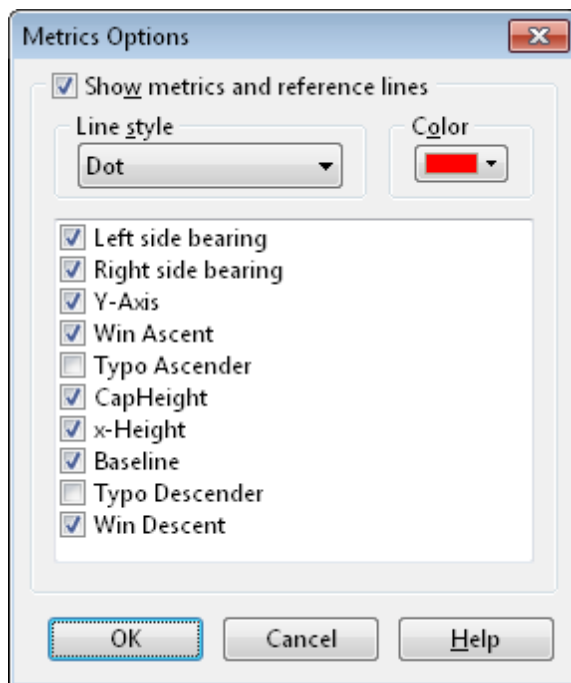
Note: Metrics options are project specific. This means you can have different metrics settings for each of your projects.
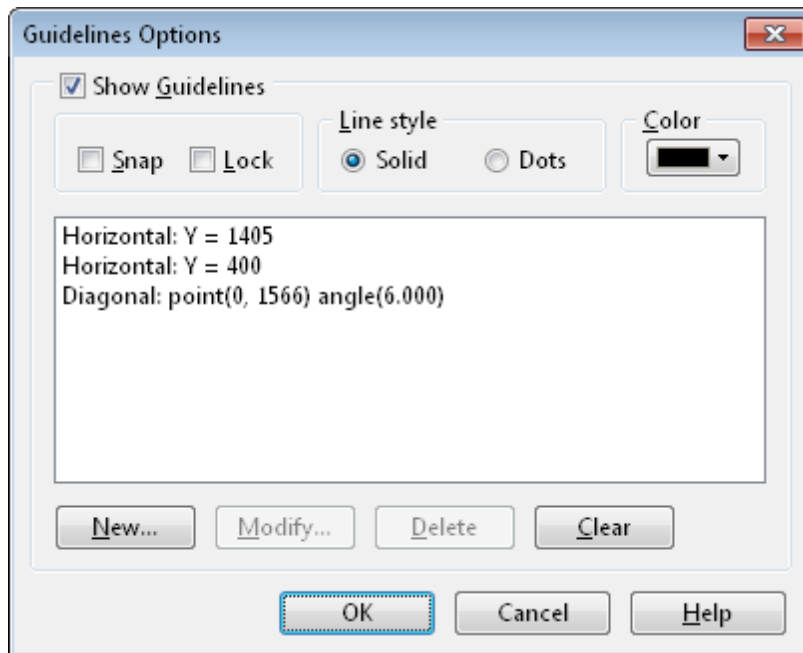
See also:

Glyph Metrics

7.4 Guidelines

7.4.1 Options

To open the **Guidelines Options** window click **Guidelines Options** on the **Tools** menu. The **Guidelines Options** window is also activated when you double-click the rulers in the **Glyph Edit** window.

Guidelines Options

☑ Show Guidelines

☐ Snap   ☐ Lock   Line style   ◉ Solid   ○ Dots   Color ▮▾

Horizontal: Y = 1405
Horizontal: Y = 400
Diagonal: point(0, 1566) angle(6.000)

New...   Modify...   Delete   Clear

OK   Cancel   Help

Here you can show and hide the guidelines, and change the guidelines style and color.

The **Snap to Guidelines** function automatically places selected glyphs, contours and points along the guidelines. When you release a selection, the FontCreator moves it until the edges are aligned with the nearest **horizontal** or **vertical** guidelines. It is also possible to snap points to **diagonal** guidelines. You must choose the Show Guidelines command before you can use the Snap to Guidelines function. To activate the **Snap to Guidelines** function, select the **Snap** check box, click the **Snap to Guidelines** button on the toolbar or choose Snap to Guidelines from the **View** menu. Select the **Lock** check box, or select the **Lock Guidelines** button on the toolbar, to prevent accidental movement of the guidelines.

Press the **New** button to define a new guideline. Press the **Modify** button to modify an existing guideline. To delete an existing guideline select it from the list view and click the **Delete** button. Use the **Clear** button to remove all guidelines.

If you want to add a horizontal or vertical guideline you can drag one from the top or left-hand ruler in the **Glyph Edit** window. Hold down the left mouse button and release it after you have moved the pointer to the desired position. To remove a guideline, simply drag it back to the ruler.

In order to rotate a guideline, press and hold down the Shift key before moving the guideline. Rotating a horizontal or vertical guideline will change the guideline into a diagonal guideline.

Select one or more contours (or one ore more composite glyph members) and right-click and then select **Add Bounding Guidelines** to add two horizontal and two vertical guidelines that correspond to the selection bounding box.

To copy a guideline to a new position, hold down the Ctrl key as you drag the guideline.

Tip: Select two points in a **Glyph Edit** window and press the **G** key on your keyboard to add a guideline that goes through the selected points.

Note: User defined guidelines are project specific. This means you can have different user defined guidelines for each of your projects.

7.4.2   Guideline

Use the **Guideline** window to create or modify guidelines.
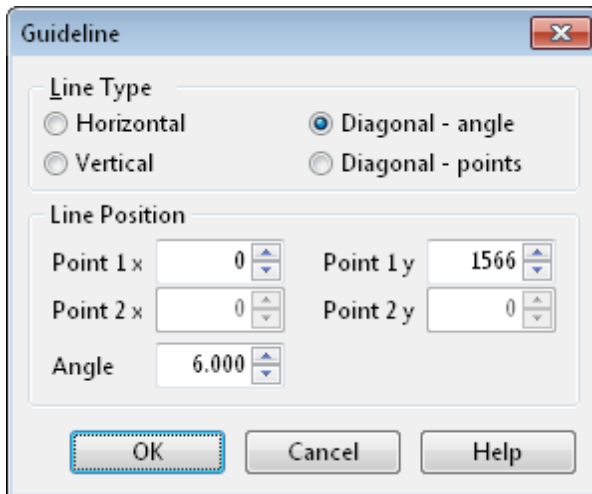
Line Type

Choose between horizontal and vertical lines and two diagonal line types.

Line Position

Both horizontal and vertical lines only need one value.

A diagonal line needs either one point with an angle or two points.

Tip: The **Guideline** window is activated when you double-click a guideline in the **Glyph Edit** window.

7.5   Keyboard Shortcuts

You can quickly accomplish tasks you perform frequently by using shortcut keys — one or more keys you press on the keyboard to complete a task.

General Shortcuts

Press	To
Ctrl+Tab (or Ctrl+F6)	Next Window
Ctrl+Shift+Tab	Previous Window
F1	Help
F2	Show/Hide User notes Toolbar
F3	Glyph Properties Toolbar
F4	Show/Hide Statusbar
Ctrl+F4	Close Window
F5	Test Font as TTF/OTF
Ctrl+F5	Test Font as WOFF
F6	Show/Hide Transform Toolbar
Ctrl-F6	Launch MainType
F7	Show/Hide Glyph Validation Toolbar *
F8	Show/Hide Preview Toolbar
F9	Show/Hide Image Toolbar
F10	Activates the Main Menu
Shift-F10	Displays the shortcut menu for a selected item
F11	Show/Hide Comparison Toolbar
Ctrl-F11	Launch Windows Font Folder
F12	Show/Hide Samples Toolbar
Ctrl-F12	Launch Windows Character Map
Delete	Delete selection
Ctrl-A	Select All
Ctrl-C	Copy

Ctrl-E	Paste Special
Ctrl-F	Displays the Find dialog box
Ctrl-I	Open Installed Fonts
Ctrl-J	Display values as Hexadecimal
Ctrl-K	Display values as Decimal
Ctrl-N	New Project
Ctrl-O	Open Project
Ctrl-P	Print
Ctrl-R	Repeat
Ctrl-S	Save Project
Ctrl-T	Invert Selection
Ctrl-U	Clear Selection
Ctrl-V	Paste
Ctrl-X	Cut
Ctrl-W	Close current tab
Ctrl-Y	Redo
Ctrl-Z	Undo
Ctrl-Shift-E	Export font as TrueType/OpenType font
Ctrl-Shift-W	Export font as Web Open Font Format (WOFF) font
Ctrl-Shift-A	Export font in all formats

Keys for working in the Glyph Overview window

Press	**To**
Enter	Open **Glyph Edit** window
Backspace	Clear selected glyphs
P	The first 256 characters mapped to the selected glyphs will be placed into the preview toolbar
Ctrl + Plus Sign	Increase the cell size
Ctrl + Minus Sign	Decrease the cell size
Ctrl + Shift + Plus Sign	Increase character size

Ctrl + Shift + Minus Sign	Decrease character size
Ctrl + 0	Reset character and cell size to their defaults

Keys for working in the Glyph Edit window

Press	To
Plus Sign or Ctrl+Plus Sign	Increase the zoom factor
Minus Sign or Ctrl+Minus Sign	Decrease the zoom factor
Ctrl + 0	Reset zoom factor to default
Alt+Left Arrow	Go to previous glyph
Alt+Right Arrow	Go to next glyph
N	Change selected points to on curve
F	Change selected points to off curve
G	Add guideline through two selected nodes, or add orthogonal guidelines at a single selected node
A	Add points after selected points
H	While pressed down, hides everything except the glyph
Q	Select previous contour/point index or composite glyph member
W	Select next contour/point index or composite glyph member
/	Fit to Window
Space+Left mouse button	Move around the Glyph Edit window
Double-click	While editing an empty or simple glyph, this will switch contour/point mode
	While editing a composite glyph, this will open the composite glyph member properties window
Double-click on rulers	Edit guidelines
Double-click on guideline	Adjust guideline
Shift-click on guideline	Rotate guideline
Ctrl+Drag guideline	Duplicate guideline
Click on selected contour	show/hide rotate and skew handles
Shift+Mouse	Constrain movement and scaling

Ctrl+Mouse   Duplicate selected contour

You can reset all toolbar positions and sizes by pressing the Ctrl key while starting
FontCreator.

* Not available in the Home Edition of FontCreator.

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