

Typefounder Tutorial

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Typefounder is an extensive set of software tools for creating and managing digital fonts. It runs in the Xerox Development Environment (XDE 4.0). This document is a tutorial intended to acquaint new users with the structure of the system and to familiarize them with its most important functions. The tutorial is also available as a mail file.

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IMPORTANT! PLEASE READ THIS BEFORE STARTING TUTORIAL!

Typefounder is a comprehensive set of tools for creating and managing digital fonts and logos. This tutorial introduces you to the basic functions of some of the tools in the Typefounder system. Some of the more sophisticated functions are not described here, but are documented in the Typefounder Reference Manual. The intent of the tutorial is to make you comfortable with performing the most often used functions and to acquaint you with the structure of the system.

The tutorial is composed of three exercises. The actions you must perform are printed in **boldface** type. Allow about 30 minutes for each exercise. A mail file version similar to the XDE Tutorials can be found on the release directory as TypefounderTutorial.nsMail. If you are not familiar with XDE, you should complete the XDE Tutorials first.

IT IS VERY IMPORTANT THAT YOU COMPLETE THE XDE TUTORIALS BEFORE PROCEEDING!!

Exercise 1. EXAMINING A FONT.

This exercise shows you how to look at the properties of a font using the Font window and some of its subtools.

The tools you will learn how to use in this exercise are the Typefounder window, Help windows, Font window, Text Display, and Destroy.

a. Starting the Typefounder Tool, Help Windows, Confirming.

Start Typefounder by typing "typefounder" CR (carriage return) in the Executive window. The Typefounder window will appear. This is the root of Typefounder, from which other tools in the Typefounder system appear. **Bring up the Typefounder menu** (by chording the mouse buttons in the Typefounder window). The menu shows a list of the tools which may be started from this window. Not all tools in the system can be started from every window. Each tool has a Typefounder menu which shows the tools that may be started from that window.

Help is the second to the last entry of the menu. Each tool in the Typefounder system has a Help window which gives a brief description of what the tool does and explains the commands and parameters. **Activate the Typefounder Help window** (by selecting it in the Typefounder menu and releasing the mouse buttons) **and read it. Deactivate the Help window** when you are finished. During the exercises you may want to use the Help windows of the various tools to learn more details about the tool.

Activate the Font. The cursor will change to a mouse icon asking you to confirm by clicking Point. The location of the cursor when you click will be the upper left hand corner of the new window. Many other Typefounder tools ask for this type of confirmation when activating. You can abort by clicking Adjust. You will learn what some of the other tools in the Typefounder menu do as you proceed through the exercises.

b. Loading a Font, Message Subwindows.

A Font window is much like the File Window you used in the XDE Tutorials in that it displays information and allows it to be edited and saved. Loading a font file into a Font window is similar to loading a text file into a File Window. **Load the font TestModern8x300.ac** by typing the name of the font in the top subwindow of the Font window and selecting it. (Almost all Typefounder tools allow you to type into the top subwindow in this way.) **Click Load!** in the Font window.

Note the words "Reading TestModern8x300.ac.." appear in the top subwindow. This is the message subwindow of the tool, similar to the message subwindow of MailTool. Most Typefounder tools have one and they are used to tell you what the tool is doing, or if something has gone wrong, or to prompt you to take some action. It is a good habit to keep an eye on the message subwindow of the tool in which you are working.

When the font is finished loading, the parameters of the font will be shown in the fields of the Font window and the name of the font file will be displayed in the name stripe. The Font Help describes the parameters. In the following parts you will learn different ways to examine the contents of the font.

c. Text Display, Switches.

One way to examine the characters of a font is to look at them in a string of text. The tool that allows you to type text in a given font is called the Text Display. It can be activated from the Typefounder menu in the Font window. (Take a few moments to look at the menu. Notice that its list is different from the one in the Typefounder window. You are now in a different tool and more subtools are available.) **Activate the Text Display.** The third subwindow is much like the File Window you used in the XDE Tutorials: you can type and edit text in the same way. **Type the sentence, "The quick brown fox jumps over the lazy dog."** **Click Show!** to display the text in the parent font. You can see that this font needs some editing. The "u" strokewidths are thin, the "o" is too wide, and "m" is missing.

Baseline and Ruler are switches that are turned on and off by clicking the mouse over them. **Click Baseline** to see the baseline and side bearings for each character. **Click Baseline again** to turn it off. **Click Ruler** to get a horizontal line. Move the line up or down by **clicking the mouse in the horizontal scrollbar** to check the alignment of the characters. **Click Ruler again** to turn it off. (You will see switches in many other Typefounder tools. They all work the same way.)

d. Destroy.

The last entry in every Typefounder menu is Destroy. Invoking this command removes the tool window. This is an easy way to keep your screen from becoming too cluttered. **Select Destroy** from the Typefounder menu in the Font window. The Font window and its children, in this case, Text Display, will disappear. Destroy does not affect any files loaded in the windows, it destroys only the windows themselves.

Exercise 2. EXAMINING AND EDITING A CHARACTER.

This exercise introduces you to the window you will use most often – the Character window and its subtool, Background.

a. Starting the Character Window.

You can examine characters of a font one at a time using the Character Window.

Activate a Font. Load TestModern8x300.ac. Activate a Character window from the Typefounder menu in the Font window. The Character window (as well as any Typefounder tool) is just like the Empty Window you used in the XDE Tutorials in that it can be grown, moved, sized, zoomed, etc. by using the Window Mgr commands or the accelerators. **Try moving and growing the window.**

b. Loading a Character, Enumerated Items, Pop Up Windows.

Take a moment to peruse the functions which are available in the Character window. There are several commands and switches. (Remember, commands end with "!".) **Type a "u"** in the Character window's message subwindow, **select it and click Load! in the Character window.** (You will see the Load! command in other windows. It works the same way in all the windows, i.e., select what you want to load and click Load!.) **Click the switches Grid, Reverse, and Surround** on and off and see what they do. **Use the scrollbars** on the left and bottom to move the image around in the window. You can recenter the image after scrolling around by **clicking Home!**. The scrollbars are especially useful when the image is larger than the window.

Color is an enumerated item that controls the shade of gray used to display the characters. Different values are selected by **chording the mouse over the word Color** to obtain a menu and then selecting a value from the menu. Try it and see how different values look with your character. Markers is another enumerated item which controls the type of markers shown with the character. **Try different markers.** Other Typefounder tools use enumerated items also. They can be recognized by the curly brackets and work the same way.

Change Scale! is a command which works like the Options! command in the XDE Tutorials: a new window pops up. You can change the parameters and apply or abort the changes. **Change the scale of the character** until you find one you like. Other Typefounder tools use a similar pop up window.

c. Brush Menu, Bit Editing and Saving a Character.

Since you will want to change some characters in the font, **click Edit!** in the Font window and note the change in the name stripe to tell you the font is being edited. In order to make any changes to characters or parameters of the font you must make the font editable. Many tools require the font to be editable before they can execute some commands. If you forget to make the font editable, the tool will tell you so in its message subwindow.

The mouse can have several functions when in the bottom subwindow of the Character window. The function is determined by the enumerated item, Mouse. **Select the Edits function.** Note the small window that pops up to the left. It contains several brushes. You may choose one by clicking the mouse over it. **Select a large square brush.**

Use Point to draw black bits in the image and Adjust to change black to white. **Adjust the stroke width of the "u".** When you are satisfied with the appearance of the "u", save your changes by **clicking Save!** (You will see how Store! works later.) This saves the new version of the character in memory but does not write it on the file. The original file TestModern8x300.ac is unchanged. (In order to write the new character on the file, you have to save or store the font. You will do that later.)

Turn the baseline markers on. Load "o" and change its width by clicking Adjust over the little box at the bottom of the right side bearing. Keep Adjust down and move to the desired width. Release Adjust. Point down moves both side bearings in tandem. The baseline may be moved similarly. **Save it.** Prepare to draw the "m" by **clicking Reset!** to clear the window.

d. Background, Tracking.

You will use "n" as a background to help you make the "m." **Activate a Background tool** from the Typefounder menu in the Character window. The Background tool is used to load another character of the same or different font into the Character window. The background character cannot be edited, but it can be moved around in the Character window using Shift!. The Pick Font! command allows you to select the font from which the background characters will displayed. **Click Pick Font!** and **move the cursor to the Font window.** **Click Point.** Clicking Adjust aborts the command.

The Tracking switch loads the same character as the foreground into the background as you change foreground characters. Since you will be using a background character different from the foreground, **turn Tracking off.** **Type "n"** in the Character window's message subwindow **and select it.** **Click Load!** in the Background and the "n" will appear in the Character window. **Select an**

appropriate brush and draw an "m" using the "n" as a guide. You may need to scroll the character or shift the background to finish the second counter. To shift the background, **click Shift!**, **click Point** over a position in the background character, and **click Point again** over the new position. Adjust the width and baseline if necessary.

e. Storing a Character.

Now you want to store the new character. (Remember last time you used Save! to write a new version of an existing character. Here, you have created a new character so you must use Store! to put it in a new character code position.) **Select an "m"** and **click Store!** in the Character window. The new character is stored in the character code for m. Before you store the font, see how your edits look by **activating a Text Display and typing** some text containing the edited characters.

f. Storing a Font.

Now you will store the edited font into a new font file. (Save! and Store! have the same meaning here as they do in the Character window, except they work on fonts instead of characters. You will see Save! and Store! in other windows, also.) **Type and select the name "newTestModern8x300.ac" and click Store!** in the Font window.

Destroy the Font window to clean up your screen.

Exercise 3. MAKING A FONT FROM A RASTER IMAGE.

This exercise illustrates how to build a font file by "stuffing" pieces of a raster image into an empty font. (A raster image is a one bit per pixel bitmap usually in AIS or compressed AIS format.)

The tools you will learn how to use in this exercise are Raster Image window and Segmenter.

A tool you already know how to use is the Font window.

a. The Raster Image Window.

The Raster Image is the tool you use to look at raster character (and logo) files. **Activate a Raster Image** from the Typefounder menu in the Typefounder window. **Load the file "Excelsis.cis."** The Change Reduction! command works like the

Change Scale! command in the Character window. **Try different reduction factors** until you find one you like. You may also want to change the size and shape of the window itself. If the image is larger than the window, you can **use the scrollbars** on the left and bottom to move the image around in the window.

b. Selecting Part of a Raster Image.

To identify the part of the image you would like to use for each character, you must draw a box around it. Notice that the cursor becomes a crosshairs automatically when it is moved into the bottom subwindow of the tool. Point down will select one corner of the box. Keep Point down and move to the diagonally opposite corner of the box. Release Point. You can move the box by clicking Adjust and moving the mouse with Adjust down. When Adjust is released, the box will become stationary.
Draw a box around "A."

Activate a Font and click Edit!

c. The Segmenter.

The Segmenter is a tool which makes creating a font or logo from a raster image easy. Activate the Segmenter from the Typefounder menu in the Raster Image window. The Pick Font! command allows you to select the font into which the characters will be inserted. It works like the Pick Font! command in the Background. **Pick the New Font** you just activated. **Type "A" in the Char: field.** The A in the image has already been selected. **Click Stuff!** The image is automatically stored as the character A in the font. Notice that the Char: field is automatically advanced to "B". **Draw a box around B** in the image and **click Stuff!** **Repeat** for the rest of the image.

d. Filling in the Font Parameters, Busy Cursor.

Prepare to store the font in a file before continuing. **Set the parameters of the Font window** as follows: Family = Excelsis Master, Pointsize = 11, resolutions (hor and ver) = 2000, Coding = XC1, Weight = medium, Posture = roman, Setwidth = regular, Type = raster, File Format = Compressed OC. Use compressed OC format since this is a large font. **Store the font in "ExcelsisMaster.coc."** While the file is being stored, **move the cursor into the second subwindow.** Note that it changes from an arrow to "busy." This indicates a command is executing in that tool and no other commands in the tool may be started. Moving the cursor outside the tool causes it to become an arrow. You can start commands in any window in which the cursor is an arrow, even though another window might be "busy."

e. Blink Parent.

Sometimes, when there are many windows on the screen, you may forget which subtool belongs to which tool. For example, you may have two Font windows open on different fonts and three Character windows. To help you find out which Character belongs to which Font, use the Blink Parent entry in the Typefounder menu of the tool. **Try Blink Parent in the Segmenter** and see the Raster Image window to which it belongs. **Destroy the Font window and Raster Image window.**

Now that you are acquainted with the structure of Typefounder, experiment with other tools, using the Help windows to explain the commands and parameters.