

# TransType

MAC, PC, POSTSCRIPT, TRUETYPE –  
BASIC FONT CONVERTER  
**USER'S MANUAL FOR WINDOWS**

SE



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# Introduction

TransType is a TrueType and PostScript Type 1 font conversion utility. It can convert PC fonts to Macintosh, Macintosh fonts to PC, Type 1 fonts to TrueType and TrueType fonts to Type 1. Moreover it can do platform and format conversions at the same time. There are several important features that make TransType different from other font conversion programs:

1. TransType correctly converts fonts with Roman and non-Roman encoding and allows you to select both source and destination encoding while you convert fonts in either direction (PC→Mac, Mac→PC, TrueType→Type 1, Type 1→TrueType). The font-previewing feature helps select proper encodings.
2. TransType automatically controls the building of font suitcases when you convert families of PC fonts to Macintosh. You can move fonts from one suitcase to another, but in most cases it's unnecessary – TransType does it for you.
3. TransType can automatically generate bitmap fonts when you convert to Macintosh Type 1 format.
4. TransType can convert multiple master Type 1 fonts either into single master or into multiple master Type 1 fonts or into TrueType fonts for any platform – PC or Macintosh.

5. You can quickly and easily preview the fonts that are not installed in your System.
6. TransType can convert from VFB (FontLab's internal format) into TrueType or Type 1.
7. TransType can also accept fonts in .sit archives created with StuffIt Deluxe – a popular Macintosh file archiver.
8. TransType can read or write Macintosh files in industry-standard MacBinary or BinHex formats. Windows computers can't read native Macintosh files, but with TransType you can import or export these specially formatted Macintosh files on your Windows computer and use them immediately. TransType can also directly open Macintosh files if they are saved on a PC-formatted diskette or Zip disk, or are copied to a PC computer from a Macintosh through a network connection. If you are using MacDrive® you can access Macintosh-formatted media supported by MacDrive.

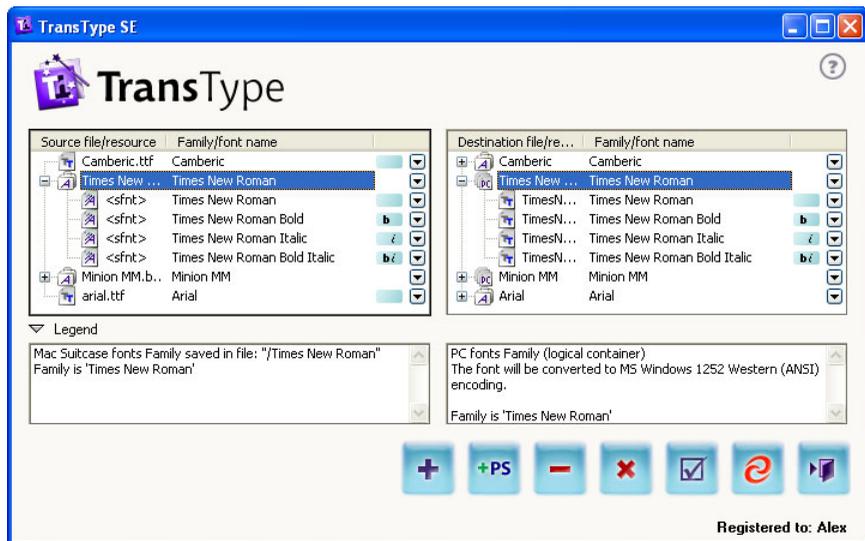
In this document we assume that you have a basic knowledge of computer fonts, font formats and encodings. Refer to documents from the [Bibliography](#) section for more advanced information and to [Appendix A](#) for the basics.



**Note:** Here and later, when speaking about font formats, we use the words *PC* and *Windows* as synonyms.

# User Interface

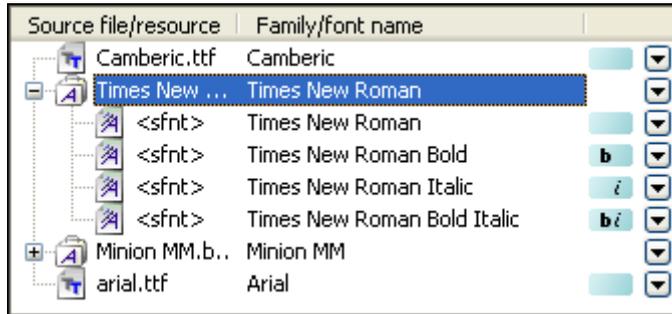
TransType's Main Window consists of several parts: the Source and Destination lists, the Legend fields and the Command buttons.



*TransType Main Window*

# Source Fonts List

The Source list contains the names of the fonts (PC and Macintosh in TrueType, FontLab (VFB) or Type 1 formats) that you are going to convert. You can convert all different kinds of fonts in one step and TransType will automatically convert Macintosh fonts to PC and vice versa. TrueType will be converted to TrueType and Type 1 to Type 1 by default.



Source Fonts List

As you can see, the presentation of different kinds of fonts in this list depends on the font's platform and type. The following icons are used:

- 
Macintosh font suitcase. Click on the icon (or the plus sign to the left of the icon) to see the contents of the suitcase. Click with the **Ctrl** key depressed to open all the suitcases. Click again with the **Ctrl** key down to close them all


---
- 
Macintosh Type 1 font ('post' resource) usually referenced by the font suitcase. It is possible to add a Macintosh Type 1 font without the corresponding suitcase


---
- 
Macintosh multiple master Type 1 font


---
- 
Macintosh TrueType font ('sfnt' resource) inside a font suitcase


---
- 
PC (MS Windows) Type 1 font (usually has PFB extension)


---
- 
PC (MS Windows) multiple master Type 1 font (usually has PFB extension)


---
- 
PC (MS Windows) TrueType font (usually has TTF extension)


---
- 
FontLab 3 or FontLab 4 font in VFB format (usually has VFB extension)


---

The Source list has two main columns: the font file name and the font name.

 **Note:** If you see the text “<sfnt>” instead of the file name it means that this is a ‘sfnt’ resource located inside a Macintosh font suitcase and doesn’t have its own file name.

To the right of the font name you will see style icons, which give you the information about the font’s style. Only 4 main styles can be recognized:

---

	Font is Italic
	Font is Bold
	Font is Bold Italic
	Font is Plain

---

The **Legend** panel is located below the Source list. It includes a short description of the currently selected item:

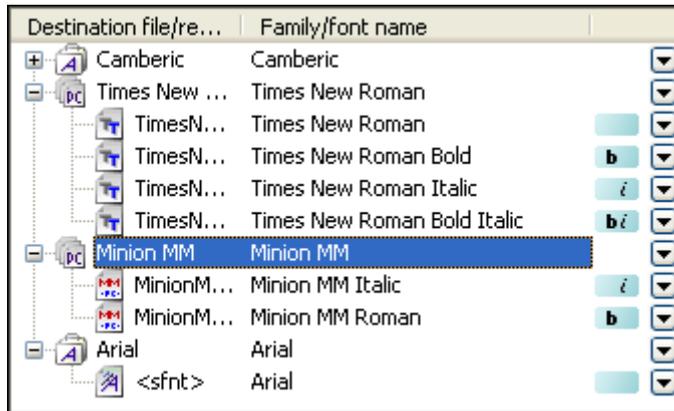


You can show or hide the Legend panel by clicking the triangle at the left.

Multiple selections are implemented in the Source list to make it possible to manage several fonts at once. Use the **Shift** or the **Ctrl** key to select more than one item in the list. Then **right-click** on the selection instead of using the pop-up menu buttons at the right of the font names.

## Destination Fonts List

The **Destination** fonts list is located in the right part of the TransType Main Window:



*Destination Fonts List*

The Destination list contains the names of fonts as they will look after conversion. If you are converting PC fonts to Macintosh it will contain Macintosh font suitcases that will be automatically generated by TransType. If you convert Macintosh fonts to PC, then you'll see "virtual" font suitcases  that will contain PC font files united into a font family for easier maintenance in TransType. Click or **Ctrl**-Click on the icon (or the plus sign to the left) to open these suitcases and see their contents.

Icons in this list have the same meaning as in the Source fonts list. Multiple selections are implemented in the Destination list too. Use the **Shift** and the **Ctrl** keys to select more than one item in the list. The Destination list also has a **Legend** panel located below which contains a brief description of the selected item.

## Pop-up Menus

The items in Source and Destination lists may contain pop-up buttons (▾) located at the right of the font and suitcase names. You can press these buttons to open pop-up menus where you can set the destination format, customize font conversion options, call for a family properties dialog or manipulate individual fonts and their styles.

**To manage several selected fonts at once**, right-click on the selection instead of using the pop-up buttons.

## Command Buttons

Command buttons are located in the right-bottom area of the Main Window:



Here is a brief description of each button (from left to right):

<b>Add</b>	Use this button to add fonts to the Source Fonts list and prepare them for conversion. Note that you can add fonts to the Source list by simply drag-dropping them to the Main Window from the Explorer
<b>Attach</b>	Use this button if you are converting Macintosh fonts to PC to let TransType know which files containing PostScript font data to use with the currently selected font suitcase. Refer to the <a href="#">Associating PostScript Data Files</a> section below for more information about this command
<b>Clear</b>	Press this button to remove the currently selected font(s) from the Source or Destination list. Of course, the corresponding item(s) will also be removed from the other list
<b>Clear All</b>	Press this button to remove all the fonts from both lists
<b>Preferences</b>	Press this button to open the Preferences dialog containing various TransType settings
<b>Convert</b>	Press this button to begin the font conversion process. Note that it may be disabled in some circumstances – this means that you didn't provide enough information for the conversion process or that one of the fonts to be converted is damaged or improperly constructed.
<b>Quit</b>	Use this button to finish working with TransType and exit the program.

# Conversion Process

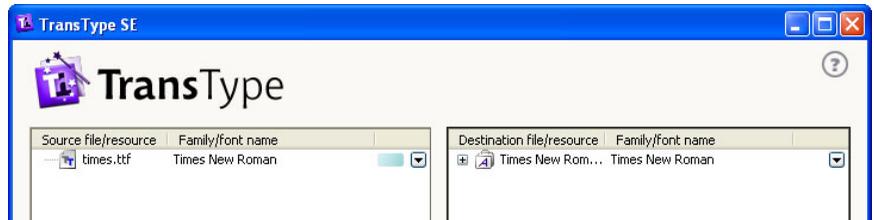
## To convert fonts, you have to:

- Add the fonts you want to convert to the Source list. Remember that Macintosh fonts must usually be in MacBinary or BinHex format.
- If you are converting Macintosh fonts to PC you may have to associate data files with the source suitcases. Usually, however, TransType does this automatically.
- Check and define the encoding and codepage settings for all the fonts in the Source list, if necessary. The values selected in the Preferences dialog will be used by default.
- If necessary, change the destination font format (if you are converting TrueType fonts to Type 1 or vice versa).
- If necessary, organize destination suitcases (if you are converting PC fonts to Macintosh) and adjust the fonts' properties.
- If the **Convert** button is disabled, fix possible problems by following the recommendations located in the legend panel below the Destination Fonts list.
- Press the **Convert** button.

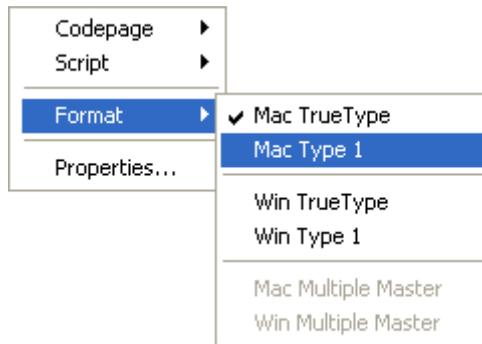
## Converting a Sample Font

In this section we will show you how to convert one of the Windows system fonts to Macintosh font format. We will not provide a detailed description of all operations here (it's provided later in the chapter) but will show you the main points as an example.

1. Open the **Fonts** folder in your **Windows** folder with the help of **Explorer**. (**C:\windows\fonts**)
2. Copy the **Times New Roman** font from the **Fonts** folder to the Desktop (the Windows OS restricts access to the fonts in the **Fonts** folder so they are not directly available to TransType or to font editors).
3. Drag-and-drop the font from the Desktop right onto the TransType application icon on your desktop (or open TransType from your **Programs** menu and drag-drop the font into the Source list). TransType will be launched and you will see its Main Window with the **Times New Roman** font in the Source list:



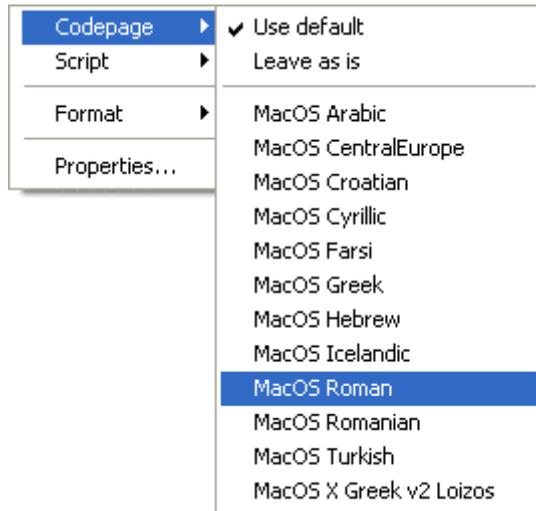
- Look at the Destination Fonts list. Press the pop-up menu button to the right of the font name and observe the menu contents:



*Destination Format Submenu*

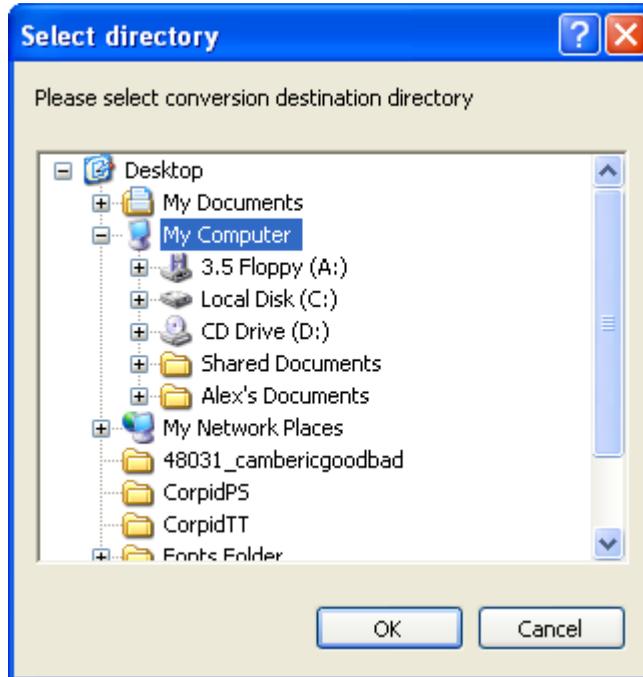
As you can see there is an option to change the destination font format. Let's, for example, select the **Mac Type 1** option in the **Format** submenu. The **Times New Roman** font will be converted from Windows TrueType to PostScript Type 1 format for Macintosh in this case.

- Now you must select the encoding for the fonts you are going to generate. Press the pop-up menu button for the second time and select the **MacOS Roman** codepage in the **Codepage** submenu:



*Destination Codepage Submenu*

6. As the source **Times New Roman** font is a Unicode font, you needn't define the encoding for it in the Source Fonts list. Click on the  button at the bottom of TransType Main Window to start the conversion process.
7. If you haven't defined the default destination directory in the **Preferences** dialog, TransType will ask you to choose the destination for the fonts generated:



Select Directory Dialog box

We recommend you create a new directory for the destination fonts. This will help when more than one font consisting of more than one file are converted at a time. In any case, select the destination directory and press the **OK** button.

TransType will create two files in MacBinary format: one with the Macintosh PostScript and another with the Macintosh suitcase. Both files will be needed to install the font on a Macintosh.

8. After the conversion process has finished, the Source and the Destination Fonts lists remain – so that you can convert the same fonts to another format or with other settings if you want. To finish working with TransType, press the rightmost button  at the bottom of the Main Window and the program will quit.

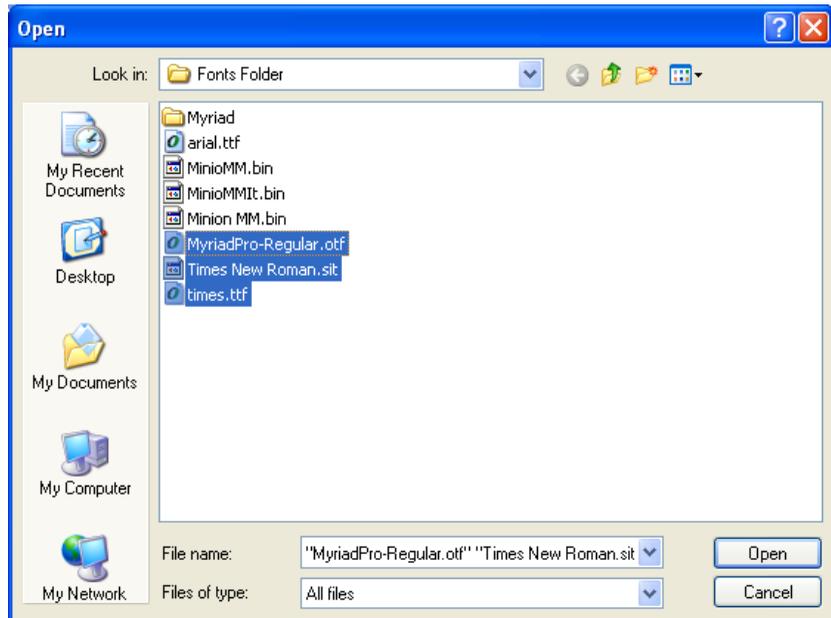
OK, so now you know how to do a simple PC->Mac conversion. It's time to look at TransType's features in detail.

## Adding Fonts to the Source List

To add one or more fonts to the Source fonts list you can use two methods: the **Add** button or **drag-and-drop**.

### To add fonts with the Add button:

1. Press the **Add** button at the bottom of TransType's Main Window . You will see the standard Windows **Open** dialog box:



*Open Fonts Dialog box*

2. Select the fonts you want to add for processing and press the **Open** button. TransType will open every font selected, check it, and extract the information necessary for further processing. Remember, Macintosh fonts must usually be in MacBinary or BinHex format (see details below).

**To add fonts using the drag-and-drop method:**

1. Open the directory with the fonts.
2. Select the fonts you want to add and drag them to TransType's Main Window.

 **Note:** You can drag-and-drop not only individual fonts but also folders containing many fonts. Subfolders are processed recursively.

 **Note:** When you add Macintosh Type 1 fonts for conversion you **MUST** add suitcases along with the printer font files. If you cannot identify a suitcase file add all files that you suspect contain font data.

Note that filenames for the PC fonts that will be created during processing are generated automatically following the 8.3 requirements – this is necessary to maintain compatibility with older versions of Windows and DOS. This option is customizable for Windows fonts in **Preferences/General/Font Files Naming**.

## Adding Macintosh Fonts

Macintosh and PC have different file systems, so to access traditional Macintosh (pre-MacOS X) fonts on a PC you have to perform some additional steps or sometimes use third-party programs. This process is described in full detail in the [Macintosh to PC Conversion](#) chapter on page 59, and we strongly recommend you read it before trying to convert Macintosh font files with TransType.

After you have added fonts to the Source list they will appear according to their structure. Thus Macintosh font suitcases appear as two-level items and PC font files as separate files. In the Destination list you will see the fonts in their post-conversion form – PC fonts that will be converted to Macintosh formats will appear united in suitcases. Macintosh fonts converted to PC will keep their "suitcase" structure for easier navigation.

## Associating PostScript Data Files

On the Macintosh Type 1 fonts are defined in two files: a suitcase file that contains data for the whole font family and a separate PostScript data file for each font. So if you have a family of Type 1 fonts containing 3 styles you will have 4 files: a suitcase file and a PostScript data file for each style.

The Mac OS automatically associates data files and suitcases using special rules based on file name. However during conversion of Macintosh files into MacBinary or BinHex format the files may be renamed and automatic association will not be possible. Fonts for which TransType cannot automatically find data files are highlighted in red in the Source Fonts list.

To manually associate font data files with a suitcase you must press the **Attach** button. You will then see a file dialog where you must select one or more Macintosh files which contain font data files. This is not easy since the file names are usually truncated. Then try adding all files that you suspect contain font data. TransType will open the selected files and try to associate the font data files that they contain with one of the suitcases currently open in the Source Fonts list.

## Removing Fonts

If you added fonts to the Source list by mistake or you were going to convert them but then changed your mind, you can easily remove some fonts from the list. Select one or more fonts in the list by using the **Shift** and **Ctrl** keys and then press the **Clear** button at the bottom of the Main Window. You can remove item(s) from the Destination list as well. Of course, the corresponding item(s) will also be removed from the Source list.

**To remove all the fonts from both lists**, press the **Clear All** button.

## Previewing Fonts

After you have added fonts to the Source list you can preview the source fonts and how they will be converted in a different encoding.

There is a plus sign to the left of each suitcase icon. Click on this sign or the icon itself to see the contents of the suitcase. Holding down the **Ctrl** key while you click will show the contents of all the suitcases in the list.

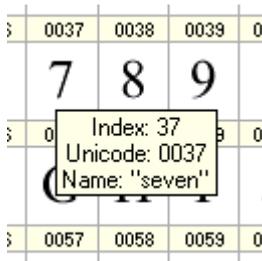
**To have a look at the particular font character set**, double-click the font icon (not the suitcase icon) in the Source or Destination list. The font will open in the Preview window:



*Font Preview Window*

This window consists of two main parts: the font character chart and the codepage options. If you opened this window from the Destination Fonts list of the Main Window, you will see the destination font character chart preview. Switch between the source and destination preview by clicking on the corresponding tabs at the top of the chart.

The character chart contains the font glyphs' preview and their position in the currently selected encoding. Each character has a caption with its Unicode index. **To see the code and the name of the particular character**, just move the mouse cursor to the character's cell:



**To change the encoding in the preview**, use the **Codepage** pop-up menu at the bottom of the window. Note that by changing the codepage in the source or destination character chart preview you also define the source or destination encoding for conversion (see the next section for details).

**To get access to all the possible codepages in the Codepage pop-up menu**, uncheck the checkbox to the right of the menu. The **Codepage** pop-up menu will contain not just Windows or Macintosh codepages, but all codepages from the *Program Files/Common Files/FontLab/Codepage* and *Program Files/Common Files/FontLab/TransType/Codepage* directories on your hard disk.

With the help of the TransType font preview feature you can easily define the appropriate conversion encodings for each font in the Source list.

 **Note:** You cannot set different encodings for different fonts in the same Macintosh suitcase or PC font family. When you set the encoding for one font in a suitcase (family) you set it for all the fonts in the suitcase (family).

## Setting Conversion Options

After you have added fonts to the Source list (and the resulting font names have appeared in the Destination list) TransType usually is ready to begin conversion using the default settings. But sometimes you may need to change the conversion options (particularly the destination font format), the methods that TransType uses to reencode fonts and, if you are converting PC fonts to Macintosh, the styles of the generated fonts and their placement in suitcases.

Conversion of fonts between two main font formats – PostScript Type 1 and TrueType – is the feature that makes TransType an advanced product. This conversion is not trivial and demands many options to be set correctly. Sometimes it is not possible to convert a font from one format to another without loss of font quality. That is why we will describe format conversion separately.

Reencoding of fonts is a very important feature of TransType too. This is necessary because Windows and Macintosh use different encodings to map codes in the 0-255 range to characters located in the font. Usually the first 128 characters are encoded the same way, but other characters, located in the 128-255 code range are not. Moreover, encoding of fonts is highly dependent on the language for which the font was designed and in no language is the Macintosh encoding the same as the one used in Windows.

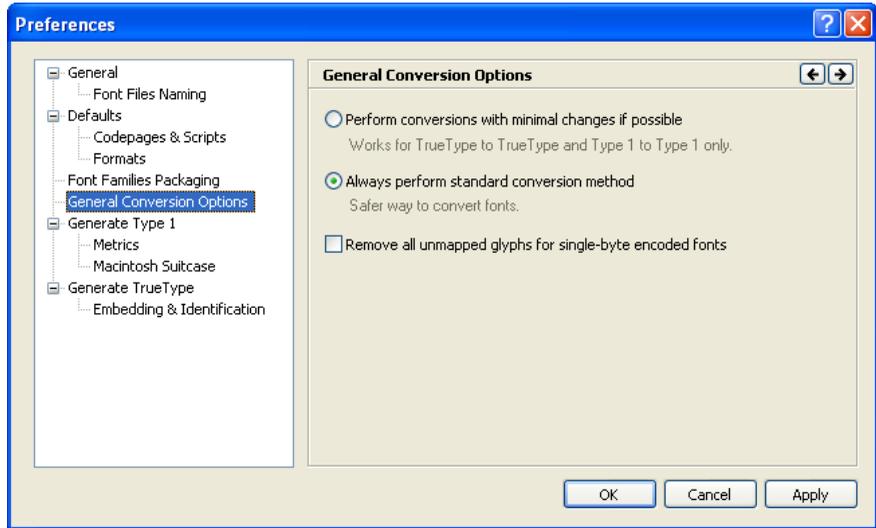
The method which the two systems use to identify font styles is also very different. On the Macintosh, fonts that comprise a font family are grouped into a font suitcase. On Windows all the font files are separate and the system links them into the font family using style-identification flags set in each font.

We will give you a detailed description of each operation you can apply to customize the font conversion process. The descriptions are grouped in sections for each platform/format combination.

But we will describe the most common and simple setting for the conversion process here in this section.

## General Conversion Options

Click the **Preferences** button at the bottom of the Main Window and refer to the **General Conversion Options Page** of the **Preferences** dialog:



*General Conversion Options Page of the Preferences Dialog*

These general options are quite important. They actually switch between different conversion methods implemented in TransType:

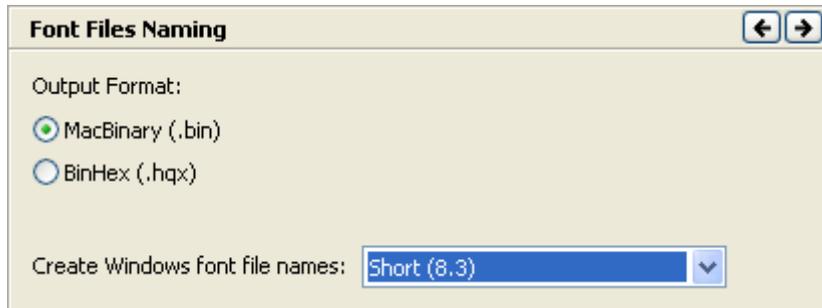
---

<b>Perform conversion with minimal changes if possible</b>	If this option is selected, TransType will try to use our old conversion engine first introduced in TransType 1.x instead of the new FontLab conversion engine implemented in TransType 2. But switching on other options (like <b>Remove all unmapped glyphs...</b> or <b>Always decompose composites</b> ) will force TransType to use the standard conversion method anyway. Moreover, the usage of TransType 1.x engine is possible only for conversion from Type 1 to Type 1 and TrueType to TrueType
<b>Always perform standard conversion method</b>	If this option is selected, TransType will use the new FontLab conversion engine. This conversion algorithm allows you to convert Type 1 to TrueType and vice versa; and vfb files to other formats. The standard method may be used even when this option is off and another method is selected
<b>Remove all unmapped glyphs for single-byte encoded fonts</b>	If this option is checked, TransType will remove those glyphs of the source font that are not referenced by the destination codepage. The new font will become more compact. This option is off and all characters preserved by default. If it is on it is ignored when the <b>Perform optimal conversion method</b> option is also on.

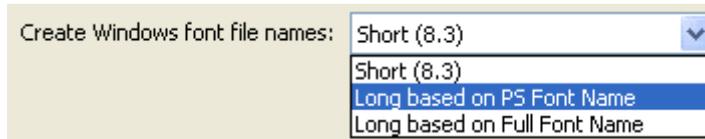
---

## Destination File Options

When TransType converts fonts to Macintosh format, it saves them in MacBinary (.bin) or BinHex (.hqx) files. You may choose what format to use in the **General/Font Files Naming Page** of the **Preferences** dialog:



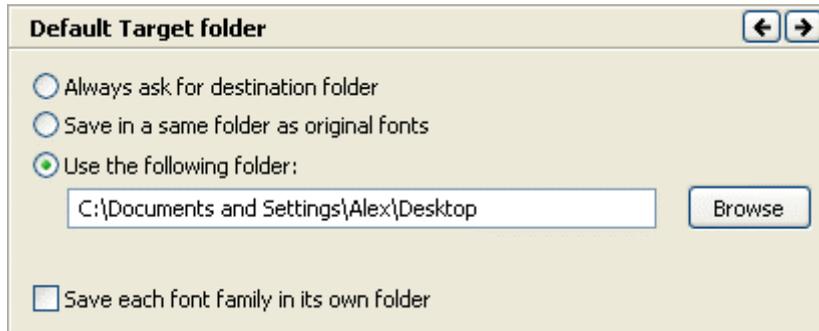
Use the **General/Font Files Naming Page** of the **Preferences** dialog to define the file naming scheme for Windows output fonts:



The options described here are used for generating font files in any Windows format:

<b>Short (8.3) name</b>	If this option is checked, TransType will generate file names for Windows fonts in DOS notation for more compatibility. This option is on by default
<b>Long based on PS Font Name</b>	If this option is checked, TransType will generate long file names. It will use the Font Name fields to generate file names
<b>Long based on Full Font Name</b>	If this option is checked, TransType will generate long file names and will use the Full Font Name fields.

Use the **Defaults Page** of the **Preferences** dialog to choose the place where new fonts will be stored:



Click the **Always ask for destination folder** radio button to make TransType open the standard directory selection dialog for each conversion session. Click **Save in the same folder as original fonts** to let TransType save the converted fonts in the same place as the input fonts reside. To specify a particular folder, click the **Use the following folder** option and select your custom destination directory on the disk where you would like the converted fonts to be stored.

And finally, if you check the **Save each font family in its own folder** option, then a separate folder will be created for each converted family in the folder selected as the destination folder. This is particularly useful for creating fonts in the Type 1 format.

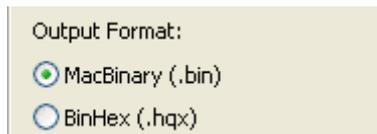
## PC to Macintosh Conversion

The following key points are important when PC fonts are converted to Macintosh format:

1. Only Macintosh font files have a resource-based structure.
2. Fonts that belong to a font family have to be united in a Macintosh font suitcase structure.
3. Type 1 font files on the Macintosh stay separate from the font suitcase files and are linked to the Macintosh font resources using name reference methods, similarly to the implementation on the PC platform.
4. Type 1 fonts on the Macintosh need to have at least one accompanying bitmap font file (NFNT resource) for each font style.
5. Encoding, even for the Latin fonts, is different on Macintosh and PC.
6. Most PC fonts are encoded using Unicode, but in some cases simulated encodings are used.

In order to simplify things we describe only TrueType to TrueType and Type 1 to Type 1 conversions in this section. The differences of conversion between TrueType and Type 1 formats are described later in the [TrueType > Type 1 Conversion](#) section.

When TransType converts fonts to Macintosh format, it saves them in MacBinary or BinHex files. You may choose what format to use in the **General/Font Files Naming Page** of the **Preferences** dialog:



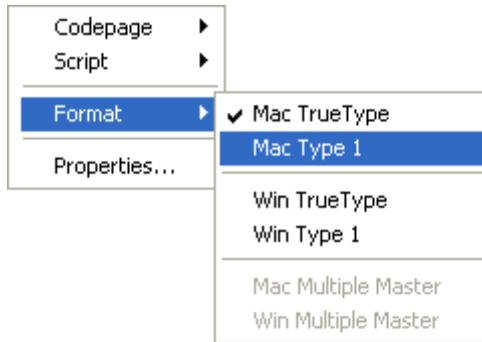
## TrueType Fonts

When you add TrueType fonts to the Source fonts list TransType does the following:

1. Opens the TrueType font file and extracts information about all the available glyphs, the Unicode mapping data, the font names and the font style (plain, bold, italic or bold-italic).
2. Tries to detect which encodings this font can support.
3. If several added TrueType fonts belong to the same family (the family name is the same and the style information is different), builds a destination font suitcase.
4. Prepares for PC TrueType to Macintosh TrueType conversion.

## Changing Font Format

By default Windows TrueType will be converted to Macintosh TrueType, but you can change the destination font format. Press the pop-up menu button located at the right of the suitcase name in the Destination list to open the following pop-up menu:



*Destination Format Pop-up Menu*

Select the platform and the type for the destination font.

- ✓ **Tip:** If you have multiple selections in the Destination list, your choice will be applied to all selected fonts. But you must **right-click** on the selection instead of using the pop-up menu button at the right of the font name.
- ✓ **Tip:** You can change the default destination platform and format in the **Defaults/Formats Page** of the **Preferences** dialog.

## Reencoding

Source TrueType fonts can have the following encodings:

1. Normal Unicode encoding. In this case all characters are assigned to their proper Unicode indexes. This makes it very easy to determine to which languages they belong and how they can be used.
2. Normal Symbol encoding. The codes in the 0-255 range are mapped to symbolic or pictorial characters.
3. Simulated Symbol encoding. Symbol encoding is used to map normal alphabet characters of a language to the 0-255 codes.
4. Simulated Unicode encoding. Unicode indexes of the Latin language are used to map characters of some other language to the 0-255 codes.

Only encodings 1 and 2 (normal Unicode and Symbol) give full information about mapping codes to characters. All other cases require you to make some additional definition(s). You must tell TransType which encoding is simulated by the Symbol or Latin Unicode indexes. When TransType gets this information from you it can assign proper Unicode indexes to characters and treat this font as a case 1 in our list. Using this method we can limit the number of potential source encoding configurations to two: Unicode and Symbol.

## Symbol Encoding

Symbol encoding is usually used to map symbolic or pictorial characters to the 0-255 code space. No reencoding is necessary when you convert such fonts to Macintosh format, so TransType will simply copy the characters and you will use the same codes you used on the PC to access the characters.

## Unicode Mapping

In the case of Unicode mapping in the source font all we need to do is to convert this encoding according to the Macintosh requirements. The problem is that on the Macintosh we can use only codes in the 0-255 range to access characters. This rule is not true in MacOS X, but we will use the older requirements to let you build Macintosh fonts that will work on all Macintosh systems. So we need to carefully use this space.

Every language used on the Macintosh has a codepage mapping table that determines how characters are mapped to the 0-255 code space. When we know which characters are in the source font (with the help of Unicode indexing) and select a Macintosh codepage we can easily build a correctly mapped Macintosh TrueType font.

We'll describe below all the operations that you might need to perform to make a correctly encoded Macintosh TrueType font.

## Defining the Source Encoding

When you add a PC TrueType font to the Source list you can look in the legend field below it. If it says “TransType will use Unicode table to detect encoding”, that means that the font has a valid Unicode mapping table and the conversion is very simple. The Unicode table is used by default in this case, but you have the option to change the source encoding. Press a pop-up menu button at the right of the font name and the pop-up menu will appear:



*Source Encoding Pop-up Menu*

- ✓ **Tip:** Press and hold down the **Ctrl** key on the keyboard before pressing the pop-up menu button to get access to all the possible codepages.

- ✓ **Tip:** It is possible to change the source encoding for multiple selected items in the Source list at once. But you must **right-click** on the selection instead of using the pop-up menu button at the right of the font name.

When the font doesn't have a Unicode table or is encoded as a symbol font, the legend will not say that the font is "Unicode" and you will **have to use** the encoding pop-up menu. The **Use Unicode** item will be disabled in this case and you have to determine which encoding the source font has. The first item is **Use Default:** this means that TransType will use the codepage currently selected as default in the **Defaults/Codepages & Scripts Page** of the **Preferences** dialog. The other items in the dropdown list are the names of codepages. Select one of these codepages if you know that that codepage is used in the source font.

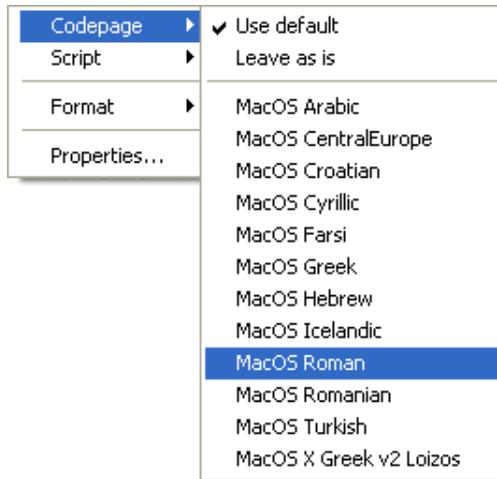
For example, if the source font is encoded as a symbol font but you know that actually it is a Cyrillic font, you should choose the **MS Windows 1251 Cyrillic** codepage in the pop-up menu and TransType will assign the correct Unicode indexes to all characters.

If you know that the source font is really a Symbol or pictorial font, select any item in this menu – it doesn't matter.

-  **Note:** When a definition of the source codepage is necessary but none is selected (the default value is set to **Unspecified** and **Use Default** is selected in the pop-up menu) TransType will color the font's name in red and will disable the **Convert** button until you specify the source encoding of the font.

## Defining the Destination Encoding

When you define the source encoding for a TrueType font you may also define the destination encoding. Press the pop-up menu button located at the right of the suitcase name in the Destination list to open the following pop-up menu:



*Destination Codepage Pop-up Menu*

The menu contains the following items:

<b>Codepage</b>	Used to assign a destination codepage to the font
<b>Script</b>	Select the script identifier for the font as required by the Mac OS
<b>Format</b>	Used to change the destination platform or font format
<b>Properties...</b>	Select this command to open the <b>Properties</b> dialog where you can customize the properties of the destination font

## Assigning the Codepage

In the **Codepage** submenu you can see three common commands and a list of Macintosh codepage names:

### **Use Default**

Use the destination codepage selected as the default in the **Preferences** dialog.

### **Unicode**

Is not usable in the case described here.

### **Leave as is**

Do not reencode the source font – any selection in the Source list pop-up menu is ignored.

A list of potential codepages to which the font can be reencoded follows these three commands. The number of available codepages depends on the number of characters in the font.

When TransType finally gets the information about the Unicode indexes to which the font characters are mapped (from the font or after you have assigned a codepage to the source font), it knows which destination codepages this font can support and shows only these codepages in the destination encodings menu.

- ✓ **Tip:** To force TransType to include all the possible codepages, press and hold down the **Ctrl** key.
- ✓ **Tip:** It is possible to change the destination codepage for multiple selected items in the Destination list at once. But you must **right-click** on the selection instead of using the pop-up menu button at the right of the font name.

## Assigning a Script Code

After you have selected the source and destination codepages, assign a script code to the font using the **Script** submenu. Note that for most Macintosh encodings when you select the destination codepage TransType will automatically select the correct script code.

- ✓ **Tip:** If you have multiple selection in the Destination list, your choice will be applied to all selected fonts. But you must **right-click** on the selection instead of using the pop-up menu button at the right of the family name.

Use the **Defaults/Codepages & Scripts Page** of the **Preferences** dialog to select the script code that will be used by default:



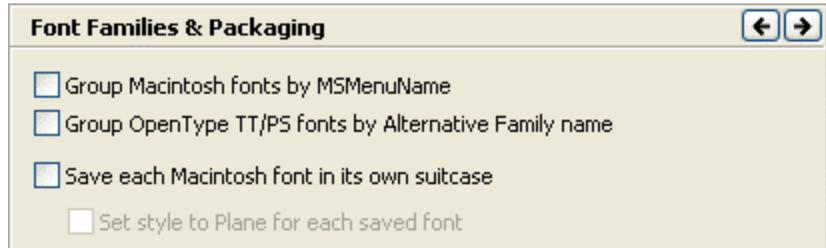
### To summarize the process of font reencoding:

1. TransType determines the Unicode indexes of all the characters in the source font. It does this automatically if the source font has a valid Unicode table or with your help when you select the source encoding in the source pop-up menu.
2. Depending on the selection you made in the Destination list's pop-up menu TransType maps up to 256 Unicode indexes to the 0-255 code space as is required by the Mac OS.
3. A script code is assigned to the font accordingly to the selected Script.

## Customizing Suitcases

When you convert several fonts that form a font family on a PC, TransType will automatically combine these fonts into a Macintosh font family suitcase. If for some reason you don't want TransType to do this, you have the following options:

1. Force TransType to put all fonts in separate suitcases by checking **Save each Macintosh font in its own suitcase** on the **Font Families Packaging Page** of the **Preferences** dialog:

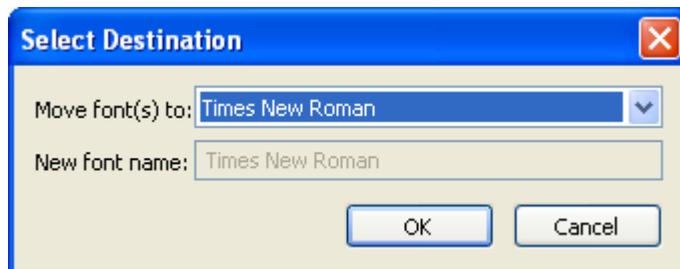


This is unusual and we do not recommend you switch on this option. But if you do, the **Set style to Plain for each saved font** option is recommended to simplify the usage of the fonts. When this option is on, all fonts that are placed in separate suitcases will have the plain style flag, even if the original fonts are not plain.

2. Exclude the font from the current suitcase and move it into the new one. To do this, position the mouse cursor on the font (not suitcase) you want to move and press the right mouse button or use the pop-up button (⌘). Select one of the commands in the pop-up menu:

**Move item to a new suitcase** – to move the font from the current suitcase to the new suitcase that will contain only this font.

**Move item to...** – to open the **Select Destination** dialog box and choose a destination suitcase:



*Select Destination Dialog box*

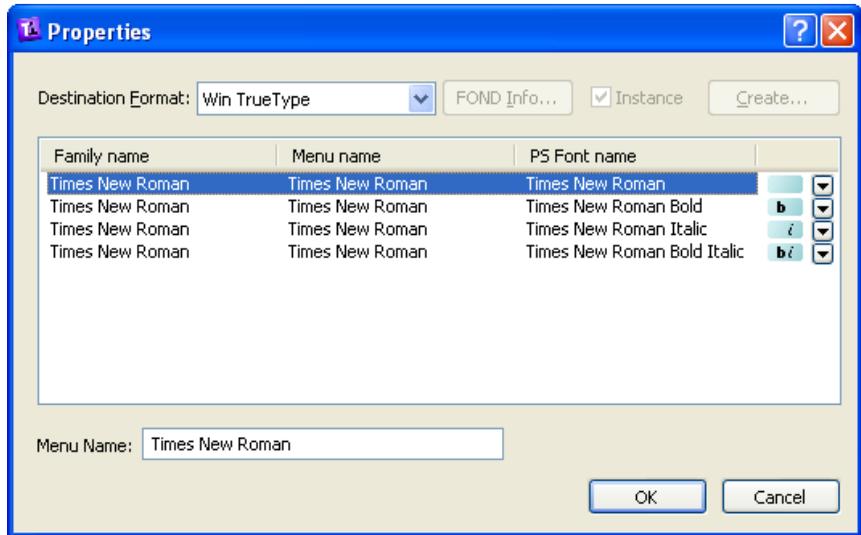
In the **Select Destination** dialog box select the suitcase to which you want to move the font in the **Move font(s) to** pop-up menu or select **New Suitcase** to extract the font into a new empty suitcase. Change the font name in the editing field below if necessary. Note that if any fonts in the suitcase have the same style (for example, if you have two italic fonts), then the **OK** button is disabled. Correct the problem or press **Cancel** to close the dialog.

3. Change the style of the particular font in the suitcase by selecting the appropriate item in the menu which appears when you press the right mouse button or use the pop-up button (▾):

*Style Pop-up Menu*

## Font Properties

You can easily edit the destination font suitcase information. Select the suitcase in the Destination list. Press on the pop-up button to the right and select the **Properties** command in the pop-up menu. The **Properties** dialog box appears:



Font Properties Dialog box

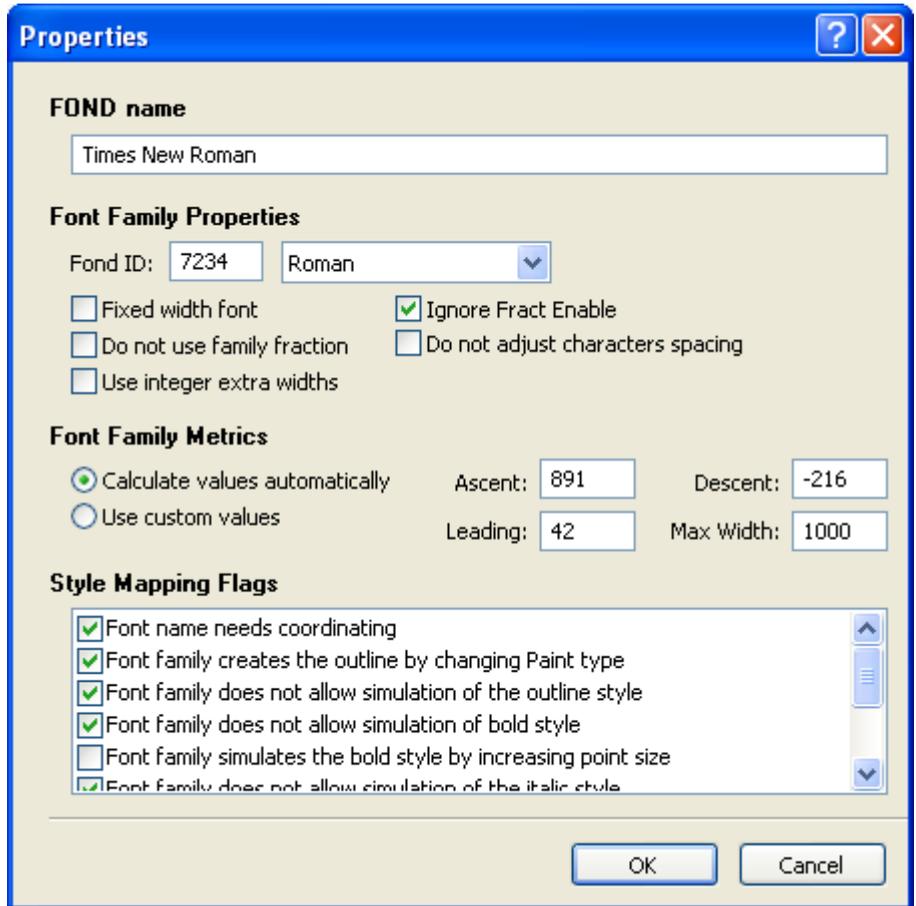
**The Properties dialog allows you to:**

1. View the names and styles of the fonts in the family.
2. Change the destination platform and format in the **Destination Format** control. Note that you can convert fonts without changing the platform or the font format (for example, Mac TrueType to Mac TrueType).
3. Set the option to create a single master font from a multiple master (will be described later when speaking about Type 1 fonts).
4. Change the style of the particular font in the suitcase by selecting the appropriate item in the menu which appears when you press the pop-up button .
5. Change the **Menu name** – the name which will appear in the font menu when this font is installed in Windows. **Note that the menu name is the name of the FOND resource on the Macintosh.**
6. And finally, choose to edit Macintosh FOND resource information for the suitcase by pressing the **FOND Info** button. Obviously this button is available only when converting to Macintosh platform.

**For more control** of the font header information, you need **TransType Pro** available as a separate product.

## Macintosh FOND Properties

When you press the **FOND Info** button in the Properties dialog, the **FOND Info** dialog appears in which you can change some parameters:



*FOND Info Dialog box*

Usually you won't need to change these parameters. But if you are a professional in font design, this dialog is for you.

Besides the FOND name, which is the same as the font menu name, you may edit parameters in the following groups.

### Font family properties:

<b>FOND ID</b>	FOND resource identifier (or family ID number) lying in the range of the particular script. Changing the script in the pop-up menu to the right will automatically change the FOND ID and vice versa. When you change the destination codepage, the script and therefore the FOND ID change as well
<b>Fixed width font</b>	If this option is switched on, the font will be treated by the Macintosh system as one with characters of fixed width (monospaced). Otherwise, the font is treated as proportional
<b>Don't use family fractional widths</b>	If this option is switched on, the system will not use the global family widths table
<b>Use integer extra widths</b>	If this option is switched on, the system will use the family style extra widths table (Family Style Property Table)
<b>Ignore FractEnable</b>	If this option is switched on, the system will use the family style extra widths table (Family Style Property Table) even if the option <b>Don't use family fractional widths</b> is switched off
<b>Don't adjust characters spacing</b>	This option represents the 11 <sup>th</sup> bit of the family flags, which is usually set to zero.

## Font family metrics:

---

<b>Calculate values automatically</b>	If this radio button is checked, TransType will automatically calculate vertical metrics for the destination family. You cannot edit global family metrics manually in this case
<b>Use custom values</b>	If this radio button is checked, you get access to the following fields to change them. Edit family vertical metrics only if you know what you are doing and understand the purpose well
<b>Ascent</b>	The maximum height above the baseline reached by characters in this family fonts
<b>Descent</b>	The maximum depth below the baseline reached by characters in this family fonts. The depth is usually a negative number
<b>Leading</b>	Maximum leading for the family. The leading value is usually set to zero
<b>MaxWidth</b>	Maximum character width for the family.

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**Style mapping flags (Font Class):**

<b>Font name needs coordinating</b>	This option is switched on if the font name needs coordinating
<b>Font family creates the outline style by changing PaintType</b>	When this option is switched on, the <b>Outline</b> style of the family will be created by changing PaintType, a PostScript variable, to 2
<b>Font family doesn't allow simulation of the outline style</b>	This option is switched on if the font family disallows simulating the <b>Outline</b> style by smearing the glyph and whitening out the middle
<b>Font family doesn't allow simulation of the bold style</b>	This option is switched on if the font family disallows simulating the <b>Bold</b> style by smearing the glyphs
<b>Font family simulates the bold style by increasing point size</b>	This option is switched on if the font family simulates the <b>Bold</b> style by increasing the point size
<b>Font family doesn't allow simulation of the italic style</b>	This option is switched on if the font family disallows simulating the <b>Italic</b> style
<b>Font family doesn't allow simulation of the condensed style</b>	This option is switched on if the font family disallows automatic simulation of the style <b>Condensed</b>
<b>Font family doesn't allow simulation of the extended style</b>	This option is switched on if the font family disallows automatic simulation of the style <b>Extended</b>
<b>Font family should have no additional intercharacter spacing</b>	This option is switched on if the font family should have no additional spacing other than the space character.

To get full information about the parameters represented in the FOND Info dialog, refer to “Inside Macintosh:Text:Font Manager”.

 **Note:** If you are not a professional typographer, be very careful when changing the FOND Info options.

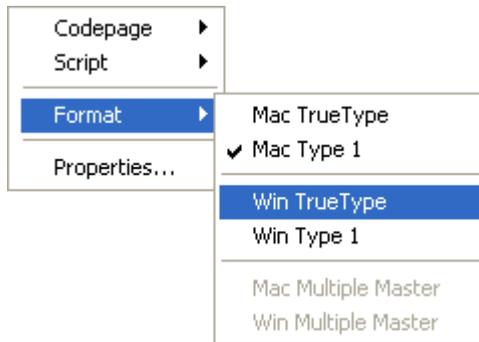
## Type 1 Fonts

Conversion of PC Type 1 fonts to the Macintosh format is similar to the TrueType conversion process with the following differences:

1. The characters in Type 1 fonts are identified by names, not Unicode indexes.
2. The metrics and kerning information of Type 1 characters on the PC is located in separate metrics files (PFM or AFM).
3. There are no multiple master TrueType fonts.

## Changing Font Format

By default PC Type 1 fonts will be converted to Macintosh Type 1, but you can change the destination font format. Press the pop-up menu button located at the right of the suitcase name in the Destination list to open the following pop-up menu:



*Destination Format Pop-up Menu*

Select the platform and the type for destination font.

- ✓ **Tip:** You can change the default destination platform and format in the **Defaults/Formats Page** of the **Preferences** dialog.

## Reencoding

Type 1 fonts also must be reencoded when converting from PC to Macintosh. To simplify this process and make it similar to the one used when TrueType fonts are processed, TransType automatically assigns Unicode indexes to all characters in a Type 1 font using a special table containing thousands of name-Unicode pairs. This way TransType can correctly handle Type 1 fonts that have more than 256 characters.

Note that this name->Unicode method works correctly only when characters in a Type 1 font have correct PostScript names. In cases when names are assigned incorrectly (for example, characters from a non-Latin language using Latin character names) another method is used, similar to the one that we described above when talking about the conversion of symbol-encoded TrueType fonts.

When you add a PC Type 1 font to the Source fonts list you'll see the pop-up menu button at the right of the font name. Click on it and you'll see the menu:



*Source Encoding Pop-up Menu*

As you can see, there is a list of codepages (we discussed what this means in the TrueType section above) and two commands – **Use Default** and **Use Names**.

If you select the **Use Default** item TransType will refer to the codepage selected as the default in the **Defaults/Codepages & Scripts Page** of the **Preferences** dialog:



If you select **Use Names** (the default option for the source encoding pop-up menu) TransType will try to convert character names to Unicode indexes and later apply Unicode-based reencoding algorithms. We recommend that you always use the names-Unicode method unless you know that the source font has symbol or simulated encoding, in which case you will manually select a codepage from the codepages list. Remember that you may use the font preview feature to look at the encoding.

As in TrueType, after you define the source codepage you should select a destination codepage to completely define the reencoding process.

All the characters now have some Unicode index assigned, so you can follow the same process described in the TrueType section.

## Metrics Files

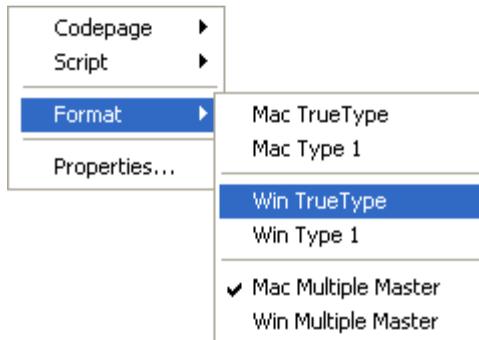
TransType uses the following sequence to create known font metrics: AFM+INF, PFM, PFB. If metrics for a particular character are not present in the PFM file, then they are extracted from the font file (PFB). After conversion the metrics information is stored in the FOND resource, as required by the Mac OS. Here is a more detailed description of the algorithm that is applied by TransType to find a metrics file:

1. It looks for the **name.AFM** file (**name** is the name of the PFB file: **name.pfb**) located in the same folder. If it locates the file, it extracts the metrics from it.
2. If the AFM file is not present, it looks for the **name.PFM** file in the same folder and, if the file is not found there, in the *PFM* subfolder of the current folder.
3. If the PFM file is found, it reads the kerning and metrics data from it. Then TransType opens the PFB file and partially interprets it to extract the metrics for the characters that are not covered by the PFM.

## Multiple Master Fonts

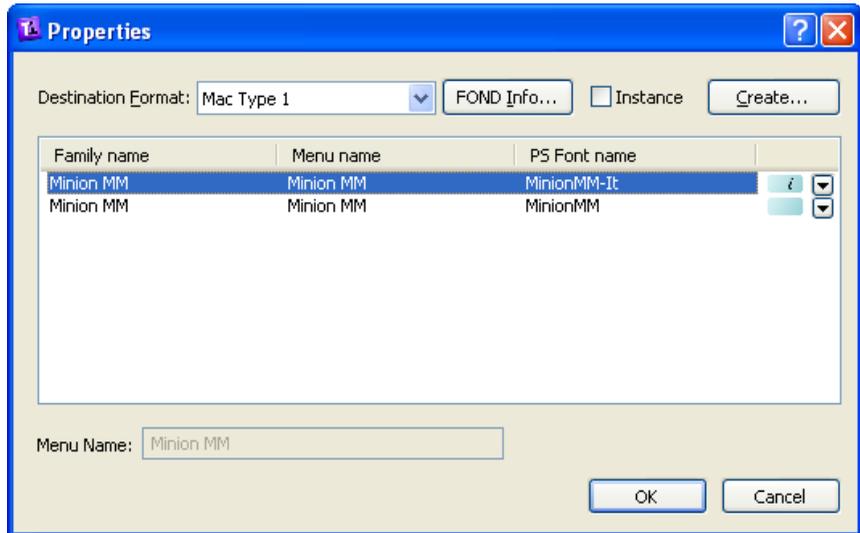
TransType can convert multiple master fonts into virtually any format or platform. After you have added a PC multiple master Type 1 font to the Source Fonts list for conversion, TransType automatically prepares to convert it to a multiple master Type 1 font for Macintosh as set in the **Defaults/Formats Page** of the **Preferences** dialog. You can see this in the Destination fonts list of the Main Window.

**To change the format**, press the pop-up menu button to the right of the suitcase name in the destination list and use the **Format** submenu:



*Destination Format Pop-up Menu*

As with other fonts in the list, you can select the **Properties** command for greater control of output formatting. The familiar Properties dialog box appears:

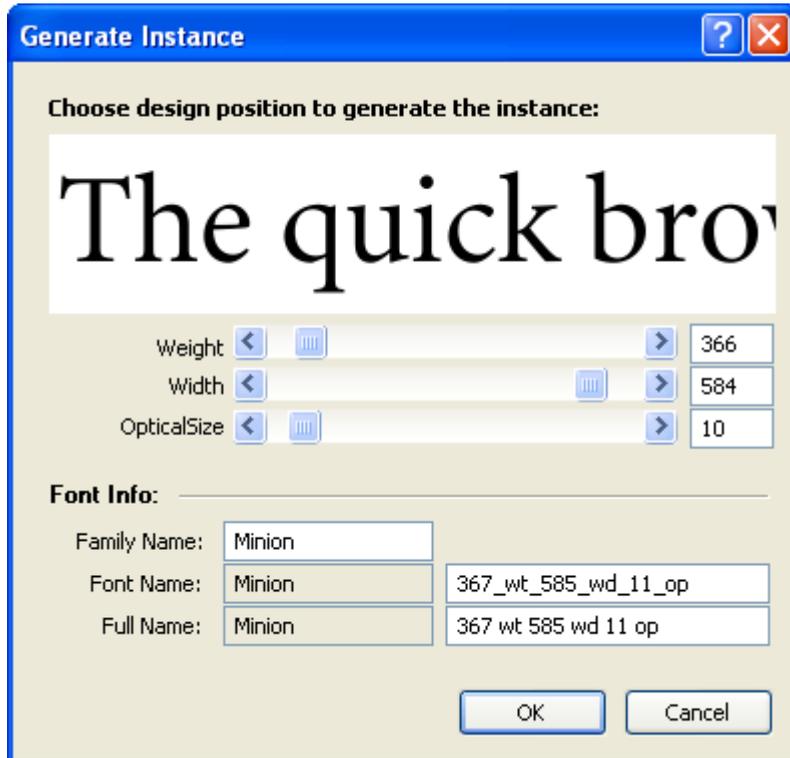


Font Properties Dialog box

You can change font style attributes and the FOND properties here in the same way as for the TrueType fonts described earlier. And one more option becomes available when a multiple master font is converted: **Create instance**. You *may check* this option if you want to create a single master Type 1 font, but you *MUST check* this option to convert to a TrueType font. That is why, if you change the font type to TrueType this option will be checked automatically.

 **Note:** Multiple master fonts have characters with varying parameters (width, weight etc.) by their nature. If you choose some constant values for these parameters and fix them you will get an "instance" of the font that is a plain Type 1 font.

After the **Instance** checkbox is checked, click on the **Create** button. TransType reads the multiple master font and presents the following dialog with preview:



*Generate Instance Dialog box*

The process of creating the single master is very simple: you just select one of the instances of the multiple master font by dragging the **Weight**, **Width** and **Optical Size** sliders and previewing the result. Then you can edit the single master Family Name and automatically generated Font Name and Full Name postfixes (“367\_wt\_585\_wd\_11\_op” and “367 wt 585 wd 11 op” in our example) in the editable text boxes.

As you can see it is possible to generate as many font instances as you want from one multiple master font. But this cannot be done in one step.

If you are going to generate several single master fonts from one multiple master font, you **must** then enter a unique family name for each font you're creating in the **Family Name** field. In both **Font Name** and **Full Name** postfixes always enter "Regular":

**Font Info:** \_\_\_\_\_

Family Name:	MinWide	
Font Name:	MinWide	Regular
Full Name:	MinWide	Regular

Press the **OK** button when you are finished defining the instance of the multiple master font.

 **Note:** If you select single master Type 1 or TrueType format in the destination **Format** submenu and do not manually specify the instance parameters in the **Generate Instance** dialog, then TransType will produce the single master font using the default weight vector stored in the multiple master font. To create a different instance you will need to manually specify the instance parameters.

## Suitcases

Suitcases containing (“referring to”, if speaking more precisely) Type 1 fonts have no major differences from suitcases containing TrueType fonts (‘sfnt’ resources), so please refer to the TrueType section above for information about suitcase manipulations and font suitcase properties.

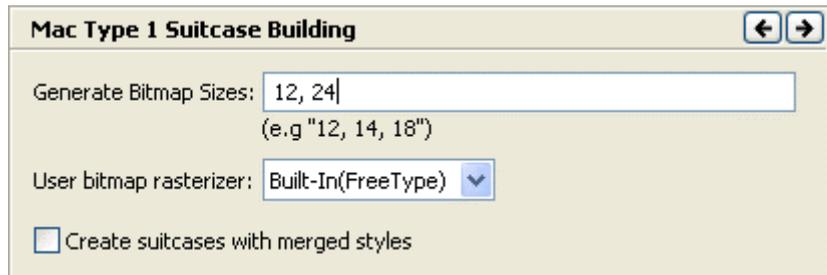
The only additional option that may be useful when converting PC Type 1 fonts is to force TransType to generate suitcases by checking and using the **MSMenuName** fields in the .inf files. This option, named **Group Macintosh fonts by MSMenuName**, is located on the **Font Families Packaging Page** of the **Preferences** dialog:



## Bitmap Fonts

Any Type 1 font on the Macintosh must have at least one accompanying bitmap font. TransType will automatically build a bitmap font when you convert to Macintosh Type 1 format and it can do so using one of two methods:

1. FreeType rasterizer built into TransType. This is the default and the only choice if you do not have ATM installed in Windows:



*Mac Suitcase Building Options*

2. If ATM is present we highly recommend you to select it in the **Use bitmap rasterizer** pop-up menu. It's the best way to automatically make professional-quality Macintosh Type 1 fonts that will work smoothly everywhere.

 **Note:** PC bitmap fonts and font sets aren't converted to Macintosh bitmap fonts with TransType.

You sometimes may need to create a so-called ATR-compatible suitcase. You can do this if you switch on the **Create suitcases with merged styles** option on the **Generate Type 1/Macintosh Suitcase Page** of the **Preferences** dialog.

## Macintosh to PC Conversion

Converting Macintosh fonts to PC is usually easier than vice versa for the following reasons:

1. There are no suitcases on PCs.
2. PC TrueType fonts are based on Unicode, so usually the reencoding process is simpler.
3. Bitmap fonts are not necessary for Type 1 fonts on PCs.

On the other hand, when Type 1 fonts are converted from Macintosh to PC you must generate metrics files that will be used by Windows for information about characters' widths and kerning. **And Macintosh font files must be converted to a PC readable format (MacBinary, BinHex or sit archive) before they can be converted using TransType/Win.**

## Macintosh Font Preparation

Macintosh files have a significantly different structure than regular files do. In most operating systems files are a "container" for raw unstructured data. But the Mac OS uses a different approach. Generally a Mac OS file consists of two forks – data and resource. The data fork can be considered an analog of a regular file, while the resource fork contains RESOURCES. Each of these resources has a type and is supposed to be storage for some kind of data. Due to their complex structure Macintosh files cannot be copied or properly accessed from a PC. So there is a need for some intermediate format or network protocol that packs all the data into a single file or in some other way represents a Macintosh file on the PC or other platforms. Unfortunately there is no such standard format/protocol. Many network protocols are limited to accessing only the data fork of Macintosh files and that is not sufficient to read Macintosh fonts. TransType tries many different ways to access Macintosh files through a network but sometimes it just isn't possible. In this case or if you're not accessing the files over a network you will need to do a manual conversion. There are several ways of delivering your Macintosh fonts to a PC without any loss of data:

- Single file MacBinary or BinHex intermediate format
- Email attachment
- PC formatted diskette, ZIP or MO disks
- MacDrive® utility and Mac formatted disks or CDs (HFS only)
- Through some special networking utilities and some Networking Operating Systems
- Single Macintosh StuffIt archive

## Single file MacBinary or BinHex intermediate format

The simplest way to deliver a Macintosh file to a PC is to convert it into a MacBinary or BinHex file. These formats were developed for transferring Macintosh files through a heterogeneous network environment. When a Macintosh file is being converted into one of these intermediate formats all its data and resource forks are stored into a single file along with other Mac OS related information. When it is converted back its data and resources are restored as they were originally created on the Macintosh. The difference between MacBinary and BinHex is that BinHex was designed to transfer files in the body of a text message and therefore contains only alphabetic characters. MacBinary files are meant to be a way for treating Macintosh files as regular files. Despite their similarity MacBinary files are considerably smaller due to their binary nature.

 **Note:** You must convert the font files on a Macintosh before copying them to a PC.

Converters for the creation of MacBinary and BinHex files on Macintosh can be freely downloaded at:

<ftp://ftp.stairways.com/other/macbinary-3.sit.hqx>

<http://hyperarchive.lcs.mit.edu/HyperArchive/Archive/cmp/binhex-50.hqx>

or you can use commercial utilities such as StuffIt Deluxe™.

After conversion you will have a regular file that contains all the necessary data and can be copied or sent in the usual manner through the network, on diskette or any other media. Just drag-and-drop these files (in MacBinary and BinHex format) into TransType or **Add** them.

## E-mail with attached font(s)

TransType can accept fonts delivered to your PC from remote Macintosh by e-mail. Fonts are attached to the message on Macintosh in the usual way. After the message is received you must save it to disk as a “mail message” (with a .eml extension) and then add this file to the TransType Source list.

### **PC formatted diskette, ZIP or MO disks**

Another relatively easy way of getting font files to a PC is to copy them onto a PC formatted diskette, ZIP or MO disk. A PC formatted disk is a disk that was formatted for a PC and thus contains a PC disk structure. When copying files on such a disk the Mac OS stores them using a special protocol called "PC Exchange". After you have copied files to such disk, TransType is able to read them directly from the media. Note that files might be "zero size". This is just because their resource fork is stored elsewhere (e.g. in other directory). TransType will locate all the necessary data automatically.

### **MacDrive® utility and Mac formatted disks or CDs**

MacDrive® is a third party utility that was developed to enable the PC to read disks that were originally formatted on a Macintosh (and thus have the Mac OS file system). Visit <http://www.macdrive.com> for details. TransType automatically uses the functionality of MacDrive if it is installed thus enabling it to read Macintosh files from any media supported by MacDrive. This is the only way for TransType to read fonts directly from Macintosh disks. Note that Windows may report the size of Macintosh fonts to be zero. Nevertheless TransType will be able to read them. Note that MacDrive supports only Macintosh HFS CDs.

## Through special networking utilities and some Networking Operating Systems

TransType supports a number of different networking protocols that can see Macintosh files through the network. The supported protocols are:

- AppleDouble
- Netatalk
- AUFS CAP
- Helios EtherShare
- PC Exchange
- SGI
- DAVE
- AppleSingle
- NTFS Services for Macintosh

 **Note:** Exchange through some of these protocols may not work depending on version, configuration and other conditions. The best way of checking the availability of such a protocol is to try adding some Macintosh fonts to TransType through your network.

## Single Macintosh Stuffit archive

If Macintosh fonts were packed with StuffIt Deluxe, you can just copy the .sit archive to your PC hard disk and add it to the TransType Source list.

## TrueType Fonts

When you add a Macintosh font suitcase containing TrueType fonts ('sfnt' resources) to the Source list, you must let TransType know which codepage it uses. The only case when this is not necessary is when the source Macintosh TrueType font has a Unicode table (usually the case).

To select a codepage for the source TrueType font, follow the rules that were described when we talked about converting PC TrueType fonts to Macintosh format.

After TransType knows for which codepage a TrueType font was encoded, it can assign Unicode indexes to the font's characters and generate a correct Unicode-mapped font, as Windows requires.

 **Note** that the accompanying bitmap fonts (if any) from the same Macintosh suitcase are not copied or converted to PC font format.

See also the [TrueType<->Type 1 Conversion](#) section for information on different TrueType creation options.

## Type 1 Fonts

Conversion of Type 1 fonts from Macintosh to PC is very similar to the conversion from PC to Macintosh. The only difference is the handling of the metrics. Metrics information (a character's width(s) and kerning) is extracted from the font suitcase and converted to AFM, INF and PFM files. Of course, the reencoding information is used when the metrics files are generated so that you get a valid PC Type 1 font file.

 **Note** that the accompanying bitmap fonts from the Macintosh suitcase are not copied or converted to PC font format as in the case with TrueType fonts. **But you must always add suitcases to TransType but not printer font files only.**

See also the [TrueType<->Type 1 Conversion](#) section for information on different Type 1 creation options.

## TrueType<->Type 1 Conversion

By default TransType converts between platforms but not between formats (TrueType to TrueType and Type 1 to Type 1). You have the option to change the destination font type in the destination **Format** pop-up menu or in the font **Properties** dialog box.

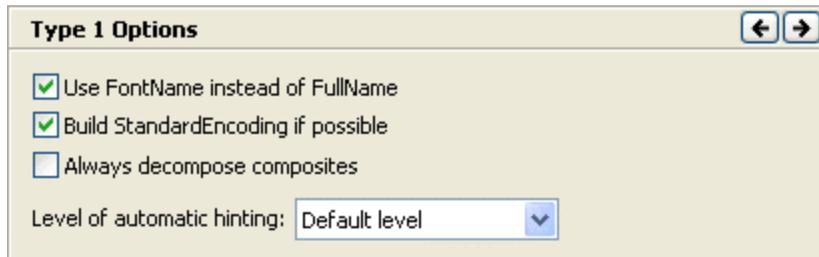
Before you change the destination font type (and actually before adding fonts to the Main Window), it is a good idea to check some of the more important options for generating fonts in the destination format.

 **Note:** If you change any of the options in the **Preferences** dialog, you have to re-add the fonts to the source fonts list in order to convert them according to the “new rules”.

## Type 1 Options

To check and set parameters for generating Type 1 fonts, click the **Preferences** button at the bottom of the Main Window and refer to the **Generate Type 1** section of the **Preferences** dialog.

### General Type 1 Options



*Generate Type 1 Page of the Preferences Dialog*

There are only four controls on the **Generate Type 1** page:

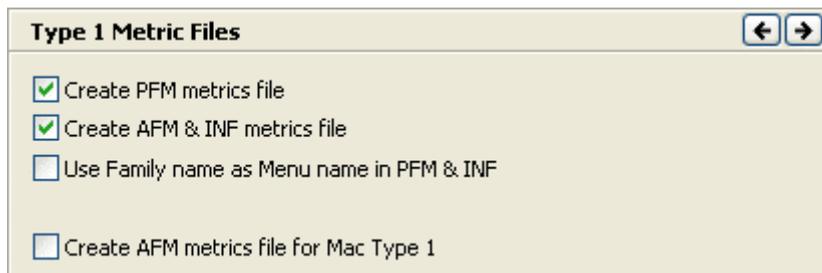
<b>Use FontName instead of FullName</b>	If this option is checked, TransType will name the files of Type 1 fonts on the basis of FontName. If this option is off, TransType will name the files on the basis of FullName. In some cases this affects the font menu name too. We recommend that you keep this option switched on
<b>Build Standard Encoding if possible</b>	If this option is checked, TransType will try to replace the encoding information in the font with a reference to the Adobe Standard Encoding vector. This replacement is possible only if the destination font conforms to the Adobe standard encoding table. This option is off by default
<b>Always decompose composites</b>	If this option is checked, TransType will decompose all composite characters imported from the source font and write them decomposed to the destination font. This option is off by default

The **Level of automatic hinting** pop-up menu allows you to control Type 1 hinting. Autohinting is not needed when conversion from Type 1 format is performed. All old hinting information is preserved in this case. But when conversion from TrueType is performed, there are two ways to deal with hints:

1. To not generate hinting information in a new Type 1 font: Select **No Hinting** in the **Level of autohinting** pop-up menu. The font will have loose quality in this case.
2. To use the special autohinting algorithms that convert TrueType instructions into Type 1 hints: Select **Default Level** item in the **Level of autohinting** pop-up menu. This option is set by default.

## Metrics Options

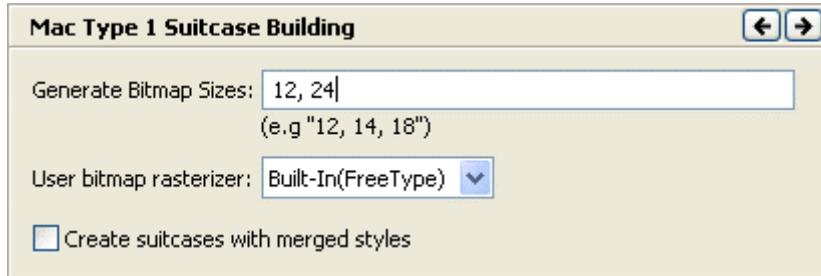
Refer to the **Generate Type 1/Metrics Page** of the **Preferences** dialog:



*Generate Type 1/Metrics Page of the Preferences Dialog*

<b>Create PFM metrics (Windows only)</b>	If this option is checked, TransType will save metrics in a PFM file when converting for Windows. This option is on by default
<b>Create AFM &amp; INF metrics (Windows only)</b>	If this option is checked, TransType will create AFM and INF files when creating Type 1 for Windows. This option is on by default
<b>Create AFM metrics for Macintosh Type 1</b>	If this option is checked, TransType will create a separate AFM metrics file for Macintosh Type 1. This option is off and metrics are saved to the main PostScript font file by default
<b>Use Family name as Menu name in PFM and INF</b>	If this option is checked, TransType will write the font Family name to the Menu name fields in PFM and INF files. It is off by default

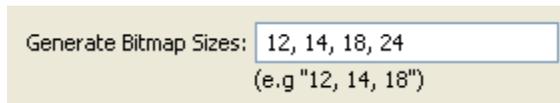
## Macintosh Suitcase Options



*Generate Type 1/Macintosh Suitcase Page of the Preferences Dialog*

The options on this page are useful when creating Type 1 fonts for Macintosh. TransType can automatically generate bitmap fonts with one of two rasterizers. Choose between the built-in FreeType rasterizer or Adobe Type Manager™ (ATM) if installed.

You can request several sizes of bitmap fonts:



Enter the point sizes of the bitmaps you want to export with the Mac Type 1 font, separating values by a space or comma.

If the **Create suitcases with merged styles** option is checked, TransType will generate a font suitcase compatible with Adobe Type Reunion™, which lets the font's styles appear in the hierarchical menu of the font menu like that:

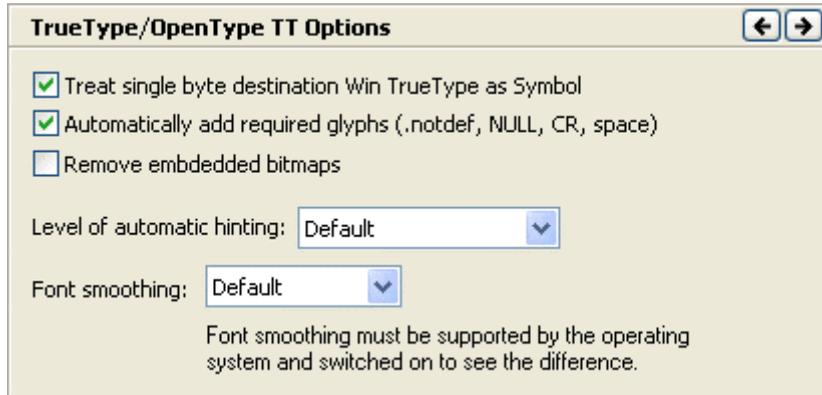


This option is off by default.

## TrueType Options

To check and set parameters for generating TrueType fonts, click the **Preferences** button at the bottom of the Main Window and refer to the **TrueType** section of the **Preferences** dialog.

### General TrueType Options



*Generate TrueType Page of the Preferences Dialog*

Here is the description of controls which are used to customize the TrueType font (Win TrueType and Mac TrueType) generating process:

<b>Treat single byte destination Win TrueType as Symbol</b>	If this option is checked, TransType will generate a non-Unicode Windows TrueType font as a Symbol font. All characters in this font will be mapped to the F000-F0FF range. This option is on by default
<b>Automatically add required glyphs</b>	If this option is checked, TransType will add some predefined glyphs in a TrueType font automatically. These are the “missing” character and the “space” for Windows TrueType, and the “missing” (“default”), “null”, “space”, “CR”, and sometimes “non-breaking space“ for Macintosh TrueType. This option is on by default
<b>Remove embedded bitmaps</b>	If this option is not checked, TransType will try to preserve and reencode bitmaps embedded into a TrueType font. TransType can reencode embedded bitmaps only with our old TransType 1.x conversion method (see the description of the <a href="#">General Conversion Options</a> ). This option is on and embedded bitmap fonts are stripped by default.

When conversion of a Type 1 font into TrueType format is performed, Type 1 hints must be converted into TrueType instructions. This conversion can be done by two methods: **Default** and **Advanced**.

The Default method is commonly used and always produces good results. The Advanced method is sometimes better than the default method as it can produce delta hints. Select the method of TrueType hints creation in the **Level of automatic hinting** pop-up menu. If **No hinting** item is selected, there will be no hints in the destination TrueType font.

 **Note:** TrueType hinting options will be ignored when conversion of TrueType to TrueType is performed.

**Font smoothing** is a special technique for improving the appearance of TrueType fonts on the screen. Font smoothing is used by the latest versions of the Windows operating system. With this technique edges of the characters are rendered using shades of gray. Font smoothing may be combined with a gridfitting method that optimizes the character's appearance by adjusting its outline. The **Font smoothing** pop-up menu lets you control the usage of these methods:

1. Choose the **Default** option to apply smoothing and gridfitting methods in accordance with the following table:

Font size in screen pixels	Methods
0-8	Smoothing
9-16	Gridfitting
17-...	Both smoothing and gridfitting

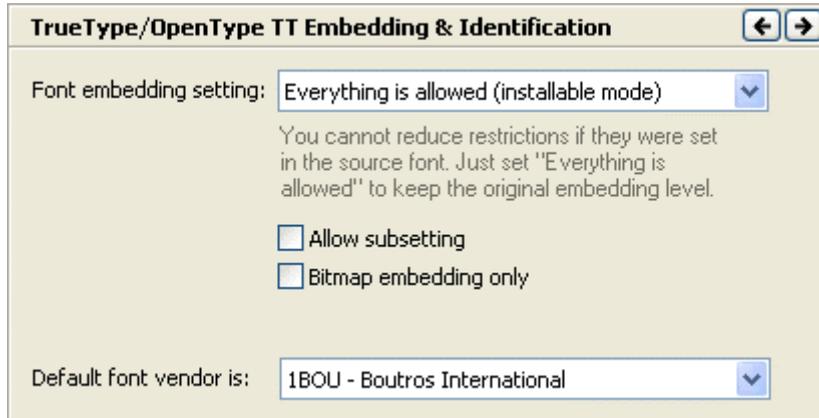
These are the usual optimal settings for font smoothing.

2. Choose the **Off** menu item to not generate the smoothing table in the destination TrueType fonts.
3. Choose the **Always** menu item to apply both smoothing and gridfitting methods to all sizes of the font on the screen:

Font size in screen pixels	Methods
0-...	Both smoothing and gridfitting

 **Note:** Font smoothing table data make sense only on the Windows platform as they are ignored by the Mac OS.

## Embedding And Identification Options



*Generate TrueType/Embedding & Identification Page of the Preferences Dialog*

The **Embedding & Identification Page** contains two additional pop-up menus and two checkboxes.

The **Font's embedding** pop-up controls how the font may be embedded into documents. Embedding is a feature of the operating system and some applications that allow programs to include fonts into documents to guarantee that they will be reproduced correctly. However, embedding may cause problems with font piracy. It is not very hard to extract embedded fonts from a document, so the TrueType font format includes a special setting that can control font embedding.

### There are four types of font embedding:

<b>Only printing and previewing is allowed</b>	The font may be embedded, but editing of the document it contains is not allowed. This selection is set by default
<b>Editing of the document is allowed</b>	The font may be embedded and the document that contains the font may be viewed, printed and edited
<b>Everything is allowed</b>	After the document is opened the font works as if it was installed in the system
<b>Embedding is not allowed</b>	Embedding is not allowed for this font.

You cannot reduce or remove the embedding restrictions that were set in the source font by the original creator of the font. You can either leave the embedding restrictions unchanged or set the restrictions higher. For example, if the original font has the embedding level **Editing of the document is allowed** and you change the level to **Everything is allowed** in the Preferences dialog, then in the output font the original embedding level will be retained rather than the one you set. But if you change the embedding level to **Not allowed**, then the embedding in the output font will be changed.

Additionally you can use the **Allow subsetting** and the **Bitmap embedding only** options for more control of the embedding fonts into documents.

The **Default font's vendor** pop-up allows you to set the special up-to-four letter length code that is assigned to most TrueType producers to identify their fonts. An *uppercase* vendor code must be registered with Microsoft or Apple. All registered Vendor codes known at the time of TransType's release are placed in the pop-up menu. You don't need to change the default 'PYRS' vendor code if you do not have your own.

## FontLab (VFB) Font Conversion

TransType can convert fonts from the VFB format used internally in other Fontlab products. They can be converted to any format for any platform. There are, however, a few caveats:

1. Converting a VFB font in TransType is the same as exporting it from a Fontlab application, only with the additional power that you can choose the encoding.
2. When you add a single master VFB font to the source list of the Main Window, TransType prepares to convert it to a Macintosh TrueType font by default. You can change the destination format using the **Format** submenu as with other fonts.
3. When you add a multiple master VFB font to the source list of the Main Window, TransType prepares to convert it to a Macintosh Type 1 multiple master font by default. For details please see the section on [multiple master fonts](#) conversion.
4. As with other conversions you can use the different TrueType and Type 1 creation options described in the [TrueType<->Type 1 Conversion](#) section. Please note that the option “**Perform conversion with minimal changes**” doesn’t work with VFB files.

## Other Types of Conversion

By default TransType converts between platforms in one format (PC TrueType to Mac TrueType etc.). This is set on the **Defaults/Formats Page** of the **Preferences** dialog and can be changed. You have also the option to change the destination platform and format in the destination **Format** pop-up menu or in the **Font Properties** dialog and convert, for instance, Win TrueType to Win TrueType or Mac Type 1 to Mac Type 1.

Why would you want to do this?

1. To change a font's encoding.
2. To decompose composites in a font.
3. To compact fonts by removing extra glyphs, etc.

 **Note:** Not all the options from the **Generate Type 1** and **Generate TrueType** sections of the **Preferences** dialog work when conversion within one format is performed. For example, hinting options never work in such cases.

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# Technical Details

Here we'll add some technical details for professional TransType users. With the information contained here you can customize some of TransType's features and better understand how it works.

## Type 1 Fonts

TransType opens every Type 1 font being converted and partially interprets it to extract the names of all the characters present in the font and the information about the characters' widths. Note that information about the characters' bounding boxes is not extracted, so when Macintosh fonts are converted to PC and an AFM file is generated, the font bounding box is used instead of character bounding boxes.

Information about the mapping of PostScript names of characters to Unicode indexes is located in the `Standard.nam` file located in the *Program Files/Common Files/FontLab/Mapping* folder. This file has a very simple structure – every line contains a PostScript name and its corresponding Unicode index. You can edit this file or extend it at your own risk.

In addition to the `Standard.nam` file TransType uses an algorithm that decodes names constructed according to Adobe's "uniXXXX" rule.

## TrueType Fonts

When TransType opens PC TrueType fonts it looks for a (3.1) CMap table. If this table is found then the font is marked as a normal Unicode font. If not, TransType tries to open the (3.0) table – if this table is present, it means that the source font is a symbol font.

The last table that is checked is the (1.0) table usually used to encode fonts on the Macintosh. This table is also used as a symbol-mapping table. If the font contains more glyphs than are covered by the (1.0) CMap table, TransType tries to open the post table, extract the glyph names and find Unicode indexes using the same method which is used when PostScript names of the Type 1 characters are mapped to Unicode.

Note that the same search sequence is used when a font is converted from Macintosh to PC.

The MacStyle field of the head table is used to detect the style of a Windows TrueType font.

AAT (Apple Advanced Typography) features **are not created** when converting to Macintosh TrueType.

Ascender and descender values are extracted from the head table. The OS/2 table is not used for these purposes.

## Customizing Codepages

Files containing definitions of the codepages that appear in the pop-up menus are in the *Program Files/Common Files/FontLab/Codepage* directory and have a simple text structure. You can edit the existing files and make your own codepages following the structure of any existing file. You may put the edited codepages in the *Program Files/Common Files/TransType/Codepage/* directory or in the *My Documents/FontLab/TransType/Codepage* directory.

Note that only a limited number of codepages appear in the lists by default. The full list of codepages appears if you hold down the **Ctrl** key while opening the pop-up menu.

# Bibliography

TrueType, OpenType and TrueType Open specifications from Microsoft:

<http://www.microsoft.com/typography/tt/tt.htm>

OpenType Specification:

<http://www.microsoft.com/typography/otspec/default.htm>

TrueType Specification by Apple:

<http://fonts.apple.com/TTRefMan/index.html>

Adobe Type 1 Font File Specification:

[http://www.adobe.com/supportservice/devrelations/PDFS/TN/T1\\_SPEC.PDF](http://www.adobe.com/supportservice/devrelations/PDFS/TN/T1_SPEC.PDF)

Adobe's Glyph Naming for Type 1 Font Programs:

[http://www.adobe.com/supportservice/devrelations/PDFS/TN/5089\\_GlyphNaming.pdf](http://www.adobe.com/supportservice/devrelations/PDFS/TN/5089_GlyphNaming.pdf)

Unicode Consortium:

<http://www.unicode.org>

Inside Macintosh: Text: Font Manager

<http://developer.apple.com/techpubs/mac/Text/Text-181.html>

Inside Macintosh: Text: Script Manager (information related to scripts and languages):

<http://developer.apple.com/techpubs/mac/Text/Text-354.html>



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# Support

For further information about TransType browse to the TransType home page:

<http://www.fontlab.com/Font-tools/TransType/>

Use the following address to get support information, TransType updates and downloads:

<http://www.fontlab.com/Font-tools/FontLab-Product-Support/>

In case of any questions about TransType or any other of our products use the form at:

<http://www.fontlab.com/Font-tools/FontLab-Product-Support/>



# A Note on Intellectual Property

Digital fonts are complex computer programs created with a good deal of hard work by individuals and companies. They are valuable intellectual property and are protected by trademark, copyright, and patent laws. The details and extent of this protection varies in different countries, but the basics are as follows:

**Trademark:** A font name (and only the name) may be trademarked. Only the trademark owner or licensees may use the name to describe a font.

**Copyright:** Computer programs are copyrighted. In the U.S.A. this happens automatically as soon as the program is written. Further rights may be secured by registering the copyright.

**Patent:** Some fonts, if they are distinctive and unusual enough, may be granted a design patent. Only the patent holder or licensees may use this font design.

If you purchase a font and then modify it for **your own use** you are probably within the bounds of “fair use” and the font licensing agreement. However, if you modify a purchased font and then sell or distribute it you may be in violation of copyright, patent or licensing laws. Please read your font license agreement carefully or contact the licensor to determine your rights and obligations.



# Appendix A

## Basics of Digital Font Organization

Digital fonts consist of glyphs (drawings) of characters (letters of alphabets/scripts) organized (encoded) in a particular arrangement. Because there are many different languages and scripts each alphabet has its own arrangement (codepage) which allows a computer to know where to find a particular character, retrieve the glyph, and either print or display it for the computer user.

The most familiar “encoding” to most North Americans and Western Europeans is alphabetic order. Dictionaries, thesauri, membership lists, databases, etc. all use this “encoding” to organize their contents. Font encodings are a bit more complicated, because they must include not only the letters of the alphabet (which must be represented in both their uppercase and lowercase forms) but also punctuation, symbols, and typographic necessities (like spaces of various sizes). Early in the history of computing a standard “font” of 256 characters was decided upon because that was the number that could be addressed by one byte of data.

Of course as soon as a few more alphabets were added it became obvious that 256 characters was not nearly enough. Many different arrangements were used and it looked like every country would have its own – some several. Thus Unicode was born. Unicode is a two-byte font encoding that has room for about 64,000 characters. All known scripts of the world are (or are being) included in Unicode. While even 64000 characters is beginning to look like it may not be enough, it seems that it will be adequate for the immediate future.

## Definitions

### **AAT (Apple Advanced Typography) fonts**

the TrueType fonts especially designed for use with ATSUI. Like OpenType fonts these fonts have special features such as swashes, contextual forms, ligatures etc. These fonts are widely presented among system fonts in Mac OS X and are supported in Cocoa applications.

### **AFM (ASCII Font Metrics) file**

A *text* file that contains the metrics information for a PC Type 1 font.

### **Alphabet/Script**

the collection of characters used to write a particular language. “The” alphabet (as North Americans and English know it) is the script for the English language, Latin script is the script for most European, South-American and some Asian languages. Cyrillic script is used in all Slavonic languages (Russian, Ukrainian, Serbian, Bulgarian and many others). Note that a script usually includes many more characters than necessary for the one language. Latin script, for example, includes more than 200 characters.

### **ATSUI (Apple Type Services for Unicode Imaging)**

Apple's technology and a set of routines that enable the rendering of Unicode-encoded text with advanced typographic features. It automatically handles many of the complexities inherent in text layout, including the correct rendering of text in bidirectional and vertical script systems.

### **Character**

a symbol used in writing. The letter “A”, for instance. Every character has a name, which is used to identify it.

### **CMap (character map)**

A table relating an encoding to a set of internal computer codes. For instance the computer may use the numbers between 1100 and 1356 to represent the characters in a font. When it needs character number 1234 it looks at the CMap table to find the corresponding code, which, in turn, directs it to the appropriate glyph.

**Codepage**

A 256-character portion of the Unicode encoding table (because that’s how much we can address with one byte of data). The Russian codepage, for instance, contains the characters used in writing Russian:

	!	"	#	\$	%	&	'	(	)	*	+	,	-	.	/	0	1	2	3	4	5	6	7	8	9	:	;	<	=	>	?
@	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	[	\	]	^	_
`	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	{		}	~	□
Ђ	Ѓ	ђ	ѓ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ	џ
Ў	ў	Ј	ѕ	Г	г	Ѕ	ѕ	Є	є	«	»	Ѡ	ѡ	Ѣ	ѣ	Ѥ	ѥ	Ѧ	ѧ	Ѩ	ѩ	Ѫ	ѫ	Ѭ	ѭ	Ѯ	ѯ	Ѱ	ѱ	Ѳ	ѳ
А	Б	В	Г	Д	Е	Ж	З	И	Й	К	Л	М	Н	О	П	Р	С	Т	У	Ф	Х	Ц	Ч	Ш	Щ	Ъ	Ы	Ь	Э	Ю	Я
а	б	в	г	д	е	ж	з	и	й	к	л	м	н	о	п	р	с	т	у	ф	х	ц	ч	ш	щ	ъ	ы	ь	э	ю	я

**Composite characters**

The characters that have no outline, but link to other font characters. Good example of composite characters are accented characters, like ‘Á’, ‘â’ or ‘ñ’.

**Encoding**

the linear arrangement (also called the *encoding vector*) of a script. Alphabetical order, ABCDEFGHIJ..., is the encoding of the English alphabet. In earlier days (and on many older computers) ASCII (American Symbolic Code for Information Interchange) was the standard symbol encoding for computing. The ASCII encoding looks like this:

<space>	32	0	48	@	64	P	80	`	96	p	112
!	33	1	49	A	65	Q	81	a	97	q	113
“	34	2	50	B	66	R	82	b	98	r	114
#	35	3	51	C	67	S	83	c	99	s	115
\$	36	4	52	D	68	T	84	d	100	t	116
%	37	5	53	E	69	U	85	e	101	u	117
&	38	6	54	F	70	V	86	f	102	v	118
‘	39	7	55	G	71	W	87	g	103	w	119
(	40	8	56	H	72	X	88	h	104	x	120
)	41	9	57	I	73	Y	89	I	105	y	121
*	42	:	58	J	74	Z	90	j	106	z	122
+	43	;	59	K	75	[	91	k	107	{	123
,	44	<	60	L	76	\	92	l	108		124
-	45	=	61	M	77	]	93	m	109	}	125
.	46	>	62	N	78	^	94	n	110	~	126
/	47	?	63	O	79	_	95	o	111	□	127

Notice that now a number (its “code”) is assigned to each character. This is how the computer identifies the character. Also notice that there are no characters 0-31. This code range is “undefined” (meaning that its behavior is unpredictable). When Unicode came along it adopted the ASCII encoding and just added to it.

### **FOND resource**

Macintosh terminology for the part of a Macintosh font that contains metrics information and describes the contents of a suitcase.

### **FontLab format**

see *VFB format*

### **Glyph**

a graphic representation of a character. An “A” may appear in many different ways:



They are all the letter “A” but each is a different glyph.

### **INF (Information) file**

A text file that contains information about a PC Type 1 font.

### **Multiple master font**

A special type of font format that is an extension of the Type 1 font format. Multiple master fonts contain several font styles, called master fonts, in one font file. A program that uses multiple master font can not only select one of the master fonts, but it also can select an intermediate design created by the linear interpolation of the master fonts.

### **NFNT resource**

Macintosh terminology for the part of a Type 1 or TrueType Macintosh font that contains the bitmap font.

### **OpenType**

OpenType font format, jointly developed by Microsoft and Adobe. OpenType fonts can be TrueType-flavored (or OpenType TT) and PostScript-flavored (or OpenType PS). Both are Unicode-encoded and support special features like swashes, contextual forms, ligatures etc. To convert to and from OpenType format you need **TransType Pro** available as a separate product.

**PFB (Postscript Font Binary) file**

A binary file that contains the glyph outline information for a PC Type 1 font.

**PFM (Postscript Font Metrics) file**

A *binary* file that contains the metrics information for a PC Type 1 font.

**POST resource**

Macintosh terminology for the part of a Macintosh font that contains an Adobe Type 1 font.

**sfnt resource**

Macintosh terminology for the part of a Macintosh font that contains a TrueType font.

**Suitcase**

Macintosh terminology for a file which contains information about a font or family of fonts.

**Table**

A set of data defining behaviors or relationships of a font. Digital fonts contain not only the drawings of their characters, but also information about how those characters should behave. Information about the spacing on each side of a character (metrics), how close particular characters should be to each other (kerning), CMaps and many other things can be kept in tables in a font.

**TrueType**

A font format using quadratic b-spline mathematics to describe glyph outlines. Developed and promulgated by Microsoft and Apple Computer.

**Type 1 (Adobe Type 1, PostScript Type 1)**

A font format using cubic b-spline mathematics to describe glyph outlines. Developed and promulgated by Adobe Systems.

**Unicode range**

The portion of Unicode dealing with a particular language or script. E.g. the Hebrew range, the Cyrillic range, the extended Latin range. Unicode range is not limited to 256 characters. It is usually a contiguous part of Unicode.

**VFB format**

the internal format of FontLab products.