Adding Fonts to a Sony Reader and using them in an ePub Book

The default fonts that come with the newer Sony Readers are Swis721 BT (sans serif), Dutch801 Rm BT (serif), and Courier10 BT (monotype), with filenames tt0003m_.ttf, tt0011m_.ttf, tt0419m_.ttf, respectively. Sony ePub books purchased through the Sony store often use Swis721 BT (sans serif) for titles and headings and Dutch801 Rm BT (serif) for the main text. Unfortunately Dutch801 Rm BT is a very light font and it doesn't display well.

The purpose of this article is to explain how to add additional fonts to your Sony Reader and then use those fonts in an ePub book. These instructions work for the PRS-300, PRS-600, and PRS-900. They probably will work for the PRS-505 and PRS-700 as well, but I have not verified this.

Overview

There are just a couple of steps to perform in order to use additional fonts with an ePub book.

1. Add the additional fonts to the root folder on your Sony Reader.
   (See "Chapter 1: How to Add Fonts to a Sony Reader.")

2. Reference the additional fonts using the ePub's CSS.
   (See "Chapter 2: Using the Added Fonts in an ePub Book.")

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Chapter 1: How to Add Fonts to a Sony Reader

Adding fonts to a newer Sony Reader (PRS-300, PRS-600, and PRS-900) is really easy.

> **NOTE**
> First locate the fonts you want to add. On a Windows 7 PC you will find fonts in your `C:\Windows\Fonts folder`. You can also find fonts on some installation CDROMs for various applications, and of course you can find fonts on the internet. Be aware that many fonts contain separate files for normal, italic, bold, and bold-italic styles.

1. Connect your Sony Reader to your PC via a USB cable. (Do NOT open Sony Reader Library or Calibre. If either opens automatically, close it.)

2. Open Windows Explorer (the file explorer not the internet browser).

3. Select **READER** from the list of drives. You should see a window similar to the following (except the **fonts** folder probably won't exist yet):
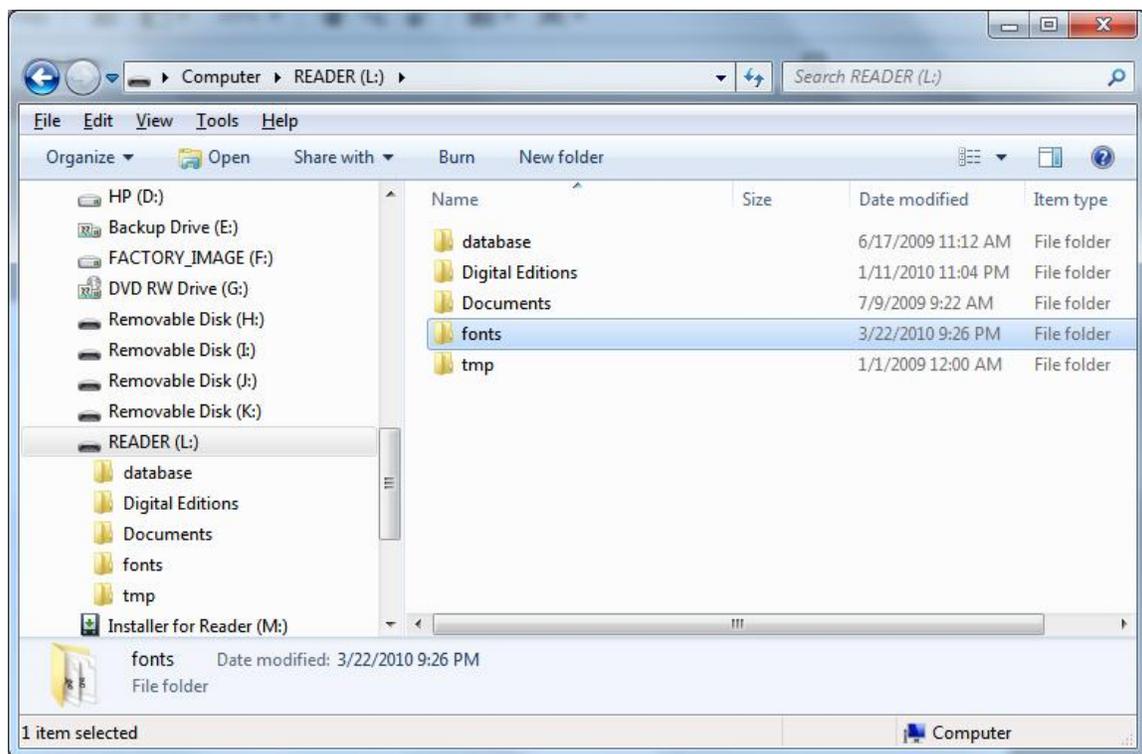
The above screenshot shows the **ROOT** of the Sony Reader.

> **NOTE**
> Refer to [Appendix A: Definitions](#) for more detail about the ROOT folder on a Sony Reader.

4. If there is no **fonts** folder, create a new folder named **fonts** (all lowercase).

5. Copy your font files into the **fonts** folder on your Sony Reader. You should see a window similar to the following:
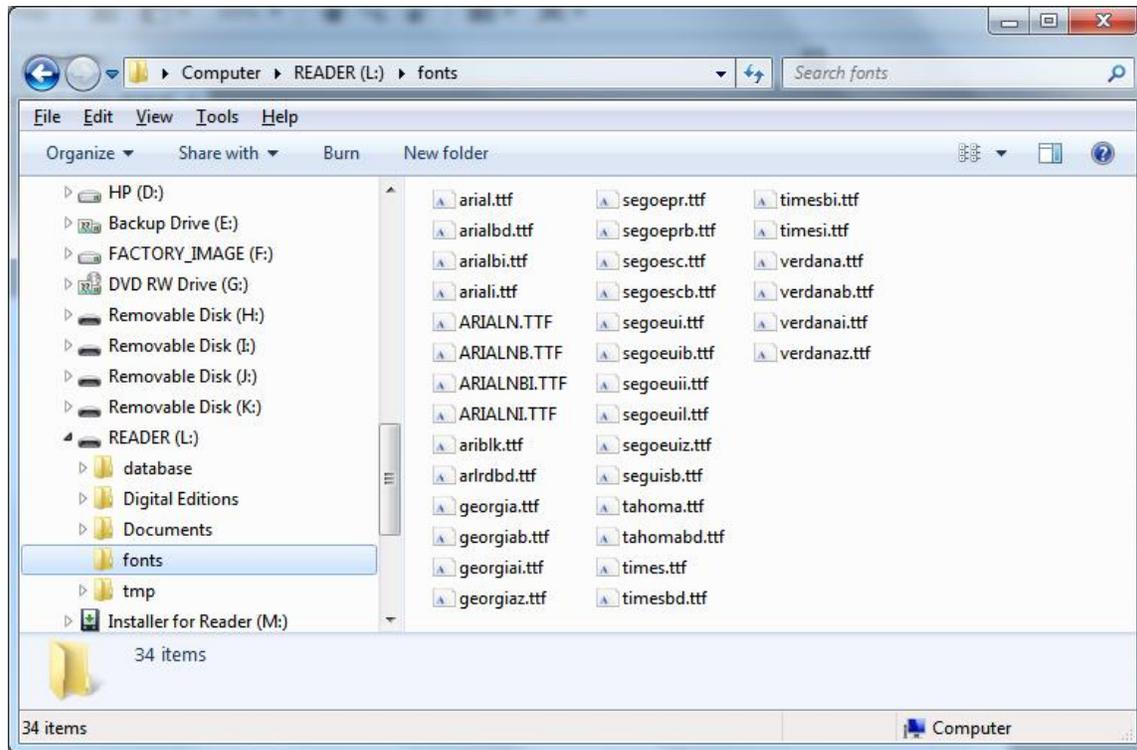
Notice how in this example most of the fonts require multiple files in order to have normal, *italic*, **bold**, and ***bold-italic*** styles.

6. Close Windows Explorer and disconnect your Sony Reader from your PC.

That is all you have to do to add fonts to your Sony Reader. If you ever want to add more fonts simply repeat the steps in this chapter.

Chapter 2: Using the Added Fonts in an ePub Book

If you haven't already added additional fonts to your Sony Reader then follow the steps in the Chapter 1: How to Add Fonts to a Sony Reader above.

The purpose of this chapter is to explain how to manipulate the CSS code that is embedded in an ePub book in order to use the additional fonts you added to your Sony Reader.

> **NOTE**
> This chapter assumes a good working knowledge of CSS (Cascading Style Sheets) as well as ePub book structures. If you need more help in these areas, refer to the Appendices at the end of this article.

There are two methods for modifying the CSS code. Both require that you be able to access the CSS files embedded in the ePub book. This means that the ePub book needs to have any DRM stripped away so you can modify it. (Stripping DRM is not within the scope of this document.)

> **NOTE**
> Refer to Appendix A: Definitions if you do not understand what DRM is. Refer to Appendix D: Accessing the CSS File(s) Embedded in an ePub Book if you need more detail on this topic.

- One method is to directly modify the embedded CSS file(s) then use an ePub book generation application to compile a new ePub. Refer to the section "Directly Modifying the CSS File(s) Embedded in an ePub Book" for details on using this method.

- The other method is to override the embedded CSS code located in the ePub book using the Calibre application. Refer to the section "Using Calibre to Override the CSS File(s) Embedded in an ePub Book" for details on using this method.

Directly Modifying the CSS File(s) Embedded in an ePub Book

> **NOTE**
> Refer to Appendix D: Accessing the CSS File(s) Embedded in an ePub Book if you need more detail on accessing the embedded CSS. Refer to Appendix B: Detailed Explanation of the CSS @font-face { } Rule and Appendix C: Detailed Explanation of the CSS font-family Property for more details on these important CSS rules and values as well as for some good examples.

This part can be a bit tricky depending on how the CSS has been written for the ePub. Some publishers do not include a `font-family` value in the CSS. If there is no `font-family` value in the CSS then you can simply add one to the BODY tag and it will cause your font family to be used throughout the document.

However, if the publisher uses `font-family` values in the CSS then you need to either replace each of them with your font family name or delete the values that are located in tags other than the BODY tag.

1. Open the CSS file(s) and add the four `@font-face { }` rules at the top of the file. You need one each for normal, bold, italic, and bold-italic text. (Refer to Appendix B: Detailed Explanation of the CSS @font-face { } Rule for more details on @font-face { } rules.)

2. Either replace the existing `font-family` value, if it exists in the BODY tag, or add it to the BODY tag if it does not exist. (Refer to Appendix C: Detailed Explanation of the CSS font-family Property for more details on font-family values.)

3. Search for every occurrence of "font-family" and either change the name or delete the value from every tag in which it appears, except the BODY tag of course.

4. Compile a new ePub book from the files.

> **NOTE**
> If you do not have a program that can compile an ePub from the extracted files, you can zip the folder then rename it with the `.epub` extension. For example zip the `MyBook` folder to `MyBook.zip` then rename it to `MyBook.epub`. However, using this method might result in a book file which will not open on a Sony Reader.

Using Calibre to Override the CSS File(s) Embedded in an ePub Book

This is the easiest and cleanest method I have found.

1. Search through the embedded CSS in the ePub Book and identify all of the tags that contain a `font-family` value and make a list of these tags. (Refer to Appendix D: Accessing the CSS File(s) Embedded in an ePub Book for more details on viewing the embedded CSS.)

2. Add the ePub book to Calibre using the **Add Books** option. (Refer to the Calibre help for details on using this application.)

3. Click the **Convert E-books** option to display the **Convert** window.

4. In the **Convert** window click the **Look and Feel** option to display a window similar to the following:
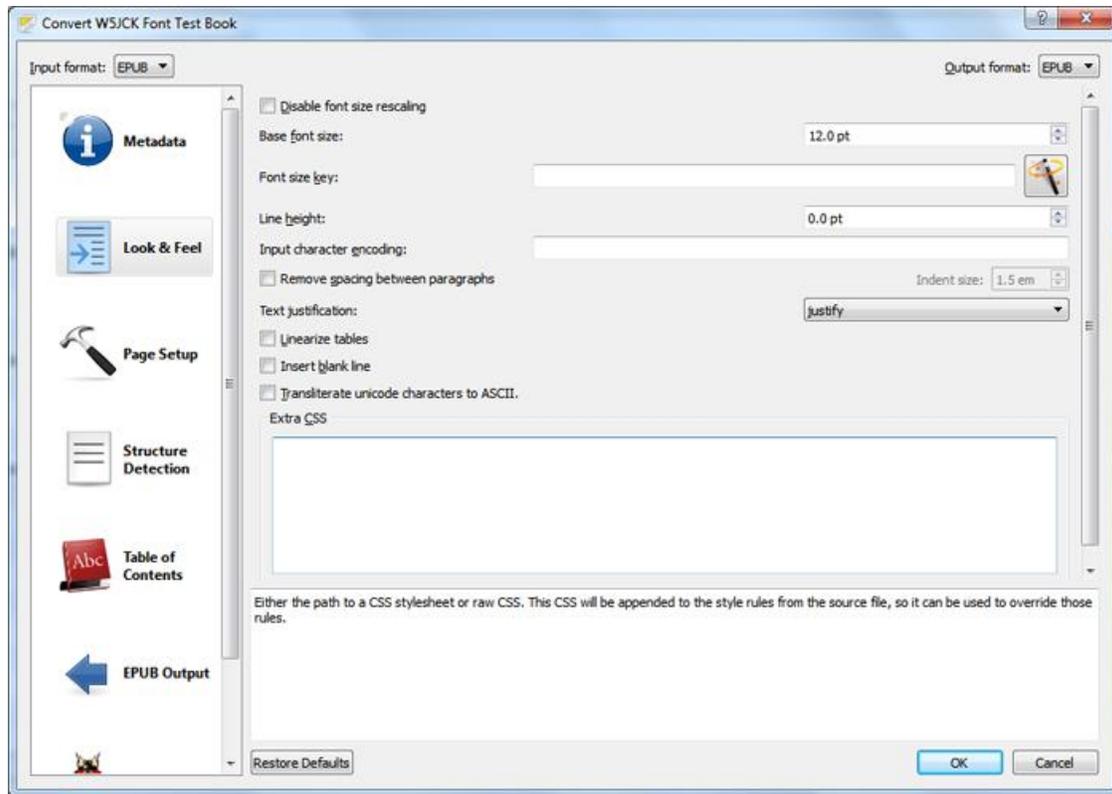
5. Copy the four `@font-face { }` rules into the top of the **Extra CSS** box. (Refer to Appendix B: Detailed Explanation of the CSS `@font-face { } Rule` for more details on @font-face { } rules.)

6. Add a `font-family` value, or override all existing `font-family` values. (Refer to Appendix C: Detailed Explanation of the CSS font-family Property for more details on font-family values.)

- If the CSS files do not contain any `font-family` values, then add the following `font-family` value at the bottom of the **Extra CSS** box (after the four `@font-face { }` rules):

  ```
  body { font-family: "[name]"; }
  ```

  Replacing `[name]` with the name you assigned to you font family.

- If the CSS files contain `font-family` values, then you must override each one. For each tag with a `font-family` value add the following `font-family` value at the bottom of the **Extra CSS** box (after the four `@font-face { }` rules):

```
[tag] { font-family: "[name]"; }
```

Replacing *[tag]* with an actual tag and *[name]* with the name you assigned to your font family. For example, if the P tag in the CSS file contains a font-family value, then add this code:

```
p { font-family: "[name]"; }
```

If the A tag in the CSS file contains a font-family value, then add this code:

```
a { font-family: "[name]"; }
```

Do this for each tag that contains a font-family value and ensure that the tag spelling matches exactly the tag found in the CSS—case sensitivity must match as well.

7. In the **Convert** window click the **OK** button to create the new ePub file.

Appendix A: Definitions

@font-face { }: This is the CSS rule you will use to define a font family based on the fonts you added to your Sony Reader. A font family will be used to render the text in an ePub book.

CSS: A CSS file is a Cascading Style Sheet used in various markup languages including HTML. It is also used within ePub files to set formatting parameters for the ePub book. CSS files can be identified by the file type designator "css"; for example MyStyles.css.

DRM: DRM is Digital Rights Management. DRM is often applied to an ePub book to secure it from unauthorized use, for example distributing it to other people. You cannot modify an ePub bokk that is protected with DRM, so you must first strip away the DRM. This article does not cover stripping DRM. I suggest you Google ineptepub.py to learn more about this topic.

font-family: This is a CSS value you will use within a **@font-face { }** rule to define the specific font family to be used to render the text in an ePub book.

ROOT: The ROOT of the Sony Reader. On a PC we often think of the C drive as the root drive of the PC. For example, if my C drive is the root drive on my PC and I want to reference folder MyStuff on the root drive I would use the format `C:\MyStuff`. However, referencing a folder on a Sony Reader's ROOT is different from a Windows PC. For example, to reference the fonts folder you just added you would use the format `///Data/fonts`. Understanding this format will help you understand the font references you will add to your CSS.

Appendix B: Detailed Explanation of the CSS @font-face { } Rule

We will briefly examine the syntax for using `@font-face { }` to reference a font family, weight, and style you desire to use in an ePub book.

Font Family, Weight, and Style

If you are not familiar with HTML or CSS, you need to understand what is meant by font families, weights, and styles.

The font family is the name you assign to the set of textual weights and styles to be rendered by the text in your Sony Reader. In HTML you can assign any number of font families to your document. However, the Sony Readers can only display one font family per ePub. The font family is sub-divided into four font weight and font style combinations, as follows:

> **NOTE**
> Font weight is either normal or **bold**. Font style is either normal or *italic*.

- normal text = font weight normal and font style normal

- **bold text =** font weight **bold** and font style normal

- italic text = font weight normal and font style *italic*

- ***bold-italic text*** = font weight **bold** and font style *italic*

Examples

Consider this example wherein we instruct the Sony Reader to use the font file `georgia.ttf` whenever the ePub file specifies normal text:

> **NOTE**
> Case sensitivity is extremely important so ensure you use the same uppercase and lowercase spellings in the CSS as in the folder names and file names you added to your Sony Reader.

Normal Text Example

```
@font-face {
   font-family: "Georgia";
   font-weight: normal;
   font-style: normal;
   src: url(res:///Data/fonts/ georgia.ttf);
}
```

1. `font-family: "Georgia";`
   Defines the name of the font family as **Georgia**. You can name the font family whatever you desire, but you must be consistent for all the font weights and styles associated with this font family.

2. `font-weight: normal;`
   Font weight is either normal or **bold**. Typically, most of the ePub text is displayed with a normal font weight. Bold text is usually reserved for titles, headings, and emphasized text.

3. `font-style: normal;`
   Font style is either normal or *italic*. Typically, most of the ePub text is displayed with a normal font style. Italics is usually reserved for emphasizing text.

4. `src: url(res:///Data/fonts/georgia.ttf);`
   This bit of code is used to state which font file is used for the specified font family, weight, and style. In this example we have told the Sony Reader to use the font file georgia.ttf whenever the ePub file specifies a normal text.

An Example using the Font Georgia for Normal, Bold, Italic, and Bold-italic Text

In this example we define the whole font family (not just the normal text) and give it the name of Georgia. We use the font Georgia for normal, **bold**, *italic*, and ***bold-italic*** text.

```
@font-face {
   font-family: "Georgia";
   font-weight: normal;
   font-style: normal;
   src: url(res:///Data/fonts/georgia.ttf);
}

@font-face {
   font-family: "Georgia";
   font-weight: bold;
   font-style: normal;
```

```
    src: url(res:///Data/fonts/georgiab.ttf);
}

@font-face {
   font-family: "Georgia";
   font-weight: normal;
   font-style: italic;
   src: url(res:///Data/fonts/georgiai.ttf);
}

@font-face {
   font-family: "Georgia";
   font-weight: bold;
   font-style: italic;
   src: url(res:///Data/fonts/georgiaz.ttf);
}

body { font-family: "Georgia"; }
```

Notice that four different file names were used to define this font family. If you view these font files on your PC you will see that `georgia.ttf` displays the Georgia font in normal text, `georgiab.ttf` displays the Georgia font in **bold** text, `georgiai.ttf` displays the Georgia font in *italic* text, and `georgiaz.ttf` displays the Georgia font in ***bold-italic*** text.

An Example using Multiple Fonts for Normal, Bold, Italic, and Bold-italic Text

In this example we define the font family using multiple fonts and give it the name of MyFont. We use the font Arial Rounded MT Bold for normal, Arial Black for **bold**, Arial for *italic*, and Segoe UI for ***bold-italic*** text.

```
@font-face {
   font-family: "MyFont";
   font-weight: normal;
   font-style: normal;
   src: url(res:///Data/fonts/ arlrdbd.ttf);
}

@font-face {
   font-family: "MyFont";
   font-weight: bold;
   font-style: normal;
   src: url(res:///Data/fonts/ ariblk.ttf);
}
```

```
@font-face {
   font-family: "MyFont";
   font-weight: normal;
   font-style: italic;
   src: url(res:///Data/fonts/ ariali.ttf);
}

@font-face {
   font-family: "MyFont";
   font-weight: bold;
   font-style: italic;
   src: url(res:///Data/fonts/ segoeuiz.ttf);
}

body { font-family: "MyFont"; }
```

Notice that four different file names were used to define this font family, and each font file is from a different font. If you view these font files on your PC you will see that `arlrdbd.ttf` displays the Arial Rounded MT Bold font in normal text, `ariblk.ttf` displays the Arial Black font in **bold** text, `ariali.ttf` displays the Arial font in *italic* text, and `segoeuiz.ttf` displays the Segoe UI font in ***bold-italic*** text.

Appendix C: Detailed Explanation of the CSS font-family Property

We have seen how to use `@font-face { }` to assign font files for normal, **bold**, *italic*, and ***bold-italic*** text. But before we can display our new font family we need to add a `font-family` value in the CSS so that the Sony Reader knows which font family to use.

To define the font family to be used by the ePub, add a `font-family` value to a BODY tag, or P tag (paragraph tag), or any appropriate tag. The BODY tag is the best location as it covers the entire document.

Here is the syntax for using `font-family` in a BODY tag.

```
body { font-family: "[name]"; }
```

Replace `[name]` with the name you assigned to you font family, for example:

```
body { font-family: "MyFont"; }
```

Appendix D: Accessing the CSS File(s) Embedded in an ePub Book

Some ePub generation applications allow you to modify the CSS file(s). If you do not have such an application, you can view the ePub book's files by extracting them. The easiest way I have found to do this is as follows:

1. Copy the ePub file and rename the copy using the `.zip` file extension. For example, copy `MyBook.epub` to `MyBook.zip`.

2. Extract the zipped copy. In Windows 7 right-click on the zipped file and select the **Extract All** option. For example, extract the zipped file `MyBook.zip` to the `MyBook` folder.

3. Look in the `MyBook` folder for any CSS file(s). Sometimes they are located in the root of the folder and sometimes they are located in the `OEBPS` subfolder. There might be only one CSS file or there might be multiple CSS files. If you don't have a special editor application for opening CSS files, you can open them in Notepad or Word.