



3-Heights™ PDF Desktop Viewer

Version 2.1

User Manual

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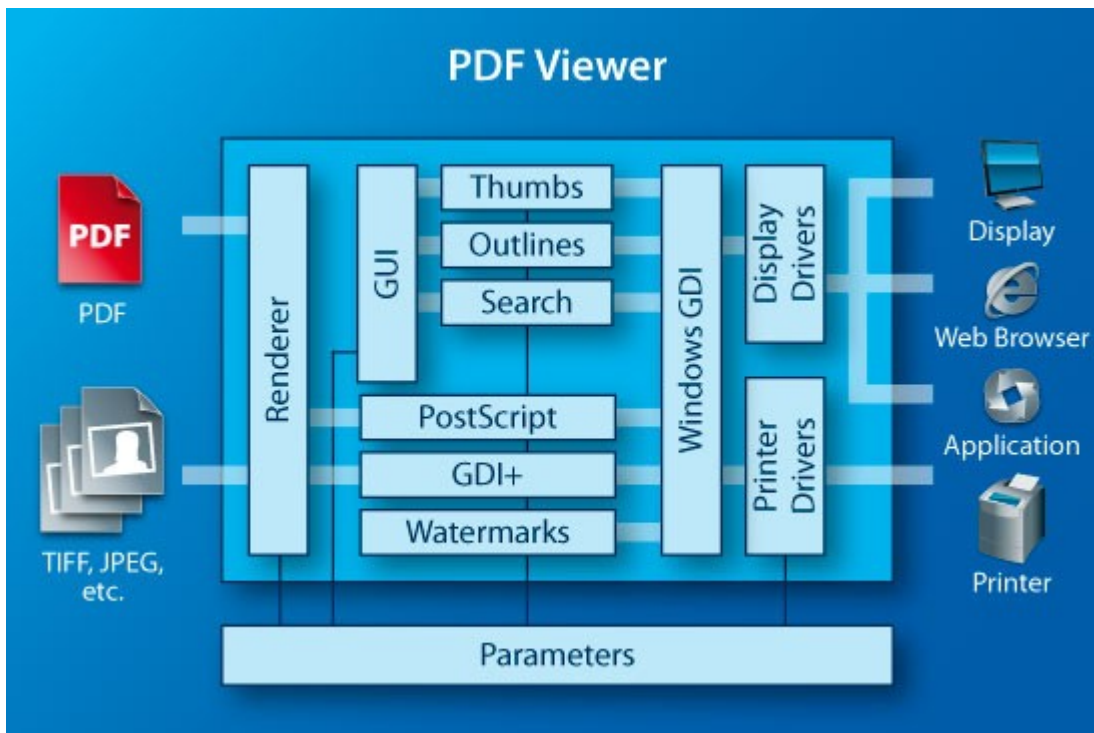
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1 Introduction

1.1 Description

The 3-Heights™ PDF Viewer is an independent, compact, high-quality PDF viewer. It offers a multitude of functions such as display options, navigation, optional printing and support for non-PDF formats such as TIFF, JPEG and other raster image formats. The PDF Viewer is characterized mainly by its ease of integration and handling and high performance.

The Viewer can be used as a standalone application or software solution component. The Viewer can be started outside of the programming environment within seconds via the command line.



1.2 Functions

The PDF Viewer offers many options for displaying PDF documents in a manner that suits requirements: files can be viewed in single page or multi-page mode, and the navigation supports links, bookmarks and calling up pages arbitrarily. The search function can locate strings of text in the document. The tool supports PDF documents in many languages: the reproduction of Japanese, Chinese, Korean, Russian, etc., is no problem at all. The PDF Viewer can also print out and save PDF documents.

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Viewing

- Display PDF file in single page or multi page mode
- Enter password to decrypt PDF documents
- Display image files such as TIFF, JPEG, JBIG2, JPEG2000, PNG and GIF
- Enlarge and reduce windows with the aid of a zoom rectangle or zoom factor
- Query the number of pages in a document
- Freely select any page in the document for display
- Set scalability (page size, page width, actual size, any size)
- Set various display options such as image filters
- Reproduce documents with Chinese, Japanese and Korean fonts (CJK)
- Double Buffering
- Set number of pages per window
- Replace embedded fonts with preinstalled fonts for viewing and printing
- Display fonts as vector graphics
- Rotate and display the page
- Show annotations
- Save the PDF or image files on display
- Set user rights for the saved new version of the PDF file

Navigation

- Search PDF documents for a specific string of text
- Show and hide windows for bookmarks and page navigation
- Jump to a bookmark's location
- Jump to the location of a link within the document
- Move windows vertically and horizontally using the mouse or keyboard
- Set mouse cursor mode
- Show and hide scrollbars
- Activate or deactivate links

Printing

- Print the PDF or image files on display to any printer
- Set number of copies
- Black point compensation during printing
- Win9x compatibility mode

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Formats

Input Formats

- PDF 1.0 - 1.7, PDF/A
- Raster images (e.g. TIFF, JPEG, PNG, GIF, BMP)

Output Formats

- The PDF Viewer can save files in their original input format.

Compliance

Standards: ISO 32000-1 (PDF 1.7), ISO 19005-1 (PDF/A-1), ISO 19005-2 (PDF/A-2)

1.3 Operating Systems

Windows 2000, XP, 2003, Vista, 2008, Windows 7, 2008-R2 - 32 and 64 bit

1.4 Compatibility Note

In versions prior to 2010 it was distinguished between the standard and the pro version. Certain features (such as printing or viewing raster images) were only supported in the pro version. At present there is only one version, which supports all features.

2 Installation

2.1 Installing the PDF Desktop Viewer

1. Download the ZIP archive of the product from your download account at www.pdf-tools.com.
2. Open the ZIP archive.
3. Check the appropriate option to preserve file paths (folder names) and unzip the archive to a local folder (e.g. *C:\program files\pdf-tools*).
4. The unzip process now creates the following subdirectories:
 - **Bin**: Contains the runtime executable binary code. A required file is the *gdiplus.dll*, which must be on the environment variable "Path".
 - **Bin\Fonts**: Contains the fonts Symbol and ZapfDingbats.
 - **Bin\Icc**: These are links to download color profiles. The color profiles are optional, but it is suggested to download them. Once downloaded, the CMYK color profile must be named *CMYK.icc* and the RGB color profile must be named *sRGB.icm*. Both color profiles must reside in the directory *bin\Icc*.
 - **Doc**: Contains documentation files.
5. Copy and thereby install the two fonts Symbol and ZapfDingbats to the fonts directory of Windows (*%systemroot%\fonts*, e.g. *C:\Windows\fonts*) using Windows Explorer.
6. (Optional) Make a shortcut from the executable file *viewer.exe* to your desktop.
7. (Optional) If you want to be able to start the viewer from a shell, the directory where the file *viewer.exe* resides needs to be included in the environment variable "Path".

How to set the Environment Variable "Path"

To set the environment variable on "Path"

Windows 2000, go to **Start -> Settings -> Control Panel -> System -> Advanced -> Environment Variables**

Windows XP and later, go to **Start -> Control Panel (classic view) -> System -> Advanced -> Environment Variables**.

Select "Path" and **Edit**, then add the directory where *viewer.exe* is located to the "Path". If the environment variable "Path" does not exist, create it.

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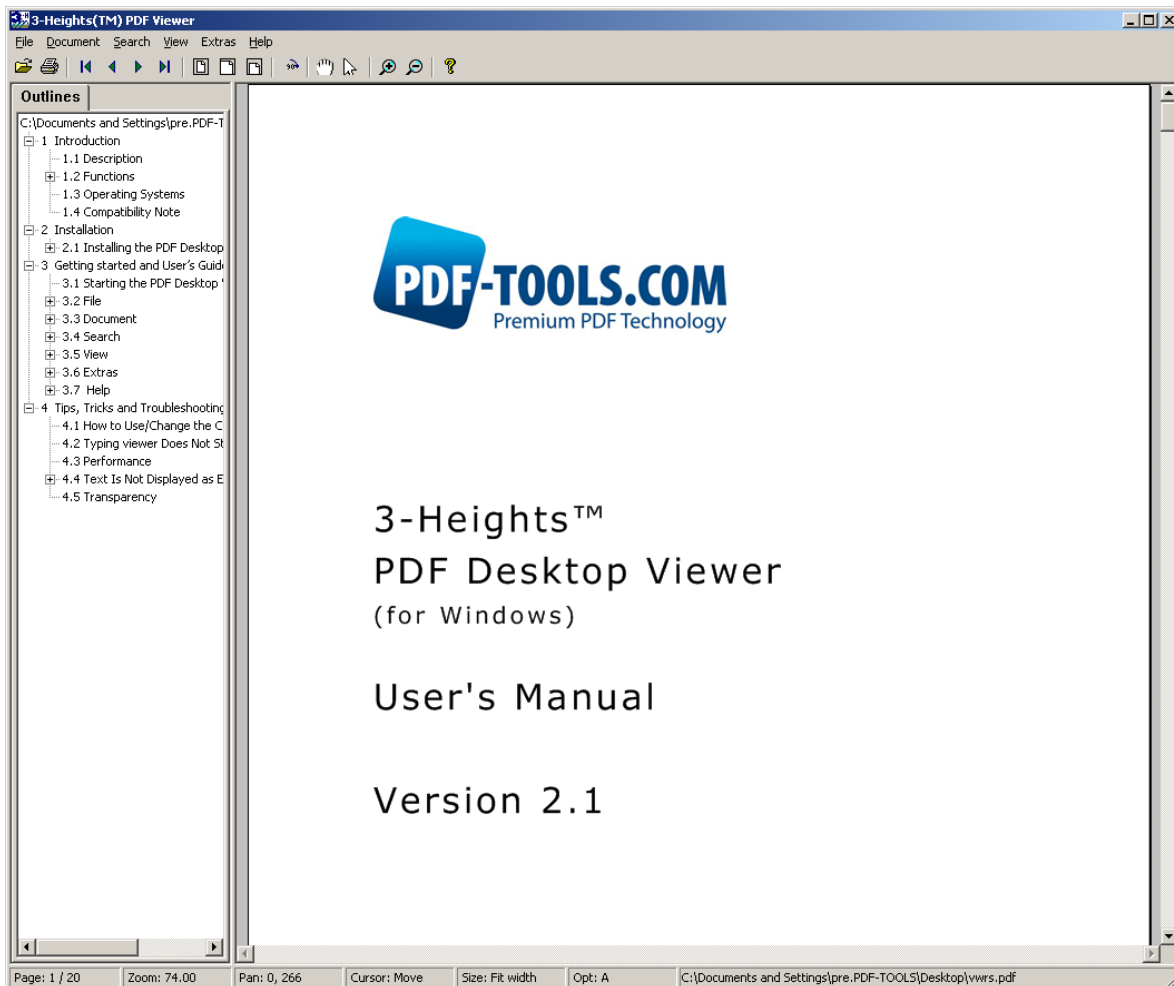
3 Getting started and User's Guide

3.1 Starting the PDF Desktop Viewer

To start the 3-Heights™ PDF Desktop Viewer, either double click the icon or type *viewer* in the shell.

```
C:\> Viewer
```

This will open the Viewer, that looks like the image below:



3.2 File

Open

Open a PDF document for viewing. The Pro version provides the feature to open various raster image formats: BMP, GIF, JBIG, JPEG, JPEG2000, PNG, TIFF

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When using a shell, a PDF file name can optionally be provided as argument. Allowed are relative and absolute paths.

Start the 3-Heights™ PDF Viewer from the shell and directly open the document "mydocument.pdf".

```
C:\> viewer mydocument.pdf
```

The file path can be absolute:

```
C:\> viewer C:\myFiles\mydocument.pdf
```

Menu	File -> Open
Shortcut	Ctrl O
Icon	

Close


Close the currently being viewed document (if any).

Menu	File -> Close
Shortcut	none
Icon	none

Printing

(Pro Version only)

The 3-Heights™ Viewer Desktop has the functionality to print the currently opened document.

Menu	File -> Print
Shortcut	Ctrl P
Icon	

Exit

Exit the application.

Menu	File -> Exit
Shortcut	Ctrl X
Icon	none

3.3 Document

To navigate through the pages of a PDF documents, use the arrows icons from the toolbar to go to the first, the previous, the next or the last page.

Alternatively use the Menu **Document** for the same functions and additionally the function **Goto page** to select a page number directly.

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First Page

Go to the first page of the document.

Menu	Document -> First Page
Shortcut	Ctrl Shift PageUp
Icon	⏪

Previous Page

Go to the previous page of the page that is currently displayed. If currently the first page is displayed, the page does not change.

Menu	Document -> Previous Page
Shortcut	Ctrl PageUp
Icon	⏪

Next Page

Go to the next page of the page that currently displayed. If currently the last page is displayed, the page does not change.

Menu	Document -> Next Page
Shortcut	Ctrl PageDown
Icon	⏩

Last Page

Go to the last page of the document.

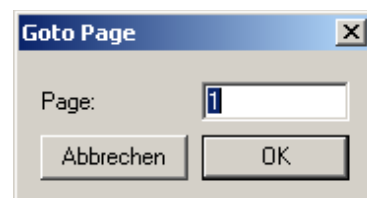
Menu	Document -> Last Page
Shortcut	Ctrl Shift PageDown
Icon	⏩

Go to Page

Go to a page within the current document.

Calling this menu launches the dialog box shown in the screenshot to the right.

The dialog is modal and closes after pressing either of the buttons or the enter key.




Menu	Document -> Go to Page
Shortcut	Ctrl N
Icon	none

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Scroll in Page

Use the icon with the white hand to scroll a page up and down.

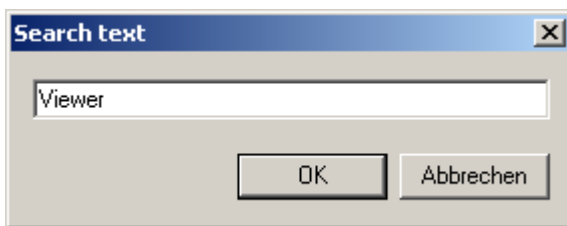
Menu	Document -> Previous Page
Shortcut	Ctrl Shift PageDown
Icon	

3.4 Search

Search

To find a sting in the PDF document, choose the command **Search** form the menu **Search**. This will pop up a dialog asking for the search string.

The search string may not contain blanks. An asterix (*) for wildcards is not necessary.



Menu	Search -> Search
Shortcut	Ctrl F
Icon	none

Search Next, Previous

To get the next occurrence of a string previously searched for use the command **Search next**.

Menu	Search -> Search next
Shortcut	Ctrl G
Icon	none

Highlighting


Selecting the highlighting feature opens the highlighting dialog in the left hand side of the viewer. The dialog allows for searching different texts and marking them in different colors.

Use Ctrl-G to find the next instance of the marked text, use Ctrl-Shift-G for the previous.

3.5 View


Zoom in, Zoom out

To zoom in and out, use the corresponding options in the Menu **View** or the +/- icons. One click zooms in/out by 10%.

Menu	View -> Zoom In, Zoom Out
Shortcut	Ctrl +, Ctrl -
Icon	


Fit Window

Resize the displayed page so that the page width and the page height fit inside the give frame size of the viewer.

Menu	View -> Fit Window
Shortcut	Ctrl 0
Icon	


Actual Size

Display the page at 100% zoom.

Menu	View -> Actual Size
Shortcut	Ctrl 1
Icon	


Fit Width

Resize the displayed page so that the page width matches the width of the frame of the viewer.

Menu	View -> Fit Width
Shortcut	Ctrl 2
Icon	

Zoom to Window

Click on the icon with the white arrow, then click on the PDF, draw an area and the Viewer zooms to this area.

Menu	none
Shortcut	none
Icon	

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View Outlines

Disable/Enable the outlines (bookmarks) at the left hand side of the viewer. This setting disables "View Page List".

Menu	View -> View Outlines
Shortcut	Ctrl B
Icon	none

View Page List

Disable/Enable the page list (page 1, page 2, page 3, etc.) at the left hand side of the viewer. This setting disables "View Outlines".

Menu	View -> View Page List
Shortcut	none
Icon	none

Double Buffer

Disable/Enable double buffering.

Double buffering is a technique used to minimize visible artifacts from the drawing process (flickering). As opposed to single buffering, the memory used for the displayed page is kept separately for writing and reading. This results in a better viewing quality but also requires more memory and CPU.

Menu	View -> Double Buffering
Shortcut	none
Icon	none

Scrollbars

Disable/Enable horizontal and vertical scrollbars.

Menu	View -> Scrollbars
Shortcut	none
Icon	none

Page Layout <> Document Layout

Choose between the page and document layout. The page layout displays one page at a time (or two pages at time if selected from the menu Extras -> Viewing Options -> Two Pages per Window. In the document layout pages are continuous in vertical order.

The default is the document layout.

Menu	View -> Page Layout
	View -> Document Layout

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Shortcut	none
Icon	none

3.6 Extras

Accurate Rendering Mode (default)

There are two modes: Accurate (checked) and fast (not checked). The accurate mode uses various image filters and the GDI+. It is slower but provides a better image quality.

Menu	Extras -> Viewing Options -> Accurate Rendering Mode
Shortcut	none
Icon	none

Page per Window

This option sets the number of pages per window to one or two.

The default is one page per window.

Menu	Extras -> Viewing Options -> One page per window Extras -> Viewing Options -> Two pages per window
Shortcut	none
Icon	none

Win9x Compatibility

Run in Windows 9x compatibility mode. Setting this option can resolve issues with nested transformation matrices which are not supported by all printing devices.

Menu	Extras -> Viewing Options -> Win9X Compatibility
Shortcut	none
Icon	none

Use Pre-Installed Fonts

If enabled, embedded fonts are not used and are replaced by fonts installed on the system (in %Systemroot%\Fonts, e.g. C:\Windows\Fonts).

Menu	Extras -> Font Options -> Use Pre-Installed Fonts
Shortcut	none

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Icon	none
------	------

Convert to TrueType

This item enables or disables the conversion of embedded fonts to the TrueType format before using the font for rendering. This item is mainly used for diagnostic purposes.

Menu	Extras -> Font Options -> Convert to TrueType
Shortcut	none
Icon	none

Convert to Outline

This option converts fonts to outlines (vector graphics) before rendering. This item is mainly used for diagnostic purposes.

Menu	Extras -> Font Options -> Convert to Outline
Shortcut	none
Icon	none

Do Not use Embedded Fonts

This item enables or disables the replacement of embedded fonts with installed fonts. This item is mainly used for diagnostic purposes.

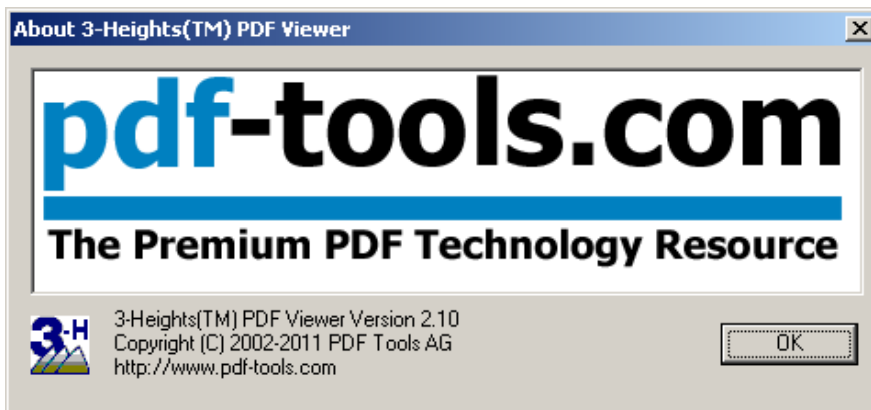
Menu	Extras -> Font Options -> Don't use embedded fonts
Shortcut	none
Icon	none

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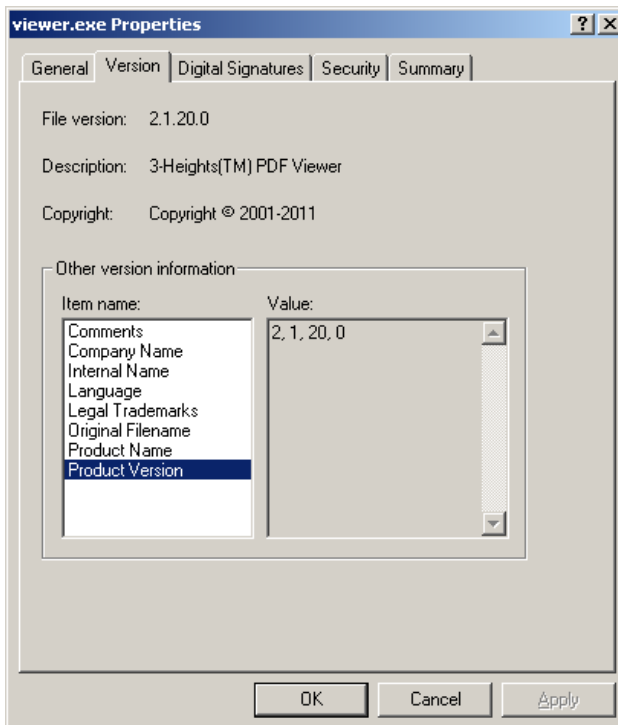
3.7 Help

Info

Retrieve the copyright note and version number of your viewer.



Note that this only lists the major version. In order to retrieve the full version number, right-click the executable *viewer.exe* or and select the menu "Properties". In the "Properties" window select the tab "Version".



Menu Help -> Info...

Shortcut Ctrl ?

Icon ?

4 Tips, Tricks and Troubleshooting

4.1 How to Use/Change the Color Profiles

The 3-Heights PDF Rendering Engine works in the RGB color space. For color conversions, the two color profiles in the folder *Icc/* are used. Color profiles can be downloaded from the links provided in the directory *Icc/*. The color profiles that are named *CMYK.icc* and *sRGB.icm* are applied.

In order to change the current color profile, overwrite these two color profiles with new color profiles.

If no color profile is available, the conversion is done algorithmically.

4.2 Typing *viewer* Does Not Start the PDF Viewer

Make sure the directory with the file *viewer.exe* is included in the "Path" environment variable. A reason for this to happen is when the *viewer.exe* is moved to another directory.

4.3 Performance

The 3-Heights™ PDF Viewer provides a variety of settings to tune the performance. In most cases a simple rule applies: Higher quality takes more resources (memory, CPU) and therefore lowers the performance.

The following settings have an impact on the performance:

- Content of the PDF: A document with thousands of objects requires more time for rendering than a page with plain text.
- Resolution: The higher the size of the viewer window the more pixels need to be drawn and the lower the performance.
- Double Buffering: Enabling double buffering requires extra memory and CPU.
- Rendering Mode: Disabling the accurate rendering mode improves the performance at the cost of visual quality. It should only be applied at high zoom levels.

4.4 Text Is Not Displayed as Expected

Font Replacement Strategy

This section describes the exact behavior of font handling of the rendering engine 2.0. It is rather technical and it is not required to be understood in order to properly use the software.

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The following steps are performed sequentially in the search of a font. If a font is found, the search is stopped; otherwise the next step is performed.

1. If "Outlines" is enabled, and the font is embedded, outlines¹ are applied
2. If the font is not embedded or "Use pre-installed fonts" is set:
 - a. the substitution from the [Replace] section in the configuration file "fonts.ini" is executed and the fonts directory is searched
 - b. it is verified if it is a standard font² and the fonts directory is searched
 - c. the substitution from the [Fonts] section in the configuration file "fonts.ini" is executed and the fonts directory is searched
 - d. the "Italic" and "Bold" of the font is ignored and the fonts directory is searched
3. If the font is embedded and "Don't not use embedded fonts" is set and the font does not have Unicodes, outlines are applied
4. If the font is embedded and "Don't not use embedded fonts" is not set, the embedded font is used
5. If "Don't not use embedded fonts" is not set and the font has Unicodes, the nearest pre-installed³ font is tailored and used
6. In other cases the nearest pre-installed font is used

Using the Font Mapping File *fonts.ini*

"fonts.ini" is a configuration file to map fonts used in the PDF to fonts pre-installed on the system. The mapping file must reside a directory called "Fonts", which must be a direct sub-directory of where the main DLL or executable resides.

The mapping file is optional. It consists of two sections: [fonts] and [replace].

Both sections are used to map fonts in the PDF to fonts pre-installed on the system. This comes into play when the font in the PDF document does not have an embedded font program, or the embedded font is not used explicitly ("Don't not use embedded fonts").

The mapping only works if the font types of the specified fonts are matching; e. g. if the font in the PDF is a symbolic font, such as "Symbol" or "ZapfDingBats", the mapped font must be symbolic too.

The section [fonts] is only considered if the font-matcher does not find an appropriate font amongst the existing pre-installed fonts. It is suggested to only use this section.

¹ text is not displayed using a font, instead it is transformed into a vector graphic representing the shape of the text

² e. g. Times–Roman, Helvetica, Courier

³ a font that is installed on the operating system

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
The section [replace] is stronger and applied before the font-matcher. This means a font will be replaced as defined, even if the correct pre-installed font is available on the system.

Syntax

The syntax of the mapping file is this:

```
[fonts]
PDF_font_1=installed_font_1, {font_style}
PDF_font_2=installed_font_2, {font_style}
[replace]
PDF_font_n=installed_font_n, {font_style}
```

PDF_font_* is the name of the font in the PDF. This name can be found in one of the following ways:

- Use any tool that can list fonts, such as 3-Heights PDF Extract or 3-Heights PDF Optimization. Ignore possible prefixes of subset fonts. A subset prefix consists of 6 characters followed by the plus sign. For example "KHFOKE+MonotypeCorsiva", in this case only use "MonotypeCorsiva" as font name in the mapping file.
- Open the document with Adobe Acrobat, use the "MarkUp Text Tool" , mark the text of which you would like to know the font name, right-click it, select "Properties..."

installed_font_* is the font family name of the pre-installed font. To retrieve this name, find the font in the Windows' font directory and open it by double-clicking. The first line in the property window displays the font family name (this may vary depending on the operating system). The font family name does not include font styles; so an example of a font family name is "Arial", but not "Arial Italic".

font_style is an optional style, that is added coma-separated after the font family name. The style is always one word. Examples of font styles are "Italic", "Bold", "BoldItalic".

Example

```
[fonts]
Ryumin-Light=MS Mincho
GothicBBB-Medium=MS Gothic
[replace]
ArialIta=Arial, BoldItalic
```

4.5 Transparency

The 3-Heights™ rendering engine supports transparency functions such as a number of blend modes as well as isolated and non-isolated transparency groups, but not transparency in general.