This end user manual provides instructions for the tetra4D - 3D PDF Plug-ins for Autodesk 2013/2014 applications. It includes a getting started tutorial and reviews its general settings. Please note that there is a separate manual for our 3D PDF for 3ds Max Plug-in. The 3ds Max manual can be found at: http://www.tetra4d.com/support

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# Table of Contents

Overview ........................................................................................................................................................................... 2  
Download Instructions ...................................................................................................................................................... 2  
3D PDF Plug-ins ............................................................................................................................................................. 2  
About............................................................................................................................................................................. 2  
3D PDF Plug-in Tutorial ..................................................................................................................................................... 3  
tetra4D Panel Overview and Launch............................................................................................................................. 3  
3D PDF Plug-in Settings ..................................................................................................................................................... 4  
Template Tab ................................................................................................................................................................ 4  
Page Tab ...................................................................................................................................................................... 12  
3D Tab ......................................................................................................................................................................... 13  
Advance Tab................................................................................................................................................................ 16  

Create PDF....................................................................................................................................................................... 18  
1)  Click Create PDF ..................................................................................................................................................... 18  
2)  Scene Manager....................................................................................................................................................... 18  
   Scenes.................................................................................................................................................................. 18  
   Cameras.............................................................................................................................................................. 19  
3)  Name Your 3D PDF ................................................................................................................................................. 19  
Merge PDF..................................................................................................................................................................... 20  
   Steps to Merge PDF.................................................................................................................................................. 20  
Embed PDF .................................................................................................................................................................. 22  
   Steps to Embed PDF ............................................................................................................................................... 22  

Additional Resources....................................................................................................................................................... 24
Overview

This end user manual provides instructions for the 3D PDF Plug-ins from tetra4D® for Autodesk® 2013/2014 software products. It includes a tutorial and reviews general settings.

Download Instructions

3D PDF Plug-ins

These instructions are for users who have recently downloaded or purchased the 3D PDF Plug-ins for Autodesk® AutoCAD®, Revit®, 3ds Max®, Maya®, Navisworks® and Inventor® applications. Download the 3D PDF Plug-ins for Autodesk, at http://www.tetra4d.com/products/plugins/autodesk.

About

The Plug-ins for Autodesk products — 3D PDF™ for AutoCAD®, 3D PDF™ for Revit®, 3D PDF™ for 3ds Max®, 3D PDF™ for Maya®, 3D PDF™ for Navisworks®, and 3D PDF™ for Inventor® — allow users to convert their design data to a 3D PDF format from within the respective Autodesk application environment.

With 3D PDF™ Plug-ins for Autodesk® Products from tetra4D, users can leverage the model information inside their CAD application to fully communicate with everyone in the extended team — no matter where they are — and never worry about whether they have the right viewing software. Everyone has the Adobe® Reader®, and they know how to use it. All 3D information including colors and textures are maintained accurately in the 3D PDF. Users can also include any or all of their 2D drawing information as part of a single highly-consumable PDF document.

A 3D PDF is 97% smaller than the original Autodesk 3D model, enabling teams to easily conduct design reviews electronically.
3D PDF Plug-in Tutorial

tetra4D Panel Overview and Launch

After the installation of the 3D PDF Plug-in, start the Autodesk application and the tetra4D tab will appear in the Autodesk Ribbon or as a pull-down menu.

Click it to open the tetra4D 3D PDF Panel. In Autodesk Revit, AutoCAD and Navisworks, this panel is also floatable and may be docked elsewhere to leverage on screen real-estate.

There are seven sections in the tetra4D 3D PDF Panel:

- **Create PDF** – Create PDFs of your 2D and 3D design.
- **Merge PDF** – Merge multiple PDFs into one consolidated file with a pre-selected template.
- **Embed PDF** – Embed your design data into an HTML file with a pre-selected template.
- **PDF Settings** – To pre-select a background template, or create a new one, preset your Reader settings, add document security, background music and much more.
- **Register** – To obtain a trial license or activate your software key. See the tetra4D Installation Guide for more information.
- **About** – General information about the plug-in version.

The first four topics will be reviewed in detail in this User Guide. Register and About sections are covered in the Installation Guide, all of which are accessible by launching the Help button in the tetra4D panel.
3D PDF Plug-in Settings

Before you can create stunning 3D PDFs there are a number of settings available for your customers to have a much more enriching experience with the PDFs you create. There are four sections in the PDF Settings dialog box.

- Templates – Template selection and template creation
- Page – Document Security and Background Music
- 3D – General Adobe Reader settings
- Advance – Importing Java scripts, Language Selections, and other settings

Template Tab

Templates can be used to create stunning backgrounds for the PDFs you create. tetra4D has created a number of basic templates for you to get started. You can create one from scratch or pick from an existing one and “Save as”. Then replace the logo and layout per your company standards and brand.

- Launch the 3D PDF Settings dialog box by clicking the PDF Settings in the tetra4D Panel.

- Select the Template tab – There are a number of templates provided for you to choose from, modify or create a new one.
For the purpose of this exercise, we will create one from scratch.

1. Press “New”

The Page Size dialog box will appear. This allows you to pre-select or create a customized paper size with a specific resolution.

2. From the Size Pull-down, select “Letter”

Notice the presets are established already. The Resolution corresponds to the number of Pixels being used for the selected size.

Note: Larger resolutions will result in larger file size PDF output.

3. Change paper orientation to “Landscape”

4. Press “OK”
The next step is to customize your New Document using the Template Designer. There are a number of settings to choose from, but above all, the most important is to define the 3D Area. The 3D Area is the environment where the 3D PDF will reside within the space of the sheet size you established.

The options are as follows:

- **New File** – Create a new template
- **Open File** – Open an existing template file
- **Save File** – Save the current template
- **Pointer** – Allows you to select entities
- **Line** – Create edges, boundaries and outlines with the ability to modify the color and line width
- **Rectangle** – Create rectangular outlines and boundaries with the ability to modify, line color, line width, fill color, fill color opacity and gradient color
- **3D Area** - The environment where the 3D PDF you create will reside
- **Text** – Select font, size, color, text alignment and the ability to add a hyperlink
- **Image** – Used in importing a background image, or company logo as part of a header for your PDFs
- **Zoom** – Select from preset zoom factors to view your document
- **Send Back** – Used to send an image behind another
- **Bring Front** – Used to bring an image forward in front of another
Once a new document is created you can proceed in adding images, text and the 3D Area to create your first 3D PDF.

1. Begin by adding a 3D View. Use the red grips to stretch the 3D Area where the 3D PDF will reside on the sheet.

The following options are available for the 3D Area Background Fill Mode:

- **Transparent** – Allows you to see the background color or image in the overall sheet
- **Single Color** – Sets a defined color in the background of the 3D Area
- **Image** – Allows for the importing of an image to be added to the 3D Area.

**Note:** Frequently saving your work is recommended.

2. Next, add some text to your sheet by selecting the Text (A) button

3. Select a point on the document to add the text — the Fonts Dialog box will appear. Give the document a title, then select “Ok”
Note: The Font Dialog box is where fonts, text size, color, alignment, bold, italic, and underlining are found. Back in the main panel, one can add a background color to text, with an opacity percentage, in addition to adding a URL to that same text.

4. Save.

As an alternative to creating a template from scratch, you can choose from many of our already existing templates and “Save As” to modify and customize it to your company’s standards.

Steps:

- Open PDF Settings
- Select an existing template — double click on the template, or highlight it, then click the “Edit” button.
- Under the “File” pull-down, select “Save As”
- Make the modifications needed
- Save
- Close the dialog box

5. Back in “PDF Settings” make sure that your template of choice is selected/highlighted, then press “Save”.

Other notable features when working with the Template Designer:

**Background Grids** – You can activate or deactivate grid lines to guide in the placement of line work by pressing the “G” on your keyboard. You can also right click on the background, click Show, and then Grids to do the same. If you want to edit the spacing between grids, go to Edit / Preferences, then you can change the Grid Unit Size as well as enable or disable the ability to Snap to the Grid.

**Dictionary** – Allows you to add frequently used Document Properties such as Title, Author and Subjects into the PDF. The Dictionary is accessible from Edit / Dictionary.
**Image Actions** – New to this release is the ability to add an action item to images. You can choose from having None, URL, Message Box, Script, Multi Action or Scene State.

- **None** – Keeping this option on will maintain a static image without any actions applied to it.
- **URL** – Use this option to apply an internet URL that you wish to redirect your recipients to. This can be a project website or cut sheets relevant to the 3D PDF.
- **Message Box** – This allows you to add a custom message using a JavaScript Message Box.
- **Script** – For advanced users, you can apply a JavaScript to an image that will activate and perform the action defined in that script.
- **Multi Action** – Allows the combination of the above items.
- **Scene State** – Scene States are very exciting as it allows a customer to click on the designated image and the applied 3D PDF “view” to that image will automatically change. You can list the view by Name (as listed in the Scene Manager) or by Index number (1,2,3, etc..) of the view. This option is especially powerful when you have a rendered image and a corresponding view in the 3D PDF such as in the following example.
Rendered Image with a corresponding view using a Scene State.
Page Tab

The Page Tab allows the ability to add a secure password to your document in addition to background music.

- **Background Music** – Add background music to your impressive 3D PDFs. Browse for your favorite MP3 file to enhance your customer’s experience. The “Repeat” option allows the music to continue to play until the user closes the document (or turns off the sound icon at the bottom of the document.)

- **File Password** – Adding a password secures the created PDF document so that a recipient is required to enter a password to view it in Adobe Reader or Acrobat. This password is specific to document security — should you need other specific restrictions to your document, consider using Adobe Acrobat to further control Printing, Copying of Content, Page Extraction and more.
3D Tab

The 3D Tab allows you to preset Adobe Reader settings in addition to other settings as noted. These settings do not affect the 3D PDF itself, but rather how it is viewed by the recipient.
• **Show 3D Toolbar** – Refers to the 3D Toolbar in Adobe Reader or Acrobat. When the recipient of the 3D PDF opens your document, this option will allow the user to navigate the model. If it’s not displayed when the document opens, the recipients can “Right Click” and “Show Toolbar”.

![3D Toolbar](image)

• **Open Model Tree** – Selecting this option will automatically turn on the Model Tree in both the Adobe Reader and Adobe Acrobat.

• **Show World Axis** – Having this option “on” will display the multicolored X, Y, Z, world coordinate navigation guides. Turning it off will prevent it from showing up in the Adobe Reader or Acrobat.

• **Disable Selection** – Will prevent the recipient from selecting geometric parts or assemblies from your 3D model or the model tree.

![Model Tree](image)

• **Navigation Mode** – Pre-sets the way a recipient will first see or navigate their model in Adobe Reader or Acrobat.

• **Default Render Mode** – Establishes the initial rendering style the recipient will initially see when the document opens in Adobe Reader or Acrobat.

• **Default Light Type** – Defines the initial lighting settings for the 3D PDF that the customer will initially see when the document opens in Adobe Reader or Acrobat.

• **Light Power Multiplier** – If there is not enough lighting on your model, you can amplify the lighting using this option to increase brightness of the amount of light on the 3D PDF that the recipient will initially see when the document opens in Adobe Reader or Acrobat.
• **Button Bar** – Use the Button Bar to enable or disable numeric sequences of your camera views. Tip: Disable Buttons Bar if you will be adding views, sections and editing your PDF using Adobe Acrobat.

• **Automatic Camera** – Use this option to animate pre-set camera transitions between camera scenes. Establish how long to pause between transitions, and add zoom and roll effects.

• **Preview Image** – This option allows your 3D PDF to have an established image displayed before the 3D Model is activated. The image will be stretched to fit your 3D window. Often a high quality rendered view of the 3D Model can be used.

• **Open File After Export** - This option will launch the Adobe Reader automatically after the creation of your 3D PDF.
**Advance Tab**

The advanced tab is used to add JavaScripts, establish full screen display and change the output language for your 3D PDF.

- Use the Advanced Tab to add JavaScripts to your PDF documents including the 3D PDF. For more information on JavaScript can be found on the following link: [http://www.adobe.com/devnet/acrobat/javascript.html](http://www.adobe.com/devnet/acrobat/javascript.html)

- **Preserve Image Resolution** – This option is for large format printing. Enabling this option will increase the file size of your document.

- **Full Screen** – Enables Full Screen mode when the recipient of the 3D PDF opens the document. Depressing the “Escape” key or “Ctrl-L” will release the document from full screen.

- **Export Measurement and Text Annotation** – Unchecking this option will prevent text from displaying in the exported PDF.

- **Export Polylines** – This option will export out any line work you may have in the model. This could be helpful when trying to delineate your design intent.
• **Export Object Attributes** – If you don’t want your recipients to view property definitions of the objects in your 3D model, “uncheck” this option to prevent property values from exporting and displaying in the Adobe Reader or Acrobat Model Tree.

• **Reflection Blend Mode** – Reflection Blend Mode refers to how color is composed in your document with the given color and lighting conditions established in the original file. The default is Blend, but you can try using Add and Multiply to get the desired effect you wish to present to your recipients.

  ▪ **Blend** - Takes the source (or base) color and applies another color layer to the base. The resulting color composite is the result from Blend.

  ▪ **Add** – Sometimes referred to as Linear Dodge, this option looks at the color information in each channel and brightens the base color to reflect the blend color by increasing the brightness. Blending with black produces no change.

  ▪ **Multiply** - Looks at the color information in each channel and multiplies the base color by the blend color. The color that results will appear darker. Multiplying with black will result in black while multiplying with white will result in the color being unchanged.

• **Language** – If during the installation process you did not change your desired language for the commands on the plug-in, you may do so here. Choose from English (default), German, French, Japanese or Korean. Others languages will be added incrementally.
Create PDF

Once you have created your template or have selected one from the various options, you are now ready to create your first rich, interactive 3D PDF that you can share with anyone, anywhere using the free Adobe Reader.

1) Click Create PDF

- Begin with an orthographic view to active the tetra4D toolbar.
- Click on Create PDF

*Note: In some programs, such as Revit, raster printing will be utilized if shadows, point clouds or gradients are used in the model.*

2) Scene Manager

Next, the Scene Manager will appear. There are a few, but very important options here that will help your recipient understand your design intent. Both 3D and 2D views will be absorbed by the Scene Manager. There are two section tabs of the Scene Manager: Scenes and Cameras. Both are reviewed below.

Scenes

- **Check All / Check None** – These toggles allow you to quickly select or deselect from the various views in the Scene Manager.
- **Merge 3D scene into selected scene** – One of the most important features of any of our plug-ins! It’s highly encouraged to use this...
option as it takes all the 3D views in your model and merges them together into one selected / highlighted scene. Doing this will greatly decrease the file size of your 3D PDF. Another advantage is that these merged scenes become accessible from the pull down menu in Adobe Reader or Acrobat.

Cameras

- **Cameras** – The camera tab by default will list isometric views. If you choose to merge your 3D scenes, those will also be listed with their respected cameras.

3) Name Your 3D PDF

After you’ve merged your 3D scenes and have selected your 2D views, name your 3D PDF in the Export PDF dialog box then click Save.

If you checked the “Open file after export” option in the 3D Tab, the PDF just created will automatically open for your review.
With Merge PDF, you can easily combine multiple 3D PDF’s into one consolidated document.

Steps to Merge PDF

1. Click on the Merge PDF tool
2. Click the Plus sign to browse and add PDFs. Click the Minus sign to remove any of the PDF’s already added. Use the arrow keys to move the selections up or down.
3. Click Generate PDF
4. After selecting your files, name your PDF and Save.
5. The confirmation dialog will appear. Click OK.

6. When done, you can close the Merge PDF dialog box.

**Note:** The resulting merged PDF will not launch automatically.

**Result:**

The result will be a single 3D PDF with your added PDF documents in the order you left them in.
Embed PDF

Embed allows you to easily generate an HTML file with your 3D PDF file embedded into it. You can publish to a rich 3D PDF template using the Template Designer tool. Once the HTML file is created, you can add it to your company or personal website, project websites or public sites for reviews. When visitors reach your website, the 3D PDF will display using the free Adobe Reader.

Steps to Embed PDF

1. Click on the Embed PDF tool
2. Highlight/Select the template that will be applied to the PDF.
3. Browse for the PDF you wish to embed into the HTML
4. After selecting your PDF, click Open.
5. After returning back to the Embed dialog box, click Export.

6. Give your 3D PDF a name and Save.

7. A final confirmation dialog will appear, click OK. **Note:** The resulting merged PDF will not launch automatically.
Additional Resources

For more information regarding tetra4D’s 3D PDF Plug-ins, Acrobat® XI Pro or other products, please visit our website or social media sites where you will find an extensive set of resources.

- **tetra4D Website** - Explore tetra4D’s wide range of Autodesk plug-ins, Acrobat plug-ins and 3D PDF Enrichment products.

- **YouTube Channel** - Watch and Learn from a variety of tutorial and webinar videos of covering all tetra4D products.

- **Facebook** - Like us!

- **Twitter** - Follow our tweets!

- **LinkedIn** - Connect and Follow us!